

**UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK**

NETWORK-1 TECHNOLOGIES, INC.,

Plaintiff,

- against -

GOOGLE, INC., and YOUTUBE, LLC,

Defendants.

14 Civ. 2396 (PGG)

**PLAINTIFF NETWORK-1 TECHNOLOGIES, INC.'S RESPONSES TO  
DEFENDANTS GOOGLE, INC. AND YOUTUBE, LLC'S  
FIRST SET OF INTERROGATORIES (NOS. 1-4)**

Pursuant to Rules 26 and 33 of the Federal Rules of Civil Procedure, Plaintiff Network-1 Technologies, Inc. ("Network-1"), by and through its undersigned counsel, hereby responds to Defendants Google, Inc. and YouTube, LLC's (collectively "Defendants" or "Google"), First Set of Interrogatories (Nos. 1-4) to Plaintiff Network-1, as follows:

**PRELIMINARY STATEMENT**

These responses are made solely for the purposes of this action. These responses are subject to, and without waiver of, any objections as to the competency, propriety, authenticity, relevancy, materiality, privilege, and admissibility, and to any and all other objections on any grounds that would require the exclusion of statements contained herein.

The following responses are based upon the facts and information currently known and available to Network-1 and given without prejudice to Network-1's right to amend and/or supplement to add any facts or information that it may later recall or discover as discovery and Network-1's investigation continues. Network-1 further reserves the right to amend and/or supplement any or all of the matters contained in these responses with facts or information that it

learns were omitted by inadvertence, mistake, or excusable neglect; as additional facts are ascertained and contentions are made in this litigation; and as terms used in the asserted claims of the patents-in-suit are construed.

Specific objections to each Interrogatory are made on an individual basis in Network-1's responses below. In addition to the specific objections, Network-1 makes certain general objections (the "General Objections") to the Interrogatories. These General Objections are hereby incorporated by reference into the specific response made to each separate Interrogatory. For particular emphasis, Network-1 has, from time to time, expressly included one or more of the General Objections as specific objections in the responses below. Network-1's response to each individual Interrogatory is submitted without prejudice to, and without in any respect waiving, any General Objections not expressly set forth in that response. Accordingly, the inclusion in any response below of any specific objection to a specific Interrogatory is neither intended as, nor shall in any way be deemed, waiver of any General Objection or of any other specific objection made.

The assertion of any objection to any of the Interrogatories is neither intended as, nor shall in any way be deemed, a waiver of Network-1's right to assert that or any other objection at a later date. No incidental or implied admissions are intended by the responses below. These responses are neither intended as, nor shall in any way be deemed, an admission or representation that further information relevant to the subject matter of the Interrogatories does not exist. Furthermore, these responses are given without prejudice to Network-1's right to use or rely on additional information at any time, including at trial.

#### **GENERAL OBJECTIONS**

1. Network-1 objects to the Interrogatories, DEFINITIONS, and INSTRUCTIONS to the extent that they purport to impose on Network-1 obligations that differ from or exceed

those required by Federal Rule of Civil Procedure 26(b) or any other of the Federal Rules of Civil Procedure, the Local Civil Rules of the United States District Court for the Southern District of New York (“Local Civil Rules”), or any order or ruling by the Court in this action.

2. Network-1 objects to the Interrogatories to the extent that they seek information protected by any privilege of Network-1 or its attorneys, including, but not limited to, the attorney-client privilege and the work product doctrine. To the extent Network-1 responds to these Interrogatories, its responses will not include information protected by the attorney-client privilege, the work product doctrine, and/or other applicable privileges or protections. All objections on the grounds of the attorney-client privilege and the work product doctrine are expressly preserved. Moreover, the inadvertent disclosure of information protected by such privileges and protections shall not constitute a waiver of the applicable privilege or protection either as to the information inadvertently disclosed or as to any other information.

3. Network-1 reserves the right to object that some information is so confidential and sensitive that it should not be provided absent additional protections adequate to ensure its confidentiality.

4. Network-1 objects to the Interrogatories to the extent they are vague and ambiguous.

5. Network-1 objects to the Interrogatories to the extent that they contain express or implied assumptions of fact or law with respect to matters at issue in this case. Network-1’s responses to the Interrogatories are not intended to be, and shall not be construed as, an agreement or concurrence by Network-1 with Defendants’ characterization of any facts, circumstances, and/or legal obligations, and Network-1 expressly reserves the right to contest any such characterizations.

6. Network-1 objects to the Interrogatories to the extent that they are compound, having multiple separate subparts. Each subpart will be counted as an individual interrogatory in determining the number of Interrogatories served upon Network-1.

7. Network-1 objects to the Interrogatories, DEFINITIONS, and INSTRUCTIONS to the extent that they purport to require Network-1 to search for and provide information that is not within its possession, custody, or control.

8. Network-1 objects to the Interrogatories to the extent that they are harassing, overbroad, unduly burdensome, oppressive, unintelligible, argumentative, duplicative, and/or require Network-1 to speculate as to the meaning intended.

9. Network-1 objects to the Interrogatories to the extent that they seek information that is neither relevant to the subject matter of this action, nor reasonably calculated to lead to the discovery of admissible evidence. Network-1's responses to the Interrogatories are not intended to be, and shall not be construed as, an admission by Network-1 that any matter referenced in the Interrogatories is relevant to any issue in this action.

10. Network-1 objects to the definition of "NETWORK-1," "PLAINTIFF," "you,"<sup>1</sup> and "your" to the extent it purports to impose duties beyond those imposed by the Federal Rules of Civil Procedure, the Local Civil Rules, or any order or ruling by the Court in this action. Further, Network-1 objects to the definition of "NETWORK-1," "PLAINTIFF," "you," and "your" as broader than permissible under Local Civil Rule 26.3(c)(5). Network-1 also objects to this definition as unduly burdensome, harassing, oppressive and overbroad to the extent it purports to include entities other than Network-1 or to seek discovery from individuals or entities over whom or which Network-1 has no control. Network-1 also objects to the definition of

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<sup>1</sup> Defendants' "DEFINITIONS" capitalize certain defined terms and do not capitalize others. For purposes of Network-1's responses, Network-1 will treat both the capitalized and lowercase versions of the terms "you" and "your" as defined terms.

