

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page 1 of 1

PATENT NO. : 8,656,441

APPLICATION NO.: 13/829,717

ISSUE DATE : February 18, 2014

INVENTOR(S) : Ingemar J. Cox

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 28, lines 26, 29, 32 and 35, for the claim reference numeral "13", each occurrence, should read --1--.

MAILING ADDRESS OF SENDER (Please do not use customer number below):

Benjamin M. Halpern, Reg. No. 46494
Amster, Rothstein & Ebenstein LLP
90 Park Avenue

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Electronic Patent Application Fee Transmittal				
Application Number:		13829717		
Filing Date:		14-Mar-2013		
Title of Invention:		SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK		
First Named Inventor/Applicant Name:		Ingemar J. COX		
Filer:		Benjamin M. Halpern/Vivian Campbell		
Attorney Docket Number:		63121-39		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Certificate of Correction	1811	1	100	100
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				100

Electronic Acknowledgement Receipt	
EFS ID:	18404425
Application Number:	13829717
International Application Number:	
Confirmation Number:	8930
Title of Invention:	SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK
First Named Inventor/Applicant Name:	Ingemar J. COX
Customer Number:	1912
Filer:	Benjamin M. Halpern/Vivian Campbell
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	63121-39
Receipt Date:	07-MAR-2014
Filing Date:	14-MAR-2013
Time Stamp:	14:56:22
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$100
RAM confirmation Number	1372
Deposit Account	011785
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)	

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Certificate of Correction	COC.pdf	164388	no	2
			1442897a8d8598c7b4d26d46702ba8cdf9c21d96		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30599	no	2
			0cab8a59535848a629aaf6c3257ec7e0f23c44f8		
Warnings:					
Information:					
Total Files Size (in bytes):			194987		
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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/829,717	02/18/2014	8656441	63121-39	8930

1912 7590 01/29/2014
AMSTER, ROTHSTEIN & EBENSTEIN LLP
90 PARK AVENUE
NEW YORK, NY 10016

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Ingemar J. COX, London, UNITED KINGDOM;
NETWORK-1 SECURITY SOLUTIONS, INC., New York, NY

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Complete if KnownChange(s) applied
to document

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1/16/2014

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 4 of 6

Application Number	13/829,717
Filing Date	March 14, 2013
First Named Inventor	Ingemar J. Cox
Art Unit	3715
Examiner Name	
Attorney Docket Number	63121-39

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A58	US- 6871200	03-22-2005	MacQueen et al.	
	A59	US- 6944632	09-13-2005	Stern	
	A60	US- 6983371	01-03-2006	Hurtado et al.	
	A61	US- 7020635	03-28-2006	Hamilton et al.	
	A62	US- 7043473	05-09-2006	Rassool et al.	
	A63	US- 7092953	08-15-2006	Haynes	
	A64	US- 7363278	~~10-17-2002~~	Schmelzer et al. 4/2008	
	A65	US- 7366787	04-29-2008	Salas et al.	
	A66	US- 7369677	05-06-2008	Petrovic et al.	
	A67	US- 7370017	05-06-2008	Lindeman et al.	
	A68	US- 7738704	06-15-2010	Lienhart et al.	
		US- 6496857	12-17-2002	Dustin et al.	
		US-			
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FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁰
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				

Examiner Signature	Date Considered

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STATEMENT BY APPLICANT**

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Sheet 3 of 6

Complete if Known

Application Number	13/829,717
Filing Date	March 14, 2013
First Named Inventor	Ingemar J. Cox
Art Unit	3715
Examiner Name	
Attorney Docket Number	63121-39

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A39	US- 20070130580	06-07-2007	Covell et al.	
	A40	US- 20070180537	08-02-2007	He et al.	
	A41	US- 20070203911	08-30-2007	Chiu	
	A42	US- 20070282472	12-06-2007	Seldman	
	A43	US- 20070288518	12-13-2007	Crigler et al.	
	A44	US- 20080052783	02-28-2008	Levy	
	A45	US- 20090052784	02-26-2009	Covell et al.	
	A46	US- 5634012	05-27-1997	Stefik et al.	
	A47	US- 5706364	01-06-1998	Kopec, et al.	
	A48	US- 5892536	04-06-1999	Logan et al.	
	A49	US- 5918223	06-29-1999	Blum et al.	
	A50	US- 5973723	10-26-1999	DeLuca	
	A51	US- 6023693	~~02-08-2000~~	Masuoka, et al. 2/2000	
	A52	US- 6233682	05-15-2001	Fritsch	
	A53	US- 6236758	05-22-2001	Sodagar et al.	
	A54	US- 6407680	06-18-2002	Lai et al.	
	A55	US- 6693236	02-17-2004	Gould et al.	
	A56	US- 6766523	07-20-2004	Herley	
	A57	US- 6810388	10-26-2004	Sato	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶

Examiner Signature	Date Considered

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

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Application Number	13/829,717
Filing Date	March 14, 2013
First Named Inventor	Ingemar J. Cox
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Attorney Docket Number	63121-39

Change(s) applied

to document

Sheet 2

of 6

/R.K.C./

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U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A20	US- 20040199387	10-07-2004	Wang, et al.	
	A21	US- 20040221118	11-04-2004	Slater et al.	
	A22	US- 20050080846	04-14-2005	McCieskey et al.	
	A23	US- 20050154892	07-14-2005	Mihcak et al.	
	A24	US- 20050193016	09-01-2005	Seet et al.	
	A25	US- 20050102515	~~01-19-2005~~	Jaworski et al. 5/2005	
	A26	US- 20050213826	09-29-2005	Neogi	
	A27	US- 20060031870	02-09-2006	Jarman et al.	
	A28	US- 20060080356	04-13-2006	Burges et al.	
	A29	US- 20060085816	04-20-2006	Funk et al.	
	A30	US- 20060110137	05-25-2006	Tsuda et al.	
	A31	US- 20060187358	08-24-2006	Lienhart et al.	
	A32	US- 20060195859	08-31-2006	Konig et al.	
	A33	US- 20060195860	08-31-2006	Eldering et al.	
	A34	US- 20060212927	09-21-2006	Riku et al.	
	A35	US- 20060271947	11-30-2006	Lienhart et al.	
	A36	US- 20070071330	03-29-2007	Oostveen et al.	
	A37	US- 20070101360	05-03-2007	Gutta et al.	
	A38	US- 20070124698	05-31-2007	Majumdar	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶

Examiner Signature	Date Considered

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.C./

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	13829717
	Filing Date	2013-03-14
	First Named Inventor	Ingemar J. Cox
	Art Unit	3715
	Examiner Name	
	Attorney Docket Number	63121-39

	86	7477739	B2	2009-01-13	Jaap Andre Haitsma et al.	
	87	7523312	B2	2009-04-21	Antonius Adrianus Cornelis Maria Kalker et al.	
	88	5594934		1997-01-14	Daozheng Lu et al.	
	89	5629739		1997-05-13	Robert A. Dougherty	
	90	5701452		1997-12-23	David M. Siefert	
	91	6360215	B1	2002-03-19	Douglass R. Judd et al.	
	92	~~6550001~~ 6360215	B1	2002-03-19	Douglass R. Judd et al.	Change(s) applied to document, /R.K.C./ 1/16/2014
	93	6577746	B1	2003-06-10	Douglas B. Evans et al.	
	94	6675174	B1	2004-01-06	Rudolf Maarten Bolle et al.	
	95	7158929	B2	2007-01-02	Marc-Henri J. M. A. Wouters et al.	
	96	7587728	B2	2009-09-08	Henry B. Wheeler et al.	

Issue Classification 	Application/Control No. 13829717	Applicant(s)/Patent Under Reexamination COX ET AL.
	Examiner CAI CHEN	Art Unit 2425

US ORIGINAL CLASSIFICATION						INTERNATIONAL CLASSIFICATION													
CLASS		SUBCLASS				CLAIMED					NON-CLAIMED								
725		115				H	0	4	N	7 / 173 (2011.0)									
CROSS REFERENCE(S)																			
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)																		
725	110	114	116																

NONE		Total Claims Allowed:	
		34	
(Assistant Examiner)	(Date)		
/CAI CHEN/ Primary Examiner.Art Unit 2425	11/19/2013	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Issue Classification 	Application/Control No. 13829717	Applicant(s)/Patent Under Reexamination COX ET AL.
	Examiner CAI CHEN	Art Unit 2425

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	15	17	29	33										
2	2	16	18	30	34										
3	3	17	19												
4	4	18	20												
5	5	19	21												
6	6	20	22												
7	7	21	23												
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13	15	27	31												
14	16	28	32												

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 34	
/CAI CHEN/ Primary Examiner.Art Unit 2425 (Primary Examiner) _____ (Date) _____		O.G. Print Claim(s) 1	O.G. Print Figure 1

<i>Index of Claims</i> 	Application/Control No. 13829717	Applicant(s)/Patent Under Reexamination COX ET AL.
	Examiner CAI CHEN	Art Unit 2425

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant
 ☐ CPA
 ☐ T.D.
 ☐ R.1.47

CLAIM		DATE									
Final	Original	07/11/2013	11/19/2013								
1	1	✓	=								
2	2	✓	=								
3	3	✓	=								
4	4	✓	=								
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16	18	✓	=								
17	19	✓	=								
18	20	✓	=								
19	21	✓	=								
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22	24	✓	=								
	25	✓	-								
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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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NOTICE OF ALLOWANCE AND FEE(S) DUE

1912 7590 12/18/2013
AMSTER, ROTHSTEIN & EBENSTEIN LLP
90 PARK AVENUE
NEW YORK, NY 10016

EXAMINER

CHEN, CAI Y

ART UNIT

PAPER NUMBER

2425

DATE MAILED: 12/18/2013

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/829,717	03/14/2013	Ingemar J. COX	63121-39	8930

TITLE OF INVENTION: SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1780	\$0	\$0	\$1780	03/18/2014

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

1912 7590 12/18/2013
AMSTER, ROTHSTEIN & EBENSTEIN LLP
90 PARK AVENUE
NEW YORK, NY 10016

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/829,717	03/14/2013	Ingemar J. COX	63121-39	8930

TITLE OF INVENTION: SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1780	\$0	\$0	\$1780	03/18/2014

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHEN, CAI Y	2425	725-115000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
 (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
 (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
☐ Applicant asserting small entity status. See 37 CFR 1.27
☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____
 Typed or printed name _____ Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/829,717	03/14/2013	Ingemar J. COX	63121-39	8930

1912	7590	12/18/2013
AMSTER, ROTHSTEIN & EBENSTEIN LLP		
90 PARK AVENUE		
NEW YORK, NY 10016		

EXAMINER	
CHEN, CAI Y	

ART UNIT	PAPER NUMBER
2425	

DATE MAILED: 12/18/2013

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

**Notices of Allowance and Fee(s) Due mailed between October 1, 2013 and
December 31, 2013**

(Addendum to PTOL-85)

If the "Notice of Allowance and Fee(s) Due" has a mailing date on or after October 1, 2013 and before January 1, 2014, the following information is applicable to this application.

If the issue fee is being timely paid on or after January 1, 2014, the amount due is the issue fee and publication fee in effect January 1, 2014. On January 1, 2014, the issue fees set forth in 37 CFR 1.18 decrease significantly and the publication fee set forth in 37 CFR 1.18(d)(1) decreases to \$0.

If an issue fee or publication fee has been previously paid in this application, applicant is not entitled to a refund of the difference between the amount paid and the amount in effect on January 1, 2014.

Notice of Allowability	Application No. 13/829,717 Examiner CAI CHEN	Applicant(s) COX ET AL. Art Unit 2425 AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 09/16/2013.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are 1-34. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
Certified copies:
 a) ☐ All b) ☐ Some *c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 * Certified copies not received: _____.

Applicant has **THREE MONTHS FROM THE "MAILING DATE"** of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in **ABANDONMENT** of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ **CORRECTED DRAWINGS** (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ **DEPOSIT OF and/or INFORMATION** about the deposit of **BIOLOGICAL MATERIAL** must be submitted. Note the attached Examiner's comment regarding **REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL**.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892) 2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date <u>See Continuation Sheet</u> 3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material 4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.	5. ☒ Examiner's Amendment/Comment 6. ☒ Examiner's Statement of Reasons for Allowance 7. ☐ Other _____.

/CAI CHEN/ Primary Examiner, Art Unit 2425	

Continuation of Attachment(s) 2. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date: 07/16/2013; 09/12/2013; 11/06/2013.

DETAILED ACTION

Response to Remarks

It is recognized that applicant has filed terminal disclaimers on 09/13/2013 to overcome the double patenting issue as indicated in the previous office action, as such, upon further considerations and prior art searches, claims 1-28 are allowed.

Allowable Subject Matter

Claims 1-34 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAI CHEN whose telephone number is (571)270-5679. The examiner can normally be reached on 7:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Pendleton can be reached on 571-272-7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CAI CHEN/
Primary Examiner, Art Unit 2425

Notice of References Cited	Application/Control No. 13/829,717	Applicant(s)/Patent Under Reexamination COX ET AL.	
	Examiner CAI CHEN	Art Unit 2425	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2004/0199387	10-2004	Wang et al.	704/243
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	Peter Yianlos, Excluded Middle Vantage Point Forest for Nearest Neighbor Search, August 1, 1999, pages 1-12
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
	Filing Date		2013-03-14
	First Named Inventor	Ingemar J. Cox	
	Art Unit	2425	
	Examiner Name	Cai Y. Chen	
	Attorney Docket Number	63121-39	

U.S. PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	4454594		1984-06-12	Charles B. Heffron et al.	
	2	5465353		1995-11-07	Jonathan J. Hull et al.	
	3	5504518		1996-04-02	Michael D. Ellis et al.	
	4	5638443		1997-06-10	Mark J. Stefik et al.	
	5	5963966		1999-10-05	Brian T. Mitchell et al.	
	6	5978791		1999-11-02	David A. Farber et al.	
	7	5983171		1999-11-09	Yooichi Yokoyama et al.	
	8	5983176		1999-11-09	Eric M. Hoffert et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
	Filing Date		2013-03-14
	First Named Inventor	Ingemar J. Cox	
	Art Unit	2425	
	Examiner Name	Cai Y. Chen	
	Attorney Docket Number	63121-39	

	9	6067369		2000-05-23	Toshio Kamei	
	10	6096961		2000-08-01	Luigi Bruti et al.	
	11	6154737		2000-11-28	Mitsuaki Inaba et al.	
	12	6195693	B1	2001-02-27	Richard Edmond Berry et al.	
	13	6229922	B1	2001-05-08	Koichi Sasakawa et al.	
	14	6279010	B1	2001-08-21	Michael R. Anderson	
	15	6374260	B1	2002-04-16	Eric M. Hoffert et al.	
	16	6415280	B1	2002-07-02	David A. Farber et al.	
	17	6438556	B1	2002-08-20	Nadeem Malik et al.	
	18	6453252	B1	2002-09-17	Jean Laroche	
	19	6460050	B1	2002-10-01	Mark Raymond Pace et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717	
	Filing Date		2013-03-14	
	First Named Inventor	Ingemar J. Cox		
	Art Unit	2425		
	Examiner Name	Cai Y. Chen		
	Attorney Docket Number	63121-39		

	20	6490279	B1	2002-12-03	Honglu Chen et al.	
	21	6542869	B1	2003-04-01	Jonathan Foote	
	22	6552254	B2	2003-04-22	Yutaka Hasegawa et al.	
	23	6928423	B1	2005-08-09	Yasuhiro Yamanaka	
	24	7500007	B2	2009-03-03	Vance E. Ikezoye et al.	

If you wish to add additional U.S. Patent citation information please click the Add button.

Add

U.S.PATENT APPLICATION PUBLICATIONS

Remove

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20020186887	A1	2002-12-12	Geoffrey B. Rhoads	
	2	20050044189	A1	2005-02-24	Vance E. Ikezoye et al.	
	3	20050289065	A1	2005-12-29	Christopher Bruce Weare	

If you wish to add additional U.S. Published Application citation information please click the Add button.

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FOREIGN PATENT DOCUMENTS

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717	
	Filing Date		2013-03-14	
	First Named Inventor	Ingemar J. Cox		
	Art Unit	2425		
	Examiner Name	Cai Y. Chen		
	Attorney Docket Number	63121-39		

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² j	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1	1354276	EP	B1	2007-12-12	Erling H. Wold et al.		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button **Add**

NON-PATENT LITERATURE DOCUMENTS								Remove
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.						T ⁵
	1							☐

If you wish to add additional non-patent literature document citation information please click the Add button **Add**

EXAMINER SIGNATURE			
Examiner Signature	/Cai Chen/	Date Considered	11/19/2013

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	13829717
Filing Date	2013-03-14
First Named Inventor	Ingemar J. Cox
Art Unit	2425
Examiner Name	Cai Y. Chen
Attorney Docket Number	63121-39

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

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- ☐ See attached certification statement.
- ☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- ☒ A certification statement is not submitted herewith.

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Signature	/Benjamin M. Halpern/	Date (YYYY-MM-DD)	2013-07-16
Name/Print	Benjamin M. Halpern	Registration Number	46494

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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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	Art Unit	2425		
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1	ARDIZZONE, Edoardo et al., "Motion and Color-Based Video Indexing and Retrieval," Universita di palermo, Dipartimento di Ingegneria Elettrica, pp. 135-139, Viale delle Scienze, Palermo, Italy, IEEE 1996.	☐
2	DENG, Yining et al., "Content-based Search of Video Using Color, Texture, and Motion," Dept. of Electrical and Computer Engineering, University of California, Santa Barbara, CA, pp. 534-537, IEEE 1997.	☐
3	FANG, Min et al., "Computing Iceberg Queries Efficiently," Dept. of Computer Science, Stanford, CA, Paper Number 234, pp1-25.	☐
4	FLICKNER, Myron et al., "Query by Image and Video Content: The QBIC System," IBM Almaden Research Center, September 1995, pp 23-32, IEEE 1995.	☐
5	GARGI, U et al., "Performance Characterization and Comparison of Video Indexing Algorithms," Dept. of Computer Science & Engineering, The Pennsylvania State University, University Park, PA.	☐
6	GIONIS, Aristides et al., "Similarity Search in High Dimensions via Hashing," Dept. of Computer Science, Stanford University, Stanford, CA, pp. 518-529, Proceeding of the 25th VLDB Conference, Edinburgh, Scotland, 1999.	☐
7	INDYK, Piotr et al., "Approximate Nearest Neighbors: Towards Removing the Curse of Dimensionality" (preliminary version) Dept. of Computer Science, Stanford University, Stanford, CA, pp. 1-13 & i-vii, July 21, 1999.	☐
8	IYENGAR, Giridharan et al., "Models for automatic classification of video sequences," MIT Media Laboratory, Cambridge, MA.	☐
9	JAIN, Anil K., et al., "Image Retrieval using Color and Shape," Dept. of Computer Science, Michigan State University, Eas Lansing, MI, pp. 1-24, May 15, 1995.	☐
10	OGLE, Virginia E., et al., "Chabot: Retrieval from a Relational Database of Images," University of California at Berkeley, Computer pp. 40-48, IEEE 1995.	☐
11	PENTLAND, A. et al., "Photobook: Content-Based Manipulation of Image Databases," Perceptual Computing Section, The Media Laboratory, Massachusetts Institute of Tech., International Journal of Computer Vision 18(3), pp. 233-254 (1996), 1996 Kluwer Academic Publishers. Manuf. in The Netherlands.	☐

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12	SHIVAKUMAR, Narayanan et al., "SCAM: A Copy Detection Mechanism for Digital Documents," Dept. of Computer Science, Stanford University, Stanford, CA, pp.1-13.	☐
13	SHIVAKUMAR, Narayanan et al., "Building a Scalable and Accurate Copy Detection Mechanism," Dept. of Computer Science, Stanford University, Stanford, CA.	☐
14	SRIHARI, Rohini K., "Automatic Indexing and Content-Based Retrieval of Captioned Images," State University of New York, Buffalo, Theme Feature, pp. 49-56, Sept. 1995, IEEE 1995.	☐
15	SWAIN, Michael and BALLARD, Dana H., "Color Indexing," International Journal of Computer Vision 7:1, p. 11-32 (1991), 1991 Kluwer Academic Publishers. Manuf. in The Netherlands.	☐
16	WACTLAR, Howard D. et al., "Intelligent Access to Digital Video: Informedia Project," Carnegie Mellon University, Digital Library Initiative: Carnegie Mellon University, Computer, pp. 46-52, IEEE 1996.	☐
17	YEO, Boon-Lock et al., "Rapid Scene Analysis on Compressed Video," IEEE Transactions on Circuits and Systems for Video Technology, Vol. 5, No. 6, pp. 533-544, December 1995, Dept. of Electrical Engineering, Princeton University, Princeton, NJ, IEEE Log Number 9415901.	☐
18	INDYK, Piotr et al., "Finding pirated video sequences on the Internet," Dept. of Computer Science, Stanford University, Palo Alto, CA, Paper Number 199.	☐

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Signature	/Benjamin M. Halpern/	Date (YYYY-MM-DD)	2013-09-12
Name/Print	Benjamin M. Halpern	Registration Number	49494

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	1	5550735		1996-08-27	Slade, Michael G. et al.	
	2	6121530		2000-09-19	Sonoda, Tomonari	
	3	6269275	B1	2001-07-31	Slade, Michael G.	
	4	6550001	B1	2003-04-15	Corwin, Michael P. et al.	
	5	7065709	B2	2006-06-20	Ellis, Michael D. et al.	
	6	7103906	B1	2006-09-05	Katz, Neil et al.	
	7	7174293	B2	2007-02-06	Kenyon, Stephen C. et al.	
	8	7225455	B2	2007-05-29	Bennington, Gerald E. et al.	

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	9	7308413	B1	2007-12-11	Tota, Michael J. et al.	
	10	7346472	B1	2008-03-18	Moskowitz, Scott A. et al.	
	11	7493643	B2	2009-02-17	Ellis, Michael D.	
	12	7562392	B1	2009-07-14	Rhoads, Geoffrey B. et al.	
	13	7660700	B2	2010-02-09	Moskowitz, Scott A. et al.	
	14	7783489	B2	2010-08-24	Kenyon, Stephen C. et al.	
	15	7949494	B2	2011-05-24	Moskowitz, Scott A. et al.	
	16	8090605	B2	2012-01-03	Tota, Michael J. et al.	
	17	8112776	B2	2012-02-07	Schein, Steven M. et al.	
	18	8214175	B2	2012-07-03	Moskowitz, Scott et al.	
	19	8340994	B2	2012-12-25	Tota, Michael J. et al.	

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	4	INDYK, Piotr et al., "Locality-Preserving Hashing in Multidimensional Spaces," February 25, 1997.	☐
	5	GIBSON, David, "Name That Clip: Music retrieval using audio clips," August 19, 1999.	☐
	6	Declaration of David A. Gibson, Inter Partes Review of U.S. Patent 7,174,293, August 30, 2013.	☐
	7	Declaration of David A. Gibson, Inter Partes Review of U.S. Patent 7,783,489, August 30, 2013.	☐
	8	Intersil, "Glossary of Communication Terms," December 1996.	☐
	9	Declaration of Dr. Ton Kalker, Inter Partes Review of U.S. Patent 7,174,293, August 30, 2013.	☐
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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.C./

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
	Filing Date		2013-03-14
	First Named Inventor	Ingemar J. Cox	
	Art Unit	2425	
	Examiner Name	Cai Y. Chen	
	Attorney Docket Number	63121-39	

U.S. PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	6460180	B1	2002-10-01	Park et al.	
	2	6473804	B1	2002-10-29	Kaiser et al.	
	3	6563515	B1	2003-05-13	Reynolds et al.	
	4	6564379	B1	2003-05-13	Knudson et al.	
	5	6571392	B1	2003-05-27	Zigmond et al.	
	6	6604242	B1	2003-08-05	Weinstein et al.	
	7	6615408	B1	2003-09-02	Kaiser et al.	
	8	6631523	B1	2003-10-07	Matthews, III et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
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	First Named Inventor	Ingemar J. Cox	
	Art Unit	2425	
	Examiner Name	Cai Y. Chen	
	Attorney Docket Number	63121-39	

	9	6675385	B1	2004-01-06	Wang	
	10	6698020	B1	2004-02-24	Zigmond et al.	
	11	6785902	B1	2004-08-31	Zigmond et al.	
	12	6941574	B1	2005-09-06	Broadwin et al.	
	13	7039935	B2	2006-05-02	Knudson et al.	
	14	7096486	B1	2006-08-22	Ukai et al.	
	15	7140033	B1	2006-11-21	Durden et al.	
	16	7146631	B1	2006-12-05	Tanaka et al.	
	17	7152236	B1	2006-12-19	Wugofski et al.	
	18	7165266	B2	2007-01-16	Zigmond	
	19	7181756	B1	2007-02-20	Zigmond et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
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	Art Unit	2425	
	Examiner Name	Cai Y. Chen	
	Attorney Docket Number	63121-39	

	20	7188353	B1	2007-03-06	Crinon	
	21	7237253	B1	2007-06-26	Blackketter et al.	
	22	7254829	B1	2007-08-07	Brown et al.	
	23	7305693	B2	2007-12-04	Blackketter et al.	
	24	7313805	B1	2007-12-25	Rosin et al.	
	25	7334250	B2	2008-02-19	Blackketter et al.	
	26	7340763	B1	2008-03-04	Harris	
	27	7386512	B1	2008-06-10	Allibhoy et al.	
	28	7404200	B1	2008-07-22	Hailey et al.	
	29	7426558	B1	2008-09-16	Allibhoy et al.	
	30	7487527	B2	2009-02-03	Ellis et al.	

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	Attorney Docket Number	63121-39

	31	7506352	B2	2009-03-17	Blackketter et al.	
	32	7523478	B2	2009-04-21	Blackketter et al.	
	33	7606883	B1	2009-10-20	Allibhoy et al.	
	34	7631072	B2	2009-12-08	Allibhoy et al.	
	35	7757254	B2	2010-07-13	Shoff et al.	
	36	7765575	B2	2010-07-27	Zigmond	
	37	7802281	B1	2010-09-21	Tani et al.	
	38	7818768	B2	2010-10-19	Blackketter et al.	
	39	7840975	B2	2010-11-23	Matheny et al.	
	40	7849226	B2	2010-12-07	Zigmond et al.	
	41	7861275	B1	2010-12-28	Vellaikal et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	13829717
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	Art Unit	2425
	Examiner Name	Cai Y. Chen
	Attorney Docket Number	63121-39

	42	7882518	B2	2011-02-01	Finseth et al.	
	43	7930719	B2	2011-04-19	Ellis et al.	
	44	7941816	B2	2011-05-10	Harkness et al.	
	45	7949749	B2	2011-05-24	Allibhoy et al.	
	46	7962414	B1	2011-06-14	Allibhoy et al.	
	47	7996565	B2	2011-08-09	Allibhoy et al.	
	48	8001569	B2	2011-08-16	Marler et al.	
	49	8006264	B2	2011-08-23	Reynolds et al.	
	50	8065615	B2	2011-11-22	Murray et al.	
	51	8108886	B1	2012-01-31	Murahashi et al.	
	52	8171510	B2	2012-05-01	Kamen et al.	

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	Examiner Name	Cai Y. Chen		
	Attorney Docket Number	63121-39		

	53	8185923	B2	2012-05-22	Slaney et al.	
	54	8255952	B2	2012-08-28	Boylan, III et al.	
	55	8272011	B2	2012-09-18	Yuen et al.	
	56	8296792	B2	2012-10-23	Sahota et al.	
	57	8301758	B2	2012-10-30	Allibhoy et al.	
	58	8479233	B2	2013-07-02	Ellis et al.	
	59	RE43578	E	2012-08-14	Sorensen	
	60	RE43671	E	2012-09-18	Sorensen	

If you wish to add additional U.S. Patent citation information please click the Add button.

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U.S.PATENT APPLICATION PUBLICATIONS

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Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20100211969	A1	2010-08-19	Schein et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717	
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	First Named Inventor	Ingemar J. Cox		
	Art Unit	2425		
	Examiner Name	Cai Y. Chen		
	Attorney Docket Number	63121-39		

	2	20110167449	A1	2011-07-07	Klosterman et al.	
	3	20110173660	A1	2011-07-14	Schein et al.	
	4	20130086608	A1	2013-04-04	Slaney et al.	

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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² j	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							☐

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NON-PATENT LITERATURE DOCUMENTS

Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1		☐

If you wish to add additional non-patent literature document citation information please click the Add button **Add**

EXAMINER SIGNATURE

Examiner Signature	/Cai Chen/	Date Considered	11/19/2013

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	13829717
Filing Date	2013-03-14
First Named Inventor	Ingemar J. Cox
Art Unit	2425
Examiner Name	Cai Y. Chen
Attorney Docket Number	63121-39

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	13829717
Filing Date	2013-03-14
First Named Inventor	Ingemar J. Cox
Art Unit	2425
Examiner Name	Cai Y. Chen
Attorney Docket Number	63121-39

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

- ☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

- ☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

- ☐ See attached certification statement.
- ☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- ☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Benjamin M. Halpern/	Date (YYYY-MM-DD)	2013-11-06
Name/Print	Benjamin M. Halpern	Registration Number	46494

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
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3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.C./

<i>Index of Claims</i> 	Application/Control No. 13829717	Applicant(s)/Patent Under Reexamination COX ET AL.
	Examiner CAI CHEN	Art Unit 2425

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant
 ☐ CPA
 ☐ T.D.
 ☐ R.1.47

CLAIM		DATE									
Final	Original	07/11/2013	11/19/2013								
1	1	✓	=								
2	2	✓	=								
3	3	✓	=								
4	4	✓	=								
5	5	✓	=								
6	6	✓	=								
7	7	✓	=								
8	8	✓	=								
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28	28		=								
29	29		=								
30	30		=								
31	31		=								
32	32		=								
33	33		=								
34	34		=								

Issue Classification 	Application/Control No. 13829717	Applicant(s)/Patent Under Reexamination COX ET AL.
	Examiner CAI CHEN	Art Unit 2425

US ORIGINAL CLASSIFICATION						INTERNATIONAL CLASSIFICATION													
CLASS		SUBCLASS				CLAIMED					NON-CLAIMED								
725		115				H	0	4	N	7 / 173 (2011.01.01)									
CROSS REFERENCE(S)																			
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)																		
725	110	114	116																

NONE		Total Claims Allowed:	
		34	
(Assistant Examiner)	(Date)		
/CAI CHEN/ Primary Examiner.Art Unit 2425	11/19/2013	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Issue Classification 	Application/Control No. 13829717	Applicant(s)/Patent Under Reexamination COX ET AL.
	Examiner CAI CHEN	Art Unit 2425

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	17	17	33	33										
2	2	18	18	34	34										
3	3	19	19												
4	4	20	20												
5	5	21	21												
6	6	22	22												
7	7	23	23												
8	8	24	24												
9	9	25	25												
10	10	26	26												
11	11	27	27												
12	12	28	28												
13	13	29	29												
14	14	30	30												
15	15	31	31												
16	16	32	32												

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 34	
/CAI CHEN/ Primary Examiner.Art Unit 2425 (Primary Examiner) _____ (Date) _____		O.G. Print Claim(s) 1	O.G. Print Figure 1

Search Notes 	Application/Control No. 13829717	Applicant(s)/Patent Under Reexamination COX ET AL.
	Examiner CAI CHEN	Art Unit 2425

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
The inventor searches are performed in East and Edan	7/11/2013	CC
Class searches 725 subclass 110, 114-116 are text searched	11/19/2013	CC

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
725	110, 114-116	11/19/2013	CC

/CAI CHEN/ Examiner.Art Unit 2425	

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

1912 7590 12/18/2013
AMSTER, ROTHSTEIN & EBENSTEIN LLP
90 PARK AVENUE
NEW YORK, NY 10016

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/829,717	03/14/2013	Ingemar J. COX	63121-39	8930

TITLE OF INVENTION: SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1780	\$0	\$0	\$1780	03/18/2014

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHEN, CAI Y	2425	725-115000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list
 (1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
 (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
 1 Amster, Rothstein &
 2 Ebenstein LLP
 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE **NETWORK-1 TECHNOLOGIES, INC.** (B) RESIDENCE: (CITY and STATE OR COUNTRY) **NEW YORK, NY**

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☒ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 011785 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29
☐ Applicant asserting small entity status. See 37 CFR 1.27
☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Benjamin M. Halpern/ Date December 18, 2013
 Typed or printed name Benjamin M. Halpern Registration No. 46494

Electronic Patent Application Fee Transmittal				
Application Number:		13829717		
Filing Date:		14-Mar-2013		
Title of Invention:		SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK		
First Named Inventor/Applicant Name:		Ingemar J. COX		
Filer:		Benjamin M. Halpern/Vivian Campbell		
Attorney Docket Number:		63121-39		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl Issue Fee	1501	1	1780	1780
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				1780

Electronic Acknowledgement Receipt	
EFS ID:	17699017
Application Number:	13829717
International Application Number:	
Confirmation Number:	8930
Title of Invention:	SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK
First Named Inventor/Applicant Name:	Ingemar J. COX
Customer Number:	1912
Filer:	Benjamin M. Halpern/Vivian Campbell
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	63121-39
Receipt Date:	18-DEC-2013
Filing Date:	14-MAR-2013
Time Stamp:	16:16:19
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$1780
RAM confirmation Number	3784
Deposit Account	011785
Authorized User	
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File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	1PTOL-85_-_Issue_Fee.pdf	1570836	no	1
			4fa3af8f093b876a2126d584eb42b9e58f3ff602		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30726	no	2
			a1c5ecec2e59c2f242be548ec9481fe76923e8bd		
Warnings:					
Information:					
Total Files Size (in bytes):			1601562		
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Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
	Filing Date		2013-03-14
	First Named Inventor	Ingemar J. Cox	
	Art Unit	2425	
	Examiner Name	Cai Y. Chen	
	Attorney Docket Number	63121-39	

U.S. PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	6460180	B1	2002-10-01	Park et al.	
	2	6473804	B1	2002-10-29	Kaiser et al.	
	3	6563515	B1	2003-05-13	Reynolds et al.	
	4	6564379	B1	2003-05-13	Knudson et al.	
	5	6571392	B1	2003-05-27	Zigmond et al.	
	6	6604242	B1	2003-08-05	Weinstein et al.	
	7	6615408	B1	2003-09-02	Kaiser et al.	
	8	6631523	B1	2003-10-07	Matthews, III et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717	
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	Attorney Docket Number	63121-39		

	9	6675385	B1	2004-01-06	Wang	
	10	6698020	B1	2004-02-24	Zigmond et al.	
	11	6785902	B1	2004-08-31	Zigmond et al.	
	12	6941574	B1	2005-09-06	Broadwin et al.	
	13	7039935	B2	2006-05-02	Knudson et al.	
	14	7096486	B1	2006-08-22	Ukai et al.	
	15	7140033	B1	2006-11-21	Durden et al.	
	16	7146631	B1	2006-12-05	Tanaka et al.	
	17	7152236	B1	2006-12-19	Wugofski et al.	
	18	7165266	B2	2007-01-16	Zigmond	
	19	7181756	B1	2007-02-20	Zigmond et al.	

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	Attorney Docket Number	63121-39		

	20	7188353	B1	2007-03-06	Crinon	
	21	7237253	B1	2007-06-26	Blackketter et al.	
	22	7254829	B1	2007-08-07	Brown et al.	
	23	7305693	B2	2007-12-04	Blackketter et al.	
	24	7313805	B1	2007-12-25	Rosin et al.	
	25	7334250	B2	2008-02-19	Blackketter et al.	
	26	7340763	B1	2008-03-04	Harris	
	27	7386512	B1	2008-06-10	Allibhoy et al.	
	28	7404200	B1	2008-07-22	Hailey et al.	
	29	7426558	B1	2008-09-16	Allibhoy et al.	
	30	7487527	B2	2009-02-03	Ellis et al.	

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	Examiner Name	Cai Y. Chen		
	Attorney Docket Number	63121-39		

	31	7506352	B2	2009-03-17	Blackketter et al.	
	32	7523478	B2	2009-04-21	Blackketter et al.	
	33	7606883	B1	2009-10-20	Allibhoy et al.	
	34	7631072	B2	2009-12-08	Allibhoy et al.	
	35	7757254	B2	2010-07-13	Shoff et al.	
	36	7765575	B2	2010-07-27	Zigmond	
	37	7802281	B1	2010-09-21	Tani et al.	
	38	7818768	B2	2010-10-19	Blackketter et al.	
	39	7840975	B2	2010-11-23	Matheny et al.	
	40	7849226	B2	2010-12-07	Zigmond et al.	
	41	7861275	B1	2010-12-28	Vellaikal et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717	
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	First Named Inventor	Ingemar J. Cox		
	Art Unit	2425		
	Examiner Name	Cai Y. Chen		
	Attorney Docket Number	63121-39		

	42	7882518	B2	2011-02-01	Finseth et al.	
	43	7930719	B2	2011-04-19	Ellis et al.	
	44	7941816	B2	2011-05-10	Harkness et al.	
	45	7949749	B2	2011-05-24	Allibhoy et al.	
	46	7962414	B1	2011-06-14	Allibhoy et al.	
	47	7996565	B2	2011-08-09	Allibhoy et al.	
	48	8001569	B2	2011-08-16	Marler et al.	
	49	8006264	B2	2011-08-23	Reynolds et al.	
	50	8065615	B2	2011-11-22	Murray et al.	
	51	8108886	B1	2012-01-31	Murahashi et al.	
	52	8171510	B2	2012-05-01	Kamen et al.	

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	Art Unit	2425		
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	Attorney Docket Number	63121-39		

	53	8185923	B2	2012-05-22	Slaney et al.	
	54	8255952	B2	2012-08-28	Boylan, III et al.	
	55	8272011	B2	2012-09-18	Yuen et al.	
	56	8296792	B2	2012-10-23	Sahota et al.	
	57	8301758	B2	2012-10-30	Allibhoy et al.	
	58	8479233	B2	2013-07-02	Ellis et al.	
	59	RE43578	E	2012-08-14	Sorensen	
	60	RE43671	E	2012-09-18	Sorensen	

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	1	20100211969	A1	2010-08-19	Schein et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717	
	Filing Date		2013-03-14	
	First Named Inventor	Ingemar J. Cox		
	Art Unit	2425		
	Examiner Name	Cai Y. Chen		
	Attorney Docket Number	63121-39		

	2	20110167449	A1	2011-07-07	Klosterman et al.	
	3	20110173660	A1	2011-07-14	Schein et al.	
	4	20130086608	A1	2013-04-04	Slaney et al.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	13829717
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	First Named Inventor	Ingemar J. Cox
	Art Unit	2425
	Examiner Name	Cai Y. Chen
	Attorney Docket Number	63121-39

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	13829717
	Filing Date	2013-03-14
	First Named Inventor	Ingemar J. Cox
	Art Unit	2425
	Examiner Name	Cai Y. Chen
	Attorney Docket Number	63121-39

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Benjamin M. Halpern/	Date (YYYY-MM-DD)	2013-11-06
Name/Print	Benjamin M. Halpern	Registration Number	46494

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt	
EFS ID:	17334674
Application Number:	13829717
International Application Number:	
Confirmation Number:	8930
Title of Invention:	SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK
First Named Inventor/Applicant Name:	Ingemar J. COX
Customer Number:	1912
Filer:	Benjamin M. Halpern/Vivian Campbell
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	63121-39
Receipt Date:	06-NOV-2013
Filing Date:	14-MAR-2013
Time Stamp:	17:23:37
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	IDS_2013-11-06.PDF	614187 7407cd57a83c5e4bb9a30dff829c4909a0851338	no	10

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National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

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Application Number 	Application/Control No. 13/829,717	Applicant(s)/Patent under Reexamination COX ET AL.	
Document Code - DISQ		Internal Document – DO NOT MAIL	

TERMINAL DISCLAIMER	☒ APPROVED	☐ DISAPPROVED
Date Filed : 9/13/13	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:

Felicia D. Roberts

4 TDs approved with this filing date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 13/829,717 Confirmation No. 8930
Applicant : Ingemar J. Cox
Filed : March 14, 2013
For : SYSTEM FOR USING EXTRACTED FEATURES FROM AN
ELECTRONIC WORK
TC/A.U. : 2425
Examiner : CHEN, CAI Y
Docket No. : 63121/39
Customer No. : 1912

SUPPLEMENTAL AMENDMENT

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action mailed July 16, 2013, and further to Applicant's
Amendment filed September 13, 2013, please amend the above-identified application as follows:

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 12 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (CURRENTLY AMENDED) A computer system comprising:

one or more electronic communications devices;

one or more processors operatively connected to the one or more electronic

communications devices; and

one or more computer readable media operatively connected to the one or more

processors and having stored thereon computer instructions for carrying out the steps of:

(a) maintaining, by the computer system, a database comprising:

(1) first electronic data related to identification of one or more reference
electronic works; and

(2) second electronic data related to action information comprising an
action to perform corresponding to each of the one or more reference electronic works ~~as~~
~~identified by the first data~~;

(b) obtaining, by the computer system, extracted features of a first electronic work
~~to be identified~~;

(c) identifying, by the computer system, the first electronic work by comparing

the extracted features of the first electronic work with the first electronic data in the database

using a non-exhaustive neighbor search;

(d) determining, by the computer system, the action information corresponding to the identified first electronic work based on the second electronic data in the database; and

(e) associating, by the computer system, the determined action information with the identified first electronic work.

2. (CURRENTLY AMENDED) The computer system of claim 1, wherein the step of obtaining comprises receiving the first electronic work ~~to be identified~~ and extracting the extracted features from the first electronic work.

3. (CURRENTLY AMENDED) The computer system of claim 2, wherein the first electronic work is received from at least one of a set-top-box, a video recorder, a cell phone, a computer, or a portable device.

4. (ORIGINAL) The computer system of claim 1, wherein the step of obtaining comprises receiving the extracted features.

5. (CURRENTLY AMENDED) The computer system of claim 4, wherein the extracted features are received from at least one of a set-top-box, a video recorder, a cell phone, a computer, or a portable device.

6. (CURRENTLY AMENDED) The computer system of claim 1, wherein the step of obtaining comprises receiving the first electronic work and the extracted features of the first electronic work.

7. (CURRENTLY AMENDED) The computer system of claim 6, wherein the first electronic work and the extracted features of the first electronic work are received from at least one of a set-top-box, a video recorder, a cell phone, a computer₁ or a portable device.

