

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MICROSOFT CORPORATION,
Petitioner,

v.

INTERDIGITAL PATENT HOLDINGS, INC.,
Patent Owner.

IPR2024-00305
U.S. Patent No. 8,737,933
Issued: May 27, 2014
Application No. 13/930,743
Filed: June 28, 2013

Title: DATA TRANSFER BETWEEN WIRELESS DEVICES

PETITION FOR
INTER PARTES REVIEW OF U.S. PATENT NO. 8,737,933

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LIST OF EXHIBITS

No.	Description
1001	U.S. Patent No. 8,737,933 (“ the ’933 Patent ”)
1002	File History of U.S. Patent No. 8,737,933
1003	Declaration of Peter Rysavy, dated December 20, 2023 (“ Rysavy Decl. ”)
1004	U.S. Patent Application Pub. No. 2009/0298419 to Ahya et al. (“ Ahya ”)
1005	U.S. Patent Application Pub. No. 2008/0166967 to Christopher D. McKillop (“ McKillop ”)
1006	International Patent Application Pub. No. WO 2005/1072895 to Peter Hoddie (“ Hoddie ”)
1007	U.S. Patent Application Pub. No. 2007/0191028 to Hinckley et al. (“ Hinckley ”)
1008	Sidhu et al., <i>Emerging Wireless Standards – WiFi, ZigBee and WiMAX</i> , International Journal of Electronics and Communication Engineering Vol. 1 No. 1, at 43-48 (2007)
1009	Harry Newton, Newton’s Telecom Dictionary, 20 th Updated and Expanded Edition (excerpted) (2004)
1010	U.S. Patent Application Pub. No. 2009/0034498 to Banerjea et al. (“ Banerjea ”)
1011	N/A
1012	U.S. Patent Application Pub. No. 2007/0135046 to Kapur et al. (“ Kapur ”)
1013	U.S. Patent Application Pub. No. 2009/0215398 to Adler et al. (“ Adler ”)
1014	Bluetooth Specification Version 1.1, Vol. 2, “Profiles” (Feb. 22, 2001)
1015	Megowan et al., Infrared Data Association® (IrDA®) Object

No.	Description
	Exchange Protocol OBEX™ Version 1.3 (Jan. 3, 2003).
1016	Postel et al., RFC 959, File Transfer Protocol (FTP) (Oct. 1985)
1017	K. Sollins, RFC 1350, The TFTP Protocol (Revision 2) (Jul. 1992)
1018	Frodigh et al., <i>Wireless ad hoc networking—The art of networking without a network</i> , Ericsson Review No. 4, at 248-263 (2000)
1019	U.S. Patent Application Pub. No. 2007/0146347 to Louis B. Rosenberg (“ Rosenberg ”)
1020	Cheverst et al., <i>Exploring Bluetooth based Mobile Phone Interaction with the Hermes Photo Display</i> , Proceedings of the 7 th International Conference on Human Computer Interaction with Mobile Devices and Services, at 47-54 (Sep. 2005)
1021	User’s Guide for Nokia N72 (2006)
1022	U.S. Patent No. 7,356,347 to David Kammer (“ Kammer ”)
1023	Phil Karn, <i>MACA - A New Channel Access Method for Packet Radio</i> , The Proceedings of the 9 th ARRL Computer Networking Conference, at 134-140 (1990)
1024	Chatzimisios et al., <i>Optimisation of RTS/CTS handshake in IEEE 802.11 Wireless LANs for maximum performance</i> , IEEE Communications Society Globecom 2004 Workshops, at 270-275 (2004)
1025	Nokia 9500 Communicator User Guide (2004-2005)
1026	User’s Guide for Nokia N95 (2007)
1027	U.S. Patent Application Pub. No. 2005/0113079 to Hui Guo (“ Guo ”)
1028	U.K. Patent Application Pub. No. GB 2,439,364 to Turner et al. (“ Turner ”)
1029	U.S. Patent Application Pub. No. 2004/0242216 to Demetrios Boutsikakis (“ Boutsikakis ”)
1030	U.S. Patent No. 7,043,548 to Stephane Bouet (“ Bouet ”)

No.	Description
1031	Brad A. Myers, The Importance of Percent-Done Progress Indicators for Computer-Human Interfaces, Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (Apr. 1985)
1032	U.S. Patent Application Pub. No. 2009/0140986 to Karkkainen et al. (“ Karkkainen ”)
1033	U.S. Patent Application Pub. No. 2007/0124503 to Ramos et al. (“ Ramos ”)
1034	U.S. Patent No. 8,059,111 to Phil Harrison (“ Harrison ”)
1035	U.S. Patent Application Pub. No. 2006/0026521 to Hotelling et al. (“ Hotelling ’521 ”)
1036	Westerman et al., <i>Multi-Touch: A New Tactile 2-D Gesture Interface For Human-Computer Interaction</i> , Proceedings of the Human Factor and Ergonomic Society 45 th Annual Meeting, at 632-636 (2001)
1037	Jun Rekimoto, <i>Pick-and-Drop: A Direct Manipulation Technique for Multiple Computer Environments</i> , Proceedings of the 10th annual ACM symposium on User interface software and technology, at 31-39 (1997)
1038	U.S. Patent Application Pub. No. 2008/0009309 to Hwang-hyeon Gha (“ Gha ”)
1039	Pravin Bhagwat, <i>Bluetooth: Technology for Short-Range Wireless Apps</i> , at 96-103 (Jun. 2001)
1040	N/A
1041	N/A
1042	U.S. Patent Application Pub. No. 2003/0134629 to Ollis et al. (“ Ollis ”)
1043	N/A
1044	U.S. Patent Application Pub. No. 2006/0097991 to Hotelling et al., (“ Hotelling ’991 ”)

No.	Description
1045	U.S. Patent Application Pub. No. 2008/0168384 to Platzer et al. (“ Platzer ”)
1046	U.S. Patent No. 7,479,949 to Jobs et al., (“ Jobs ”)
1047	U.S. Patent Application Pub. No. 2008/0143685 to Lee et al. (“ Lee ”)
1048	File History of U.S. Patent No. 8,200,265
1049	U.S. Patent No. 8,200,265 to Carlton et al. (“ the ’265 patent ”)
1050	File History of U.S. Patent No. 8,478,207
1051	U.S. Patent No. 8,478,207 to Carlton et al. (“ the ’207 patent ”)
1052	N/A
1053	Bluetooth Specification Version 1.1, Vol. 1, “Core” (Feb. 22, 2001)
1054	European Patent Application Pub. No. 1,489,783 to Anders Angela (“ Angelhag ”)
1055	U.S. Patent Application Pub. No. 2005/0289195 to Lehtola et al. (“ Lehtola ”)
1056	N/A
1057	Information Disclosure Statement for Lehtola filed June 23, 2004
1058	Affidavit of Nathaniel E. Frank-White, Records Request Processor at the Internet Archive (“ Frank-White ”) Authenticating Exhibits 1014-1015, 1053, and 1060-1062
1059	Affidavit of Scott Delman, Director of Publication at the Association for Computing Machinery Authenticating Exhibit 1020
1060	User Guide for Nokia N91 (2006)
1061	User Guide for Nokia N75 (2006)
1062	User Guide for Nokia 9300 (2005)

No.	Description
1063	N/A
1064	User Guide for the Sony CLIE (2001)
1065	David Pogue, iPhone The Missing Manual (1 st ed. Aug. 2007)
1066	U.S. Provisional Patent Application No. 61/140,126 to Carlton et al. (“ the ’126 provisional ”)
1067	U.S. Patent Application Pub. No. 2007/0011335 to Burns et al. (“ Burns ”)
1068	Yardena Arar, <i>Bluetooth to work with Wi-Fi</i> , NetworkWorld (February 12, 2008)
1069	Staff’s Proposed Claim Constructions, <i>Certain Electronic Devices, Including Smartphones, Computers, Tablet Computers, And Components Thereof</i> , Inv. No. 337-TA-1373 (Dec. 4, 2023)
1070	InterDigital’s Proposed Claim Constructions, <i>Certain Electronic Devices, Including Smartphones, Computers, Tablet Computers, And Components Thereof</i> , Inv. No. 337-TA-1373 (Nov. 30, 2023)
1071	U.S. Patent No. 7,102,640 to Aholainen et al. (“ Aholainen ”)
1072	U.S. Patent Application No. 12/128,497 to Ahya et al. (“ As-Filed Ahya Application ”)
1073	Full Claims Listing (1-9, 11, 13-14, 20-31, 33, 35-36, 42-44)
1074	U.S. Patent Application Pub. No. 2005/0281237 to Heinonen et al. (“ Heinonen ”)
1075	International Patent Application Pub. No. WO 2006/092505 to Olivier Chouraki (“ Chouraki ”)
1076	U.S. Patent Application Pub. No. US 2003/0018744 to Johanson et al. (“ Johanson ”)
1077	BLUETOOTH TECHNOLOGY TO HARNESS THE SPEED OF 802.11, Bluetooth SIG Press Release (Feb. 11, 2008) (Archived by Internet Archive’s Wayback Machine on Feb. 14, 2008)
1078	Megowan et al., Infrared Data Association® (IrDA®) Object

No.	Description
	Exchange Protocol OBEX™ Version 1.5 (Aug. 14, 2009).
1079	U.S. Patent No. 7,333,514 to Anehem et al. (“ Anehem ”)
1080	U.S. Patent Application No. 11/804,359 to McKillop et al. (“ As-Filed McKillop Application ”)

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

1. Real Party-In-Interest

Microsoft Corporation files this Petition because Patent Owner has sued Microsoft’s customers in the ITC and Eastern District of North Carolina for allegedly infringing the ’933 patent. Microsoft has had sole control over this Petition and is the real party in interest (“RPI”) for this Petition. For completeness, Microsoft also identifies its customers Lenovo (United States), Inc., Lenovo PC HK Limited, Lenovo Group Limited, and Motorola Mobility LLC—which have been named as defendants in the District Court proceeding or respondents in the ITC proceeding or both—as additional RPIs for this Petition.

2. Related Matters

The ’933 Patent (EX1001) has been asserted in the following litigations:

- *Certain Electronic Devices, Including Smartphones, Computers, Tablet Computers, And Components Thereof*, Inv. No. 337-TA-1373 (ITC), filed September 1, 2023; and
- *InterDigital, Inc. et al. v. Lenovo Group Limited et al.*, Case No. 5:23-cv-00493-FL (E.D.N.C.), filed September 1, 2023.

Contemporaneous with the filing of this Petition, Petitioner files a petition challenging claims of U.S. Patent No. 9,173,054, which alleges priority to the ’933 patent and which shares common claims of priority to the same earlier applications.

3. Lead And Back-Up Counsel, And Service Information

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Petitioner consents to service via email at the above email addresses.

Pursuant to 37 C.F.R. § 42.10(b), concurrently filed with this Petition is a Power of Attorney executed by Petitioner and appointing the above counsel.

I. INTRODUCTION

Microsoft Corporation (“Petitioner”) respectfully requests *inter partes* review (“IPR”) and cancellation of claims 1-9, 11, 13-14, 20-31, 33, 35-36, and 42-44 of U.S. Patent No. 8,737,933 (EX1001, “’933 patent”), allegedly assigned to InterDigital Patent Holdings, Inc. (“Patent Owner”).

The challenged claims are directed to aspects of wireless content sharing that were well known before the earliest alleged priority date, including use of Bluetooth to detect other nearby devices and use of Wi-Fi to then transfer a file to one of those other devices. Each of McKillop (EX1005) and Hoddie (EX1006) expressly teaches this Bluetooth-to-Wi-Fi switching and, in combination with other art presented below, render obvious all challenged claims in two separate sets of grounds.

II. GROUNDS FOR STANDING PER 37 C.F.R. § 42.104(a)

Petitioner certifies that the ’933 patent is available for IPR and that Petitioner is not barred or estopped from requesting an IPR challenging the patent claims on the grounds identified in this petition.