“NETWORK-1,” “PLAINTIFF,” “you,” and “your” as vague and overbroad with respect to its inclusion of “affiliates, parents, divisions, joint ventures, licensees, franchisees, assigns, predecessors and successors in interest, and any other legal entities, whether foreign or domestic, that are owned or controlled by PLAINTIFF, and all predecessors and successors in interest to such entities or to the PATENTS-IN-SUIT, and any entity owned in whole or in part by, affiliated with, or controlled in whole or in part.” Network-1 also objects to the definition of “NETWORK-1,” “PLAINTIFF,” “you,” and “your” as including “without limitation, Network-1 Security Solutions, Inc.; Mirror Worlds Technologies, LLC; and Mirror Worlds LLC” as overbroad by placing discovery obligations on entities that are either unrelated to this litigation and/or third parties. Network-1 will treat the terms “NETWORK-1,” “PLAINTIFF,” “you,” and “your” according to the definition set forth in Local Civil Rule 26.3(c)(5).

11. Network-1 objects to the definition of “NEC” to the extent it purports to impose duties beyond those imposed by the Federal Rules of Civil Procedure, the Local Civil Rules, or any order or ruling by the Court in this action. Network-1 also objects to the definition of “NEC” as unduly burdensome and overbroad to the extent it purports to include entities other than Network-1 or to seek discovery from individuals or entities over whom or which Network-1 has no control. Specifically the definition of “NEC” impermissibly includes “officers, directors, current and former employees, counsel, agents, consultants, representatives, and any other PERSONS acting on behalf of any of the foregoing, and NEC Corporation and NEC Research Institute's affiliates, parents, divisions, joint ventures, licensees, franchisees, assigns, predecessors and successors in interest, and any other legal entities, whether foreign or domestic, that are owned or controlled by NEC, and any entity owned in whole or in part by, affiliated with, or controlled in whole or in part by NEC Corporation and NEC Research Institute.”

12. Network-1 objects to the definition of “TECHNOLOGY-IN-SUIT” to the extent it mischaracterizes the technology accused by Network-1. Network-1 will treat the term “TECHNOLOGY-IN-SUIT” as referring to “products and services that extract features of media works and compare them against extracted features of reference media works.”

13. Network-1 objects to the definition of “DOCUMENT” to the extent it purports to impose duties beyond those imposed by the Federal Rules of Civil Procedure, the Local Civil Rules, or any order or ruling by the Court in this action. Network-1 will treat the term “DOCUMENT” according to the definition set forth in Local Civil Rule 26.3(c)(2).

14. Network-1 objects to the definition of “COMMUNICATION” to the extent it purports to impose duties beyond those imposed by the Federal Rules of Civil Procedure, the Local Civil Rules, or any order or ruling by the Court in this action. Network-1 will treat the term “COMMUNICATION” according to the definition set forth in Local Civil Rule 26.3(c)(1).

15. Network-1 objects to the definition of “PERSON” to the extent it purports to impose duties beyond those imposed by the Federal Rules of Civil Procedure, the Local Civil Rules, or any order or ruling by the Court in this action. Network-1 will treat the term “PERSON” according to the definition set forth in Local Civil Rule 26.3(c)(6).

16. Network-1 objects to the definition of “or” and “and” to the extent it purports to impose duties beyond those imposed by the Federal Rules of Civil Procedure, the Local Civil Rules, or any order or ruling by the Court in this action. Network-1 will treat the terms “or” and “and” according to the rules of construction set forth in Local Civil Rule 26.3(d)(2).

17. Network-1 objects to the definition of “INFRINGE” and “INFRINGEMENT” to the extent the definition includes infringement claims that are outside the scope of this case and thus not relevant to the litigation.

18. Network-1 objects to the definition of “PRIOR ART” to the extent the definition includes “publications, patents, physical devices, prototypes, uses, sales, and offers for sale, and any DOCUMENTS or other items” that are not within the scope of 35 U.S.C. §§ 102 and 103.

19. Network-1 objects to the definition of “RELATED PATENT LITIGATIONS” to the extent the definition includes cases that are unrelated to the litigation here. Defendants list 19 cases as being “RELATED PATENT LITIGATIONS.” However, none of these 19 cases involves the patents-in-suit. Thus, Defendants’ request to refer to these cases as “RELATED PATENT LITIGATIONS” is improper as it would place discovery obligations on Network-1 that go beyond the scope of the Federal Rules of Civil Procedure and the Local Civil Rules.

20. Network-1 objects to the definition of "Reflect," "reflecting," "relate to," "refer to," "relating to," and "referring to" to the extent it renders the Interrogatories overbroad and unduly burdensome and places obligations on Network-1 beyond the scope of the Federal Rules of Civil Procedure and the Local Civil Rules, including Local Civil Rule 26.3(c)(7).

21. Network-1 objects to Defendants’ definitions pertaining to the term “IDENTIFY” as requiring Network-1 to provide information beyond the scope of the Federal Rules of Civil Procedure and the Local Civil Rules, including Local Civil Rule 26.3(c)(3) and 26.3(c)(4).

22. Pursuant to Federal Rule of Civil Procedure 26(b)(2)(B), Network-1 objects to any Interrogatory seeking electronically stored information that is not reasonably accessible because of the undue burden and cost associated with retrieving and producing such information. Electronically stored information that is not reasonably accessible will not be preserved and such sources will not be searched in responding to these Interrogatories.

