

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RESIDEO TECHNOLOGIES, INC.

Petitioner

v.

UBIQUITOUS CONNECTIVITY, LP,

Patent Owner

Case: IPR2019-01335

U.S. Patent No. 8,064,935

**PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. §311-319 AND 37 C.F.R. §42**

Mail Stop PATENT BOARD
Patent Trial and Appeal Board
US Patent and Trademark Office
PO Box 1450
Alexandria, Virginia 22313-1450

TABLE OF CONTENTS

TABLE OF AUTHORITIES	viii
TABLE OF EXHIBITS	x
I. MANDATORY NOTICES UNDER 37 C.F.R. § 42.8.....	1
A. Real Party in Interest (37 C.F.R. § 42.8(b)(1))	1
B. Related Matters (37 C.F.R. § 42.8(b)(2)).....	1
C. Designation of Counsel (37 C.F.R. § 42.8(b)(3))	2
D. Service Information (37 C.F.R. § 42.8(b)(4))	2
II. PAYMENT OF FEES (37 C.F.R. §42.103)	2
III. REQUIREMENTS (37 C.F.R. §42.104)	2
A. Standing (§42.104(a)).....	2
B. Challenges (§42.104(b)(1)–(2)).....	3
C. Claim Construction (§42.104(b)(3)).....	4
D. Unpatentability of the Construed Claims (§42.104(b)(4)).....	4
E. Supporting Evidence (§42.104(b)(5))	4
IV. INTRODUCTION	5
V. THE 935 PATENT.....	6
A. Related Applications	6
B. U.S. Patent No. 8,064,935	6
VI. CLAIM CONSTRUCTION (37 C.F.R. §42.104(b)(3))	7
A. Environmental Device	7
B. Base Unit	8
C. Cellular Remote / Remote Unit	9
D. Communications Interface	9
E. Other Terms.....	10
VII. THE CLAIMS ARE UNPATENTABLE	11
A. Priority Date	11
B. Prior Art.....	12
1. Oinonen.....	12
2. Bielski	12
3. Wu.....	12
4. Whitley.....	13
5. Sears.....	14
6. Menard	14
7. Ehlers	14
8. Antila	14

VIII. GROUNDS OF INVALIDITY	15
A. Ground 1A: Oinonen and Whitley	15
1. Motivation to Combine.....	15
2. Claim 1: [1Pre] A wireless system comprising:.....	17
a) [1A] an environmental device;	17
b) [1B] a base unit operatively interfaced with the environmental device and configured to control an operation of the environmental device;.....	18
c) [1C] a remote unit having wireless connectivity and being configured to send and receive short message service (SMS) messages; and	19
d) [1D] a wireless module operatively interfaced with the base unit and configured to provide wireless connectivity between the base unit and the remote unit,.....	19
e) [1E] wherein the base unit is configured to send a first SMS message, including current environmental information, to the remote unit through the wireless module,	20
f) [1F] wherein the remote unit is configured to send a second SMS message, including a command for the environmental device, to the base unit through the wireless module, and	21
g) [1G] wherein the base unit is configured to receive the second SMS message, including the command, and to send the command to the environmental device to control the operation of the environmental device.	22
3. Claim 2: The system as recited in claim 1 wherein said environmental device includes electronic and electromechanical switching portions interfaced with said environmental device.....	23
4. Claim 3: The system as recited in claim 1 wherein said base unit is a microcontroller-based processing unit having customizable application specific software.....	24
5. Claim 7: The system as recited in claim 1 wherein said wireless connectivity includes a transmitting and receiving module in said base unit and a transmitting and receiving unit in said remote unit operatively communicating with each other over a cellular telephone network.....	25
6. Claim 11: [11Pre] A wireless system comprising:.....	26
a) [11A] an environmental device configured to send environmental information, and adapted to receive a command to control an operation of the environmental device;.....	26

b)	[11B] a remote unit having wireless connectivity and being configured to:.....	27
c)	[11C] receive a first short message service (SMS) message, wherein the first SMS message includes the environmental information;	27
d)	[11D] notify a user of said remote unit of receipt of the first SMS message; and.....	27
e)	[11E] send a second SMS message, wherein the second SMS message includes the command; and.....	28
f)	[11F] a wireless base unit configured to:.....	28
g)	[11G] receive the environmental information from the environmental device;.....	28
h)	[11H] transmit the first SMS message to the remote unit;	29
i)	[11I] receive the second SMS message from the remote unit; and.....	29
j)	[11J] send the command to the environmental device.	29
7.	Claim 12: The system of claim 11 wherein the wireless connectivity connection further comprises a first wireless connection interfacing with the base unit, a second wireless connection interfacing with the remote unit, and a non-wireless connection interfacing between the first wireless connection and the second wireless connection.....	29
8.	Claim 13: The system of claim 11 wherein the environmental device includes electronic and electromechanical switching portions for controlling the environmental information.....	31
9.	Claim 14: The system of claim 11 wherein the base unit further comprises a microcontroller-based processing unit having customizable application specific software.....	31
10.	Claim 15: The system of claim 11 wherein the remote unit further comprises a cellular telephone handset.	31
11.	Claim 17: The system of claim 11 further comprising a cellular telephone network.....	31
12.	Claim 18: [18Pre] A base unit. . .comprising:.....	32
a)	[18A] a communication interface . . .;.....	32
b)	[18B] a wireless module . . .,	32
c)	[18C] wherein the first message is a first short message service (SMS) message including the environmental information, and	32

	d)	[18D] wherein the second message is a second short message service (SMS) message including the command to the environmental device; and.....	32
	e)	[18E] a microcontroller . . .	32
13.		Claim 19: [19Pre] A communication system . . .comprising:	33
	a)	[19A] a base unit . . .;	33
	b)	[19B] a transmitter . . .;	34
	c)	[19C] a receiver . . .; and.....	34
	d)	[19D] a controller . . .	34
14.		Claim 21: [21Pre] A base unit . . . comprising:	34
	a)	[21A] a communication interface . . .;	35
	b)	[21B] a wireless module . . ., and	35
	c)	[21C] wherein the second message includes the command to the environmental device and travels via short message and/or data bearer services; and.....	35
	d)	[21D] a microcontroller . . .	35
B.		Ground 1B: Oinonen, Whitley, and Sears.....	35
	1.	Motivation to Combine.....	35
	2.	Claim 4: The system as recited in claim 1 wherein said remote unit is a cellular telephone handset with custom programmability.	37
	3.	Claim 5: The system as recited in claim 4 wherein said custom programmability is a JAVA programming kernel.....	37
	4.	Claim 6: The system as recited in claim 4 wherein said custom programmability is a J2ME programming kernel.	37
	5.	Claim 16: The system of claim 15 wherein the cellular telephone handset includes at least one of a customizable JAVA programming kernel and a customizable J2ME programming kernel.....	38
C.		Ground 1C: Oinonen, Whitley, and Antila	38
	1.	Motivation to Combine.....	38
	2.	Claim 8: The system as recited in claim 1 wherein the remote unit includes a liquid crystal display module.	39
D.		Ground 1D: Oinonen, Whitley, Antila, and Ehlers	39
	1.	Motivation to Combine.....	39
	2.	Claim 9: The system as recited in claim 8 wherein said liquid crystal module includes selectable graphic icons corresponding to current environmental information being monitored or controlled.	41

3.	Claim 10: The system as recited in claim 1, wherein the remote unit is configured to selectively disable transmission of SMS messages from the base unit.	43
E.	Ground 1E: Oinonen, Whitley, and Menard	44
1.	Motivation to Combine.....	44
2.	Claim 20: [20Pre] A wireless system comprising:.....	46
a)	[20A] a base unit . . .;.....	46
b)	[20B] a receiver . . .;	46
c)	[20C] a controller . . .; and.....	46
d)	[20D] a transmitter	46
3.	Claim 22: [22Pre] A base unit . . . comprising:.....	47
a)	[22A] a controller . . .; and.....	47
b)	[22B] a wireless module configured to:.....	47
c)	[22C] receive a control message . . .;.....	47
d)	[22D] create a control command for the environmental device based on the control information;.....	47
e)	[22E] send the control command to the environmental device via the controller; and.....	48
f)	[22F] send a status message indicating execution of said control information to the remote device.	48
F.	Ground 2A: Bielski and Wu	49
1.	Motivation to Combine.....	49
2.	Claim 1: [1Pre]	52
a)	[1A]	52
b)	[1B]	53
c)	[1C]	54
d)	[1D]	55
e)	[1E].....	56
f)	[1F].....	57
g)	[1G]	58
3.	Claim 2.....	60
4.	Claim 3.....	61
5.	Claim 4.....	61
6.	Claim 7.....	62
7.	Claim 8.....	65
8.	Claim 9.....	66
9.	Claim 11: [11Pre]	67
a)	[11A]	67
b)	[11B]	69
c)	[11C]	69

	d)	[11D]	70
	e)	[11E]	70
	f)	[11F]	70
	g)	[11G]	70
	h)	[11H]	72
	i)	[11I]	72
	j)	[11J]	72
10.		Claim 12	72
11.		Claim 13	73
12.		Claim 14	73
13.		Claim 15	73
14.		Claim 17	73
15.		Claim 18: [18Pre]	73
	a)	[18A]	73
	b)	[18B]	74
	c)	[18C]	74
	d)	[18D]	74
	e)	[18E]	74
16.		Claim 19: [19Pre]	75
	a)	[19A]	75
	b)	[19B]	75
	c)	[19C]	76
	d)	[19D]	76
17.		Claim 21: [21Pre]	76
	a)	[21A]	77
	b)	[21B]	77
	c)	[21C]	77
	d)	[21D]	77
G.		Ground 2B: Bielski, Wu, and Sears	77
	1.	Motivation to Combine	77
	2.	Claim 5	79
	3.	Claim 6	79
	4.	Claim 16	79
H.		Ground 2C: Bielski, Wu, and Ehlers	80
	1.	Motivation to Combine	80
	2.	Claim 10	80
I.		Ground 2D: Bielski, Wu, and Menard	81
	1.	Motivation to Combine	81
	2.	Claim 20: [20Pre]	82
	a)	[20A]	83

b)	[20B]	83
c)	[20C]	83
d)	[20D]	83
3.	Claim 22: [22Pre]	83
a)	[22A]	83
b)	[22B]	83
c)	[22C]	84
d)	[22D]	84
e)	[22E]	85
f)	[22F]	85

TABLE OF AUTHORITIES

	Page(s)
CASES	
<i>Okajima v. Bourdeau</i> , 261 F.3d 1350 (Fed. Cir. 2001)	11

STATUTES

35 U.S.C. § 102(a)	12
35 U.S.C. §103	3-4
35 U.S.C. §§ 311–319	6
35 U.S.C. § 282(b)	7
35 U.S.C. § 102(b)	12-15
35 U.S.C. § 102(e)	15

OTHER AUTHORITIES

37 C.F.R. § 42.100(b)	7
37 C.F.R. § 42.8(b)(1)	1
37 C.F.R. § 42.8(b)(2)	1
37 C.F.R. § 42.8(b)(3)	2
37 C.F.R. § 42.10(b)	2
37 C.F.R. § 42.8(b)(4)	2

37 C.F.R. §42.103	2
37 C.F.R. §42.104(a).....	2
37 C.F.R. §42.104(b)(1)–(2)	3
37 C.F.R. §42.104(b)(3).....	4, 7
37 C.F.R. §42.104(b)(4).....	4
37 C.F.R. §42.104(b)(5).....	4
37 C.F.R. § 42	6

TABLE OF EXHIBITS

Exhibit	Short Name	Description
Ex. 1001	935 Patent	U.S. Patent No. 8,064,935
Ex. 1002	655 File History	File History of U.S. Patent No. 9,602,655
Ex. 1003	Jeffay Declaration	Declaration of Kevin Jeffay under 37 C.F.R. § 1.68
Ex. 1004	Jeffay CV	<i>Curriculum Vitae</i> of Kevin Jeffay
Ex. 1005		Provisional Patent Application No. 60/522,887 File History
Ex. 1006	335 File History	U.S. Patent No. 6,990,335 File History
Ex. 1007	397 File History	U.S. Patent No. 7,257,397 File History
Ex. 1008	532 File History	U.S. Patent No. 7,668,532 File History
Ex. 1009	823 File History	U.S. Patent No. 7,643,823 File History
Ex. 1010	935 File History	U.S. Patent No. 8,064,935 File History
Ex. 1011		15/405,793 Application File History
Ex. 1012	Motion	CPS Energy Motion to Dismiss
Ex. 1013	Complaint	Complaint for Patent Infringement
Ex. 1014		Zatkovich Declaration
Ex. 1015		Ubiquitous Response to CPS Energy MTD
Ex. 1016	Oinonen	U.S. Patent No. 6,275,710 (Oinonen)
Ex. 1017	Bielski	European Patent Application No. 1391861 (Bielski)
Ex. 1018	Wu	<i>System integration of WAP and SMS for home network system</i> (Wu)
Ex. 1019	Sears	U.S. Patent Pub. 2002/0069263 (Sears)
Ex. 1020	Menard	US Patent Pub. 2002/0177428 (Menard)
Ex. 1021	Antila	US Patent No. 6,583,770 (Antila)
Ex. 1022	Ehlers	US Patent Pub. 2004/0117330 (Ehlers)
Ex. 1023	Whitley	WIPO Publication No. 99/49680 (PCT/US99/06429) (Whitley)
Ex. 1024	Song	U.S. Patent No. 6,393,297 (Song)
Ex. 1025	SMS Specification	Universal Mobile Telecommunications System (UMTS); Technical realization of the Short Message Service (SMS) (3G TS 23.040 version 3.5.0 Release 1999)
Ex. 1026		RESERVED
Ex. 1027	Kanma	<i>Home Appliance Control System over Bluetooth with a Cellular Phone</i> (Kanma)

Exhibit	Short Name	Description
Ex. 1028	Lee Declaration	Statutory Declaration of Rupert Lee

I. MANDATORY NOTICES UNDER 37 C.F.R. § 42.8

A. Real Party in Interest (37 C.F.R. § 42.8(b)(1))

The real party in interest is Petitioner, Resideo Technologies, Inc.

City of San Antonio by and through its agent, City Public Service Board of San Antonio d/b/a CPS Energy, Ademco, Inc., and Honeywell International Inc.¹ are also real parties in interest.

B. Related Matters (37 C.F.R. § 42.8(b)(2))

On July 12, 2018, Patent Owner filed a complaint against City of San Antonio by and through its agent, City Public Service Board of San Antonio d/b/a CPS Energy (hereinafter, “Defendant” or “CPS Energy”) in the United States District Court for the Western District of Texas (Case 5:18-cv-00718-XR) alleging infringement of the 935 Patent. Ex. 1013.

Concurrently with the filing of this Petition, Petitioner is also filing a petition challenging the patentability of the claims of related U.S. Patent No. 9,602,655.

¹ Honeywell International Inc. has indicated through its counsel that it does not believe it is an RPI. However, Petitioner lists it herein out of an abundance of caution.

C. Designation of Counsel (37 C.F.R. § 42.8(b)(3))

Lead counsel is S. Benjamin Pleune (Reg. No. 52,421), of Alston & Bird LLP, Bank of America Plaza, 101 South Tryon Street, Suite 4000, Charlotte, NC 28280-4000, Tel: 704.444.1000, Fax: 704.444.1111. Backup counsel is Christopher T.L. Douglas (Reg. No. 56,950) and Adam J. Doane (Reg. No. 73,568), of Alston & Bird LLP, Bank of America Plaza, 101 South Tryon Street, Suite 4000, Charlotte, NC 28280-4000, Tel: 704.444.1000, Fax: 704.444.1111. Pursuant to 37 C.F.R § 42.10(b), Powers of Attorney are being submitted with this Petition.

D. Service Information (37 C.F.R. § 42.8(b)(4))

Petitioners consent to electronic service directed to ben.pleune@alston.com, christopher.douglas@alston.com, and adam.doane@alston.com.

II. PAYMENT OF FEES (37 C.F.R. §42.103)

Petitioners authorize Account No. 16-0605 to be charged for any fees.

III. REQUIREMENTS (37 C.F.R. §42.104)

A. Standing (§42.104(a))

Petitioner certifies that the 935 Patent is available for review and that Petitioner is not barred or estopped from challenging Claims 1-22.

B. Challenges (§42.104(b)(1)–(2))

Petitioner requests cancellation of the claims in the 935 Patent on the following grounds:

1A: Claims 1-3, 7, 11-15, 17-19, and 21 are unpatentable under 35 U.S.C. §103 over Oinonen and Whitley.

1B: Claims 4-6 and 16 are unpatentable under 35 U.S.C. §103 over Oinonen, Whitley, and Sears.

1C: Claim 8 is unpatentable under 35 U.S.C. §103 over Oinonen, Whitley, and Antila.

1D: Claims 9-10 is unpatentable under 35 U.S.C. §103 over Oinonen, Whitley, Antila, and Ehlers.

1E: Claims 20 and 22 are unpatentable under 35 U.S.C. §103 over Oinonen, Whitley, and Menard.

2A: Claims 1-4, 7-9, 11-15, 17-19, and 21 are unpatentable under 35 U.S.C. §103 over Bielski and Wu.

2B: Claims 5-6 and 16 are unpatentable under 35 U.S.C. §103 over Bielski, Wu, and Sears.

2C: Claim 10 is unpatentable under 35 U.S.C. §103 over Bielski, Wu, and Ehlers.

2D: Claims 20 and 22 are unpatentable under 35 U.S.C. §103 over Bielski, Wu, and Menard.

C. Claim Construction (§42.104(b)(3))

Claim constructions are provided in Section VII.

D. Unpatentability of the Construed Claims (§42.104(b)(4))

The claims are unpatentable as is provided in Section IX.

E. Supporting Evidence (§42.104(b)(5))

Exhibit numbers of the evidence relied upon to support the challenge and the relevance of the evidence to the challenge raised are included below.

IV. INTRODUCTION

The 935 Patent is directed to known cellular network and in-home automation functionality. Patent Owner did not invent cellular phones, cellular networks, base stations, or even the use of SMS communication between devices nor does Patent Owner purport to have done so. *See e.g.*, Ex. 1025. Instead, Patent Owner asserts that its invention is directed to a base unit that is connected to, and communicates through, *a wireless cellular network*. That is, Patent Owner asserts that its invention allegedly solves the problem of running cables for Internet connection to homes/businesses by relying on a cellular network. Ex. 1014 at 22-23, 60.