III. IDENTIFICATION OF CHALLENGE

A. Statement Of The Precise Relief Requested / Statutory Grounds

Petitioner requests *inter partes* review of claims 1-9, 11, 13-14, 20-31, 33, 35-36, and 42-44 (the “challenged claims”) of the ’933 patent, on the following statutory grounds:

Ground	Reference(s)	Basis	Claims
1	Ahya (EX1004) and McKillop (EX1005)	35 U.S.C. § 103	1-9, 11, 13-14, 22-31, 33, 35-36, 44
2	Ahya, McKillop, and Turner (EX1028)	35 U.S.C. § 103	1-9, 11, 13-14, 22-31, 33, 35-36, 44
3	Hoddie (EX1006) and Hinckley (EX007)	35 U.S.C. § 103	1-9, 11, 13-14, 22-31, 33, 35-36, 44
4	Ahya, McKillop, and Aholainen (EX1071)	35 U.S.C. § 103	20-21, 42-43
5	Ahya, McKillop, Turner, and Aholainen	35 U.S.C. § 103	20-21, 42-43
6	Hoddie, Hinckley, and Aholainen	35 U.S.C. § 103	20-21, 42-43
7	Ahya, McKillop, and Chouraki (EX1075)	35 U.S.C. § 103	20-21, 42-43
8	Ahya, McKillop, Turner, and Chouraki	35 U.S.C. § 103	20-21, 42-43
9	Hoddie, Hinckley, and Chouraki	35 U.S.C. § 103	20-21, 42-43
10	Ahya, McKillop, and Johanson (EX1076)	35 U.S.C. § 103	20-21, 42-43
11	Ahya, McKillop, Turner, and Johanson	35 U.S.C. § 103	20-21, 42-43
12	Hoddie, Hinckley, and Johanson	35 U.S.C. § 103	20-21, 42-43

B. No Examiner Addressed These Unpatentability Grounds

Prior art references Ahya, McKillop, Hoddie, Hinckley, Aholainen, and Turner were not cited or discussed on the record during prosecution, and nothing suggests that their teachings relied on herein—much less the combination of those teachings as informed by a POSITA’s knowledge and expert testimony—were considered by the Examiner. Accordingly, this petition should not be denied under Section 325(d).

C. Fintiv Denial Is Improper

There is no basis for discretionary denial under Section 314(a) because the district court complaint was served just over three months ago, on September 19, 2023, and there is not yet a trial date. Moreover, that complaint identified only the independent claims of the ’933 patent. The dependent claims challenged in this petition were first asserted by Patent Owner in its infringement contentions served December 4, 2023, less than 3 weeks before the filing of this petition.

IV. STATE OF THE ART

A. Bluetooth And Wi-Fi Were Ubiquitous

Bluetooth and Wi-Fi were well-known wireless communication protocols that were commonly used in prior art devices ranging from smartphones to laptop computers. EX1005, [0003]; EX1065, 12, 68-70, 106-111; *see also* EX1054, [0008]; EX1067, [0006]; EX1071, 1:11-22; EX1074, [0002-6]. The Bluetooth and Wi-Fi

protocols were so common, they were defined in dictionaries. EX1009, 26 (by 2004, “802.11b,” “also called Wi-Fi,” was “the most common wireless local area network”), 119 (“Bluetooth” is a “wireless protocol that is used to communicate from one device to another” and “version 1.1 allows a Bluetooth device to communicate with up to 8 devices”). EX1003, ¶35.

The v1.1 Bluetooth specification (EX1014, EX0153) and the v1.3 OBEX specification (EX1015) describe core and basic Bluetooth functionality and reflect a POSITA’s working knowledge of pertinent aspects of the Bluetooth and OBEX protocols. EX1003, ¶36; EX1078, 100-101; EX1058, 19-23, 29-1662; EX1054, [0008]; EX1055, [0006]. Similarly, IEEE 802.11 specifies the Wi-Fi protocol and at least three industry publications (EXS1018, 1023-24) reflect a POSITA’s working knowledge of pertinent aspects of the IEEE 802.11 WiFi standard. *Id.* EX1003, ¶36.

The Bluetooth protocol included a generic access profile for discovering nearby devices and a service discovery protocol (SDP) for discovering the capabilities of nearby devices. EX1039, 98 (Table of profiles); *see also id.*, 96-97, 99, 101-102; EX1053, 331-391; EX1014, 13-97; EX1009, 119; EX1022, 1:42-2:13, 11:2-4; EX1074, [0006]. EX1003, ¶37.

B. Bluetooth For Discovery, Wi-Fi For Data Transfers

It was well known to discover nearby devices using Bluetooth, or another low-power communication protocol, to save power and then, when transferring files,

using Wi-Fi, or another higher-speed protocol, to expedite the transfer, thus providing a high-speed, power-efficient file transfer process. EX1003, ¶¶38-45.

This Bluetooth-to-Wi-Fi switching functionality was “the wireless technology equivalent of ‘low hanging fruit’” and was publicly discussed as being incorporated into Bluetooth 3.0 at least ten months before the ’933 patent’s earliest alleged priority date. EX1077, 1 (February 2008 article discussing Bluetooth SIG plans of “taking classic Bluetooth connections” and “allowing [them] to jump on top of the already present 802.11 radio, when necessary, to send bulky entertainment data, faster.”); EX1068, 1-2. Similar technology is reflected in at least six prior art publications.

Hoddie, McKillop, Burns, Banerjea, Adler, and Kapur each discloses using Bluetooth or another lower power protocol to detect and establish an initial connection with another device, and then switching to Wi-Fi or another faster, higher bandwidth protocol to transfer a file. EX1006, 3:16-6:11, 9:9-14:9, claims 2, 4, FIGS 3-4; EX1005, Abstract, [0002], [0006-7], [0013-18], [0034], [0038], [0042-47], claims 2-4, FIGS. 2, 4; EX1067, [0009-10], [0012], [0040-41], [0047], [0051]; EX1010, Abstract, [0008-10], [0026-27], [0037-47]; EX1013, Abstract, [0006-8], [0038-56], claim 5; EX1012, [0022], [0029], [0065-66].

C. Prompting Recipients To Accept Or Deny A File Transfer

Numerous references reflect that it was well-known to prompt intended recipients of a content transfer to accept or reject that transfer, thus allowing users to avoid receipt of unwanted content. EX1003, ¶¶46-51.

Hinckley, for example, discloses “displaying on the receiving device an indication that information is to be received” (EX1007, claim 3), and if the user rejects the information, “blocking the receipt of the indicated information” (*Id.*, claim 4). For example, “a user sees a thumbnail preview of the image ... that another user is transmitting, and can choose whether or not to accept it (Yes/No). By selecting NO, the receiving user is stopping the transfer of information from the sending device.” *Id.*, [0061]; *see also id.*, [0035], [0038], [0058-62], FIG. 3.

Guo similarly discloses the receiving mobile phone’s “processor 10 causes GUI 12 to prompt the user to accept the data file 16.” EX1027, [0017].

Turner shows that, by at least 2006, Bluetooth prompted users to accept or deny a transfer: “if a connection does result in some type of file transfer, users can be prompted as to whether they wish to accept such a transfer.” EX1028, 2:9-11; *see also id.*, 2:7-8 (further explaining how users can “prevent unwanted connections to a device and a subsequent infection by malware”).

Numerous user guides confirm that Nokia phones presented prompts to users asking them if they “want[ed] to accept the Bluetooth message” and would show the

incoming message only if the user accepted. EX1062, 87; EX1025, 86; EX1021, 77;
see also EX1026, 21; EX1060, 89; EX1061, 110.

The prior art Cheverst reference shows one such exemplary prompt.



Figure 6. Typical mobile phone display prompting the user to receive her selected image

EX1020, 49 (FIG. 6).¹

D. Request To Send And Acceptance To Transfer

Many then-existing protocols employed pre-transfer request and acceptance messages to set up / negotiate the transfer, ensure the sending device is authorized to transfer the file, and/or ensure the receiving device is ready for the transfer. EX1014, 23, 316-393; EX1053, 425, 428-441; EX1015, 10, 14, 16, 22-43, 73-74; EX1016, 18, 44; EX1017, 4-5; EX1018, 261-262; EX1003, ¶¶52-55. Specifically,

¹ EX1059 authenticates and proves the public accessibility of EX1020.

these prior art references disclose sending, to a target device, a message requesting to transfer a file, and receiving, from the target device, an acceptance to transfer the file. *Id.*

Bluetooth used the Object Exchange Protocol (OBEX) PUT operation to transfer a file, which involved sending a “request” to transfer a named file to a target device and then sending the file only after receiving a “[r]esponse” of “CONTINUE” from the target device. EX1015, 73-74; *see also id.*, 8, 10, 13-16, 22-24, 29-31, 50-51, 62; EX1014, 23, 316-330, 339-361, 368-390; EX1053, 425, 428-441; EX1055, [0006]; EX1057.² EX1003, ¶53.

² EX1058 authenticates and proves the public accessibility of the Bluetooth v1.1 specification (EX1014, EX1053) and the OBEX v1.3 specification (EX1053). Other documents further confirm the public accessibility of the Bluetooth specification (EX1054, [0008]) and the OBEX specification (EX1055, [0006]). EX1003, ¶36; *supra* Section IV.A.

9.2.4 Example Put Exchange

An application wishes to PUT a 2000 byte file named "Test File Object" with the time stamp 0x41a50016 (Jan 9, 1992, 11:02:00 UTC). The OBEX packet size is 512 bytes.

	Opcode or Response plus Headers	Final bit	Header Data	Header Length	Running Total of Data Exchanged
Pre-Transfer Request and Response Messages	Request → PUT Name Length Time		"Test File Object" "2000" "19920109T110200Z"	37 19	
	Response ← CONTINUE no headers	✓			
Transfer	Request → PUT Body		"start of file data.."	509	506 bytes

EX1015, 74 (excerpted) (red annotations added).

Further, the Wi-Fi protocol used similar request and acceptance messages—a four-way handshake known as RTS-CTS—to ensure data was successfully transferred and not interrupted by other devices on the network. EX1018, 261-262;³ *see also* EX1023, 1; EX1024, 270. Specifically, in RTS-CTS, “[a] terminal ... that wants to send data” does so by completing a “[f]our-way handshake—the sending node sends a request-to-send (RTS) packet to the receiving terminal. If the receiver accepts the request, it replies with a clear-to-send (CTS) packet. If no collisions have occurred, the sender then begins transmitting its data.” EX1018, 262. EX1003, ¶54.

³ EX1079 proves the public accessibility of Frodigh (EX1018). EX1079, 2:17-24. Moreover, EX1018 was published in a well-known journal that was publicly disseminated and read by POSITAs. EX1003, ¶36; *supra* Section IV.A.

Indeed, by at least the 1980s, such pre-transfer request and acceptance messages were common in file transfer protocols. EX1016, 18; EX1017, 4; EX1003, ¶55.

E. Touchscreens

The '933 patent itself admits that touchscreens were known and were known to provide a simplified user experience. EX1001, 1:21-34, 3:27-30, 8:15-38. EX1003, ¶56.

Indeed, multi-touch touchscreens were developed decades earlier and had become widespread (e.g., the iPhone) by 2008. EX1036, 632, 633 (“In 1984, Lee ... implemented a capacitive sensor array capable of tracking multiple touches simultaneously.”), 634-635; EX1045, [0064], [0127], [0133], [0141], claims 7, 14, 19, 24; EX1044, [0004]; EX1035, [0004], [0007-10]; EX1046, 2:16-20, 12:33-39; EX1065, 18-19, 92, 116, 144, 176-177. EX1003, ¶57.

Moreover, the use of taps, swipes, and other gestures on a touchscreen to perform various functions (e.g., select content or intended recipients, pinch to zoom, and swipe to scroll), was well known in the art. EX1065, 17-19, 63 (“Tap the person you want to text.”), 91-98 (select photo to send); EX1046, 19:45-46, 25:30-31 (select a contact “by a tap”); EX1035, Abstract, [0008], [0066-72]; EX1045, [0011], [0060], [0065]; EX1033, [0111] (“tapping on a single photo to select it”); EX1034, 5:64-65; EX1036, 636; EX1037, 32; EX1004, [0019-20], [0032-35], [0037], [0064], FIGS.

1, 3; EX1019, Abstract, [0004-6], [0015-31], claims 1-2, 4, FIGS. 4A, 4B; EX1032, Abstract, [0005-12], [0020], [0024-25], [0028], [0036-49]. EX10038.

V. THE '933 PATENT

The '933 patent issued May 27, 2014, and alleges priority to non-provisional applications filed June 11, 2012, and December 22, 2009, now Patent Nos. 8,478,207 (the "'207 patent") (EX1051) and 8,200,265 (the "'265 patent") (EX1049), respectively, and to provisional application No. 61/140,126 ("the '126 provisional") (EX1066), filed December 23, 2008.

A. The '933 Patent's Specification

The '933 patent's written description focuses on the use of gestures to transfer data to a nearby device. It acknowledges that well-known functionality "allow[ed] the transfer of data (such as files or digital media) between devices in ... wireless environments" and alleges that the file transfer process "may still be a cumbersome, multi-step task." EX1001, 1:21-37. The '933 patent purports to provide a "simplified and more intuitive approach to data transfer between devices" (*id.*, 1:41-42) by providing "a simple three step hand (or finger) motion to enable the data transfer" (*id.*, 8:16-17), whereby the user taps the file they want to send, pushes the file towards the intended recipient, and then releases (i.e., a swipe motion). *Id.*, 8:17-57, 9:32-46, FIGS. 6-9.

The written description also describes using a known “service discovery protocol (SDP) such as currently available in protocols such as Bluetooth®” to discover nearby wireless devices (*Id.*, 5:38-40; *see also id.*, 4:15-52, 5:38-6:3) and admits that its wireless communications occur using known technologies “such as third generation partnership (3GPP) second or third generation standards (2G/3G) modem, Bluetooth® or WiFi®” (*Id.*, 2:61-63).