23. To the extent that Network-1 responds to any Interrogatory, its responses reflect only the current state of knowledge, understanding, and belief of Network-1 with regard to matters about which inquiry has been made. Network-1 reserves the right to modify or

supplement its responses at a later time with whatever pertinent information it may subsequently discover. Furthermore, these responses are provided without prejudice to using or relying on at trial any subsequently discovered information or facts, or information omitted from these responses because of mistake, oversight, or inadvertence. Network-1 further reserves the right to object on appropriate grounds to the introduction into evidence of any portion of these responses.

### **RESPONSES TO INTERROGATORIES**

#### **INTERROGATORY NO. 1**

Explain in detail how PLAINTIFF contends that each ACCUSED INSTRUMENTALITY practices each element of each ASSERTED CLAIM.

#### **RESPONSE TO INTERROGATORY NO. 1**

Network-1 objects that this Interrogatory is vague. Network-1 also objects to this Interrogatory as unduly burdensome and overbroad to the extent that it purports to impose discovery obligations on or with respect to entities or persons that are not parties to this action and over whom Network-1 does not exercise control through the use of the defined term “PLAINTIFF.” Network-1 will treat this term as having the meaning set forth in Local Civil Rule 26.3(c)(5). Network-1 further objects to this Interrogatory in its use of the term “ASSERTED CLAIM.” Network-1 will respond to this interrogatory with respect to claims identified in the Infringement Contentions served pursuant to the Local Rules of this Court, without prejudice to Network-1 subsequently adding to, or withdrawing any claims from its Infringement Contentions. Network-1 also objects to this Interrogatory on the ground that Google has produced no substantive documents relating to the accused instrumentalities to date. Network-1 further states that discovery in this case is not yet complete and its investigation and analysis of the facts is still ongoing. Network-1 anticipates that, as the action proceeds, further facts relating to this Interrogatory may be discovered and, without in any way obligating itself to do so, Network-1 expressly reserves the right to supplement the information in this response with



such pertinent information that it may subsequently discover. Network-1 further reserves the right to amend and/or supplement any or all of the matters contained in these responses with facts or information that it learns were omitted by inadvertence, mistake, or excusable neglect; as additional facts are ascertained and contentions are made in this litigation; and as terms used in the asserted claims of the patents-in-suit are construed. Network-1 further incorporates its General Objections set forth above into its specific response to this Interrogatory.

Subject to and without waiving any of the foregoing general and specific objections, Network-1 responds to this Interrogatory as follows:

The accused instrumentalities for purposes of this response consist of Google's Content ID system as implemented and operated with www.youtube.com, m.youtube.com and related mobile applications, and the Google Play online store. The accused instrumentalities are collectively referred to herein as the "Content ID System."

**U.S. Patent No. 8,010,988 ("988 Patent")**

**Claim 15:** Google's Content ID System practices the method of associating an electronic work with an action, the electronic work comprising at least one of audio and video, as follows:

The Content ID System electronically extracts features from each audio and/or visual work uploaded by a YouTube user to generate its digital "fingerprint."

The Content ID System then attempts to electronically determine the identity of the user-uploaded audio and/or visual work by comparing this fingerprint of the work with similarly-generated digital "fingerprints" of reference works containing copyrighted content submitted to Google by rights holders using, on information and belief, a non-exhaustive search to identify a neighbor.

When the Content ID System identifies a match between a user-uploaded audio and/or visual work and a reference work submitted by a rights holder, it electronically determines the

action or actions that it needs to take with respect to the user-uploaded audio and/or visual work, including, but not limited to, actions based on the policy the rights holder has chosen to apply to user-uploads matching its reference work, whether blocking, tracking, or monetizing, and/or displaying “click-to-buy” links for the purchase of a song, movie, or other product related to the reference work.

Once the Content ID System identifies a user-uploaded audio and/or visual work and determines the action or actions that it needs to take with respect to that work, it performs the action or actions electronically. For instance, upon identifying a user-uploaded audio and/or visual work as a match for a reference work submitted by a rights holder, the Content ID System automatically performs the action corresponding to the policy specified by the rights holder for matches to that reference work, whether it is to block, track, or monetize. When the rights holder’s content is blocked, the Content ID System prevents the user-uploaded audio and/or visual work from either going live or continuing to be viewed, or it mutes the audio. It may also penalize the user who attempted to upload the copyrighted content by restricting the user’s access to various YouTube features. If the rights holder chose the “track” policy, the user-uploaded audio and/or visual work remains unaffected but the Content ID System gives the rights holder access to the viewership statistics. If the policy is “monetize,” the user-uploaded audio and/or visual work remains available on YouTube and the Content ID System displays with it advertisements and/or promotional information relating to the creator of the reference work, and tracks its viewership statistics. Similarly, on information and belief, if the rights holder has enabled YouTube’s “click-to-buy” feature for user-uploaded matches to the reference work, the user-uploaded audio and/or visual work remains available on YouTube and the Content ID System will display links for the purchase of a song, movie, or other product related to the reference work together with it.

**Claim 17:** Google's Content ID System practices the method of claim 15 using an algorithm to perform a non-exhaustive search that is sublinear.

**Claim 31:** Google's Content ID System practices the method of claim 15, wherein the action comprises providing and/or displaying additional information in association with the user-uploaded audio and/or visual work as follows:

When the Content ID System identifies a match between a user-uploaded audio and/or visual work and a reference work for which the rights holder has set a policy of "monetize" for matching user-uploaded works, the user-uploaded audio and/or visual work remains available on YouTube and the Content ID System displays additional information such as advertisements and promotional information relating to the creator of the reference work in association with it. The Content ID System also tracks its viewership statistics. Similarly, on information and belief, when the Content ID System identifies a match between a user-uploaded audio and/or visual work and a reference work for which the rights holder has enabled the "click-to-buy" feature for matching user-uploaded works, the user-uploaded audio and/or visual work remains available on YouTube and additional information in the form of links for the purchase of a song, movie, or other product related to the reference work will be displayed in association with it.