In litigation and based on the testimony of Mr. Zatkovich, Patent Owner further asserts that the 935 Patent is directed to: “the integration of an incompatible communication device (a cellular phone) into that space.” Ex. 1014 at 48. Mr. Zatkovich explains that on-demand bidirectional communication (*two-way communication*) is required. *Id.*

This Petition and Dr. Jeffay leave no doubt that cellular connectivity and bi-directional communications were not new as of the priority date. For example, Dr. Jeffay testifies that SMS is one of the oldest mechanisms for sending data between two mobile phones. Ex. 1003, ¶32. Moreover, the prior art confirms SMS-based device control and monitoring systems were well known.

Accordingly, Petitioner petitions under 35 U.S.C. §§ 311–319 and 37 C.F.R. § 42 of Claims 1-22 (“Challenged Claims”). Petitioner submits that the challenged claims should be canceled.

V. THE 935 PATENT

A. Related Applications

Throughout the long and tortured prosecution history of this and related cases, Patent Owner never asserted that wireless remote control of home appliances was novel, never argued that the use of cellular phones were novel and never argued that it invented SMS, but instead argued that its implementation of remote monitoring and control *did not require the Internet*. Ex. 1007, p. 108. Through the prosecution of related actions, Patent Owner confirmed that its so-called innovation relied on SMS, technology that was well-known and is illustrated in the references cited herein. *See e.g.*, Ex. 1007, p. 109; Ex. 1010, p. 146.

B. U.S. Patent No. 8,064,935

Application No. 11/686,993 ultimately issued as the 935 Patent. Prosecution lasted over 4 years with Patent Owner repeatedly adding new elements to the claims to overcome rejections.

Patent Owner made numerous arguments during prosecution, including that, unlike the cited art, the instant claims did not require the Internet and that the cited art did not disclosed two-way messaging. Ex. 1003, ¶122, 125-126. The claims

were ultimately allowed when Patent Owner redrafted the claims to include: sending a command from the remote unit to the base unit via an SMS message. Ex. 1003, ¶129-131. As discussed throughout this petition, such bi-directional SMS-based systems were well-known.

VI. CLAIM CONSTRUCTION (37 C.F.R. §42.104(b)(3))

The challenged claims of the 935 Patent are construed herein “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b).” 37 C.F.R. § 42.100(b) (Nov. 13, 2018). Unless otherwise specified, the terms discussed herein, including those not specifically addressed below, are to be construed to have their plain meaning. Petitioner provides suggestions as to the plain meanings below. Irrespective, under either the plain meaning, or the constructions provided by Patent Owner in the co-pending litigation, the relevant limitations are disclosed in the prior art.

A. Environmental Device

Patent Owner argued in the co-pending litigation that the term “environmental device” should be construed as “[a] device operatively connected to at least one sensor capable of measuring an environmental condition.” Ex. 1015, Appx. A. The term “environmental device” should not be narrowly construed to necessarily include or be connected to “at least one sensor.” Ex. 1003, ¶147.

The term “environmental device” is not found in the specification of the 935 Patent. That said, the 935 Patent provides numerous non-limiting examples of devices and/or sensors that monitor or control aspects of the environment in and around the base unit. Ex. 1001, 11:35-39, 11:47-53; Ex. 1003, ¶146. Thus, “environmental device” should be given its plain meaning. Ex. 1003, ¶146. If necessary, the plain meaning of “environmental device” is “a device that is capable of measuring and/or controlling its surroundings.” *Id.*

B. Base Unit

Patent Owner argued that the term “base unit” should be construed narrowly. Ex. 1015, Appx. A. However, the specification, which does not use the “base unit,” but instead uses the term “base control unit” broadly describes the “base control unit” as a generic component that is placed at the home or business to be monitored. *See* Ex. 1001, 3:51-57, 4:53-56; Ex. 1003, ¶149. Indeed, the 935 Patent confirms that certain functionality included in Patent Owner’s construction, such as the display and/or keypad, is unnecessary. Ex. 1001, 5:36-42; Ex. 1003, ¶149.

Accordingly, the POSITA would have understood “base unit” to have its plain meaning. Ex. 1003, ¶150. If necessary, the plain meaning of “base unit” is a “base component that can send and receive data through interface(s) to the remote unit and environmental device.” *Id.*

C. Cellular Remote / Remote Unit

Patent Owner also argued that the term “[cellular remote / remote] unit” should be construed narrowly. Ex. 1015, Appx. A.

The specification does not use the term “[cellular remote / remote] unit”, but instead, uses the term “remote control unit.” *See* Ex. 1001, 3:51-57; Ex. 1003, ¶152. The 935 Patent describes the “remote control unit” generically in terms of a device that is geographically remote from the “base control unit” and as a “conventional cellular telephone handset[.]” Ex. 1001, 3:51-57; 6:65-67; Ex. 1003, ¶152.

Accordingly, the POSITA would have understood “[cellular remote / remote] unit” to have its plain meaning. Ex. 1003, ¶153. If necessary, the plain meaning of “[cellular remote / remote] unit” is a “[cellular remote / remote] component that can send and receive data.” *Id.*

D. Communications Interface

Patent Owner argued that the term “communications interface” should be construed to mean “[a]n interface capable of communicating the control and command instructions to the subsystems within the environment” in the co-pending litigation. Ex. 1015, Appx. A. Patent Owner’s construction however improperly imports the function of the interface (communicating the control and command instruction). Ex. 1003, ¶154.

The 935 Patent broadly describes the term “communications interface” to include an interface between various communications medium. Ex. 1001, 6:30-33, 7:55-56, 5:53; Ex. 1003, ¶155. Accordingly, “communications interface” should be given its plain meaning. Ex. 1003, ¶156. If necessary, the plain meaning of “communication interface” is “an interface that enables the exchange of data.” *See* Ex. 1001, 6:30-33, 7:55-56, 5:53; Ex. 1003, ¶156.

E. Other Terms

Patent Owner asserts additional constructions for certain terms, but these terms should instead be given their plain meaning. Ex. 1003, ¶157. Petitioner reserves the right to dispute the following constructions at a later time.

Term	Patent Owner Construction
“cellular communications network”/“cellular telephone network”	cellular telephone network
“short message service (SMS)”	service capable of transmitting short messages between network interfaces
“data bearer service”	Service capable of transmitting data between network interfaces

VII. THE CLAIMS ARE UNPATENTABLE

The Grounds render obvious each of the Challenged Claims. Each of the arguments below is made from the standpoint of a person of ordinary skill in the art (“POSITA”). Patent Owner proposed that a POSITA would be expected to have at least a bachelor’s degree in electrical engineering or computer science and at least two years of industry experience in the field of computers and communications. Ex. 1014, 50. A more precise definition would be a person who has at least a bachelor’s degree in electrical engineering or computer science and at least two years of industry experience in the field of embedded systems and/or process control. Ex. 1003, ¶10. The applied prior art reflects the appropriate level of skill. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

A. Priority Date

The earliest possible priority date of the claims of the 935 Patent is November 18, 2004—the filing date of Provisional No. 60/522,887 to which the 935 Patent claims priority. However, the provisional does not support the claims, such as the first and second messages (to include the specific details of the contents of each message, such as environmental information or a command). Instead, the

provisional mentions messages and/or the data bearer a single time.² Irrespective, each of the references relied on below are prior art no matter the priority date.

B. Prior Art

1. Oinonen

U.S. Patent No. 6,275,710 to Oinonen et al. (“Oinonen”) issued on August 14, 2001. Ex. 1016. Oinonen is prior art under 35 U.S.C. § 102(b). Oinonen was not considered during prosecution.

2. Bielski

European Application No. 1391861 to Bielski (“Bielski”) published on February 25, 2004. Ex. 1017. Bielski was originally published in German. A copy of the original publication, an English translation, and a certification is attached as Ex. 1017. Bielski is prior art under at least 35 U.S.C. § 102(a). Bielski was not considered during prosecution.

3. Wu

System integration of WAP and SMS for home network system by Wu and Jan (“Wu”) was published in Computer Networks on July 15, 2003. Ex. 1018. Wu is prior art under 35 U.S.C. § 102(b). Wu was not considered during prosecution.

² In this case all references are prior art under 35 U.S.C. § 102(b).

Wu was available to the public as of its publication in Volume 42, Issue 4 of *Computer Networks* on July 15, 2003. Ex. 1003, ¶ 169. Mr. Lee of the British library authenticates the article and corroborates its date of public accessibility by testifying that Wu was cataloged on June 24, 2003 and would have been available for public use as of that date. Ex. 1028, 1.

Computer Networks is an international publication that publishes papers on topics related to networking. Ex. 1003, ¶ 170. Indeed, Dr. Jeffay testifies to the authenticity of Ex. 1017 and notes that he is familiar with *Computer Networks* and he himself has been published in *Computer Networks*. Ex. 1003, ¶ 169. He considers it to be a widely-subscribed publication. *Id.*

4. Whitley

WO 99/49680 (PCT/US99/06429) to Whitley et al. (“Whitley”) published on September 30, 1999. Ex. 1023. Whitley is prior art under 35 U.S.C. § 102(b). Whitley was not was not considered during prosecution.³

³ A family member of Whitley is cited in related U.S. No. 9,602,655. However, it was not considered by the Patent Office in that case.

5. Sears

U.S. Pub. 2002/0069263 to Sears et al. (“Sears”) was published on June 6, 2002. Ex. 1019. Sears is prior art under 35 U.S.C. § 102(b). Sears was not considered during prosecution.

6. Menard

US Pub. 2002/0177428 to Menard et al. (“Menard”) published on November 28, 2002. Ex. 1020. Menard is prior art under 35 U.S.C. § 102(b). Menard was not considered during prosecution.

7. Ehlers

US Patent Pub. 2004/0117330 to Ehlers et al. (“Ehlers”) published on June 17, 2004. Ex. 1022. Ehlers is prior art under at least 35 U.S.C. § 102(e). Ehlers was not considered during prosecution.⁴

8. Antila

US Patent No. 6,583,770 to Antila et al. (“Antila”) issued on June 24, 2003. Ex. 1021. Antila is prior art under 35 U.S.C. § 102(b). Antila was not considered during prosecution.

⁴ Patent Pub. 2005/0033707 to Ehlers was cited during prosecution of the related 655 Patent, but was not relied upon by the Examiner.

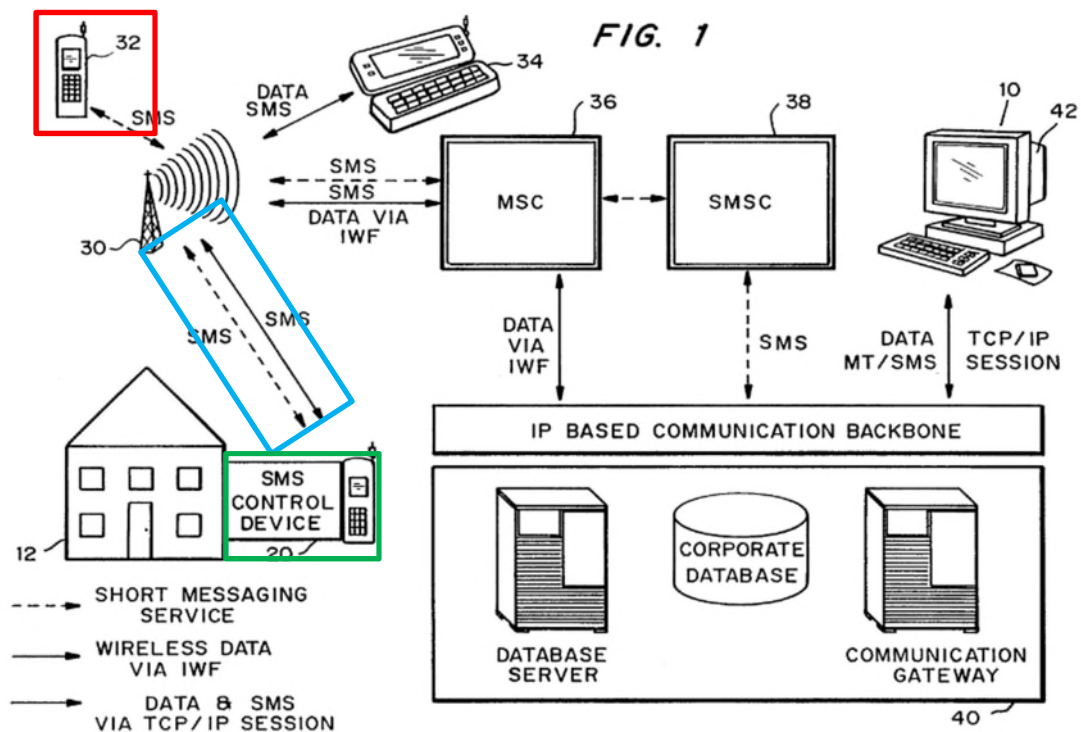
VIII. GROUNDS OF INVALIDITY

A. Ground 1A: Oinonen and Whitley

1. Motivation to Combine

Oinonen discloses using a mobile device to monitor and/or control a device with SMS messages. Ex. 1003, ¶183. Oinonen discloses bidirectional communications between a user's device and a controlled device whereby the controlled device sends a status and, in response, the remote device sends a command to control the controlled device. Ex. 1016, 4:67-5:15; Ex. 1003, ¶184. Oinonen, however, does not expressly articulate how its telecommunications device would be configured to monitor and/or control multiple devices. *Id.*

Accordingly, the POSITA would have looked to Whitley which is likewise directed to the transmission of SMS messages over a cellular network for monitoring and/or controlling devices. Ex. 1003, ¶185-187, 192. Whitley, unlike Oinonen, specifically discloses a data collection and control device (a "gateway") that is connected to multiple devices. Ex. 1023, 6:19-21, 9:1-8, Abstract; Ex. 1003, ¶185-187. Annotated Figure 1 of Whitley illustrates the remote unit (red box) and bidirectional communication (blue box) with the base unit (green box). Ex. 1003, ¶190.



It would have been obvious to a POSITA to combine Oinonen with Whitley for several reasons. Ex. 1003, ¶186. Whitley discloses that it would be desirable to take advantage of the SMS capability of a deployed GSM network to more efficiently provide remote monitoring and control of multiple distributed gateways. Ex. 1023, 7:1-3; Ex. 1003, ¶186, 190. Second, the Whitley gateway is advantageously configured to remotely monitor and control multiple devices. Ex. 1023, 6:19-21; Ex. 1003, ¶187. Third, the POSITA would have been motivated to rely on Whitley because it allows for monitoring of activities over time, which allows the user to control devices *and* save energy. Ex. 1023, 7:2-6, 16:19-26; Ex.

1003, ¶188. Finally, the POSITA would have been motivated to combine the teachings of Whitley with that of Oinonen to “provide a method for allowing customers to receive monitoring information about activities at their facility” and to “provide a method that allows customers to control the gateway and devices coupled to the gateway from their mobile station.” Ex. 1023, 6:22-26; Ex. 1003, ¶189, 191. Indeed, the POSITA would have had a reasonable expectation of success in the combination given that both references rely on the same protocols. Ex. 1003, ¶192.

2. Claim 1: [1Pre] A wireless system comprising:

The preamble is not limiting. Even if it were, Oinonen discloses a wireless system in the form of a “digital mobile communication system, such as the GSM system.” Ex. 1016, 1:16-22; Ex. 1003, ¶194-195.

Likewise, Whitley discloses a method for “remotely monitoring and controlling via a wireless network various devices deployed in homes and businesses.” Ex. 1023, Abstract; Ex. 1003, ¶196-197.

a) [1A] an environmental device;

Oinonen discloses a variety of “environmental devices,” under either construction, including at least a door locking and door opening/closing system, and a security system. Ex. 1016, 10:63-66, 11:12-14, 11:46-53; 9:26-28, 11:62-12:4, 10:17-21, 3:66-4:13; Ex. 1003, ¶199-201, 204.

Likewise, Whitley confirms that a POSITA would have known of other “environmental devices,” such as a thermostat. Ex. 1023, 12:21-23, 16:21-23, 17:2-10; Ex. 1003, ¶205-207.

b) [1B] a base unit operatively interfaced with the environmental device and configured to control an operation of the environmental device;

Oinonen discloses a base unit, under either construction, in the form of a first telecommunication terminal which connected to a peripheral device to be controlled or monitored. Ex. 1016, 6:60-64; Ex. 1003, ¶209-210. Oinonen further discloses a “V.24 connection interface” between the telecommunication terminal and the peripheral device Ex. 1016, 6:60-64; Ex. 1003, ¶209, 211.

Oinonen discloses that the first telecommunication unit is configured to send standardized current messages to control operation of the environmental device. Ex. 1016, 4:14-40; Ex. 1003, ¶212. For example, Oinonen discloses that the “base unit” can control the locking/opening of a door through changing operating voltages. Ex. 1016, 11:62-12:4, 11:12-28; Ex. 1003, ¶212-213.

While Oinonen discloses the base unit, Whitley confirms that the POSITA would have known one could control *various* household devices through a gateway base unit, which includes a physical interface with internal devices. Ex. 1023, 8:27-9:1; Ex. 1003, ¶214-215. Whitley discloses that the gateway “[is] coupled to

various devices within the facility in order to control the devices,” such as lights.

Ex. 1023, 3:7-13; Ex. 1003, ¶216-217.

c) [1C] a remote unit having wireless connectivity and being configured to send and receive short message service (SMS) messages; and

Oinonen discloses a remote unit, under either construction, in the form of a “second telecommunication terminal” that operates on the wireless GSM network. Ex. 1016, 6:64-7:4, 13:15-20; Ex. 1003, ¶219-221. The second telecommunication terminal can be a “mobile station” that can be used “not only to receive text messages but also to transmit them.” Ex. 1016, 1:26-28, 2:29-41, 4:67-5:6, 7:52-54; Ex. 1003, ¶219-220, 223. Oinonen confirms that information “is transmitted by using e.g. short messages or the like.” Ex. 1016, 4:44-45; Ex. 1003, ¶222.

Likewise, Whitley confirms that remote units allow users to “receive monitoring information about activities at their facilities” and allow users to control devices. Ex. 1023, 6:22-26, *see also* 2:26, 8:6-14; Ex. 1003, ¶224-226.