The written description does not, however, describe using Bluetooth to discover other devices and then switching to Wi-Fi to transfer a file to a user-selected device, even though the independent claims are directed to this concept.

**B. Relevant Prosecution History Of
The '933 Patent And Its Family Members**

Like the '933 patent's written description, the claims of the '933 patent's two parent patents (the '265 and '207 patents) do not mention Bluetooth-to-Wi-Fi switching and instead are generally directed to gesture-based sending of content.

The originally filed independent claims were identical to those of the '207 patent. EX1002, 34-37, 71-76.⁴ On November 19, 2013, approximately two months after Apple released AirDrop for iPhones, Applicant cancelled all original claims in response to a double patenting rejection and added new claims that—for the first time in the patent family's history—included Bluetooth-to-Wi-Fi switching. *Id.*, 73-

⁴ EX1002 file history citations are to page numbers added by Petitioner.

74, 89-102; EX1052, 1-3. The Examiner allowed the new claims without ever rejecting them or addressing any prior art references. *Id.*, 108-113.

C. Claims Listing

The challenged claims are recited in their entireties in EX1073. Challenged claim 1 is representative and listed here, with element numbering added in the lefthand column:

[1.1]	A method performed by a wireless transmit/receive unit (WTRU), the method comprising:
[1.2]	processing, by the WTRU, a touchscreen input to select a media element;
[1.3]	detecting, by the WTRU using Bluetooth, a plurality of WTRUs in proximity to the WTRU;
[1.4]	processing, by the WTRU, another touchscreen input to select a WTRU of the plurality of WTRUs;
[1.5]	sending, by the WTRU, a message to transfer the selected media element to the selected WTRU;
[1.6]	receiving, by the WTRU, an acceptance to transfer the selected media element to the selected WTRU; and
[1.7]	transferring, by the WTRU using a WiFi communication, the selected media element to the selected WTRU.

VI. LEVEL OF SKILL IN THE ART

The person of ordinary skill in the art in December 2008 (“POSITA”) would have held a bachelor’s degree in computer science, electrical engineering, computer engineering, or a closely related field, and one to three years of experience working with wirelessly connected mobile devices that used common wireless communications protocols such as Bluetooth and 802.11 / Wi-Fi. More education,

e.g., a Master's or Ph.D., would compensate for less work experience and vice versa. The state-of-the-art section above (*supra* Section IV) describes some of the information within a POSITA's knowledge. EX1003, ¶31.

VII. CLAIM CONSTRUCTION

Petitioner applies the plain and ordinary meaning of all claim terms, without waiving any rights to raise additional issues of claim construction, indefiniteness, or invalidity in any litigation. For purposes of this IPR, and consistent with the positions of InterDigital and ITC staff (EX1069-70), Petitioner submits that no terms invoke means-plus-function analysis.⁵

VIII. GROUND 1: CLAIMS 1-9, 11, 13-14, 22-31, 33, 35-36, AND 44 ARE OBVIOUS OVER AHYA AND MCKILLOP

The Ahya+McKillop combination incorporates: teachings from Ahya and McKillop on detecting other wireless devices using Bluetooth; teachings from Ahya on processing a user's touchscreen inputs to select a particular media element (e.g., a photo) for sending to another selected wireless device; teachings from McKillop on switching from Bluetooth to Wi-Fi to transfer a file more quickly; and the knowledge of a POSITA—as reflected in several background references—that

⁵ Petitioner reserves the right to argue elsewhere that terms reciting “[processor / circuitry] configured to” are means-plus-function terms that are indefinite for lack of corresponding structure / algorithm.

content transfer typically involved an initial exchange of request and acceptance messages between the sending and receive devices to set up and authorize the transfer of the content.

A. Ahya (EX1004)

Ahya (EX1004) published December 3, 2009, from an application filed May 28, 2008 (EX1072), and is prior art under at least Section 102(e) (pre-AIA).⁶ Ahya is analogous art to the '933 patent because they are both within the same field of endeavor: data transfer between wireless devices. EX1001, Title; EX1004, Title, Abstract, [0002], [0005]; EX1003, ¶59.

Ahya discloses touchscreen-containing mobile stations that wirelessly communicate with one another over a wireless link, using a wireless protocol such as Bluetooth and/or Wi-Fi (802.11). EX1004, Abstract, [0006], [0013-18], [0034], [0045], [0052-53], FIGS. 1-2; *see also* EX1008, 44 (“Wi-Fi is meant to be used generically when referring to any type of 802.11 network”); EX1009, 26 (“802.11b is also called Wi-Fi”). EX1003, ¶60.

⁶ For purposes of this petition only, and reserving the right to argue otherwise elsewhere, Petitioner assumes the challenged claims are entitled to an effective filing date of December 23, 2008, and thus applies the pre-AIA Patent Statute.

The mobile stations detect one another “in accordance with the Bluetooth protocol” (EX1004, [0018]) and exchange media content (e.g., “data files, text, audio, video”) (*Id.*, [0032]) over a direct wireless link, responsive to a user’s touchscreen inputs. *Id.*, [0033-37], [0041], [0045], [0062], [0064]; FIGS. 2-3. EX1003, ¶61.

A user can, for example, send media content to another mobile station over a wireless communication link using a simple tap and swipe gesture, e.g., by “selecting” and “moving” an “identifier in the general direction of the mobile station 120-140 and/or user 122-142 to which the user 112 desires the content 170 to be communicated.” *Id.*, [0035], [0037]; *see also id.*, [0034], [0045], [0062], [0064]. EX1003, ¶62.

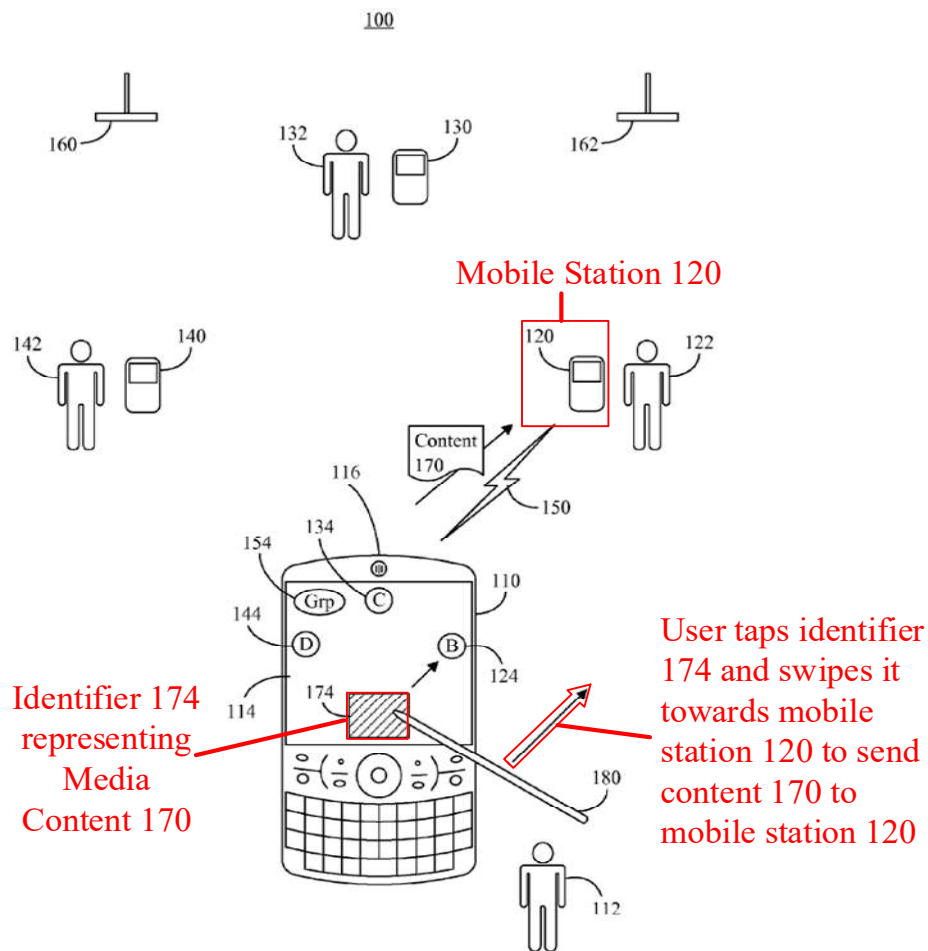


FIG. 1

EX1004, FIG. 1 (red annotations added).

“In response, the mobile station 110 can transmit the content 170 to the mobile station [] via the direct wireless communication link 150.” EX1004, [0033].
EX1003, ¶¶63-64.

B. McKillop (EX1005)

McKillop (EX1005) published July 10, 2008, from an application filed May 18, 2007 (EX1080), and thus qualifies as prior art under at least Sections 102(a), (e).

McKillop is analogous art to the '933 patent because they are both within the same field of endeavor: data transfer between wireless devices. EX1001, Title; EX1005, Abstract, [0009-15], claim 1; EX1003, ¶65.

In the same field as Ahya, McKillop similarly discloses touchscreen-containing wirelessly connected electronic devices that communicate with one another using wireless communication protocols, such as Bluetooth and/or Wi-Fi. EX1005, Abstract, [0010-15], [0028-29], [0037], [0041-45], FIGS. 3-4. Like Ahya, McKillop uses Bluetooth to detect and establish initial communication with other devices. *Id.*, [0013-17], [0038], [0041-45], claims 1-2, FIG. 4. EX1003, ¶66.

Once communications have been established, however, McKillop discloses switching to Wi-Fi to transfer the media content (e.g., pictures). *Id.*, Abstract, [0013-17], [0038], [0042-45], claims 2-4, FIG. 4. Wi-Fi is preferred over Bluetooth, such as when “a large data transfer is desired,” because it is “higher bandwidth” (i.e., faster), and thus transfers files more quickly. *Id.*, [0042]; *see also id.*, Abstract, [0013-15], [0038], [0043-45], claims 1-3. EX1003, ¶¶67-68.

McKillop explains that this protocol switching advantageously provides “power efficient high speed communication[s]” because Bluetooth is “low power” and Wi-Fi is “high speed.” *Id.*, Title, Abstract, [0003], [0013-15], [0046], claims 2-3; *see also id.*, [0002], [0018], [0041-43], [0047]. McKillop also explains that Wi-Fi has a greater range than Bluetooth. *Id.*, [0006]. EX1003, ¶69.

C. Combining Ahya And McKillop

Ahya and McKillop each discloses Bluetooth- and Wi-Fi-enabled wireless devices that include touchscreens for receiving user inputs and Bluetooth discovery for detecting other nearby devices. EX1004, [0013-20], [0032-35], [0037], [0045], [0049], [0062], [0064], claim 11, FIGS. 1, 3; EX1005, Title, Abstract, [0002-7], [0010-17], [0028-30], [0034], [0038], [0042-47], claims 2-5, FIGS. 2-4. A POSITA would have been motivated to implement devices based on these teachings to switch from Bluetooth to Wi-Fi to transfer content, as taught by McKillop, because Wi-Fi is faster than Bluetooth. *See, e.g.*, EX1005, Abstract, [0003], [0006], [0013-15], [0016], [0042], claims 2-3; EX1003, ¶70.

Further, when implementing these Ahya+McKillop wireless devices, a POSITA would have been motivated to program the devices to prompt users to accept or deny an incoming file transfer and to initiate the transfer only after receiving the recipient's acceptance, as was well known in the art, e.g., so that users could reject unwanted content (e.g., spam, malware, etc.). In implementing this functionality, a POSITA would have programmed the devices to exchange request and acceptance messages, as was well-known in then-existing file transfer protocols. *Supra* Sections IV.C-D; EX1003, ¶71.

A POSITA would have reasonably expected to succeed in implementing these features because they would have required only minor software code that was well

within the skill of a POSITA, as evidenced by these features' ubiquity in the prior art. *Supra* Sections IV.A-D; EX1003, ¶72. *E.g., Keynetik, Inc. v. Samsung Elecs. Co., Ltd.* No. 2022-1127, 2023 WL 2003932, at *2 (Fed. Cir. Feb. 15, 2023) (“[O]nce the function to be performed by software has been identified, writing code to achieve that function is within the skill of the art.”).

**1. A POSITA Would Have Been Motivated
With A Reasonable Expectation Of Success
To Implement Ahya+McKillop's Devices With
Bluetooth For Detection And Wi-Fi For Content Transfer**

McKillop provides express motivation for switching from Bluetooth to Wi-Fi to transfer files: speed and range. *See, e.g., id.*, [0006] (compared to Bluetooth “Wi-Fi connections have a greater range ... and operate at significantly higher speeds”). McKillop explains the benefits of using the “low power” Bluetooth when searching for and connecting with other devices, and then switching to “high speed” Wi-Fi to transfer data. *Id.*, Title, Abstract, [0002-3], [0006], [0013-14], [0017], [0038], claims 2-3, FIG. 4; *see also id.*, [0015-16], [0018], [0041-45]. Thus, a POSITA implementing Ahya+McKillop would have been motivated to use Bluetooth to detect other devices and then switch to Wi-Fi when transferring files, as taught by McKillop and well known in the art, because Wi-Fi is faster than Bluetooth and has a greater range. EX1004, [0018]; EX1005, Abstract, [0002-7], [0013-18], [0038], [0041-47], claims 2-3, FIGS. 3-4; *supra* Sections IV.A-B. This provides a high-

speed, power-efficient file transfer system, as expressly taught by McKillop. *Id.* EX1003, ¶73.