8. (CANCELED)

9. (CURRENTLY AMENDED) The computer system of claim 1, wherein at least one of the first electronic work or the extracted features of the first electronic work is obtained from at least one of a set-top-box, a video recorder, a cell phone, a computer₁ or a portable device that stores commercial transaction data, and wherein the action information comprises a commercial transaction, and the one or more computer readable media have stored thereon further computer instructions for carrying out the additional step of:

electronically performing the commercial transaction using the stored commercial transaction data.

10. (CURRENTLY AMENDED) The computer system of claim 1, wherein at least one of the first electronic work or the extracted features of the first electronic work is obtained from at least one of a set-top-box, a video recorder, a cell phone, a computer₁ or a portable device, and wherein the action information comprises commercial transaction data, and the one or more computer readable media have stored thereon further computer instructions for carrying out the additional step of:

electronically performing the commercial transaction through the at least one of a set-top-box, a video recorder, a cell phone, a computer, or a portable device using the commercial transaction data.

11. (CURRENTLY AMENDED) The computer system of claim 9, wherein the stored commercial transaction data comprises at least one of a purchaser's name, a purchaser's address, or credit card information.

12. (CANCELED).

13. (CURRENTLY AMENDED) The computer system of claim ~~12~~ 1, wherein the action comprises at least one of directing a user to a website related to the first electronic work, initiating an e-commerce transaction, or dialing a phone number.

14. (CURRENTLY AMENDED) The computer system of claim ~~12~~ 1, wherein the action comprises providing and/or displaying additional information in association with the first electronic work.

15. (CURRENTLY AMENDED) A ~~The computer system of claim 14, wherein~~ comprising:
one or more electronic communications devices;
one or more processors operatively connected to the one or more electronic
communications devices; and

one or more computer readable media operatively connected to the one or more processors and having stored thereon computer instructions for carrying out the steps of:

(a) maintaining, by the computer system, one or more databases comprising:

(1) first electronic data comprising a first digitally created compact electronic representation of one or more reference electronic works; and

(2) second electronic data related to an action, the action comprising providing and/or displaying ~~the additional information~~ is an advertisement corresponding to each of the one or more reference electronic works;

(b) obtaining, by the computer system, a second digitally created compact electronic representation of a first electronic work;

(c) identifying, by the computer system, a matching reference electronic work that matches the first electronic work by comparing the first electronic data with the second digitally created compact electronic representation using a non-exhaustive neighbor search;

(d) determining, by the computer system, the action corresponding to the matching reference electronic work based on the second electronic data in the database; and

(e) associating, by the computer system, the determined action with the first electronic work.

16. (CURRENTLY AMENDED) The computer system of claim 15, wherein the action further comprises providing a link to a site on the World Wide Web associated with the advertisement.

17. (CURRENTLY AMENDED) The computer system of claim 15, wherein the action further comprises electronically registering a user with at least one of a service or a product related to the advertisement.
18. (CURRENTLY AMENDED) The computer system of claim 15, wherein the action further comprises electronically providing at least one of a coupon or a certificate related to the advertisement.
19. (CURRENTLY AMENDED) The computer system of claim 15, wherein the action further comprises automatically dialing a telephone number associated with the advertisement.
20. (CURRENTLY AMENDED) The computer system of claim 15, wherein the action further comprises collecting competitive market research data related to the advertisement.
21. (CURRENTLY AMENDED) The computer system of claim 15, wherein the action further comprises purchasing a product or service related to the advertisement.
22. (CURRENTLY AMENDED) The computer system of claim 15, wherein the action further comprises allowing a user to interact with a broadcast related to the advertisement.
23. (CURRENTLY AMENDED) The computer system of claim 1, further comprising the step of transmitting, by the computer system, the determined ~~information-action~~ information-action as associated with the ~~identified-first electronic~~ identified-first electronic work.

24. (CURRENTLY AMENDED) The computer system of claim 1, wherein the one or more electronic works comprise at least one of a video work, an audio work₁ or an image work.

25. (CANCELED)

26. (CANCELED)

27. (CURRENTLY AMENDED) The computer system of claim 1, wherein the one or more computer readable media have stored thereon further computer instructions for carrying out the additional steps of:

(f) obtaining, by the computer system, second extracted features of a second electronic work ~~to be identified~~;

(g) searching, by the computer system, for an identification of the second electronic work by comparing the second extracted features of the second electronic work with the first electronic data in the database using a non-exhaustive neighbor search; and

(h) determining, by the computer system, that the second electronic work is not identified based on results of the searching step.

28. (NEW) The computer system of claim 15, wherein the one or more computer readable media have stored thereon further computer instructions for carrying out the additional steps of:

(f) obtaining, by the computer system, second extracted features of a second electronic work to be identified;

(g) searching, by the computer system, for an identification of the second electronic work by comparing the second extracted features of the second electronic work with the first electronic data in the database using a non-exhaustive neighbor search; and

(h) determining, by the computer system, that the second electronic work is not identified based on results of the searching step.

29. (NEW) A computer system comprising:

one or more electronic communications devices;

one or more processors operatively connected to the one or more electronic communications devices; and

one or more computer readable media operatively connected to the one or more processors and having stored thereon computer instructions for carrying out the steps of:

(a) maintaining, by the computer system, one or more databases comprising:

(1) first electronic data comprising a first digitally created compact electronic representation comprising an extracted feature vector of one or more reference electronic works; and

(2) second electronic data related to action information, the action information comprising an action to perform corresponding to each of the one or more reference electronic works;

(b) obtaining, by the computer system, a second digitally created compact electronic representation comprising an extracted feature vector of a first electronic work;

(c) identifying, by the computer system, a matching reference electronic work that matches the first electronic work by comparing the first electronic data with the second digitally created compact electronic representation of the first electronic work using a non-exhaustive neighbor search;

(d) determining, by the computer system, the action information corresponding to the matching reference electronic work based on the second electronic data in the database; and

(e) associating, by the computer system, the determined action information with the first electronic work.

30. (NEW) The computer system of claim 29, wherein the one or more computer readable media have stored thereon further computer instructions for carrying out the additional steps of:

(f) obtaining, by the computer system, a third digitally created compact electronic representation comprising an extracted feature vector of a second electronic work;

(g) searching, by the computer system, for a matching reference electronic work that matches the second electronic work by comparing the third digitally created compact electronic representation of the second electronic work with the first electronic data in the database using a non-exhaustive neighbor search; and

(h) determining, by the computer system, that a matching reference electronic work that matches the second electronic work does not exist based on results of the searching step.

31. (NEW) The computer system of claim 15, wherein the extracted feature is extracted using frequency based decomposition.

32. (NEW) The computer system of claim 15, wherein the extracted feature is extracted using principal component analysis.
33. (NEW) The computer system of claim 15, wherein the extracted feature is extracted using temporal sequence of feature vectors.
34. (NEW) The computer system of claim 15, wherein the one or more computer readable media have stored thereon further computer instructions for carrying out the additional step of transmitting, by the computer system, the determined action information as associated with the first electronic identified work.

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in response to July 16, 2013 Office Action

REMARKS

Claims 1-7, 9-11, 13-24, 27-34 are currently pending. By this Amendment, claims 1-3, 5-7, 9-11, 13-24, and 27 are amended.

This Amendment corrects the claim identifiers in accordance with 37 C.F.R. 1.121(c).

Applicant respectfully submits that the pending claims are in condition of allowance.

If, however, the Examiner believes that there are any unresolved issues, or believes that the Application is not in condition for Allowance, Applicant respectfully requests that the Examiner contact the undersigned to schedule a telephonic Examiner Interview before any further Actions on the merits.

I. Status of Related Applications

The below chart provides information regarding related issued patents and co-pending applications filed by the present applicant:

SERIAL NO.	ATTORNEY DOCKET NO.	FILING DATE	STATUS
09/950,972	63121/31	2001-09-13	Issued as U.S. Patent No. 7,058,223
11/445,928	63121/32	2006-06-02	Issued as U.S. Patent No. 8,010,988
11/977,202	63121/34	2007-10-23	Issued as U.S. Patent No. 8,205,237
12/704,107	63121/33	2010-02-11	Issued as U.S. Patent No. 8,020,187
13/338,079	63121/35	2011-12-27	Claims allowed 2013-07-26; Petition to Withdraw from Issue and RCE filed 2013-09-10
13/800,573	63121/37	2013-03-13	Pending - Response to Non-Final Office Action filed 2013-07-18
13/800,890	63121/38	2013-03-13	Pending - Application Dispatched from Preexam, Not Yet Docketed
13/830,447	63121/40	2013-03-14	Pending - Non Final Action Mailed 2013-08-06
13/830,626	63121/41	2013-03-14	Pending - Docketed New Case - Ready for Examination
13/830,986	63121/42	2013-03-14	Pending - Application Dispatched from Preexam, Not Yet Docketed

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Appl. No. 13/829,717
Amendment filed Sept. 16, 2013
in response to July 16, 2013 Office Action

13/842,068	63121/43	2013-03-15	Pending - Application Dispatched from Preexam, Not Yet Docketed

The Examiner is invited to review the prosecution history of each of these applications to see the prior art of record and related office actions as he deems appropriate.

* * * * *

Any claim amendment(s), claim(s) added, claim(s) canceled, argument(s), remark(s), and/or any combination(s) thereof made in this response pertain solely to the specific aspects of this specific claimed invention. Further, any claim amendment(s), claim(s) added, claim(s) canceled, argument(s), remark(s), and/or any combination(s) thereof are made without prejudice to or disclaimer of Applicant's right to seek patent protection of any unclaimed subject matter such as, but not limited, to narrower unclaimed subject matter, broader unclaimed subject matter, different unclaimed subject matter, variations of unclaimed subject matter, any combination thereof, and/or any other unclaimed subject matter that may or may not be filed, for example, in any design and/or utility patent application(s) such as, but not limited to, continuation patent application(s), continuation-in-part patent application(s), and/or divisional patent application(s) and/or any other patent application(s).

Applicant's silence as to any assertion(s) by the Examiner in the Office Action and/or to any certain fact(s) or conclusion(s) that may be implied and/or alleged by objections(s) and/or rejection(s) in the Office Action is not in any way a concession by Applicant that such assertion(s), implication(s), and/or allegation(s) are accurate, and that all requirements for any

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Amendment filed Sept. 16, 2013
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objection(s) and/or a rejection(s) have been met. Accordingly, Applicant reserves the right to analyze and dispute any such assertion(s), implication(s), and/or allegation(s) in the future.

The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 011785.

Respectfully submitted,

AMSTER, ROTHSTEIN & EBENSTEIN LLP
Attorneys for Applicants
90 Park Avenue
New York, NY 10016
(212) 336-8000

Dated: New York, New York
Sept. 16, 2013

By: /Benjamin M. Halpern/
Benjamin M. Halpern
Reg. No. 46,494

Electronic Acknowledgement Receipt	
EFS ID:	16868805
Application Number:	13829717
International Application Number:	
Confirmation Number:	8930
Title of Invention:	SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK
First Named Inventor/Applicant Name:	Ingemar J. COX
Customer Number:	1912
Filer:	Benjamin M. Halpern/Vivian Campbell
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	63121-39
Receipt Date:	16-SEP-2013
Filing Date:	14-MAR-2013
Time Stamp:	19:53:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		1Supplemental_Amendment_following_Response_to_2013-07-16_OA.pdf	117028 43be239777eac3950d48a74452f959ce8c30beed	yes	14

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Supplemental Response or Supplemental Amendment	1	1
	Claims	2	11
	Applicant Arguments/Remarks Made in an Amendment	12	14
Warnings:			
Information:			
Total Files Size (in bytes):		117028	
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.			

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 13/829,717		Filing Date 03/14/2013		☐ To be Mailed				
ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO													
APPLICATION AS FILED – PART I													
(Column 1)			(Column 2)										
FOR		NUMBER FILED		NUMBER EXTRA		RATE (\$)		FEE (\$)					
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A		N/A		N/A							
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A		N/A		N/A							
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A		N/A		N/A							
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 =		*		X \$ =							
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =		*		X \$ =							
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).											
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))													
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL							
APPLICATION AS AMENDED – PART II													
(Column 1)			(Column 2)			(Column 3)							
AMENDMENT	09/13/2013		CLAIMS REMAINING AFTER AMENDMENT			HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))		* 30		Minus	** 27		= 3		X \$80 =		240	
	Independent (37 CFR 1.16(h))		* 3		Minus	*** 3		= 0		X \$420 =		0	
	☐ Application Size Fee (37 CFR 1.16(s))												
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))												
	TOTAL ADD'L FEE											240	
(Column 1)			(Column 2)			(Column 3)							
AMENDMENT	09/16/2013		CLAIMS REMAINING AFTER AMENDMENT			HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))		* 30		Minus	** 30		= 0		X \$80 =		0	
	Independent (37 CFR 1.16(h))		* 3		Minus	*** 3		= 0		X \$420 =		0	
	☐ Application Size Fee (37 CFR 1.16(s))												
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))												
	TOTAL ADD'L FEE											0	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.													

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 13/829,717 Confirmation No. 8930
Applicant : Ingemar J. Cox
Filed : March 14, 2013
For : SYSTEM FOR USING EXTRACTED FEATURES FROM AN
ELECTRONIC WORK
TC/A.U. : 2425
Examiner : CHEN, CAI Y
Docket No. : 63121/39
Customer No. : 1912

AMENDMENT

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action mailed July 16, 2013, please amend the above-identified application as follows:

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 13 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (AMENDED) A computer system comprising:
 - one or more electronic communications devices;
 - one or more processors operatively connected to the one or more electronic communications devices; and
 - one or more computer readable media operatively connected to the one or more processors and having stored thereon computer instructions for carrying out the steps of:
 - (a) maintaining, by the computer system, a database comprising:
 - (1) first electronic data related to identification of one or more reference electronic works; and
 - (2) second electronic data related to action information comprising an action to perform corresponding to each of the one or more reference electronic works ~~as identified by the first data~~;
 - (b) obtaining, by the computer system, extracted features of a first electronic work ~~to be identified~~;
 - (c) identifying, by the computer system, the first electronic work by comparing the extracted features of the first electronic work with the first electronic data in the database using a non-exhaustive neighbor search;

(d) determining, by the computer system, the action information corresponding to the identified first electronic work based on the second electronic data in the database; and

(e) associating, by the computer system, the determined action information with the identified first electronic work.

2. (AMENDED) The computer system of claim 1, wherein the step of obtaining comprises receiving the first electronic work ~~to be identified~~ and extracting the extracted features from the first electronic work.

3. (AMENDED) The computer system of claim 2, wherein the first electronic work is received from at least one of a set-top-box, a video recorder, a cell phone, a computer, or a portable device.

4. (PREVIOUSLY PRESENTED) The computer system of claim 1, wherein the step of obtaining comprises receiving the extracted features.

5. (AMENDED) The computer system of claim 4, wherein the extracted features are received from at least one of a set-top-box, a video recorder, a cell phone, a computer, or a portable device.

6. (AMENDED) The computer system of claim 1, wherein the step of obtaining comprises receiving the first electronic work and the extracted features of the first electronic work.

7. (AMENDED) The computer system of claim 6, wherein the first electronic work and the extracted features of the first electronic work are received from at least one of a set-top-box, a video recorder, a cell phone, a computer, or a portable device.

8. (CANCELED)

9. (AMENDED) The computer system of claim 1, wherein at least one of the first electronic work or the extracted features of the first electronic work is obtained from at least one of a set-top-box, a video recorder, a cell phone, a computer, or a portable device that stores commercial transaction data, and wherein the action information comprises a commercial transaction, and the one or more computer readable media have stored thereon further computer instructions for carrying out the additional step of:

electronically performing the commercial transaction using the stored commercial transaction data.

10. (AMENDED) The computer system of claim 1, wherein at least one of the first electronic work or the extracted features of the first electronic work is obtained from at least one of a set-top-box, a video recorder, a cell phone, a computer, or a portable device, and wherein the action information comprises commercial transaction data, and the one or more computer readable media have stored thereon further computer instructions for carrying out the additional step of:

electronically performing the commercial transaction through the at least one of a set-top-box, a video recorder, a cell phone, a computer, or a portable device using the commercial transaction data.

11. (AMENDED) The computer system of claim 9, wherein the stored commercial transaction data comprises at least one of a purchaser's name, a purchaser's address, or credit card information.

12. (CANCELED).

13. (AMENDED) The computer system of claim ~~12~~ 1, wherein the action comprises at least one of directing a user to a website related to the first electronic work, initiating an e-commerce transaction, or dialing a phone number.

14. (AMENDED) The computer system of claim ~~12~~ 1, wherein the action comprises providing and/or displaying additional information in association with the first electronic work.

15. (AMENDED) A The computer system of claim 14, wherein comprising:
one or more electronic communications devices;
one or more processors operatively connected to the one or more electronic
communications devices; and
one or more computer readable media operatively connected to the one or more
processors and having stored thereon computer instructions for carrying out the steps of:
(a) maintaining, by the computer system, one or more databases comprising:
(1) first electronic data comprising a first digitally created compact
electronic representation of one or more reference electronic works; and

(2) second electronic data related to an action, the action comprising providing and/or displaying ~~the additional information~~ is an advertisement corresponding to each of the one or more reference electronic works;

(b) obtaining, by the computer system, a second digitally created compact electronic representation of a first electronic work;

(c) identifying, by the computer system, a matching reference electronic work that matches the first electronic work by comparing the first electronic data with the second digitally created compact electronic representation using a non-exhaustive neighbor search;

(d) determining, by the computer system, the action corresponding to the matching reference electronic work based on the second electronic data in the database; and

(e) associating, by the computer system, the determined action with the first electronic work.

16. (AMENDED) The computer system of claim 15, wherein the action further comprises providing a link to a site on the World Wide Web associated with the advertisement.

17. (AMENDED) The computer system of claim 15, wherein the action further comprises electronically registering a user with at least one of a service or a product related to the advertisement.

18. (AMENDED) The computer system of claim 15, wherein the action further comprises electronically providing at least one of a coupon or a certificate related to the advertisement.

19. (AMENDED) The computer system of claim 15, wherein the action further comprises automatically dialing a telephone number associated with the advertisement.

20. (AMENDED) The computer system of claim 15, wherein the action further comprises collecting competitive market research data related to the advertisement.

21. (AMENDED) The computer system of claim 15, wherein the action further comprises purchasing a product or service related to the advertisement.

22. (AMENDED) The computer system of claim 15, wherein the action further comprises allowing a user to interact with a broadcast related to the advertisement.

23. (AMENDED) The computer system of claim 1, further comprising the step of transmitting, by the computer system, the determined ~~information~~ action as associated with the ~~identified~~ first electronic work.

24. (AMENDED) The computer system of claim 1, wherein the one or more electronic works comprise at least one of a video work, an audio work, or an image work.

25. (CANCELED)

26. (CANCELED)

27. (AMENDED) The computer system of claim 1, wherein the one or more computer readable media have stored thereon further computer instructions for carrying out the additional steps of:

(f) obtaining, by the computer system, second extracted features of a second electronic work ~~to be identified~~;

(g) searching, by the computer system, for an identification of the second electronic work by comparing the second extracted features of the second electronic work with the first electronic data in the database using a non-exhaustive neighbor search; and

(h) determining, by the computer system, that the second electronic work is not identified based on results of the searching step.

28. (NEW) The computer system of claim 15, wherein the one or more computer readable media have stored thereon further computer instructions for carrying out the additional steps of:

(f) obtaining, by the computer system, second extracted features of a second electronic work to be identified;

(g) searching, by the computer system, for an identification of the second electronic work by comparing the second extracted features of the second electronic work with the first electronic data in the database using a non-exhaustive neighbor search; and

(h) determining, by the computer system, that the second electronic work is not identified based on results of the searching step.

29. (NEW) A computer system comprising:

one or more electronic communications devices;

one or more processors operatively connected to the one or more electronic communications devices; and

one or more computer readable media operatively connected to the one or more processors and having stored thereon computer instructions for carrying out the steps of:

(a) maintaining, by the computer system, one or more databases comprising:

(1) first electronic data comprising a first digitally created compact electronic representation comprising an extracted feature vector of one or more reference electronic works; and

(2) second electronic data related to action information, the action information comprising an action to perform corresponding to each of the one or more reference electronic works;

(b) obtaining, by the computer system, a second digitally created compact electronic representation comprising an extracted feature vector of a first electronic work;

(c) identifying, by the computer system, a matching reference electronic work that matches the first electronic work by comparing the first electronic data with the second digitally created compact electronic representation of the first electronic work using a non-exhaustive neighbor search;

(d) determining, by the computer system, the action information corresponding to the matching reference electronic work based on the second electronic data in the database; and

(e) associating, by the computer system, the determined action information with the first electronic work.

30. (NEW) The computer system of claim 29, wherein the one or more computer readable media have stored thereon further computer instructions for carrying out the additional steps of:

(f) obtaining, by the computer system, a third digitally created compact electronic representation comprising an extracted feature vector of a second electronic work;

(g) searching, by the computer system, for a matching reference electronic work that matches the second electronic work by comparing the third digitally created compact electronic representation of the second electronic work with the first electronic data in the database using a non-exhaustive neighbor search; and

(h) determining, by the computer system, that a matching reference electronic work that matches the second electronic work does not exist based on results of the searching step.

31. (NEW) The computer system of claim 15, wherein the extracted feature is extracted using frequency based decomposition.

32. (NEW) The computer system of claim 15, wherein the extracted feature is extracted using principal component analysis.

33. (NEW) The computer system of claim 15, wherein the extracted feature is extracted using temporal sequence of feature vectors.

34. (NEW) The computer system of claim 15, wherein the one or more computer readable media have stored thereon further computer instructions for carrying out the additional step of transmitting, by the computer system, the determined action information as

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Amendment filed Sept. 13, 2013
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associated with the first electronic identified work.

REMARKS

Claims 1-7, 9-11, 13-24, 27-34 are currently pending. By this Amendment, claims 1-3, 5-7, 9-11, 13-24, and 27 are amended, and claims 28-34 are added.

Reconsideration based on the following remarks is respectfully requested.

I. Terminal Disclaimer

The Office Action rejects claims 1-27 on grounds of nonstatutory double patenting over claim 28 of U.S. Patent No. 8,101,988, claim 1 of U.S. Patent No. 8,020,187, claim 1 of U.S. Patent No. 8,205,237, and claim 1 of U.S. Patent Application Serial No. 13/338,079. The Office Action indicates that claims 1-27 are otherwise in condition for allowance.

Applicant herewith submits terminal disclaimers, disclaiming the terminal part of any patent granted on the instant application which would extend beyond the expiration of U.S. Patent No. 8,101,988, U.S. Patent No. 8,020,187, U.S. Patent No. 8,205,237, and any patent granted on pending U.S. Patent Application Serial No. 13/338,079. Applicant submits that the terminal disclaimers overcome the nonstatutory double patenting rejections.

II. The Amended Claims and the New Claims Define Patentable Subject Matter

In the Office Action, the Examiner indicated that claims 1-27 are allowable. Applicant amends claims 1-3, 5-7, 9-11, 13-24, and 27 and adds claims 28-34. Applicant submits that as with the previously presented claims 1-27, the currently pending claims are allowable.

For at least these reasons, Applicant respectfully submits that the pending claims are in condition of allowance.

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in response to July 16, 2013 Office Action

If, however, the Examiner believes that there are any unresolved issues, or believes that the Application is not in condition for Allowance, Applicant respectfully requests that the Examiner contact the undersigned to schedule a telephonic Examiner Interview before any further Actions on the merits.

III. Status of Related Applications

The below chart provides information regarding related issued patents and co-pending applications filed by the present applicant:

SERIAL NO.	ATTORNEY DOCKET NO.	FILING DATE	STATUS
09/950,972	63121/31	2001-09-13	Issued as U.S. Patent No. 7,058,223
11/445,928	63121/32	2006-06-02	Issued as U.S. Patent No. 8,010,988
11/977,202	63121/34	2007-10-23	Issued as U.S. Patent No. 8,205,237
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13/800,890	63121/38	2013-03-13	Pending - Application Dispatched from Preexam, Not Yet Docketed
13/830,447	63121/40	2013-03-14	Pending - Non Final Action Mailed 2013-08-06
13/830,626	63121/41	2013-03-14	Pending - Docketed New Case - Ready for Examination
13/830,986	63121/42	2013-03-14	Pending - Application Dispatched from Preexam, Not Yet Docketed
13/842,068	63121/43	2013-03-15	Pending - Application Dispatched from Preexam, Not Yet Docketed

The Examiner is invited to review the prosecution history of each of these applications to see the prior art of record and related office actions as he deems appropriate.

* * * * *

Any claim amendment(s), claim(s) added, claim(s) canceled, argument(s), remark(s), and/or any combination(s) thereof made in this response pertain solely to the specific aspects of this specific claimed invention. Further, any claim amendment(s), claim(s) added, claim(s) canceled, argument(s), remark(s), and/or any combination(s) thereof are made without prejudice to or disclaimer of Applicant's right to seek patent protection of any unclaimed subject matter such as, but not limited, to narrower unclaimed subject matter, broader unclaimed subject matter, different unclaimed subject matter, variations of unclaimed subject matter, any combination thereof, and/or any other unclaimed subject matter that may or may not be filed, for example, in any design and/or utility patent application(s) such as, but not limited to, continuation patent application(s), continuation-in-part patent application(s), and/or divisional patent application(s) and/or any other patent application(s).

Applicant's silence as to any assertion(s) by the Examiner in the Office Action and/or to any certain fact(s) or conclusion(s) that may be implied and/or alleged by objections(s) and/or rejection(s) in the Office Action is not in any way a concession by Applicant that such assertion(s), implication(s), and/or allegation(s) are accurate, and that all requirements for any objection(s) and/or a rejection(s) have been met. Accordingly, Applicant reserves the right to analyze and dispute any such assertion(s), implication(s), and/or allegation(s) in the future.

The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 011785.

Respectfully submitted,

EFS
Appl. No. 13/829,717
Amendment filed Sept. 13, 2013
in response to July 16, 2013 Office Action

AMSTER, ROTHSTEIN & EBENSTEIN LLP
Attorneys for Applicants
90 Park Avenue
New York, NY 10016
(212) 336-8000

Dated: New York, New York
Sept. 13, 2013

By: /Benjamin M. Halpern/
Benjamin M. Halpern
Reg. No. 46,494

**TERMINAL DISCLAIMER TO OBVIATE A PROVISIONAL DOUBLE PATENTING
REJECTION OVER A PENDING "REFERENCE" APPLICATION**

Docket Number (Optional)
63121-39

In re Application of: Ingemar J. Cox

Application No.: 13/829,717

Filed: March 14, 2013

For: SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK

The owner*, NETWORK-1 SECURITY SOLUTIONS, INC., of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending **reference** Application Number 13/338,079, filed December 27, 2011, as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the **reference** application are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term of any patent granted on said **reference** application, "as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application," in the event that: any such patent: granted on the pending **reference** application: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as shortened by any terminal disclaimer filed prior to its grant.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 46,494

/Benjamin M. Halpern/
Signature

September 13, 2013
Date

Benjamin M. Halpern
Typed or printed name

212-336-8000
Telephone Number

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) is included.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this statement. See MPEP § 324.

This collection of information is required by 37 CFR 1.321. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

TERMINAL DISCLAIMER TO OBTAIN A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	Docket Number (Optional) 63121-39
In re Application of: Ingemar J. Cox Application No.: 13/829,717 Filed: March 14, 2013 For: SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK The owner*, <u>NETWORK-1 SECURITY SOLUTIONS, INC.</u>, of <u>100</u> percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent No. <u>8,020,187</u> as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns. In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later: - expires for failure to pay a maintenance fee; - is held unenforceable; - is found invalid by a court of competent jurisdiction; - is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321; - has all claims canceled by a reexamination certificate; - is reissued; or - is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer. Check either box 1 or 2 below, if appropriate. 1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon. 2. ☒ The undersigned is an attorney or agent of record. Reg. No. <u>46,494</u> <u>/Benjamin M. Halpern/</u> Signature <u>September 13, 2013</u> Date <u>Benjamin M. Halpern</u> Typed or printed name <u>212-336-8000</u> Telephone Number ☒ Terminal disclaimer fee under 37 CFR 1.20(d) included. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038. *Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner). Form PTO/SB/96 may be used for making this certification. See MPEP § 324.	

This collection of information is required by 37 CFR 1.321. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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TERMINAL DISCLAIMER TO OBIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	Docket Number (Optional) 63121-39
In re Application of: Ingemar J. Cox Application No.: 13/829,717 Filed: March 14, 2013 For: SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK The owner*, <u>NETWORK-1 SECURITY SOLUTIONS, INC.</u>, of <u>100</u> percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent No. <u>8,205,237</u> as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns. In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later: - expires for failure to pay a maintenance fee; - is held unenforceable; - is found invalid by a court of competent jurisdiction; - is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321; - has all claims canceled by a reexamination certificate; - is reissued; or - is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer. Check either box 1 or 2 below, if appropriate. 1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon. 2. ☒ The undersigned is an attorney or agent of record. Reg. No. <u>46,494</u> <u>/Benjamin M. Halpern/</u> Signature <u>September 13, 2013</u> Date <u>Benjamin M. Halpern</u> Typed or printed name <u>212-336-8000</u> Telephone Number ☒ Terminal disclaimer fee under 37 CFR 1.20(d) included. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038. *Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner). Form PTO/SB/96 may be used for making this certification. See MPEP § 324.	

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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal				
Application Number:		13829717		
Filing Date:		14-Mar-2013		
Title of Invention:		SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK		
First Named Inventor/Applicant Name:		Ingemar J. COX		
Filer:		Benjamin M. Halpern/Vivian Campbell		
Attorney Docket Number:		63121-39		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Statutory or Terminal Disclaimer	1814	4	160	640
Total in USD (\$)				640

Electronic Acknowledgement Receipt	
EFS ID:	16853646
Application Number:	13829717
International Application Number:	
Confirmation Number:	8930
Title of Invention:	SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK
First Named Inventor/Applicant Name:	Ingemar J. COX
Customer Number:	1912
Filer:	Benjamin M. Halpern/Vivian Campbell
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	63121-39
Receipt Date:	13-SEP-2013
Filing Date:	14-MAR-2013
Time Stamp:	17:51:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 640
RAM confirmation Number	5472
Deposit Account	011785
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)	

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		1NFAmdmnt.pdf	118791	yes	15
			e11c0eb77b7e51c0ba8880d039ab5e7d3c242524		
	Multipart Description/PDF files in .zip description				
	Document Description		Start		End
	Amendment/Req. Reconsideration-After Non-Final Reject		1		1
	Applicant summary of interview with examiner		2		11
	Applicant Arguments/Remarks Made in an Amendment		12		15
Warnings:					
Information:					
2	Terminal Disclaimer Filed	2TD13338079.pdf	43126	no	2
			e07a0293acd6516bc10d1e0bcea38b0905866448		
Warnings:					
Information:					
3	Terminal Disclaimer Filed	3TDUSP-8010988.pdf	41692	no	2
			b0a0f389f4b7457aac9f04b323641f1a723e653f		
Warnings:					
Information:					
4	Terminal Disclaimer Filed	4TDUSP-8020187.pdf	41691	no	2
			79380cb9def2ab61f2b46447f62fa62886031b1		
Warnings:					
Information:					
5	Terminal Disclaimer Filed	5TDUSP-8205237.pdf	41793	no	2
			738d8cdb17192ebd0518ff613b3838937a4235e		
Warnings:					
Information:					
6	Fee Worksheet (SB06)	fee-info.pdf	30780	no	2
			398e664c961c6efefb7570f3c4a354af94a82f86		
Warnings:					
Information:					
Total Files Size (in bytes):			317873		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

TERMINAL DISCLAIMER TO OBIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	Docket Number (Optional) 63121-39
In re Application of: Ingemar J. Cox Application No.: 13/829,717 Filed: March 14, 2013 For: SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK The owner*, <u>NETWORK-1 SECURITY SOLUTIONS, INC.</u>, of <u>100</u> percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent No. <u>8,010,988</u> as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns. In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later: - expires for failure to pay a maintenance fee; - is held unenforceable; - is found invalid by a court of competent jurisdiction; - is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321; - has all claims canceled by a reexamination certificate; - is reissued; or - is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer. Check either box 1 or 2 below, if appropriate. 1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon. 2. ☒ The undersigned is an attorney or agent of record. Reg. No. <u>46,494</u> <u>/Benjamin M. Halpern/</u> Signature <u>September 13, 2013</u> Date <u>Benjamin M. Halpern</u> Typed or printed name <u>212-336-8000</u> Telephone Number ☒ Terminal disclaimer fee under 37 CFR 1.20(d) included. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038. *Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner). Form PTO/SB/96 may be used for making this certification. See MPEP § 324.	

This collection of information is required by 37 CFR 1.321. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
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	Filing Date		2013-03-14	
	First Named Inventor	Ingemar J. Cox		
	Art Unit	2425		
	Examiner Name	Cai Y. Chen		
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1	ARDIZZONE, Edoardo et al., "Motion and Color-Based Video Indexing and Retrieval," Universita di palermo, Dipartimento di Ingegneria Elettrica, pp. 135-139, Viale delle Scienze, Palermo, Italy, IEEE 1996.	☐
2	DENG, Yining et al., "Content-based Search of Video Using Color, Texture, and Motion," Dept. of Electrical and Computer Engineering, University of California, Santa Barbara, CA, pp. 534-537, IEEE 1997.	☐
3	FANG, Min et al., "Computing Iceberg Queries Efficiently," Dept. of Computer Science, Stanford, CA, Paper Number 234, pp1-25.	☐
4	FLICKNER, Myron et al., "Query by Image and Video Content: The QBIC System," IBM Almaden Research Center, September 1995, pp 23-32, IEEE 1995.	☐
5	GARGI, U et al., "Performance Characterization and Comparison of Video Indexing Algorithms," Dept. of Computer Science & Engineering, The Pennsylvania State University, University Park, PA.	☐
6	GIONIS, Aristides et al., "Similarity Search in High Dimensions via Hashing," Dept. of Computer Science, Stanford University, Stanford, CA, pp. 518-529, Proceeding of the 25th VLDB Conference, Edinburgh, Scotland, 1999.	☐
7	INDYK, Piotr et al., "Approximate Nearest Neighbors: Towards Removing the Curse of Dimensionality" (preliminary version) Dept. of Computer Science, Stanford University, Stanford, CA, pp. 1-13 & i-vii, July 21, 1999.	☐
8	IYENGAR, Giridharan et al., "Models for automatic classification of video sequences," MIT Media Laboratory, Cambridge, MA.	☐
9	JAIN, Anil K., et al., "Image Retrieval using Color and Shape," Dept. of Computer Science, Michigan State University, Eas Lansing, MI, pp. 1-24, May 15, 1995.	☐
10	OGLE, Virginia E., et al., "Chabot: Retrieval from a Relational Database of Images," University of California at Berkeley, Computer pp. 40-48, IEEE 1995.	☐
11	PENTLAND, A. et al., "Photobook: Content-Based Manipulation of Image Databases," Perceptual Computing Section, The Media Laboratory, Massachusetts Institute of Tech., International Journal of Computer Vision 18(3), pp. 233-254 (1996), 1996 Kluwer Academic Publishers. Manuf. in The Netherlands.	☐

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	Attorney Docket Number	63121-39	

12	SHIVAKUMAR, Narayanan et al., "SCAM: A Copy Detection Mechanism for Digital Documents," Dept. of Computer Science, Stanford University, Stanford, CA, pp.1-13.	☐
13	SHIVAKUMAR, Narayanan et al., "Building a Scalable and Accurate Copy Detection Mechanism," Dept. of Computer Science, Stanford University, Stanford, CA.	☐
14	SRIHARI, Rohini K., "Automatic Indexing and Content-Based Retrieval of Captioned Images," State University of New York, Buffalo, Theme Feature, pp. 49-56, Sept. 1995, IEEE 1995.	☐
15	SWAIN, Michael and BALLARD, Dana H., "Color Indexing," International Journal of Computer Vision 7:1, p. 11-32 (1991), 1991 Kluwer Academic Publishers. Manuf. in The Netherlands.	☐
16	WACTLAR, Howard D. et al., "Intelligent Access to Digital Video: Informedia Project," Carnegie Mellon University, Digital Library Initiative: Carnegie Mellon University, Computer, pp. 46-52, IEEE 1996.	☐
17	YEO, Boon-Lock et al., "Rapid Scene Analysis on Compressed Video," IEEE Transactions on Circuits and Systems for Video Technology, Vol. 5, No. 6, pp. 533-544, December 1995, Dept. of Electrical Engineering, Princeton University, Princeton, NJ, IEEE Log Number 9415901.	☐
18	INDYK, Piotr et al., "Finding pirated video sequences on the Internet," Dept. of Computer Science, Stanford University, Palo Alto, CA, Paper Number 199.	☐

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☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

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Signature	/Benjamin M. Halpern/	Date (YYYY-MM-DD)	2013-09-12
Name/Print	Benjamin M. Halpern	Registration Number	49494

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	First Named Inventor	Ingemar J. Cox	
	Art Unit	2425	
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	2	6121530		2000-09-19	Sonoda, Tomonari	
	3	6269275	B1	2001-07-31	Slade, Michael G.	
	4	6550001	B1	2003-04-15	Corwin, Michael P. et al.	
	5	7065709	B2	2006-06-20	Ellis, Michael D. et al.	
	6	7103906	B1	2006-09-05	Katz, Neil et al.	
	7	7174293	B2	2007-02-06	Kenyon, Stephen C. et al.	
	8	7225455	B2	2007-05-29	Bennington, Gerald E. et al.	

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	Examiner Name	Cai Y. Chen		
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	9	7308413	B1	2007-12-11	Tota, Michael J. et al.	
	10	7346472	B1	2008-03-18	Moskowitz, Scott A. et al.	
	11	7493643	B2	2009-02-17	Ellis, Michael D.	
	12	7562392	B1	2009-07-14	Rhoads, Geoffrey B. et al.	
	13	7660700	B2	2010-02-09	Moskowitz, Scott A. et al.	
	14	7783489	B2	2010-08-24	Kenyon, Stephen C. et al.	
	15	7949494	B2	2011-05-24	Moskowitz, Scott A. et al.	
	16	8090605	B2	2012-01-03	Tota, Michael J. et al.	
	17	8112776	B2	2012-02-07	Schein, Steven M. et al.	
	18	8214175	B2	2012-07-03	Moskowitz, Scott et al.	
	19	8340994	B2	2012-12-25	Tota, Michael J. et al.	

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4	INDYK, Piotr et al., "Locality-Preserving Hashing in Multidimensional Spaces," February 25, 1997.	☐
5	GIBSON, David, "Name That Clip: Music retrieval using audio clips," August 19, 1999.	☐
6	Declaration of David A. Gibson, Inter Partes Review of U.S. Patent 7,174,293, August 30, 2013.	☐
7	Declaration of David A. Gibson, Inter Partes Review of U.S. Patent 7,783,489, August 30, 2013.	☐
8	Intersil, "Glossary of Communication Terms," December 1996.	☐
9	Declaration of Dr. Ton Kalker, Inter Partes Review of U.S. Patent 7,174,293, August 30, 2013.	☐
10	Declaration of Dr. Ton Kalker, Inter Partes Review of U.S. Patent 7,783,489, August 30, 2013.	☐

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Signature	/Benjamin M. Halpern/	Date (YYYY-MM-DD)	2013-09-12
Name/Print	Benjamin M. Halpern	Registration Number	46494

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal				
Application Number:		13829717		
Filing Date:		14-Mar-2013		
Title of Invention:		SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK		
First Named Inventor/Applicant Name:		Ingemar J. COX		
Filer:		Benjamin M. Halpern/Carol Brown		
Attorney Docket Number:		63121-39		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
Total in USD (\$)				180

Electronic Acknowledgement Receipt	
EFS ID:	16837763
Application Number:	13829717
International Application Number:	
Confirmation Number:	8930
Title of Invention:	SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK
First Named Inventor/Applicant Name:	Ingemar J. COX
Customer Number:	1912
Filer:	Benjamin M. Halpern/Carol Brown
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	63121-39
Receipt Date:	12-SEP-2013
Filing Date:	14-MAR-2013
Time Stamp:	16:31:12
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$180
RAM confirmation Number	3608
Deposit Account	011785
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Transmittal Letter	1IDSlet.pdf	29427 d6a187cf590e7478feb7cae13216923d2838efc6	no	2
Warnings:					
Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	2IDS.PDF	614116 d46bd9aa382c4f9d8d3c040398f20e5cc375d0d9	no	5
Warnings:					
Information:					
A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.					
3	Information Disclosure Statement (IDS) Form (SB08)	3IDS.pdf	613608 c4b8e168406da5251c81b9a03de35f1f44403aaf	no	6
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	30798 f4a30154624b50fe7eeb5d1f54d7ab01c03b8d17	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			1287949		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
ATTORNEY DOCKET NO. 63121-39**

Confirmation No.: 8930

Applicant: Network 1
Title: SYSTEM FOR USING EXTRACTED FEATURES FROM AN
ELECTRONIC WORK
Appl. No.: 13/829,717
Date: March 14, 2013
Examiner: Cai Y. Chen
Art Unit: 2425
Customer No.: 1912

INFORMATION DISCLOSURE STATEMENT LETTER
UNDER 37 CFR § 1.56

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22323-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. §1.56, Applicant would like to direct the Examiner's attention to the references that are listed on the attached forms PTO/SB/08A. These references were previously submitted to the Patent Office, directly or by reference to a related application, or cited by the Patent Office during prosecution of U.S. Patent Application No. 13/338,079, which was filed on December 27, 2011, from which the subject application claims priority under 35 U.S.C. §120. Accordingly, pursuant to 37 C.F.R. § 1.98(d), copies of previously cited or submitted references are not included with this Information Disclosure Statement.

Appl. No.: 13/829,717
Information Disclosure Statement Letter

Atty Dkt. No. 63121-39

The Commissioner is hereby authorized to charge or credit any fees which may be required for this filing to Deposit Account No. 01-1785.