Whitley further discloses that “SMS messages allow users of the network and the gateways to send and receive packets of data.” Ex. 1023, 3:19-25, 12:7-9, 12:21-13:2, 16:9-12; Ex. 1003, ¶227-230.

d) [1D] a wireless module operatively interfaced with the base unit and configured to provide wireless connectivity between the base unit and the remote unit,

Oinonen discloses that the first telecommunication terminal includes a wireless module in the form of a “radio element.” Ex. 1016, 6:12-17, 7:12-21; Ex. 1003, ¶232. Oinonen discloses wireless connectivity in that the user communicates with the base unit by “transmit[ing] as short messages from the second telecommunication terminal to the first telecommunication terminal.” Ex. 1016, 1:51-2:31, 2:42-44, 4:52-62, 13:15-20; Ex. 1003, ¶233.

Likewise, Whitley discloses that a “gateway” “has a wireless transceiver for sending and receiving communications via a digital wireless network.” Ex. 1023, 9:6-8, *see also* 3:13-25, 2:23-25, 10:14-17; Ex. 1003, ¶234-236.

e) [1E] wherein the base unit is configured to send a first SMS message, including current environmental information, to the remote unit through the wireless module,

Oinonen discloses that the first telecommunication terminal transmits short messages via a mobile communication network. Ex. 1016, 4:52-57; Ex. 1003, ¶238. Oinonen discloses that peripheral devices can be monitored and that “a short message is arranged to be transmitted and received by a second mobile station.” Ex. 1016, 4:67-5:6; Ex. 1003, ¶238. Oinonen discloses that its short message includes environmental information in the form of the state of all input lines at the moment of examination, and further discloses messages containing current environmental information, including information about an alarm. Ex. 1016, 10:38-42, 11:8-11; Ex. 1003, ¶239.

Likewise, Whitley discloses that the gateway receives data from *various* devices and packages the data as messages. Ex. 1023, 8:1-5; Ex. 1003, ¶241.

Whitley also discloses that the system includes “[f]ormatting messages for wireless delivery to and from. . . [a] gateway[.]”. In an SMS implementation, this may be accomplished at the gateway, which formulates messages to other terminals into a short message format.” Ex. 1023, 5:18-20; *see also* 9:17-19; Ex. 1003, ¶240-241.

Whitley discloses that thereafter, the SMS message is transmitted to a network element. Ex. 1023, 5:28; Ex. 1003, ¶240. The Whitley environmental information in SMS messages can include energy usage data or “security breach” alarm. Ex. 1023, 12:21-13:2; Ex. 1003, ¶242.

f) [1F] wherein the remote unit is configured to send a second SMS message, including a command for the environmental device, to the base unit through the wireless module, and

Oinonen discloses that the user, via a remote unit, can send control commands as short messages such that “the device coupled therewith is controlled on the basis of the short messages.” Ex. 1016, 4:58-60; *see also* 4:52-61; 5:6-13, 8:34-37, 11:21-28; Ex. 1003, ¶244-245. The second message in Oinonen can include a command such as “lock the door.” Ex. 1016, 11:62-12:4-12; Ex. 1003, ¶246. Oinonen discloses SMS communication to the base unit through the wireless module. *See 1B supra*

To the extent the claim is interpreted as requiring the second message be sent in response to the first message, Oinonen discloses that users can be informed about the change in state of a device and then, “[i]n a corresponding manner” can control the device by sending a message to the first telecommunication terminal. Ex. 1016, 4:67-5:15; Ex. 1003, ¶246-247.

Likewise, Whitley confirms that a request response mechanism was well-known in the art, disclosing that “a wireless end user may (a) receive messages and initiate responses via the GSM network to control devices attached to gateway 20.” Ex. 1016, 10:14-17, *see also* 17:2-7; Ex. 1003, ¶249-250. Whitley discloses the system “allows the gateway to. . .receive commands directly from the customer” and that “[t]he customer can send. . .such data via a mobile station.” Ex. 1023, 2:23-27; *see also* 6:12-14; Ex. 1003, ¶248, 250. Whitley further discloses that SMS messages, including energy usage and adjusting temperatures, can be used to control devices. Ex. 1023, 3:19-25, 12:7-9, 16:9-12, 17:2-7; Ex. 1003, ¶248-249.

g) [1G] wherein the base unit is configured to receive the second SMS message, including the command, and to send the command to the environmental device to control the operation of the environmental device.

Oinonen discloses that the first telecommunication terminal is a “receiving telecommunication terminal” that comprises a message interpreter that allows the

unit to “examine[] the received messages and, on the basis of this, control[] certain operations.” Ex. 1016, 8:34-37; *see also* 5:6-13; Ex. 1003, ¶252-253.

Oinonen further discloses that the user sends “control signals. . . as short messages from the second telecommunication terminal to the first telecommunication terminal” and that the “device coupled therewith is controlled. . .” Ex. 1016, 4:52-61; Ex. 1003, ¶254. Oinonen discloses examples of commands such as “lock the door,” which causes Oinonen to send the command in the form of a voltage, whereby a voltage difference controls the operation of the environmental device by “closing the switch S2 of the locking relay 22.” Ex. 1016, 11:62-12:12; Ex. 1003, ¶255-256.

Likewise, Whitley also discloses that the gateway acts as a “control device” that “deliver[es] various services to the facility.” Ex. 1023, 7:29, 8:27-9:1, *see also* 6:19-21; Ex. 1003, ¶257. Whitley discloses that the “customer can formulate messages or commands that will be routed directly from the customer’s mobile station or fixed terminal to the gateway.” Ex. 1023, 6:12-14, 9:6-8, 10:14-17, 2:26-27; Ex. 1003, ¶258-260.

3. Claim 2: The system as recited in claim 1 wherein said environmental device includes electronic and electromechanical switching portions interfaced with said environmental device.

The POSITA would have understood that one example of an environmental device that includes electronic and electromechanical switching portions would be

a heating/cooling system (*e.g.*, a thermostat). Ex. 1001, 5:58-64, 6:19-26, 12:13-20; Ex. 1003, ¶262-263.

Oinonen discloses that the peripheral device can be a “switch S1 arranged in connection with a door 12 for recognising [sic] whether the door 12 is open or closed.” Ex. 1016, 9:26-28; Ex. 1003, ¶264. Oinonen discloses that the switch can be opened or closed by applying operating voltages. Ex. 1016, 11:62-12:4; Ex. 1003, ¶264. Oinonen further discloses a “remote-controlled heating system” Ex. 1016, 3:66-4:3; Ex. 1003, ¶265.

Likewise, Whitley discloses that the user can control many devices, including a thermostat connected to the gateway. Ex. 1023, 16:21, 17:2-7; Ex. 1003, ¶266.

4. Claim 3: The system as recited in claim 1 wherein said base unit is a microcontroller-based processing unit having customizable application specific software.

A POSITA would have understood the “microcontroller” to be a generic processor. Ex. 1001, 4:10-13, 4:29-37, 4:46-52, 7:46-49; Ex. 1003, ¶267.

Oinonen discloses that the first telecommunication terminal comprises a microprocessor and application-specific integrated circuit (ASIC) in which “it is possible to implement a majority of the logic functions of the data processor.” Ex. 1016, 7:12-26; Ex. 1003, ¶268. Oinonen discloses that the software “is provided

with the necessary programs . . .” Ex. 1016, 9:44-49; *see also* 8:33-37; Ex. 1003, ¶268-269.

Likewise, Whitley confirms that its gateway comprises “a processor, such as an Intel 386 or 486 processor.” Ex. 1023, 9:3-9; Ex. 1003, ¶270. Whitley discloses that its gateway can be programmed to “format and manage data packets sent and received via the short messaging service provided by a GSM network. . .” Ex. 1023, 9:11-13; *see also* 12:26-27; Ex. 1003, ¶270.

5. Claim 7: The system as recited in claim 1 wherein said wireless connectivity includes a transmitting and receiving module in said base unit and a transmitting and receiving unit in said remote unit operatively communicating with each other over a cellular telephone network.

Oinonen discloses that its terminals communicate by sending SMS messages to one another via cellular networks to control devices. Ex. 1016, 4:58-60, 4:67-5:6, 11:62-12:4; Ex. 1003, ¶273-275. Oinonen discloses that the first telecommunication terminal includes a transmitting and receiving module in the form of a “radio element” that communicates over a cellular network. Ex. 1016, 6:12-17, 7:12-21, Fig. 3; Ex. 1003, ¶272. Oinonen also discloses that the user carries a second telecommunication terminal that can be a “mobile station” (Ex. 1016, 7:52-54) that sends/receives SMS messages over a cellular network. Ex. 1016, 1:26-28, 2:29-41, 4:67-5:6; Ex. 1003, ¶273.

Likewise, Whitley confirms bi-directional communications in that it discloses that the “gateway includes a transceiver capable of communicating over a wireless network.” Ex. 1023, 3:13-25, 9:6-8; Ex. 1003, ¶276-277. Whitley discloses that “SMS messages allow users of the network and the gateways to send and receive packets of data.” Ex. 1023, 3:20-22, Fig. 1; Ex. 1003, ¶278-279.

6. Claim 11: [11Pre] A wireless system comprising:

11Pre is similar to 1Pre and is likewise disclosed.

a) [11A] an environmental device configured to send environmental information, and adapted to receive a command to control an operation of the environmental device;

Oinonen and Whitley disclose environmental devices. *See* 1A.

Oinonen discloses that “upon a change in the state [of the peripheral device], a short message is arranged to be transmitted . . .,” which discloses that the peripheral devices sends the information in the form of a state change. Ex. 1016, 4:67-5:6, 4:26-36; Ex. 1003, ¶282. In response, Oinonen discloses that the user can transmit a message that is sent to a base unit and as a result, the peripheral device conducts the desired operation. Ex. 1016, 5:6-13; 11:62-12:4 (door lock control); Ex. 1003, ¶283-284.

Likewise, Whitley discloses that the gateway “[is] coupled to various devices within the facility to control the devices.” Ex. 1023, 3:7-8; *see also* 3:8-10,

16:21-22, 16:5-7; Ex. 1003, ¶285-286. Whitley discloses that the gateway receives data for devices and can be remotely configured to issue control commands to connected “environmental devices.” Ex. 1023, 3:11-14, 8:1-4, 12:21-27; Ex. 1003, ¶286.

b) [11B] a remote unit having wireless connectivity and being configured to:

11B is similar to 1C and is likewise disclosed.

c) [11C] receive a first short message service (SMS) message, wherein the first SMS message includes the environmental information;

The first message with environmental information is discussed in 1E. Ex. 1003, ¶288-289. Moreover, Oinonen discloses based on the state of devices “a short message is arranged to be transmitted and received by a second mobile station.” Ex. 1016, 4:67-5:6; Ex. 1003, ¶289.

Likewise, Whitley discloses that in an SMS implementation the gateway “formulates messages to other terminals into a short message format.” Ex. 1023, 5:18-20, 5:28; Ex. 1003, ¶292. Whitley discloses a mobile station that allows users to “receive monitoring information about activities at their facilities.” Ex. 1023, 6:22-25; *see also* 2:26, 12:7-9, 12:21-27; Ex. 1003, ¶291.

d) [11D] notify a user of said remote unit of receipt of the first SMS message; and

Oinonen discloses a notification in that it discloses “a short message is arranged to be transmitted and received by a second mobile station, possibly informing the user of the mobile station preferably as a message displayed on the display of the mobile station.” Ex. 1016, 4:67-5:6; Ex. 1003, ¶294. Likewise, Whitley discloses that its gateway can be programmed “to send a message [] to the handset 32 in order to alert the owner of the facility 12.” Ex. 1023, 17:12-13; Ex. 1003, ¶295.

e) [11E] send a second SMS message, wherein the second SMS message includes the command; and

11E is similar to 1F and is likewise disclosed.

f) [11F] a wireless base unit configured to:

11F is similar to 1B and is likewise disclosed. 1B does not recite that the base unit is “wireless,” however both Oinonen and Whitley have been shown to disclose such a base unit. *See* 1Pre.

g) [11G] receive the environmental information from the environmental device;

Oinonen discloses that the first telecommunication unit receives environmental information in the form of standardized current messages from the peripheral (*e.g.*, environmental) device. Ex. 1016, 4:14-40, 4:33-36; Ex. 1003, ¶299-300. Oinonen discloses that the peripheral device “is monitored on the basis

of changes in the state of lines in the connection interface.” Ex. 1016, 4:67-5:6; *see also* 4:14-33, 4:26-33; Ex. 1003, ¶300.

Likewise, Whitley also discloses that the gateway will “monitor [] various devices” and “act[] as a data collection [] device.” Ex. 1023, 7:27-29; Ex. 1003, ¶301. Whitley discloses that “[d]ata received from various devices within and associated with facility 12 is packaged by gateway 20.” Ex. 1023, 8:1-4, *see also* 13:13-14, 12:21-27; Ex. 1003, ¶301.

h) [11H] transmit the first SMS message to the remote unit;

11H is similar to 1E and is likewise disclosed.

i) [11I] receive the second SMS message from the remote unit; and

11I is similar to 1F-1G and is likewise disclosed. Ex. 1003, ¶303-310.

j) [11J] send the command to the environmental device.

11J is similar to 1G and is likewise disclosed. Ex. 1003, ¶311-316.

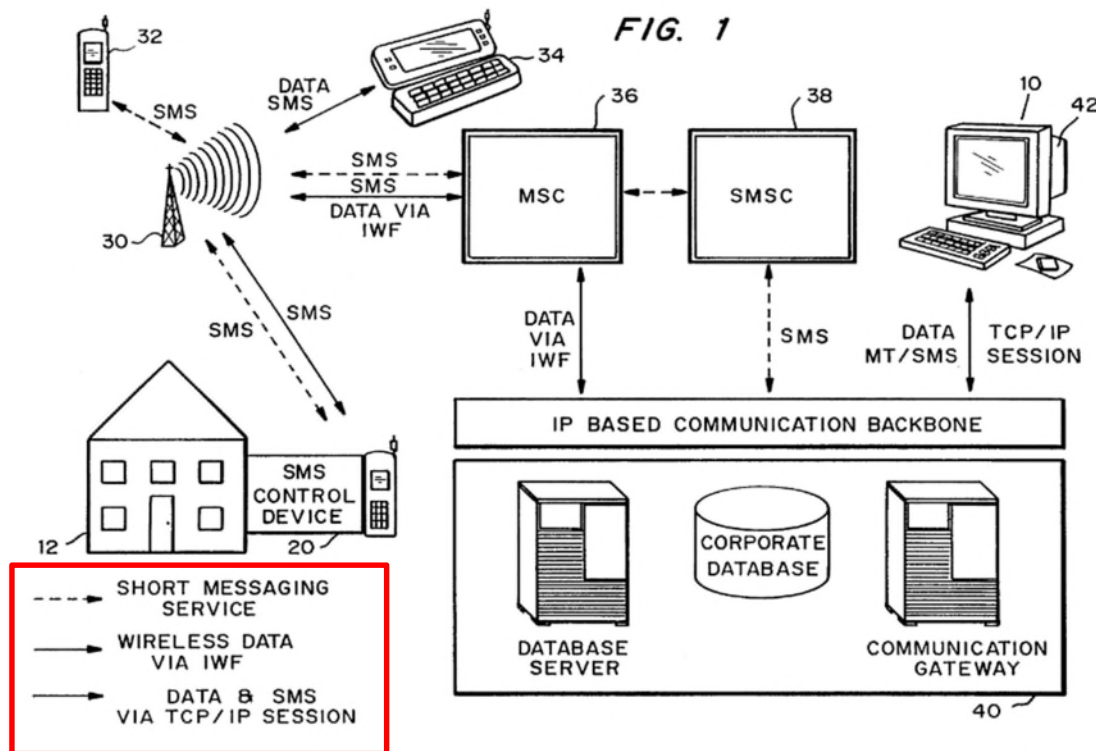
7. Claim 12: The system of claim 11 wherein the wireless connectivity connection further comprises a first wireless connection interfacing with the base unit, a second wireless connection interfacing with the remote unit, and a non-wireless connection interfacing between the first wireless connection and the second wireless connection.

Claim 12 describes network connections to/from the base unit and the remote unit, and a non-wireless connection between the base unit and the

environmental device. Ex. 1003, ¶317. Such a scenario is disclosed by Oinonen and Whitley. Ex. 1003, ¶318.

Oinonen discloses wireless connections between various stations (*e.g.*, the base unit and the remote unit) and various wired connections thereafter. Ex. 1016, 1:51-2:3; *see also* Ex. 1023, 8:11-26; Ex. 1003, ¶319, 322.

Likewise, Whitley discloses a variety of wired and wireless connections in annotated Figure 1:



Ex. 1003, ¶323. Oinonen and Whitley also disclose interfaces between the base unit and environmental device. *See* 1B; Ex. 1003, ¶318.

8. Claim 13: The system of claim 11 wherein the environmental device includes electronic and electromechanical switching portions for controlling the environmental information.

The limitations of Claim 13 are similar to Claim 2 and are likewise disclosed. *See also* Claim 11. Claim 2 does not specify that the “portions” are for “controlling the environmental information,” however this is disclosed. *See* 1G.

9. Claim 14: The system of claim 11 wherein the base unit further comprises a microcontroller-based processing unit having customizable application specific software.

Claim 14 is similar to Claim 3 and is likewise disclosed. *See also* Claim 11.

10. Claim 15: The system of claim 11 wherein the remote unit further comprises a cellular telephone handset.

Oinonen discloses a second telecommunication terminal, which can be a “mobile station” on the GSM network. Ex. 1016, 6:64-7:4, 7:52-54; *see also* Ex. 1023, 2:26, 8:14 (disclosing a “cellular handset”), 8:6-10; Ex. 1003, ¶326-328.

11. Claim 17: The system of claim 11 further comprising a cellular telephone network.

Oinonen discloses that the wireless system is implemented on a cellular telephone network, such as GSM. Ex. 1016, 13:15-20; Ex. 1003, ¶330. Likewise, Whitley discloses transmission of data between network interfaces via cellular protocols. Ex. 1023, 17:17-25; *see also* 4:17-5:2, 13:25-27, 3:19-20; Ex. 1003, ¶331.

12. Claim 18: [18Pre] A base unit. . .comprising:

If limiting, the preamble is disclosed. a base unit configured to communicate with environmental devices is described in 1A/1B and base unit communication with the remote unit is described in 1D.

a) [18A] a communication interface . . .;

The communication interface, under either construction, is discussed in 1B. Receiving environmental information and sending a command are discussed in 11G and 11J. Accordingly, 18A is likewise disclosed. Ex. 1003, ¶333-340.

b) [18B] a wireless module . . .,

The wireless module is discussed in 1D and the first and second messages are discussed in 1E and 1F, respectively.

c) [18C] wherein the first message is a first short message service (SMS) message including the environmental information, and

18C is similar to 1E and is likewise disclosed.

d) [18D] wherein the second message is a second short message service (SMS) message including the command to the environmental device; and

18D is similar to 1F and is likewise disclosed.

e) [18E] a microcontroller . . .