The resulting combination requires only routine software code. Ahya and McKillop each teaches devices that support both Bluetooth and Wi-Fi, as was common. EX1004, [0013-16], [0018], [0034], [0045], [0052-53], [0055], FIGS. 1-2; EX1005, [0017], [0024], [0033-34]; *see also id.*, Abstract, [0003-7], [0010-18], [0029-30], [0038-46]; *supra* Sections IV.A-B; EX1003, ¶¶74-75. The combination retains Ahya's and McKillop's Bluetooth discovery (EX1004, [0018]; EX1005, [0013-17], [038], [0041-45]) for any device-to-device interactions prior to actual transfer of content to save power, as taught by McKillop, and entails implementing minor software code to switch to Wi-Fi when transferring a file to expedite the transfer, as taught by McKillop. EX1005, Abstract, [0002-3], [0013-18], [0038], [0041-47], claims 2-3, FIGS. 3-4; EX1003, ¶76.

A POSITA would have reasonably expected to succeed in implementing this minor software code because it was well within the skill of a POSITA, as reflected by the numerous prior art references disclosing this Bluetooth-to-Wi-Fi switching. *Supra* Section IV.B; EX1003, ¶77.

**2. A POSITA Would Have Been Motivated
With A Reasonable Expectation Of Success
To Implement Ahya+McKillop Devices To Allow
Users To Deny Incoming Transfers Using Request
And Acceptance Messages, As Was Common In The Art**

A POSITA also would have been further motivated to implement the Ahya+McKillop wireless devices to prompt users to accept or deny incoming file transfers, as described by numerous background references—including Hinckley, Guo, Turner, and several Nokia phone user guides—to allow users to reject unwanted content (e.g., spam, malware, etc.). *Supra* Section IV.C. EX1003, ¶¶78-81.

Turner, for example, explains that “Bluetooth does provide various security mechanisms that can be used to prevent unwanted connections to a device and a subsequent infection by malware.” EX1028, 2:6-8. For example “if a connection does result in some type of file transfer, users can be prompted as to whether they wish to accept such a transfer.” *Id.*, 2:9-11.

Cheverst shows one such exemplary prompt.



Figure 6. Typical mobile phone display prompting the user to receive her selected image

EX1020, 49.

Hinckley further discloses that displaying “a thumbnail preview of the image o[r] file name that another user is transmitting” lets the recipient “know exactly what they are agreeing to receive before they actually receive it.” EX1007, [0061-62].

Thus, a POSITA would have been motivated to implement the Ahya+McKillop wireless devices such that they prompt a user to accept or decline an incoming transfer so that the user knows what the incoming file is and can prevent the file from being transferred if the user does not want to receive the file, such as if they suspect the file could contain malicious content and/or if the file is from an unknown sender. EX1003, ¶82.

The resulting combination requires only routine software code. Ahya teaches “a display” that displays prompts in each of the wireless devices. EX1004, Abstract,

[0006], [0019-20], [0023], [0034], [0037-38], [0041-42], [0045], [0049], claims 8-12, 15-18, 20, FIGS. 1-3. Implementing this well-known prompt functionality in the Ahya+McKillop devices would have required only minor software code, including: (1) software to notify the receiving device about the transfer (i.e., by sending a message to the receiving device requesting to transfer a selected file); (2) software to, responsive to receiving such a request to transfer a file, display a message prompting the user to accept or deny the transfer; and (3) software to, upon receiving the user's acceptance to receive the file, forward this acceptance to the sending device (i.e., by sending an acceptance message) to let the sending device know when it is allowed to start sending the selected file. EX1003, ¶83.

Implementing the exchange of these messages (e.g., using Bluetooth, or Wi-Fi, or both) was straightforward given that such pre-transfer messages were commonly utilized in many file transfer protocols, including FTP, TFTP, Wi-Fi's RTS-CTS, and Bluetooth's OBEX PUT operation. *Supra* Section IV.D; EX1003, ¶84. A POSITA would have reasonably expected to succeed in implementing this minor software modification to the Ahya+McKillop wireless devices at least because it was well within the programming skill of a POSITA, as reflected by the numerous prior art references disclosing this messaging functionality. *Id.*

As explained further in the following sections, a system and devices implemented in accordance with Ahya's and McKillop's teachings and disclosures render obvious each challenged claim..

**D. Detailed Claim Mapping For Claims
1-9, 11, 13-14, 22-31, 33, 35-36, And 44**

1. Claim 1

[1.1]⁷ A method performed by a wireless transmit/receive unit (WTRU), the method comprising:

Ahya's "mobile stations" (WTRUs) "communicate among each other via direct wireless communication links." EX1004, [0013-14]. Ahya's mobile stations are WTRUs at least because the '933 patent says so. EX1001, 2:26-32 ("wireless transmit/receive unit (WTRU)" includes but is not limited to ... a mobile station"); *also compare* EX1004, [0013], *with* EX1001, 2:26-32. Similarly, McKillop's "portable electronic device[s]" such as a "mobile or cellular telephone[s] or ... computer[s]" (WTRUs) include "Wi-Fi circuitry" and "Bluetooth circuitry" for establishing a "direct communications path." EX1005, [0017], [0024], [0033-34]; *see also id.*, Abstract, [0003-7], [0010-18], [0029-30], [0038-46]. As explained in the following paragraphs, Ahya+McKillop devices (e.g., a mobile station, mobile

⁷ Reference numbers in the format of [claim#.element#] are added throughout for ease of reference.

phone, and/or computer) implemented in accordance with Ahya's and McKillop's teachings and disclosures would perform the claimed method. EX1003, ¶85.

[1.2] processing, by the WTRU, a touchscreen input to select a media element;

Ahya discloses that a user selects “content” such as a “video” (media element) by selecting, with their finger or stylus via a touchscreen, an “identifier,” such as “an icon, an image, a graphic,” representing that content, as shown in FIG. 1. EX1004, [0019]; *see also id.*, [0019-20], [0032-35], [0037], [0045], [0049], [0062], [0064], claim 11, FIGS. 1, 3. A “video” is a claimed media element. *See* EX1001, claims 3, 25 (“the media element is any one of a photograph, video, or a document”). EX1003, ¶86.

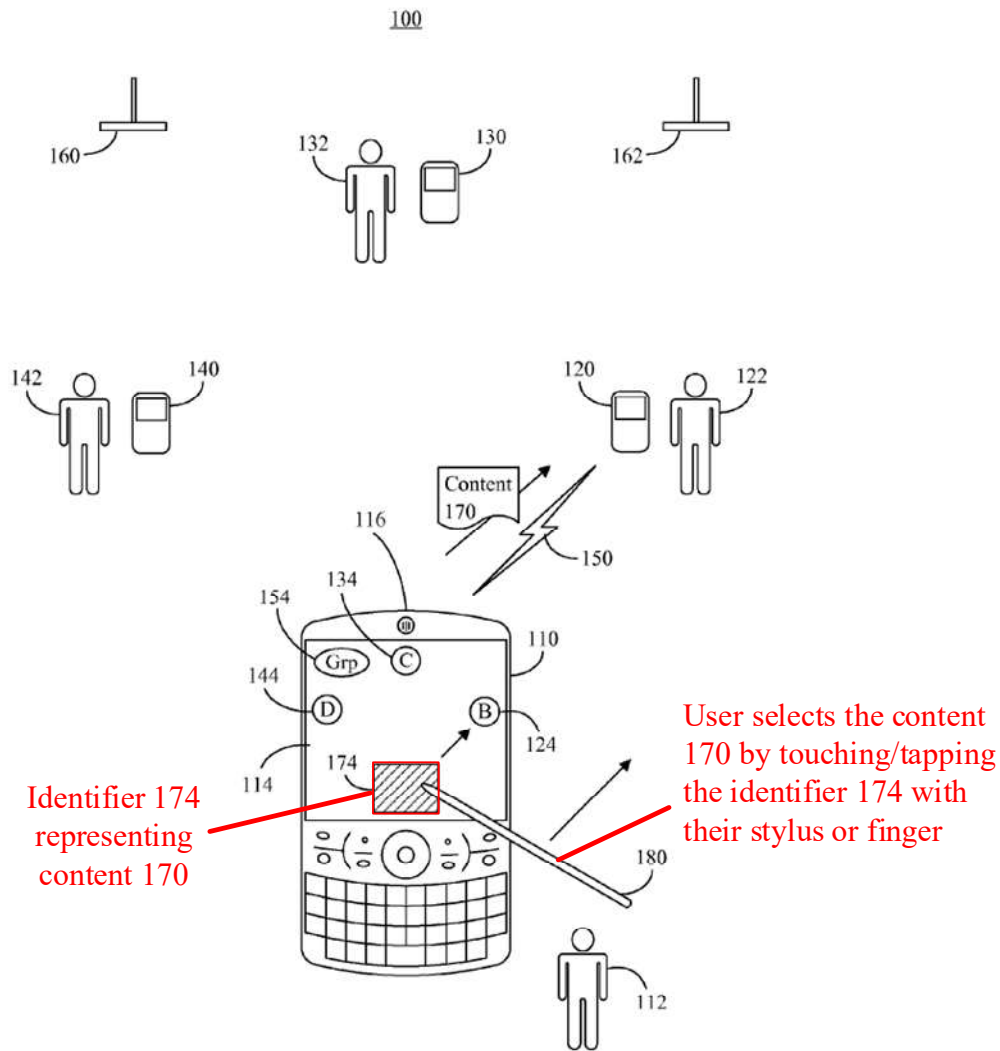


FIG. 1

EX1004, FIG. 1 (red annotations added).

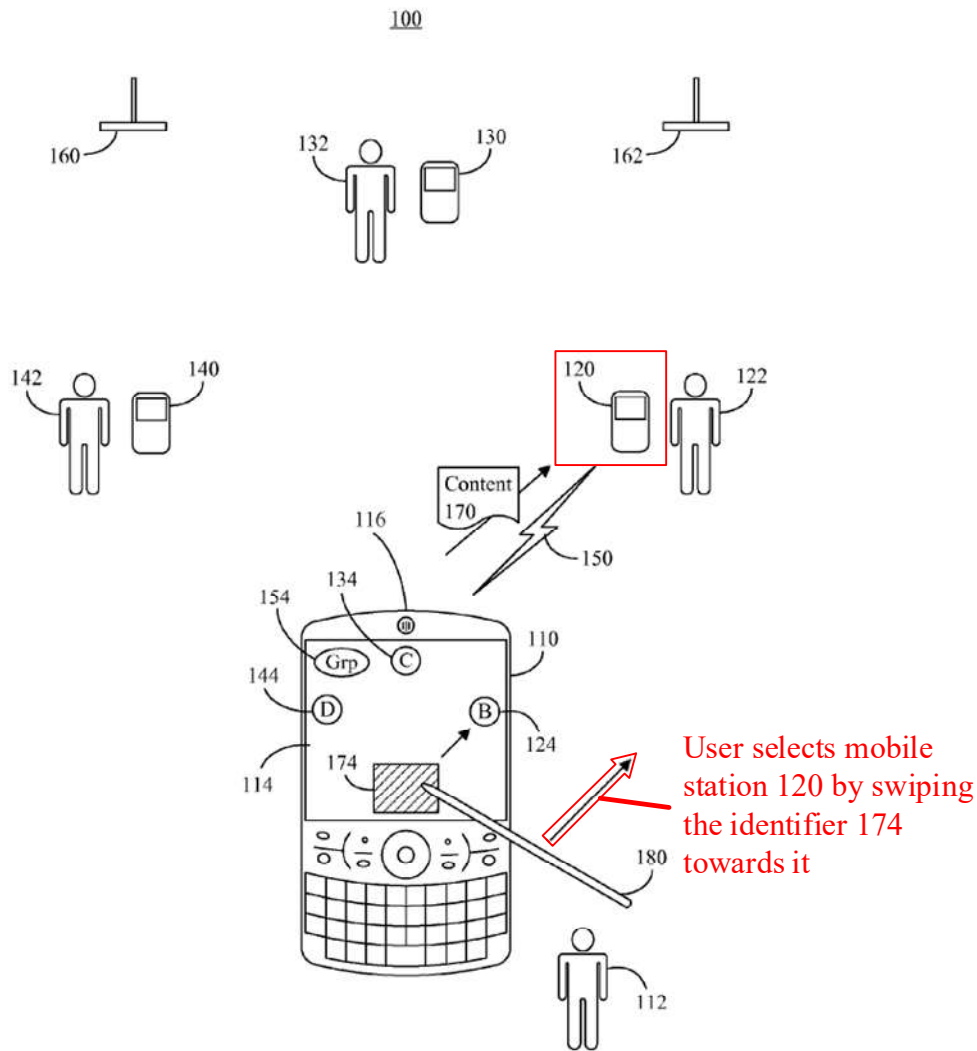
Ahya's "mobile station" (WTRU) processes this "selection of the identifier representing the content" at least because it detects and acts upon the selection. EX1004, [0064]; *see also id.*, [0032-35], [0037], [0055] ("[t]he controller 202 also can process user inputs received via the user interface 204"); EX1003, ¶87.