Respectfully submitted,

AMSTER, ROTHSTEIN & EBENSTEIN LLP
Attorneys for Applicant
90 Park Avenue
New York, NY 10016
(212) 336-8000

Dated: September 12, 2013

By: /Benjamin M. Halpern/
Benjamin M. Halpern, Reg. No.: 46494



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/829,717	03/14/2013	Ingemar J. COX	63121-39	8930
1912 7590 07/16/2013 AMSTER, ROTHSTEIN & EBENSTEIN LLP 90 PARK AVENUE NEW YORK, NY 10016			EXAMINER CHEN, CAI Y	
			ART UNIT 2425	PAPER NUMBER
			NOTIFICATION DATE 07/16/2013	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTODOCKET@ARELAW.COM

Office Action Summary	Application No. 13/829,717	Applicant(s) COX ET AL.	
	Examiner CAI CHEN	Art Unit 2425	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2013.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-27 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-27 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 14 March 2013 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some * c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	3) ☐ Interview Summary (PTO-413)
2) ☒ Information Disclosure Statement(s) (PTO/SB/08)	Paper No(s)/Mail Date. ____.
Paper No(s)/Mail Date <u>06/09/2013, and 06/07/2013</u> .	4) ☐ Other: ____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claim 1 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 28 of US patent 8,010,988, claim 1 of US patent 8,020,187, claim 1 of US patent 8,205,237, and claim 1 of US patent application 13/338,079. Although the conflicting claims are not identical, they are not patentably distinct from each other because these claims differ only in that application claim 1 broadly reads over the features of claim 28 of US patent 8,010,988, claim 1 of US patent 8,020,187, claim 1 of US patent 8,205,237, and claim 1 of US patent application 13/338,079.

3. Allowance of the pending application claim 1 would result in an unjustified time-wise extension of the monopoly granted for the invention defined by claim 28 of US patent 8,010,988, claim 1 of US patent 8,020,187, claim 1 of US patent 8,205,237, and claim 1 of US patent application 13/338,079.

Allowable Subject Matter

Claims 1-27 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1 and its dependents, the art of record either alone or in combination fails to particular disclose or suggest the claim when considered as whole and particularly a computer system comprising: one or more communications devices; one or more processors operatively connected to the one or more communications devices; and one or more computer readable media operatively connected to the one or more processors and having stored thereon computer instructions for carrying out the steps of: (a) maintaining, by the computer system, a database comprising: (1) first data related to identification of one or more works; and (2) second data related to information corresponding to each of the one or more works as identified by the first data; (b) obtaining, by the computer system, extracted features of a work to be identified; (c) identifying, by the computer system, the work by comparing the extracted features of the work with the first data in the database using a non-exhaustive neighbor search; (d) determining, by the computer system, the information corresponding to the identified work based on the second data in the database; and (e) associating, by the computer system, the determined information with the identified work.

As to the art of record, the Wang reference discloses a method of extracting an audio feature from an audio media work and identifies the audio media work by finding a perfect match. However, Wang does not teach with respect to the entire claim or combination limitation stated as above.

As to the art of record, the Yianlos reference discloses a search algorithm to search for dataset point nearest based extracted data. However, Yianlos does not teach with respect to the entire claim or combination limitation stated as above.

As to the art of record, the Menard reference discloses extracting closed caption text to compare with the text preset by the user profile if match the user would be alerted. However, Menard does not teach with respect to the entire claim or combination limitation stated as above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAI CHEN whose telephone number is (571)270-5679. The examiner can normally be reached on 7:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Pendleton can be reached on 571-272-7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CAI CHEN/
Examiner, Art Unit 2425

Notice of References Cited	Application/Control No. 13/829,717	Applicant(s)/Patent Under Reexamination COX ET AL.	
	Examiner CAI CHEN	Art Unit 2425	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,853,664	12-2010	Wang et al.	709/217
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717	
	Filing Date		2013-03-14	
	First Named Inventor	Ingemar J. Cox		
	Art Unit	3715		
	Examiner Name			
	Attorney Docket Number	63121-39		

U.S. PATENTS							Remove	
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear		
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If you wish to add additional U.S. Patent citation information please click the Add button.							Add	
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NON-PATENT LITERATURE DOCUMENTS							Remove	
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.						T ⁵

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
	Filing Date		2013-03-14
	First Named Inventor	Ingemar J. Cox	
	Art Unit	3715	
	Examiner Name		
	Attorney Docket Number	63121-39	

1	MARTIN ESTER et al., "A Density-Based Algorithm for Discovering Clusters in Large Spatial Databases with Noise," Proceedings of 2nd International Conference on Knowledge Discovery and Data Mining (KDD-96), 1996.	☐
2	YOSSI RUBNER et al., "Adaptive Color Image Embeddings for Database Navigation*," Proceedings of the 1998 IEEE Asian Conference on Computer Vision.	☐
3	ROGER WEBER et al., "A Quantitative Analysis and Performance Study for Similarity-Search Methods in High-Dimensional Spaces," Proceedings of 24th VLDB Conference, 1998.	☐
4	P. YIANILOS, "Data Structures and Algorithms for Nearest Neighbor Search in General Metric Spaces," Proceedings of the ACM-SIAM Symposium on Discrete algorithms, 1993, pp. 311.321.	☐

If you wish to add additional non-patent literature document citation information please click the Add button **Add**

EXAMINER SIGNATURE

Examiner Signature	/Cai Chen/	Date Considered	07/11/2013

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	13829717
Filing Date	2013-03-14
First Named Inventor	Ingemar J. Cox
Art Unit	3715
Examiner Name	
Attorney Docket Number	63121-39

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

- ☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

- ☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

- ☐ See attached certification statement.
- ☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- ☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Benjamin M. Halpern/	Date (YYYY-MM-DD)	2013-04-09
Name/Print	Benjamin M. Halpern/	Registration Number	46,494

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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	Filing Date		2013-03-14
	First Named Inventor	Ingemar J. Cox	
	Art Unit	2425	
	Examiner Name		
	Attorney Docket Number	63121-39	

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	1	6937766	B1	2005-08-30	Wilf et al.	
	2	7184100	B1	2007-02-27	Wilf et al.	
	3	6317885	B1	2001-11-13	Robert M. Fries	
	4	6999111	B2	2006-02-14	Dale F. McIntyre, et al.	
	5	6833865	B1	2004-12-21	Charles Fuller, et al.	
	6	6871231	B2	2005-03-22	Robert Paul Morris	
	7	7191190	B2	2007-03-13	Kirt A. Debique, et al.	
	8	7243153	B2	2007-07-10	Dale F. McIntyre, et al.	

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	9	7272788	B2	2007-09-18	Eric C. Anderson, et al.	
	10	7423771	B2	2008-09-09	Tadahiro Ohata, et al.	
	11	7624337	B2	2009-11-24	Sanghoon Sull, et al.	
	12	8171509	B1	2012-05-01	David Girouard, et al.	
	13	7483958	B1	2009-01-27	Tarek Z. Elabbady, et al.	
	14	7595914	B2	2009-09-29	David S. Haining	
	15	8094949	B1	2012-01-10	Geoffrey B. Rhoads	
	16	6496857	B1	2002-12-17	Jim Dustin, et al.	
	17	7171016	B1	2007-01-30	Geoffrey B. Rhoads	
	18	5862260		1999-01-19	Geoffrey B. Rhoads	
	19	5822436		1998-10-13	Geoffrey B. Rhoads	

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	20	5832119		1998-11-03	Geoffrey B. Rhoads	
	21	5841978		1998-11-24	Geoffrey B. Rhoads	
	22	5748783		1998-05-05	Geoffrey B. Rhoads	
	23	5768426		1998-06-16	Geoffrey B. Rhoads	
	24	6057872		2000-05-02	Brant Candelore	
	25	6774926	B1	2004-08-10	Michael D. Ellis	
	26	6009410		1999-12-28	Suzanne L. LeMole, et al.	

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	1	20020178276	A1	2002-11-28	Jason McCartney, et al.	
	2	20020026369	A1	2002-02-28	Michael R. Miller, et al.	

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	3	20020083005	A1	2002-06-27	Stephen Lowenstein, et al.	
	4	20050246752	A1	2005-11-03	Gad Liwerant, et al.	
	5	20010047298	A1	2001-11-29	S. Sean Moore, et al.	
	6	20040015608	A1	2004-01-22	Richard D. Ellis, et al.	
	7	20020056123	A1	2002-05-09	Gad Liwerant, et al.	
	8	20040199387	A1	2004-10-07	Avery Li-Chun Wang, et al.	
	9	20020059610	A1	2002-05-16	Michael D. Ellis	

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	1	WO2001022730		A1	2001-03-29	Nicholas Maier, et al.		☐

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	1	U.S. Provisional Application No. 60/304,647 filed July 10, 2001.	☐
	2	U.S. Provisional Application No. 60/281,881 filed April 5, 2001.	☐
	3	Metadata Mediation: Representation and Protocol, Tsuyoshi Sakata, Hiroyuki Tada, Tomohisa Ohtake, Digital Vision Laboratories, 7-3-37 Akasaka, Minato, Tokyo, Japan.	☐
	4	U.S. Patent Application No. 13/800,573 filed March 13, 2013.	☐
	5	U.S. Patent Application No. 13/800,890 filed March 13, 2013.	☐
	6	U.S. Patent Application No. 13/829,717 filed March 14, 2013.	☐
	7	U.S. Patent Application No. 13/830,447 filed March 14, 2013.	☐
	8	U.S. Patent Application No. 13/830,626 filed March 14, 2013.	☐
	9	U.S. Patent Application No. 13/830,986 filed March 14, 2013.	☐
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11	U.S. Patent Application No. 13/338,079 filed December 27, 2011.	☐
12	U.S. Provisional Patent Application No. 60/134,782 filed May 19, 1999.	☐
13	U.S. Patent Application No. 60/193,948 filed March 31, 2000.	☐
14	U.S. Patent Application No. 60/195,535 filed April 7, 2000.	☐
15	U.S. Patent Application No. 60/206,384 filed May 23, 2000.	☐
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Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

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Name/Print	Benjamin M. Halpern	Registration Number	46494

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<i>Index of Claims</i> 	Application/Control No. 13829717	Applicant(s)/Patent Under Reexamination COX ET AL.
	Examiner CAI CHEN	Art Unit 2425

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant
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CLAIM		DATE									
Final	Original	07/11/2013									
	1	✓									
	2	✓									
	3	✓									
	4	✓									
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	Art Unit	3715	
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	Attorney Docket Number	63121-39	

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	1	3919479		1975-11-11	Warren D. Moon et al.	
	2	4230990		1980-10-28	John G. Lert, Jr. et al.	
	3	4450531		1984-05-22	Stephen C. Kenyon et al.	
	4	4495526		1985-01-22	Dimitri Baranoff-Rossine	
	5	4499601		1985-02-12	Gordon H. Matthews	
	6	4511917		1985-04-16	Hans O. Kohler et al.	
	7	4547804		1985-10-15	Burton L. Greenberg	
	8	4634966		1987-01-06	Tomofumi Nakatani et al.	

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	9	4639779		1987-01-27	Burton L. Greenberg	
	10	4677455		1987-06-30	Yoshinori Okajima	
	11	4677466		1987-06-30	John G. Lert, Jr. et al.	
	12	4682370		1987-07-21	Gordon H. Matthews	
	13	4697209		1987-09-29	David A. Kiervit et al.	
	14	4739398		1988-04-19	William L. Thomas et al.	
	15	4776017		1988-10-04	Junichiroh Fujimoto	
	16	4805020		1989-02-14	Burton L. Greenberg	
	17	4843526		1989-06-27	George T. Price III	
	18	4843562		1989-06-27	Stephen C. Kenyon et al.	
	19	4918730		1990-04-17	Klaus Schulze	

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	20	5210820		1993-05-11	Stephen C. Kenyon	
	21	5283819		1994-02-01	James A. Glick et al.	
	22	5437050		1995-07-25	Robert G. Lamb et al.	
	23	5481294		1996-01-02	William L. Thomas et al.	
	24	5581658		1996-12-03	Michael O'Hagan et al.	
	25	5692213		1997-11-25	David Goldberg et al.	
	26	5701542		1997-12-23	Hiroyuki Sasayama	
	27	5724605		1998-03-03	Michael J. Wissner	
	28	5745900		1998-04-28	Michael Burrows	
	29	5798785		1998-08-25	John S. Hendricks et al.	
	30	5850490		1998-12-15	Walter A. L. Johnson	

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	31	5918223		1999-06-29	Thomas L. Blum et al.	
	32	5953415		1999-09-14	Jakob Nielsen	
	33	6006256		1999-12-21	Joel Zdepski et al.	
	34	6011758		2000-01-04	Jean Francois Dockes et al.	
	35	6026439		2000-02-15	Shyamal Chowdhury et al.	
	36	6044402		2000-03-28	Douglas W. Jacobson et al.	
	37	6052693		2000-04-18	Michael J. Smith et al.	
	38	6061056		2000-05-09	Robert Menard et al.	
	39	6088455		2000-07-11	James D. Logan et al.	
	40	6088707		2000-07-11	Cary L. Bates et al.	
	41	6118450		2000-09-12	Andrew M. Proehl et al.	

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	42	6119124		2000-09-12	Andrei Z. Broader et al.	
	43	6169986		2001-01-02	Dwayne E. Bowman et al.	
	44	6173406	B1	2001-01-09	Edward Yan-Bing Wang et al.	
	45	6240409	B1	2001-05-29	Alexander Aiken	
	46	6243725		2001-06-05	James D. Hempleman et al.	
	47	6247133	B1	2001-06-12	Michael D. Palage et al.	
	48	6253193		2001-06-26	Karl L. Ginter et al.	
	49	6263348	B1	2001-07-17	Bodie Kathrow et al.	
	50	6330593	B1	2001-12-11	Dale Tyson Roberts et al.	
	51	6345256	B1	2002-02-05	Kenneth Louis Milsted et al.	
	52	6349296	B1	2002-02-19	Andrei Z. Broder et al.	

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	53	6363377	B1	2002-03-26	Dina Kravets et al.	
	54	6374225	B1	2002-04-16	Donald J. Hejna, Jr.	
	55	6381601	B1	2002-04-30	Shinji Fujiwara et al.	
	56	6385596	B1	2002-05-07	Philip R. Wiser et al.	
	57	6408128	B1	2002-06-18	Max Abecassis	
	58	6418421	B1	2002-07-09	Marco M. Hurtado et al.	
	59	6446068	B1	2002-09-03	Chris Alan Kortge	
	60	6449226	B1	2002-09-10	Takashi Kumagai	
	61	6452874	B1	2002-09-17	Satoshi Otsuka et al.	
	62	6477704	B1	2002-11-05	Lawrence Cremia	
	63	6496802	B1	2002-12-17	Alexander T. Van Zoest et al.	

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	64	6505160	B1	2003-01-07	Kenneth L. Levy et al.	
	65	6550011	B1	2003-04-15	J. Roberts Sims, III	
	66	6591245	B1	2003-07-08	John R. Klug	
	67	6598228	B2	2003-07-22	Donald J. Hejna, Jr.	
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	69	6654757	B1	2003-11-25	Michael R. Stern	
	70	6665661	B1	2003-12-16	Vernon L. Crow et al.	
	71	6834308	B1	2004-12-21	Vance E. Ikezoye et al.	
	72	6873982	B1	2005-03-29	Cary Lee Bates et al.	
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	75	6978461	B2	2005-12-20	Ari Shapiro et al.	
	76	6978419	B1	2005-12-20	Mark Kantrowitz	
	77	6990453	B2	2006-01-24	Avery Li-Chun Wang et al.	
	78	7013301	B2	2006-03-14	Frode Holm et al.	
	79	7058223	B2	2006-06-06	Ingemar J. Cox	
	80	7106904	B2	2006-09-12	Yoshihiro Shuma	
	81	7155449	B2	2006-12-26	Jurgen Pingel et al.	
	82	7168083	B2	2007-01-23	Antonius Adrianus Cornelis Maria Kalker et al.	
	83	7302574	B2	2007-11-27	William Y. Conwell et al.	
	84	7366718	B1	2008-04-29	William Pugh et al.	
	85	7421723	B2	2008-09-02	David H. Harkness et al.	

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	86	7477739	B2	2009-01-13	Jaap Andre Haitsma et al.	
	87	7523312	B2	2009-04-21	Antonius Adrianus Cornelis Maria Kalker et al.	
	88	5594934		1997-01-14	Daozheng Lu et al.	
	89	5629739		1997-05-13	Robert A. Dougherty	
	90	5701452		1997-12-23	David M. Siefert	
	91	6360215	B1	2002-03-19	Douglass R. Judd et al.	
	92	6550001	B1	2002-03-19	Douglass R. Judd et al.	
	93	6577746	B1	2003-06-10	Douglas B. Evans et al.	
	94	6675174	B1	2004-01-06	Rudolf Maarten Bolle et al.	
	95	7158929	B2	2007-01-02	Marc-Henri J. M. A. Wouters et al.	
	96	7587728	B2	2009-09-08	Henry B. Wheeler et al.	

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	97	7647604	B2	2010-01-12	Arun Ramaswamy	
	98	7650616	B2	2010-01-19	Morris Lee	
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	3	20020023020	A1	2002-02-21	Stephen C. Kenyon et al.	
	4	20020032698	A1	2002-03-14	Ingemar J. Cox	
	5	20020120925	A1	2002-08-29	James D. Logan	
	6	20020156760	A1	2002-10-24	Stephen R. Lawrence et al.	

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	7	20030106017	A1	2003-06-05	Virupaksha N. Kanchirayappa et al.	
	8	20030146940	A1	2003-08-07	Michael D. Ellis et al.	
	9	20040199387	A1	2004-10-07	Avery Li-Chun Wang et al.	
	10	20050160363	A1	2005-07-21	Kulvir Singh Bhogal et al.	
	11	20060101069	A1	2006-05-11	James Bell et al.	
	12	20060206462	A1	2006-09-14	Jimmy N. Barber	
	13	20070083510	A1	2007-04-12	James M. McArdle	
	14	20070118375	A1	2007-05-24	Stephen C. Kenyon et al.	
	15	20080091684	A1	2008-04-17	Jeffrey Ellis et al.	
	16	20070041667	A1	2007-02-22	Ingemar J. Cox	
	17	20080250241	A1	2008-10-09	Karl L. Ginter et al.	

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	1	PETER N. YIANLOS, Excluded Middle Vantage Point Forests for Nearest Neighbor Search, July 20, 1998, pp. 1-12.						☐
	2	PETER N. YIANLOS,, "Locally Lifting the Curse of Dimensionality for Nearest Neighbor Search" SODA 2000, pp. 361-370.						☐
	3	L. BAUM et al., "A Maximization Technique Occuring in the Statistical Analysis of Probabilistic Functions of Markov Chains," The Annals of Mathematical Statistics, Vol. 41, No. 1, pp. 164-171 (1970).						☐
	4	A. P. DEMPSTER et al., "Maximum Likelihood from Incomplete Data via the SEM\$ Algorithm," Journal of the Royal Statistical Society, Series B (Methodological), Vol. 39, Issue 1, pp. 1-38 (1977).						☐
	5	D. REYNOLDS et al., "Robust Text-Independent Speaker Identification Using Gaussian Mixture Speaker Models," IEEE Transactions on Speech and Audio Processing, Vol. 3, No. 1, pp. 72-83 (January 1995).						☐
	6	D. BOUKTACHE, "A fast Algorithm for the nearest neighbor classifier," IEEE Transactions on Pattern Analysis and Machine Intelligence, Mar. 1997, pp. 277-282.						☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
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	Attorney Docket Number	63121-39	

7	NENE et al., "A simple algorithm for nearest neighbor search in high dimensions," IEEE Transactions on Pattern Analysis and Machine Intelligence, Sept. 1997, pp. 989-1003.	☐
8	SUNIL ARYA et al., "Approximate Nearest Neighbor Queries in Fixed Dimensions," Proceedings of the 4th annual ACM-SIAM Symposium on Discrete algorithms, 1993, pp. 271-280.	☐
9	K. FUKUNAGA et al., "A branch and bound algorithm for computing k-nearest neighbors, IEEE Trans. Comput., C24:750-753, July 1975.	☐
10	CHARLES D. FEUSTEL et al., "The nearest neighbor problem in an abstract metric space," Pattern Recognition Letters, pp. 125-128, December 1982.	☐
11	DENNIS SHASHA et al., "New Techniques for Best-Match Retrieval," ACM Transactions on Information Systems, 8(2): 140{158, April 1990.	☐
12	J. UHLMANN, "Satisfying general proximity / similarity queries with metric trees", Information Processing Letters, 40 (4): 175{9, November 1991.	☐
13	SERGEY BRIN, "Near Neighbor Search in Large Metric Spaces," Proceedings of the 21st VLDB Conference, Zurich, Switzerland, Sep. 1995.	☐
14	DANIEL P. HUTTENLOCHER, et al., "Comparing Images Using the Hausdorff Distance," IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 15, No. 9, pp. 850-863, September 1993.	☐
15	THOMAS SEIDL et al., "Optimal Multi-Step K-Nearest Neighbor Search," Proceedings of ACM SIGMOD International Conference of Management of Data, June 1998, pp. 154-165.	☐
16	W. A. BURKHARD et al., "Some Approaches to Best-Match File Searching," Communications of the ACM, Vol. 16, No. 4, April 1973.	☐
17	EYAL KUSHILEVITZ et al., "Efficient Search for Approximate Nearest Neighbor in High Dimensional Spaces," Proceedings of the 30th annual ACM Symposium on the Theory of computing, 1998, pp. 457-474, Vol. 30, No. 2.	☐

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18	J. NIEVERGELT et al., "The Grid File: An Adaptable, Symmetric Multikey File Structure," ACM Transactions on Database Systems, Vol. 9, No. 1, pp. 38-71 (March 1984).	☐
19	NEVIN HEINTZE, "Scalable Document Fingerprinting," Proc. USENIX Workshop on Electronic Commerce (1996).	☐
20	ERLING WOLD et al., "Content-Based Classification, Search, and Retrieval of Audio," IEEE Multimedia, Vol. 3, Issue 3, pp. 27-63 (1996).	☐
21	BIR BHANU et al., "Learning Feature Relevance and Similarity Metrics in Image Databases," Proceedings of the IEEE Workshop on Content-Based Access of Image and Video Libraries, pp. 14-19 (1998).	☐
22	A. DEL BIMBO et al., "Using Weighted Spatial Relationships in Retrieval by Visual Contents," Image Description and Retrieval, pp. 161-192 (1998).	☐
23	P. INDYK et al., "Approximate Nearest Neighbors: Towards Removing The Curse of Dimensionality," Proceeding of the Thirtieth Annual ACM Symposium on Theory of Computing, pp. 604-613 July 21, 1999.	☐
24	MARCO LA CASCIA, "Combining Textual and Visual Cues for Content-based Image Retrieval on the World Wide Web," Proceedings of the IEEE Workshop on Content-Based Access of Image and Video Libraries, pp. 24-29 (1998).	☐
25	ATSUO YOSHITAKA et al., "A Survey on Content-Based Retrieval for Multimedia Databases," IEEE Transactions on Knowledge and Data Engineering, Vol. 11, No. 1, pp. 81-93 (January/February 1999).	☐
26	STEVE LAWRENCE et al., "Digital Libraries and Automonous Citation Indexing," IEEE Computer, pp. 67-71 (June 1999).	☐
27	AKISATO KIMURA et al., "Very Quick Audio Searching: Introducing Global Pruning to the Time-Series Active Search," IEEE Conf on Acoustics, Speech and Signal Processing, (ICASSP '01), Vol. 3, pp. 1429-1432, 2001.	☐
28	EDGAR CHAVEZ et al., "Searching in Metric Spaces," ACM Computing Surveys," Vol. 33, No. 3, pp. 273-321 (September 2001).	☐

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	Attorney Docket Number	63121-39	

29	JAAP HAITSMA et al., "Robust Audio Hashing for Content Identification," Workshop on Content Based Multimedia Indexing, Brescia, Italy (September 19-21, 2001).	☐
30	JAAP HAITSMA et al., "A Highly Robust Audio Fingerprinting System," Journal of New Music Research, 1744-5027, Vol. 32, Issue 2, pp. 211-221 (2003).	☐
31	SAUL SCHLEIMER et al., "Winnowing: Local Algorithms for Document Fingerprinting," ACM SIGMOD, June 9-12, 2003.	☐
32	EDWARD CHANG et al., "Searching Near-Replicas of Images via Clustering," SPIE Symposium of Voice, Video and Data Communications, 1999.	☐
33	EDWARD Y. CHANG et al., "RIME: A Replicated Image Detector for the World-Wide Web," SPIE, 1998.	☐
34	HECTOR GARCIA-MOLINA et al., "Safeguarding and Charging for Information on the Internet," Proceedings of ICDE, 1998.	☐
35	SERGEY BRIN et al., "Copy Detection Mechanisms for Digital Documents," Proceedings of ACM SIG-MOD, May 1995.	☐
36	STEFAN BERCHTOLD "The x-tree: An Index Structure for High-Dimensional Data," Proceedings of the 22nd VLDB, August 1996.	☐
37	NORIO KATAYAMA et al., "The SR-tree: An Index Structure for High-Dimensional Nearest Neighbor Queries," Proceedings of ACM SIGMOD, May 1997.	☐
38	JOHN T. ROBINSON, "The K-D-B-Tree: A Search Structure for Large Multidimensional Dynamic Indexes," Proceedings of ACM SIGMOD, April 1981.	☐
39	MYRON FLICKNER et al., "Query by Image and Video Content: The QBIC System," IEEE Computer 28(9), pp. 23-32, 1995.	☐

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	Attorney Docket Number	63121-39	

	40	AMARNATH GUPTA et al., "Visual Information Retrieval," Communications of the ACM, Vol. 40, No. 5, pp. 69-79, May 1997.	☐
	41	JOHN R. SMITH et al., "VisualSEEk: A fully automated content-based image query system," ACM Multimedia Conference, 1996.	☐
	42	DAVID A. WHITE et al., "Similarity Indexing: Algorithms and Performance," Proc. SPIE, Vol. 2670, San Diego, 1996.	☐
	43	NORBERT BECKMANN et al., "The R*-tree: An Efficient and Robust Access Method for Points and Rectangles," Proceedings of ACM Sigmod, May 1990.	☐
	44	A. GUTTMAN, "R-Trees: A Dynamic Index Structure for Spatial Searching," Proceedings of ACM Sigmod, June 1984.	☐
	45	DAVID A. WHITE et al., "Similarity Indexing with the SS-tree*," Proceedings of the 12th ICDE, Feb. 1996.	☐
	46	KING LIN et al., "The TV-Tree: An Index Structure for High-Dimensional Data," VLDB, Journal 3, No. 4, 1994, pp. 517-542.	☐
	47	PAOLO CIACCIA et al., "M-tree: An Efficient Access Method for Similarity Search in Metric Spaces," Proceedings of the 23rd VLDB, August 1997.	☐
	48	NICK ROUSSOPOULOS et al., Nearest Neighbor Queries," Proceedings of ACM Sigmod, May 1995.	☐
	49	C. Li et al., "An extensible hashing index for high-dimensional similarity search," Stanford Technical Report, August 1998.	☐
	50	JON M. KLEINBERG, "Two Algorithms for Nearest-Neighbor Search in High Dimensions," Proc 29th STOC, Feb 7, 1997.	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
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	1	U.S. Provisional Application No. 60/222,023, filed July 31, 2000; Avery Li-Chun Wang and Julius O. Smith III, Inventors; Palo Alto, CA.	☐

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Search Notes 	Application/Control No. 13829717	Applicant(s)/Patent Under Reexamination COX ET AL.
	Examiner CAI CHEN	Art Unit 2425

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
The inventor searches are performed in East and Edan	7/11/2013	CC

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STATEMENT BY APPLICANT**

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Sheet 1 of 6

Complete if Known

Application Number	13/829,717
Filing Date	March 14, 2013
First Named Inventor	Ingemar J. Cox
Art Unit	3715
Examiner Name	
Attorney Docket Number	63121-39

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A1	US- 20020023020	02-12-2002	Kenyon et al.	
	A2	US- 20020038296	03-28-2002	Margolis et al.	
	A3	US- 20020082731	06-27-2002	Pitman et al.	
	A4	US- 20020087885	07-04-2002	Peled et al.	
	A5	US- 20020133499	09-19-2002	Ward et al.	
	A6	US- 20020150164	10-17-2002	Felts et al.	
	A7	US- 20030028489	02-06-2003	Williamson	
	A8	US- 20030037010	02-20-2003	Schmelzer	
	A9	US- 20030061490	03-27-2003	Abajian	
	A10	US- 20030093790	05-15-2003	Logan et al.	
	A11	US- 20030095660	05-22-2003	Lee et al.	
	A12	US- 20030101144	05-29-2003	Pedro J. Moreno	
	A13	US- 20030202660	10-30-2003	Zhou et al.	
	A14	US- 20030233930	12-25-2003	Ozick	
	A15	US- 20040003398	01-01-2004	Donian et al.	
	A16	US- 20040010602	01-15-2004	Van Vleck et al.	
	A17	US- 20040025174	02-05-2004	Cerrato et al.	
	A18	US- 20040163106	08-19-2004	Schrempf et al.	
	A19	US- 20040170335	09-02-2004	Pearlman et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
	B1	GB-2369203 A	05-22-2002	Assertion Limited		
	B2	JP 2003-242281	08-29-2003	Sony Corp.		
	B3	WO 2002/103968 A1	12-27-2002	Beep Science AS		
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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 2 of 6**Complete if Known**

Application Number	13/829,717
Filing Date	March 14, 2013
First Named Inventor	Ingemar J. Cox
Art Unit	3715
Examiner Name	
Attorney Docket Number	63121-39

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		Number-Kind Code ² (if known)			
	A20	US- 20040199387	10-07-2004	Wang, et al.	
	A21	US- 20040221118	11-04-2004	Slater et al.	
	A22	US- 20050080846	04-14-2005	McCieskey et al.	
	A23	US- 20050154892	07-14-2005	Mihcak et al.	
	A24	US- 20050193016	09-01-2005	Seet et al.	
	A25	US- 20050102515	01-19-2005	Jaworski et al.	
	A26	US- 20050213826	09-29-2005	Neogi	
	A27	US- 20060031870	02-09-2006	Jarman et al.	
	A28	US- 20060080356	04-13-2006	Burges et al.	
	A29	US- 20060085816	04-20-2006	Funk et al.	
	A30	US- 20060110137	05-25-2006	Tsuda et al.	
	A31	US- 20060187358	08-24-2006	Lienhart et al.	
	A32	US- 20060195859	08-31-2006	Konig et al.	
	A33	US- 20060195860	08-31-2006	Eldering et al.	
	A34	US- 20060212927	09-21-2006	Riku et al.	
	A35	US- 20060271947	11-30-2006	Lienhart et al.	
	A36	US- 20070071330	03-29-2007	Oostveen et al.	
	A37	US- 20070101360	05-03-2007	Gutta et al.	
	A38	US- 20070124698	05-31-2007	Majumdar	

FOREIGN PATENT DOCUMENTS						
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STATEMENT BY APPLICANT**

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Sheet 3 of 6

Complete if Known

Application Number	13/829,717
Filing Date	March 14, 2013
First Named Inventor	Ingemar J. Cox
Art Unit	3715
Examiner Name	
Attorney Docket Number	63121-39

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		Number-Kind Code ² (if known)			
	A39	US- 20070130580	06-07-2007	Covell et al.	
	A40	US- 20070180537	08-02-2007	He et al.	
	A41	US- 20070203911	08-30-2007	Chiu	
	A42	US- 20070282472	12-06-2007	Seldman	
	A43	US- 20070288518	12-13-2007	Crigler et al.	
	A44	US- 20080052783	02-28-2008	Levy	
	A45	US- 20090052784	02-26-2009	Covell et al.	
	A46	US- 5634012	05-27-1997	Stefik et al.	
	A47	US- 5706364	01-06-1998	Kopec, et al.	
	A48	US- 5892536	04-06-1999	Logan et al.	
	A49	US- 5918223	06-29-1999	Blum et al.	
	A50	US- 5973723	10-26-1999	DeLuca	
	A51	US- 6023693	02-08-2008	Masuoka, et al.	
	A52	US- 6233682	05-15-2001	Fritsch	
	A53	US- 6236758	05-22-2001	Sodagar et al.	
	A54	US- 6407680	06-18-2002	Lai et al.	
	A55	US- 6693236	02-17-2004	Gould et al.	
	A56	US- 6766523	07-20-2004	Herley	
	A57	US- 6810388	10-26-2004	Sato	

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Sheet	4	of	6

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		Number-Kind Code ² (if known)			
	A58	US- 6871200	03-22-2005	MacQueen et al.	
	A59	US- 6944632	09-13-2005	Stern	
	A60	US- 6983371	01-03-2006	Hurtado et al.	
	A61	US- 7020635	03-28-2006	Hamilton et al.	
	A62	US- 7043473	05-09-2006	Rassool et al.	
	A63	US- 7092953	08-15-2006	Haynes	
	A64	US- 7363278	10-17-2002	Schmelzer et al.	
	A65	US- 7366787	04-29-2008	Salas et al.	
	A66	US- 7369677	05-06-2008	Petrovic et al.	
	A67	US- 7370017	05-06-2008	Lindeman et al.	
	A68	US- 7738704	06-15-2010	Lienhart et al.	
		US- 6496857	12-17-2002	Dustin et al.	
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		Application Number	13/829,717
		Filing Date	March 14, 2013
		First Named Inventor	Ingemar J. Cox
		Art Unit	3715
		Examiner Name	
Sheet 5 of 6	Attorney Docket Number	63121-39	

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	C1	Liu et al., "An Investigation of Practical Approximate Nearest Neighbor Algorithms", Advances in Neural Information Processing Systems (NIPS) 2004.	
	C2	K.L. Clarkson, "Nearest-Neighbor Searching and Metric Space Dimensions", Nearest-Neighbor Methods for Learning and Vision: Theory and Practice, April 2005.	
	C3	Swaminathan et al., "Robust an Secure Image Hashing", IEEE Transactions on Information Forensics and Security, June 2006, pp. 215 - 230, Vol. 1, No. 2	
	C4	Burges et al., "Duplicate Detection and Audio Thumbnails with Audio Fingerprinting" [online]. 2004, [retrieved on 11-21-2006]. Retrieved on the Internet: <URL: www.research.microsoft.com/~cburges/tech_reports/tr-2004-19.pdf>, 5 pages.	
	C5	Cano et al., "A Review of Algorithms for Audio Fingerprinting" [online]. 2002, [retrieved on 11-21-2006]. Retrieved from the Internet: <URL: www.iua.upf.es/mitg/publications/MMSP-2002-pcano.pdf>, 5 pages.	
	C6	Haitisma and Kaiker, "A Highly Robust Audio Fingerprinting System" [online]. 2002, [retrieved on 11-16-2006]. Retrieved from the Internet: <url: www.ismir2002.ismir.net/proceedings/02-FP04-2.pdf>, 9 pages.	
	C7	Jacobs et al., "Fast Multiresolution Image Querying" [online]. 1995, [retrieved on 11-21-2006]. Retrieved from the Internet: <URL: www.grail.cs.washington.edu/projects/query.pdf>, 10 pages.	
	C8	Ke et al., "Computer Vision for Music Identification" [online]. 2005, [retrieved on 11-21-2006]. Retrieved from the Internet: <URL: www.cs.cmu.edu/~yke/musicretrieval/cvpr2005-mr.pdf>, 8 pages.	
	C9	Shazam, Shazam Entertainment Brings Music Recognition to Windows Mobile 5.0 Powered Smartphones" [online]. 2006, [retrieved on 11-16-2006]. Retrieved from the Internet: <URL: www.shazam.com/music/portal/sp/s/media-type/html/user/anon/page/default/template/pages/p/company_release30.html>, 1 page.	
	C10	Stanford, "CS276 Information Retrieval and Web Mining" [online]. 2005, [retrieved on 11-16-2006]. Retrieved from the Internet: <URL: www.stanford.edu/class/cs276/handouts/lecture19.pdf>, 8 pages.	

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		Application Number	13/829,717
		Filing Date	March 14, 2013
		First Named Inventor	Ingemar J. Cox
		Art Unit	3715
		Examiner Name	
Sheet 6	of 6	Attorney Docket Number	63121-39

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	C11	Stanford, "Data Mining: Associations" [online]. 2002, [retrieved on 11-16-2006]. Retrieved from the Internet: <URL: www.stanford.edu/class/cs206/cs206-2.pdf>, 11 pages.	
	C12	Stolnitz et al., "Wavelets for Computer Graphics: A Primer, Part 1: [online]. 1995, [retrieved on 11-21-2006]. Retrieved from the Internet: <URL: www.grail.cs.washington.edu/pub/stoll/wavelet1.pdf>, 8 pages.	
	C13	Stolnitz et al., "Wavelets for Computer Graphics: A Primer, Part 2: [online]. 1995, [retrieved on 11-21-2006]. Retrieved from the Internet: <URL: www.grail.cs.washington.edu/pub/stoll/wavelet2.pdf>, 9 pages.	
	C14	Yang, "MACS: Music Audio Characteristic Sequence Indexing for Similarity Retrieval", 21-24 October 2001, New Paltz, New York.	
	C15	Viola and Jones, Robust Real-Time Object Detection," Int. J. Computer Vision, 2002.	
	C16	Burges et al., "Using Audio Fingerprinting for Duplicate Detection and Thumbnail Generation," March 2005, 4 pages.	
	C17	Lin, et al., Input Data Representation for Self-Organizing Map in Software Classification, Knowledge Acquisition and Modeling, 2009. KAM '09. Second International Symposium on Volume: 2, Digital Object Identified: 10.1109/KAM.2009.151 Publication Year: 2009, Page(s): 360 - 353.	
	C18	Baluja et al., "Content Fingerprinting Using Wavelets", 3rd European Conference on Visual Media Production, 2006, pp. 198 - 207.	
	C19	Cohen et al., "Finding Interesting Associations without Support Pruning", IEEE Transactions on Knowledge and Data Engineering, 2001, pp. 64 - 78, Vol. 13, Issue 1.	
	C20	Yang, Efficient Video Identification based on locality sensitive hashing and triangle inequality, National University of Singapore, 2005, pages 1-64.	

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Sheet 1 of 2

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Application Number	13829717
Filing Date	March 14, 2013
First Named Inventor	Ingemar J. Cox
Art Unit	3715
Examiner Name	
Attorney Docket Number	63121-39

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	1	US- 2001/0049625 A1	12-06-2001	Craig Mowry	
	2	US- 8,086,445 B2	12-27-2011	Erling H. Wold et al.	
	3	US- 8,082,150 B2	12-20-2011	Erling H. Wold	
	4	US- 8,006,314 B2	08-23-2011	Erling H. Wold	
	5	US- 7,917,645 B2	03-29-2011	Vance E. Ikezoye	
	6	US- 7,877,438 B2	01-25-2011	James B. Schrempp et al.	
	7	US- 7,797,249 B2	09-14-2010	Richard A. Schmelzer et al.	
	8	US- 7,707,088 B2	04-27-2010	Richard A. Schmelzer	
	9	US- 7,565,327 B2	07-21-2009	Richard A. Schmelzer	
	10	US- 7,562,012 B1	07-14-2009	Erling H. Wold et al.	
	11	US- 7,529,659 B2	05-05-2009	Erling H. Wold	
	12	US- 7,500,007 B2	03-03-2009	Vance E. Ikezoye et al.	
	13	US- 7,363,278 B2	04-22-2008	Richard A. Schmelzer et al.	
	14	US- 6,968,337 B2	11-22-2005	Erling H. Wold	
	15	US- 6,834,308 B1	12-21-2004	Vance E. Ikezoye et al.	
	16	US- 5,918,223	06-29-1999	Thomas L. Blum et al.	
	17	US- 5,978,791	11-02-1999	David A. Farber et al.	
	18	US- 6,415,280 B1	07-02-2002	David A. Farber et al.	
	19	US- 6,928,442 B2	08-09-2005	David A. Farber et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	Y ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
	1	EP 1 354 276 B1	12-27-2007	Thomas L. Blum et al.		
	2	EP 1 485 815 B1	07-10-2009	Erling H. Wold et al.		

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Sheet	2	of	2

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Application Number	13829717
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	Art Unit	2425	
	Examiner Name	Cai Y. Chen	
	Attorney Docket Number	63121-39	

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	4454594		1984-06-12	Charles B. Heffron et al.	
	2	5465353		1995-11-07	Jonathan J. Hull et al.	
	3	5504518		1996-04-02	Michael D. Ellis et al.	
	4	5638443		1997-06-10	Mark J. Stefik et al.	
	5	5963966		1999-10-05	Brian T. Mitchell et al.	
	6	5978791		1999-11-02	David A. Farber et al.	
	7	5983171		1999-11-09	Yooichi Yokoyama et al.	
	8	5983176		1999-11-09	Eric M. Hoffert et al.	

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	9	6067369		2000-05-23	Toshio Kamei	
	10	6096961		2000-08-01	Luigi Bruti et al.	
	11	6154737		2000-11-28	Mitsuaki Inaba et al.	
	12	6195693	B1	2001-02-27	Richard Edmond Berry et al.	
	13	6229922	B1	2001-05-08	Koichi Sasakawa et al.	
	14	6279010	B1	2001-08-21	Michael R. Anderson	
	15	6374260	B1	2002-04-16	Eric M. Hoffert et al.	
	16	6415280	B1	2002-07-02	David A. Farber et al.	
	17	6438556	B1	2002-08-20	Nadeem Malik et al.	
	18	6453252	B1	2002-09-17	Jean Laroche	
	19	6460050	B1	2002-10-01	Mark Raymond Pace et al.	

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	20	6490279	B1	2002-12-03	Honglu Chen et al.	
	21	6542869	B1	2003-04-01	Jonathan Foote	
	22	6552254	B2	2003-04-22	Yutaka Hasegawa et al.	
	23	6928423	B1	2005-08-09	Yasuhiro Yamanaka	
	24	7500007	B2	2009-03-03	Vance E. Ikezoye et al.	

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	1	20020186887	A1	2002-12-12	Geoffrey B. Rhoads	
	2	20050044189	A1	2005-02-24	Vance E. Ikezoye et al.	
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	1	1354276	EP	B1	2007-12-12	Erling H. Wold et al.		☐

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First Named Inventor	Ingemar J. Cox
Art Unit	2425
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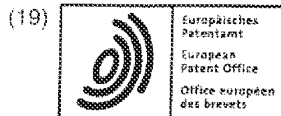
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(21) Application number: **01985137.7**

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(87) International publication number:
WO 2002/037316 (10.05.2002 Gazette 2002/19)

(54) **METHOD AND APPARATUS FOR CREATING A UNIQUE AUDIO SIGNATURE**

VERFAHREN UND VORRICHTUNG ZUM ERZEUGEN VON EINDEUTIGEN AUDIOSIGNATUREN

PROCEDE ET APPAREIL DE CREATION D'UNE SIGNATURE AUDIO UNIQUE

(84) Designated Contracting States:
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MC NL PT SE TR**

(30) Priority: **03.11.2000 US 706227**

(43) Date of publication of application:
22.10.2003 Bulletin 2003/43

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(56) References cited:
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Description

[0001] The present invention relates to data communications. In particular, the present invention relates to creating a unique audio signature.