**Claim 32:** Google's Content ID System practices the method of claim 31, wherein the additional information provided or displayed in association with the user-uploaded audio and/or visual work is an advertisement as follows:

When the Content ID System identifies a match between a user-uploaded audio and/or visual work and a reference work for which the rights holder has set a policy of "monetize" for matching user-uploaded works, the user-uploaded audio and/or visual work remains available on YouTube and the Content ID System may display additional information in the form of advertisements on, around, and/or before it.

**Claim 51:** Google's Content ID System practices the method of claim 31, wherein the electronic work is an audio work and the additional information comprises at least one of a song title, an album title, and a performer name as follows:

On information and belief, when the Content ID System identifies a match between a user-uploaded audio work and a reference work for which the rights holder has enabled the aforementioned "click-to-buy" feature for matching user-uploaded works, the user-uploaded audio work remains available on YouTube and additional information comprising at least one of a song title, an album title, and a performer name is displayed in association with it, typically just below it.

**Claim 52:** Google's Content ID System practices the method of claim 31, wherein the electronic work is a video work and the additional information comprises at least one of a title of the video work, a director of the video work, and names of performers in the video work as follows:

On information and belief, when the Content ID System identifies a match between a user-uploaded video work and a reference work for which the rights holder has enabled the aforementioned "click-to-buy" feature for matching user-uploaded works, the user-uploaded video work remains available on YouTube and additional information comprising at least one of a title of the video work, a director of the video work, and names of performers in the video work may be displayed in association with it, typically just below it.

**U.S. Patent No. 8,205,237 ("237 Patent")**

**Claim 25:** Google's Content ID System is a computer system that includes at least one computer. When YouTube users upload media works to the Google owned and operated Internet site, [www.youtube.com](http://www.youtube.com), through client devices such as computers and mobile devices, the

Content ID System electronically extracts features from each such media work to generate its digital “fingerprint.”

The Content ID System then attempts to determine the identity of the user-uploaded media work by using its fingerprint to perform, on information and belief, a non-exhaustive search of similarly-generated digital “fingerprints” of reference media works containing copyrighted content submitted to Google by rights holders to identify a near neighbor.

When the Content ID System identifies a match between a user-uploaded media work and a reference media work submitted by a rights holder, it determines the action or actions that it needs to take with respect to the user-uploaded media work, including, but not limited to, actions based on the policy the rights holder has chosen to apply to user-uploads matching its reference media work, whether blocking, tracking, or monetizing, and/or displaying “click-to-buy” links for the purchase of a song, movie, or other product related to the reference media work.

**Claim 26:** Google’s Content ID System practices the method of claim 25, wherein the action comprises providing to and/or displaying, at another client device, additional information in association with the media work as follows:

When the Content ID System identifies a match between a media work uploaded by a user and a reference media work for which the rights holder has set a policy of “monetize” for matching user-uploaded works, the user-uploaded media work remains available on YouTube, and additional information such as advertisements and promotional information relating to the creator of the reference work will be displayed in association with it when it is accessed by another YouTube user through his or her computer or mobile device (*i.e.*, another client device). Similarly, on information and belief, when the Content ID System identifies a match between a user-uploaded media work and a reference media work for which the rights holder has enabled

the “click-to-buy” feature for matching user-uploaded works, the user-uploaded media work remains available on YouTube and links for the purchase of a song, movie, or other product related to the reference media work will be displayed in association with it when it is accessed by another YouTube user through his or her computer or mobile device (*i.e.*, another client device).

**Claim 27:** Google’s Content ID System practices the method of claim 26, wherein the action comprises providing to and/or displaying, at another client device, additional information in the form of an advertisement in association with the media work as follows:

When the Content ID System identifies a match between a user-uploaded media work and a reference media work for which the rights holder has set a policy of “monetize” for matching user-uploaded works, the user-uploaded media work remains available on YouTube and the Content ID System may display additional information in the form of advertisements on, around, and/or before it when it is accessed by another YouTube user through his or her computer or mobile device (*i.e.*, another client device).

**U.S. Patent No. 8,640,179 (“179 Patent”)**

**Claim 13:** Google’s Content ID System is a computer system that practices a computer-implemented method of maintaining one or more databases comprising: (1) a digital “fingerprint” for each reference electronic work containing copyrighted content that is submitted to Google by a rights holder, which fingerprint is generated from features extracted from the reference electronic work (*i.e.*, first electronic data comprising a first digitally created compact electronic representation of one or more reference electronic works); and (2) on information and belief, second electronic data related to actions that the Content ID System will perform when it matches a user-uploaded electronic work to one of the reference electronic works, including, but not limited to, providing and/or displaying one or more display, video, and/or click-to-buy advertisements corresponding to each of the one or more reference electronic works where their

respective rights holders have specified a policy of “monetize” and/or enabled the “click-to-buy” feature.

When a user uploads an electronic work to YouTube (*i.e.*, a first electronic work), the Content ID System also obtains its digital “fingerprint” (*i.e.*, a second digitally created compact electronic representation) using features that are extracted from it.

The Content ID System then attempts to identify a matching reference electronic work that matches the user-uploaded electronic work (*i.e.*, the first electronic work) by comparing its digital fingerprint (*i.e.*, the second digitally created compact electronic representation) with the stored digital fingerprints of rights holders’ reference electronic works (*i.e.*, the first electronic data) using, on information and belief, a non-exhaustive neighbor search.

When the Content ID System matches the user-uploaded electronic work and a reference electronic work, it looks up an action or actions to perform corresponding to the matching reference electronic work based on the second electronic data in the Content ID database(s), which include, but are not limited to, actions based on the policy the rights holder has chosen to apply to user-uploads matching its reference electronic work, whether blocking, tracking, or monetizing, and/or displaying “click-to-buy” links for the purchase of a song, movie, or other product related to the reference electronic work.