[1.3] detecting, by the WTRU using Bluetooth, a plurality of WTRUs in proximity to the WTRU;

Ahya discloses that the mobile stations (WTRU) “can detect the presence of one or more of the [other three] mobile stations ... in accordance with the Bluetooth protocol.” EX1004, [0018]; *see also id.* FIG. 1 (showing example with detecting mobile station 110 and three detected mobile stations 120, 130, 140). POSITAs understood that Bluetooth detects other wireless devices in proximity because Bluetooth is a short-range personal area network (PAN) (*Id.*, [0015], [0018]) that includes discovery protocols to discover other Bluetooth devices within Bluetooth’s range of “approximately 10 meters” (EX1022, 1:66) or “less than 30 feet” (EX1009, 119). *E.g.*, EX1022, 1:42-2:13; *see also supra* Section IV.A. McKillop similarly discloses detecting other wireless devices using Bluetooth. EX1005, [0013-17], [038], [0041-45]. EX1003, ¶88.

[1.4] processing, by the WTRU, another touchscreen input to select a WTRU of the plurality of WTRUs;

Ahya discloses that a user uses the touchscreen to select one of the “mobile station[s] 120-140” (a WTRU of the plurality of WTRUs) by “moving the identifier in the general direction of the mobile station ... to which the user 112 desires the content 170 to be communicated.” EX1004, [0037]; *see also id.*, [0019-20], [0032-35], [0064], FIGS. 1, 3; EX1003, ¶89. Ahya illustrates this selection in FIG. 1:



EX1004, FIG. 1 (red annotations added). EX1003, ¶¶89.

The wireless device processes this selection of the other wireless device by “detecting the appendage or stylus being moved toward the determined direction in which the second [wireless device] is positioned.” EX1004, [0064]; *see also id.*, [0032-35], [0037], [0055]. Thus, Ahya discloses processing, by the WTRU, another touchscreen input to select a WTRU of the plurality of WTRUs. EX1003, ¶¶90-91.

[1.5] sending, by the WTRU, a message to transfer the selected media element to the selected WTRU;
[1.6] receiving, by the WTRU, an acceptance to transfer the selected media element to the selected WTRU;

As explained *supra* Section VIII.C.2, a POSITA would have implemented the Ahya+McKillop devices to prompt users to accept or deny incoming file transfers.⁸ This common feature allowed users to prevent unwanted content (e.g., spam, malware, etc.) from being transferred. *Supra* Sections IV.C, VIII.C.2. This functionality also complements Ahya’s teachings to present similar prompts on the sending device to “reduce the likelihood of content being accidentally sent to non-intended recipients.” EX1004, [0041], [0038]; *see also id.*, [0023]. EX1003, ¶¶92-95. This further confirms that a POSITA would have reasonably expected to succeed in implementing prompts on the receiving device by simply adding similar software instructions for displaying and processing of user inputs. EX1003, ¶96.

Moreover, a POSITA implementing this user prompt functionality would have found it obvious (if not necessary) to do so through use of two messages: (i) a message requesting to transfer certain content, sent by the sending device to the

⁸ To the extent Patent Owner argues that this prompt functionality was not within the knowledge of a POSITA, Ground 2 relies expressly on Turner to further show obviousness.

receiving device after the sending user selected the content to send; and (ii) a message to accept the transfer of the selected content, received by the sending device from the receiving device after the receiving user confirmed acceptance. Such a request message would notify the receiving device of the transfer so that it could prompt the user to confirm or deny the transfer. The corresponding acceptance message would let the sending device know of the receiving user's acceptance so that the sending device knows when it is authorized to start the transfer. EX1003, ¶97.

This beneficial user confirmation functionality thus involved a simple back-end process of exchanging two messages. EX1003, ¶98.

A POSITA would have reasonably expected success in implementing this functionality because it required only basic computer code that was well within the programming skill of a POSITA, as reflected by the fact that this messaging functionality was well known and commonly employed in then-existing file transfer protocols. *Supra* Section IV.D; EX1003, ¶98.

For example, POSITAs knew that one common way to implement this message exchange was using Bluetooth's OBEX PUT operation, in which a sending device (called the "client" in Bluetooth) sent a request to a receiving device (called the "server" in Bluetooth) with the name and length / size of the file to be sent. EX1015, 73-74; *see also id.*, 10, 22; EX1014, 319, 330; EX1053, 266, 425, 428-441.

As illustrated below, the server device would then send a “response” to “CONTINUE” (an acceptance) to the client device, and thereafter, the client device would start sending the file to the server device. *Id.* EX1003, ¶99.

9.2.4 Example Put Exchange

An application wishes to PUT a 2000 byte file named “Test File Object” with the time stamp 0x41a50016 (Jan 9, 1992, 11:02:00 UTC). The OBEX packet size is 512 bytes.

		Opcode or Response plus Headers	Final bit	Header Data	Header Length	Running Total of Data Exchanged
Request To Send File Named “Test File Object”	Request →	PUT Name Length Time		“Test File Object” “2000” “19920109T110200Z”	37 19	
Response To Continue	Response ←	CONTINUE no headers	✓			
Start of Transfer	Request →	PUT Body		“start of file data..”	509	506 bytes

EX1015, 74 (excerpted) (red annotations added).

Another obvious alternative was Wi-Fi’s RTS-CTS handshake, a well-known option for ad hoc Wi-Fi protocols defined by IEEE 802.11. EX1018, 261-262. This protocol used similar request and acceptance messages whereby “the sending node sends a request-to-send (RTS) packet to the receiving terminal. If the receiver accepts the request, it replies with a clear-to-send (CTS) packet. If no collisions have occurred, the sender then begins transmitting its data.” *Id.*; *see also* EX1023, 1; EX1024, 270. EX1003, ¶100.

These background references reflect that POSITAs knew how to implement these pre-transfer request and acceptance messages, including through use of at least the Bluetooth and/or Wi-Fi protocols disclosed in each of Ahya and McKillop.

EX1003, ¶¶100-102. Thus, based on his or her knowledge, as reflected in numerous background references, a POSITA would have naturally and easily included the claimed messaging functionality when implementing functionality to prompt a user to accept or deny an incoming transfer. EX1003, ¶¶102-103.

[1.7] and transferring, by the WTRU using a WiFi communication, the selected media element to the selected WTRU.

As explained *supra* Section VIII.C.1, a POSITA would have been motivated to implement the Ahya+McKillop devices to use Wi-Fi to transfer content, as taught by McKillop, because Wi-Fi is faster. EX1005, Title, Abstract, [0002-3], [0006], [0010-17], [0028-30], [0034], [0038], [0042-47], claims 3, 5, FIG. 4. EX1003, ¶¶104-107.

Specifically, a POSITA implementing Ahya's and McKillop's teachings would have been motivated to use Bluetooth for any device-to-device interactions prior to actual transfer of content (as taught by Ahya) to save power (as taught by McKillop), and to switch to Wi-Fi (with its higher data speeds) for the actual transfer of media content to speed up the transfer (as taught by McKillop). EX1004, [0018]; EX1005, Title, Abstract, [0002-3], [0006], [0013-17], [0038], [0041-46], claims 3, 5, FIG. 4; *supra* Section IV.A. EX1003, ¶¶104-107.

Moreover, a POSITA would have been further motivated to use Wi-Fi for data transfers because it has a “greater range” than Bluetooth, as taught by McKillop,

thus allowing users to move more freely during the transfer without interrupting or aborting the transfer. EX1005, [0006]; EX1003, ¶108.

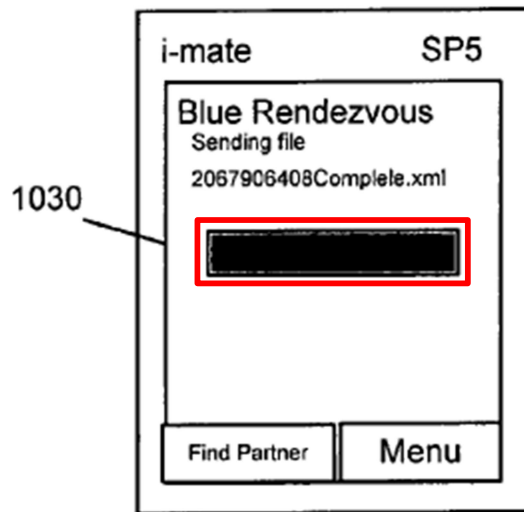
A POSITA would have reasonably expected to succeed in implementing this combination because it would have required only minor software code that was well within the programming skills of a POSITA. EX1003, ¶109. Specifically, since Ahya and McKillop each discloses supporting Bluetooth and Wi-Fi, a POSITA would have needed only to program the Ahya+McKillop devices to switch from Bluetooth to Wi-Fi at some point prior to the transfer to utilize the higher bandwidth Wi-Fi protocol. EX1004, [0015-16], [0052]; EX1005, Abstract, [0010], [0013-18], [0028-30], [0034], [0038], [0042-46], claim 5. The technical ease of implementing this improvement is confirmed not just by McKillop and its teachings, but also by the numerous background prior art references disclosing this Bluetooth-to-Wi-Fi switching. *Supra* Section IV.A; EX1003, ¶¶109-110.

2. Claim 2

2. The method of claim 1 further comprising: displaying, by the WTRU, a progress of the transfer to the selected WTRU.
--

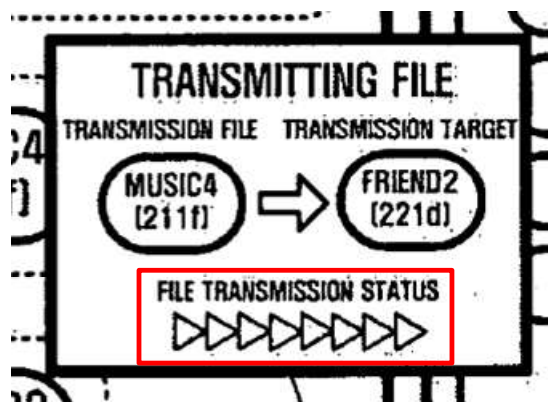
Ahya+McKillop renders claim 2 obvious at least because it was well known to display the progress of a data transfer to inform the user of the status of the transfer. EX1003, ¶111.

Hinckley, for example, discloses that “[w]hen the user presses a soft key associated with the Send icon 1022, a progress bar gives feedback on the transfer.” EX1007, [0058].



EX1007, FIG. 10 (excerpted) (red annotations added). EX1003, ¶112.

As another example, Lee discloses displaying a “file transmission status,” “thereby giving [] feedback to the user.” EX1047, FIG. 11C, [0130].



EX1047, FIG. 11C (excerpted) (red annotations added). EX1003, ¶113.

As another example, Boutsikakis discloses “provid[ing] an indication to the user that the transmission is in progress” and “an indication when transmission has been completed.” EX1029, [0013]. EX1003, ¶114.

It also was known to display a progress bar on the receiving device. EX1030, 6:44-50, FIG 5. EX1003, ¶115.

Moreover, the use of progress bars generally, and their benefits, were well known more than 20 years before the '933 patent's alleged priority date. EX1031 (published in 1985), 11-12 (“Progress indicators give the user enough information at a quick glance to estimate how much of the task has been completed and when the task will be finished.”), 16-17. EX1003, ¶116.

Thus, a POSITA would have been motivated to program the Ahya+McKillop devices to display the progress of the transfer to indicate the time remaining for the transfer so that, for example, users know when they may move their devices out of Wi-Fi range of each other. A POSITA would have had a reasonable expectation of success in implementing this functionality in the Ahya+McKillop devices because it would have required only elementary computer code that was well within the programming skill of a POSITA, as evidenced by the widespread use of such functionality in the art. EX1003, ¶¶117-118.

3. Claim 3

3. The method of claim 1 wherein the media element is any one of a photograph, video, or a document.

Ahya+McKillop renders this claim obvious at least because Ahya discloses that “video” “content” and McKillop discloses that its media is a “picture[]” or “photo.” EX1004, [0032]; EX1005, [0014-15]. EX1003, ¶¶119-120.

4. Claim 4

4. The method of claim 1 wherein the touchscreen input or the another touchscreen input is a tap.

As explained above for claim 1, Ahya discloses that the user “select[s]” the identifier (e.g., icon) displayed on Ahya’s touchscreen with a “stylus 180 or [] appendage.” EX1004, [0035]; *see also id.*, [0019], [0034], [0045], [0064], claims 11, 18, FIG. 1. A POSITA would have understood or at least found it obvious that this “select[ion]” on the touchscreen is a tap because it was well understood that this is how a user selects an icon on a touchscreen. *Supra* Section IV.E; EX1003, ¶121.