[0002] Digital audio technology has greatly changed the landscape of music and entertainment. Rapid increases in computing power coupled with decreases in cost have made it possible individuals to generate finished products having a quality once available only in a major studio. Once consequence of modern technology is that legacy media storage standards, such as reel-to-reel tapes, are being rapidly replaced by digital storage media, such as the Digital Versatile Disk (DVD), and Digital Audio Tape (DAT). Additionally, with higher capacity hard drives standard on most personal computers, home users may now store digital files such as audio or video tracks on their home computers.

[0003] Furthermore, the Internet has generated much excitement, particularly among those who see the Internet as an opportunity to develop new avenues for artistic expression and communication. The Internet has become a virtual gallery, where artists may post their works on a Web page. Once posted, the works may be viewed by anyone having access to the Internet.

[0004] One application of the Internet that has received considerable attention is the ability to transmit recorded music over the Internet. Once music has been digitally encoded into a file, the file may be both downloaded by users for play, or broadcast ("streamed") over the Internet. When files are streamed, they may be listened to by Internet users in a manner much like traditional radio stations.

[0005] Given the widespread use of digital media, digital audio files, or digital video files containing audio information, may need to be identified. The need for identification of digital files may arise in a variety of situations. For example, an artist may wish to verify royalty payments or generate their own Arbitron®-like ratings by identifying how often their works are being streamed or downloaded. Additionally, users may wish to identify a particular work. The prior art has made efforts to create methods for identifying digital audio works.

[0006] However, systems of the prior art suffer from certain disadvantages. For example, prior art systems typically create a reference signature by examining the copyrighted work as a whole, and then creating a signature based upon the audio characteristics of the entire work. However, examining a work in total can result in a signature may not accurately represent the original work. Often, a work may have distinctive passages which may not be reflected in a signature based upon the total work. Furthermore, often works are electronically processed prior to being streamed or downloaded, in a manner that may affect details of the work's audio characteristics, which may result in prior art systems missing the identification of such works. Examples of such electronic processing include data compression and various sorts of audio signal processing such as equalization.

[0007] US 5,918,223 discloses a method for determining a work in which the work is segmented, a signature generated and compared to a reference signature to determine if the work is known.

[0008] Hence, there exists a need to provide a system which overcomes the disadvantages of the prior art.

[0009] The present invention relates to data communications. In particular, the present invention relates to creating a unique audio signature.

[0010] According to a first aspect of the invention there is provided a method for determining an identity of a sampled work, said method comprising receiving data of a sampled work, segmenting said data of said sampled work into a plurality of segments wherein each of said segments has predetermined segment size and a predetermined hop size, creating a signature of said sample work based upon said plurality of segments, comparing said signature of said sampled work to a plurality of signatures of reference works, and determining said sampled work is one of said reference works based upon said comparison, said method characterized in that said predetermined hop size of said segments of said sampled work signature is chosen to be less than said hop size of each of said plurality of reference signatures.

[0011] According to a further aspect of the invention there is provided an apparatus that determines an identity of a sampled work, said apparatus comprising circuitry configured to receive data of a sampled work, circuitry configured to segment said data of said sampled work into a plurality of segments wherein each of said segments has predetermined segment size and a predetermined hop size, circuitry configured to create a signature of said sampled work based upon said plurality of segments, circuitry configured to compare said signature of said sampled work to a plurality of signatures of reference works, and circuitry configured to determine said sampled work is one of said reference works based upon said comparison, said apparatus characterized in that said predetermined hop size of said segments of said sampled work signature is chosen to be less than said hop size of each of said plurality of reference signatures.

[0012] According to a further aspect of the invention there is provided a program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method as described above.

Figure 1 is a flowchart of a method according to the present invention.

Figure 2 is a diagram of a system suitable for use with the present invention.

Figure 3 is a diagram of segmenting according to the present invention.

Figure 4 is a detailed diagram of segmenting according to the present invention showing hop size.

Figure 5 is a graphical flowchart showing the creating of a segment feature vector according to the present invention.

Figure 6 is a diagram of a signature according to the present invention.

Figure 7 is a functional diagram of a comparison process according to the present invention.

5 [0013] Persons of ordinary skill in the art will realize that the following description of the present invention is illustrative only and not in any way limiting. Other embodiments of the invention will readily suggest themselves to such skilled persons having the benefit of this disclosure.

[0014] It is contemplated that the present invention may be embodied in various computer and machine-readable data structures. Furthermore, it is contemplated that data structures embodying the present invention will be transmitted across computer and machine-readable media, and through communications systems by use of standard protocols such as those used to enable the Internet and other computer networking standards.

[0015] The invention further relates to machine-readable media on which are stored embodiments of the present invention. It is contemplated that any media suitable for storing instructions related to the present invention is within the scope of the present invention. By way of example, such media may take the form of magnetic, optical, or semiconductor media.

[0016] The present invention may be described through the use of flowcharts. Often, a single instance of an embodiment of the present invention will be shown. As is appreciated by those of ordinary skill in the art, however, the protocols, processes, and procedures described herein may be repeated continuously or as often as necessary to satisfy the needs described herein. Accordingly, the representation of the present invention through the use of flowcharts should not be used to limit the scope of the present invention.

[0017] The present invention may also be described through the use of web pages in which embodiments of the present invention may be viewed and manipulated. It is contemplated that such web pages may be programmed with web page creation programs using languages standard in the art such as HTML or XML. It is also contemplated that the web pages described herein may be viewed and manipulated with web browsers running on operating systems standard in the art, such as the Microsoft Windows® and Macintosh® versions of Internet Explorer® and Netscape®. Furthermore, it is contemplated that the functions performed by the various web pages described herein may be implemented through the use of standard programming languages such as Java® or similar languages.

[0018] The present invention will first be described in general overview. Then, each element will be described in further detail below.

[0019] Referring now to Figure 1, a flowchart is shown which provides a general overview of the present invention. The present invention may be viewed as three steps: 1) receiving a sampled work; 2) segmenting the work; 3) creating signatures of the segments; and 4) storing the signatures of the segments.

Receiving a sampled work

[0020] Beginning with act 100, a sampled work is provided to the present invention. It is contemplated that the work will be provided to the present invention as a digital audio stream.

[0021] It should be understood that if the audio is in analog form, it may be digitized in a manner standard in the art.

Segmenting the work

[0022] After the sampled work is received, the work is then segmented in act 102. It is contemplated that the sampled work may be segmented into predetermined lengths. Though segments may be of any length, the segments of the present invention are preferably of the same length.

[0023] In an exemplary non-limiting embodiment of the present invention, the segment lengths are in the range of 0.5 to 3 seconds. It is contemplated that if one were searching for very short sounds (e.g., sound effects such as gunshots), segments as small as 0.01 seconds may be used in the present invention. Since humans don't resolve audio changes below about 0.018 seconds, segment lengths less than 0.018 seconds may not be useful. On the other hand, segment lengths as high as 30-60 seconds may be used in the present invention. The inventors have found that beyond 30-60 seconds may not be useful, since most details in the signal tend to average out.

Generating signatures

[0024] Next, in act 104, each segment is analyzed to produce a signature, known herein as a segment feature vector. It is contemplated that a wide variety of methods known in the art may be used to analyze the segments and generate segment feature vectors. In an exemplary non-limiting embodiment of the present invention, the segment feature vectors may be created using the method described in US Patent #5,918,223 to Blum.

Storing the signatures

[0025] In act 106, the segment feature vectors are stored to create a representative signature of the sampled work.

[0026] Each above-listed step will now be shown and described in detail.

5 [0027] Referring now to Figure 2, a diagram of a system suitable for use with the present invention is shown. FIG. 2 includes a client system 200. It is contemplated that client system 200 may comprise a personal computer 202 including hardware and software standard in the art to run an operating system such as Microsoft Windows®, MAC OS®, or other operating systems standard in the art. Client system 200 may further include a database 204 for storing and retrieving
10 embodiments of the present invention. It is contemplated that database 204 may comprise hardware and software standard in the art and may be operatively coupled to PC 202. Database 204 may also be used to store and retrieve the works and segments utilized by the present invention.

[0028] Client system 200 may further include an audio/video (A/V) input device 208. A/V device 208 is operatively coupled to PC 202 and is configured to provide works to the present invention which may be stored in traditional audio or video formats. It is contemplated that A/V device 208 may comprise hardware and software standard in the art
15 configured to receive and sample audio works (including video containing audio information), and provide the sampled works to the present invention as digital audio files. Typically, the A/V input device 208 would supply raw audio samples in a format such as 16-bit stereo PCM format. A/V input device 208 provides an example of means for receiving a sampled work.

[0029] It is contemplated that sampled works may be obtained over the Internet, also. Typically, streaming media over
20 the Internet is provided by a provider, such as provider 218 of FIG. 2. Provider 218 includes a streaming application server 220, configured to retrieve works from database 222 and stream the works in a formats standard in the art, such as Real®, Windows Media®, or QuickTime®. The server then provides the streamed works to a web server 224, which then provides the streamed work to the Internet 214 through a gateway 216. Internet 214 may be any packet-based network standard in the art, such as IP, Frame Relay, or ATM.

25 [0030] To reach the provider 218, the present invention may utilize a cable or DSL head end 212 standard in the art operatively, which is coupled to a cable modem or DSL modem 210 which is in turn coupled to the system's network 206. The network 206 may be any network standard in the art, such as a LAN provided by a PC 202 configured to run software standard in the art.

[0031] It is contemplated that the sampled work received by system 200 may contain audio information from a variety
30 of sources known in the art, including, without limitation, radio, the audio portion of a television broadcast, Internet radio, the audio portion of an Internet video program or channel, streaming audio from a network audio server, audio delivered to personal digital assistants over cellular or wireless communication systems, or cable and satellite broadcasts.

[0032] Additionally, it is contemplated that the present invention may be configured to receive and compare segments coming from a variety of sources either stored or in real-time. For example, it is contemplated that the present invention
35 may compare a real-time streaming work coming from streaming server 218 or A/V device 208 with a reference segment stored in database 204.

[0033] Figure 3 shows a diagram showing the segmenting of a work according to the present invention. FIG. 3 includes audio information 300 displayed along a time axis 302. FIG. 3 further includes a plurality of segments 304, 306, and 308 taken of audio information 300 over some segment size T.

40 [0034] In an exemplary non-limiting embodiment of the present invention, instantaneous values of a variety of acoustic features are computed at a low level, preferably about 100 times a second. Additionally, 10 MFCCs (cepstral coefficients) are computed for each segment. It is contemplated that any number of MFCCs may be computed. Preferably, 5-20 MFCCs are computed, however, as many as 30 MFCCs may be computed, depending on the need for accuracy versus speed.

45 [0035] In an exemplary non-limiting embodiment of the present invention, the segment-level acoustical features comprise statistical measures as disclosed in the '223 patent of these low-level features calculated over the length of each segment. The data structure may store other bookkeeping information as well (segment size, hop size, item ID, UPC, etc).

[0036] As can be seen by inspection of FIG. 3, the segments 304, 306, and 308 may overlap in time. This amount of overlap may be represented by measuring the time between the center point of adjacent segments. This amount of time
50 is referred to herein as the hop size of the segments, and is so designated in FIG. 3. By way of example, if the segment length T of a given segment is one second, and adjacent segments overlap by 50%, the hop size would be 0.5 second.

[0037] The hop size may be set during the development of the software. Additionally, the hop sizes of the reference database and the real-time segments may be predetermined to facilitate compatibility. For example, the reference signatures in the reference database may be precomputed with a fixed hop and segment size, and thus the client
55 applications should conform to this segment size and have a hop size which integrally divides the reference signature hop size. It is contemplated that one may experiment with a variety of segment sizes in order to balance the tradeoff of accuracy with speed of computation for a given application.

[0038] The inventors have found that by carefully choosing the hop size of the segments, the accuracy of the identi-

fication process may be significantly increased. Additionally, the inventors have found that the accuracy of the identification process may be increased if the hop size of reference segments and the hop size of segments obtained in real-time are each chosen independently. The importance of the hop size of segments may be illustrated by examining the process for segmenting pre-recorded works and real-time works separately.

Reference signatures

[0039] Prior to attempting to identify a given work, a reference database of signatures must be created. When building a reference database, a segment length having a period of less than three seconds is preferred. In an exemplary non-limiting embodiment of the present invention, the segment lengths have a period ranging from 0.5 seconds to 3 seconds. For a reference database, the inventors have found that a hop size of approximately 50% to 100% of the segment size is preferred.

[0040] It is contemplated that the reference signatures may be stored on a database such as database 204 as described above. Database 204 and the discussion herein provide an example of means for providing a plurality of reference signatures each having a segment size and a hop size.

Real-time signatures

[0041] The choice of the hop size is important for real-time segments.

[0042] Figure 4 shows a detailed diagram of a real-time segment according to the present invention. FIG. 4 includes real-time audio information 400 displayed along a time axis 402. FIG. 4 further includes segments 404 and 406 taken of audio information 400 over some segment length T. In an exemplary non-limiting embodiment of the present invention, the segment length of real-time segments is chosen to range from 0.5 to 3 seconds.

[0043] As can be seen by inspection of FIG. 4, the hop size of real-time is chosen to be smaller than that of reference segments. In an exemplary non-limiting embodiment of the present invention, the hop size of real-time segments is less than 50% of the segment size. In yet another exemplary non-limiting embodiment of the present invention, the real-time hop size may be 0.1 seconds.

[0044] The inventors have found such a small hop size advantageous for the following reasons. The ultimate purpose of generating real-time segments is to analyze and compare them with the reference segments in the database to look for matches. The inventors have found at least two major reasons why a segment of the same audio recording captured real-time would not match its counterpart in the database. One is that the broadcast channel does not produce a perfect copy of the original. For example, the work may be edited or processed or the announcer may talk over part of the work. The other reason is that larger segment boundaries may not line up in time with the original segment boundaries of the target recordings.

[0045] The inventors have found that by choosing a smaller hop size, some of the segments will ultimately have time boundaries that line up with the original segments, notwithstanding the problems listed above. The segments that line up with a "clean" segment of the work may then be used to make an accurate comparison while those that do not so line up may be ignored. The inventors have found that a hop size of 0.1 seconds seems to be the maximum that would solve this time shifting problem.

[0046] As mentioned above, once a work has been segmented, the individual segments are then analyzed to produce a segment feature vector. Figure 5 is a diagram showing an overview of how the segment feature vectors may be created using the methods described in US Patent #5,918,223 to Blum, et al. It is contemplated that a variety of analysis methods may be useful in the present invention, and many different features may be used to make up the feature vector. The inventors have found that the pitch, brightness, bandwidth, and loudness features of the '223 patent to be useful in the present invention. Additionally, spectral features may be used analyzed, such as the energy in various spectral bands. The inventors have found that the cepstral features (MFCCs) are very robust (more invariant) given the distortions typically introduced during broadcast, such as EQ, multi-band compression/limiting, and audio data compression techniques such as MP3 encoding/decoding, etc.

[0047] In act 500, the audio segment is sampled to produce a segment. In act 502, the sampled segment is then analyzed using Fourier Transform techniques to transform the signal into the frequency domain. In act 504, mel frequency filters are applied to the transformed signal to extract the significant audible characteristics of the spectrum. In act 506, a Discrete Cosine Transform is applied which converts the signal into mel frequency cepstral coefficients (MFCCs). Finally, in act 508, the MFCCs are then averaged over a predetermined period. In an exemplary non-limiting embodiment of the present invention, this period is approximately one second. Additionally, other characteristics may be computed at this time, such as brightness or loudness. A segment feature vector is then produced which contains a list containing at least the 10 MFCCs corresponding average.

[0048] The disclosure of FIGS. 3, 4, and 5 provide examples of means for creating a signature of a sampled work having a segment size and a hop size.

[0049] Figure 6 is a diagram showing a complete signature 600 according to the present invention. Signature 600 includes a plurality of segment feature vectors 1 through n generated as shown and described above. Signature 600 may also include an identification portion containing a unique ID. It is contemplated that the identification portion may contain a unique identifier provided by the RIAA (Recording Industry Association of America). The identification portion may also contain information such as the UPC (Universal Product Code) of the various products that contain the audio corresponding to this signature. Additionally, it is contemplated that the signature 600 may also contain information pertaining to the characteristics of the file itself, such as the hop size, segment size, number of segments, etc., which may be useful for storing and indexing.

[0050] Signature 600 may then be stored in a database and used for comparisons. The following computer code in the C programming language provides an example of a database structure in memory according to the present invention:

```

typedef struct
{
    float hopSize;          /* hop size */
    float segmentSize;      /* segment size */
    MFSignature* signatures; /* array of signatures */
} MFDatabase;

```

[0051] The following provides an example of the structure of a segment according to the present invention:

```

typedef struct
{
    char* id;               /* unique ID for this audio clip */
    long numSegments; /* number of segments */
    float* features;        /* feature array */
    long size;              /* size of per-segment feature vector */
    float hopSize;
    float segmentSize;
} MFSignature;

```

[0052] The discussion of FIG. 6 provides an example of means for storing segments and signatures according to the present invention.

[0053] Figure 7 shows a functional diagram of a comparison process according to the present invention. Act 1 of FIG. 7 shows unknown audio being converted to a signature according to the present invention. In act 2, reference signatures are retrieved from a reference database. Finally, the reference signatures are scanned and compared to the unknown audio signatures to determine whether a match exists. This comparison may be accomplished through means known in the art. For example, the Euclidean distance between the reference and real-time signature can be computed and compared to a threshold.

[0054] It is contemplated that the present invention has many beneficial uses, including many outside of the music piracy area. For example, the present invention may be used to verify royalty payments. The verification may take place at the source or the listener. Also, the present invention may be utilized for the auditing of advertisements, or collecting Arbitron®-like data (who is listening to what). The present invention may also be used to label the audio recordings on a user's hard disk or on the web.

[0055] While embodiments and applications of this invention have been shown and described, it would be apparent to those skilled in the art that many more modifications than mentioned above are possible within the scope defined by the appended claims.

Claims

1. A method for determining an identity of a sampled work, said method comprising receiving data of a sampled work, segmenting said data of said sampled work into a plurality of segments wherein each of said segments has predetermined segment size and a predetermined hop size, creating a signature of said sampled work based upon said plurality of segments, comparing said signature of said sampled work to a plurality of signatures of reference works, and determining said sampled work is one of said reference works based upon said comparison, said method characterized in that said predetermined hop size of said segments of said sampled work signature is chosen to be less than said hop size of each of said plurality of reference signatures.
2. The method of claim 1, wherein said act of creating a signature of said sampled work comprises calculating segment

feature vectors for each segment of said sampled work.

3. The method of claim 1, wherein said act of creating a signature of said sampled work includes calculating a plurality of MFCCs for each said segment.
4. The method of claim 1, wherein said act of creating a signature of said sampled work includes calculating a plurality of acoustical features from the group consisting of at least one of loudness, pitch, brightness, bandwidth, spectrum and MFCC coefficients for each said segment.
5. The method of claim 1, wherein said sampled work signature comprises a plurality of segments and an identification portion.
6. The method of claim 1, wherein said plurality of segments of said sampled work signature comprise a segment size of approximately 0.5 to 3 seconds.
7. The method of claim 6, wherein said plurality of segments of said sampled work signature comprise a hop size of less than 50% of the segment size.
8. The method of claim 6, wherein said plurality of segments of said sampled work signature comprise a hop size of approximately 0.1 seconds.
9. An apparatus that determines an identity of a sampled work, said apparatus comprising circuitry configured to receive data of a sampled work, circuitry configured to segment said data of said sampled work into a plurality of segments wherein each of said segments has predetermined segment size and a predetermined hop size, circuitry configured to create a signature of said sampled work based upon said plurality of segments, circuitry configured to compare said signature of said sampled work to a plurality of signatures of reference works, and circuitry configured to determine said sampled work is one of said reference works based upon said comparison, said apparatus characterized in that said predetermined hop size of said segments of said sampled work signature is chosen to be less than said hop size of each of said plurality of reference signatures.
10. The apparatus of claim 9, wherein said circuitry configured to create a signature of said sampled work comprises circuitry configured to calculate segment feature vectors for each of said plurality of segments of said sampled work.
11. The apparatus of claim 9, wherein said circuitry configured to create a signature includes calculating a plurality of MFCCs for each said segment.
12. The apparatus of claim 9, wherein said circuitry configured to create a signature includes circuitry configured to calculate one of a plurality of acoustical features selected from a group consisting of loudness, pitch, brightness, bandwidth, spectrum and MFCC coefficients for each of said plurality of segments of said sampled works.
13. The apparatus of claim 9, wherein said sampled work signature comprises a plurality of segments and an identification portion.
14. The apparatus of claim 9, wherein said plurality of segments of said sampled work comprise said predetermined segment size of approximately 0.5 to 3 seconds.
15. The apparatus of claim 14, wherein said predetermined hop size of said plurality of segments of said sampled work signature is less than 50% of the segment size.
16. The apparatus of claim 14, wherein said predetermined hop size of each of said plurality of segments of said sampled work signature is approximately 0.1 seconds.
17. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method according to any one of claims 1 to 8.

Patentansprüche

1. Verfahren zum Ermitteln einer Identität eines abgetasteten Werks, wobei das Verfahren umfasst: das Empfangen von Daten eines abgetasteten Werks, das Segmentieren der Daten des abgetasteten Werks in mehrere Segmente, wobei jedes der Segmente eine vorbestimmte Segmentgröße und eine vorbestimmte Hop-Size aufweist, das Erzeugen einer Signatur des abgetasteten Werks beruhend auf den mehreren Segmenten, das Vergleichen der Signatur des abgetasteten Werks mit mehreren Signaturen von Referenzwerken und beruhend auf dem Vergleich das Bestimmen, dass das abgetastete Werk eines der Referenzwerke ist, wobei das Verfahren **dadurch gekennzeichnet ist, dass** die vorbestimmte Hop-Size der Segmente der Signatur des abgetasteten Werks kleiner als die Hop-Size jeder der mehreren Referenzsignaturen gewählt wird.
2. Verfahren nach Anspruch 1, **dadurch gekennzeichnet, dass** der Vorgang des Erzeugens einer Signatur des abgetasteten Werks das Berechnen von Segmentmerkmalsfaktoren für jedes Segment des abgetasteten Werks umfasst.
3. Verfahren nach Anspruch 1, **dadurch gekennzeichnet, dass** der Vorgang des Erzeugens einer Signatur des abgetasteten Werks das Berechnen mehrerer MFCC für jedes Segment umfasst.
4. Verfahren nach Anspruch 1, **dadurch gekennzeichnet, dass** der Vorgang des Erzeugens einer Signatur des abgetasteten Werks das Berechnen mehrerer akustischer Merkmale aus der Gruppe bestehend aus mindestens einem von Lautstärke, Tonhöhe, Helligkeit, Bandbreite, Spektrum und MFCC-Koeffizienten für jedes Segment umfasst.
5. Verfahren nach Anspruch 1, **dadurch gekennzeichnet, dass** die Signatur des abgetasteten Werks mehrere Segmente und einen Erkennungsabschnitt umfasst.
6. Verfahren nach Anspruch 1, **dadurch gekennzeichnet, dass** die mehreren Segmente der Signatur des abgetasteten Werks eine Segmentgröße von in etwa 0,5 bis 3 Sekunden umfassen.
7. Verfahren nach Anspruch 6, **dadurch gekennzeichnet, dass** die mehreren Segmente der Signatur des abgetasteten Werks eine Hop-Size von kleiner als 50% der Segmentgröße umfassen.
8. Verfahren nach Anspruch 6, **dadurch gekennzeichnet, dass** die mehreren Segmente der Signatur des abgetasteten Werks eine Hop-Size von in etwa 0,1 Sekunden umfassen.
9. Vorrichtung, die eine Identität eines abgetasteten Werks ermittelt, wobei die Vorrichtung umfasst: eine zum Empfangen von Daten eines abgetasteten Werks ausgelegte Schaltung, eine zum Segmentieren der Daten des abgetasteten Werks in mehrere Segmente ausgelegte Schaltung, wobei jedes der Segmente eine vorbestimmte Segmentgröße und eine vorbestimmte Hop-Size aufweist, eine zum Erzeugen einer Signatur des abgetasteten Werks beruhend auf den mehreren Segmenten ausgelegte Schaltung, eine zum Vergleichen der Signatur des abgetasteten Werks mit mehreren Signaturen von Referenzwerken ausgelegte Schaltung und eine zum vergleichsbasierten Bestimmen, dass das abgetastete Werk eines der Referenzwerke ist, ausgelegte Schaltung, wobei die Vorrichtung **dadurch gekennzeichnet ist, dass** die vorbestimmte Hop-Size der Segmente der Signatur des abgetasteten Werks kleiner als die Hop-Size jeder der mehreren Referenzsignaturen gewählt ist.
10. Vorrichtung nach Anspruch 9, **dadurch gekennzeichnet, dass** die zum Erzeugen einer Signatur des abgetasteten Werks ausgelegte Schaltung eine zum Berechnen von Segmentmerkmalsvektoren für jedes der mehreren Segmente des abgetasteten Werks ausgelegte Schaltung umfasst.
11. Vorrichtung nach Anspruch 9, **dadurch gekennzeichnet, dass** die zum Erzeugen einer Signatur ausgelegte Schaltung das Berechnen mehrerer MFCC für jedes Segment umfasst.
12. Vorrichtung nach Anspruch 9, **dadurch gekennzeichnet, dass** die zum Erzeugen einer Signatur ausgelegte Schaltung eine Schaltung umfasst, die zum Berechnen eines von mehreren akustischen Merkmalen gewählt aus einer Gruppe bestehend aus Lautstärke, Tonhöhe, Helligkeit, Bandbreite, Spektrum und MFCC-Koeffizienten für jedes der mehreren Segmente der abgetasteten Werke ausgelegt ist.
13. Vorrichtung nach Anspruch 9, **dadurch gekennzeichnet, dass** die Signatur des abgetasteten Werks mehrere

Segmente und einen Erkennungsabschnitt umfasst.

14. Vorrichtung nach Anspruch 9, **dadurch gekennzeichnet, dass** die mehreren Segmente des abgetasteten Werks die vorbestimmte Segmentgröße von in etwa 0,5 bis 3 Sekunden umfassen.
15. Vorrichtung nach Anspruch 14, **dadurch gekennzeichnet, dass** die vorbestimmte Hop-Size der mehreren Segmente der Signatur des abgetasteten Werks kleiner als 50% der Segmentgröße ist.
16. Vorrichtung nach Anspruch 14, **dadurch gekennzeichnet, dass** die vorbestimmte Hop-Size jedes der mehreren Segmente der Signatur des abgetasteten Werks in etwa 0,1 Sekunden ist.
17. Maschinenlesbare Programmspeichervorrichtung, die konkret ein Programm von Befehlen verkörpert, die von der Maschine zum Durchführen eines Verfahrens nach einem der Ansprüche 1 bis 8 ausführbar sind.

Revendications

1. Procédé pour déterminer une identité d'une oeuvre échantillonnée, ledit procédé comportant la réception de données d'une oeuvre échantillonnée, la segmentation desdites données de ladite oeuvre échantillonnée en une pluralité de segments dans lequel chacun desdits segments a une taille de segment prédéterminée et une taille de saut prédéterminée, la création d'une signature de ladite oeuvre échantillonnée sur la base de ladite pluralité de segments, la comparaison de ladite signature de ladite oeuvre échantillonnée à une pluralité de signatures d'oeuvres de référence, et la détermination que ladite oeuvre échantillonnée est l'une desdites oeuvres de référence sur la base de ladite comparaison, ledit procédé étant **caractérisé en ce que** ladite taille de saut prédéterminée desdits segments de ladite signature d'oeuvre échantillonnée est choisie de manière à être inférieure à ladite oeuvre de saut de chacune de ladite pluralité de signatures de référence.
2. Procédé selon la revendication 1, dans lequel ladite action de création de signature de ladite oeuvre échantillonnée comprend le calcul de vecteurs caractéristiques de segment pour chaque segment de ladite tâche échantillonnée.
3. Procédé selon la revendication 1, dans lequel ladite action de création de signature de ladite oeuvre échantillonnée inclut le calcul d'une pluralité de MFCC pour chacun desdits segments.
4. Procédé selon la revendication 1, dans lequel ladite action de création de signature de ladite oeuvre échantillonnée inclut le calcul d'une pluralité de caractéristiques acoustiques parmi le groupe constitué d'au moins l'un parmi la sonie, la hauteur tonale, la brillance, la largeur de bande, le spectre et des coefficients MFCC pour chaque segment.
5. Procédé selon la revendication 1, dans lequel ladite signature d'oeuvre échantillonnée comporte une pluralité de segments et une partie d'identification.
6. Procédé selon la revendication 1, dans lequel ladite pluralité de segments de ladite signature d'oeuvre échantillonnée comporte une taille de segment d'approximativement 0,5 à 3 secondes.
7. Procédé selon la revendication 6, dans lequel ladite pluralité de segments de ladite signature d'oeuvre échantillonnée comporte une taille de saut inférieure à 50 % de la taille de segment.
8. Procédé selon la revendication 6, dans lequel ladite pluralité de segments de ladite signature d'oeuvre échantillonnée comporte une taille de saut d'approximativement 0,1 seconde.
9. Appareil qui détermine une identité d'une oeuvre échantillonnée, ledit appareil comportant un circuit configuré pour recevoir des données d'une oeuvre échantillonnée, un circuit configuré pour segmenter lesdites données de ladite oeuvre échantillonnée en une pluralité de segments dans lesquels chacun desdits segments a une taille de segment prédéterminée et une taille de saut prédéterminée, un circuit configuré pour créer une signature de ladite oeuvre échantillonnée sur la base de ladite pluralité de segments, un circuit configuré pour comparer ladite signature de ladite oeuvre échantillonnée à une pluralité de signatures d'oeuvre de référence, et un circuit configuré pour déterminer que ladite oeuvre échantillonnée est l'une desdites oeuvres de référence sur la base de ladite comparaison, ledit appareil étant **caractérisé en ce que** ladite taille de saut prédéterminée desdits segments de ladite signature d'oeuvre échantillonnée est choisie de manière à être inférieure à ladite tâche de saut de chacune de ladite pluralité

de signatures de référence.

- 5 10. Appareil selon la revendication 9, dans lequel ledit circuit configuré pour créer une signature de ladite oeuvre échantillonnée comprend un circuit configuré pour calculer des vecteurs caractéristiques de segments pour chacun de ladite pluralité de segments de ladite oeuvre échantillonnée.
11. Appareil selon la revendication 9, dans lequel ledit circuit configuré pour créer une signature inclut le calcul d'une pluralité de MFCC pour chaque segment.
- 10 12. Appareil selon la revendication 9, dans lequel ledit circuit configuré pour créer une signature inclut un circuit configuré pour calculer l'une d'une pluralité de caractéristiques acoustiques sélectionnées parmi le groupe constitué de la sonie, la hauteur tonale, la brillance, la largeur de bande, le spectre et les coefficients MFCC pour chacun de ladite pluralité de segments desdites oeuvres échantillonnées.
- 15 13. Appareil selon la revendication 9, dans lequel ladite signature d'oeuvre échantillonnée comporte une pluralité de segments et une partie d'identification.
14. Appareil selon la revendication 9, dans lequel ladite pluralité de segments de ladite oeuvre échantillonnée comporte ladite taille de segment prédéterminée d'approximativement 0,5 à 3 secondes.
- 20 15. Appareil selon la revendication 14, dans lequel ladite taille de saut prédéterminée de ladite pluralité de segments de ladite signature d'oeuvre échantillonnée est inférieure à 50 % de la taille de segment.
- 25 16. Appareil selon la revendication 14, dans lequel ladite taille de saut prédéterminée de chacun de ladite pluralité de segments de ladite signature d'oeuvre échantillonnée est approximativement de 0,1 seconde.
17. Dispositif de mémorisation de programme lisible par machine, intégrant de manière tangible un programme d'instructions exécutable par la machine pour exécuter un procédé selon l'une quelconque des revendications 1 à 8.

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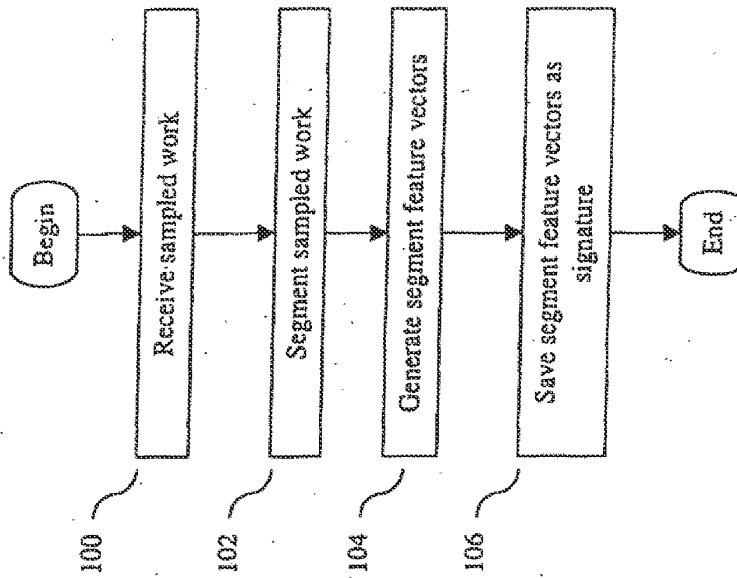