The microcontroller is described in Claim 3. Sending a command to the environmental device is described in at least 1G. Accordingly, 18E is likewise disclosed. Ex. 1003, ¶344-355.

Oinonen discloses the first telecommunication terminal is a “receiving telecommunication terminal” that has a message interpreter to process and send commands, in the form of voltages, to the peripheral devices. Ex. 1016, 8:34-37; *see also* 9:44-49, 4:52-61, 5:6-13, 11:62-12:12; Ex. 1003, ¶348-352.

Likewise, Whitley discloses that “[w]hen an SMS message is received at the gateway 20, the gateway 20 reads the SMS message. . .and processes the contents of the SMS message as though it was entered directly from a command console.” Ex. 1023, 9:23-25; *see also* 3:11-14; Ex. 1003, ¶354-355.

13. Claim 19: [19Pre] A communication system . . .comprising:

19Pre is similar to 1Pre and is likewise disclosed. 1Pre does not specify that the system is a “communication system,” however this is discussed in at least 1B-1C and is likewise disclosed.

a) [19A] a base unit . . .;

The base unit is described in 1B/11F and an interface that allows the base unit to receive the status of an environmental devices is described in 11G.

Accordingly, 19A is likewise disclosed. 11G does not describe that the information received is a “current status,” however, this is discussed in 1E.

b) [19B] a transmitter . . .;

Oinonen and, likewise, Whitley both disclose a transmitter. *See* 1D-1E; Ex. 1003, ¶¶359-360, 366-367. The first message with current information of the environmental device is discussed in 1E. Ex. 1003, ¶¶364-365, 368-370. Unlike 1E, 19B recites that the message is a wireless message, but such a wireless message is addressed by the SMS message described above. *See* 1E, Ex. 1003, ¶¶358. A remote unit with wireless connectivity is described in 1C. Ex. 1003, ¶¶361-363, 371. Accordingly, 19B is disclosed.

c) [19C] a receiver . . .; and

Oinonen and, likewise, Whitley both disclose a transmitter. *See* 1D-1E; Ex. 1003, ¶¶374-375, 381-382. Receiving the second message is discussed in 1G and 19B and the command for environmental device is discussed in 1F. Ex. 1003, ¶¶375-380, 383-385; *see also* Claim 7. Accordingly, 19C is likewise disclosed.

d) [19D] a controller

19D is similar to 18E and is likewise disclosed. 18E does not specify that the controller is operatively associated with the base unit and operatively connected with the environmental device, but this is discussed in 1B and is likewise disclosed.

14. Claim 21: [21Pre] A base unit . . . comprising:

21Pre is similar to 18Pre and is likewise disclosed.

a) [21A] a communication interface . . .;

21A is similar to 18A and is likewise disclosed.

b) [21B] a wireless module . . ., and

21B is similar to 18B-18C and is likewise disclosed.

c) [21C] wherein the second message includes the command to the environmental device and travels via short message and/or data bearer services; and

21C is similar to 18D and is likewise disclosed.

d) [21D] a microcontroller . . .

21D is similar to 18E and is likewise disclosed.

B. Ground 1B: Oinonen, Whitley, and Sears

1. Motivation to Combine

In the early 2000s, applications were common in mobile devices. As admitted by the 935 Patent, one of the tools to develop those tools was JAVA or J2ME. Ex. 1003, ¶397. Specifically, the 935 Patent states that cellular telephone handsets with programming kernels, such as Java or J2ME, were “conventional” and known. Ex. 1001, 6:65-7:3; Ex. 1003, ¶397. Given that Oinonen discloses that its handset comprises custom programmability and Whitley discloses a mobile station that comprises an application, the POSITA would have understood that the applications in Oinonen and Whitley could be implemented in JAVA or J2ME and would have accordingly sought out further implementation details from other

sources. *See e.g.*, Ex. 1003, ¶392-393. Accordingly, a POSITA would have been motivated to incorporate JAVA, such as is disclosed in Sears, in the aforementioned applications of Oinonen and Whitley. Ex. 1003, ¶392-394.

Sears discloses that “Java technology provides a single open platform that allows developers to create dynamic, personal, and functionality-rich applications” for mobile devices. Ex. 1019, [0032]; Ex. 1003, ¶394. A POSITA would have understood that using JAVA provides for “rich dynamic personalized services and applications for use on mobile devices” that could benefit the devices of Oinonen/Whitley. Ex. 1019, [0007]; Ex. 1003, ¶394.

A POSITA would have understood that JAVA applications can be stored and run locally on a user device for content-rich graphics and faster interaction. *See* Ex. 1019, [0007]-[0008]; Ex. 1003, ¶395-396. A POSITA would have understood that such applications would be able to process the SMS commands of Oinonen/Whitley for transmission even when offline, resulting in a more desirable and robust application for the devices in Oinonen/Whitley. Ex. 1003, ¶395.

Finally, using JAVA-based applications was within the skill of a POSITA and, thus, there was a reasonable expectation of success. Ex. 1003, ¶397; Ex. 1001, 6:65-7:3.

2. Claim 4: The system as recited in claim 1 wherein said remote unit is a cellular telephone handset with custom programmability.

Sears is directed to Java-based programmability for wireless mobile devices, such as a cellular phone or PDA. Ex. 1019, Abstract, [0034]; Ex. 1003, ¶404. Sears discloses Java and Java-like applications demonstrating that the POSITA would have understood the combined system would include a handset with custom programmability. Ex. 1019, [0012], [0033]; Ex. 1003, ¶404.

3. Claim 5: The system as recited in claim 4 wherein said custom programmability is a JAVA programming kernel.

Sears discloses Java and Java-like applications. Ex. 1019, [0012]; Ex. 1003, ¶406. Sears discloses a device that comprises a “Java native processor and supporting software and hardware provides an open platform for mobile Internet device applications” and which “natively executes Java byte-code.” Ex. 1019, [0033]; Ex. 1003, ¶406.

4. Claim 6: The system as recited in claim 4 wherein said custom programmability is a J2ME programming kernel.

Sears discloses a device that comprises a “Java native processor and supporting software and hardware ... [with] enhanced J2ME/CLDC framework. . .” Ex. 1019, [0012], [0033]; Ex. 1003, ¶408.

5. Claim 16: The system of claim 15 wherein the cellular telephone handset includes at least one of a customizable JAVA programming kernel and a customizable J2ME programming kernel.

The cellular telephone handset is described in Claim 4 and Java/J2ME programming kernels are described in Claims 5-6. Accordingly, Claim 16 is likewise disclosed.

C. Ground 1C: Oinonen, Whitley, and Antila

1. Motivation to Combine

Oinonen and Whitley disclose mobile devices. Specifically, Oinonen discloses a “second telecommunication terminal” that can be a GSM mobile device. Ex. 1016, 6:64-7:4, 7:52-54, 1:26-28, 13:15-20; Ex. 1003, ¶410. Likewise, Whitley discloses a mobile station, including the Nokia 9000 GSM communicator. Ex. 1023, 6:22-29; *see also* 2:26, 8:6-14; Ex. 1003, ¶411. The disclosure of GSM based mobile devices, and specifically the Nokia 9000 GSM communicator, would have motivated the POSITA to seek out additional details regarding the types of mobile devices used to control environmental devices. Ex. 1003, ¶412. Antila, which provides technical and design information for the Nokia 9000 communicator, provides such details. *Id.*

Antila confirms that the Nokia 9000 GSM communicator included dual LCD displays. Ex. 1021, 1:6-11, 2:18-23; Ex. 1003, ¶413. Indeed, the Nokia 9000 provides two LCD screens and a full QWERTY keyboard that would allow the

user to easily type/make calls and access more advanced functions. Ex. 1021, 7:30:37, 7:48-65; Ex. 1003, ¶414. Given that the Nokia 9000 was implemented and in wide public use, the POSITA would have had a reasonable expectation of success. Ex. 1003, ¶412, 415.

2. Claim 8: The system as recited in claim 1 wherein the remote unit includes a liquid crystal display module.

Whitley discloses a mobile station, including the Nokia 9000 GSM communicator, which, as confirmed by Antila, includes an LCD display module. Ex. 1023, 6:22-29. Antila confirms that LCD displays were common for small devices, such as mobile phones. Ex. 1021, 1:15-25; Ex. 1003, ¶418. Antila also discloses that some devices with liquid crystal displays can have multiple displays, including the Nokia 9000 Communicator. Ex. 1021, 2:19-24, 4:65-6:5; Ex. 1003, ¶419.

D. Ground 1D: Oinonen, Whitley, Antila, and Ehlers

1. Motivation to Combine

A POSITA would have combined the teachings of Oinonen, Whitley, Antila, and Ehlers as each reference teaches similar functionalities and architectures with respect to controlling devices in the home and, thus, would yield predictable results. Ex. 1003, ¶420, 423.

Oinonen and Whitley disclose the ability to monitor and control devices via direct mobile communications, including SMS. Ex. 1003, ¶421. One purpose

disclosed by Whitley for monitoring is to monitor energy use rates. Ex. 1023, 16:19-24, 4:7-9; Ex. 1003, ¶421. In addition to energy monitoring, a POSITA would have understood that demand reduction programs were known. Ex. 1022, [0006]; Ex. 1003, ¶421. To enhance the energy monitoring functionality of Whitley and to participate in demand reduction and other known energy management programs, a POSITA would have sought to incorporate the disclosure of Ehlers into the combination of Oinonen and Whitley. *Id.*

Like Oinonen, Whitley, and Antila, Ehlers discloses mobile phones and personal digital assistants (PDA) that could be connected to home devices. Ex. 1022, [0069]; Ex. 1003, ¶422. Thus, a POSITA would have had a reasonable expectation of success of adding user interface controls to the combination of Oinonen and Whitley. Ex. 1003, ¶425.

A POSITA would have understood that Ehlers provides an improved user interface that allows a user to precisely control his/her own preferences. Ex. 1003, ¶424. Ehlers discloses that its user interface comprises a rich set of functions and features to access and control devices. Ex. 1022, [0115]-[0116]; Ex. 1003, ¶424. A POSITA would have understood ease of use and convenience of an intuitive user interface would have the benefit of improved customer usability. *Id.*

2. **Claim 9:** The system as recited in claim 8 wherein said liquid crystal module includes selectable graphic icons corresponding to current environmental information being monitored or controlled.

Ehlers discloses a user interface of the remote device includes a homeowner control center in a control panel, which is shown in annotated Figure 4A. Ex. 1022, [0311], [0315]; Ex. 1003, ¶429.

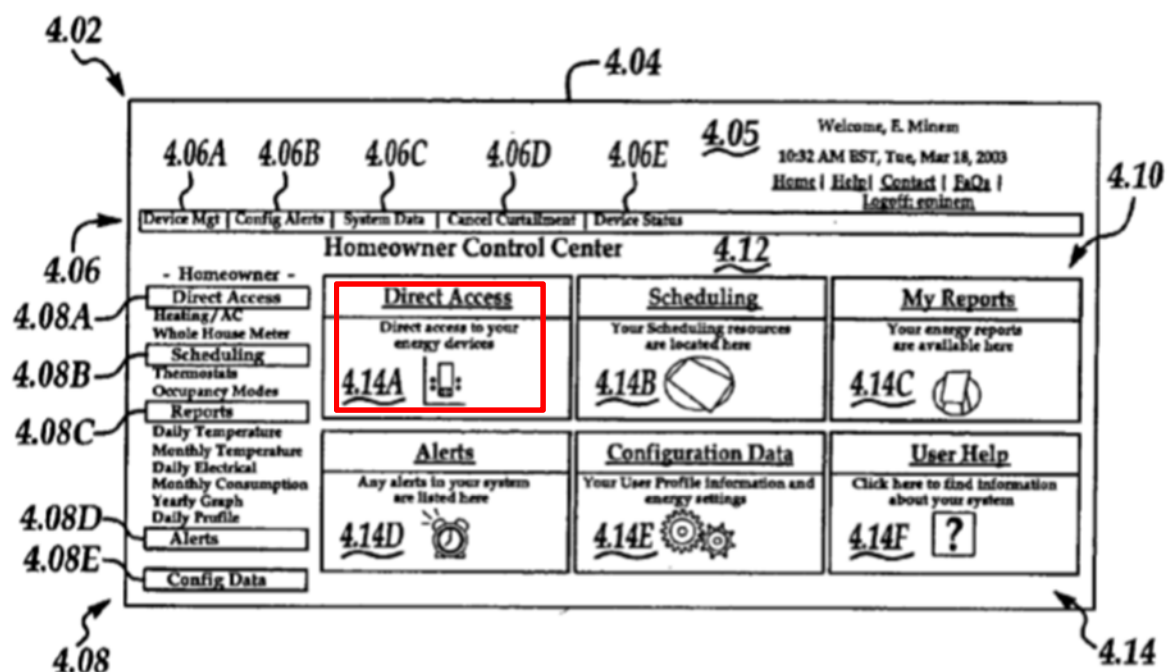
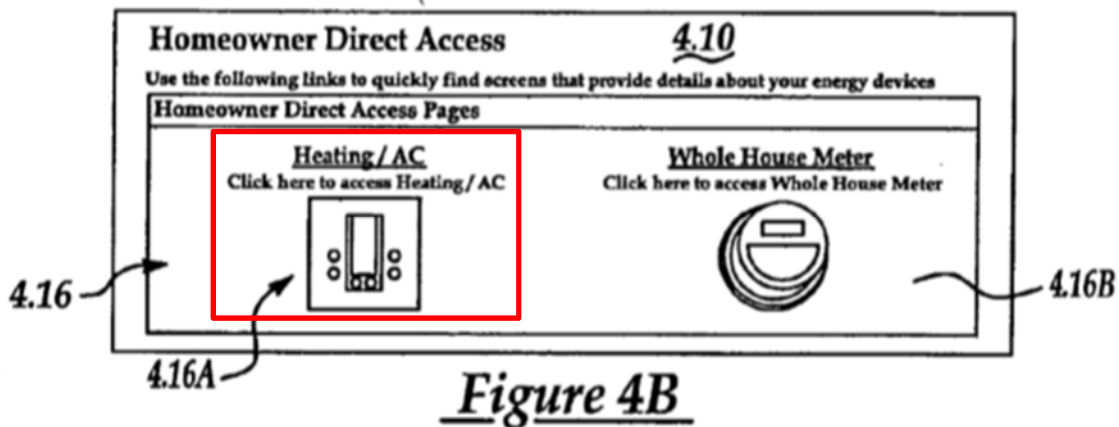
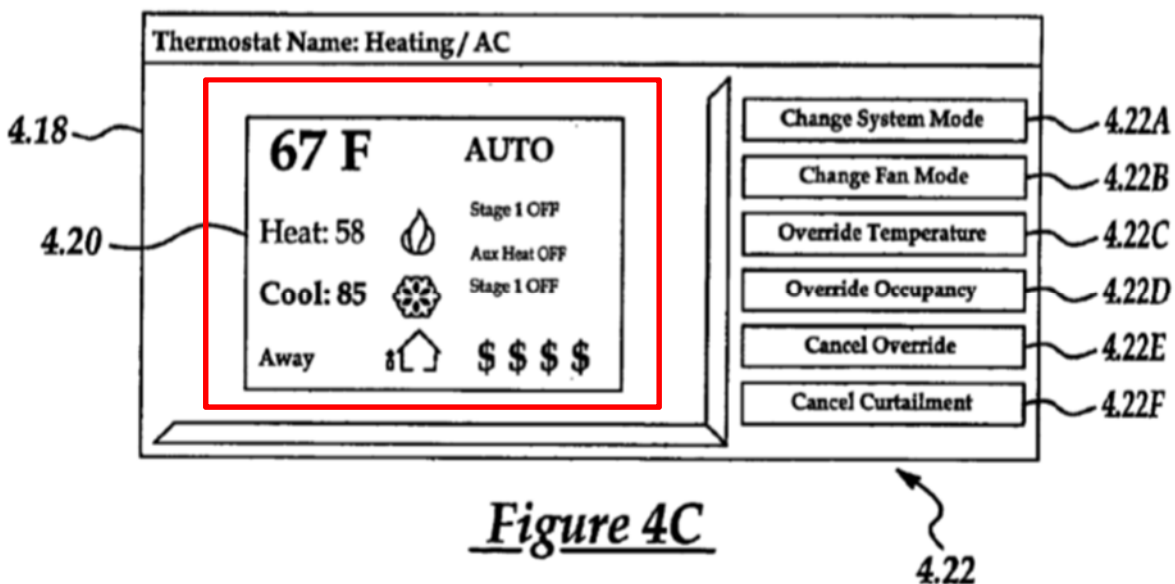


Figure 4A

Ehlers discloses that the control center includes a plurality of “hyperlinked icons.” Ex. 1022, [0315]; Ex. 1003, ¶430. Ehlers discloses that when the user selects, for example, the “direct access icon” in annotated Figure 4A, the user GUI will display a “homeowner direct access” panel. Ex. 1022, [0315]-[0316], Fig. 4B; Ex. 1003, ¶430.



Ehlers discloses that upon selecting the “heating/AC icon” in annotated Figure 4B, the GUI will display a “virtual thermostat.” Ex. 1022, [0316]; Ex. 1003, ¶431.



Ehlers discloses that the virtual thermostat “contains an information section or display 4.20 and a plurality of thermostat buttons 4.22” including an “Override Temperature” button that allows the customer to change the temperature in

response to an interaction with an icon as seen in annotated Figure 4C. Ex. 1022, [0316]; Ex. 1003, ¶432.

3. Claim 10: The system as recited in claim 1, wherein the remote unit is configured to selectively disable transmission of SMS messages from the base unit.

As is disclosed *supra*, Oinonen and Whitley disclose the transmission of SMS messages from a base unit. Ex. 1003, ¶434. Other than describing that communications between the devices in their respective systems occurs, Oinonen and Whitley are silent with respect to deactivation. Ex. 1003, ¶434. However, a POSITA would have understood that such functionality is necessary in command and control systems so as to allow a user to control her own preferences. Ex. 1003, ¶436.

Indeed, as seen in annotated Figure 4J, Ehlers discloses the ability for a user to selectively activate and deactivate the transmission of messages via a control screen. Ex. 1022, Fig. 4J, [0327]; Ex. 1003, ¶437.