Once the Content ID System matches the user-uploaded electronic work (*i.e.*, the first electronic work) and a reference electronic work, and determines the action or actions corresponding to the matching reference electronic work, it associates the action or actions with the user-uploaded electronic work. For instance, if the rights holder’s content is blocked, the Content ID System prevents the user-uploaded electronic work from either going live or continuing to be viewed, or it mutes the audio. It may also penalize the user who attempted to upload the work by restricting the user’s access to various YouTube features. If the rights holder

chose the “track” policy, the user-uploaded electronic work remains unaffected but the Content ID System gives the rights holder access to the viewership statistics. If the policy is “monetize,” the user-uploaded electronic remains available on YouTube and the Content ID System displays with it advertisements and/or promotional information relating to the creator of the reference electronic work, and tracks its viewership statistics. Similarly, on information and belief, if the rights holder has enabled YouTube’s “click-to-buy” feature for user-uploaded matches to the reference electronic work, the user-uploaded electronic work remains available on YouTube and the Content ID System will display links for the purchase of a song, movie, or other product related to the reference electronic work together with it.

**Claim 24:** Google’s Content ID System practices the computer-implemented method of claim 13 wherein the method further comprises obtaining, by the Content ID System, the digital “fingerprint” of a second user-uploaded electronic work (*i.e.*, a second electronic work to be identified) using features that are extracted from it (*i.e.*, second extracted features).

The Content ID System then searches, by the Content ID System, for an identification of the second user-uploaded electronic work (*i.e.*, the second electronic work) by comparing its digital fingerprint (*i.e.*, second extracted features) with the stored digital fingerprints of rights holders’ reference electronic works (*i.e.*, the first electronic data) using, on information and belief, a non-exhaustive neighbor search.

The Content ID System determines that the second user-uploaded electronic work (*i.e.*, the second electronic work) is not identified based on the results of the searching step if the Content ID System does not find a match within a predefined degree of similarity for the fingerprint for the second user-uploaded electronic work amongst the fingerprints of the reference electronic works submitted by rights holders.



**Claim 34:** Google's Content ID System practices the computer-implemented method of claim 13 further comprising the step of transmitting, by the Content ID System, the determined action information as associated with the first electronic identified work, including, but not limited to, transmitting advertisements and/or promotional information relating to the creator of the matching reference electronic work to users accessing the first electronic identified work on YouTube where the rights holder for the matching reference electronic work has specified a policy of "monetize," and transmitting to the user who uploaded the first electronic identified work to YouTube notices explaining that the uploaded work may contain copyrighted content, has been blocked, is affecting the user's YouTube account, and/or that the user may be able to take steps to dispute the rights holder's claim through email and other means where the rights holder for the matching reference electronic work has specified a policy of "block."

**Claim 35:** Google's Content ID System practices the computer-implemented method of claim 13 wherein the reference electronic works containing copyrighted content submitted to Google by rights holders and the electronic works uploaded to YouTube by users (*i.e.*, the one or more electronic works) include at least one of a video work, an audio work, or an image work.

**U.S. Patent No. 8,656,441 ("441 Patent)**

**Claim 1:** Google's Content ID System is a computer system comprising multiple computers and hard disk drives (*i.e.*, one or more electronic communication devices operatively connected to one or more processors, which are operatively connected to one or more computer readable media having stored thereon computer instructions).

The computer readable media that is part of the Content ID System has stored thereon computer instructions for maintaining, by the Content ID System, a database or databases comprising: (1) digital "fingerprints" for every reference electronic work containing copyrighted content that is submitted to Google by rights holders, which fingerprints are generated from

features extracted from the reference electronic works (*i.e.*, first electronic data related to identification of one or more reference electronic works); and (2) information relating to the action or actions the Content ID System will perform when it matches an electronic work uploaded to YouTube by a user to a reference electronic work submitted to Google by a rights holder, including, but not limited to, the policy (*i.e.*, block, track, or monetize) chosen by the rights holder for the reference electronic work to apply to matching user-uploaded electronic works, and whether the rights holder has enabled the “click-to-buy” feature for matching user-uploaded electronic works, which causes links for the purchase of a song, movie, or other product related to the reference electronic work to be displayed together with the user-uploaded electronic work (*i.e.*, second electronic data related to action information comprising an action to perform corresponding to each of the one or more reference electronic works).

The computer readable media that is part of the Content ID System also has stored thereon computer instructions for obtaining, by the Content ID System, extracted features of a user-uploaded electronic work (*i.e.*, a first electronic work) to generate its digital “fingerprint.”

The computer readable media that is part of the Content ID System also has stored thereon computer instructions for identifying, by the Content ID System, the user-uploaded electronic work (*i.e.*, the first electronic work) by comparing its digital fingerprint, which was generated from its extracted features, with the fingerprints of the reference electronic works submitted by rights holders (*i.e.*, first electronic data) using, on information and belief, a non-exhaustive neighbor search.

The computer readable media that is part of the Content ID System also has stored thereon computer instructions for determining, by the Content ID System, action information corresponding to the identified user-uploaded electronic work (*i.e.*, the first electronic work) based on the policy (block, track, or monetize) and features (*e.g.*, click-to-buy) that the rights

holder has chosen to apply to matches to its reference electronic work (*i.e.*, action information corresponding to the identified first electronic work). The policy and feature choices made by the rights holder determine whether the Content ID System should block, track, or monetize the user-uploaded electronic work, and/or whether it should display “click-to-buy” links for the purchase of a song, movie, or other product related to the reference electronic work together with it.

The computer readable media that is part of the Content ID System also has stored thereon computer instructions for associating, by the Content ID System, any policy and features that the rights holder has chosen to apply to matches to its reference electronic work with the matching user-uploaded electronic work (*i.e.*, the identified first electronic work). For example, if the rights holder chose to “block” matches, the Content ID System prevents the matching user-uploaded electronic work from either going live or continuing to be viewed, or it mutes the audio. It may also penalize the user who attempted to upload the matching electronic work by restricting the user’s access to various YouTube features. If the rights holder chose the “track” policy, the user-uploaded electronic work remains unaffected but the Content ID System gives the rights holder access to the viewership statistics. If the policy is “monetize,” the user-uploaded electronic work remains available on YouTube and the Content ID System displays with it advertisements and/or promotional information relating to the creator of the reference work, and tracks its viewership statistics. Similarly, on information and belief, if the rights holder has enabled YouTube’s “click-to-buy” feature for user-uploaded matches to its reference electronic work, the user-uploaded electronic work remains available on YouTube and the Content ID System will display links for the purchase of a song, movie, or other product related to the reference electronic work together with it.