FIG. 1
Present Invention

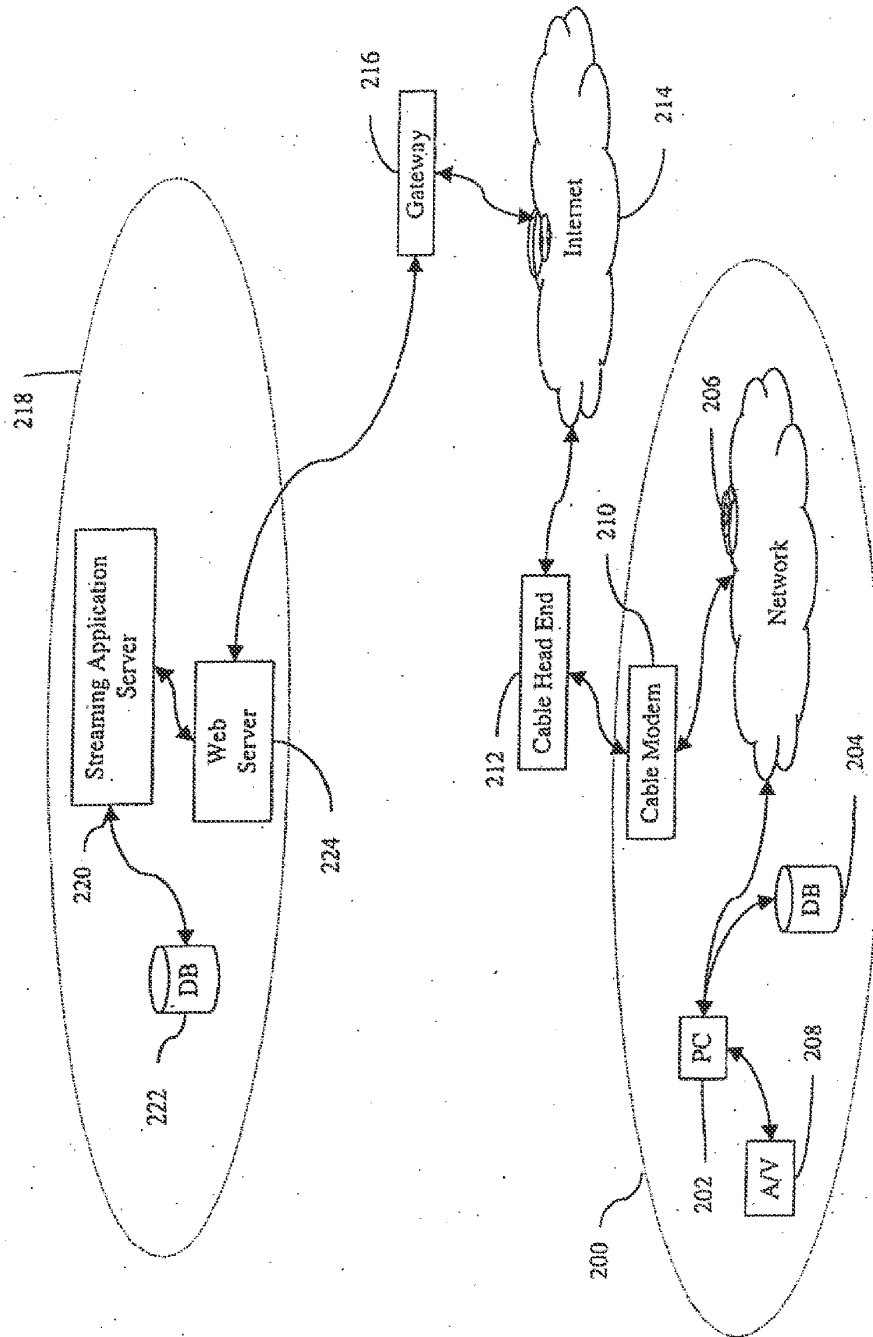


FIG. 2
Present Invention

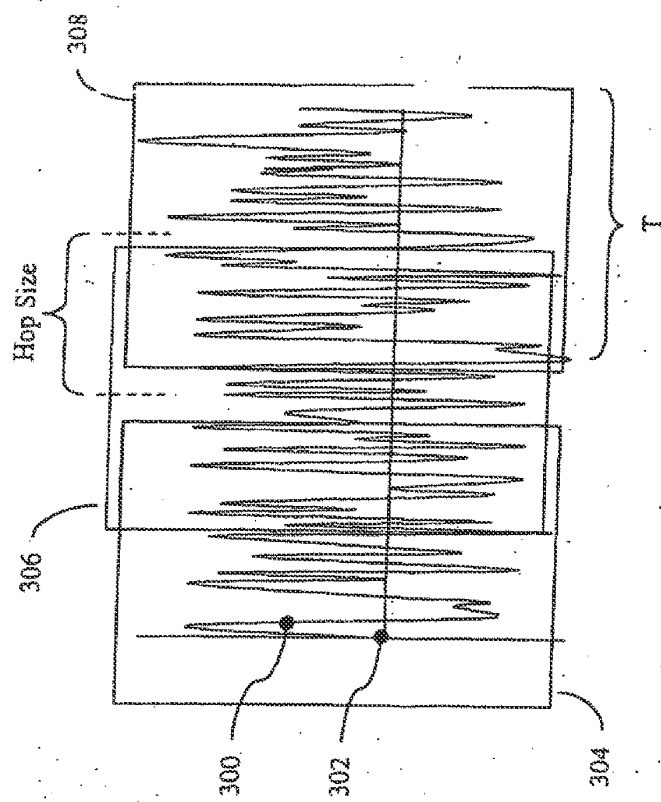


FIG. 3
Present Invention

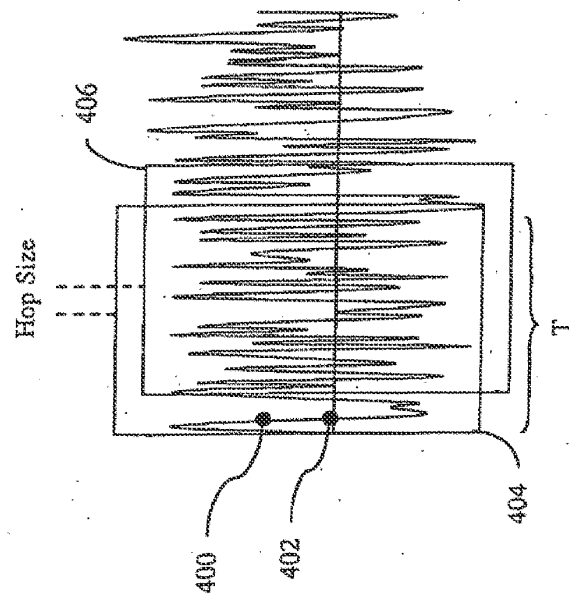


FIG. 4
Present Invention

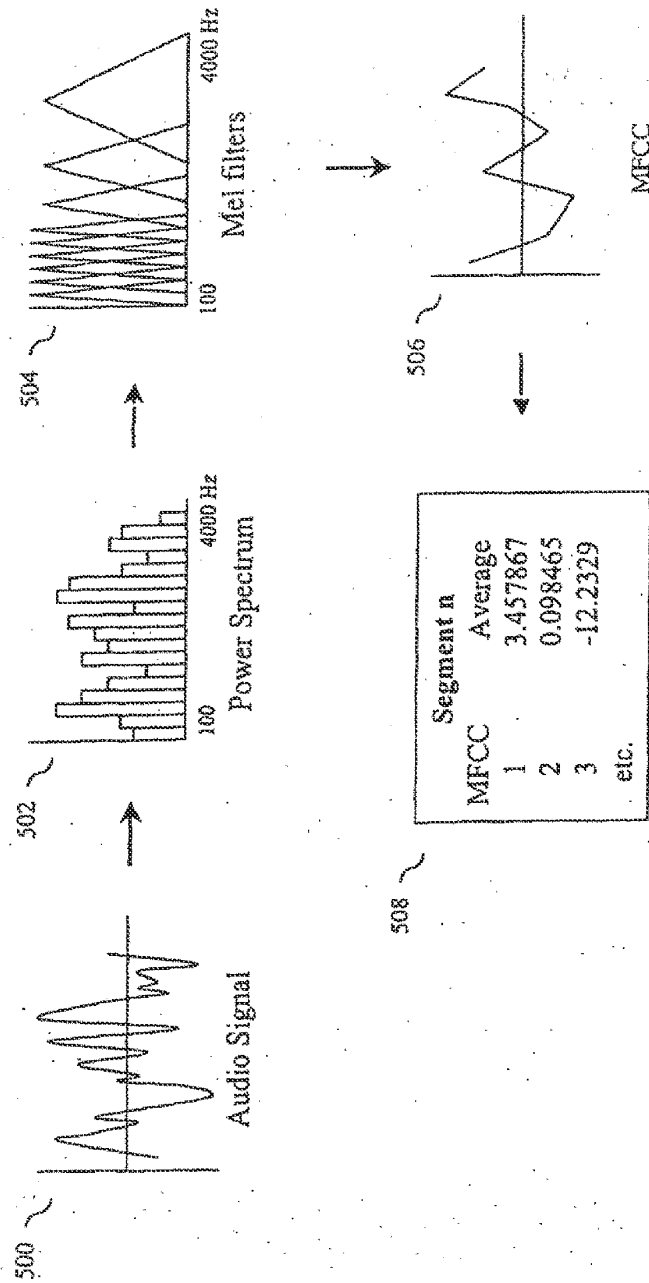


FIG. 5
Present Invention

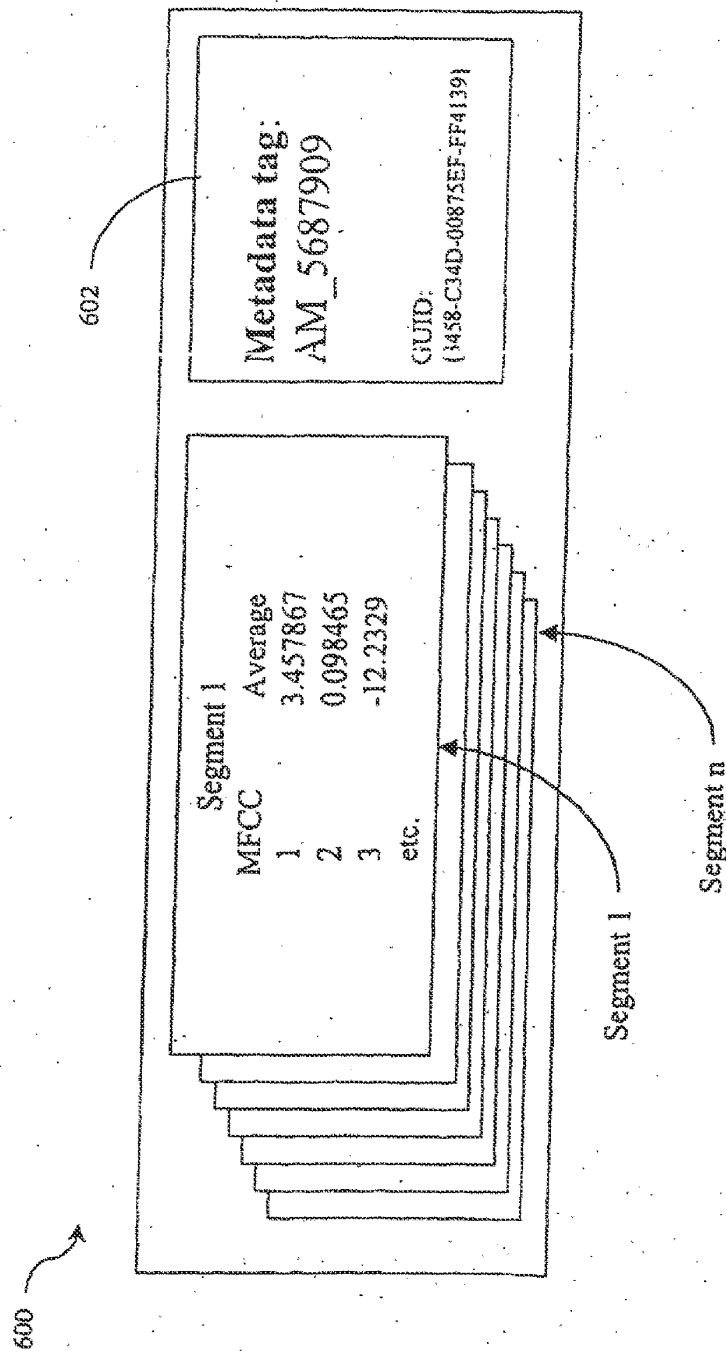


FIG. 6
Present Invention

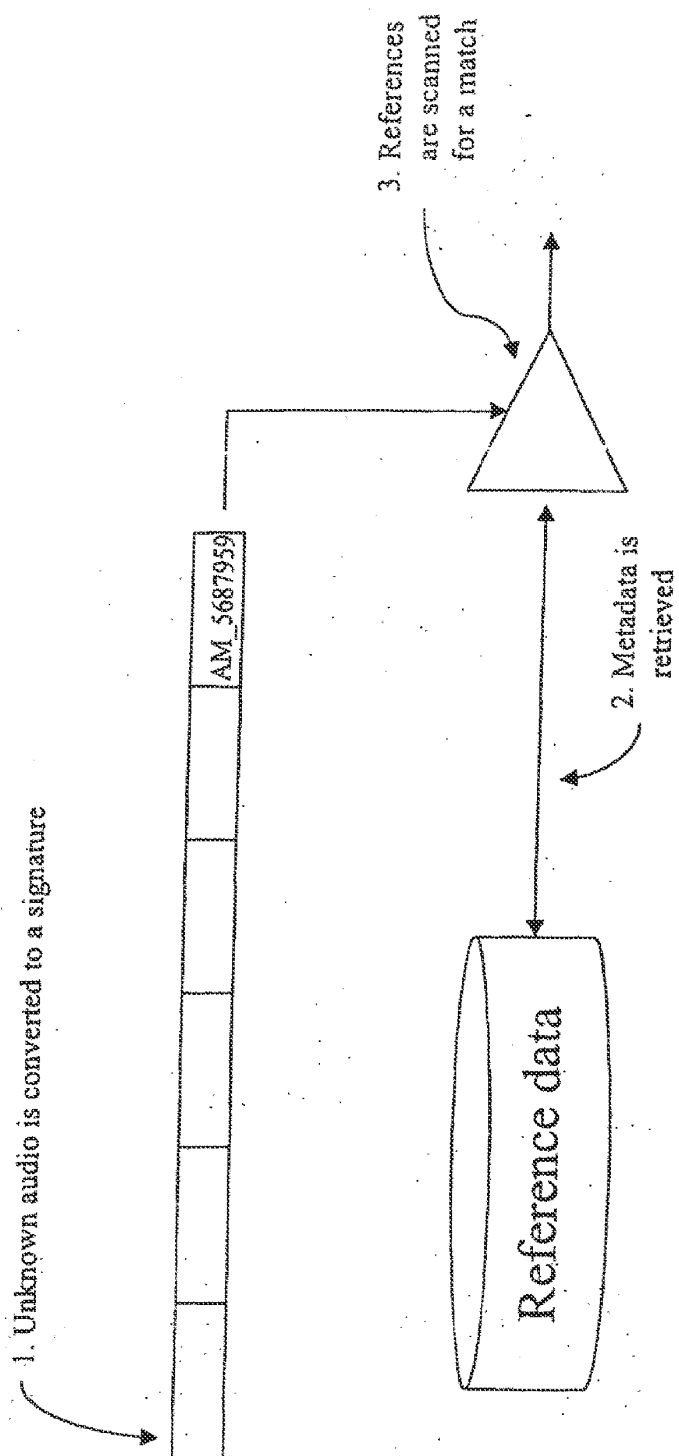


FIG. 7
Present Invention

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 5918223 A [0007]

Electronic Acknowledgement Receipt	
EFS ID:	16331994
Application Number:	13829717
International Application Number:	
Confirmation Number:	8930
Title of Invention:	SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK
First Named Inventor/Applicant Name:	Ingemar J. COX
Customer Number:	1912
Filer:	Benjamin M. Halpern/Tylie-Anne Guldemon
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	63121-39
Receipt Date:	16-JUL-2013
Filing Date:	14-MAR-2013
Time Stamp:	17:16:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	IDS.pdf	613499 02c6acd9d69b3f2e8e4635449063b1455b99624b	no	6

Warnings:

Information:

2	Foreign Reference	EP1354276B1.pdf	11069319 69edd4fda6abca2209d22e873abeea18743e6af4	no	18
Warnings:					
Information:					
Total Files Size (in bytes):				11682818	
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)

Approved for use through 07/31/2012. OMB 0651-0031

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
	Filing Date		2013-03-14
	First Named Inventor	Ingemar J. Cox	
	Art Unit	2425	
	Examiner Name		
	Attorney Docket Number	63121-39	

U.S. PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	6937766	B1	2005-08-30	Wilf et al.	
	2	7184100	B1	2007-02-27	Wilf et al.	
	3	6317885	B1	2001-11-13	Robert M. Fries	
	4	6999111	B2	2006-02-14	Dale F. McIntyre, et al.	
	5	6833865	B1	2004-12-21	Charles Fuller, et al.	
	6	6871231	B2	2005-03-22	Robert Paul Morris	
	7	7191190	B2	2007-03-13	Kirt A. Debique, et al.	
	8	7243153	B2	2007-07-10	Dale F. McIntyre, et al.	

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	Filing Date	2013-03-14
	First Named Inventor	Ingemar J. Cox
	Art Unit	2425
	Examiner Name	
	Attorney Docket Number	63121-39

	9	7272788	B2	2007-09-18	Eric C. Anderson, et al.	
	10	7423771	B2	2008-09-09	Tadahiro Ohata, et al.	
	11	7624337	B2	2009-11-24	Sanghoon Sull, et al.	
	12	8171509	B1	2012-05-01	David Girouard, et al.	
	13	7483958	B1	2009-01-27	Tarek Z. Elabbady, et al.	
	14	7595914	B2	2009-09-29	David S. Haining	
	15	8094949	B1	2012-01-10	Geoffrey B. Rhoads	
	16	6496857	B1	2002-12-17	Jim Dustin, et al.	
	17	7171016	B1	2007-01-30	Geoffrey B. Rhoads	
	18	5862260		1999-01-19	Geoffrey B. Rhoads	
	19	5822436		1998-10-13	Geoffrey B. Rhoads	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717	
	Filing Date		2013-03-14	
	First Named Inventor	Ingemar J. Cox		
	Art Unit	2425		
	Examiner Name			
	Attorney Docket Number	63121-39		

	20	5832119		1998-11-03	Geoffrey B. Rhoads	
	21	5841978		1998-11-24	Geoffrey B. Rhoads	
	22	5748783		1998-05-05	Geoffrey B. Rhoads	
	23	5768426		1998-06-16	Geoffrey B. Rhoads	
	24	6057872		2000-05-02	Brant Candelore	
	25	6774926	B1	2004-08-10	Michael D. Ellis	
	26	6009410		1999-12-28	Suzanne L. LeMole, et al.	

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	1	20020178276	A1	2002-11-28	Jason McCartney, et al.	
	2	20020026369	A1	2002-02-28	Michael R. Miller, et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717	
	Filing Date		2013-03-14	
	First Named Inventor	Ingemar J. Cox		
	Art Unit	2425		
	Examiner Name			
	Attorney Docket Number	63121-39		

	3	20020083005	A1	2002-06-27	Stephen Lowenstein, et al.	
	4	20050246752	A1	2005-11-03	Gad Liwerant, et al.	
	5	20010047298	A1	2001-11-29	S. Sean Moore, et al.	
	6	20040015608	A1	2004-01-22	Richard D. Ellis, et al.	
	7	20020056123	A1	2002-05-09	Gad Liwerant, et al.	
	8	20040199387	A1	2004-10-07	Avery Li-Chun Wang, et al.	
	9	20020059610	A1	2002-05-16	Michael D. Ellis	

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	1	WO2001022730		A1	2001-03-29	Nicholas Maier, et al.		☐

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	First Named Inventor	Ingemar J. Cox	
	Art Unit	2425	
	Examiner Name		
	Attorney Docket Number	63121-39	

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	U.S. Provisional Application No. 60/304,647 filed July 10, 2001.	☐
	2	U.S. Provisional Application No. 60/281,881 filed April 5, 2001.	☐
	3	Metadata Mediation: Representation and Protocol, Tsuyoshi Sakata, Hiroyuki Tada, Tomohisa Ohtake, Digital Vision Laboratories, 7-3-37 Akasaka, Minato, Tokyo, Japan.	☐
	4	U.S. Patent Application No. 13/800,573 filed March 13, 2013.	☐
	5	U.S. Patent Application No. 13/800,890 filed March 13, 2013.	☐
	6	U.S. Patent Application No. 13/829,717 filed March 14, 2013.	☐
	7	U.S. Patent Application No. 13/830,447 filed March 14, 2013.	☐
	8	U.S. Patent Application No. 13/830,626 filed March 14, 2013.	☐
	9	U.S. Patent Application No. 13/830,986 filed March 14, 2013.	☐
	10	U.S. Patent Application No. 13/842,068 filed March 15, 2013.	☐

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	Filing Date		2013-03-14
	First Named Inventor	Ingemar J. Cox	
	Art Unit	2425	
	Examiner Name		
	Attorney Docket Number	63121-39	

	11	U.S. Patent Application No. 13/338,079 filed December 27, 2011.	☐
	12	U.S. Provisional Patent Application No. 60/134,782 filed May 19, 1999.	☐
	13	U.S. Patent Application No. 60/193,948 filed March 31, 2000.	☐
	14	U.S. Patent Application No. 60/195,535 filed April 7, 2000.	☐
	15	U.S. Patent Application No. 60/206,384 filed May 23, 2000.	☐
	16	U.S. Patent Application No. 60/221,843 filed July 28, 2000.	☐

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	13829717
	Filing Date	2013-03-14
	First Named Inventor	Ingemar J. Cox
	Art Unit	2425
	Examiner Name	
	Attorney Docket Number	63121-39

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Benjamin M. Halpern/	Date (YYYY-MM-DD)	2013-06-07
Name/Print	Benjamin M. Halpern	Registration Number	46494

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The information provided by you in this form will be subject to the following routine uses:

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
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EFS ID:	15984999
Application Number:	13829717
International Application Number:	
Confirmation Number:	8930
Title of Invention:	SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK
First Named Inventor/Applicant Name:	Ingemar J. COX
Customer Number:	1912
Filer:	Benjamin M. Halpern/Tylie Guldemon
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	63121-39
Receipt Date:	07-JUN-2013
Filing Date:	14-MAR-2013
Time Stamp:	17:45:58
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no				
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	TransmittalLetter.pdf	68765 7bd34dd13cef88f4e628e53cc1e1808fe4aac6d4	no	2
Warnings:					
Information:					

2	Information Disclosure Statement (IDS) Form (SB08)	1IDS.pdf	614115 701c6079ea9b0f28dd2b45274bc706ced21ba79	no	8
Warnings:					
Information:					
Total Files Size (in bytes):				682880	
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
ATTORNEY DOCKET NO. 63121-39**

Confirmation No.: 8930

Applicant: Network 1
Title: SYSTEM FOR USING EXTRACTED FEATURES FROM AN
ELECTRONIC WORK
Appl. No.: 13/829,717
Date: March 14, 2013
Examiner: TBD
Art Unit: 2425
Customer No.: 1912

INFORMATION DISCLOSURE STATEMENT LETTER
UNDER 37 CFR § 1.56

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22323-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. §1.56,
Applicant would like to direct the Examiner's attention to the references that are listed
on the attached forms PTO/SB/08A. These references were previously submitted to or
cited by the Patent Office during prosecution of U.S. Patent Application No. 13/338,079,
from which the subject application claims priority under 35 U.S.C. §120. Accordingly,
pursuant to 37 C.F.R. § 1.98(d), copies of previously cited or submitted references are not
included with this Information Disclosure Statement.

Since this Information Disclosure Statement is being filed before the first Office Action, Applicant believes that no fee is required in connection with the filing of this Statement. However, if a fee should be required, the Commissioner is hereby authorized to charge or credit any fees which may be required for this filing to Deposit Account No. 01-1785.

Respectfully submitted,

AMSTER, ROTHSTEIN & EBENSTEIN LLP
Attorneys for Applicant
90 Park Avenue
New York, NY 10016
(212) 336-8000

Dated: June 7, 2013

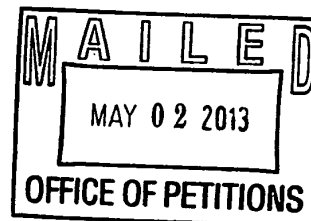
By: /Benjamin M. Halpern/
Benjamin M. Halpern, Reg. No.: 46494



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NEW YORK NY 10016



Doc Code: TRACK1.GRANT

Decision Granting Request for Prioritized Examination (Track I or After RCE)	Application No.:13/829,717
1. THE REQUEST FILED <u>March 14, 2013</u> IS GRANTED. The above-identified application has met the requirements for prioritized examination A. ☒ for an original nonprovisional application (Track I). B. ☐ for an application undergoing continued examination (RCE). 2. The above-identified application will undergo prioritized examination. The application will be accorded special status throughout its entire course of prosecution until one of the following occurs: A. filing a <u>petition for extension of time</u> to extend the time period for filing a reply; B. filing an <u>amendment to amend the application to contain more than four independent claims, more than thirty total claims</u>, or a multiple dependent claim; C. filing a <u>request for continued examination</u>; D. filing a notice of appeal; E. filing a request for suspension of action; F. mailing of a notice of allowance; G. mailing of a final Office action; H. completion of examination as defined in 37 CFR 41.102; or I. abandonment of the application. Telephone inquiries with regard to this decision should be directed to Kimberly Inabinet at 571-272-4618. In his/her absence, calls may be directed to Brian W. Brown at 571-272-5338. / Kimberly Inabinet/ Petitions Examiner, Office of Petitions	

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 13/829,717	
APPLICATION AS FILED - PART I						
(Column 1)		(Column 2)		SMALL ENTITY		OR
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)	OTHER THAN SMALL ENTITY	
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A		N/A	280
SEARCH FEE (37 CFR 1.16(k), (j), or (m))	N/A	N/A	N/A		N/A	600
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A		N/A	720
TOTAL CLAIMS (37 CFR 1.16(i))	27	minus 20 = * 7			OR	x 80 = 560
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1	minus 3 = *				x 420 = 0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).					0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))						0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL		TOTAL	2160
APPLICATION AS AMENDED - PART II						
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)	OTHER THAN SMALL ENTITY
	Total (37 CFR 1.16(i))	* Minus **	=	x =		OR
	Independent (37 CFR 1.16(h))	* Minus ***	=	x =		OR
	Application Size Fee (37 CFR 1.16(s))					OR
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR
TOTAL ADD'L FEE					TOTAL ADD'L FEE	
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)	OTHER THAN SMALL ENTITY
	Total (37 CFR 1.16(i))	* Minus **	=	x =		OR
	Independent (37 CFR 1.16(h))	* Minus ***	=	x =		OR
	Application Size Fee (37 CFR 1.16(s))					OR
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR
TOTAL ADD'L FEE					TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.						



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO.	TOT CLAIMS	IND CLAIMS
13/829,717	03/14/2013	3715	1994	63121-39	27	1

CONFIRMATION NO. 8930

1912

AMSTER, ROTHSTEIN & EBENSTEIN LLP
90 PARK AVENUE
NEW YORK, NY 10016

FILING RECEIPT



OC000000060636825

Date Mailed: 04/29/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Ingemar J. COX, London, UNITED KINGDOM;

Applicant(s)

NETWORK-1 SECURITY SOLUTIONS, INC., New York, NY

Assignment For Published Patent Application

NETWORK-1 SECURITY SOLUTIONS, INC., New York, NY

Power of Attorney: The patent practitioners associated with Customer Number 01912

Domestic Priority data as claimed by applicant

This application is a CON of 13/800,573 03/13/2013
which is a CON of 13/338,079 12/27/2011
which is a CON of 11/977,202 10/23/2007 PAT 8205237
which is a CON of 11/445,928 06/02/2006 PAT 8010988
which is a CIP of 09/950,972 09/13/2001 PAT 7058223
which claims benefit of 60/232,618 09/14/2000

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

If Required, Foreign Filing License Granted: 04/22/2013

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/829,717**

Projected Publication Date: Request for Non-Publication Acknowledged

Non-Publication Request: Yes

Early Publication Request: No

Title

SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK

Preliminary Class

434

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications:

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/829,717	03/14/2013	Ingemar J. COX	63121-39

1912
AMSTER, ROTHSTEIN & EBENSTEIN LLP
90 PARK AVENUE
NEW YORK, NY 10016

CONFIRMATION NO. 8930
POA ACCEPTANCE LETTER



Date Mailed: 04/29/2013

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/14/2013.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/tpnguyen/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717	
	Filing Date		2013-03-14	
	First Named Inventor	Ingemar J. Cox		
	Art Unit	3715		
	Examiner Name			
	Attorney Docket Number	63121-39		

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear		
	1	7853664	B1	2010-12-14	Wang et al.			
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
	Filing Date		2013-03-14
	First Named Inventor	Ingemar J. Cox	
	Art Unit	3715	
	Examiner Name		
	Attorney Docket Number	63121-39	

	1	U.S. Provisional Application No. 60/222,023, filed July 31, 2000; Avery Li-Chun Wang and Julius O. Smith III, Inventors; Palo Alto, CA.	☐

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Examiner Signature		Date Considered	

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	13829717
Filing Date	2013-03-14
First Named Inventor	Ingemar J. Cox
Art Unit	3715
Examiner Name	
Attorney Docket Number	63121-39

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Benjamin M. Halpern/	Date (YYYY-MM-DD)	2013-04-09
Name/Print	Benjamin M. Halpern	Registration Number	46494

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 6

Complete if Known

Application Number	13/829,717
Filing Date	March 14, 2013
First Named Inventor	Ingemar J. Cox
Art Unit	3715
Examiner Name	
Attorney Docket Number	63121-39

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A1	US- 20020023020	02-12-2002	Kenyon et al.	
	A2	US- 20020038296	03-28-2002	Margolis et al.	
	A3	US- 20020082731	06-27-2002	Pitman et al.	
	A4	US- 20020087885	07-04-2002	Peled et al.	
	A5	US- 20020133499	09-19-2002	Ward et al.	
	A6	US- 20020150164	10-17-2002	Felts et al.	
	A7	US- 20030028489	02-06-2003	Williamson	
	A8	US- 20030037010	02-20-2003	Schmelzer	
	A9	US- 20030061490	03-27-2003	Abajian	
	A10	US- 20030093790	05-15-2003	Logan et al.	
	A11	US- 20030095660	05-22-2003	Lee et al.	
	A12	US- 20030101144	05-29-2003	Pedro J. Moreno	
	A13	US- 20030202660	10-30-2003	Zhou et al.	
	A14	US- 20030233930	12-25-2003	Ozick	
	A15	US- 20040003398	01-01-2004	Donian et al.	
	A16	US- 20040010602	01-15-2004	Van Vleck et al.	
	A17	US- 20040025174	02-05-2004	Cerrato et al.	
	A18	US- 20040163106	08-19-2004	Schrempf et al.	
	A19	US- 20040170335	09-02-2004	Pearlman et al.	

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		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
	B1	GB-2369203 A	05-22-2002	Assertion Limited		
	B2	JP 2003-242281	08-29-2003	Sony Corp.		
	B3	WO 2002/103968 A1	12-27-2002	Beep Science AS		
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STATEMENT BY APPLICANT**

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Sheet 2 of 6**Complete if Known**

Application Number	13/829,717
Filing Date	March 14, 2013
First Named Inventor	Ingemar J. Cox
Art Unit	3715
Examiner Name	
Attorney Docket Number	63121-39

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A20	US- 20040199387	10-07-2004	Wang, et al.	
	A21	US- 20040221118	11-04-2004	Slater et al.	
	A22	US- 20050080846	04-14-2005	McCieskey et al.	
	A23	US- 20050154892	07-14-2005	Mihcak et al.	
	A24	US- 20050193016	09-01-2005	Seet et al.	
	A25	US- 20050102515	01-19-2005	Jaworski et al.	
	A26	US- 20050213826	09-29-2005	Neogi	
	A27	US- 20060031870	02-09-2006	Jarman et al.	
	A28	US- 20060080356	04-13-2006	Burges et al.	
	A29	US- 20060085816	04-20-2006	Funk et al.	
	A30	US- 20060110137	05-25-2006	Tsuda et al.	
	A31	US- 20060187358	08-24-2006	Lienhart et al.	
	A32	US- 20060195859	08-31-2006	Konig et al.	
	A33	US- 20060195860	08-31-2006	Eldering et al.	
	A34	US- 20060212927	09-21-2006	Riku et al.	
	A35	US- 20060271947	11-30-2006	Lienhart et al.	
	A36	US- 20070071330	03-29-2007	Oostveen et al.	
	A37	US- 20070101360	05-03-2007	Gutta et al.	
	A38	US- 20070124698	05-31-2007	Majumdar	

FOREIGN PATENT DOCUMENTS						
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		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 3 of 6**Complete if Known**

Application Number	13/829,717
Filing Date	March 14, 2013
First Named Inventor	Ingemar J. Cox
Art Unit	3715
Examiner Name	
Attorney Docket Number	63121-39

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A39	US- 20070130580	06-07-2007	Covell et al.	
	A40	US- 20070180537	08-02-2007	He et al.	
	A41	US- 20070203911	08-30-2007	Chiu	
	A42	US- 20070282472	12-06-2007	Seldman	
	A43	US- 20070288518	12-13-2007	Crigler et al.	
	A44	US- 20080052783	02-28-2008	Levy	
	A45	US- 20090052784	02-26-2009	Covell et al.	
	A46	US- 5634012	05-27-1997	Stefik et al.	
	A47	US- 5706364	01-06-1998	Kopec, et al.	
	A48	US- 5892536	04-06-1999	Logan et al.	
	A49	US- 5918223	06-29-1999	Blum et al.	
	A50	US- 5973723	10-26-1999	DeLuca	
	A51	US- 6023693	02-08-2008	Masuoka, et al.	
	A52	US- 6233682	05-15-2001	Fritsch	
	A53	US- 6236758	05-22-2001	Sodagar et al.	
	A54	US- 6407680	06-18-2002	Lai et al.	
	A55	US- 6693236	02-17-2004	Gould et al.	
	A56	US- 6766523	07-20-2004	Herley	
	A57	US- 6810388	10-26-2004	Sato	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁸
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				

Examiner Signature	Date Considered

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 4 of 6

Complete if Known

Application Number	13/829,717
Filing Date	March 14, 2013
First Named Inventor	Ingemar J. Cox
Art Unit	3715
Examiner Name	
Attorney Docket Number	63121-39

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A58	US- 6871200	03-22-2005	MacQueen et al.	
	A59	US- 6944632	09-13-2005	Stern	
	A60	US- 6983371	01-03-2006	Hurtado et al.	
	A61	US- 7020635	03-28-2006	Hamilton et al.	
	A62	US- 7043473	05-09-2006	Rassool et al.	
	A63	US- 7092953	08-15-2006	Haynes	
	A64	US- 7363278	10-17-2002	Schmelzer et al.	
	A65	US- 7366787	04-29-2008	Salas et al.	
	A66	US- 7369677	05-06-2008	Petrovic et al.	
	A67	US- 7370017	05-06-2008	Lindeman et al.	
	A68	US- 7738704	06-15-2010	Lienhart et al.	
		US- 6496857	12-17-2002	Dustin et al.	
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Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁰
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				

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		Application Number	13/829,717
		Filing Date	March 14, 2013
		First Named Inventor	Ingemar J. Cox
		Art Unit	3715
		Examiner Name	
Sheet 5	of 6	Attorney Docket Number	63121-39

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	C1	Liu et al., "An Investigation of Practical Approximate Nearest Neighbor Algorithms", Advances in Neural Information Processing Systems (NIPS) 2004.	
	C2	K.L. Clarkson, "Nearest-Neighbor Searching and Metric Space Dimensions", Nearest-Neighbor Methods for Learning and Vision: Theory and Practice, April 2005.	
	C3	Swaminathan et al., "Robust an Secure Image Hashing", IEEE Transactions on Information Forensics and Security, June 2006, pp. 215 - 230, Vol. 1, No. 2	
	C4	Burges et al., "Duplicate Detection and Audio Thumbnails with Audio Fingerprinting" [online]. 2004, [retrieved on 11-21-2006]. Retrieved on the Internet: <URL: www.research.microsoft.com/~cburges/tech_reports/tr-2004-19.pdf>, 5 pages.	
	C5	Cano et al., "A Review of Algorithms for Audio Fingerprinting" [online]. 2002, [retrieved on 11-21-2006]. Retrieved from the Internet: <URL: www.iua.upf.es/mitg/publications/MMSP-2002-pcano.pdf>, 5 pages.	
	C6	Haitisma and Kaiker, "A Highly Robust Audio Fingerprinting System" [online]. 2002, [retrieved on 11-16-2006]. Retrieved from the Internet: <url: www.ismir2002.ismir.net/proceedings/02-FP04-2.pdf>, 9 pages.	
	C7	Jacobs et al., "Fast Multiresolution Image Querying" [online]. 1995, [retrieved on 11-21-2006]. Retrieved from the Internet: <URL: www.grail.cs.washington.edu/projects/query.pdf>, 10 pages.	
	C8	Ke et al., "Computer Vision for Music Identification" [online]. 2005, [retrieved on 11-21-2006]. Retrieved from the Internet: <URL: www.cs.cmu.edu/~yke/musicretrieval/cvpr2005-mr.pdf>, 8 pages.	
	C9	Shazam, Shazam Entertainment Brings Music Recognition to Windows Mobile 5.0 Powered Smartphones" [online]. 2006, [retrieved on 11-16-2006]. Retrieved from the Internet: <URL: www.shazam.com/music/portal/sp/s/media-type/html/user/anon/page/default/template/pages/p/company_release30.html>, 1 page.	
	C10	Stanford, "CS276 Information Retrieval and Web Mining" [online]. 2005, [retrieved on 11-16-2006]. Retrieved from the Internet: <URL: www.stanford.edu/class/cs276/handouts/lecture19.pdf>, 8 pages.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Complete if Known	
		Application Number	13/829,717
		Filing Date	March 14, 2013
		First Named Inventor	Ingemar J. Cox
		Art Unit	3715
		Examiner Name	
Sheet 6	of 6	Attorney Docket Number	63121-39

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	C11	Stanford, "Data Mining: Associations" [online]. 2002, [retrieved on 11-16-2006]. Retrieved from the Internet: <URL: www.stanford.edu/class/cs206/cs206-2.pdf>, 11 pages.	
	C12	Stolnitz et al., "Wavelets for Computer Graphics: A Primer, Part 1: [online]. 1995, [retrieved on 11-21-2006]. Retrieved from the Internet: <URL: www.grail.cs.washington.edu/pub/stoll/wavelet1.pdf>, 8 pages.	
	C13	Stolnitz et al., "Wavelets for Computer Graphics: A Primer, Part 2: [online]. 1995, [retrieved on 11-21-2006]. Retrieved from the Internet: <URL: www.grail.cs.washington.edu/pub/stoll/wavelet2.pdf>, 9 pages.	
	C14	Yang, "MACS: Music Audio Characteristic Sequence Indexing for Similarity Retrieval", 21-24 October 2001, New Paltz, New York.	
	C15	Viola and Jones, Robust Real-Time Object Detection," Int. J. Computer Vision, 2002.	
	C16	Burges et al., "Using Audio Fingerprinting for Duplicate Detection and Thumbnail Generation," March 2005, 4 pages.	
	C17	Lin, et al., Input Data Representation for Self-Organizing Map in Software Classification, Knowledge Acquisition and Modeling, 2009. KAM '09. Second International Symposium on Volume: 2, Digital Object Identified: 10.11 09/KAM.2009.151 Publication Year: 2009, Page(s): 360 - 353.	
	C18	Baluja et al., "Content Fingerprinting Using Wavelets", 3rd European Conference on Visual Media Production, 2006, pp. 198 - 207.	
	C19	Cohen et al., "Finding Interesting Associations without Support Pruning", IEEE Transactions on Knowledge and Data Engineering, 2001, pp. 64 - 78, Vol. 13, Issue 1.	
	C20	Yang, Efficient Video Identification based on locality sensitive hashing and triangle inequality, National University of Singapore, 2005, pages 1-64.	

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STATEMENT BY APPLICANT**

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Sheet 1 of 2

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Application Number	13829717
Filing Date	March 14, 2013
First Named Inventor	Ingemar J. Cox
Art Unit	3715
Examiner Name	
Attorney Docket Number	63121-39

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	1	US- 2001/0049625 A1	12-06-2001	Craig Mowry	
	2	US- 8,086,445 B2	12-27-2011	Erling H. Wold et al.	
	3	US- 8,082,150 B2	12-20-2011	Erling H. Wold	
	4	US- 8,006,314 B2	08-23-2011	Erling H. Wold	
	5	US- 7,917,645 B2	03-29-2011	Vance E. Ikezoye	
	6	US- 7,877,438 B2	01-25-2011	James B. Schrempp et al.	
	7	US- 7,797,249 B2	09-14-2010	Richard A. Schmelzer et al.	
	8	US- 7,707,088 B2	04-27-2010	Richard A. Schmelzer	
	9	US- 7,565,327 B2	07-21-2009	Richard A. Schmelzer	
	10	US- 7,562,012 B1	07-14-2009	Erling H. Wold et al.	
	11	US- 7,529,659 B2	05-05-2009	Erling H. Wold	
	12	US- 7,500,007 B2	03-03-2009	Vance E. Ikezoye et al.	
	13	US- 7,363,278 B2	04-22-2008	Richard A. Schmelzer et al.	
	14	US- 6,968,337 B2	11-22-2005	Erling H. Wold	
	15	US- 6,834,308 B1	12-21-2004	Vance E. Ikezoye et al.	
	16	US- 5,918,223	06-29-1999	Thomas L. Blum et al.	
	17	US- 5,978,791	11-02-1999	David A. Farber et al.	
	18	US- 6,415,280 B1	07-02-2002	David A. Farber et al.	
	19	US- 6,928,442 B2	08-09-2005	David A. Farber et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	Y ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
	1	EP 1 354 276 B1	12-27-2007	Thomas L. Blum et al.		
	2	EP 1 485 815 B1	07-10-2009	Erling H. Wold et al.		

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet	2	of	2

Complete if Known

Application Number	13829717
Filing Date	March 14, 2013
First Named Inventor	Ingemar J. Cox
Art Unit	3715
Examiner Name	
Attorney Docket Number	63121-39

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Electronic Acknowledgement Receipt	
EFS ID:	15475182
Application Number:	13829717
International Application Number:	
Confirmation Number:	8930
Title of Invention:	SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK
First Named Inventor/Applicant Name:	Ingemar J. COX
Customer Number:	1912
Filer:	Benjamin M. Halpern/Vivian Campbell
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	63121-39
Receipt Date:	09-APR-2013
Filing Date:	
Time Stamp:	18:25:41
Application Type:	Utility under 35 USC 111(a)

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File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	1IDSLetter.pdf	78250 134166af77786a425ef097644f7eeec89a7226da	no	2
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2	Information Disclosure Statement (IDS) Form (SB08)	2IDS.pdf	612316 5a9353d869a89a6345098c0dd4e584a21b2c915f	no	4
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
ATTORNEY DOCKET NO. 63121-39**

Confirmation No.: 8930

Applicant: Network 1
Title: SYSTEM FOR USING EXTRACTED FEATURES FROM AN
ELECTRONIC WORK
Appl. No.: 13/829,717
Date: March 14, 2013
Examiner: TBD
Art Unit: 3715
Customer No.: 1912

**INFORMATION DISCLOSURE STATEMENT LETTER
UNDER 37 CFR § 1.56**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22323-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. §1.56,
Applicant would like to direct the Examiner's attention to the references that are listed
on the attached forms PTO/SB/08A. These references were previously submitted to or
cited by the Patent Office during prosecution of U.S. Patent Application No. 13/338,079,
from which the subject application claims priority under 35 U.S.C. §120. Accordingly,
pursuant to 37 C.F.R. § 1.98(d), copies of previously cited or submitted references are not
included with this Information Disclosure Statement.

Since this Information Disclosure Statement is being filed before the first Office Action, Applicant believes that no fee is required in connection with the filing of this Statement. However, if a fee should be required, the Commissioner is hereby authorized to charge or credit any fees which may be required for this filing to Deposit Account No. 01-1785.

Respectfully submitted,

AMSTER, ROTHSTEIN & EBENSTEIN LLP
Attorneys for Applicant
90 Park Avenue
New York, NY 10016
(212) 336-8000

Dated: April 9, 2013

By: /Benjamin M. Halpern/
Benjamin M. Halpern, Reg. No.: 46494

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)

Approved for use through 07/31/2012. OMB 0651-0031

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
	Filing Date		2013-03-14
	First Named Inventor	Ingemar J. Cox	
	Art Unit	3715	
	Examiner Name		
	Attorney Docket Number	63121-39	

U.S. PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	3919479		1975-11-11	Warren D. Moon et al.	
	2	4230990		1980-10-28	John G. Lert, Jr. et al.	
	3	4450531		1984-05-22	Stephen C. Kenyon et al.	
	4	4495526		1985-01-22	Dimitri Baranoff-Rossine	
	5	4499601		1985-02-12	Gordon H. Matthews	
	6	4511917		1985-04-16	Hans O. Kohler et al.	
	7	4547804		1985-10-15	Burton L. Greenberg	
	8	4634966		1987-01-06	Tomofumi Nakatani et al.	

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	9	4639779		1987-01-27	Burton L. Greenberg	
	10	4677455		1987-06-30	Yoshinori Okajima	
	11	4677466		1987-06-30	John G. Lert, Jr. et al.	
	12	4682370		1987-07-21	Gordon H. Matthews	
	13	4697209		1987-09-29	David A. Kiervit et al.	
	14	4739398		1988-04-19	William L. Thomas et al.	
	15	4776017		1988-10-04	Junichiroh Fujimoto	
	16	4805020		1989-02-14	Burton L. Greenberg	
	17	4843526		1989-06-27	George T. Price III	
	18	4843562		1989-06-27	Stephen C. Kenyon et al.	
	19	4918730		1990-04-17	Klaus Schulze	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
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	First Named Inventor	Ingemar J. Cox	
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	Examiner Name		
	Attorney Docket Number	63121-39	

	20	5210820		1993-05-11	Stephen C. Kenyon	
	21	5283819		1994-02-01	James A. Glick et al.	
	22	5437050		1995-07-25	Robert G. Lamb et al.	
	23	5481294		1996-01-02	William L. Thomas et al.	
	24	5581658		1996-12-03	Michael O'Hagan et al.	
	25	5692213		1997-11-25	David Goldberg et al.	
	26	5701542		1997-12-23	Hiroyuki Sasayama	
	27	5724605		1998-03-03	Michael J. Wissner	
	28	5745900		1998-04-28	Michael Burrows	
	29	5798785		1998-08-25	John S. Hendricks et al.	
	30	5850490		1998-12-15	Walter A. L. Johnson	

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	First Named Inventor	Ingemar J. Cox	
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	Attorney Docket Number	63121-39	

	31	5918223		1999-06-29	Thomas L. Blum et al.	
	32	5953415		1999-09-14	Jakob Nielsen	
	33	6006256		1999-12-21	Joel Zdepski et al.	
	34	6011758		2000-01-04	Jean Francois Dockes et al.	
	35	6026439		2000-02-15	Shyamal Chowdhury et al.	
	36	6044402		2000-03-28	Douglas W. Jacobson et al.	
	37	6052693		2000-04-18	Michael J. Smith et al.	
	38	6061056		2000-05-09	Robert Menard et al.	
	39	6088455		2000-07-11	James D. Logan et al.	
	40	6088707		2000-07-11	Cary L. Bates et al.	
	41	6118450		2000-09-12	Andrew M. Proehl et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717	
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	First Named Inventor	Ingemar J. Cox		
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	42	6119124		2000-09-12	Andrei Z. Broader et al.	
	43	6169986		2001-01-02	Dwayne E. Bowman et al.	
	44	6173406	B1	2001-01-09	Edward Yan-Bing Wang et al.	
	45	6240409	B1	2001-05-29	Alexander Aiken	
	46	6243725		2001-06-05	James D. Hempleman et al.	
	47	6247133	B1	2001-06-12	Michael D. Palage et al.	
	48	6253193		2001-06-26	Karl L. Ginter et al.	
	49	6263348	B1	2001-07-17	Bodie Kathrow et al.	
	50	6330593	B1	2001-12-11	Dale Tyson Roberts et al.	
	51	6345256	B1	2002-02-05	Kenneth Louis Milsted et al.	
	52	6349296	B1	2002-02-19	Andrei Z. Broder et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717	
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	53	6363377	B1	2002-03-26	Dina Kravets et al.	
	54	6374225	B1	2002-04-16	Donald J. Hejna, Jr.	
	55	6381601	B1	2002-04-30	Shinji Fujiwara et al.	
	56	6385596	B1	2002-05-07	Philip R. Wiser et al.	
	57	6408128	B1	2002-06-18	Max Abecassis	
	58	6418421	B1	2002-07-09	Marco M. Hurtado et al.	
	59	6446068	B1	2002-09-03	Chris Alan Kortge	
	60	6449226	B1	2002-09-10	Takashi Kumagai	
	61	6452874	B1	2002-09-17	Satoshi Otsuka et al.	
	62	6477704	B1	2002-11-05	Lawrence Cremia	
	63	6496802	B1	2002-12-17	Alexander T. Van Zoest et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717	
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	64	6505160	B1	2003-01-07	Kenneth L. Levy et al.	
	65	6550011	B1	2003-04-15	J. Roberts Sims, III	
	66	6591245	B1	2003-07-08	John R. Klug	
	67	6598228	B2	2003-07-22	Donald J. Hejna, Jr.	
	68	6609105	B2	2003-08-19	Alexander T. Van Zoest et al.	
	69	6654757	B1	2003-11-25	Michael R. Stern	
	70	6665661	B1	2003-12-16	Vernon L. Crow et al.	
	71	6834308	B1	2004-12-21	Vance E. Ikezoye et al.	
	72	6873982	B1	2005-03-29	Cary Lee Bates et al.	
	73	6931451	B1	2005-08-16	James D. Logan et al.	
	74	6941275	B1	2005-09-06	Remi Swierczek	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717	
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	75	6978461	B2	2005-12-20	Ari Shapiro et al.	
	76	6978419	B1	2005-12-20	Mark Kantrowitz	
	77	6990453	B2	2006-01-24	Avery Li-Chun Wang et al.	
	78	7013301	B2	2006-03-14	Frode Holm et al.	
	79	7058223	B2	2006-06-06	Ingemar J. Cox	
	80	7106904	B2	2006-09-12	Yoshihiro Shuma	
	81	7155449	B2	2006-12-26	Jurgen Pingel et al.	
	82	7168083	B2	2007-01-23	Antonius Adrianus Cornelis Maria Kalker et al.	
	83	7302574	B2	2007-11-27	William Y. Conwell et al.	
	84	7366718	B1	2008-04-29	William Pugh et al.	
	85	7421723	B2	2008-09-02	David H. Harkness et al.	