Configure Alert

Alerts

User Name: E. Mineam AccountID: 555
Primary email: eminem@aol.com Phone#: 5555555555

Alert Description	Destination	Primary email?	Web Page	Configurable	Priority	Single/Aggregate
Temperature out of Range	Home Occupant	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	Single
Temperature out of Range	Service Provider	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	Single
Gateway Not Responding	Service Provider	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	Single
Temperature out of Range	Energy Provider	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	Single
Gateway Not Responding	Energy Provider	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	Single
Budget Limit Alarm	Home Occupant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2	Single
Device is Malfunctioning	Home Occupant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2	Single
Communication Failure	Home Occupant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3	Single
Ramping Recovery Failure	Home Occupant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12	Single
Duplicate IP address	Service Provider	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12	Single
Temperature out of Range	Energy Provider	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12	Single

Note: You may add the secondary email as another channel. [Click here to update personal data.](#) [Click here to update account personal data.](#)

Submit Reset

Figure 4I

That is, Ehlers discloses the ability to selectively activate and deactivate particular transmissions of messages based on preferences. *Id.* Accordingly, to provide the user additional control, the POSITA would have implemented Oinonen and Whitley to allow a user to enable/disable transmission of SMS messages based on the disclosure of Ehlers. Ex. 1003, ¶438.

E. Ground 1E: Oinonen, Whitley, and Menard

1. Motivation to Combine

The addition of Menard to Oinonen and Whitley would yield predictable results and the POSITA would have a reasonable expectation of success as each reference teaches similar functionalities. Ex. 1003, ¶439-440, 446.

Oinonen and Whitley disclose the ability to monitor and control an alarm system. Ex. 1016, 10:63-66, Ex. 1023, 12:21-13:2; Ex. 1003, ¶441. Similarly, Menard is directed to remote notification of monitored conditions, including an alarm. Ex. 1020, [0009]; Ex. 1003, ¶441. Like Oinonen and Whitley, Menard discloses the use of SMS messages for communication between the user and home base unit. *Id.*

A POSITA would have understood that when sending monitoring and control messages, it would be desirable to receive a confirmation that the message has been received. Ex. 1003, ¶442. Oinonen discloses that a message center is “informed whether the mobile station MS2 has received the short message.” Ex. 1016, 2:24-28; Ex. 1003, ¶442. Whitley discloses a return message “indicating the delivery status of the outgoing message.” Ex. 1023, 10:3-5; Ex. 1003, ¶443.

In addition to delivery confirmation, a POSITA would be motivated to implement an additional transmission message that confirms that a command had not only been delivered, but had been executed to provide confirmation to a user that monitoring/control request had been performed. Ex. 1003, ¶444.

Menard discloses that responsible parties “may be notified of the outcome of the process” and in one example explains that the message could be notifying the user of execution of the process such as “the police were dispatched at 10:05 AM.” Ex. 1020, [0068], [0179]; Ex. 1003, ¶445. Such a message provides extra

comfort and/or security to a user in that the user understands that help is on the way. *Id.*

2. Claim 20: [20Pre] A wireless system comprising:

20Pre is similar to 1Pre and is likewise disclosed.

a) [20A] a base unit . . .;

20A is similar to 1B and is likewise disclosed.

b) [20B] a receiver . . .;

20B is similar to 19C and is likewise disclosed. 19C specifies that the message is the second message as opposed to the first message, but this does not change the relevant prior art disclosures with respect to 20B. Ex. 1003, ¶449-462.

c) [20C] a controller . . .; and

20C is similar to 19D and is likewise disclosed. 19D does not specify “for executing the command,” however this is discussed in 1B and is likewise disclosed.

d) [20D] a transmitter . . .

A transmitter associated with the controller is described in 19B. Ex. 1003, ¶465-469, 471-473.

Claim 20D differs from 19B in that it requires a message “indicating that the command has been executed.” Such confirmation messages were well-known. Specifically, Oinonen discloses error messages that can be sent from the base unit

to the remote unit if the command cannot be executed and likewise discloses that delivery of each message is confirmed. Ex. 1016, 8:50-55; Ex. 1003, ¶470.

Likewise, Whitley also discloses confirming the accuracy of a message to the sender. Ex. 1023, 9:22; Ex. 1003, ¶474.

Moreover, Menard teaches sending a second acknowledgement message to the user to confirm that the command that was sent by the user has been executed. Ex. 1020, [0068], [0179]; Ex. 1003, ¶476; *see also* Motivation to Combine. For example, “the police were dispatched at 10:05 AM.” Ex. 1020, [0068], [0179]; Ex. 1003, ¶476.

3. Claim 22: [22Pre] A base unit . . . comprising:

22Pre is similar to 18Pre and is likewise disclosed.

a) [22A] a controller . . .; and

22A is similar to 19D and is likewise disclosed.

b) [22B] a wireless module configured to:

22B is similar to 1D and is likewise disclosed.

c) [22C] receive a control message . . .;

22C is similar to 19C and is likewise disclosed. 19C does not recite that the message comprises “control information for controlling the environmental device,” however this is discussed in 1G and is likewise disclosed.

d) [22D] create a control command for the environmental device based on the control information;

Oinonen discloses that the first telecommunication terminal has a message interpreter that allows the unit to “examine[] the received messages and, on the basis of this, control[] certain operations.” Ex. 1016, 8:34-37; *see also* 7:11-19; Ex. 1003, ¶482-484. In some examples, Oinonen discloses creating an operating voltage to control a door lock based on a received message. Ex. 1016, 11:62-12:4, 12:4-12; Ex. 1003, ¶485-486.

Likewise, Whitley also discloses that “[w]hen an SMS message is received at the gateway 20, the gateway 20 reads the SMS message from the SIM card and processes the contents of the SMS message as though it was entered directly from a command console.” Ex. 1023, 9:23-25, *see also* 8:27-9:5; Ex. 1003, ¶487-489.

e) [22E] send the control command to the environmental device via the controller; and

22E is similar to 11J and is likewise disclosed. 22E does not recite that the command is sent from the controller, but this is discussed in 19D and is likewise disclosed.

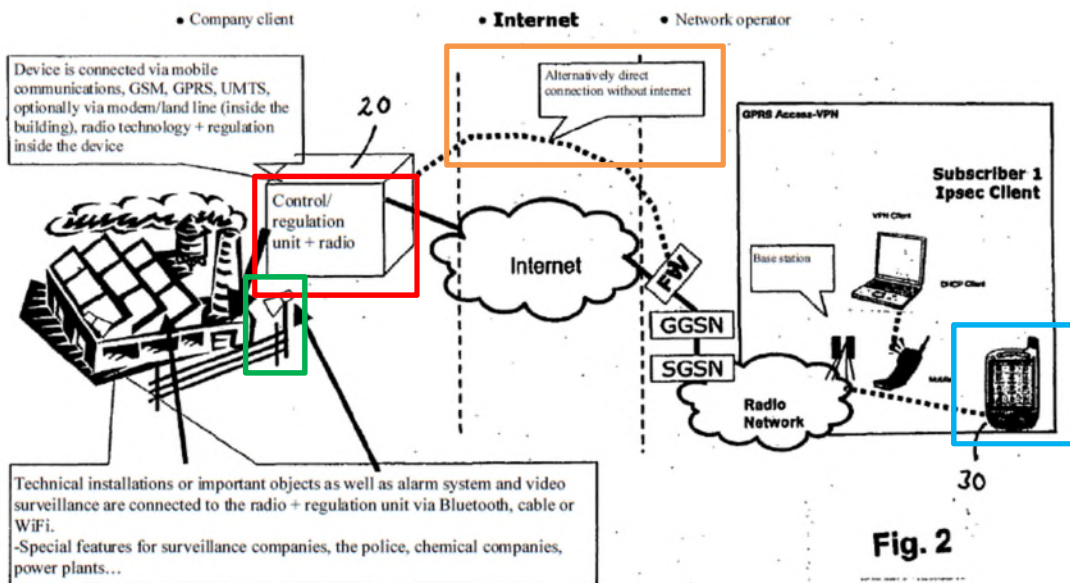
f) [22F] send a status message indicating execution of said control information to the remote device.

22F is similar to 20D and is likewise disclosed. 20D does not recite that the message is a “status message,” but this does not change the relevant prior art disclosures with respect to 22F.

F. Ground 2A: Bielski and Wu

1. Motivation to Combine

Bielski discloses a system that allows users to monitor and control devices such as an alarm system through a cellular remote unit. Ex. 1017, [0002], [0004]; Ex. 1003, ¶492. Bielski discloses a bidirectional system that allows users to receive status information on environmental devices and respond with an appropriate command. Ex. 1017, [0005], [0010], [0063]; Ex. 1003, ¶492. Bielski further discloses that the Internet is not required and that it can operate in the GSM network. Ex. 1017, [0022], [0036], [0039]; Ex. 1003, ¶492. Annotated Figure 2 shows the “base unit” (red box), “remote unit” (blue box), and “environmental device” (green box) and the direct connection between remote unit and base unit (orange box). *Id.*



Bielski discloses the use of SMS messages for communication between the base unit and remote unit, but does not further describe the details of the communications protocols. Ex. 1017, [0069]; Ex. 1003, ¶493. Bielski states that such protocols were standardized and known in the art. Ex. 1017, [0030]; Ex. 1003, ¶494. Thus, the POSITA would have been motivated to identify additional implementation details. *Id.*

Specifically, the POSITA would have looked to Wu, which discloses a home network system that allows users to monitor and control appliance systems through communication protocols such as SMS, HTTP, and WAP. Ex. 1018, p. 493, Fig. 2; Ex. 1003, ¶495-496. The POSITA would have implemented the SMS functionality

described in Wu for several reasons. Indeed, the POSITA would have had a reasonable expectation of success. Ex. 1003, ¶501.

Wu discloses interchangeable communication protocols including SMS (red box), HTTP (blue box), and WAP (green box) as seen in annotated Figure 2.

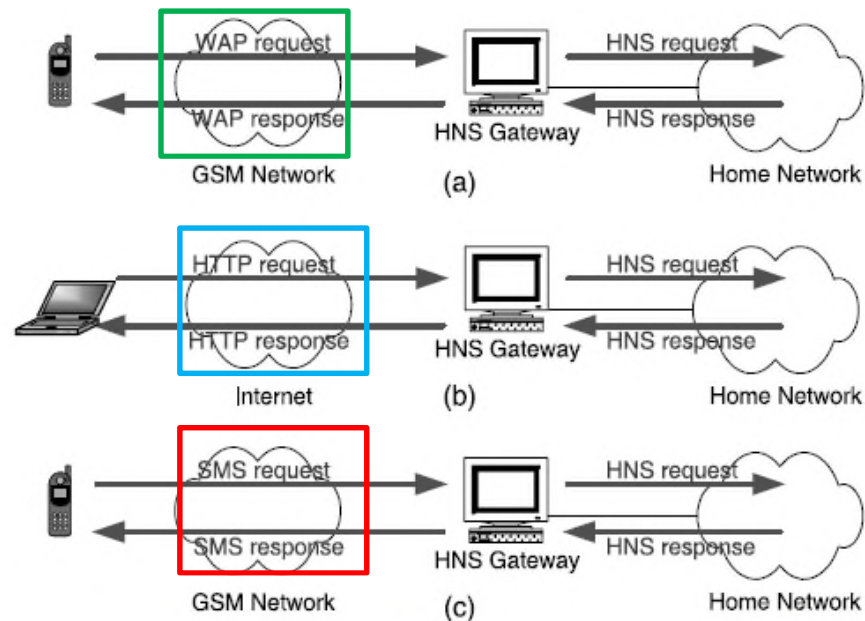


Fig. 2. Communication with the HNS in (a) WAP and (b) HTTP (c) SMS.

Ex. 1018, Fig. 2; Ex. 1003, ¶497.

Wu provides specific motivation to rely on the SMS protocol as it is disclosed as being simple to implement because it consists of only two layers, allows for reduced costs, and is already widely implemented whereas WAP and HTTP were not. Ex. 1018, pp. 494, 497, 501; Ex. 1003, ¶498.

Second, the widespread adoption of SMS, which was supported on virtually all mobile/cellular devices, would have allowed for most users to implement the disclosed system. Ex. 1003, ¶499.

Third, it would have been within the skill of the POSITA to implement SMS communications as the direct mobile communications protocol described in Bielski, as Bielski already disclosed that SMS messages can be used to provide the status of devices to the user. Ex. 1017, [0069]; Ex. 1003, ¶500-501.

2. Claim 1: [1Pre]

If limiting, the preamble is disclosed. Bielski discloses a wireless “communication system and a method for data transfer” for “monitoring, control and/or regulation of one or more devices” that is based on a GSM network. Ex. 1017, [0001], [0003]-[0004], [0022], Fig. 5; Ex. 1003, ¶503.

Likewise, Wu is directed to use of the short message system to support control of a device in the home via a wireless network. Ex. 1018, Abstract; Ex. 1003, ¶504.

a) [1A]

Bielski discloses a variety of environmental devices, under either construction, such as an alarm system, that can be monitored, controlled, and/or regulated. Ex. 1017, [0054], [0082], [0069], [0056], [0031], Fig. 4; Ex. 1003, ¶506-508.

Likewise, Wu discloses environmental devices, such as an air-conditioning controller. *See* Ex. 1018, Table 1, p. 494; Ex. 1003, ¶¶509-510.

b) [1B]

Bielski discloses a base unit, under either construction, in the form of a check unit and a communication unit (*e.g.*, a “structural unit”), and which is connected to devices through communication media. Ex. 1017, [0005], [0013], [0008], [0020], [0054]; Ex. 1003, ¶¶512-515. Bielski discloses that the check unit “serves as a control and regulation unit as it transfers data to the mentioned devices, such as temperatures, opening or closing conditions etc.” Ex. 1017, [0014], [0056]; Ex. 1003, ¶516. The check and communication unit and interfaced “environmental devices” are seen in annotated Figure 2.

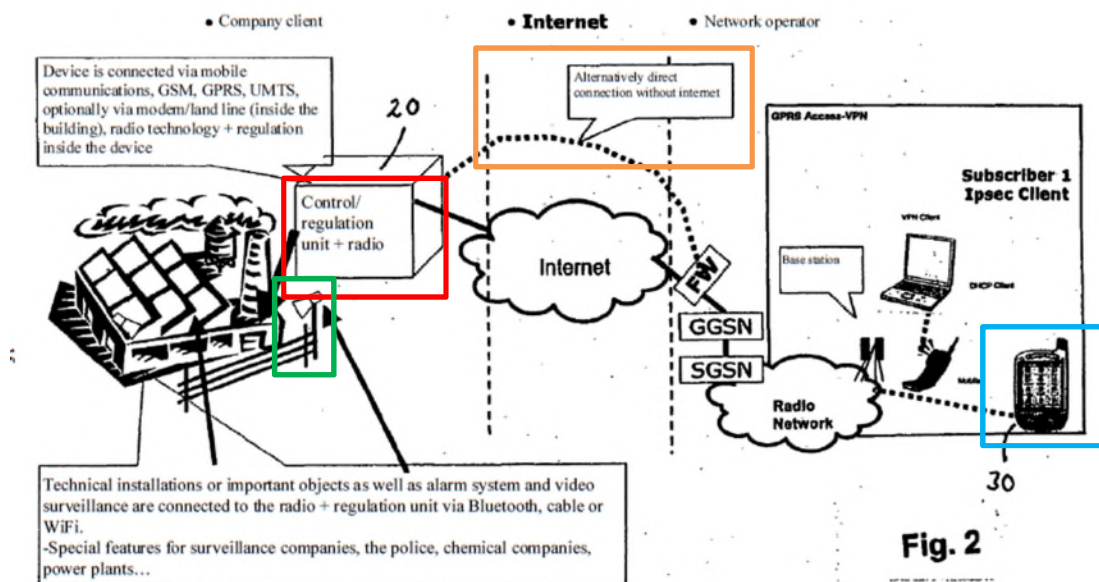


Fig. 2

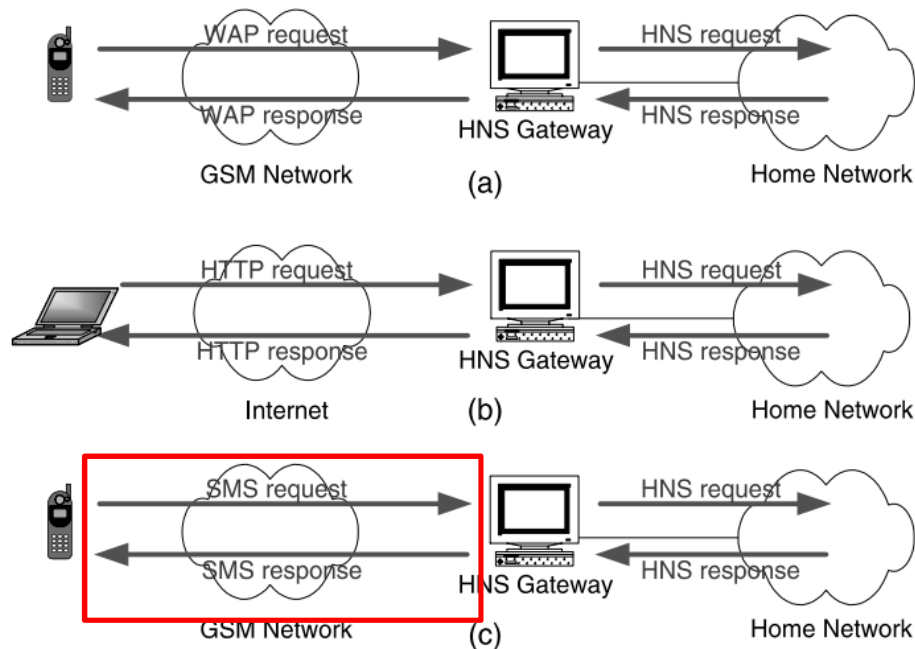
Likewise, Wu discloses a gateway device that “connects to home devices and runs a home automation management application that supervises home devices.” Ex. 1018, pp. 494-495; Ex. 1003, ¶517, 520. Wu discloses that “an appliance can send an alerting message to the HNS gateway (by *posting information*).” Ex. 1018, p. 495; Ex. 1003, ¶517. Wu also discloses that the HNS gateway “is used to control the devices.” Ex. 1018, pp. 496, 498, Fig. 2; Ex. 1003, ¶518-519.

c) [1C]

Bielski discloses a “mobile terminal which can be operated in the telecommunication network of the network operator,” which can be a mobile GSM-based phone (*e.g.*, a conventional cellular phone) that is the claimed remote unit under either construction. Ex. 1017, [0005], [0008], [0030], [0038]-[0039], [0082], [0085]; Ex. 1003, ¶522-523. Bielski also discloses that the remote unit is configured to use SMS messages to communicate with the gateway, such as to inform a user about the status of devices. Ex. 1017, [0069]; *see also* [0036]; Ex. 1003, ¶524-526.