Claim 4 is further obvious because the ’933 patent itself admits that it was known to convert touchscreen “user actions” and inputs, including a “tap 6A,” “to electromechanical signals through mechanisms known in the art.” EX1001, 8:15-38. EX1003, ¶¶122-123.

5. Claim 5

5. The method of claim 1 wherein the message to transfer is a request.

It would have been obvious to implement the message as a request because, as explained above for claim 1, it was well known in the art for the message to be a request, as reflected in then-existing file transfer protocols. *Supra* Sections IV.D, VIII.D.1 (elements [1.5-1.6]); EX1014, 330 (“PUT request”); EX1015, 74 (“Request”); EX1017, 4 (“sending a request”), 5; EX1018, 262 (“the sending node sends a request-to-send (RTS)”). This reflects the common sense understanding that the purpose of sending a message before initiating a transfer is to request permission to initiate the transfer. EX1003, ¶124-125.

6. Claim 6

6. The method of claim 1 wherein the WiFi communication is a WiFi link.

This claim is obvious over Ahya and McKillop because Ahya discloses that its wireless communication (e.g., Wi-Fi) is a “wireless communication link.” EX1004, [0015]; *supra* Section VIII.D.1 (element [1.7]); *see also* EX1005, Abstract, [0013-17], [0038], [0042-45], claims 2-4, FIG. 4. EX1003, ¶¶126-127.

7. Claim 7

7. The method of claim 1 wherein the WiFi communication or Bluetooth is provided by a communication peripheral.

Ahya+McKillop renders this claim obvious at least because Ahya discloses that the “mobile station[s]” (WTRUs) each include “transceivers” (communication peripherals) that provide the Wi-Fi communication or Bluetooth. EX1004, Abstract, [0052] (“The transceiver(s) 224 can communicate data via IEEE 802 wireless communications, for example, 802.11, 802.15 and 802.16, Bluetooth”), [0055], FIG. 2; *see also* EX1005, [0030], [0034], FIG. 2. EX1003, ¶¶128-129.

8. Claim 8

8. The method of claim 1 wherein Bluetooth discovery is used to detect the plurality of WTRUs in proximity to the WTRU.

Because Ahya and McKillop each discloses using Bluetooth to detect other wireless devices (EX1004, [0018]; EX1005, [0013-17], [038], [0041-45]), it would have been obvious to detect the nearby wireless devices using Bluetooth discovery, such as the Bluetooth device discovery provided by Bluetooth’s generic access profile, because this is how Bluetooth works, as described by the Bluetooth specification. EX1014, 38-43; *see also id.*, 13-97; *supra* Sections IV.A-B, VIII.D.1 (element [1.3]). EX1003, ¶¶130-131.

9. Claim 9

9. The method of claim 8 wherein the Bluetooth discovery is provided using a service discovery protocol.

As explained *supra* Section VIII.D.8, each of Ahya and McKillop discloses using Bluetooth for discovery. EX1004, [0018]; EX1005, [0013-17], [038], [0041-45]. POSITAs knew, as detailed in the Bluetooth specification, that Bluetooth's discovery includes a service discovery protocol (SDP). EX1014, 69-98; EX1053, 331-391; EX1039, 101-102; *see also supra* Section IV.A. The '933 patent itself admits as much. *See, e.g.*, EX1001, 5:38-46 (“a service discovery protocol (SDP) such as currently available in protocols such as Bluetooth®” may be invoked “to discover all of the TapAPP enabled WTRUs operating in a particular location”). EX1003, ¶132.

Thus, a POSITA naturally would have implemented the Ahya+McKillop devices to provide the Bluetooth discovery taught by Ahya and McKillop using an SDP at least because this was standard practice when implementing the Bluetooth specification. EX1003, ¶¶133-134

10. Claim 11

11. The method of claim 1 further comprising: determining, by the WTRU, that the selected WTRU is compatible to transfer the selected media element.

McKillop teaches determining that the selected device is compatible to transfer the content, such as a picture / photo (selected media element), by determining whether the selected device has Wi-Fi capabilities. EX1005, [0014-15],

[0045] (“a determination is made as to whether the second device has the capability to also communicate using the Wi-Fi protocol”). EX1003, ¶135.

Thus, a POSITA would have been motivated to implement the Ahya+McKillop wireless devices to make a compatibility determination, as taught by McKillop, to ensure the receiving device can actually accept the transfer, as was well known in the art. EX1029, [0011]; EX1042, [0007]; EX1038, Abstract, [0028]; EX1067, [0046]; EX1006, 12:31-13:4. A POSITA would have had a reasonable expectation of success in implementing this functionality because it would have required only elementary computer code that was well within the programming skill of a POSITA, as evidenced by the numerous prior art references that disclose this compatibility check. EX1003, ¶¶136-137.

11. Claim 13

13. The method of claim 1 further comprising: determining, by the WTRU, environment information that lists the plurality of WTRUs in proximity to the WTRU.

The Ahya+McKillop Bluetooth discovery process satisfies this claim because it allows the sending device to determine environment information that includes a list of the nearby devices. EX1004, [0018-21], [0026], FIG. 1. Moreover, as explained above for claim 9, the combined Ahya+McKillop system employed Bluetooth’s service discovery protocol (SDP) since Ahya and McKillop each discloses using Bluetooth for discovery and Bluetooth uses SDP for discovery, as

admitted by the '933 patent. *Supra* Section VIII.D.9 EX1004, [0018]; EX1005, [0013-17], [038], [0041-45]. EX1003, ¶¶138-139.

12. Claim 14

14. The method of claim 1 wherein the WTRU processes the touchscreen input based on information from a touchscreen.

As explained above for elements [1.2] and [1.4], the Ahya+McKillop devices include a touchscreen and would process touchscreen input. EX1004, [0034], [0045]; *supra* Section VIII.D.1 (elements [1.2], [1.4]). A POSITA would have understood or at least found it obvious that the touchscreen input was based on information from the touchscreen. If the processors of the Ahya+McKillop devices did not receive information from the touchscreen, they would have no way of knowing whether touchscreen inputs have been entered, much less be able to process these inputs. EX1003, ¶¶140-141.

13. Claim 22

[22.1] The method of claim 1 further comprising:
[22.2] receiving, by the WTRU from another WTRU, a request to transfer other media;
[22.3] receiving, in response to accepting the request by the WTRU, the other media; and
[22.4] displaying, by the WTRU, the other media in its entirety to a user of the WTRU.

Ahya and McKillop each teaches systems with a plurality of mobile devices (WTRUs) wirelessly communicating content with one another. EX1004, Abstract,

[0013-18], [0032-37], FIG. 1; EX1005, Abstract, [0013-17], [0042-45], claim 1. A POSITA would have found it obvious that, within a combined Ahya+McKillop system, each device not only sends content to other devices but also receives content from those devices. Indeed, it would be counterintuitive to implement the system any other way. EX1003, ¶142. Within such a system, one obvious use scenario would have been a first device *sending* content to a second device, and then *receiving* content from a third device, with each content transfer employing the Bluetooth-to-WiFi switching method explained above with respect to claim 1. Under this and other similar and equally obvious use scenarios, claim 1 would have been satisfied by the first transfer and claim 22 by the second transfer. *Supra* Sections VIII.C.2-VIII.D.1 (explaining, for elements [1.5-1.7], why it was obvious to exchange the claimed request-to-transfer and acceptance-to-transfer messages when exchanging media between devices). This would have involved performing the claim 1 sending, receiving, and transferring steps—claim elements [1.5-1.7]—when sending content, and performing the claim 22 receiving steps—elements [22.2] and [22.3]—when receiving content. Thus, the Ahya+McKillop system satisfies this claim’s receiving steps ([22.2] and [22.3]). EX1003, ¶142.

It also would have been obvious to a POSITA to program the Ahya+McKillop devices to display the received media to the user so that the user can see it. Perhaps the entire purpose of the transfer, especially when it involved a photo or video, was

for displaying the transferred content on the receiving device. Thus, it would have been at least obvious to display the entirety of the content received on any of the receiving devices in the Ahya+McKillop system. EX1003, ¶¶143-144.

14. Claims 23-31, 33, 35-36, And 44

Claims 23-31, 33, 35-36, and 44 are substantively identical to claims 1-9, 11, 13-14, and 22, respectively, but recite performing many of the claimed actions with a processor / circuitry. Because Ahya and McKillop each discloses performing their disclosed actions with processors and/or circuitry, these claims are obvious over Ahya, McKillop, and the state of the art for the reasons provided above in Sections VIII.C-D.13. EX1004, [0007], [0044-56], [0067-68], claims 19-20, FIG. 2; EX1005, [0010], [0024], [0028], [0033-37]. EX1003, ¶145.

IX. GROUND 2: CLAIMS 1-9, 11, 13-14, 22-31, 33, 35-36, AND 44 ARE OBVIOUS OVER AHYA, MCKILLOP, AND TURNER

To the extent Patent Owner argues that it was not in the POSITA's knowledge to include user prompt functionality that allowed for rejection/acceptance of incoming content, Ground 2 expressly relies on Turner (discussed as a background reference in Ground 1) to confirm the obviousness of this feature. EX1003, ¶146.

Turner is prior art under at least 102(a) because it published December 27, 2007. Turner is analogous art to the '933 patent because they are both within the

same field of endeavor: data transfer between wireless devices. EX1001, Title; EX1028, Title, 1-4; EX1003, ¶147.

As explained above for Ground 1, Turner discloses prompting a user to accept or deny an incoming transfer (EX1028, 2) and a POSITA would have been motivated with a reasonable expectation of success to include this prompt functionality in the Ahya+McKillop wireless devices so that users could reject unwanted content (e.g., spam, malware, etc.), and would have easily implemented this prompt functionality by programming the wireless devices to exchange request and acceptance messages, as was well-known in then-existing file transfer protocols. *Supra* Sections VIII.C.2, VIII.D.1 (elements [1.5-1.6]). EX1003, ¶148.

Thus, for at least the reasons provided above in Ground 1, claims 1-9, 11, 13-14, 22-31, 33, 35-36, and 44 are further obvious over Ahya, McKillop, and Turner. EX1003, ¶149.

**X. GROUND 3: CLAIMS 1-9, 11, 13-14, 22-31, 33, 35-36,
AND 44 ARE OBVIOUS OVER HODDIE AND HINCKLEY**

The combination presented in this ground incorporates: teachings from Hoddie and Hinckley on detecting other devices using Bluetooth and processing user inputs (via a touchscreen or a device known to have a touchscreen) to select a particular media element (e.g., a photo) for sending to another selected wireless device; teachings from Hoddie on exchanging messages between devices to

negotiate the transfer of the selected media content and wirelessly transferring the media content using Wi-Fi; and teachings from Hinckley on displaying prompts to a receiving user to accept or reject an incoming file using a touchscreen device.

A. Hoddie (EX1006)

Hoddie (EX1006) is prior art under at least Section 102(b) because it published on November 10, 2005. Hoddie is analogous art to the '933 patent because they are both within the same field of endeavor: data transfer between wireless devices. EX1001, Title; EX1006, Abstract, 1:24-6:11, claim 1; EX1003, ¶150.

Hoddie discloses wireless devices (e.g., PDAs such as the Sony CLIE, laptops, etc.) that communicate with one another using two different wireless communication protocols, such as Bluetooth and Wi-Fi. EX1006, 3:2-6:24, 7:16-15:25, FIGS. 1, 3-4. Specifically, when a user “wants to send a data file to a[nother] user,” (*id.*, 3:26-28) such as an “image file” (i.e., a picture) (*id.*, 5:24-28), the sending device uses Bluetooth to “search[] for other devices” (*id.*, 3:30-31), “open a [] connection” (EX1006, 4:1), and “negotiate how to send the file” (*id.*, 4:8-9). If “the size of the file would make it more appropriate to send ... across a Wi-Fi connection (because of the improved bandwidth of the Wi-Fi connection compared to a Bluetooth connection),” the devices “agree on setting up a Wi-Fi connection,” and the sending device “sends the file to the [receiving device] across the Wi-Fi connection.” *Id.*, 4:9-22. EX1003, ¶151.

The user initiates the file transfer by “select[ing] a ‘send file’ operation and a file to send” using “the user interface” (e.g., the touchscreen of a Sony CLIE personal digital assistant (PDA)) and “confirm[ing] ... the intended recipient of the selected file.” EX1006, 3:27-4:4; EX1058, 24-25, 26, (“[i]nput device” of a “Sony CLIE PEG-TH55” includes a “[t]ouch-screen”), 27. EX1003, ¶152.

B. Hinckley (EX1007)

Hinckley (EX1007) is prior art under at least Section 102(b) because it published on August 16, 2007. Hinckley is analogous art to the ’933 patent because they are both within the same field of endeavor: data transfer between wireless devices. EX1001, Title; EX1007, Abstract, [0010-12]; EX1003, ¶153.