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	Attorney Docket Number	63121-39		

	86	7477739	B2	2009-01-13	Jaap Andre Haitsma et al.	
	87	7523312	B2	2009-04-21	Antonius Adrianus Cornelis Maria Kalker et al.	
	88	5594934		1997-01-14	Daozheng Lu et al.	
	89	5629739		1997-05-13	Robert A. Dougherty	
	90	5701452		1997-12-23	David M. Siefert	
	91	6360215	B1	2002-03-19	Douglass R. Judd et al.	
	92	6550001	B1	2002-03-19	Douglass R. Judd et al.	
	93	6577746	B1	2003-06-10	Douglas B. Evans et al.	
	94	6675174	B1	2004-01-06	Rudolf Maarten Bolle et al.	
	95	7158929	B2	2007-01-02	Marc-Henri J. M. A. Wouters et al.	
	96	7587728	B2	2009-09-08	Henry B. Wheeler et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717	
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	97	7647604	B2	2010-01-12	Arun Ramaswamy	
	98	7650616	B2	2010-01-19	Morris Lee	
	99	7757248	B2	2010-07-13	David H. Harkness et al.	

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	1	20010001160	A1	2001-05-10	Daniel J. Shoff et al.	
	2	20010003818	A1	2001-06-14	Jurgen Pingel et al.	
	3	20020023020	A1	2002-02-21	Stephen C. Kenyon et al.	
	4	20020032698	A1	2002-03-14	Ingemar J. Cox	
	5	20020120925	A1	2002-08-29	James D. Logan	
	6	20020156760	A1	2002-10-24	Stephen R. Lawrence et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717	
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	First Named Inventor	Ingemar J. Cox		
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	Attorney Docket Number	63121-39		

	7	20030106017	A1	2003-06-05	Virupaksha N. Kanchirayappa et al.	
	8	20030146940	A1	2003-08-07	Michael D. Ellis et al.	
	9	20040199387	A1	2004-10-07	Avery Li-Chun Wang et al.	
	10	20050160363	A1	2005-07-21	Kulvir Singh Bhogal et al.	
	11	20060101069	A1	2006-05-11	James Bell et al.	
	12	20060206462	A1	2006-09-14	Jimmy N. Barber	
	13	20070083510	A1	2007-04-12	James M. McArdle	
	14	20070118375	A1	2007-05-24	Stephen C. Kenyon et al.	
	15	20080091684	A1	2008-04-17	Jeffrey Ellis et al.	
	16	20070041667	A1	2007-02-22	Ingemar J. Cox	
	17	20080250241	A1	2008-10-09	Karl L. Ginter et al.	

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	1	PETER N. YIANLOS, Excluded Middle Vantage Point Forests for Nearest Neighbor Search, July 20, 1998, pp. 1-12.						☐
	2	PETER N. YIANLOS,, "Locally Lifting the Curse of Dimensionality for Nearest Neighbor Search" SODA 2000, pp. 361-370.						☐
	3	L. BAUM et al., "A Maximization Technique Occuring in the Statistical Analysis of Probabilistic Functions of Markov Chains," The Annals of Mathematical Statistics, Vol. 41, No. 1, pp. 164-171 (1970).						☐
	4	A. P. DEMPSTER et al., "Maximum Likelihood from Incomplete Data via the \$EM\$ Algorithm," Journal of the Royal Statistical Society, Series B (Methodological), Vol. 39, Issue 1, pp. 1-38 (1977).						☐
	5	D. REYNOLDS et al., "Robust Text-Independent Speaker Identification Using Gaussian Mixture Speaker Models," IEEE Transactions on Speech and Audio Processing, Vol. 3, No. 1, pp. 72-83 (January 1995).						☐
	6	D. BOUKTACHE, "A fast Algorithm for the nearest neighbor classifier," IEEE Transactions on Pattern Analysis and Machine Intelligence, Mar. 1997, pp. 277-282.						☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
	Filing Date		2013-03-14
	First Named Inventor	Ingemar J. Cox	
	Art Unit	3715	
	Examiner Name		
	Attorney Docket Number	63121-39	

7	NENE et al., "A simple algorithm for nearest neighbor search in high dimensions," IEEE Transactions on Pattern Analysis and Machine Intelligence, Sept. 1997, pp. 989-1003.	☐
8	SUNIL ARYA et al., "Approximate Nearest Neighbor Queries in Fixed Dimensions," Proceedings of the 4th annual ACM-SIAM Symposium on Discrete algorithms, 1993, pp. 271-280.	☐
9	K. FUKUNAGA et al., "A branch and bound algorithm for computing k-nearest neighbors, IEEE Trans. Comput., C24:750-753, July 1975.	☐
10	CHARLES D. FEUSTEL et al., "The nearest neighbor problem in an abstract metric space," Pattern Recognition Letters, pp. 125-128, December 1982.	☐
11	DENNIS SHASHA et al., "New Techniques for Best-Match Retrieval," ACM Transactions on Information Systems, 8(2); 140{158, April 1990.	☐
12	J. UHLMANN, "Satisfying general proximity / similarity queries with metric trees", Information Processing Letters, 40 (4): 175{9, November 1991.	☐
13	SERGEY BRIN, "Near Neighbor Search in Large Metric Spaces," Proceedings of the 21st VLDB Conference, Zurich, Switzerland, Sep. 1995.	☐
14	DANIEL P. HUTTENLOCHER, et al., "Comparing Images Using the Hausdorff Distance," IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 15, No. 9, pp. 850-863, September 1993.	☐
15	THOMAS SEIDL et al., "Optimal Multi-Step K-Nearest Neighbor Search," Proceedings of ACM SIGMOD International Conference of Management of Data, June 1998, pp. 154-165.	☐
16	W. A. BURKHARD et al., "Some Approaches to Best-Match File Searching," Communications of the ACM, Vol. 16, No. 4, April 1973.	☐
17	EYAL KUSHILEVITZ et al., "Efficient Search for Approximate Nearest Neighbor in High Dimensional Spaces," Proceedings of the 30th annual ACM Symposium on the Theory of computing, 1998, pp. 457-474, Vol. 30, No. 2.	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
	Filing Date		2013-03-14
	First Named Inventor	Ingemar J. Cox	
	Art Unit	3715	
	Examiner Name		
	Attorney Docket Number	63121-39	

18	J. NIEVERGELT et al., "The Grid File: An Adaptable, Symmetric Multikey File Structure," ACM Transactions on Database Systems, Vol. 9, No. 1, pp. 38-71 (March 1984).	☐
19	NEVIN HEINTZE, "Scalable Document Fingerprinting," Proc. USENIX Workshop on Electronic Commerce (1996).	☐
20	ERLING WOLD et al., "Content-Based Classification, Search, and Retrieval of Audio," IEEE Multimedia, Vol. 3, Issue 3, pp. 27-63 (1996).	☐
21	BIR BHANU et al., "Learning Feature Relevance and Similarity Metrics in Image Databases," Proceedings of the IEEE Workshop on Content-Based Access of Image and Video Libraries, pp. 14-19 (1998).	☐
22	A. DEL BIMBO et al., "Using Weighted Spatial Relationships in Retrieval by Visual Contents," Image Description and Retrieval, pp. 161-192 (1998).	☐
23	P. INDYK et al., "Approximate Nearest Neighbors: Towards Removing The Curse of Dimensionality," Proceeding of the Thirtieth Annual ACM Symposium on Theory of Computing, pp. 604-613 July 21, 1999.	☐
24	MARCO LA CASCIA, "Combining Textual and Visual Cues for Content-based Image Retrieval on the World Wide Web," Proceedings of the IEEE Workshop on Content-Based Access of Image and Video Libraries, pp. 24-29 (1998).	☐
25	ATSUO YOSHITAKA et al., "A Survey on Content-Based Retrieval for Multimedia Databases," IEEE Transactions on Knowledge and Data Engineering, Vol. 11, No. 1, pp. 81-93 (January/February 1999).	☐
26	STEVE LAWRENCE et al., "Digital Libraries and Automonous Citation Indexing," IEEE Computer, pp. 67-71 (June 1999).	☐
27	AKISATO KIMURA et al., "Very Quick Audio Searching: Introducing Global Pruning to the Time-Series Active Search," IEEE Conf on Acoustics, Speech and Signal Processing, (ICASSP '01), Vol. 3, pp. 1429-1432, 2001.	☐
28	EDGAR CHAVEZ et al., "Searching in Metric Spaces," ACM Computing Surveys," Vol. 33, No. 3, pp. 273-321 (September 2001).	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
	Filing Date		2013-03-14
	First Named Inventor	Ingemar J. Cox	
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	Examiner Name		
	Attorney Docket Number	63121-39	

29	JAAP HAITSMA et al., "Robust Audio Hashing for Content Identification," Workshop on Content Based Multimedia Indexing, Brescia, Italy (September 19-21, 2001).	☐
30	JAAP HAITSMA et al., "A Highly Robust Audio Fingerprinting System," Journal of New Music Research, 1744-5027, Vol. 32, Issue 2, pp. 211-221 (2003).	☐
31	SAUL SCHLEIMER et al., "Winnowing: Local Algorithms for Document Fingerprinting," ACM SIGMOD, June 9-12, 2003.	☐
32	EDWARD CHANG et al., "Searching Near-Replicas of Images via Clustering," SPIE Symposium of Voice, Video and Data Communications, 1999.	☐
33	EDWARD Y. CHANG et al., "RIME: A Replicated Image Detector for the World-Wide Web," SPIE, 1998.	☐
34	HECTOR GARCIA-MOLINA et al., "Safeguarding and Charging for Information on the Internet," Proceedings of ICDE, 1998.	☐
35	SERGEY BRIN et al., "Copy Detection Mechanisms for Digital Documents," Proceedings of ACM SIG-MOD, May 1995.	☐
36	STEFAN BERCHTOLD "The x-tree: An Index Structure for High-Dimensional Data," Proceedings of the 22nd VLDB, August 1996.	☐
37	NORIO KATAYAMA et al., "The SR-tree: An Index Structure for High-Dimensional Nearest Neighbor Queries," Proceedings of ACM SIGMOD, May 1997.	☐
38	JOHN T. ROBINSON, "The K-D-B-Tree: A Search Structure for Large Multidimensional Dynamic Indexes," Proceedings of ACM SIGMOD, April 1981.	☐
39	MYRON FLICKNER et al., "Query by Image and Video Content: The QBIC System," IEEE Computer 28(9), pp. 23-32, 1995.	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
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	First Named Inventor	Ingemar J. Cox	
	Art Unit	3715	
	Examiner Name		
	Attorney Docket Number	63121-39	

	40	AMARNATH GUPTA et al., "Visual Information Retrieval," Communications of the ACM, Vol. 40, No. 5, pp. 69-79, May 1997.	☐
	41	JOHN R. SMITH et al., "VisualSEEk: A fully automated content-based image query system," ACM Multimedia Conference, 1996.	☐
	42	DAVID A. WHITE et al., "Similarity Indexing: Algorithms and Performance," Proc. SPIE, Vol. 2670, San Diego, 1996.	☐
	43	NORBERT BECKMANN et al., "The R*-tree: An Efficient and Robust Access Method for Points and Rectangles," Proceedings of ACM Sigmod, May 1990.	☐
	44	A. GUTTMAN, "R-Trees: A Dynamic Index Structure for Spatial Searching," Proceedings of ACM Sigmod, June 1984.	☐
	45	DAVID A. WHITE et al., "Similarity Indexing with the SS-tree*," Proceedings of the 12th ICDE, Feb. 1996.	☐
	46	KING LIN et al., "The TV-Tree: An Index Structure for High-Dimensional Data," VLDB, Journal 3, No. 4, 1994, pp. 517-542.	☐
	47	PAOLO CIACCIA et al., "M-tree: An Efficient Access Method for Similarity Search in Metric Spaces," Proceedings of the 23rd VLDB, August 1997.	☐
	48	NICK ROUSSOPOULOS et al., Nearest Neighbor Queries," Proceedings of ACM Sigmod, May 1995.	☐
	49	C. Li et al., "An extensible hashing index for high-dimensional similarity search," Stanford Technical Report, August 1998.	☐
	50	JON M. KLEINBERG, "Two Algorithms for Nearest-Neighbor Search in High Dimensions," Proc 29th STOC, Feb 7, 1997.	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
	Filing Date		2013-03-14
	First Named Inventor	Ingemar J. Cox	
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This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717	
	Filing Date		2013-03-14	
	First Named Inventor	Ingemar J. Cox		
	Art Unit	3715		
	Examiner Name			
	Attorney Docket Number	63121-39		

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13829717
	Filing Date		2013-03-14
	First Named Inventor	Ingemar J. Cox	
	Art Unit	3715	
	Examiner Name		
	Attorney Docket Number	63121-39	

1	MARTIN ESTER et al., "A Density-Based Algorithm for Discovering Clusters in Large Spatial Databases with Noise," Proceedings of 2nd International Conference on Knowledge Discovery and Data Mining (KDD-96), 1996.	☐
2	YOSSI RUBNER et al., "Adaptive Color Image Embeddings for Database Navigation*," Proceedings of the 1998 IEEE Asian Conference on Computer Vision.	☐
3	ROGER WEBER et al., "A Quantitative Analysis and Performance Study for Similarity-Search Methods in High-Dimensional Spaces," Proceedings of 24th VLDB Conference, 1998.	☐
4	P. YIANILOS, "Data Structures and Algorithms for Nearest Neighbor Search in General Metric Spaces," Proceedings of the ACM-SIAM Symposium on Discrete algorithms, 1993, pp. 311.321.	☐

If you wish to add additional non-patent literature document citation information please click the Add button **Add**

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	13829717
	Filing Date	2013-03-14
	First Named Inventor	Ingemar J. Cox
	Art Unit	3715
	Examiner Name	
	Attorney Docket Number	63121-39

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Benjamin M. Halpern/	Date (YYYY-MM-DD)	2013-04-09
Name/Print	Benjamin M. Halpern/	Registration Number	46,494

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B or equivalent) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5. If the Power of Attorney by Applicant form is not accompanied by this transmittal form or an equivalent, the Power of Attorney will not be recognized in the application.

Application Number	13/829,717
Filing Date	March 14, 2013
First Named Inventor	Ingemar J. Cox
Title	SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK
Art Unit	
Examiner Name	
Attorney Docket Number	63121-39

SIGNATURE of Applicant or Patent Practitioner

Signature	/Benjamin M. Halpern/	Date	March 14, 2013
Name	Benjamin M. Halpern	Telephone	212-336-8000
Registration Number	46494		

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications.

☒ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in the attached transmittal letter.

- ☒ I hereby appoint Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A or equivalent):

01912

OR

- ☐ I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A or equivalent):

Name	Registration Number	Name	Registration Number

Please recognize or change the correspondence address for the application identified in the attached transmittal letter to:

- ☒ The address associated with the above-mentioned Customer Number.

OR

- ☐ The address associated with Customer Number:

OR

☐ Firm or
Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the Applicant:

- ☐ Inventor or Joint Inventor
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor
- ☒ Assignee or Person to Whom the inventor is Under an Obligation to Assign
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is currently being filed with this document)

SIGNATURE of Applicant for Patent

Signature

Date

March 13, 2013

Name

Corey M. Horowitz

Telephone

Title and Company

Chairman and CEO, NETWORK-1 SECURITY SOLUTIONS, INC.

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms for more than one signature, see below *

- ☒ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt	
EFS ID:	15236564
Application Number:	13829717
International Application Number:	
Confirmation Number:	8930
Title of Invention:	SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK
First Named Inventor/Applicant Name:	Ingemar J. COX
Customer Number:	1912
Filer:	Benjamin M. Halpern/Vivian Campbell
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	63121-39
Receipt Date:	14-MAR-2013
Filing Date:	
Time Stamp:	19:46:46
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no				
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	1POAa.pdf	34550 af9a0470958f30e689f2e3079fc3a18c344a5f98	no	1
Warnings:					
Information:					

2	Power of Attorney	2POAb.pdf	467207 d576debada585c32bf1615b1b36196610d797edd	no	1
Warnings:					
Information:					
Total Files Size (in bytes):				501757	
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

**CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION
UNDER 37 CFR 1.102(e) (Page 1 of 1)**

First Named Inventor:	Ingemar J. Cox	Nonprovisional Application Number (if known):	
Title of Invention:	SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK		

APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS PRIORITIZED EXAMINATION FOR THE ABOVE-IDENTIFIED APPLICATION.

1. The processing fee set forth in 37 CFR 1.17(i), the prioritized examination fee set forth in 37 CFR 1.17(c), and if not already paid, the publication fee set forth in 37 CFR 1.18(d) have been filed with the request. The basic filing fee, search fee, examination fee, and any required excess claims and application size fees are filed with the request or have been already been paid.
2. The application contains or is amended to contain no more than four independent claims and no more than thirty total claims, and no multiple dependent claims.
3. The applicable box is checked below:

I. ☒ Original Application (Track One) - Prioritized Examination under § 1.102(e)(1)

- i. (a) The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a). This certification and request is being filed with the utility application via EFS-Web.

---OR---

- (b) The application is an original nonprovisional plant application filed under 35 U.S.C. 111(a). This certification and request is being filed with the plant application in paper.

- ii. An executed oath or declaration under 37 CFR 1.63 is filed with the application.

II. ☐ Request for Continued Examination - Prioritized Examination under § 1.102(e)(2)

- i. A request for continued examination has been filed with, or prior to, this form.
- ii. If the application is a utility application, this certification and request is being filed via EFS-Web.
- iii. The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a), or is a national stage entry under 35 U.S.C. 371.
- iv. This certification and request is being filed prior to the mailing of a first Office action responsive to the request for continued examination.
- v. No prior request for continued examination has been granted prioritized examination status under 37 CFR 1.102(e)(2).

Signature	/Benjamin M. Halpern/	Date	March 14, 2013
Name (Print/Typed)	Benjamin M. Halpern	Practitioner Registration Number	46494
Note: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required in accordance with 37 CFR 1.33 and 1.18. Please see 37 CFR 1.4(d) for the form of the signature. If necessary, submit multiple forms for more than one signature, see below*.			
☒ *Total of <u>1</u> forms are submitted.			

Privacy Act Statement

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3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	63121-39
		Application Number	
Title of Invention	SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1					Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Ingemar	J.	COX		
Residence Information (Select One) ☐ US Residency ☒ Non US Residency ☐ Active US Military Service					
City	London	Country of Residence	i	UK	
Mailing Address of Inventor:					
Address 1	Flat 7, The Gallery, 38 Ludgate Hill				
Address 2					
City	London	State/Province			
Postal Code	EC4M 7DE	Country	i	UK	
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button. Add					

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
☐ An Address is being provided for the correspondence Information of this application.			
Customer Number	01912		
Email Address	ptodocket@arelaw.com		Add Email Remove Email

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	63121-39
		Application Number	
Title of Invention	SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK		

Application Information:

Title of the Invention	SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK		
Attorney Docket Number	63121-39	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	10	Suggested Figure for Publication (if any)	

Publication Information:

☐	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
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Prior Application Status	Pending	Remove	
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	Continuation of	13800573	2013-03-13
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number		63121-39	
		Application Number			
Title of Invention		SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK			

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13338079	Continuation of	11977202	2007-10-23	8205237	2012-06-19
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
11977202	Continuation of	11445928	2006-06-02	8010988	2011-08-30
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
11445928	Continuation in part of	09950972	2001-09-13	7058223	2006-06-06
Prior Application Status		Expired		Remove	
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SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK

§0. RELATED APPLICATIONS

[0001] The present application is a continuation of U.S. patent application Ser. No. 13/800,573 (incorporated herein by reference), titled "METHOD FOR TAGGING AN ELECTRONIC MEDIA WORK TO PERFORM AN ACTION," filed on March 13, 2013, and listing Ingemar J. Cox as the inventor, which is a continuation of U.S. patent application Ser. No. 13/338,079 (incorporated herein by reference), titled "METHOD FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK," filed on December 27, 2011, and listing Ingemar J. Cox as the inventor, which is a continuation of U.S. patent application Ser. No. 11/977,202 (incorporated herein by reference, issued as U.S. Pat. No. 8,205,237 on June 19, 2012), titled "IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET", filed October 23, 2007, and listing Ingemar J. Cox as the inventor, which is a continuation of U.S. patent application Ser. No. 11/445,928 (incorporated herein by reference, issued as U.S. Pat. No. 8,010,988 on August 30, 2011), titled "USING FEATURES EXTRACTED FROM AN AUDIO AND/OR VIDEO WORK TO OBTAIN INFORMATION ABOUT THE WORK," filed on June 2, 2006, and listing Ingemar J. Cox as the inventor, which is a continuation-in-part of U.S. patent application Ser. No. 09/950,972 (incorporated herein by reference, issued as U.S. Pat. No. 7,058,223 on June 6, 2006), titled "IDENTIFYING WORKS FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET," filed on September 13, 2001, and listing Ingemar J. Cox as the inventor,

which application claims benefit to the filing date of provisional patent application Ser. No. 60/232,618 (incorporated herein by reference), titled "IDENTIFYING AND LINKING TELEVISION, AUDIO, PRINT AND OTHER MEDIA TO THE INTERNET", filed on September 14, 2000 and listing Ingemar J. Cox as the inventor.

§1. BACKGROUND OF THE INVENTION

[0002] §1.1 Field of the Invention

[0003] The present invention concerns linking traditional media to new interactive media, such as that provided over the Internet for example. In particular, the present invention concerns identifying a work (e.g., content or an advertisement delivered via print media, or via a radio or television broadcast) without the need to modify the work.

[0004] §1.2 Related Art

[0005] §1.2.1 Opportunities Arising from Linking Works Delivered Via Some Traditional Media Channel or Conduit to a More Interactive System

[0006] The rapid adoption of the Internet and associated World Wide Web has recently spurred interest in linking works, delivered via traditional media channels or conduits, to a more interactive system, such as the Internet for example. Basically, such linking can be used to (a) promote commerce, such as e-commerce, and/or (b) enhance interest in the work itself by facilitating audience interaction or participation. Commerce opportunities include, for example, facilitating the placement of direct orders for products, providing product coupons, providing further information related to a product, product placement, etc.

[0007] In the context of e-commerce, viewers could request discount vouchers or coupons for viewed products that are redeemable at the point of purchase. E-commerce applications also extend beyond advertisements. It is now common for television shows to include product placements. For example, an actor might drink a Coke rather than a Pepsi brand of soda, actors and actresses might wear designer-labeled clothing such as Calvin Klein, etc. Viewers may wish to purchase similar clothing but may not necessarily be able to identify the designer or the particular style directly from the show. However, with an interactive capability, viewers would be able to discover this and other information by going to an associated Web site. The link to this Web site can be automatically enabled using the invention described herein.

[0008] In the context of facilitating audience interaction or participation, there is much interest in the convergence of television and computers. Convergence encompasses a very wide range of capabilities. Although a significant effort is being directed to video-on-demand applications, in which there is a unique video stream for each user of the service, as well as to transmitting video signals over the Internet, there is also interest in enhancing the television viewing experience. To this end, there have been a number of experiments with interactive television in which viewers can participate in a live broadcast. There are a variety of ways in which viewers can participate. For example, during game shows, users can answer the questions and their scores can be tabulated. In recent reality-based programming such as the ABC television game show, "Big Brother", viewers can vote on contestants who must leave the show, and be eliminated from the competition.

[0009] §1.2.2 Embedding Work Identifying Code or Signals Within Works

[0010] Known techniques of linking works delivered via traditional media channels to a more interactive system typically require some type of code, used to identify the work, to be inserted into the work before it is delivered via such traditional media channels. Some examples of such inserted code include (i) signals inserted into the vertical blanking interval ("VBI") lines of a (e.g., NTSC) television signal, (ii) watermarks embedded into images, (iii) bar codes imposed on images, and (iv) tones embedded into music.

[0011] The common technical theme of these proposed implementations is the insertion of visible or invisible signals into the media that can be decoded by a computer. These signals can contain a variety of information. In its most direct form, the signal may directly encode the URL of the associated Web site. However, since the alphanumeric string has variable length and is not a particularly efficient coding, it is more common to encode a unique ID. The computer then accesses a database, which is usually proprietary, and matches the ID with the associated web address. This database can be considered a form of domain name server, similar to those already deployed for network addresses. However, in this case, the domain name server is proprietary and the addresses are unique ID's.

[0012] There are two principal advantages to encoding a proprietary identifier into content. First, as previously mentioned, it is a more efficient use of the available bandwidth and second, by directing all traffic to a single Web site that contains the

database, a company can maintain control over the technology and gather useful statistics that may then be sold to advertisers and publishers.

[0013] As an example of inserting signals into the vertical blanking interval lines of a television signal, RespondTV of San Francisco, Calif. embeds identification information into the vertical blanking interval of the television signal. The VBI is part of the analog video broadcast that is not visible to television viewers. For digital television, it may be possible to encode the information in, for example, the motion picture experts group ("MPEG") header. In the USA, the vertical blanking interval is currently used to transmit close-captioning information as well as other information, while in the UK, the VBI is used to transmit teletext information. Although the close captioning information is guaranteed to be transmitted into the home in America, unfortunately, other information is not. This is because ownership of the vertical blanking interval is disputed by content owners, broadcasters and local television operators.

[0014] As an example of embedding watermarks into images, Digimarc of Tualatin, Oreg. embeds watermarks in print media. Invisible watermarks are newer than VBI insertion, and have the advantage of being independent of the method of broadcast. Thus, once the information is embedded, it should remain readable whether the video is transmitted in NTSC, PAL or SECAM analog formats or newer digital formats. It should be more reliable than using the vertical blanking interval in television applications. Unfortunately, however, watermarks still require modification of the broadcast signal which is problematic for a number of economic, logistical, legal (permission to alter the

content is needed) and quality control (the content may be degraded by the addition of a watermark) reasons.

[0015] As an example of imposing bar codes on images, print advertisers are currently testing a technology that allows an advertisement to be shown to a camera, scanner or bar code reader that is connected to a personal computer ("PC"). The captured image is then analyzed to determine an associated Web site that the PC's browser then accesses. For example, GoCode of Draper, Utah embeds small two-dimensional bar codes for print advertisements. The latter signal is read by inexpensive barcode readers that can be connected to a PC. AirClic of Blue Bell, Pa. provides a combination of barcode and wireless communication to enable wireless shopping through print media. A so-called "CueCat" reads bar codes printed in conjunction with advertisements and articles in Forbes magazine. Similar capabilities are being tested for television and audio media.

[0016] Machine-readable bar codes are one example of a visible signal. The advantage of this technology is that it is very mature. However, the fact that the signal is visible is often considered a disadvantage since it may detract from the aesthetic of the work delivered via a traditional media channel or conduit.

[0017] As an example of embedding tones into music, Digital Convergence of Dallas, Tex. proposes to embed identification codes into audible music tones broadcast with television signals.

[0018] All the foregoing techniques of inserting code into a work can be categorized as active techniques in that they must alter the existing signal, whether it is

music, print, television or other media, such that an identification code is also present. There are several disadvantages that active systems share. First, there are aesthetic or fidelity issues associated with bar codes, audible tones and watermarks. More importantly, all media must be processed, before it is delivered to the end user, to contain these active signals. Even if a system is enthusiastically adopted, the logistics involved with inserting bar codes or watermarks into, say every printed advertisement, are formidable.

[0019] Further, even if the rate of adoption is very rapid, it nevertheless remains true that during the early deployment of the system, most works will not be tagged. Thus, consumers that are early-adopters will find that most media is not identified. At best, this is frustrating. At worst, the naive user may conclude that the system is not reliable or does not work at all. This erroneous conclusion might have a very adverse effect on the adoption rate.

[0020] Further, not only must there be modification to the production process, but modifications must also be made to the equipment in a user's home. Again, using the example of watermarking of print media, a PC must be fitted with a camera and watermark detection software must be installed. In the case of television, the detection of the identification signal is likely to occur at the set-top-box--this is the equipment provided by the local cable television or satellite broadcasting company. In many cases, this may require modifications to the hardware, which is likely to be prohibitively expensive. For example, the audible tone used by Digital Convergence to recognize television content, must be fed directly into a sound card in a PC. This requires a

physical connection between the television and the PC, which may be expensive or at least inconvenient, and a sound card may have to be purchased.

[0021] §1.2.3 Unmet Needs

[0022] In view of the foregoing disadvantages of inserting an identification code into a work, thereby altering the existing signal, there is a need for techniques of identifying a work without the need of inserting an identification code into a work. Such an identification code can then be used to invoke a work-related action, such as work-related commerce methods and/or to increase audience interest by facilitating audience interaction and/or participation.

§2. SUMMARY OF THE INVENTION

[0023] Some embodiments consistent with the present invention provide a computer-implemented method, apparatus, or computer-executable programs for linking a media work to an action. Such embodiments might (a) extract features from the media work, (b) determine an identification of the media work based on the features extracted using a sub-linear time search, such as an approximate nearest neighbor search for example, and (c) determine an action based on the identification of the media work determined. In some embodiments consistent with the present invention, the media work is an audio signal. The audio signal might be obtained from a broadcast, or an audio file format. In other embodiments consistent with the present invention, the media work is a video signal. The video signal might be obtained from a broadcast, or a video file format.

[0024] In some of the embodiments pertaining to audio files, the audio file might be an mp3 file or some other digital representation of an audio signal. The information might include a song title, an album title, and/or a performer name.

[0025] In some of the embodiments pertaining to video files, the video file might be an MPEG file or some other digital representation of a video signal. The video file might be a video work, and the information might include a title of the video work, a director of the video work, and names of performers in the video work.

§3. BRIEF DESCRIPTION OF THE DRAWINGS

[0026] FIG. 1 is a process bubble diagram of operations that may be performed in accordance with one version of the present invention, in which intra-work information is used to identify the work.

[0027] FIG. 2 is a block diagram illustrating a first embodiment of the present invention, in which intra-work information is used to identify the work.

[0028] FIG. 3 is a block diagram illustrating a second embodiment of the present invention, in which intra-work information is used to identify the work.

[0029] FIG. 4 is a block diagram illustrating a third embodiment of the present invention, in which intra-work information is used to identify the work.

[0030] FIG. 5 is a process bubble diagram of operations that may be performed in accordance with another version of the present invention, in which extra-work information is used to identify the work.

[0031] FIG. 6 is a block diagram illustrating a fourth embodiment of the present invention, in which extra-work information is used to identify the work.

[0032] FIG. 7 is a block diagram illustrating a fifth embodiment of the present invention, in which extra-work information is used to identify the work.

[0033] FIG. 8 is a block diagram illustrating an environment in which the present invention may operate.

[0034] FIG. 9 is an exemplary data structure in which extra-work information is associated with a work identifier.

[0035] FIG. 10 is an exemplary data structure including work-related actions.

§4. DETAILED DESCRIPTION

[0036] The present invention may involve novel methods, apparatus and data structures for identifying works without the need of embedding signals therein. Once identified, such information can be used to determine a work-related action. The following description is presented to enable one skilled in the art to make and use the invention, and is provided in the context of particular embodiments and methods. Various modifications to the disclosed embodiments and methods will be apparent to those skilled in the art, and the general principles set forth below may be applied to other embodiments, methods and applications. Thus, the present invention is not intended to be limited to the embodiments and methods shown and the inventors regard their invention as the following disclosed methods, apparatus, data structures and any other patentable subject matter to the extent that they are patentable.

[0037] §4.1 FUNCTIONS

[0038] The present invention functions to identify a work without the need of inserting an identification code into a work. The present invention may do so by (i)

extracting features from the work to define a feature vector, and (ii) comparing the feature vector to feature vectors associated with identified works. Alternatively, or in addition, the present invention may do so by (i) accepting extra-work information, such as the time of a query or of a rendering of the work, the geographic location at which the work is rendered, and the station that the audience member has selected, and (ii) use such extra-work information to lookup an identification of the work. In either case, an identification code may be used to identify the work.

[0039] The present invention may then function to use such an identification code to initiate a work-related action, such as for work-related commerce methods and/or to increase audience interest by facilitating audience interaction and/or participation.

[0040] §4.2 EMBODIMENTS

[0041] As just introduced in § 4.1 above, the present invention may use intra-work information and/or extra-work information to identify a work. Once identified, such identification can be used to initiate an action, such as an action related to commerce, or facilitating audience participation or interaction. Exemplary embodiments of the present invention, in which work is recognized or identified based on intra-work information, are described in § 4.2.1. Then, exemplary embodiments of the present invention, in which work is recognized or identified based on extra-work information, are described in § 4.2.2.

[0042] § 4.2.1 Embodiments in Which Work is Recognized Based on Intra-Work Information, Such as a Feature Vector

[0043] Operations related to this embodiment are described in § 4.2.1.1 below.

Then, various architectures which may be used to effect such operations are described in § 4.2.1.2.

[0044] § 4.2.1.1 Operations and Exemplary Methods and Techniques for Effecting Such Operations

[0045] FIG. 1 is a process bubble diagram of operations that may be performed in accordance with one version of the present invention, in which intra-work information is used to identify the work. As shown, a work-identification information storage 110 may include a number of items or records 112. Each item or record 112 may associate a feature vector of a work 114 with a, preferably unique, work identifier 116. The work-identification information storage 110 may be generated by a database generation operation(s) 120 which may, in turn, use a feature extraction operation(s) 122 to extract features from a work at a first time (WORK.sub.@t1), as well as a feature-to-work identification tagging operation(s) 124.

[0046] Further, work identifier-action information storage 130 may include a number of items or records 132. Each item or record 132 may associate a, preferably unique, work identifier 134 with associated information 136, such as an action for example. The work identifier-action information storage 130 may be generated by a database generation operation(s) 138 which may, for example, accept manual entries.

[0047] As can be appreciated from the foregoing, the work-information storage 110 records 112 and the work identification-action 130 records 132 can be combined into a single record. That is, there need not be two databases. A single database is also

possible in which the work identifier, or a feature vector extracted from the work, serves as a key and the associated field contains work-related information, such as a URL for example.

[0048] The feature extraction operation(s) 140 can accept a work, such as that being rendered by a user, at a second time (WORK.sub.@t2), and extract features from that work. The extracted features may be used to define a so-called feature vector.

[0049] The extracted features, e.g., as a feature vector, can be used by a feature (vector) lookup operation(s) 150 to search for a matching feature vector 114. If a match, or a match within a predetermined threshold is determined, then the associated work identifier 116 is read.

[0050] The read work identifier can then be used by a work-associated information lookup operation(s) 160 to retrieve associated information, such as an action, 136 associated with the work identifier. Such information 136 can then be passed to action initiation operation(s) 170 which can perform some action based on the associated information 136.

[0051] § 4.2.1.1.1 Exemplary Techniques for Feature Extraction

[0052] When the user initiates a request, the specific television or radio broadcast or printed commercial, each of which is referred to as a work, is first passed to the feature extraction operation. The work may be an image, an audio file or some portion of an audio signal or may be one or more frames or fields of a video signal, or a multimedia signal. The purpose of the feature extraction operation is to derive a compact representation of the work that can subsequently be used for the purpose of recognition.

In the case of images and video, this feature vector might be a pseudo-random sample of pixels from the frame or a low-resolution copy of the frame or the average intensities of $n \times n$ blocks of pixels. It might also be a frequency-based decomposition of the signal, such as produced by the Fourier, wavelet and or discrete cosine transforms. It might involve principal component analysis. It might also be a combination of these. For television and audio signals, recognition might also rely on a temporal sequence of feature vectors. The recognition literature contains many different representations. For block-based methods, blocks may be accessed at pseudo-random locations in each frame or might have a specific structure. For audio, common feature vectors are based on Fourier frequency decompositions, but other representations are possible. See, e.g., R. O. Duda and P. E. Hart, *Pattern Classification and Scene Analysis* (Wiley-Interscience, New York, 1973). See also K. Fukunaga, *Introduction to Statistical Pattern Recognition*, 2nd Ed. (Academic Press, New York, 1990). (These references are incorporated herein by reference.)

[0053] As previously stated, one object of the vector extraction stage is to obtain a more concise representation of the frame. For example, each video frame is initially composed of 480×720 pixels which is equivalent to 345,600 pixels or 691,200 bytes. In comparison, an exemplary feature vector might only consist of 1 Kbyte of data.

[0054] A second purpose of the feature extraction process is to acquire a representation that is robust or invariant to possible noise or distortions that a signal might experience. For example, frames of a television broadcast may experience a small amount of jitter, i.e., horizontal and or vertical translation, or may undergo lossy

compression such as by MPEG-2. It is advantageous that these and other processes do not adversely affect the extracted vectors. For still images there has been considerable work on determining image properties that are invariant to affine and other geometric distortions. For example, the use of Radon and Fourier-Mellin transforms have been proposed for robustness against rotation, scale and translation, since these transforms are either invariant or bare a simple relation to the geometric distortions. See, e.g., C. Lin, M. Wu, Y. M. Lui, J. A. Bloom, M. L. Miller, I. J. Cox, "Rotation, Scale, and Translation Resilient Public Watermarking for Images," IEEE Transactions on Image Processing (2001). See also, U.S. Pat. Nos. 5,436,653, 5,504,518, 5,582,246, 5,612,729, and 5,621,454. (Each of these references is incorporated herein by reference.)

[0055] § 4.2.1.1.2 Exemplary Techniques for Database Generation and Maintenance

[0056] A number of possibilities exist for generating and maintaining work identification (WID) and identification-action translation (WIDAT) databases. However, in all cases, works of interest are processed to extract a representative feature vector and this feature vector is assigned a unique identifier. This unique identifier is then entered into the work identification (WID) database 110 as well as into the WIDAT database 130 together with all the necessary associated data. This process is referred to as tagging. For example, in the case of an advertisement, the WIDAT database 130 might include the manufacturer (Ford), the product name (Taurus), a product category (automotive) and the URL associated with the Ford Taurus car together with the instruction to translate the query into the associated URL.

[0057] The determination of all works of interest and subsequent feature vector extraction and tagging depends on whether content owners are actively collaborating with the entity responsible for creating and maintaining the database. If there is no collaboration, then the database entity must collect all works of interest and process and tag them. While this is a significant effort, it is not overwhelming and is certainly commercially feasible. For example, competitive market research firms routinely tabulate all advertisements appearing in a very wide variety of print media. Newspapers and magazines can be scanned in and software algorithms can be applied to the images to identify likely advertisements. These possible advertisements can then be compared with advertisements already in the WID database 110. If there is a match, nothing further need be done. If there is not a match, the image can be sent to a human to determine if the page does indeed contain an advertisement. If so, the operator can instruct the computer to extract the representative feature vector and assign it a unique identifier. Then, the operator can insert this information into the content identification database and as well as update the corresponding WIDAT database 130 with all the necessary associated data. This is continually performed as new magazines and papers include new advertisements to maintain the databases. This is a cost to the database entity. Television and radio broadcasts can also be monitored and, in fact, broadcast monitoring is currently performed by companies such as Nielsen Media research and Competitive Media Reporting. Television and radio broadcasts differ from print media in the real-time nature of the signals and the consequent desire for real-time recognition.

[0058] In many cases, advertisers, publishers and broadcasters may wish to collaborate with the database provider. In this case, feature extraction and annotation and/or extra-work information may be performed by the advertiser, advertisement agency, network and/or broadcaster and this information sent to the database provider to update the database. Clearly, this arrangement is preferable from the database provider's perspective. However, it is not essential.

[0059] § 4.2.1.1.3. Exemplary Techniques for Matching Extracted Features with Database Entries

[0060] The extracted feature vector is then passed to a recognition (e.g., feature look-up) operation, during which, the vector is compared to entries of known vectors 114 in a content identification (WID) database 110. It is important to realize that the matching of extracted and known vectors is not equivalent to looking up a word in an electronic dictionary. Since the extracted vectors contain noise or distortions, binary search might not be possible. Instead, a statistical comparison is often made between an extracted vector and each stored vector. Common statistical measures include linear correlation and related measures such as correlation coefficient, but other methods can also be used including mutual information, Euclidean distance and Lp-norms. These measures provide a statistical measure of the confidence of the match. A threshold can be established, usually based on the required false positive and false negative rates, such that if the correlation output exceeds this threshold, then the extracted and known vectors are said to match. See, e.g., R. O. Duda and P. E. Hart, Pattern Classification and Scene Analysis (Wiley-Interscience, New York, 1973). See also, U.S. Pat. No. 3,919,474

by W. D. Moon, R. J. Weiner, R. A. Hansen and R. N. Linde, entitled "Broadcast Signal Identification System". (Each of these references is incorporated herein by reference.)

[0061] If binary search was possible, then a database containing N vectors would require at most $\log(N)$ comparisons. Unfortunately, binary search is not possible when taking a noisy signal and trying to find the most similar reference signal. This problem is one of nearest neighbor search in a (high-dimensional) feature space. In previous work, it was not uncommon to perform a linear search of all N entries, perhaps halting the search when the first match is found. On average, this will require $N/2$ comparisons. If N is large, this search can be computationally very expensive.

[0062] Other forms of matching include those based on clustering, kd-trees, vantage point trees and excluded middle vantage point forests are possible and will be discussed in more detail later. See, e.g., P. N. Yianilos "Excluded Middle Vantage Point Forests for nearest Neighbor Search", Presented at the Sixth DIMACS Implementation Challenge: Near Neighbor Searches workshop, (Jan. 15, 1999). See also, P. N. Yianilos, "Locally lifting the curse of Dimensionality for nearest Neighbor Search" SODA 2000: 361-370. (Each of these references is incorporated herein by reference.) Thus, for example, a sub-linear search time can be achieved. Unlike the kd-tree method which finds the nearest neighbor with certainty, randomized constructions, like the one described in P. N. Yianilos, "Locally lifting the curse of Dimensionality for nearest Neighbor Search" SODA 2000: 361-370, that succeed with some specified probability may be used. One example of a sub-linear time search is an approximate nearest neighbor search. A nearest neighbor search always finds the closest point to the query.

An approximate nearest neighbor search does not always find the closest point to the query. For example, it might do so with some probability, or it might provide any point within some small distance of the closest point.

[0063] If the extracted vector "matches" a known vector in the content identification database, then the work has been identified. Of course, there is the risk that the match is incorrect. This type of error is known as a false positive. The false positive rate can be reduced to any desired value, but at the expense of the false negative rate. A false negative occurs when the vector extracted from a work is not matched to the database even though the work is present in the database. There are several reasons why a work's feature vector may fail to match a feature vector database entry. First, the recognition system may not be capable of 100% accuracy. Second, the extracted vector will often contain noise as a result of the transmission process. This noise may alter the values of a feature vector to the extent that a match is no longer possible.

[0064] Finally, there is the case where the observed work is not present in the database. In this case, the work can be sent to an operator for identification and insertion in the database.

[0065] § 4.2.1.1.4 Exemplary Work Based Actions

[0066] Assuming that the work is correctly identified, then the identifier can be used to retrieve associated information from the second work identification-action translation (WIDAT) database 130 that contains information 136 associated with the particular work 134. This information may simply be a corresponding URL address, in which case, the action can be considered to be a form of network address translation.