Likewise, Wu discloses that users “remotely monitor and control the devices in the HNS via . . . a GSM mobile terminal,” such as the Nokia 7110 handset (*e.g.*, remote unit). Ex. 1018, Abstract, p. 500; Ex. 1003, ¶527. Moreover, Wu confirms

that bi-directional SMS communication for controlling home devices was well known as illustrated in annotated Figure 2. Ex. 1018, p. 495; Ex. 1003, ¶527-529.



d) [1D]

Bielski discloses a wireless module as it discloses a communication unit in which “data can be transferred to a network operator of a telecommunication network and/or data transferred from the network operator can be received.” Ex. 1017, [0005]; Ex. 1003, ¶531. Bielski discloses that the communication unit comprises a “sending and/or receiving unit by means of which the data can be sent and/or received via. . . a mobile communications network,” such as the GSM network. Ex. 1017, [0021]-[0023]; Ex. 1003, ¶531-532.

Likewise, Wu confirms that the HNS gateway device includes a “short message driver responsible for communications between the GSM network and the HNS manager,” which demonstrates that the provision of wireless connectivity was well-known. Ex. 1018, p. 497, Figure 6 (annotated); Ex. 1003, ¶533-534.

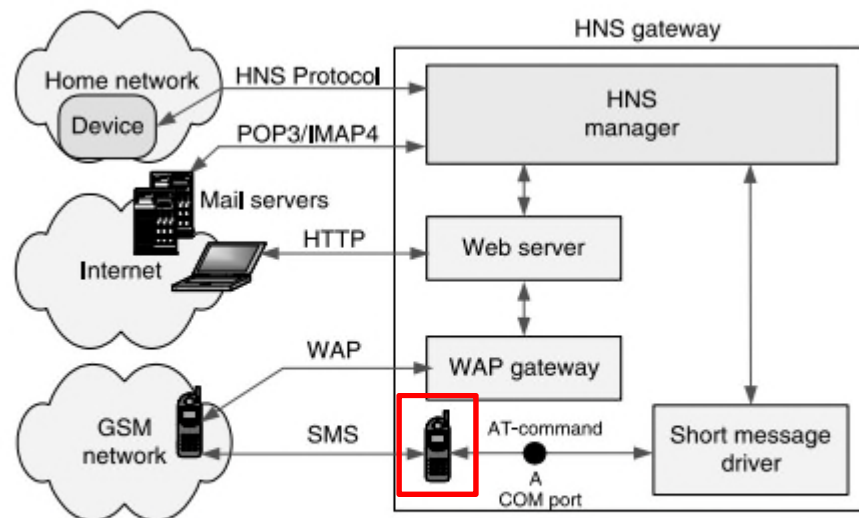


Fig. 6. Architecture of the HNS gateway.

The Wu gateway is interfaced with the mobile device, such that the “mobile station with SMS capability can communicate with the HNS via SMS protocol.”

Ex. 1018, p. 495, Fig. 2; Ex. 1003, ¶533-535.

e) [1E]

Bielski discloses that the “base unit” can “passively inform the user of the mobile terminal about the status [(e.g., environmental information)] of the devices to be monitored,” which can be “in the form of an SMS” message. Ex. 1017,

[0010], [0069]; *see also* [0026], [0023]; Ex. 1003, ¶537-538. Bielski discloses the user can be informed about the status of devices (*e.g.*, alarm condition). Ex. 1017, [0069], [0031], [0063]; Ex. 1003, ¶537-539.

Likewise, Wu further confirms that the POSITA would know that a gateway can send an SMS message, with information about the environment, to the remote user by using the “short message driver to send alerting messages received from the home network [red box] to the mobile station [green box],” which is shown in annotated Figure 3. Ex. 1018, pp. 495-496; Ex. 1003, ¶540.

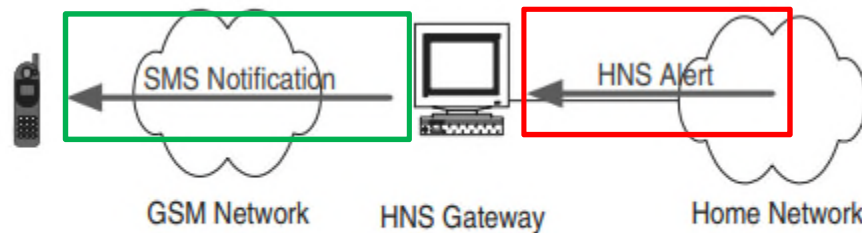


Fig. 3. Notification sent by SMS.

f) [1F]

Bielski discloses that users “enter the corresponding commands, such as on/off conditions or temperatures etc., into the mobile terminal and send this information [second message]. . .to the control and communication unit 20 via the telecommunication network of a network operator, either with the help of the internet or directly.” Ex. 1017, [0063]-[0064]; Ex. 1003, ¶542-543. Bielski

discloses communication via SMS messages. Ex. 1017, [0069]; Ex. 1003, ¶542-544.

To the extent the claim is interpreted as requiring the second message be sent in response to the first, Bielski discloses that the user “receives information from a household or a company, wherein they can actively react thereto with commands via the keyboard or the user interface.” Ex. 1017, [0070]; Ex. 1003, ¶545.

Likewise, Wu confirms that the POSITA would have known of bi-directional communication in that it discloses that after receiving an alerting message, the user can “control the appliance remotely” through a “request-response mechanism” with SMS messages. Ex. 1018, p. 495; Ex. 1003, ¶546-548.

g) [1G]

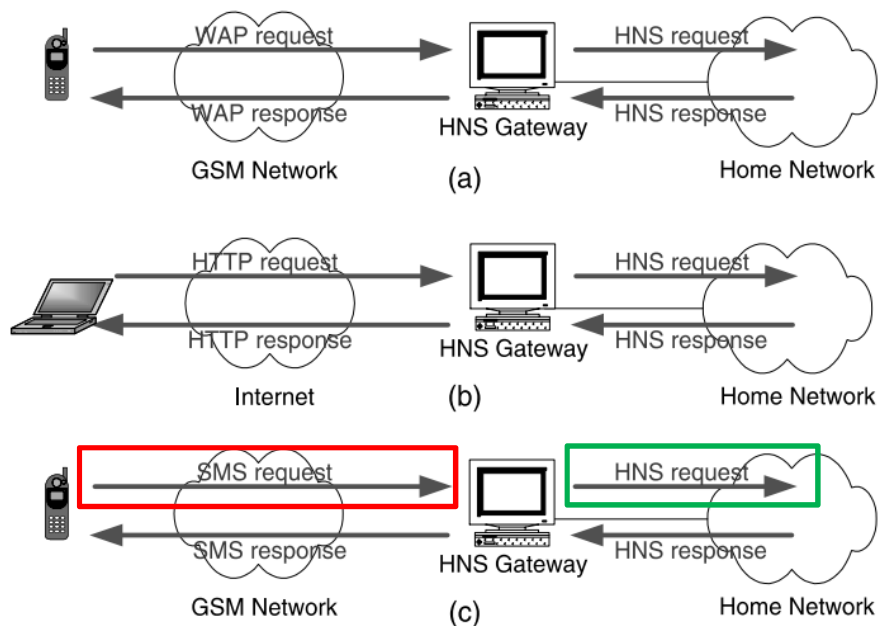
Bielski discloses that the check and communication unit (*e.g.*, base unit) with “sending and/or receiving unit” provides a means for which data can be received . . . via a mobile communications network,” such as by GSM, GPRS, or UMTS. Ex. 1017, [0021], [0022]; Ex. 1003, ¶550.

Bielski discloses the check unit that “serves as a control and regulation unit as it transfers data to the mentioned devices, such as temperatures, opening or closing conditions etc.” in the form of commands so as to control the operation of the connected devices. Ex. 1017, [0056]; *see also* [0082], [0005]; Ex. 1003, ¶551.

Bielski further discloses that user can enter commands, such as temperatures, “to the control and communication unit 20 via the telecommunication network of a network operator” and “from there, it is transmitted to the devices inside the building 10.” Ex. 1017, [0040], [0063]; *see also*, [0082], [0085]; Ex. 1003, ¶552-553.

Likewise, Wu confirms the claimed messages/commands as it discloses an HNS gateway that “connects to home devices and runs a home automation management application that supervises home devices.” Ex. 1018, pp. 494-496, 498; Ex. 1003, ¶554-555, 558.

Wu discloses that the gateway receives requests from a mobile unit (“SMS request”) (red box) and passes requests to the environmental devices on the home network (“HNS request”) (green box), which is shown in annotated Figure 2. Ex. 1003, ¶556-557.



3. Claim 2

The POSITA would have understood that one example of an environmental device that includes electronic and electromechanical switching portions would be a heating/cooling system (*e.g.*, a thermostat). Ex. 1001, 5:58-64, 6:19-26, 12:13-20; Ex. 1003, ¶560-561. Bielski discloses monitoring and controlling environmental devices including a heater. Ex. 1017, [0082]; Ex. 1003, ¶562. Similar to a thermostat, Bielski discloses the control of both on/off conditions and temperatures for the heater. Ex. 1017, [0063], [0081]; Ex. 1003, ¶562. Likewise, Wu also discloses control of devices such as an air-conditioner. Ex. 1018, pp. 495, 500; Ex. 1003, ¶563.

4. Claim 3

A POSITA would have understood the “microcontroller” to be a generic processor. Ex. 1001, 4:10-13, 4:29-34, 4:36-37, 4:46-52, 7:46-49; Ex. 1003, ¶564.

Bielski discloses that its check and communication unit (e.g., base unit) can be embodied as a computer. Ex. 1017, [0037], [0049], Fig. 4; Ex. 1003, ¶565.

Bielski also discloses “[t]he use of specifically developed applications on the mobile device and/or in a check unit . . .” Ex. 1017, [0076]; Ex. 1003, ¶566.

Bielski further discloses creating “special solutions” (e.g., custom solutions) with regards to the interaction of these applications. *Id.*; *see also* Fig. 5; Ex. 1003, ¶566-567.

Likewise, Wu discloses that its HNS gateway is implemented “on a desktop PC and a GSM mobile station,” that include components such as an “HNS configuration tool.” Ex. 1018, p. 498; Ex. 1003, ¶568-569. The HNS configuration tool is also customizable. Ex. 1018, pp. 498-499; Ex. 1003, ¶570.

5. Claim 4

Bielski discloses that the “system enables the user of a . . . mobile phone, to monitor devices,” on the GSM network. Ex. 1017, [0008], [0070]; Ex. 1003, ¶571-572.

Bielski further discloses that “[t]he use of specifically developed applications on the mobile device . . .” Ex. 1017, [0076]; Ex. 1003, ¶573. Bielski

further discloses that the ability to create “special solutions” with regards to the interaction of these applications “is essential.” Ex. 1017, [0076], [0081]; Ex. 1003, ¶573.

Likewise, Wu also discloses that the user controls the system via a “GSM mobile terminal,” which Wu confirms can be a “Nokia 7110 handset.” Ex. 1018, Abstract, p. 500; Ex. 1003, ¶574. Wu also provides software in the form of a current status of the HNS on the user interface (green box) of an appliance subsystem (red box) as seen in annotated Figure 9; Ex. 1003, ¶575.

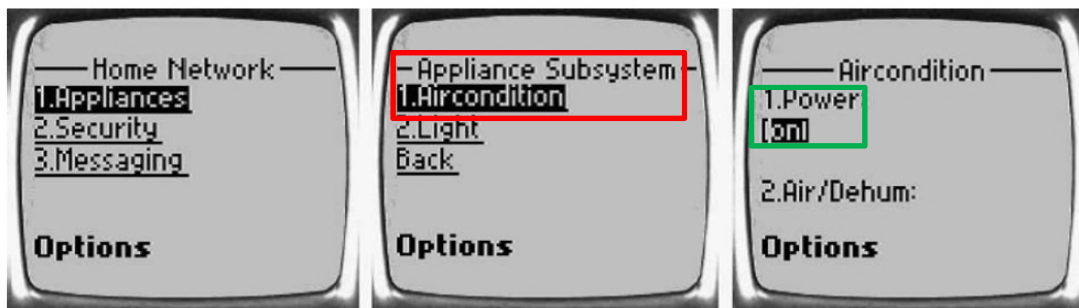


Fig. 9. HNS status.

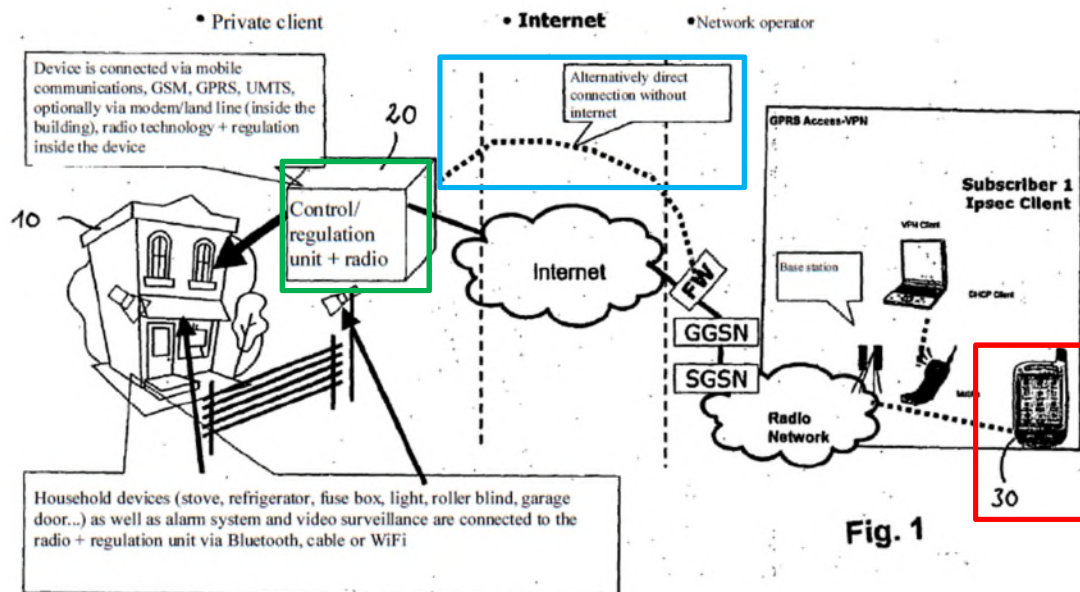
6. Claim 7

Bielski discloses a communication unit with a “sending and/or receiving unit” in which “data can be transferred to a network operator of a telecommunication network and/or data transferred from the network operator can be received.” Ex. 1017, [0005], [0021]; Ex. 1003, ¶577-578. The sending/receiving unit is designed “such that it sends and/or receives data via a mobile communications network, wherein the mobile communications network operates

according to the GSM, GPRS or UMTS standard.” Ex. 1017, [0022]; Ex. 1003, ¶578.

Bielski discloses a “mobile terminal which can be operated in the telecommunication network of the network operator,” that can communicate via SMS messages. Ex. 1017, [0005], [0008], [0038]-[0039], [0069], [0082], [0085]; Ex. 1003, ¶576.

Bielski discloses that “a connection of the network operator to the internet is not required” and that the user can communicate “directly” with the base unit through the mobile terminal. Ex. 1017, [0060], [0023]; Ex. 1003, ¶578-579. Bielski discloses that the mobile terminal (red box) and the check and communication unit (green box) communicate directly via a cellular connection, such as the GSM network (blue box), which is shown in annotated Figure 1. Ex. 1017, [0023], [0030]; Ex. 1003, ¶578-582.



Wu confirms an SMS solution that does not require the Internet in that it discloses that the HNS gateway includes a “short message driver responsible for communications between the GSM network and the HNS manager.” Ex. 1018, p. 497; Ex. 1003, ¶583. The cellular module in the Wu HNS gateway is shown in annotated Figure 6 Ex. 1003, ¶583, 586.

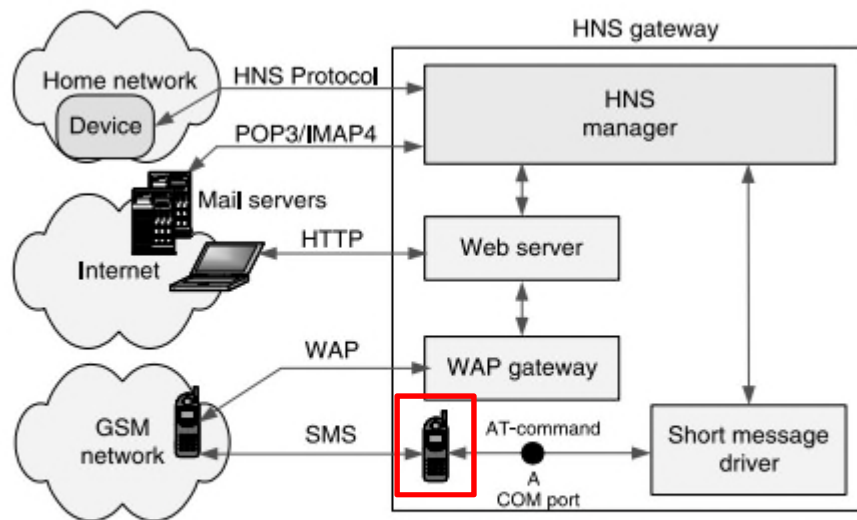


Fig. 6. Architecture of the HNS gateway.

Wu discloses that the short message driver “send[s] and receiv[es] short messages” to and from the “mobile station.” Ex. 1018, p. 495, 499, Fig. 2; Ex. 1003, ¶583-585.

7. Claim 8

Bielski discloses that its mobile device has a display with a user interface that includes button and various control panels. Ex. 1017, [0064], [0081]; Ex. 1003, ¶588. In addition, Bielski discloses an example PDA with icons on the LCD display. Ex. 1017, Fig. 6; Ex. 1003, ¶588. A POSITA would have understood that the mobile devices described in Bielski, such as a PDA, include an LCD display. Ex. 1003, ¶589.