**Claim 2:** Google's Content ID System is the computer system of claim 1, wherein the step of obtaining comprises receiving as an upload to [www.youtube.com](http://www.youtube.com) the user-uploaded electronic work (*i.e.*, the first electronic work) and extracting the extracted features from it to generate its digital fingerprint.

**Claim 3:** Google's Content ID System is the computer system of claim 2, wherein the user-uploaded electronic work (*i.e.*, the first electronic work) is received as an upload to [www.youtube.com](http://www.youtube.com) from a computer (desktop or laptop (portable)) or a portable mobile device such as a cell phone or tablet.

**Claim 9:** Google's Content ID System is the computer system of claim 1, wherein the user-uploaded electronic work (*i.e.*, the first electronic work) is obtained from a computer (desktop or laptop (portable)) or a portable mobile device such as a cell phone or tablet, and wherein the action information comprises information about selling a song, movie, or other product relating to the reference electronic work through Google Play (*i.e.*, commercial transaction data), and the computer readable media that is part of the Content ID System has stored thereon further computer instructions for carrying out the additional step of electronically performing the sale (*i.e.*, commercial transaction) through the computer or portable mobile device using the Google Play sale information (*i.e.*, commercial transaction data).

**Claim 11:** Google's Content ID System is the computer system of claim 1, wherein the action for the Content ID System to perform when a user-uploaded electronic work is matched to a reference electronic work for which the rights holder has enabled YouTube's "click-to-buy" feature for user-uploaded electronic works matching the reference electronic work, comprises displaying together with the user-uploaded electronic work, links for the purchase of a song, movie, or other product related to the reference work from Amazon, iTunes, and/or Google Play links (*i.e.*, initiating an e-commerce transaction).

**Claim 22:** Google's Content ID System is the computer system of claim 1, wherein the reference electronic works containing copyrighted content submitted to Google by rights holders and the electronic works uploaded to YouTube by users (*i.e.*, the one or more electronic works) include at least one of a video work, an audio work, or an image work.

**Claim 23:** Google's Content ID System is the computer system of claim 1, wherein the computer readable media that is part of the Content ID System has stored thereon further computer instructions for obtaining, by the Content ID System, extracted features of a second user-uploaded electronic work (*i.e.*, a second electronic work) to generate its digital "fingerprint."

The computer readable media that is part of the Content ID System also has stored thereon computer instructions for searching, by the Content ID System, for an identification of the second user-uploaded electronic work (*i.e.*, the second electronic work) by comparing its digital fingerprint, which was generated from its extracted features (*i.e.*, second extracted features), with the fingerprints of the reference electronic works submitted by rights holders (*i.e.*, first electronic data) using, on information and belief, a non-exhaustive neighbor search.

The computer readable media that is part of the Content ID System also has stored thereon computer instructions for determining, by the Content ID System, that the second user-uploaded electronic work (*i.e.*, the second electronic work) is not identified based on the results of the searching step if the Content ID System does not find a match within a predefined degree of similarity for the fingerprint for the second user-uploaded electronic work amongst the fingerprints of the reference electronic works submitted by rights holders.

**Claim 25:** Google's Content ID System is a computer system comprising multiple computers and hard disk drives (*i.e.*, one or more electronic communication devices operatively

connected to one or more processors, which are operatively connected to one or more computer readable media having stored thereon computer instructions).

The computer readable media that is part of the Content ID System has stored thereon computer instructions for maintaining, by the computer system, a database or databases comprising: (1) a digital “fingerprint” for every reference electronic work containing copyrighted content that is submitted to Google by a rights holder, which fingerprint is generated from features extracted from the reference electronic work (*i.e.*, first electronic data comprising a first digitally created compact electronic representation comprising an extracted feature vector of the reference electronic work); and (2) information relating to the action or actions the Content ID System will perform when it matches an electronic work uploaded to YouTube by a user to a reference electronic work submitted to Google by a rights holder, including, but not limited to, the policy (*i.e.*, block, track, or monetize) chosen by the rights holder for the reference electronic work to apply to matching user-uploaded electronic works, and whether the rights holder has enabled the “click-to-buy” feature for matching user-uploaded electronic works, which causes links for the purchase of a song, movie, or other product related to the reference electronic work to be displayed together with the user-uploaded electronic work (*i.e.*, second electronic data related to action information comprising an action to perform corresponding to each of the one or more reference electronic works).

The computer readable media that is part of the Content ID System has stored thereon computer instructions for obtaining, by the computer system, for a user-uploaded electronic work (*i.e.*, a first electronic work) a digital “fingerprint” that is generated from its extracted features (*i.e.*, a second digitally created compact electronic representation comprising an extracted feature vector of a first electronic work).

The computer readable media that is part of the Content ID System also has stored thereon computer instructions for identifying, by the Content ID System, a matching reference electronic work that matches the user-uploaded electronic work (*i.e.*, the first electronic work) by comparing the fingerprints of the reference electronic works submitted by rights holders (*i.e.*, first electronic data) with the digital fingerprint of the user-uploaded electronic work (*i.e.*, the second digitally created compact electronic representation of the first electronic work) using, on information and belief, a non-exhaustive neighbor search.

The computer readable media that is part of the Content ID System also has stored thereon computer instructions for determining, by the Content ID System, action information corresponding to the matching reference electronic work based on the policy (block, track, or monetize) and features (*e.g.*, click-to-buy) that the rights holder has chosen to apply to matches to its reference electronic work (*i.e.*, second electronic data in the database).