However, in general, any information about the work could be stored therein, together with possible actions to be taken such as initiating an e-commerce transaction. After looking up the work identifier 134 in the WIDAT database 130, an action is performed on behalf of the user, examples of which has been previously described.

[0067] In addition to using the system to allow audience members of a work to connect to associated sites on the Internet, a number of other uses are possible. First, the work identification database 130 allows competitive market research data to be collected (e.g., the action may include logging an event). For example, it is possible to determine how many commercials the Coca Cola Company in the Chicago market aired in the month of June. This information is valuable to competitors such as Pepsi. Thus, any company that developed a system as described above could also expect to generate revenue from competitive market research data that it gathers.

[0068] Advertisers often wish to ensure that they receive the advertising time that was purchased. To do so, they often hire commercial verification services to verify that the advertisement or commercial did indeed run at the expected time. To do so, currently deployed systems by Nielsen and CMR embedded active signals in the advertisement prior to the broadcast. These signals are then detected by remote monitoring facilities that then report back to a central system which commercials were positively identified. See for example U.S. Pat. Nos. 5,629,739 by R. A. Dougherty entitled "Apparatus and method for injecting an ancillary signal into a low energy density portion of a color television frequency spectrum", 4,025,851 by D. E. Haselwood and C. M. Solar entitled "Automatic monitor for programs broadcast", 5,243,423 by J. P.

DeJean, D. Lu and R. Weissman, entitled "Spread spectrum digital data transmission over TV video", and 5,450,122 by L. D. Keene entitled "In-station television program encoding and monitoring system and method". (Each of these patents is incorporated herein by reference.) Active systems are usually preferred for advertisement verification because the required recognition accuracy is difficult to achieve with passive systems. The passive monitoring system described herein supports commercial verification.

[0069] § 4.2.1.2 Exemplary Architectures

[0070] Three alternative architectural embodiments in which the first technique may be employed are now described with reference to FIGS. 2, 3, and 4.

[0071] FIG. 2 is a block diagram illustrating a first embodiment of the present invention, in which intra-work information is used to identify the work and in which a audience member device 210, such as a PC for example, receives and renders a work that is consumed by an audience member (user). At some point, the user may wish to perform a work-specific action such as traversing to an associated Web site. Upon initiation of this request, the computer 210 performs the operations 140a, 150a, 160a and 170a, such as those shown in FIG. 1. To reiterate, these operations include a feature extraction operation(s) 140a, feature vector lookup or matching operation(s) 150a in connection with items or records 112a in a work-identification (WID) database 110a. If a matching feature vector 114a is found, the work-associated information lookup operation(s) 160a can use the associated work identifier 116a to accessing a work identification-action translation (WIDAT) database 130a to retrieve associated information 136a, possibly including determining what action should be performed.

[0072] As described above, the two databases might be integrated into a single database. However, conceptually, they are described here as separate.

[0073] An example illustrating operations that can occur in the first embodiment of FIG. 1, is now described. Consider a print application, in which say 10,000 advertisements are to be recognized that appear in national newspapers and magazines. If 1 Kbyte is required to store each feature vector then approximately 10 Mbytes of storage will be required for the work identification database 110a. Such a size does not represent a serious problem, in either memory or disk space, to present personal computers.

[0074] An important issue then becomes recognition rate. While this may be problematic, all the images are two-dimensional--three-dimensional object recognition is not required. Of course, since a low cost camera captures the printed advertisement, there may be a number of geometric distortions that might be introduced together with noise. Nevertheless, the application is sufficiently constrained that adequate recognition rates should be achievable with current state-of-the-art computer vision algorithms. See, e.g., P. N. Yianilos "Excluded Middle Vantage Point Forests for nearest Neighbor Search", Presented at the Sixth DIMACS Implementation Challenge: Near Neighbor Searches workshop, Jan. 15, 1999. See also, P. N. Yianilos "Locally lifting the curse of Dimensionality for nearest Neighbor Search" SODA 2000: 361-370. (Each of these references is incorporated herein by reference.) Thus, for example, a sub-linear search time can be achieved. Unlike the kd-tree method which finds the nearest neighbor with

certainty, randomized constructions, like the one described in P. N. Yianilos, "Locally lifting the curse of Dimensionality for nearest Neighbor Search" SODA 2000: 361-370, that succeed with some specified probability may be used. One example of a sub-linear time search is an approximate nearest neighbor search. Estimates of the size of the WIDAT database 130a depend on what associated information (recall fields 136) is stored. If, for example, only a URL address is needed, about 20 characters can typically represent most URLs. Thus, the size of the WIDAT database 130a would be less than 1 Mbyte.

[0075] The configuration just described with reference to FIG. 2 places all of the processing and data on each user's local machine 210. A number of alternative embodiments, in which some or all of the storage and processing requirements are performed remotely, will be described shortly.

[0076] As new works are created and made publicly available, the databases residing on a user's local computer become obsolete. Just as the database provider 240 must continually update the databases in order to remain current, there is also a need to update local databases on devices at audience member premises. This update process can be performed over the Internet 230 in a manner very similar to how software is currently upgraded. It is not necessary to download an entirely new database although this is an option. Rather, only the changes need to be transmitted. During this update process, the user's computer 210 might also transmit information to a central monitoring center 240 informing it of which advertisements the computer user has queried. This type of information is valuable to both advertisers and publishers. Of course, care must be taken

to ensure the privacy of individual users of the system. However, it is not necessary to know the identity of individual users for the system to work.

[0077] FIG. 3 is a block diagram illustrating a second embodiment of the present invention, in which intra-work information is used to identify the work. Although the WIDAT database can be quite small, as illustrated in the exemplary embodiment described above with respect to FIG. 2, there is still the problem of keeping this database current. While periodic updates of the local databases may be acceptable, they become unnecessary if the WIDAT database 130b is at a remote location 340. In this arrangement, illustrated in FIG. 3, after the local computer 310 identifies the work, it sends a query to the remote WIDAT database 130b. The query may contain the work identifier. The remote site 340 may then return the associated information 136. Although the remote WIDAT database 130b needs to be updated by the database provider, this can be done very frequently without the need for communicating the updates to the local computers 310.

[0078] The second embodiment is most similar to active systems in which an embedded signal is extracted and decoded and the identifier is used to interrogate a central database. Consequently it has many of the advantages of such systems, while avoiding the need to insert signals into all works. One such advantage, is that the database provider receives real-time information relating to users' access patterns.

[0079] The WIDAT database 130b might physically reside at more than one location. In such a case, some requests will go to one site, and other requests will go to

another. In this way, overloading of a single site by too many users can be avoided.

Other load balancing techniques are also applicable.

[0080] FIG. 4 is a block diagram illustrating a third embodiment of the present invention, in which intra-work information is used to identify the work. Recall that the WIDAT database may be small relative to that work identification database (WID). As the size of the work recognition (WID) database increases, the foregoing embodiments may become impractical. Consider, for example, a music application in which it is desired to identify 100,000 song titles. If it is again assumed that a 1 Kbyte vector can uniquely represent each song, then on the order of 100 Mbytes is now needed. This size is comparable to large application programs such as Microsoft's Office 2000 suite. Although this still does not represent an inordinate amount of disk space, if this data needs to reside in memory at all times, then very few present machines will have adequate resources. Clearly, at some point, the proposed architectures scales to a point where requirements become impractical. In this case, a further modification to the architecture is possible.

[0081] Since the storage and searching of the work-identifier (WID) database require the most computation and storage, it may be more economical to perform these actions remotely. Thus, for example, if a user is playing an MP3 music file and wants to go to a corresponding website, the MP3 file is passed to an operation that determines one or more feature vectors. In the third embodiment, instead of performing the matching locally 410, the one or more vectors are transmitted to a central site 440 at which is stored the WID and WIDAT databases 110c and 130c together with sufficiently

powerful computers to resolve this request and those of other computer users. This configuration is illustrated in FIG. 4. Similarly, if a user is playing an MPEG or other video file and wants to initiate a work-related action, the video file is passed to an operation 140c that extracts one or more feature vectors. The entire video file need not be processed. Rather, it may be sufficient to process only those frames in the temporal vicinity to the users request, i.e., to process the current frame and or some number of frames before and after the current frame, e.g. perhaps 100 frames in all. The extracted feature vector or feature vectors can then be transmitted to a central site 440 which can resolve the request.

[0082] After successfully matching the feature vector, the central site 440 can provide the user with information directly, or can direct the user to another Web site that contains the information the user wants. In cases where the recognition is ambiguous, the central site 440 might return information identifying one of several possible matches and allow the user to select the intended one.

[0083] The third embodiment is particularly attractive if the cost of extracting the feature vector is small. In this case, it becomes economical to have feature vector extraction 140c in digital set-top-boxes and in video recorders 410. The latter may be especially useful for the new generation of consumer digital video recorders such as those manufactured by TIVO and Replay TV. These devices already have access to the Internet via a phone line. Thus, when someone watching a recorded movie from television reacts to an advertisement, the video recorder would extract one or more feature vectors and transmit them to a central site 440. This site 440 would determine if

a match existed between the query vector and the database of pre-stored vectors 110c. If a match is found, the central server 440 would transmit the associated information, which might include a Web site address or an 800 number for more traditional ordering, back to the audience user device 410. Of course, a consumer device 410 such as a digital video recorder might also store personal information of the owner to facilitate online e-commerce. Such a device 410 could store the owner's name, address, and credit card information and automatically transmit them to an on-line store to complete a purchase. Very little user interaction other than to authorize the purchase might be needed. This type of purchasing may be very convenient to consumers.

[0084] Another advantage of the third embodiment is that it obviates the need to update local databases while, at the same time, the centrally maintained databases can be kept current with very frequent updating.

[0085] § 4.2.2 Embodiments in which Work is Recognized Based on Extra-Work Information

[0086] Operations related to this embodiment are described in § 4.2.2.1 below. Then, various architectures which may be used to effect such operations are described in § 4.2.2.2.

[0087] If the cost of extracting a feature vector is too large, then the cost of deploying any of the embodiments described in § 4.2.1 above may be prohibitive. This is particularly likely in very cost sensitive consumer products, including set-top-boxes and next generation digital VCR's. Acknowledging this fact, a different technique, one that is particularly well suited for broadcasted media such as television and radio as well as to

content published in magazines and newspapers, is now described. This technique relies on the fact that a work need not be identified by a feature vector extracted from the work (which is an example of "intra-work information"), but can also be identified by when and where it is published or broadcast (which are examples of "extra-work information")

[0088] An example serves to illustrate this point. Consider the scenario in which a viewer sees a television commercial and responds to it. The embodiments described in § 4.2.1 above required the user device (e.g., a computer or set-top-box) 210/310/410 to extract a feature vector. Such an extracted vector was attempted to be matched to another feature vector(s), either locally, or at a remote site. In the embodiments using a remote site, if the central site is monitoring all television broadcasts, then the user's query does not need to include the feature vector. Instead, the query simply needs to identify the time, geographic location and the station that the viewer is watching. A central site can then determine which advertisement was airing at that moment and, once again, return the associated information. The same is true for radio broadcasts. Moreover, magazines and newspapers can also be handled in this manner. Here the query might include the name of the magazine, the month of publication and the page number.

[0089] § 4.2.2.1 Operations and Exemplary Methods and Techniques for Effecting Such Operations

[0090] FIG. 5 is a process bubble diagram of operations that may be performed in accordance with another version of the present invention, in which extra-work

information is used to identify the work. As shown, a query work-identification (QWID) information storage 510 may include a number of items or records 512. Each item or record 512 may associate extra-work information 514, related to the work, with a, preferably unique, work identifier 516. The query work-identification (QWID) information storage 510 may be generated by a database generation operation(s) 520.

[0091] Further, work identifier-action information (WIDAT) storage 530 may include a number of items or records 532. Each item or record 532 may associate a, preferably unique, work identifier 534 with associated information 536, such as an action for example. The work identifier-action (WIDAT) information storage 530 may be generated by a database generation operation(s) 538 which may, for example, accept manual entries.

[0092] As can be appreciated from the foregoing, the query work-information (QWID) storage 510 records 512 and the work identification-action (WIDAT) storage 530 records 532 can be combined into a single record.

[0093] The extra-work information aggregation (e.g., query generation) operation(s) 540 can accept a information related to a work, such as the time of a user request or of a rendering of the work, the geographic location at which the work is rendered, and the station that the audience member has selected, and generate a query from such extra-work information.

[0094] The query including the extra-work information can be used by a lookup operation(s) 550 to search for a "matching" set of information 514. If a match, or a

match within a predetermined threshold is determined, then the associated work identifier 516 is read.

[0095] The read work identifier can then be used by a work-associated information lookup operation(s) 560 to retrieve associated information, such as an action, 536 associated with the work identifier. Such information 536 can then be passed to action initiation operation(s) 570 which can perform some action based on the associated information 536.

[0096] If the extra-work information of a work is known (in advance), generating the query work identifier (QWID) information 510 is straight-forward. If this were always the case, an intra-work information-based recognition operation would not be needed. However, very often this is not the case. For example, local television broadcasts typically have discretion to insert local advertising, as well as national advertising. Thus, it often is not possible to know in advance when, on what station, and where a particular advertisement will play.

[0097] In such instances, a real-time (e.g., centralized) monitoring facility 580 may be used to (i) extract feature vectors from a work, (ii) determine a work identifier 116 from the extracted features, and (iii) communicate one or more messages 590 in which extra-work information (e.g., time, channel, geographic market) 592 is associated with a work identifier 594, to operation(s) 520 for generating query work identification (QWID) information 510.

[0098] § 4.2.2.1.1 Exemplary Extra-Work INFORMATION

[0099] In the context of national broadcasts, geographic information may be needed to distinguish between, for example, the ABC television broadcast in Los Angeles and that in New York. While both locations broadcast ABC's programming, this programming airs at different times on the East and West coasts of America. More importantly, the local network affiliates that air ABC's shows have discretion to sell local advertising as well as a responsibility to broadcast the national commercials that ABC sells. In short, the works broadcast by ABC in Los Angeles can be different from that in other geographic locations. Geographic information is therefore useful to distinguish between the different television markets. In some circumstances, geographic information may not be necessary, especially in parts of the world with highly regulated and centralized broadcasting in which there are not regional differences.

[00100] § 4.2.2.1.2 Exemplary Techniques for Generating Databases

[00101] FIG. 5 illustrates a third database 510 referred to as the query to work identification (QWID) database. This database 510 maps the query (e.g., in the form of time, location and channel information) into a unique ID that identifies the perceived work. The QWID 510 and WIDAT 530 databases might not be separate, but for clarity will be considered so. After retrieving the unique work identifier 512 from the QWID database 510, the identifier can be used to access the WIDAT database 530. This is discussed in more detail later.

[00102] As introduced above, although it appears that this architecture does not require a recognition facility, such a facility may be needed. The feature extraction

operation(s) 140d, as well as the work identification operation(s) 150d and other databases 110d, may be moved to one or more remote sites 580.

[00103] Although TV Guide and other companies provide detailed information regarding what will be broadcast when, these scheduling guides do not have any information regarding what advertisements will air when. In many cases, this information is unknown until a day or so before the broadcast. Even then, the time slots that a broadcaster sells to an advertiser only provide a time range, e.g. 12 pm to 3 pm. Thus it is unlikely that all commercials and aired programming can be determined from TV schedules and other sources prior to transmission. Further, occasionally programming schedules are altered unexpectedly due to live broadcasts that overrun their time slots. This is common in sports events and awards shows. Another example of interrupts to scheduled programming occurs when a particularly important news event occurs.

[00104] During transmission, it may therefore be necessary for a central site 580 to determine what work is being broadcast and to update its and/or other's database 520 accordingly based on the work identified 594 and relevant extra-work information 592. There are a variety of ways that this can be accomplished.

[00105] First, it may be economically feasible to manually monitor all television stations that are of interest, and manually update the database with information regarding the work being monitored. In fact, Nielsen used such procedures in the early 1960's for the company to tabulate competitive market data. More than one person can be employed to watch the same channel in order to reduce the error rate. It should be noted that the recent ruling by the FCC that satellite broadcasters such as DirecTV,

DishTV and EchoStar can carry local stations significantly reduces the cost of monitoring many geographic markets. Currently, DirecTV, for example, carries the four main local stations in each of the 35 largest markets. Thus, these $4 \times 35 = 140$ channels can all be monitored from a single site 580. This site would be provided with satellite receivers to obtain the television channels.

[00106] Unfortunately, however, humans are error prone and the monitoring of many different stations from many different geographic locations can be expensive. In order to automate the recognition process, a central site 580 could employ a computer-based system to perform automatic recognition. Because the recognition is centralized, only one or a few sites are needed. This is in comparison with the first architecture we described in which a complete recognition system was required in every user's home or premise. This centralization makes it more economic to employ more expensive computers, perhaps even special purpose hardware, and more sophisticated software algorithms. When video frames or clips cannot be identified or are considered ambiguous, this video can be quickly passed to human viewers to identify. Further, it should be possible for the automated recognition system to use additional information such as television schedules, time of day, etc in order to improve its recognition rate.

[00107] § 4.2.2.1.2 Exemplary Techniques for Generating Queries Based on Extra-Work Information

[00108] At the audience member (user) premises, all that is needed is for the device to send a query to a database-server with information that includes extra-work information, such as geographic location, time and channel. Usually, this extra-work

information would be transmitted in real-time, while the work (e.g., an advertisement) is being broadcast. However, this is not necessary. If the television does not have access to the Internet, and most TV's do not yet, then an audience member (user) may simply remember or record which channel he or she was viewing at what time. In fact, the user device could store this information for later retrieval by the user. At a convenient later time, the user might access the Internet using a home PC. At this time, he or she can query the database by entering this extra-work information (e.g., together with geographic information) into an application program or a web browser plug-in.

[00109] Another possibility is allowing an audience member (user), at the time he or she is consuming (e.g., viewing, reading, listening to, etc.) the work, to enter query information into a handheld personal digital assistant ("PDA") such as a Palm Pilot, so as not to forget it. This information can then be manually transferred to a device connected to a network, or the information can be transferred automatically using, for example, infrared communications or via a physical link such as a cradle. Recently, PDAs also have some wireless networking capabilities built in, and thus might support direct access to the information desired. Further, software is available that allows a Palm Pilot or other PDA to function as a TV remote control device. As such, the PDA already knows the time of day and channel being viewed. It also probably knows the location of the audience member, since most PDA users include their own name and address in the PDA's phonebook and identify it as their own. Thus, with one or a few clicks, an audience member PDA user could bookmark the television content he or she is viewing. If the PDA is networked, then the PDA can, itself, retrieve the associated information immediately.

Otherwise, the PDA can transfer this bookmarked data to a networked device, which can then provide access to the central database.

[00110] § 4.2.2.2 Exemplary Architectures

[00111] FIG. 6 is a block diagram illustrating a fourth embodiment of the present invention, in which extra-work information is used to identify the work. As shown, an extra-work information aggregation operation 540a may be effected on a device 610, such as a PC, at the audience member (user) premises. The various databases 510a, 530a, and 110e, as well as the database generation operation(s) 520a/538a, the lookup operation(s) 550a and the work-associated information lookup operation(s) 560a may be provided at one or more centralized monitoring and query resolution centers 640.

[00112] FIG. 7 is a block diagram illustrating a fifth embodiment of the present invention, in which extra-work information is used to identify the work. This fifth embodiment is similar to the fourth embodiment illustrated in FIG. 6 but here, the monitoring center 740a and query resolution center 740b are separate.

[00113] These embodiments have many advantages for television and radio broadcasters who desire to provide Internet links or other action. First, the audience member (user) equipment, whether it is a computer, set-top-box, television, radio, remote control, personal digital assistant (pda), cell phone or other device, does not need to perform any processing of the received signal. As such, there is almost no cost involved to equipment manufacturers.

[00114] These last embodiments have some similarity with services such as those provided by the companies Real Names of Redwood City, Calif., America Online ("AOL")

and especially iTag from Xenote. The popular press has reported on the difficulties associated with assigning domain names. The simplest of these problems is that almost all the one-word names in the ".com" category have been used. Consequently, domain names can often be difficult to remember. To alleviate this problem, RealNames and AOL provide alternative, proprietary name spaces (AOL calls these keywords). For a fee, a company may register a name with these companies. Thus, rather than type the URL <http://www.bell-labs.com>, the simple keyword "bell" might be sufficient to access the same Web site. These capabilities are convenient to users. However, these systems are very different from the fourth and fifth embodiments described. First, and foremost, these systems are not designed to identify content. Rather, they are simply alternative network address translation systems based on easily remembered mnemonics which are sold to interested companies. As such, the user is still expected to type in an address, but this address is easier to remember than the equivalent URL. In contrast, while a user may manually enter the information describing the work, the preferred embodiment is for the computer, set-top-box or other device to automatically generate this information. Further, the mapping of keywords to network addresses is an arbitrary mapping maintained by AOL or Real Names. For example, the keyword "bell" might just as reasonably point to the Web site for Philadelphia's Liberty Bell as to Lucent's Bell Labs. In contrast, the query used in the fourth and fifth embodiments is designed to contain all the necessary data to identify the work, e.g. the time, place and television channel during which the work was broadcast. There is nothing arbitrary about this mapping. It should also be pointed out that the proposed system is dynamic--the same work, e.g. a

commercial, potentially has an infinite number of addresses depending on when and where it is broadcast. If an advertisement airs 100,000 unique times, then there are 100,000 different queries that uniquely identify it. Moreover, the exemplary query includes naturally occurring information such as time, place, channel or page number. This is not the case for AOL or RealNames, which typically assigns one or more static keywords to the address of a Web site.

[00115] Xenote's iTag system is designed to identify radio broadcasts and uses a query similar to that which may be used in the fourth and fifth embodiments, i.e. time and station information. However, the work identification information is not dynamically constructed but is instead based on detailed program scheduling that radio stations must provide it. As such, it suffers from potential errors in scheduling and requires the detailed cooperation of broadcasters. While the fourth and fifth embodiments might choose to use program scheduling information and other ancillary information to aid in the recognition process, they do not exclusively rely on this. The concept of resolving a site name by recognizing the content is absent from the above systems.

[00116] § 4.2.3 Exemplary Apparatus for Audience Member (User) Premise Device

[00117] While personal computers may be the primary computational device at a user's location, it is not essential to use a PC. This is especially true of the embodiments depicted in FIGS. 6 and 7, which do not require the content, e.g. video signal, to be processed. Instead, only a unique set of identification parameters such as time, location and channel are provided to identify the perceived Work. Many forms of devices can therefore take advantage of this configuration.

[00118] As previously noted, personal digital assistants (PDAs) can be used to record the identification information. This information can then be transferred to a device with a network communication such as a PC. However, increasingly, PDAs will already have wireless network communication capabilities built-in, as with the Palm VII PDA. These devices will allow immediate communication with the query resolution center and all information will be downloaded to them or they can participate in facilitating an e-commerce transaction. Similarly, wireless telephones are increasingly offering web-enabled capabilities. Consequently, wireless phones could be programmed to act as a user interface.

[00119] New devices can also be envisaged, including a universal remote control for home entertainment systems with a LCD or other graphical display and a network connection. This connection may be wireless or the remote control might have a phone jack that allows it to be plugged directly into an existing phone line. As home networks begin to be deployed, such devices can be expected to communicate via an inexpensive interface to the home network and from there to access the Internet.

[00120] In many homes, it is not uncommon for a computer and television to be used simultaneously, perhaps in the same room. A person watching television could install a web browser plug-in or applet that would ask the user to identify his location and the station being watched. Then, periodically, every 20 seconds for example, the plug-in would update a list of web addresses that are relevant to the television programs being watched, including the commercials. The audience member would then simply click on the web address of interest to obtain further information. This has the advantage

that the viewer does not have to guess the relevant address associated with a commercial and, in fact, can be directed to a more specialized address, such as www.fordvehicles.com/ibv/tausrus2kflash/flash.html, rather than the generic www.ford.com site. Of course, this applet or plug-in could also provide the database entity with information regarding what is being accessed from where and at what time. This information, as noted earlier, is valuable to advertisers and broadcasters. For PC's that have infra-red communication capabilities, it is straightforward to either control the home entertainment center from the PC or for the PC to decode the signals from a conventional remote control. Thus, as a user changes channels, the PC is able to automatically track the channel changes.

[00121] Recording devices such as analog VCR's and newer digital recording devices can also be exploited in the embodiments depicted in FIGS. 6 and 7, especially if device also record the channel and time information for the recorded content. When a user initiates a query, the recorded time and channel, rather than the current time and channel, then form part of the identification information.

[00122] Digital set-top-boxes are also expected to exploit the capabilities described herein. In particular, such devices will have two-way communication capabilities and may even include cable modem capabilities of course, the two-way communication need not be over a television cable. For example, satellite set-top-boxes provide up-link communications via a telephone connection. Clearly, such devices provide a convenient location to enable the services described herein. Moreover, such services can be provided

as part of the OpenCable and DOCSIS (data over cable service interface specification) initiatives.

[00123] § 4.2.4 Information Retrieval Using Features Extracted from Audio and/or Video Works

[00124] Some embodiments consistent with the present invention provide a computer-implemented method, apparatus, or computer-executable program for providing information about an audio file or (a video file) played on a device. Such embodiments might (a) extract features from the audio (or video) file, (b) communicate the features to a database, and (c) receive the information about the audio (or video) file from the database. In some embodiments consistent with the present invention, the act of extracting the features is performed by a microprocessor of the device, and/or a digital signal processor of the device. The received information might be rendered on an output (e.g., a monitor, a speaker, etc.) of the device. The received information might be stored (e.g., persistently) locally on the device. The information might be stored on a disk, or non-volatile memory.

[00125] In some of the embodiments pertaining to audio files, the audio file might be an mp3 file or some other digital representation of an audio signal. The information might include a song title, an album title, and/or a performer name.

[00126] In some of the embodiments pertaining to video files, the video file might be an MPEG file or some other digital representation of a video signal. The video file might be a video work, and the information might include a title of the video work, a director of the video work, and names of performers in the video work.

[00127] § 4.3 OPERATIONAL EXAMPLES

[00128] An example illustrating operations of an exemplary embodiment of the present invention, that uses intra-work information to identify the work, is provided in § 4.3.1. Then, an example illustrating operations of an exemplary embodiment of the present invention, that uses extra-work information to identify the work, is provided in § 4.3.2.

[00129] § 4.3.1 Operational Example where Intra-Work Information is Used to Identify the Work

[00130] A generic system for monitoring television commercials is now described. Obviously, the basic ideas extend beyond this specific application.

[00131] The process of recognition usually begins by recognizing the start of a commercial. This can be accomplished by looking for black video frames before and after a commercial. If a number of black frames are detected and subsequently a similar number are detected 30 seconds later, then there is a good chance that a commercial has aired and that others will follow. It is also well known that the average sound volume during commercials is higher than that for television shows and this too can be used as an indicator of a commercial. Other methods can also be used. The need to recognize the beginning of a commercial is not essential. However, without this stage, all television programming must be assumed to be commercials. As such, all video frames must be analyzed. The advantage of determining the presence of a commercial is that less video content must be processed. Since the percentage of advertising time is relatively small, this can lead to considerable savings. For example, commercials can be buffered and

then subsequently processed while the television show is being broadcast. This reduces the real-time requirements of a system at the expense of buffering, which requires memory or disk space. Of course, for the applications envisioned herein, a real-time response to a user requires real-time processing.

[00132] Once it is determined that an advertisement is being broadcast, it is necessary to analyze the video frames. Typically, a compact representation of each frame is extracted. This vector might be a pseudo-random sample of pixels from the frame or a low-resolution copy of the frame or the average intensities of n .times. n blocks of pixels. It might also be a frequency-based decomposition of the signal, such as produced by the Fourier, Fourier-Mellin, wavelet and or discrete cosine transforms. It might involve principal component analysis or any combination thereof. The recognition literature contains many different representations. For block-based methods, the n .times. n blocks may be located at pseudo-random locations in each frame or might have a specific structure, e.g. a complete tiling of the frame. The feature vector might then be composed of the pixels in each block or some property of each block, e.g. the average intensity or a Fourier or other decomposition of the block. The object of the vector extraction stage is to obtain a more concise representation of the frame. Each frame is initially composed of 480.times.720 pixels which is equivalent to 345,600 bytes, assuming one byte per pixel. In comparison, the feature vector might only consist of 1 Kbyte of data. For example, if each frame is completely tiled with 16.times.16 blocks, then the number of blocks per frame is $345,600/256=1350$. If the average intensity of each block constitutes the feature vector, then the feature vector consists of 1350 bytes, assuming 8-bit precision

for the average intensity values. Alternatively, 100 16.times.16 blocks can be pseudo-randomly located on each frame of the video. For each of these 100 blocks, the first 10 DCT coefficients can be determined. The feature vector then consists of the 100.times.10=1000 DCT coefficients. Many other variations are also possible. In many media applications, the content possesses strong temporal and spatial correlations. If necessary, these correlations can be eliminated or substantially reduced by pre-processing the content with a whitening filter.

[00133] A second purpose of the feature extraction process is to acquire a representation that is robust or invariant to possible noise or distortions that a signal might experience. For example, frames of a television broadcast may experience a small amount of jitter, i.e. horizontal and or vertical translation, or may undergo lossy compression such as MPEG-2. It is advantageous, though not essential, that these and other processes do not adversely affect the extracted vectors.

[00134] Each frame's feature vector is then compared with a database of known feature vectors. These known vectors have previously been entered into a content recognition database together with a unique identifier. If a frame's vector matches a known vector, then the commercial is recognized. Of course, there is the risk that the match is incorrect. This type of error is known as a false positive. The false positive rate can be reduced to any desired value, but at the expense of the false negative rate. A false negative occurs when a frame's vector is not matched to the database even though the advertisement is present in the database. There are several reasons why a frame's feature vector may fail to match. First, the recognition system may not be capable of 100%

accuracy. Second, the extracted vector will contain noise as a result of the transmission process. This noise may alter the values of a feature vector to the extent that a match is no longer possible. Finally, there is the case where the observed commercial is not yet present in the database. In this case, it is necessary to store the commercial and pass it (e.g., to a person) for identification and subsequent entry in the database.

[00135] It is important to realize that the matching of extracted and known vectors is not equivalent to looking up a word in an electronic dictionary. Since the extracted vectors contain noise or distortions, binary search is often not possible. Instead, a statistical comparison is often made between an extracted vector and each stored vector. Common statistical measures include linear correlation and related measures such as correlation coefficient, but other methods can also be used, including clustering techniques. See, e.g., the Duda and Hart reference. These measures provide a statistical measure of the confidence of the match. A threshold can be established, usually based on the required false positive and negative rates, such that if the correlation output exceeds this threshold, then the extracted and known vectors are said to match.

[00136] If binary search was possible, then a database containing N vectors would require at most $\log(N)$ comparisons. However, in current advertisement monitoring applications there is no discussion of efficient search methods. Thus, a linear search of all N entries may be performed, perhaps halting the search when the first match is found. On average, this will require $N/2$ comparisons. If N is large, this can be computationally expensive. Consider a situation in which one out of 100,000 possible commercials is to be identified. Each 30-second commercial consists of 900 video frames. If all 900 frames

are stored in the database, then $N=90,000,000$. Even if only every 10^{sup}.th video frame is stored in the database, its size is still nine million. While databases of this size are now common, they rely of efficient search to access entries, i.e., they do not perform a linear search. A binary search of a 90,000,000-item database requires less than 20 comparisons. In contrast, a linear search will require an average of 45,000,000!

[00137] With 9 million entries, if each vector is 1 Kbyte, then the storage requirement is 9 Gigabytes. Disk drives with this capacity are extremely cheap at this time. However, if the database must reside in memory due to real-time requirements, then this still represents a substantial memory requirement by today's standards. One reason that the data may need to be stored in memory is because of the real-time requirements of the database. If 10 channels are being simultaneously monitored within each of 50 geographic areas, then there will be 15,000 queries per second to the content recognition database, assuming each and every frame is analyzed. This query rate is low. However, if a linear search is performed then 675 billion comparisons per second will be required. This is an extremely high computational rate by today's standards. Even if only key frames are analyzed, this is unlikely to reduce the computational rate by more than an order of magnitude.

[00138] If an advertisement is not recognized, then typically, the remote monitoring system will compress the video and transmit it back to a central office. Here, the clip is identified and added to the database and the remote recognition sites are subsequently updated. Identification and annotation may be performed manually. However, automatic annotation is also possible using optical character recognition

software on each frame of video, speech recognition software, close captioning information and other information sources. As these methods improve in accuracy, it is expected that they will replace manual identification and annotation.

[00139] The recognition system described can be considered to be a form of nearest neighbor search in a high dimensional feature space. This problem has been very well studied and is known to be very difficult as the dimensionality of the vectors increases. A number of possible data structures are applicable including kd-trees and vantage point trees. These data structures and associated search algorithms organize a N-point dataset ($N=90,000,000$ in our previous example) so that sub-linear time searches can be performed on average. However, worst-case search times can be considerably longer. Recently, Yianilos proposed an excluded middle vantage point forest for nearest neighbor search. See, e.g., the Yianilos reference. This data structure guarantees sub-linear worst-case search times, but where the search is now for a nearest neighbor within a fixed radius, τ . The fixed radius search means that if the database contains a vector that is within τ of the query, then there is a match. Otherwise, no match is found. In contrast, traditional vantage point trees will always return a nearest neighbor, even if the distance between the neighbor and the query is very large. In these cases, if the distance between the query and the nearest neighbor exceeds a threshold, then they are considered not to match. This is precisely what the excluded middle vantage point forest implicitly does.

[00140] Using an excluded middle vantage point forest, will allow accurate real-time recognition of 100,000 broadcasted advertisements. This entails constructing an

excluded middle vantage point forest based on feature vectors extracted from say 90,000,000 frames of video. Of course, using some form of pre-filtering that eliminates a large number of redundant frames or frames that are not considered to be good unique identifiers can reduce this number. One such pre-filter would be to only examine the I-frames used when applying MPEG compression. However, this is unlikely to reduce the work identification database (WID) size by more than one order of magnitude. Assuming 10 channels are monitored in each of 50 geographic regions, then the query rate is $15,000 = 10 \times 50 \times 30$ queries per second.

[00141] § 4.3.2 Operational Example where Extra-Work Information is Used to Identify the Work

[00142] FIG. 8 depicts a satellite television broadcast system 800, though cable and traditional broadcast modes are also applicable. Block 810 represents audience members (users) watching a TV channel in their home, which also has a connection 812 to the Internet 820. Other networks are also possible. The satellite broadcasts are also being monitored by one or more television monitoring centers 840a. These centers 840a may monitor all or a subset of the television channels being broadcast. They are not restricted to monitoring satellite TV broadcasts but may also monitor cable and traditional terrestrial broadcasts. The primary purpose of these monitoring centers 840a is to identify the works being broadcasted. Of particular interest are television advertisements. However, other works, or portions thereof, may also be identified. Each time a new segment of a work is identified, the monitoring system or systems 840a update one or more database centers 840b, informing them of the time, place, channel

and identity of the identified segment. The segment may be a complete thirty second commercial or, more likely, updates will occur more frequently, perhaps at a rate of 1 update per second per channel per geographic location. The database center 840b updates its database so that queries can be efficiently responded to in sub-linear time.

[00143] The database centers 840b can use traditional database technology. In general, the query search initiated by an audience member is not a nearest neighbor search but can be a classical textual search procedure such as a binary search. The nearest neighbor search is appropriate for the monitoring sub-system 840a. The database centers 840b are continually updated as each new advertisement, television show or portion thereof is recognized. Standard updating algorithms can be used. However, random new entries to the database are unlikely. Rather, each new entry, or set of entries, denotes a new time segment that is later than all previously inserted items. As such, each new entry can be appended to the end of the database while still maintaining an ordered data structure that is amenable to binary and other efficient search techniques. If two entries have the same time in their time field, items can be sorted based on secondary fields such as the channel and geographic location, as depicted in FIG. 9. Since the number of such entries will be relatively small compared with the entire database, it may be sufficient to simply create a linear linked list of such entries, as depicted in FIG. 9. Of course, the size of the database is constantly increasing. As such, it may become necessary to have several levels of storage and caching. Given the envisaged application, most user queries will be for recent entries. Thus, the database may keep the last hours worth of entries in memory. If there is one entry per second for each of 100

channels in 100 geographic locations, this would correspond to $3600 \times 100 \times 100 = 36,000,000$ entries which is easily accommodated in main memory. Entries that are older than one hour may be stored on disk and entries older than one week may be archived (e.g., backed up on tape) for example. The entries to this database can include time, location and channel information together with a unique identifier that is provided by the monitoring system. Of course, additional fields for each entry are also possible.

[00144] When a user query is received, the time, channel and geographic information are used to retrieve the corresponding unique identifier that is then used to access a second database that contains information associated with the identified work.

[00145] An entry 1000 in this second database is depicted in FIG. 10, which shows that associated with the unique identifier 1010, the name of a product 1020, a product category 1030, the manufacturer 1040 and the commercial's associated web site 1050. Many other data fields 1060 are also possible. Such additional fields may include fields that indicate what action should be taken on behalf of the requesting user. Example actions include simply redirecting a request to an associated Web site, or initiating an e-commerce transaction or providing an associated telephone number that may be automatically dialed if the querying device is a cell phone or displaying additional information to the user. This database is likely to be updated much less frequently, perhaps only as often as once or twice a day, as batches of new advertisements are added to the system. Alternatively, it might be updated as each new advertisement is added to the system.

[00146] An audience member (user) 810 watching a television commercial for example may react to the advertisement by initiating a query to the database center 840b. The device whereby the user initiates the query might be a television or set-top-box remote control, or a computer or a wireless PDA or a (WAP-enabled) cell phone or a specialized device. Typically, the query will occur during the airing of the commercial or a shortly thereafter. However, the time between the broadcasting of the advertisement and the time of the associated query is not critical and can, in some instances be much longer. For example, the audience member might bookmark the query information in a device such as a PDA or a specialized device similar to those developed by Xenote for their Itag radio linking. Later, the audience member may transmit the query to the database center 840b. This might happen hours or even days later.

[00147] The query contains information that the database center 840b uses to identify the work being viewed. This information might include the time and place where the audience member was, together with the channel being viewed. Other identifying information is also possible. The query may also contain additional information that may be used to facilitate the user's transaction and will include the return address of the user. For example, if the user is intending to order a pizza after seeing a Pizza Hut advertisement, the query may also contain personal information including his or her identity, street address and credit card information.

[00148] When the database center 840b receives a query, data in the query is used to identify the work and associated information. A number of possible actions are possible at this point. First, the database center 840b may simply function as a form of

proxy server, mapping the audience member's initial query into a web address associated with the advertisement. In this case, the audience member will be sent to the corresponding Web site. The database center 840b may also send additional data included in the initial query to this Web site 850 in order to facilitate an e-commerce transaction between the audience member and the advertiser. In some cases, this transaction will not be direct, but may be indirect via a dealer or third party application service provider. Thus, for example, though an advertisement by Ford Motor Company may air nationally, viewers may be directed to different Web sites for Ford dealerships depending on both the audience member's and the dealerships' geographic locations. In other cases, advertisers may have contracted with the database center 840b to provide e-commerce capabilities. This latter arrangement has the potential to reduce the amount of traffic directed over the public Internet, restricting it, instead to a private network associated with the owner of the database center.

[00149] If the audience member (user) is not watching live television but is instead watching a taped and therefore time-shifted copy, then additional processes are needed. For the new generation of digital video recorders, irrespective of the recording media (tape or disk), it is likely to be very easy to include information identifying the location of the recorder, as well as the time and channel recorded. Location information can be provided to the recorder during the setup and installation process, for example. Digital video recorders, such as those currently manufactured by TIVO of Alviso, Calif. or Replay TV of Santa Clara, Calif. have a network connection via telephone, which can then send

the query of an audience member to the database center 840b using the recorded rather than the current information.

[00150] In cases where query information has not been recorded, it is still possible to initiate a successful query. However, in this case, it may be necessary to extract the feature vector from the work of interest and send this information to the monitoring center 840a where the feature vector can be identified. This form of query is computationally more expensive but the relative number of such queries compared to those sent to the database centers 840b is expected to be small. It should also be noted that the physical separation of the monitoring and database centers, depicted in FIGS. 6 and 7, is not crucial to operation of the system and simply serves to more clearly separate the different functionality present in the overall system configuration.

[00151] Although the implementation architectures described above focus on the television media, it is apparent that the present invention is applicable to audio, print and other media.

[00152] § 4.4 CONCLUSIONS

[00153] None of the embodiments of the invention require modification to the work or content, i.e., no active signal is embedded. Consequently, there is no change to the production processes. More importantly, from a user perspective, deployment of this system need not suffer from poor initial coverage. Provided the database is sufficiently comprehensive, early adopters will have comprehensive coverage immediately. Thus, there is less risk that the consumer will perceive that the initial performance of the deployed system is poor. Further, the present invention permits statistics to be gathered

that measure users' responses to content. This information is expected to be very useful to advertisers and publishers and broadcasters.

What is claimed is:

1. A computer system comprising:
 - one or more communications devices;
 - one or more processors operatively connected to the one or more communications devices; and
 - one or more computer readable media operatively connected to the one or more processors and having stored thereon computer instructions for carrying out the steps of:
 - (a) maintaining, by the computer system, a database comprising:
 - (1) first data related to identification of one or more works; and
 - (2) second data related to information corresponding to each of the one or more works as identified by the first data;
 - (b) obtaining, by the computer system, extracted features of a work to be identified;
 - (c) identifying, by the computer system, the work by comparing the extracted features of the work with the first data in the database using a non-exhaustive neighbor search;
 - (d) determining, by the computer system, the information corresponding to the identified work based on the second data in the database; and
 - (e) associating, by the computer system, the determined information with the identified work.

2. The computer system of claim 1, wherein the step of obtaining comprises receiving the work to be identified and extracting the extracted features.
3. The computer system of claim 2, wherein the work is received from at least one of a set-top-box, a video recorder, a cell phone, a computer or a portable device.
4. The computer system of claim 1, wherein the step of obtaining comprises receiving the extracted features.
5. The computer system of claim 4, wherein the extracted features are received from at least one of a set-top-box, a video recorder, a cell phone, a computer or a portable device.
6. The computer system of claim 1, wherein the step of obtaining comprises receiving the work and the extracted features of the work.
7. The computer system of claim 6, wherein the work and the extracted features of the work are received from at least one of a set-top-box, a video recorder, a cell phone, a computer or a portable device.
8. The computer system of claim 1, wherein the step of identifying comprises providing one or more works for selection as the identified work.