Likewise, Wu discloses that the HNS gateway communicates with, for example, a Nokia 7110 handset. Ex. 1018, p. 500; Ex. 1003, ¶590. Wu illustrates the Nokia 7110 display that a POSITA would identify as an LCD screen. Ex. 1018, Fig. 9, 11; Ex. 1003, ¶590.



Fig. 9. HNS status.

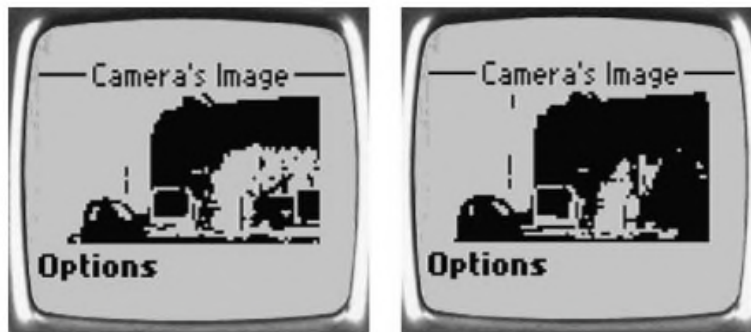


Fig. 11. Real-time images captured by CCD camera.

8. Claim 9

Bielski discloses that the mobile unit includes a user interface in which a user can “actuate[] a button on the mobile terminal and then the associated monitoring, control and/or regulation program is implemented.” Ex. 1017, [0032]; Ex. 1003, ¶592. Bielski further discloses an “application with a corresponding user interface with which the user can comfortably activate special features using

buttons and various control panels.” Ex. 1017, [0081]; *see also* Fig. 6; Ex. 1003, ¶592.

Likewise, Wu illustrates a display that includes information and icons about devices to be controlled, such as an air conditioner (red boxes) and camera (green box) as illustrated in annotated Figures 9, 11. Ex. 1018, p. 500; Ex. 1003, ¶593.

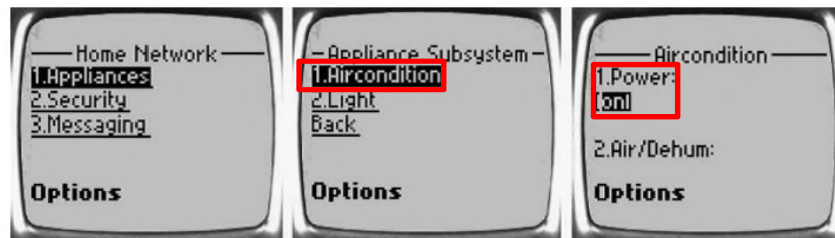


Fig. 9. HNS status.

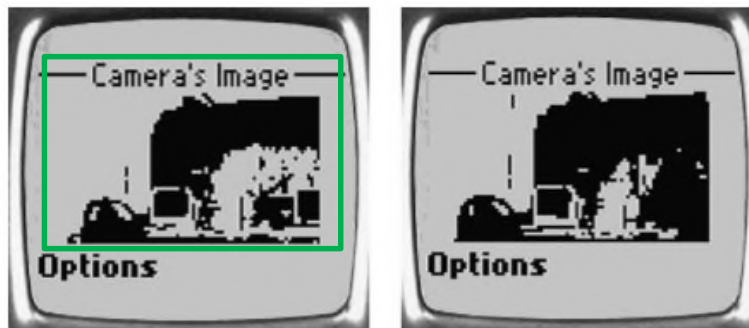


Fig. 11. Real-time images captured by CCD camera.

9. Claim 11: [11Pre]

11Pre is similar to 1Pre and is likewise disclosed.

a) [11A]

Bielski and Wu disclose environmental devices. *See* Limitation 1A.

Bielski also discloses that the check unit “receives data from the device(s) and forwards them to the communication unit” and “transfers data for the purpose

of control to the one or more devices.” Ex. 1017, [0014], [0005]; Ex. 1003, ¶596-597. Bielski discloses that the check unit will “transfer data to the mentioned devices, such as temperatures, opening or closing conditions etc.” Ex. 1017, [0056]; Ex. 1003, ¶597.

Likewise, as seen in annotated Figure 2, Wu discloses that the POSITA would have understood that a gateway both sends and receives data/information from the home network, including the environmental devices (Ex. 1018, Fig. 1) though an “HNS request” and “HNS response.” Ex. 1003, ¶598-599.

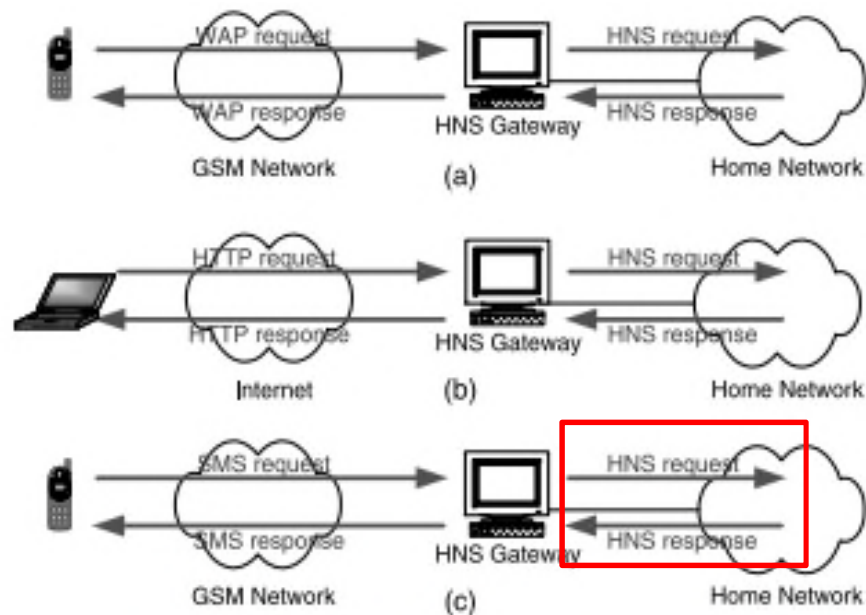


Fig. 2. Communication with the HNS in (a) WAP and (b) HTTP (c) SMS.

Wu discloses that appliances “can actively send an alerting message to the HNS gateway” such as an alarm condition and can be controlled (*e.g.*, “turn[]

on/off”) by the user through the request-response mechanism. Ex. 1018, pp. 494-496, Fig. 1; Ex. 1003, ¶600-603.

b) [11B]

11B is similar to 1C and is likewise disclosed.

c) [11C]

Bielski discloses a remote unit that receives an SMS in that the system can “passively inform the user of the mobile terminal about the status of the devices to be monitored,” which can be a notification “in the form of an SMS.” Ex. 1017, [0010], [0069]; *see also* [0036]; Ex. 1003, ¶606-607. Bielski further discloses that “a status report concerning the device state” can be automatically (i.e. pushed) sent to the user to inform the user about device status, such as an alarm condition. Ex. 1017, [0031], [0069]; Ex. 1003, ¶607-608.

Likewise, Wu discloses that “the HNS gateway can actively notify the home user when an abnormal state occurs” and that the HNS manager, through the short message driver, sends “alerting messages received from the home network to the mobile station,” which is shown in annotated Figure 3. Ex. 1018, pp. 494-495; *see also* 496 (altering message regarding an alarm); Ex. 1003, ¶609-611.

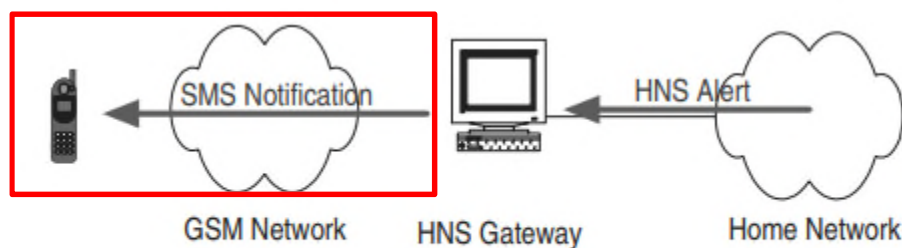


Fig. 3. Notification sent by SMS.

d) [11D]

Bielski discloses that an “automatic notification” is sent to the user based on the status of household devices. Ex 1017, Fig 3; Ex. 1003, ¶613-614. Bielski further discloses that the system allows users to be “passively inform[ed] [] about the status of the devices to be monitored.” Ex. 1017, [0010]; Ex. 1003, ¶615. Wu confirms that it was well known to “actively notify the home user” though an “alerting message.” Ex. 1018, pp. 494-495; Ex. 1003, ¶616-617.

e) [11E]

11E is similar to 1F and is likewise disclosed.

f) [11F]

11F is similar to 1B and is likewise disclosed. 1B does not specify that the base unit is “wireless,” however this is discussed in 1Pre and is likewise disclosed.

g) [11G]

Bielski discloses that a check unit is connected to the managed devices such that “data can be transferred from the check unit to the device(s) and/or from the

device(s) to the check unit.” Ex. 1017, Abstract; Ex. 1003, ¶621. Bielski further discloses that the “check unit can be implemented as a monitoring unit which receives data from the device(s).” Ex. 1017, [0014], [0056]; *see also* [0005]; Ex. 1003, ¶622-623.

Likewise, as shown in annotated Figure 2, Wu discloses that the HNS gateway receives data/information from the home network as an “HNS response,” which includes the environmental devices. Ex. 1018, Fig. 1; Ex. 1003, ¶624-626.

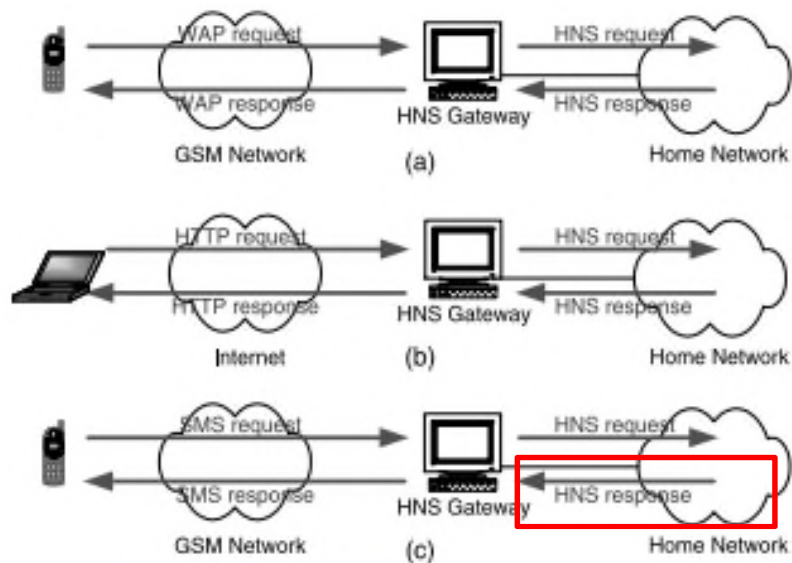


Fig. 2. Communication with the HNS in (a) WAP and (b) HTTP (c) SMS.

Wu discloses that appliances “can actively send an alerting message to the HNS gateway (by posting information) when detecting an abnormal situation or a warning signal,” such as an alarm condition, which is shown in annotated Figure 3. Ex. 1018, pp. 494-496; Ex. 1003, ¶627-628.

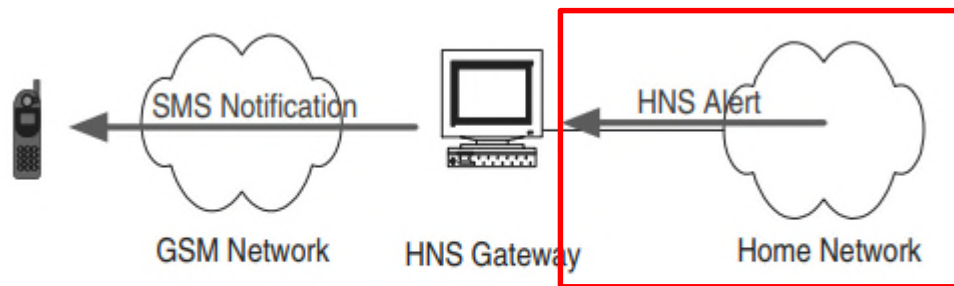


Fig. 3. Notification sent by SMS.

h) [11H]

11H is similar to 1E and is likewise disclosed.

i) [11I]

11I is similar to 1G-1F and is likewise disclosed. Ex. 1003, ¶630-638.

j) [11J]

11J is similar to 1G and is likewise disclosed. Ex. 1003, ¶639-648.

10. Claim 12

Claim 12 describes network connections to/from the base unit and the remote unit, and a non-wireless connection between the base unit and the environmental device, such a scenario is disclosed by Bielski and Wu. Ex. 1003, ¶649.

Bielski discloses a variety of cellular network connection networks, such as “SGSN/GGSN system which connects the GPRS system” and GSM. Ex. 1017, [0060]-[0061]; Ex. 1003, ¶650. Bielski and Wu further disclose connections between the base unit and environmental unit. *See* 1B; Ex. 1003, ¶649.

11. Claim 13

The limitations of Claim 13 are similar to Claim 2 and are likewise disclosed. *See also* Claim 11. Claim 2 does not specify that the “portions” are for “controlling the environmental information,” however this is disclosed. *See* 1G.

12. Claim 14

Claim 14 is similar to Claim 3 and is likewise disclosed. *See also* Claim 11.

13. Claim 15

Claim 15 is similar to Claim 4 and is likewise disclosed. *See also* Claim 11.

14. Claim 17

Bielski discloses that its system is based on mobile communications networks including GSM, GPRS, and/or UMTS. Ex. 1017, [0070], [0057]-[0059]; Ex. 1003, ¶655-656.

Likewise, Wu discloses a system based on “Mobile Communication (GSM) networks.” Ex. 1018, Abstract; Ex. 1003, ¶657-658.

15. Claim 18: [18Pre]

18Pre is similar to 1A/1B and 1D and is likewise disclosed.

a) [18A]

The communication interface, under either construction, is discussed in 1B. Receiving environmental information and sending a command are discussed in 11G and 11J. Accordingly, 18A is likewise disclosed. Ex. 1003, ¶660-671.

b) [18B]

18B is similar to 1D-1F and is likewise disclosed.

c) [18C]

18C is similar to 1E and is likewise disclosed.

d) [18D]

18D is similar to 1E and is likewise disclosed.

e) [18E]

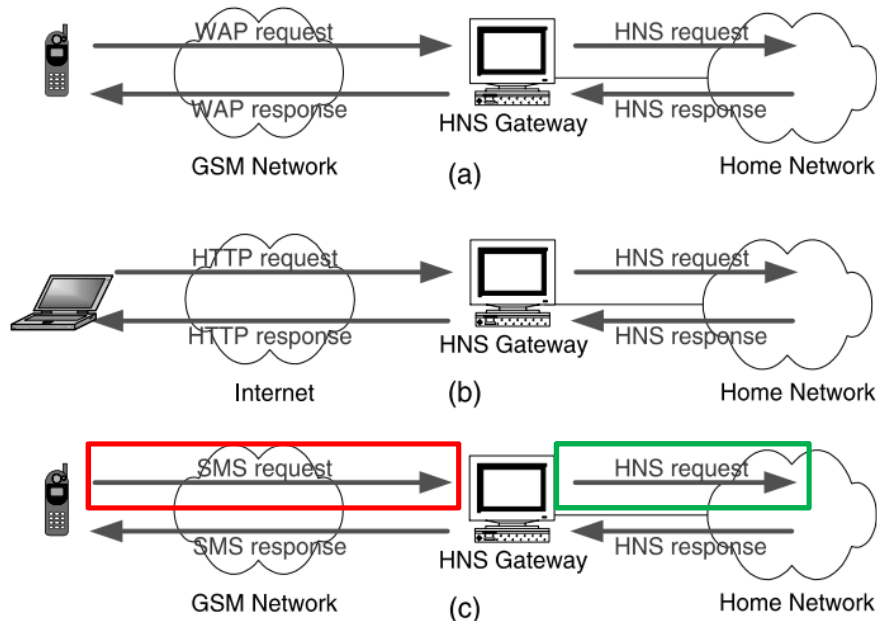
The microcontroller is described in Claim 3. Sending the command to the environmental device is described in 1G. Ex. 1003, ¶¶675-678, 681-682.

Accordingly, 18E is likewise disclosed.

Bielski discloses that the check unit has complex applications for “effecting control and regulation processes in the direction of the controlling/regulation devices is provided (heater, light switch, etc.).” Ex. 1017, [0082]; *see also* [0063]; Ex. 1003, ¶¶679-680. Bielski also discloses that the check and communication unit “processes the values and correspondingly carries out the control/regulation commands via its I/O interfaces.” Ex. 1017, [0085]; Ex. 1003, ¶680.

Likewise, Wu discloses that a mobile station “can communicate with the HNS via SMS protocol,” which allows “the user [to] monitor and control the home devices.” Ex. 1018, p. 495; Ex. 1003, ¶683. As seen in annotated Figure 2, Wu discloses that the HNS gateway accepts an “SMS request” (red box) from the

mobile device and then sends an “HNS request” (green box) to the environmental device in the home network. Ex. 1003, ¶¶683-685.



16. Claim 19: [19Pre]

19Pre is similar to 1Pre and is likewise disclosed. 1Pre does not specify that the system is a “communication system,” however this is discussed in at least 1B-1C and is likewise disclosed.

a) [19A]

The base unit is described in 1B/11F and an interface that allows the base unit to receive the status of an environmental devices is described in 11G.

Accordingly, 19A is likewise disclosed. 11G does not describe that the information received is a “current status,” however, this is discussed in 1E.

b) [19B]

Bielski and, likewise Wu disclose a transmitter/wireless module. *See* 1D-1E Ex. 1003, ¶¶689, 691-692, 694-696. A remote unit with wireless connectivity is described in 1C. A first message sent to the remote unit including current status of the environmental device is discussed in 1E. Ex. 1003, ¶¶693, 698. Unlike 1E, 19B recites that the message is a wireless message, but such a wireless message is addressed by the SMS message described above. *See* 1E. Ex. 1003, ¶¶688. Accordingly, 19B is likewise disclosed.

c) [19C]

A receiver/wireless module is discussed in 1D. Ex. 1003, ¶¶700-702, 708-712. Receiving a second message from the remote unit is discussed in 1G and the second message with command for environmental device is discussed in 1F. Ex. 1003, ¶¶703-708, 713-714. *See also* Claim 7. Accordingly, 19C is likewise disclosed.

d) [19D]

19D is similar to 18E and is likewise disclosed. 18E does not specify that the controller is operatively associated with the base unit and operatively connected with the environmental device, but this is discussed in 1B and is likewise disclosed.