The computer readable media that is part of the Content ID System also has stored thereon computer instructions for associating, by the Content ID System, any policy and features (*i.e.*, determined action information) that the rights holder has chosen to apply to matches to its reference electronic work with the matching user-uploaded electronic work (*i.e.*, the first electronic work). For example, if the rights holder chose to “block” matches, the Content ID System prevents the matching user-uploaded electronic work from either going live or continuing to be viewed, or it mutes the audio. It may also penalize the user who attempted to upload the matching electronic work by restricting the user’s access to various YouTube features. If the rights holder chose the “track” policy, the user-uploaded electronic work remains unaffected but the Content ID System gives the rights holder access to the viewership statistics. If the policy is “monetize,” the user-uploaded electronic work remains available on YouTube and the Content ID System displays with it advertisements and/or promotional information relating to

the creator of the reference work, and tracks its viewership statistics. Similarly, on information and belief, if the rights holder has enabled YouTube's "click-to-buy" feature for user-uploaded matches to its reference electronic work, the user-uploaded electronic work remains available on YouTube and the Content ID System will display links for the purchase of a song, movie, or other product related to the reference electronic work together with it.

**Claim 26:** Google's Content ID System is the computer system of claim 25, wherein the computer readable media that is part of the Content ID System has stored thereon further computer instructions for obtaining, by the Content ID System, for a second user-uploaded electronic work (*i.e.*, a second electronic work) a digital "fingerprint" that is generated from its extracted features (*i.e.*, a third digitally created compact electronic representation comprising an extracted feature vector of a second electronic work).

The computer readable media that is part of the Content ID System also has stored thereon computer instructions for searching, by the Content ID System, for a matching reference electronic work that matches the second user-uploaded electronic work (*i.e.*, the second electronic work) by comparing its fingerprint (*i.e.*, the third digitally created compact electronic representation of the second electronic work) with the fingerprints of the reference electronic works submitted by rights holders (*i.e.*, first electronic data) using, on information and belief, a non-exhaustive neighbor search.

The computer readable media that is part of the Content ID System also has stored thereon computer instructions for determining, by the Content ID System, that a matching reference electronic work that matches the second user-uploaded electronic work (*i.e.*, the second electronic work) does not exist based on the results of the searching step if the Content ID System does not find a match within a predefined degree of similarity for the fingerprint for the



second user-uploaded electronic work amongst the fingerprints of the reference electronic works submitted by rights holders.

## **INTERROGATORY NO. 2**

IDENTIFY any products or processes developed (and the people involved in such development), privately or publicly demonstrated (and to whom), licensed, offered for license, made, sold, offered for sale, and/or used by PLAINTIFF that PLAINTIFF contends embody a claim of the PATENTS-IN-SUIT; whether and when each such product or process was sold or offered for sale, or licensed or offered to be licensed (and to whom); and all PERSONS with knowledge of the technical operation, design and construction of such products or processes.

## **RESPONSE TO INTERROGATORY NO. 2**

Network-1 objects to this Interrogatory as unduly burdensome and overbroad to the extent that it purports to impose discovery obligations on or with respect to entities or persons that are not parties to this action and over whom Network-1 does not exercise control through the use of the defined term “PLAINTIFF.” Network-1 will treat this term as having the meaning set forth in Local Civil Rule 26.3(c)(5). Network-1 also objects to this Interrogatory as vague and ambiguous as to the term “processes.” Network-1 also objects to this Interrogatory as vague and ambiguous on the ground that no definition was given for the term “IDENTIFY” as applied to “processes.” Network-1 also objects to this Interrogatory as vague and ambiguous because it is unclear what products or processes the phrases “each such product or process” or “such products or processes” refers to. For purposes of this Response, Network-1 will interpret this phrase as referring to products or processes developed by Network-1 that Network-1 contends embodies a claim of the patents-in-suit. Network-1 also objects that this Interrogatory is unintelligible as written. Network-1 also objects to this Interrogatory as compound as it comprises at least 7 subparts. Network-1 will count each of these subparts as an individual interrogatory in

determining the number of Interrogatories served upon Network-1. Network-1 further incorporates its General Objections set forth above into its specific response to this Interrogatory.

Subject to and without waiving any of the foregoing general and specific objections, Network-1 responds to this Interrogatory as follows:

(1) Identification of any products or processes developed, demonstrated, licensed, offered for license, made, sold, offered for sale, and/or used by Network-1 that Network-1 contends embody a claim of the patents-in-suit: Network-1 has not developed, demonstrated, licensed, offered for license, made, sold, offered for sale, and/or used any products or processes that it contends embody a claim of the patents-in-suit.

(2) Identification of persons involved in Network-1's development of products or processes that Network-1 contends embody a claim of the patents-in-suit: None.

(3) Identification of persons to whom Network-1 demonstrated products or processes that Network-1 contends embody a claim of the patents-in-suit: None.

(4) Statement re whether each product or process developed by Network-1 that Network-1 contends embody a claim of the patents-in-suit was sold or offered for sale, or licensed or offered to be licensed: Network-1 has not developed any products or processes that it contends embody a claim of the patents-in-suit.

(5) Statement re when each product or process developed by Network-1 that Network-1 contends embody a claim of the patents-in-suit was sold or offered for sale, or licensed or offered to be licensed: Network-1 has not developed any products or processes that it contends embody a claim of the patents-in-suit.

(6) Identification of persons to whom products or processes developed by Network-1 that Network-1 contends embody a claim of the patents-in-suit were sold, or offered for sale, or

licensed or offered to be licensed by Network-1: Network-1 has not developed any products or processes that it contends embody a claim of the patents-in-suit.

(7) Identification of persons with knowledge of the technical operation, design and construction of products or processes developed by Network-1 that Network-1 contends embody a claim of the patents-in-suit: Network-1 has not developed any products or processes that it contends embody a claim of the patents-in-suit.