9. The computer system of claim 1, wherein at least one of the work or the extracted features of the work is obtained from at least one of a set-top-box, a video recorder, a cell phone, a computer or a portable device that stores commercial transaction data, and wherein the information comprises a commercial transaction, and the one or more computer readable media have stored thereon further computer instructions for carrying out the additional step of:

performing the commercial transaction using the stored commercial transaction data.

10. The computer system of claim 1, wherein at least one of the work or the extracted features of the work is obtained from at least one of a set-top-box, a video recorder, a cell phone, a computer or a portable device, and wherein the information comprises commercial transaction data, and the one or more computer readable media have stored thereon further computer instructions for carrying out the additional step of:

performing the commercial transaction through the at least one of a set-top-box, a video recorder, a cell phone, a computer or a portable device using the commercial transaction data.

11. The computer system of claim 9, wherein the stored commercial transaction data comprises at least one of a purchaser's name, a purchaser's address or credit card information.

12. The computer system of claim 1, wherein the second data related to information corresponding to each of the one or more works as identified by the first data relates to an action to perform for each of the one or more works.

13. The computer system of claim 12, wherein the action comprises at least one of directing a user to a website related to the work, initiating an e-commerce transaction or dialing a phone number.

14. The computer system of claim 12, wherein the action comprises providing and/or displaying additional information in association with the work.

15. The computer system of claim 14, wherein the additional information is an advertisement.

16. The computer system of claim 15, wherein the action comprises providing a link to a site on the World Wide Web associated with the advertisement.

17. The computer system of claim 15, wherein the action comprises electronically registering a user with at least one of a service or a product related to the advertisement.

18. The computer system of claim 15, wherein the action comprises electronically providing at least one of a coupon or a certificate related to the advertisement.

19. The computer system of claim 15, wherein the action comprises automatically dialing a telephone number associated with the advertisement.
20. The computer system of claim 15, wherein the action comprises collecting competitive market research data related to the advertisement.
21. The computer system of claim 15, wherein the action comprises purchasing a product or service related to the advertisement.
22. The computer system of claim 15, wherein the action comprises allowing a user to interact with a broadcast related to the advertisement.
23. The computer system of claim 1, further comprising the step of transmitting, by the computer system, the determined information as associated with the identified work.
24. The computer system of claim 1, wherein the one or more works comprise at least one of a video work, an audio work or an image work.
25. The computer system of claim 1, wherein the first data relates to feature vectors of the one or more works.

26. The computer system of claim 1, wherein the extracted features of the work comprise a feature vector of the work.

27. The computer system of claim 1, wherein the one or more computer readable media have stored thereon further computer instructions for carrying out the additional steps of:

(f) obtaining, by the computer system, second extracted features of a second work to be identified;

(g) searching, by the computer system, for an identification of the second work by comparing the second extracted features of the second work with the first data in the database using a non-exhaustive neighbor search; and

(h) determining, by the computer system, that the second work is not identified based on results of the searching step.

ABSTRACT

A computer system comprising one or more communications devices; one or more processors operatively connected to the one or more communications devices; and one or more computer readable media operatively connected to the one or more processors and having stored thereon computer instructions for carrying out the steps of (a) maintaining, by the computer system, a database comprising (1) first data related to identification of one or more works; and (2) second data related to information corresponding to each of the one or more works as identified by the first data; (b) obtaining, by the computer system, extracted features of a work to be identified; (c) identifying, by the computer system, the work by comparing the extracted features of the work with the first data in the database using a non-exhaustive neighbor search; (d) determining, by the computer system, the information corresponding to the identified work based on the second data in the database; and (e) associating, by the computer system, the determined information with the identified work.

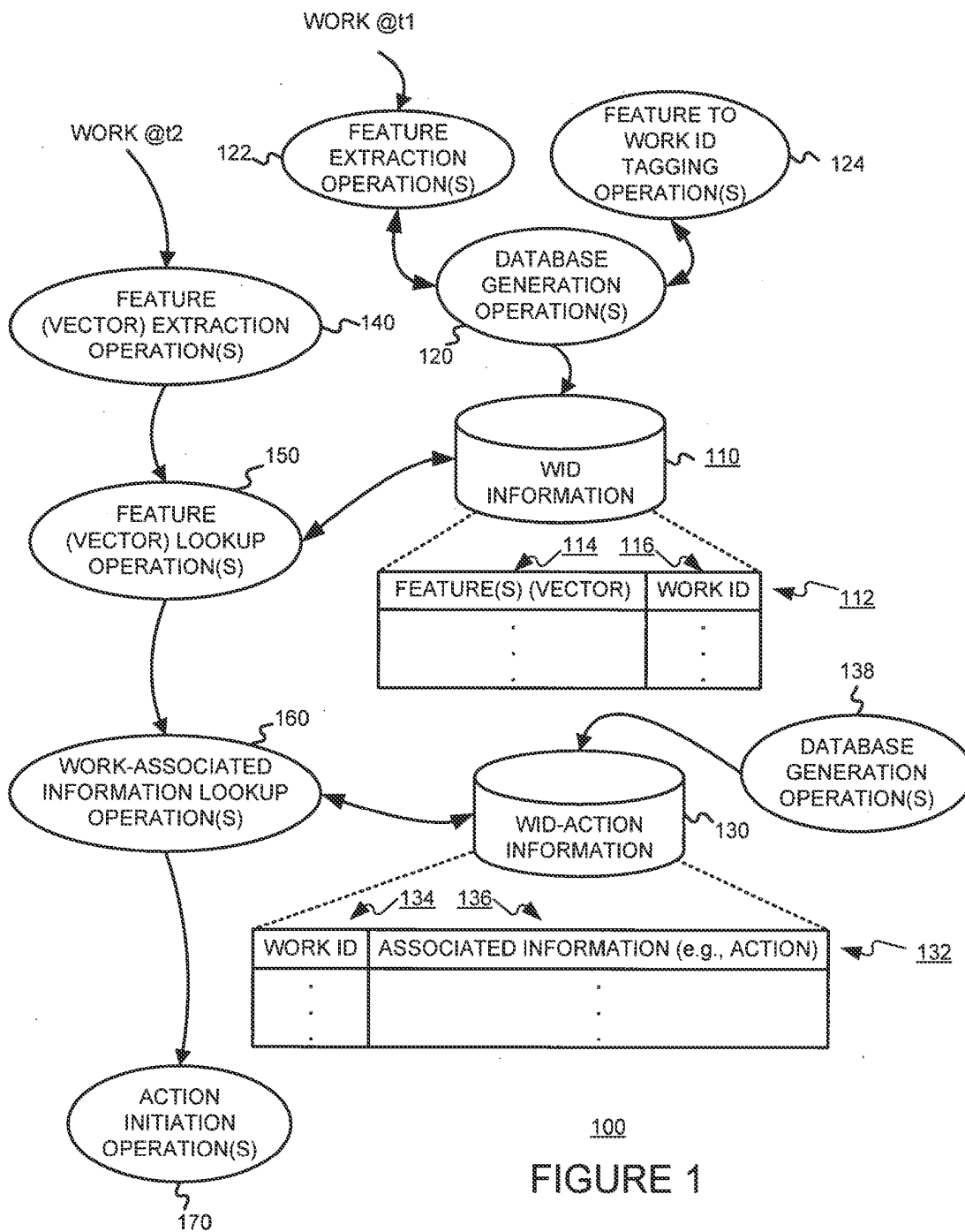


FIGURE 1

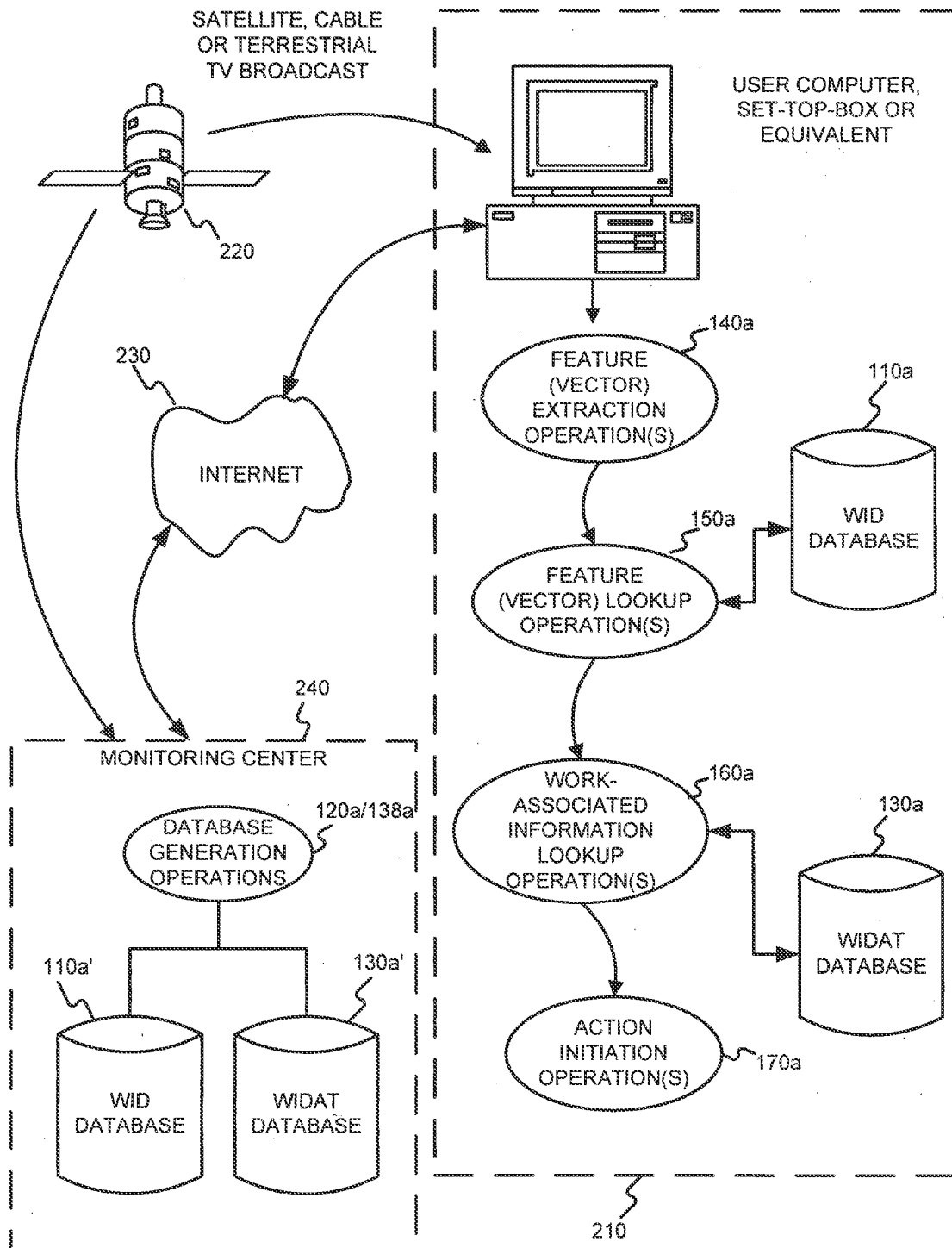


FIGURE 2

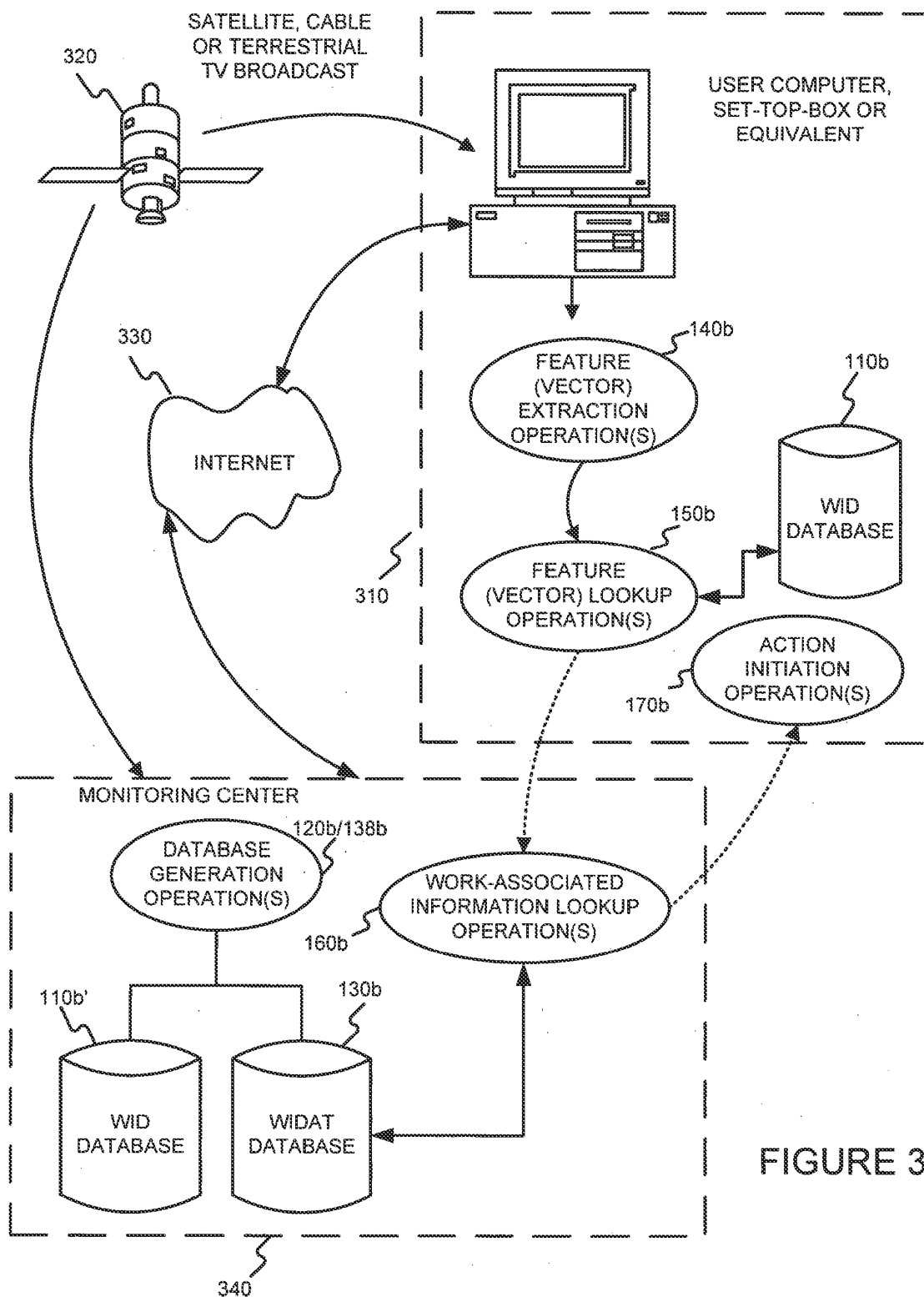


FIGURE 3

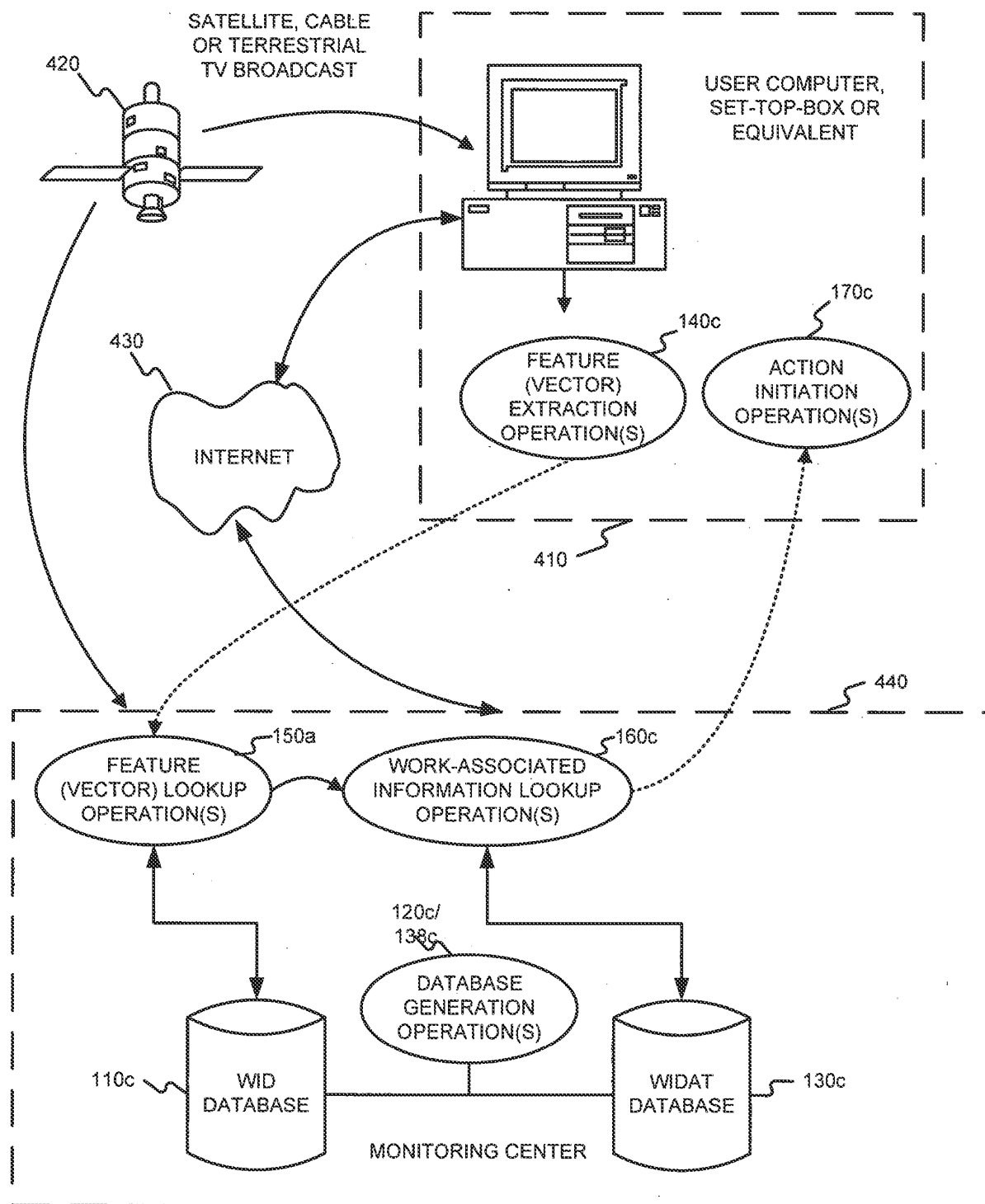
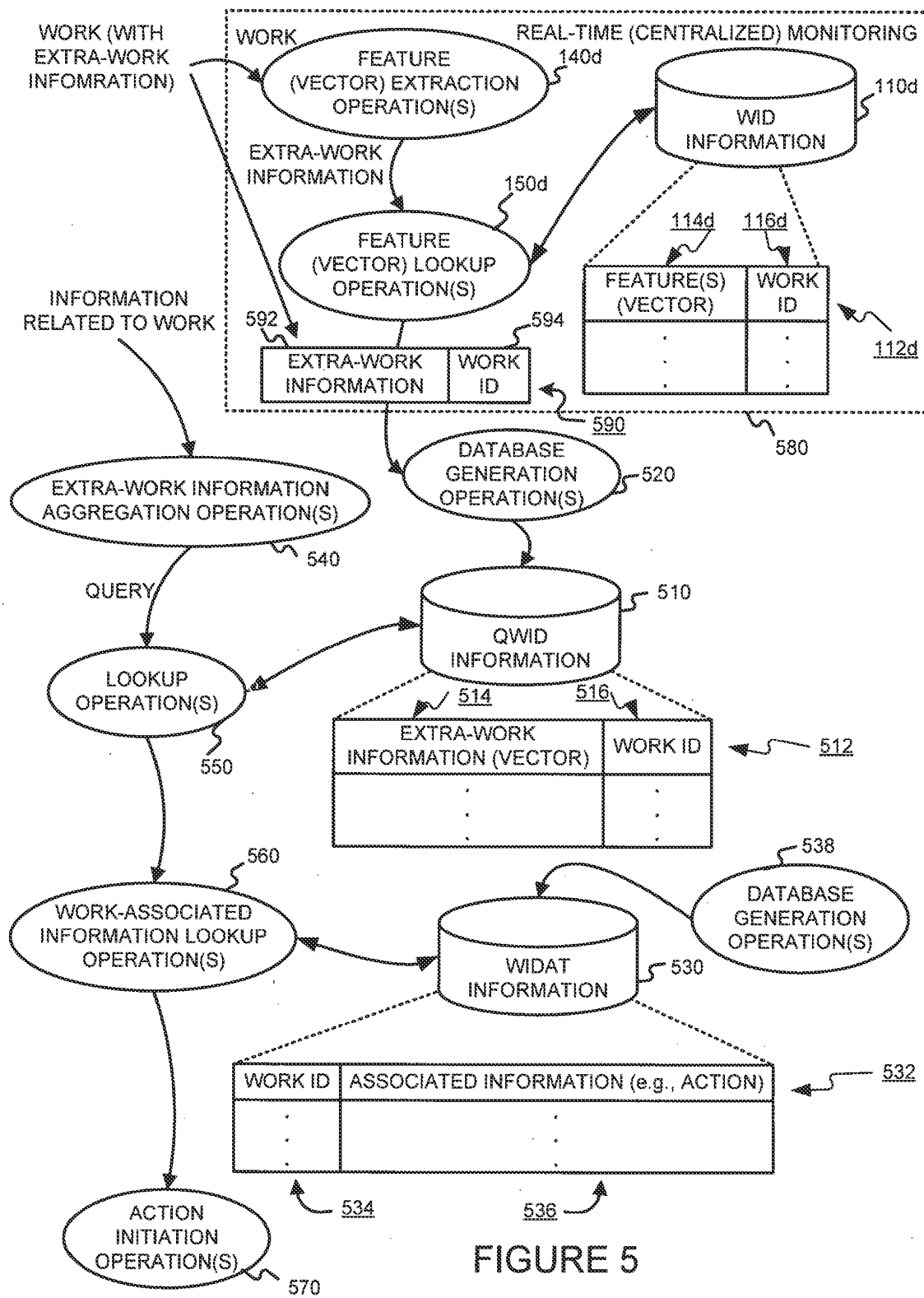


FIGURE 4



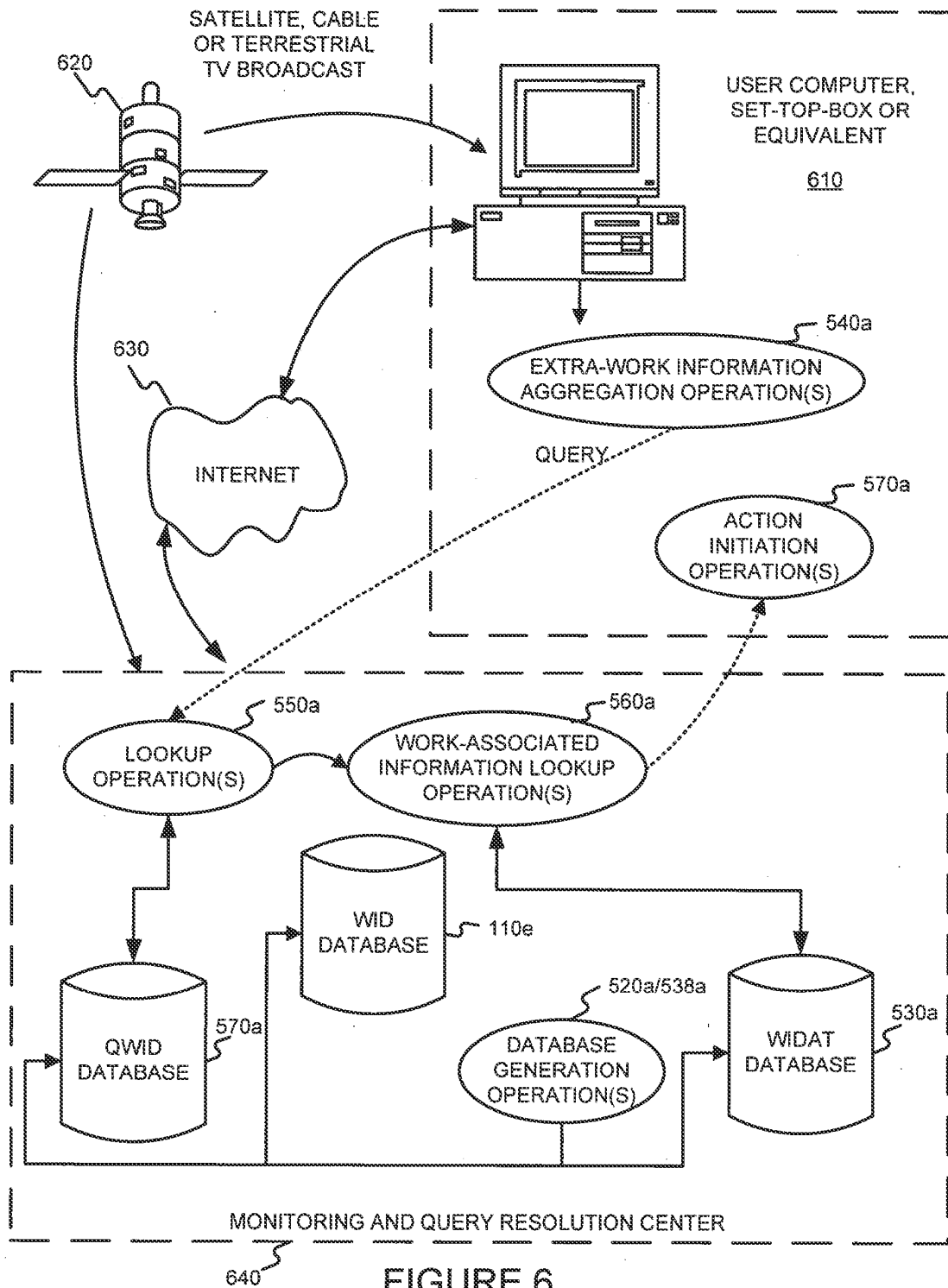


FIGURE 6

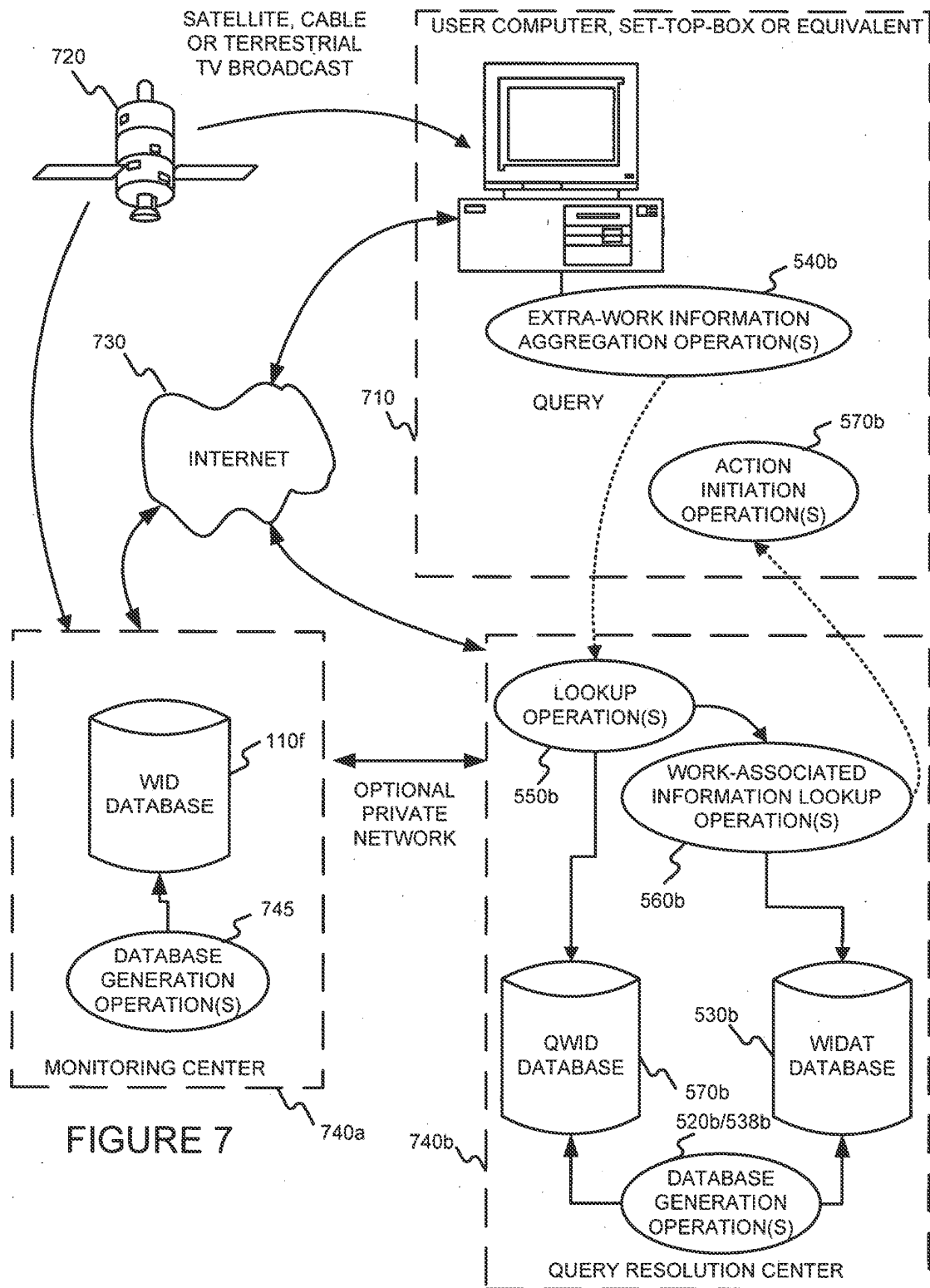


FIGURE 7

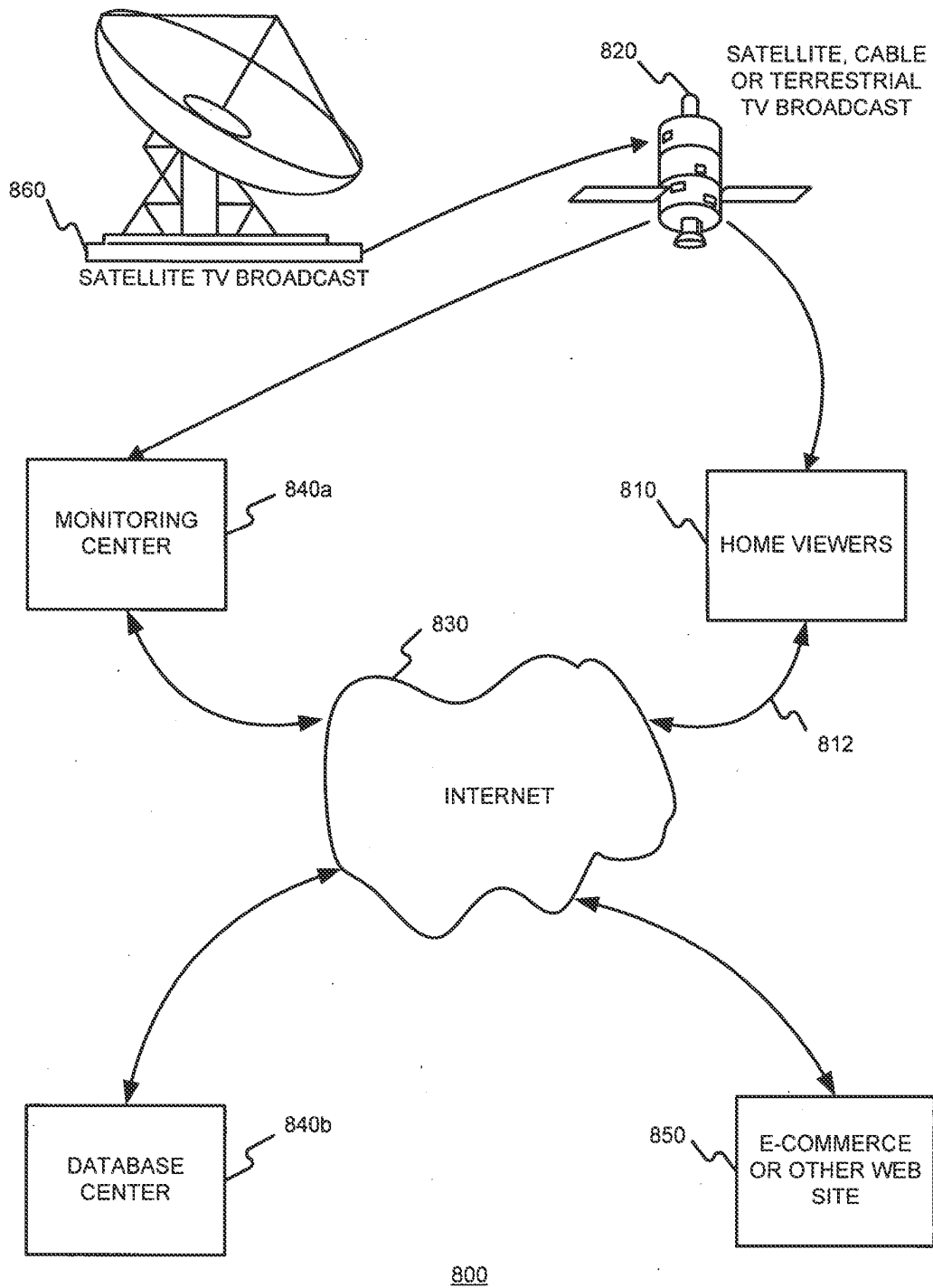


FIGURE 8

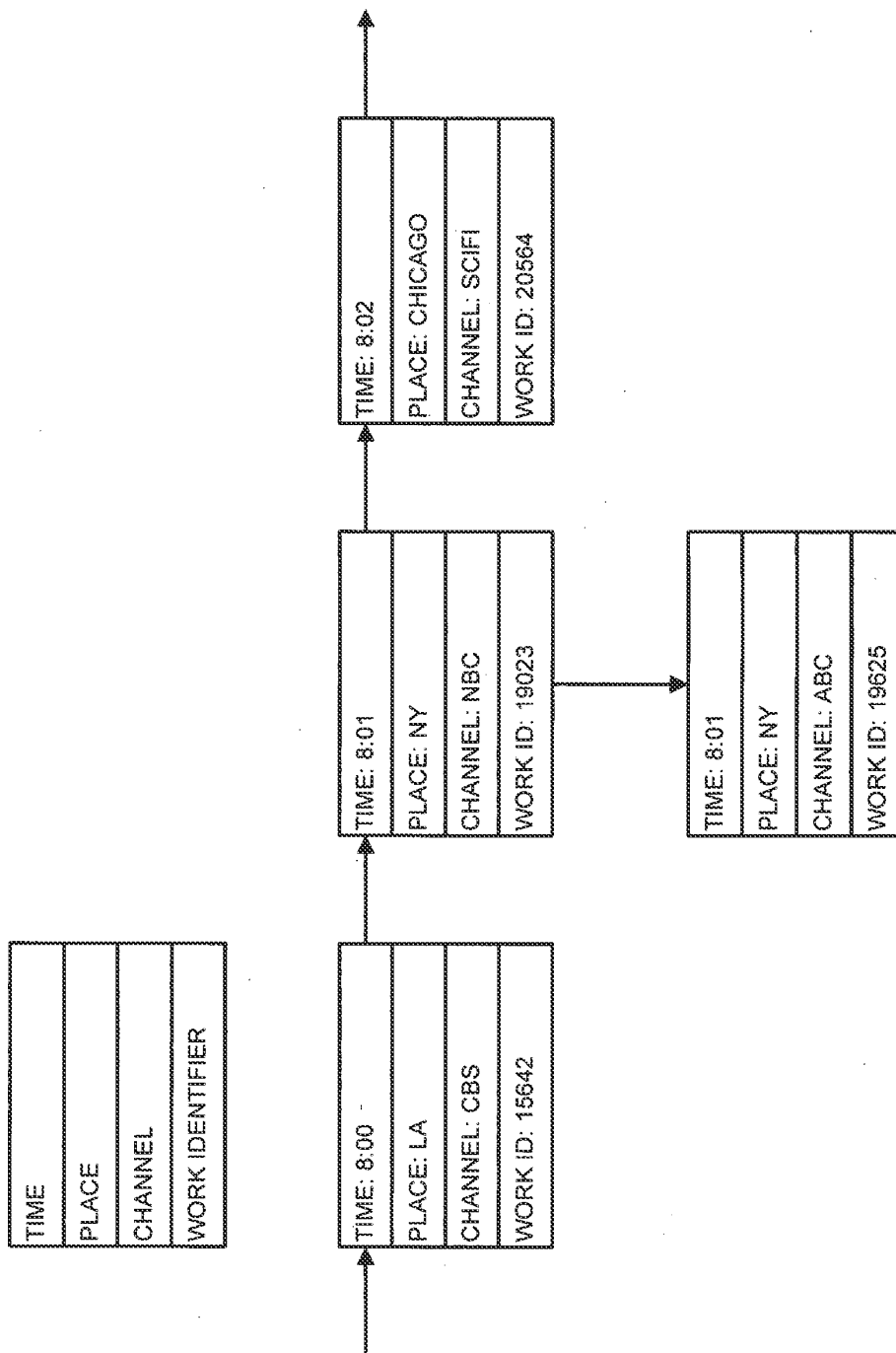
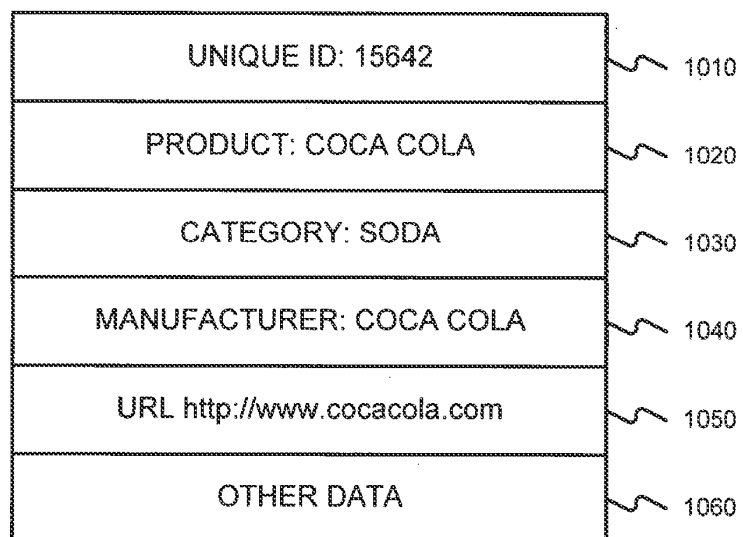


FIGURE 9



1000

FIGURE 10

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of
Invention

METHOD FOR TAGGING AN ELECTRONIC MEDIA WORK TO PERFORM AN ACTION

As the below named inventor, I hereby declare that:

This declaration
is directed to:



The attached application, or



United States application or PCT international application number _____

filed on _____

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2036 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Ingemar J. Cox

Date (Optional): 13 March 2012

Signature: [Signature]

Note: An application data sheet (PTO/AIA/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional PTO/SB/AIA01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 116 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK		
First Named Inventor/Applicant Name:		Ingemar J. COX		
Filer:		Benjamin M. Halpern/Vivian Campbell		
Attorney Docket Number:		63121-39		
Filed as Large Entity				
Track I Prioritized Examination - Nonprovisional Application under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility application filing	1011	1	390	390
Utility Search Fee	1111	1	620	620
Utility Examination Fee	1311	1	250	250
Request for Prioritized Examination	1817	1	4800	4800
Pages:				
Claims:				
Claims in Excess of 20	1202	7	62	434
Miscellaneous-Filing:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Publ. Fee- Early, Voluntary, or Normal	1504	1	300	300
Processing Fee, Except for Provis. Apps	1808	1	130	130
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				6924

Electronic Acknowledgement Receipt	
EFS ID:	15235686
Application Number:	13829717
International Application Number:	
Confirmation Number:	8930
Title of Invention:	SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK
First Named Inventor/Applicant Name:	Ingemar J. COX
Customer Number:	1912
Filer:	Benjamin M. Halpern/Vivian Campbell
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	63121-39
Receipt Date:	14-MAR-2013
Filing Date:	
Time Stamp:	19:10:52
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	TrackOne Request	1TrackOne.pdf	40810 7c35ad1d8e4b3a7ebb0d6af93fd59ddd34b904d5	no	2

Warnings:

Information:

2	Application Data Sheet	2aia0014ADSnew.pdf	1396921	no	6
			92b63ac705e4774bafc5c50cc70155166eeb35e6		
Warnings:					
Information:					
3		3CONTAPPT1dnp.pdf	165907	yes	60
			0d83aed2bcd14e7ddac874e8b250e3391da1b1bb		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	53	
	Claims		54	59	
	Abstract		60	60	
Warnings:					
Information:					
4	Drawings-only black and white line drawings	4Dwgs.pdf	4553781	no	10
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Warnings:					
Information:					
5	Oath or Declaration filed	5Declarationcopyofparent37.pdf	121910	no	2
			2fdcab5ab0ee414754632c46cdac1646d263f25		
Warnings:					
Information:					
6	Fee Worksheet (SB06)	fee-info.pdf	42303	no	2
			e7e404255b853cc63f0a6f222c8b07c9b52f6c0a		
Warnings:					
Information:					
Total Files Size (in bytes):			6321632		

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If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Electronic Patent Application Fee Transmittal				
Application Number:		13829717		
Filing Date:				
Title of Invention:		SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK		
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Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				6924

Electronic Acknowledgement Receipt	
EFS ID:	15236899
Application Number:	13829717
International Application Number:	
Confirmation Number:	8930
Title of Invention:	SYSTEM FOR USING EXTRACTED FEATURES FROM AN ELECTRONIC WORK
First Named Inventor/Applicant Name:	Ingemar J. COX
Customer Number:	1912
Filer:	Benjamin M. Halpern/Vivian Campbell
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	63121-39
Receipt Date:	14-MAR-2013
Filing Date:	
Time Stamp:	20:03:52
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$6924
RAM confirmation Number	28484
Deposit Account	011785
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Fee Worksheet (SB06)	fee-info.pdf	42309 89c9b45d11b0efe86f4b28cc551dda7bb5e e5f1c	no	2
Warnings:					
Information:					
Total Files Size (in bytes):				42309	
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					