17. Claim 21: [21Pre]

21Pre is similar to 18Pre and is likewise disclosed.

a) [21A]

21A is similar to 18A and is likewise disclosed.

b) [21B]

The wireless module and the first/second messages are described in 18B and the first message with environmental information is described in 18C. Accordingly 21B is likewise disclosed.

c) [21C]

21C is similar to 18D and is likewise disclosed.

d) [21D]

21D is similar to 18E and is likewise disclosed.

G. Ground 2B: Bielski, Wu, and Sears

1. Motivation to Combine

In the early 2000s, applications were common in mobile devices. As admitted, one of the tools to develop those tools was JAVA or J2ME. Specifically, the 935 Patent states that cellular telephone handsets with programming kernels, such as Java or J2ME, were “conventional” and known. Ex. 1001, 6:65-7:3; Ex. 1003, ¶726.

Like the 935 Patent, Bielski discloses an application with “special features using buttons and various control panels or can set specifications for the control/regulation unit.” Ex. 1017, [0081]; Ex. 1003, ¶722. Bielski discloses that its

application “bypasses the standard problems to be found with the special ‘Pocket InternetExplorer.’” Ex. 1017, [0085]; Ex. 1003, ¶722. Bielski also discloses that “applications which solve this problem” include Java Script Code and special servlets.” *Id.* Bielski also discloses that the check and communication unit includes JAVA applications as it discloses “TOMCAT,” a reference to Apache Tomcat®, which the POSITA would have understood to be a JAVA environment that supports JAVA applications. Ex. 1017, Fig. 5; Ex. 1003, ¶722. Like Bielski, Wu implements an application that operates on a mobile device. Ex. 1018, Fig. 9; Ex. 1003, ¶722. The POSITA would have understood that the applications in Bielski and Wu could be implemented in the “conventional” JAVA or J2ME languages. Ex. 1003, ¶726. Accordingly, a POSITA would have been motivated to incorporate JAVA such as is disclosed in Sears, in the applications of Bielski and Wu. Ex. 1003, ¶723.

Sears discloses JAVA and J2ME functionality that provides for “rich dynamic personalized services and applications for use on mobile devices,” that could benefit the devices of Bielski and Wu. Ex. 1019, [0007]; Ex. 1003, ¶723. Moreover, JAVA applications can be stored and run locally on a user device, which can be executed without a browser and include content-rich graphics and faster interaction; and, provide increased security. Ex. 1003, ¶724-725; *see* Ground 1B, Motivation to Combine *supra*. Accordingly, a POSITA would have understood

that the implementation of a JAVA application would provide a more desirable and robust application allowing users to interact with devices in the home or office disclosed by Bielski/Wu. *Id.*

Finally, using JAVA-based applications was within the skill of a POSITA and, thus, there was a reasonable expectation of success. Ex. 1003, ¶726.

2. Claim 5

Bielski discloses that “applications which solve this problem with HTML Code, CGI Scripts, Java Script Code and special servlets were programed on the Embedded PC or EB server” and Java applications in terms of TOMCAT. Ex. 1017, [0085]; Ex. 1003, ¶722, 728.

Sears also discloses the limitations of Claim 5 for the same reasons discussed in Claim 5 of Ground 1B. Ex. 1003, ¶729.

3. Claim 6

Sears discloses the limitations of Claim 6 for the same reasons discussed in Claim 6 of Ground 1B. Ex. 1003, ¶733.

4. Claim 16

The cellular telephone handset is described in Claim 4 and Java/J2ME programming kernels are described in Claims 5-6. Accordingly Claim 16 is likewise disclosed.

H. Ground 2C: Bielski, Wu, and Ehlers

1. Motivation to Combine

Bielski and Wu disclose the ability to monitor and control devices via direct mobile communications, such as SMS. Ex. 1003, ¶736. Ehlers, like Bielski and Wu discloses mobile phones/PDAs “may be linked to the system 1.02 via the internet, a wireless data network, or other suitable system.” Ex. 1022, [0069]; Ex. 1003, ¶735-736.

The POSITA would have been motivated to incorporate Ehlers into Bielski and Wu for several reasons. Ex. 1003, ¶738-741. Indeed, the POSITA would have had a reasonable expectation of success. Ex. 1003, ¶741. Ehlers discloses control of in home devices (thermostats) to increase efficiency and to reduce costs. Ex. 1022, Abstract, [0017]; Ex. 1003, ¶737. Ehlers enables a user to participate in well-known demand reduction programs so as to obtain financial incentives. Ex. 1022, [0007], [0013], [0335]; Ex. 1003, ¶737. Moreover, the POSITA would have understood that Ehlers provides an improved user interface allowing a user to precisely control preferences with a rich set of functions and features. Ex. 1022, [0115]; Ex. 1003, ¶740.

2. Claim 10

As disclosed *supra*, the Bielski and Wu disclose the transmission of SMS messages from a base unit. Ex. 1003, ¶742. Other than describing that

communications between the devices in their respective systems occurs, Bielski and Wu are silent with respect to activation and deactivation of services. However, a POSITA would have understood that such functionality is necessary in command and control systems to allow a user to control her own preferences. *Id.*

Moreover, Ehlers discloses the limitations of Claim 10 for at least the reasons set for in Claim 10 of Ground 1E. *Id.*

I. Ground 2D: Bielski, Wu, and Menard

1. Motivation to Combine

A POSITA would have combined the teachings of Bielski and Wu with Menard as each of the references teach similar functionalities and architectures and, thus, would yield predictable results. Ex. 1003, ¶743, 748. Indeed, the POSITA would have had a reasonable expectation of success. *Id.*

Bielski and Wu disclose monitoring and controlling alarm systems. Ex. 1017, [0054]; Ex. 1018, p. 494; Ex. 1003, ¶744. Similarly, Menard is directed to remote notification of monitored conditions, including an alarm. Ex. 1020, [0009]; Ex. 1003, ¶744. Menard also discloses the use of SMS messages for communication between the user and home base unit. *Id.*

Bielski discloses “that the user of the mobile terminal 30 is automatically informed about the actual status of the corresponding devices.” Ex. 1017, [0069]; Ex. 1003, ¶745. As seen in annotated Figure 9, Wu illustrates a current state of the

monitored device through its user interface (“Power: [on]”). Ex. 1003, ¶700. A POSITA would have understood that the current status of a device would be shown in the interface as a result of the “refresh” function. Ex. 1018, p. 500; Ex. 1003, ¶745.



Fig. 9. HNS status.

While implicit in Bielski and Wu, a POSITA would have been motivated to implement a message that confirms that a command has been executed, such as to confirm an alarm has been activated, the police have been called, or that the temperature was adjusted. Ex. 1003, ¶746.

Menard discloses that responsible parties “may be notified of the outcome of the process” and in one example explains that the message could be notifying the user of execution of the process such as “the police were dispatched at 10:05 AM.” Ex. 1020, [0068], [0179]; Ex. 1003, ¶747.

2. Claim 20: [20Pre]

The preamble is not limiting. If it were, 20Pre is similar to 1Pre and is likewise disclosed.

a) [20A]

20A is similar to 1B and is likewise disclosed.

b) [20B]

20B is similar to 19C and is likewise disclosed. Ex. 1003, ¶751-764. 19C specifies that the message is the second message as opposed to the first message, but this does not change the relevant prior art disclosures with respect to 20B.

c) [20C]

20C is similar to 19D and is likewise disclosed. 19D does not specify “for executing the command,” however this is discussed in 1B and is likewise disclosed.

d) [20D]

A transmitter in the base unit that sends messages to the remote unit is described in 19B. Moreover, Menard discloses 20D for at least the reasons set out in 20D in Ground 1E. Ex. 1003, ¶766-776. Accordingly, 20D is likewise disclosed.

3. Claim 22: [22Pre]

22Pre is similar to 18Pre and is likewise disclosed.

a) [22A]

22A is similar to 19D and is likewise disclosed.

b) [22B]

22B is similar to 1D and is likewise disclosed.

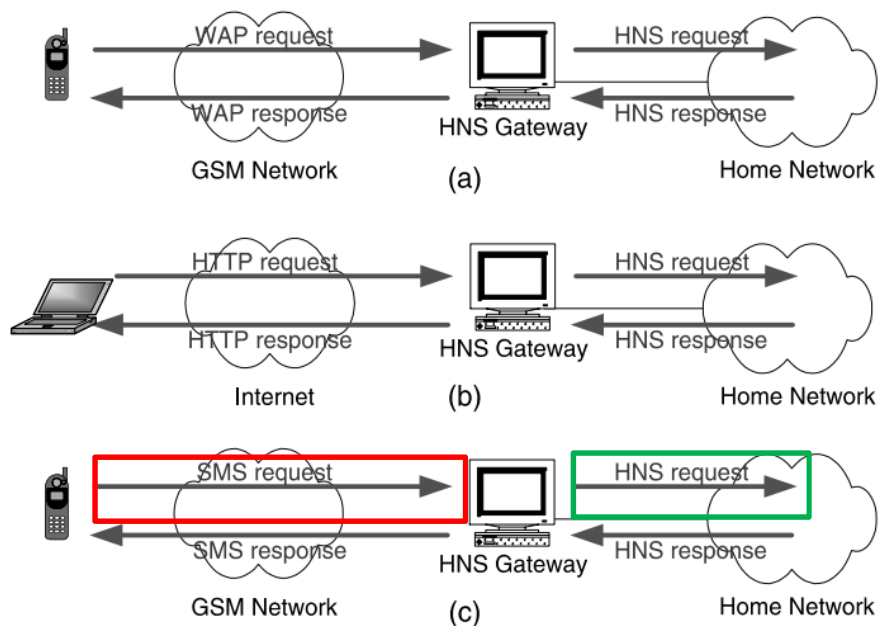
c) [22C]

22C is similar to 19C and is likewise disclosed. 19C does not recite that the message comprises “control information for controlling the environmental device,” however this is discussed in 1G and is likewise disclosed.

d) [22D]

Bielski discloses that the check unit has complex applications for “effecting control and regulation processes in the direction of the controlling/regulation devices is provided (heater, light switch, etc.).” Ex. 1017, [0082]; Ex. 1003, ¶783. Bielski also discloses that the check and communication unit can be embodied as an embedded PC that accepts commands from the mobile device and “processes the values and correspondingly carries out the control/regulation commands via its I/O interfaces.” Ex. 1017, [0085], [0063]; Ex. 1003, ¶782-783.

Likewise, as seen in annotated Figure 2, Wu also discloses that the HNS gateway accepts an “SMS request” (red box) from the user and creates an “HNS request” (green box) that is sent to the environmental devices. Ex. 1018, p. 494, Figs. 1-2; Ex. 1003, ¶784-787.



Wu discloses that based on the request-response mechanism, the user can control appliances by setting control commands. Ex. 1018, p. 495; Ex. 1003, ¶787.

e) [22E]

22E is similar to 11J and is likewise disclosed. 22E does not recite that the command is sent from the controller, but this is discussed in 19D and is likewise disclosed.

f) [22F]

22F is similar to 20D and is likewise disclosed. 20D does not recite that the message is a “status message,” but this does not change the relevant prior art disclosures with respect to 22F.

July 15, 2019 _____
Date

By /S. Benjamin Pleune/
S. Benjamin Pleune (Reg. No. 52,421)

CERTIFICATION UNDER 37 C.F.R. § 42.24

Pursuant to 37 C.F.R. §42.24(d), I certify that this petition complies with the type-volume limits of 37 C.F.R. §42.24(a)(1)(i) because it contains 13,988 words, according to the word-processing system used to prepare this petition, excluding the parts of this petition that are exempted by 37 C.F.R. §42.24(a) (including the table of contents, a table of authorities, mandatory notices (Section I), a certificate of service or this certificate word count, appendix of exhibits, and claim listings).

July 15, 2019
Date

By /S. Benjamin Pleune/
S. Benjamin Pleune (Reg. No. 52,421)

CERTIFICATE OF SERVICE

I hereby certify, pursuant to 37 C.F.R. §§42.6 and 42.105, and further by agreement of parties whereby counsel for Patent Owner indicated that it would deem service effective under the aforementioned regulations if served at the email address below, that a complete copy of the attached **PETITION FOR INTER PARTES REVIEW OF U.S. PATENT NO. 8,064,935**, including all exhibits and related documents, are being served electronically, the same day as the filing of the above-identified document in the United States Patent and Trademark Office/Patent Trial and Appeal Board, upon Patent Owner by serving Patent Owner's counsel at:

jmcdonough@hgdllawfirm.com

July 15, 2019
Date

By /S. Benjamin Pleune/
S. Benjamin Pleune (Reg. No. 52,421)

APPENDIX 1: CLAIM LISTING

Claim Element	Claim Language
1Pre	A wireless system comprising:
1A	an environmental device
1B	a base unit operatively interfaced with the environmental device and configured to control an operation of the environmental device;
1C	a remote unit having wireless connectivity and being configured to send and receive short message service (SMS) messages; and
1D	a wireless module operatively interfaced with the base unit and configured to provide wireless connectivity between the base unit and the remote unit,
1E	wherein the base unit is configured to send a first SMS message, including current environmental information, to the remote unit through the wireless module,
1F	wherein the remote unit is configured to send a second SMS message, including a command for the environmental device, to the base unit through the wireless module, and

1G	wherein the base unit is configured to receive the second SMS message, including the command, and to send the command to the environmental device to control the operation of the environmental device.
2	The system as recited in claim 1 wherein said environmental device includes electronic and electromechanical switching portions interfaced with said environmental device.
3	The system as recited in claim 1 wherein said base unit is a microcontroller-based processing unit having customizable application specific software.
4	The system as recited in claim 1 wherein said remote unit is a cellular telephone handset with custom programmability
5	The system as recited in claim 4 wherein said custom programmability is a JAVA programming kernel.
6	The system as recited in claim 4 wherein said custom programmability is a J2ME programming kernel.
7	The system as recited in claim 1 wherein said wireless connectivity includes a transmitting and receiving module in said base unit and a transmitting and receiving unit in said remote unit operatively communicating with each other over a cellular telephone network.

8	The system as recited in claim 1 wherein the remote unit includes a liquid crystal display module.
9	The system as recited in claim 8 wherein said liquid crystal module includes selectable graphic icons corresponding to current environmental information being monitored or controlled.
10	The system as recited in claim 1, wherein the remote unit is configured to selectively disable transmission of SMS messages from the base unit.
11Pre	A wireless system comprising:
11A	an environmental device configured to send environmental information, and adapted to receive a command to control an operation of the environmental device;
11B	a remote unit having wireless connectivity and being configured to:
11C	receive a first short message service (SMS) message, wherein the first SMS message includes the environmental information;
11D	notify a user of said remote unit of receipt of the first SMS message; and
11E	send a second SMS message, wherein the second SMS message includes the command; and
11F	a wireless base unit configured to:

11G	receive the environmental information from the environmental device;
11H	transmit the first SMS message to the remote unit;
11I	receive the second SMS message from the remote unit; and
11J	send the command to the environmental device.
12	The system of claim 11 wherein the wireless connectivity connection further comprises a first wireless connection interfacing with the base unit, a second wireless connection interfacing with the remote unit, and a non-wireless connection interfacing between the first wireless connection and the second wireless connection.
13	The system of claim 11 wherein the environmental device includes electronic and electromechanical switching portions for controlling the environmental information.
14	The system of claim 11 wherein the base unit further comprises a microcontroller-based processing unit having customizable application specific software.
15	The system of claim 11 wherein the remote unit further comprises a cellular telephone handset.

16	The system of claim 15 wherein the cellular telephone handset includes at least one of a customizable JAVA programming kernel and a customizable J2ME programming kernel.
17	The system of claim 11 further comprising a cellular telephone network.
18Pre	A base unit configured to communicate with an environmental device and to communicate with a remote unit having wireless connectivity, the base unit comprising:
18A	a communication interface configured to receive environmental information from the environmental device and to send a command to the environmental device;
18B	a wireless module configured to send a first message to the remote unit and to receive a second message from the remote unit,
18C	wherein the first message is a first short message service (SMS) message including the environmental information, and
18D	wherein the second message is a second short message service (SMS) message including the command to the environmental device; and

18E	a microcontroller configured to process the second message including the command, and to send the command through the communication interface to the environmental device.
19Pre	A communication system having wireless connectivity, the communication system comprising:
19A	a base unit operatively interfaced with an environmental device, and configured to receive a current status of an environmental device;
19B	a transmitter associated with said base unit, and configured to send a first message to a remote unit having wireless connectivity, wherein the first message is a wireless message including the current status of the environmental device;
19C	a receiver associated with said base unit, and configured to receive a second message from the remote unit, wherein the second message is a wireless message including a command for the environmental device; and
19D	a controller operatively associated with the base unit and operatively connected with the environmental device, and configured to send the command to the environmental device.
20Pre	A wireless system comprising:

20A	a base unit operatively interfaced with an environmental device for controlling an environmental condition in a structure;
20B	a receiver associated with said base unit, and adapted for receiving a first wireless message from a remote unit having wireless connectivity, wherein the first wireless message includes a command for the environmental device;
20C	a controller operatively associated with said base unit, and operatively connected with the environmental device for executing the command; and
20D	a transmitter operatively associated with the controller for sending a second wireless message to the remote unit, wherein the second wireless message includes information indicating that the command has been executed.
21Pre	A base unit configured to communicate with an environmental device and to communicate with a remote unit having wireless connectivity, the base unit comprising:
21A	a communication interface configured to receive environmental information from the environmental device and to send a command to the environmental device
21B	a wireless module configured to send a first message to the remote unit and to receive a second message from the remote unit, wherein the first

	message includes the environmental information and travels via short message and/or data bearer services, and
21C	wherein the second message includes the command to the environmental device and travels via short message and/or data bearer services; and
21D	a microcontroller configured to process the second message including the command, and to send the command through the communication interface to the environmental device.
22Pre	A base unit configured to communicate with an environmental device and to communicate with a remote unit having wireless connectivity, the base unit comprising:
22A	a controller configured to communicate with the environmental device; and
22B	a wireless module configured to:
22C	receive a control message from the remote unit via short message and/or data bearer services, said control message comprising control information for controlling the environmental device;
22D	create a control command for the environmental device based on the control information;

22E	send the control command to the environmental device via the controller; and
22F	send a status message indicating execution of said control information to the remote device.