### **INTERROGATORY NO. 3**

IDENTIFY any products or processes developed (and the people involved in such development), privately or publicly demonstrated (and to whom), licensed, offered for license, made, sold, offered for sale, and/or used by PLAINTIFF that relate to the TECHNOLOGY-IN-SUIT; whether and when each such product or process was sold or offered for sale, or licensed or offered to be licensed (and to whom); and all PERSONS with knowledge of the technical operation, design and construction of such products or processes.

### **RESPONSE TO INTERROGATORY NO. 3**

Network-1 objects to this Interrogatory as unduly burdensome and overbroad to the extent that it purports to impose discovery obligations on or with respect to entities or persons that are not parties to this action and over whom Network-1 does not exercise control through the use of the defined term “PLAINTIFF.” Network-1 will treat this term as having the meaning set forth in Local Civil Rule 26.3(c)(5). Network-1 also objects to this Interrogatory as vague and ambiguous as to the term “processes.” Network-1 also objects to this Interrogatory as vague and ambiguous on the ground that no definition was given for the term “IDENTIFY” as applied to “processes.” Network-1 also objects to this Interrogatory as vague and ambiguous because it is unclear what products or processes the phrases “each such product or process” or “such products or processes” refers to. For purposes of this Response, Network-1 will interpret this phrase as

referring to products or processes developed by Network-1 that relate to the TECHNOLOGY-IN-SUIT. Network-1 also objects that this Interrogatory is unintelligible as written. Network-1 also objects to the definition of “TECHNOLOGY-IN-SUIT” to the extent it mischaracterizes the technology accused by Network-1. For purposes of this Response, Network-1 will treat the term “TECHNOLOGY-IN-SUIT” as referring to “products and services that extract features of media works and compare them against extracted features of reference media works.” Network-1 also objects to this Interrogatory as compound as it comprises at least 7 subparts. Network-1 will count each of these subparts as an individual interrogatory in determining the number of Interrogatories served upon Network-1. Network-1 further incorporates its General Objections set forth above into its specific response to this Interrogatory.

Subject to and without waiving any of the foregoing general and specific objections, Network-1 responds to this Interrogatory as follows:

(1) Identification of any products or processes developed, demonstrated, licensed, offered for license, made, sold, offered for sale, and/or used by Network-1 that relate to the TECHNOLOGY-IN-SUIT: Network-1 has not developed, demonstrated, licensed, offered for license, made, sold, offered for sale, and/or used any products or processes that relate to TECHNOLOGY-IN-SUIT.

(2) Identification of persons involved in Network-1’s development of products or processes that relate to the TECHNOLOGY-IN-SUIT: None.

(3) Identification of persons to whom products or processes that relate to the TECHNOLOGY-IN-SUIT were demonstrated by Network-1: None.

(4) Statement re whether each product or process developed by Network-1 that relates to the TECHNOLOGY-IN-SUIT was sold or offered for sale, or licensed or offered to be licensed:

Network-1 has not developed any products or processes relating to the TECHNOLOGY-IN-SUIT.

(5) Statement re when each product or process developed by Network-1 that relates to the TECHNOLOGY-IN-SUIT was sold or offered for sale, or licensed or offered to be licensed:  
Network-1 has not developed any products or processes relating to the TECHNOLOGY-IN-SUIT.

(6) Identification of persons to whom products or processes developed by Network-1 that relate to the TECHNOLOGY-IN-SUIT were sold, or offered for sale, or licensed or offered to be licensed by Network-1: Network-1 has not developed any products or processes relating to the TECHNOLOGY-IN-SUIT.

(7) Identification of persons with knowledge of the technical operation, design and construction of products or processes developed by Network-1 that relate to the TECHNOLOGY-IN-SUIT: Network-1 has not developed any products or processes relating to the TECHNOLOGY-IN-SUIT.

#### **INTERROGATORY NO. 4**

State the earliest conception date and reduction to practice date that PLAINTIFF alleges for each of the alleged inventions described in the ASSERTED CLAIMS, and IDENTIFY the factual bases for these allegations.

#### **RESPONSE TO INTERROGATORY NO. 4**

Network-1 objects to this Interrogatory as unduly burdensome and overbroad to the extent that it purports to impose discovery obligations on or with respect to entities or persons that are not parties to this action and over whom Network-1 does not exercise control through the use of the defined term "PLAINTIFF." Network-1 will treat this term as having the meaning set

forth in Local Civil Rule 26.3(c)(5). Network-1 further incorporates its General Objections set forth above into its specific response to this Interrogatory. Network-1 further states that discovery in this case is not yet complete and its investigation and analysis of the facts is still ongoing. As such, Network-1 expressly reserves the right to supplement the information in this response with such pertinent information that it may subsequently discover and to amend and/or supplement any or all of the matters contained in these responses with facts or information that it learns were omitted by inadvertence, mistake, or excusable neglect.

Subject to and without waiving any of the foregoing general and specific objections, Network-1 responds to this Interrogatory as follows:

The inventions claimed in the asserted claims were conceived at least as early as July 17, 2000. These inventions were constructively reduced to practice at least as early as September 14, 2000. All of the patents-in-suit claim priority to Provisional Application No. 60/232,618, which was filed on September 14, 2000. The documentary evidence shows that the underlying document was created, beginning no later than July 17, 2000, as indicated by the file header information that appears on every page of the specification, claims, and abstract submitted with the application. *See generally* Documents produced at NETWORK1\_000198-000240. The inventor, Dr. Cox, developed these inventions during a leave of absence from his employment in 2000, which began in July 2000.

Dated: October 20, 2014

By: /s/ Brian D. Ledahl  
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**CERTIFICATE OF SERVICE**

I certify that a copy of the foregoing document PLAINTIFF NETWORK-1 TECHNOLOGIES, INC.'S RESPONSES TO DEFENDANT GOOGLE, INC. AND YOUTUBE, LLC'S FIRST SET OF INTERROGATORIES (NOS. 1-4) was served on October 20, 2014, as follows:

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