Like Hoddie, Hinckley discloses touchscreen-containing mobile devices that wirelessly exchange files such as images using a wireless protocol such as Bluetooth. EX1007, Abstract, [0010-12], [0027], [0031-38], [0058-62], FIGS. 6, 8-10. Hinckley, however, additionally discloses notifying the user of a receiving device of an incoming transfer (e.g., via a displayed prompt) to give the user an opportunity to accept or reject the transfer. *Id.*, [0035], [0038], [0058-62], claims 3-4, FIGS. 3, 9. For example, Hinckley discloses “displaying on the receiving device an indication that information is to be received” (*id.*, claim 3), including, for example, the “file name” or “thumbnail preview” (*id.*, [0061]) of an image to be received. The user “may be presented with a Yes/No option to receive the image” (*id.*, [0038]) and if

the user rejects the image / information (e.g., selects the No option), the receiving device “block[s] the receipt of the indicated information” (*id.*, claim 4). EX1003, ¶154.

C. Combining Hoddie And Hinckley

When implementing wireless, mobile devices that detect each other using Bluetooth and then use Wi-Fi to transfer files or other content between one another, as taught by Hoddie, a POSITA would have been motivated to implement the wireless devices with a touchscreen interface that prompts receiving users to accept or deny incoming file transfers on the touchscreen interface, as taught by Hinckley, to allow users to prevent unwanted content (e.g., spam, malware, etc.) from being transferred, as similarly explained above for Ground 1. *Supra* Sections IV.D, VIII.C.2, VIII.D.1 (elements [1.5-1.6]); EX1007, [0035], [0038], [0058-62], FIGS. 3, 9; EX1003, ¶155.

Hinckley, for example, explains that including “a thumbnail preview of the image o[r] file name” in the prompt lets the recipient “know exactly what they are agreeing to receive before they actually receive it.” EX1007, [0061-62]. Thus, a POSITA would have been motivated to prompt a user to accept or decline an incoming transfer so that the user knows what the incoming file is and can prevent the file from being transferred if the user does not want to receive the file, such as if

they suspect the file could contain malicious content and/or if the file is from an unknown sender. EX1003, ¶¶156-158.

The resulting combination requires only routine software code. Specifically, when implementing wireless devices in accordance with Hoddie's and Hinckley's teachings, it would have been obvious to a POSITA to program the wireless devices to exchange request and acceptance messages before transferring files, as was commonly done in many file transfer protocols, including FTP, TFTP, RTS-CTS, and Bluetooth's OBEX PUT operation. *Supra* Section IV.D. A POSITA would have reasonably expected to succeed in implementing this minor software modification at least because it was well within the programming skill of a POSITA, as reflected by the numerous prior art references disclosing this messaging functionality. *Id.*; EX1003, ¶¶159-161.

Furthermore, the POSITA would have been motivated to implement the Hoddie+Hinckley devices with touchscreens because: (1) Hoddie itself discloses a device that was known to have a touchscreen (the Sony Clie), (2) Hinckley discloses that it was known for mobile devices to include touchscreens, and (3) touchscreens and their benefits (versatility and ease of use) were well known, as admitted by the '933 patent itself. EX1058, 24-27; EX1064, 12, 25. EX1007, [0003], [0027], Fig. 1; *Supra* Section IV.E; EX1001 1:30-35, 3:27-30, 8:35-38. EX1003, ¶161.

As explained further in the following sections, a system and devices implemented in accordance with Hoddie's and Hinckley's teachings and disclosures render obvious each challenged claim.

**D. Mapping Claims 1-9, 11, 13-14, 22-31,
33, 35-36, And 44 To Hoddie And Hinckley**

1. Claim 1

[1.1] A method performed by a wireless transmit/receive unit (WTRU), the method comprising:

Hoddie discloses “wireless devices” (WTRUs) such as “PDA[s],” “laptop computer[s],” and “digital camera[s]” that include at least two “wireless interfaces,” “connected to respective antennas” for wirelessly communicating with each other. EX1006, 3:19-8:29, FIGS. 1-2. Hoddie’s “wireless devices,” e.g., “PDA[s]” and “computer[s],” are WTRUs at least because the ’933 patent says so. EX1001, 2:26-32 (a WTRU “includes but is not limited to ... a personal digital assistant (PDA), a computer, or any other type of device capable of operating in a wireless environment”). Hinckley similarly discloses “mobile phones (or other wireless devices)” that each include one or more “wireless communication components.” EX1007, [0010], [0030-31], *see also id.*, [0034], [0036-37], claim 1, FIGS. 3-4. As explained in the following paragraphs, Hoddie+Hinckley devices implemented in accordance with Hoddie’s and Hinckley’s teachings would perform the claimed method. EX1003, ¶¶162-163.

[1.2] processing, by the WTRU, a touchscreen input to select a media element;

Hoddie and Hinckley render obvious this element. Hoddie discloses its “PDA” such as “the CLIE™ by Sony” (WTRU), “respon[ds]” to a user “select[ing] ... a file to send” “[u]sing the user interface.” EX1006, 3:19-30; *id.*, 16:11-13 (“the computer receives data from the input ... devices” and “performs operations on the data”). Hinckley similarly discloses that “the user may choose one or more files to transmit to the other device” and that the user “selects a file [] to send ... using the normal mode of selecting items on the mobile device.” EX1007, [0058]. It would have been obvious to implement the Hoddie+Hinckley devices with a touchscreen at least because the Sony CLIE disclosed by Hoddie had a touchscreen user interface. EX1058, 24-25, 26, (the “[i]nput device” of a “Sony CLIE PEG-TH55” includes a “[t]ouch-screen”), 27; EX1064, 12 (The Sony CLIE’s screen “is touch-sensitive”), 25; EX1003, ¶164. Hinckley confirms that touchscreens were an obvious design choice as its background specifies that “[m]obile devices ... typically include one or more buttons, touch screens, or active digitizers.” EX1007, [0003]. Touchscreens and their benefits (ease and simplicity of use) were also well known in the art, as acknowledged by the ’933 patent itself, further confirming that a POSITA would have been motivated with a reasonable expectation of success to use touchscreens for the Hoddie+Hinckley devices. EX1001, 1:29-34, 3:27-30, 8:15-38; *supra* Section IV.E. EX1003, ¶164.

Hoddie’s “file” satisfies the claimed media element because it includes a “picture” or “digital image,” (EX1006, 5:24-26) i.e., a photograph, which is one of the claimed types of media elements. EX1001, claims 3, 25 (“the media element is any one of a photograph, video, or a document”); EX1003, ¶165.

It would have been obvious to a POSITA to have implemented the Hoddie+Hinckley devices to process the user’s touchscreen input to select a media element because if the devices did not process the user input, the user input would not do anything, i.e., the user would not actually be able to select content if the devices did not process the user’s input to select the content. This ability to select content was a basic, well-known, and fundamental functionality of touchscreen-containing devices (*supra* Section IV.E) and Hoddie+Hinckley’s touchscreen would have little to no value if it did not even allow such basic functionality. Thus, it would have been obvious to implement the Hoddie+Hinckley devices with this functionality. EX1003, ¶¶166-167.

[1.3] detecting, by the WTRU using Bluetooth, a plurality of WTRUs in proximity to the WTRU;

Hoddie discloses this element at least because it discloses “search[ing] for other devices available for communication using Bluetooth.” EX1006, 3:29-32; *see also id.*, 9:17-25 (“The first device finds the second device using a default interface ... such as Bluetooth.”), 10:6-9 (“a device periodically sends out a beacon signal

using a Bluetooth interface to find nearby and available Bluetooth-compatible devices and maintains a list of available devices”), FIGS. 3, 5. Hinckley similarly discloses detecting other wireless devices using Bluetooth. EX1007, [0034], [0039], [0042-44], [0049]. EX1003, ¶¶168-169.

[1.4] processing, by the WTRU, another touchscreen input to select a WTRU of the plurality of WTRUs;

Hoddie expressly discloses confirming the intended recipient through the user interface (e.g., the touchscreen). EX1006, 4:2-4, 11:21-26. Specifically, Hoddie discloses that the PDA (WTRU) “confirms with the [] user that the laptop is the intended recipient of the selected file,” such as “by presenting a list of available devices to the user through the user interface.” *Id.* Hinckley similarly discloses that “the user may select a contact to send.” EX1007, [0059]; *see also id.*, Abstract, [0011], [0047], claim 9, FIG. 9. For the same reasons it would have been at least obvious to implement the Hoddie+Hinckley devices with a touchscreen for selecting the media element, as explained above for element [1.2], a POSITA would have found it obvious that the user would also use the touchscreen to select the intended recipient (selected WTRU). Numerous references disclose using a touchscreen to select an intended recipient, further evidencing the obviousness of using the Hoddie+Hinckley devices’ touchscreen for this purpose. *Supra* Section IV.E. EX1003, ¶170.

A POSITA also would have understood and/or at least have found it obvious to implement the Hoddie+Hinckley wireless devices to process this touchscreen input to select an intended recipient because Hoddie expressly discloses receiving the input and then performing actions responsive to this input. Specifically, Hoddie discloses “[a]fter receiving the confirmation” that “the laptop is the intended recipient of the selected file,” the WTRU “determine[s] the available interface(s) of the other device” and “negotiate[s] how to send the file.” EX1006, 4:2-9. EX1003, ¶¶171-172.

[1.5] sending, by the WTRU, a message to transfer the selected media element to the selected WTRU; [1.6] receiving, by the WTRU, an acceptance to transfer the selected media element to the selected WTRU;
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As explained in the following paragraphs, Hoddie teaches a back-end file transfer “negotiation” that renders obvious the claimed sending and receiving steps. And Hinckley teaches prompting users to accept/reject content for sending, which further would have rendered obvious the claimed sending and receiving steps. EX1003, ¶173.

Hoddie discloses that in response to the user requesting to send the “data file” such as a “digital image” (selected media element) to the “laptop” (selected WTRU), the “PDA” (WTRU) and the laptop “determine the available interface(s) ... through queries,” “find that each supports Wi-Fi communication,” and “negotiate how to

send the file.” EX1006, 3:27-5:27. This negotiation involves “proposal and counterproposal negotiation ... until the two devices agree upon a compatible interface.” *Id.*, 13:4-13. Specifically, “[t]he devices select a compatible interface using one [or] more communication criteria” such as “speed, bandwidth, data rate ... [and] data size requirements.” *Id.*, 13:3-21. Due to the large size of the file, “the PDA and laptop agree on setting up a Wi-Fi connection” “because of the improved bandwidth of the Wi-Fi connection.” *Id.*, 4:8-14. The devices “agree on the details of setting up an ‘ad hoc’ wireless network,” “open the Wi-Fi connection,” and then “the PDA sends the file to the laptop across the Wi-Fi connection.” *Id.*, 4:14-22; *see also id.*, 12:10-13:34. EX1003, ¶174.

A POSITA would have understood that these back-end processes of “negotiat[ing] how to send the file” and “agree[ing] on” the ad hoc Wi-Fi connection based on the “data size requirements” of the file involve, or at least render obvious, performing the claimed sending and receiving steps. EX1006, 4:7-19, 13:3-21; EX1003, ¶175.

Message To Transfer: A POSITA would have understood or at least found it obvious that the sending device would send a message to transfer the selected media element to the receiving device for the receiving device to know the size of the file and “agree upon” an interface (Wi-Fi) that is appropriate for the file’s size, as taught by Hoddie. EX1006, 4:4-6:2, 8:13-30, 10:10-11:33, 13:3-15:25. Indeed,

Hoddie confirms that the first wireless device, e.g., the PDA, “sends a proposal” to send the selected file over a “proposed interface” to the other device. EX1006, 13:6-8. This alone, satisfies the claimed sending step. EX1003, ¶176.

Acceptance To Transfer: Further, a POSITA would have understood or at least found it obvious that the receiving device would have to send an acceptance to the sending device to transfer the selected media element over the Wi-Fi connection for the sending device to know that the receiving device has “agreed upon” the Wi-Fi connection as the interface for the file transfer. EX1006, 4:4-6:2, 8:14-30, 10:10-11:33, 13:3-15:25. EX1003, ¶177.

The claimed sending and receiving steps are further obvious in view of Hinckley’s front-end user prompt teachings. Hinckley teaches prompting the receiving user to accept or deny an incoming transfer, which, as explained above for Ground 1, would have obviously involved performing the claimed sending and receiving steps. EX1007, [0035], [0038], [0058-62], FIGS. 3, 9; *supra* Sections IV.C-D, VIII.C.2, VIII.D.1 (elements [1.5-1.6]). Specifically, a POSITA would have found it obvious that the sending device sends a request to transfer the selected content to the recipient’s device for the recipient’s device to know—and be able to notify the user—that the sending device is attempting to transfer the selected media element, especially since Hinckley discloses displaying the “name” of the incoming file to the receiving user. EX1007, [0061]; EX1003, ¶178-179; *supra* Sections

VIII.C.2, VIII.D.1 (elements [1.5-1.6]). A POSITA further would have found it obvious that the receiving device would in turn need to forward the receiving user's acceptance (i.e., send an acceptance message) to the sending device so that the sending device knows when it is allowed to start sending the media element. EX1003, ¶179; *supra* Sections VIII.C.2, VIII.D.1 (elements [1.5-1.6]).

A POSITA would have been motivated to combine this functionality with the file transfer teachings taught by Hoddie so that the receiving user knows what the incoming content is and can prevent the file from being transferred if the user does not want to receive the file, such as if the user suspects it could contain malicious content (e.g., malware) and/or if the file is from an unknown sender. EX1003, ¶180; EX1028, 2. Further, a POSITA would have reasonably expected to succeed in incorporating the underlying messaging functionality needed to implement Hinckley's prompt functionality because it would have required only basic computer code that was well within the programming skill of a POSITA, as reflected by this messaging functionality being well known and commonly employed in then-existing file transfer protocols. *Supra* Section IV.D; *see also supra* Section VIII.D.1 (elements [1.5-1.6]). EX1003, ¶¶181-182.

[1.7] and transferring, by the WTRU using a WiFi communication, the selected media element to the selected WTRU.

Hoddie discloses this element because it discloses “send[ing]” (transferring), by the “wireless device[]” such as the “PDA” (WTRU) using a “Wi-Fi connection,” the “file” such as an “image file” (the selected media element) to the “wireless device[]” such as a “laptop” (the selected WTRU). EX1006, 3:26-13:34, claim 4 *supra* Sections X.A, X.C. For example, Hoddie discloses that the “PDA sends the file to the laptop across the Wi-Fi connection.” *Id.*, 4:20-22. EX1003, ¶¶183-184.

2. Claim 2

2. The method of claim 1 further comprising: displaying, by the WTRU, a progress of the transfer to the selected WTRU.

Hoddie discloses this dependent claim at least because its “wireless device” (WTRU) “presents a confirmation of the completion to the user.” EX1006, 12:2-6. That is, Hoddie displays a progress of the transfer to the intended recipient (selected WTRU) by indicating when the transfer is complete. *Id.*, 12:4-6. EX1003, ¶185.

This claim also is obvious in view of Hinckley because Hinckley teaches displaying “a progress bar” to provide the user with “feedback on the transfer.” EX1007, [0058]. A POSITA would have been motivated to implement the Hoddie+Hinckley wireless devices to display a progress bar, as taught by Hinckley, so that the user knows not only when the transfer is complete, as taught by Hoddie, but also how the transfer is progressing so that the user has an indication of how much time is left for the transfer, as was well known in the art. EX1031 (published

in 1985), 11-12 (“Progress indicators give the user enough information at a quick glance to estimate how much of the task has been completed and when the task will be finished.”); EX1003, ¶186.

The POSITA would have reasonably expected success in incorporating Hinckley’s progress bar into the Hoddie+Hinckley system because it would have required only basic computer code that was well within the skill of a POSITA. EX1003, ¶¶187-188.

3. Claim 3

3. The method of claim 1 wherein the media element is any one of a photograph, video, or a document.

Hoddie discloses that its “data file” (media element) is a “digital image,” i.e., a photograph, and Hinckley similarly discloses that its file is an “image.” EX1006, 5:24-6:2; EX1007, [0038], [0054-55], [0061-62]. EX1003, ¶¶189-190.

4. Claim 4

4. The method of claim 1 wherein the touchscreen input or the another touchscreen input is a tap.

As explained above for claim 1, it would have been obvious to implement the Hoddie+Hinckley devices to process a user’s touchscreen inputs. *Supra* Section X.D.1 (elements [1.2], [1.4]). And as explained *supra* Section VIII.D.4, a POSITA would have understood and/or at least have found it obvious that this touchscreen

input is a tap because it was well understood that this is how a user selects an icon on a touchscreen. *Supra* Section IV.E. EX1003, ¶¶191-192.

5. Claim 5

5. The method of claim 1 wherein the message to transfer is a request.

As explained above for claim 1, the Hoddie+Hinckley system's message to transfer the selected media element over a proposed interface (e.g., Wi-Fi) is a request. *Supra* Section X.C, X.D.1 (elements [1.5-1.6]); EX1006, 4:4-21, 10:16-20, 12:10-15:25. Specifically, a POSITA would have understood that the initial message to transfer the selected content is a request at least because it is a “proposal” (EX1006, 13:4-10, 13:23-25) and the wireless devices (WTRUs) subsequently “agree upon” an interface (Wi-Fi) and communication mode (ad hoc) over which to send the selected media element. *Id.*, 13:3-33; *see also id.*, 4:7-14, 7:4-8, 8:19-24, 10:9-11:32; EX1003, ¶193.

Moreover, the corresponding message to transfer in well-known file transfer protocols was a request. EX1014, 330 (“PUT request”); EX1015, 74 (“Request”); EX1017, 4 (“sending a request”); EX1018, 262 (“the sending node sends a request-to-send (RTS)”). EX1003, ¶¶194-195.

6. Claim 6

6. The method of claim 1 wherein the WiFi communication is a WiFi link.

Hoddie discloses this dependent claim because it discloses that the Wi-Fi communication is a “connection” / “channel,” i.e., a link, between the two WTRUs that allow them to exchange data files. EX1006, 3:19-8:13, 10:9-15:16; EX1009, 483 (“Link” is “[a]nother name for a communications channel or circuit.”). This connection / channel includes “e.g., a service set identifier (SSID) and encryption settings.” EX1006, 4:17-18. EX1003, ¶¶196-197.

7. Claim 7

7. The method of claim 1 wherein the WiFi communication or Bluetooth is provided by a communication peripheral.

Hoddie discloses that the “wireless interfaces” “operate[]” with their respective “antenna to support wireless connections” such as “Wi-Fi” and “Bluetooth.” EX1006, 7:31-8:5; *see also id.*, 3:19-7:15, claims 2-4, FIGS. 1-2. EX1003, ¶¶198-199.

8. Claim 8

8. The method of claim 1 wherein Bluetooth discovery is used to detect the plurality of WTRUs in proximity to the WTRU.

A POSITA would have found it obvious to implement the Hoddie+Hinckley devices to utilize Bluetooth discovery to detect the nearby devices because, as explained above for claim element [1.3], Hoddie and Hinckley each discloses using Bluetooth to detect nearby wireless devices (WTRUs), and Bluetooth’s generic

access profile (Bluetooth discovery) performs this device detection. *Supra* Section X.D.1 (element [1.3]); EX1006, 3:29-31, 9:17-19, 10:6-9, FIGS. 3, 5; EX1007, [0034], [0039], [0042-44], [0049]; EX1014, 38-43; *see also id.*, 13-97; *supra* Sections IV.A, VIII.D.1 (element [1.3]). EX1003, ¶¶200-201.

9. Claim 9

9. The method of claim 8 wherein the Bluetooth discovery is provided using a service discovery protocol.

Hoddie discloses this claim at least because it uses Bluetooth to detect and discover the interfaces (services) offered by nearby devices (*supra* Section X.D.8), and as explained in Section IV.A., Bluetooth included a service discovery protocol (SDP) to discover the services offered by detected devices, as admitted by the '933 patent. EX1006, 3:29-32, 7:4-8, 9:9-10:27, 12:10-13:33, 14:9-15:25; EX1039, 101-102; *supra* Section IV.A; EX1001, 5:38-46; EX1014, 69-98; EX1053, 331-391. EX1003, ¶¶202-203.

10. Claim 11

11. The method of claim 1 further comprising:
determining, by the WTRU, that the selected WTRU is compatible to transfer the selected media element.

Hoddie discloses this dependent claim at least because it discloses that wireless device (WTRU) uses a “Bluetooth interface” to find “compatible devices.” EX1006, 10:6-9; *see also id.*, 3:29-31, 9:11-10:9, 12:24-15:25. Moreover, the

Hoddie+Hinckley wireless device must determine that the selected device (selected WTRU) is compatible to transfer the selected media element because Hoddie teaches negotiating with the selected device until they “agree on” a compatible interface, such as Wi-Fi, over which to send the selected media element. *Id.*, 4:4-19, 7:4-15, 8:19-24, 10:9-11:32, 13:3-33. If the devices cannot agree on an interface, i.e., they are not compatible, they “end the communication.” *Id.*, 13:11-13. EX1003, ¶¶204-205.

11. Claim 13

13. The method of claim 1 further comprising:
determining, by the WTRU, environment information that lists the plurality of WTRUs in proximity to the WTRU.

Hoddie discloses this dependent claim at least because it discloses that the WTRU “maintains a list of available devices.” EX1006, 10:7-9; *see also id.*, 11:19-22. EX1003, ¶¶206-207.

12. Claim 14

14. The method of claim 1 wherein the WTRU processes the touchscreen input based on information from a touchscreen.

This claim is obvious because a POSITA would have understood and/or at least have found it obvious that the Hoddie+Hinckley devices process the touchscreen input based on information from the touchscreen. EX1006, 3:26-4:4. If the processors of the Hoddie+Hinckley wireless devices (WTRUs) do not receive

any information from the touchscreen, they would have no way of knowing whether touchscreen inputs have been entered, much less be able to process these inputs. EX1003, ¶¶208-209.

13. Claim 22

[22.1] The method of claim 1 further comprising:
[22.2] receiving, by the WTRU from another WTRU, a request to transfer other media;
[22.3] receiving, in response to accepting the request by the WTRU, the other media; and
[22.4] displaying, by the WTRU, the other media in its entirety to a user of the WTRU.

Hoddie and Hinckley each teaches systems with a plurality of mobile devices (WTRUs) wirelessly communicating content with one another. EX1006, Abstract, 1:24-2:16, 3:2-6:24, 7:3-15:25, FIGS. 1, 3-4.; EX1007, Abstract, [0010-12], [0027], [0031-38], [0058-62], FIGS. 6, 8-10. A POSITA would have found it obvious that, within a combined Hoddie+Hinckley system, each device not only sends content to other devices but also receives content from those devices. Indeed, it would be counterintuitive to implement the system any other way. EX1003, ¶210. Within such a system, one obvious use scenario would have been a first device *sending* content to a second device, and then *receiving* content from a third device, with each content transfer employing the Bluetooth-to-WiFi switching method explained above with respect to claim 1. Under this and other similar and equally obvious use scenarios, claim 1 would have been satisfied by the first transfer and claim 22 by the second

transfer. *Supra* Sections X.D.1, X.D.5 (explaining, for elements [1.5-1.7], why it was obvious to exchange the claimed request-to-transfer and acceptance-to-transfer messages when exchanging media between devices). Thus, as explained above in Section VIII.D.13, this would have involved performing the claim 1 sending, receiving, and transferring steps—claim elements [1.5-1.7]—when sending content, and performing the claim 22 receiving steps—elements [22.2] and [22.3]—when receiving content. Thus, the Hoddie+Hinckley system satisfies this claim’s receiving steps ([22.2] and [22.3]). EX1003, ¶210.

It would have been obvious to a POSITA to program the Hoddie+Hinckley wireless devices to display the received media to the user so that the user can see it. Perhaps the entire purpose of the transfer, especially when it involved a photo or video, was for displaying the transferred content on the receiving device. Thus, it would have been at least obvious to display the entirety of the content received on any of the receiving Hoddie+Hinckley devices. EX1003, ¶¶211-212.

14. Claims 23-31, 33, 35-36, And 44

Claims 23-31, 33, 35-36, and 44 are substantively identical to claims 1-9, 11, 13-14, and 22, respectively, but recite performing many of the claimed actions with a processor / circuitry. Because Hoddie discloses performing its disclosed actions with one or more programmable processors and/or circuitry, these claims are

obvious over Hoddie and Hinckley for the reasons provided above in Sections X.D.1-X.D.13. EX1006, 15:26-16:14. EX1003, ¶213.

**XI. GROUNDS 4-12: CLAIMS 20-21 AND 42-43
ARE OBVIOUS OVER EACH OF THE GROUND 1-3
COMBINATIONS IN FURTHER VIEW OF AHOLAINEN
(EX1071), CHOURAKI (EX1075), OR JOHANSON (EX1076)**

A. Claims 20-21

[20.1] The method of claim 1 further comprising:
[20.2] displaying, by the WTRU, a subset of the detected plurality of WTRUs in proximity to the WTRU; and
[20.3] wherein the subset is not all of the detected plurality of WTRUs.
[21.1] The method of claim 20⁹ further comprising:
[21.2] processing, by the WTRU, a user input selecting criteria; and
[21.3] wherein the subset of the detected plurality of WTRUs is displayed in response to the selected criteria.

Aholainen, Chouraki, and Johanson each discloses allowing a user to filter which detected devices are displayed based on various criteria: Aholainen based on type / class of device (EX1071, Abstract, 1:28-33, 2:45-54, 5:21-6:3, 7:6-23, 13:19-27, 15:20-55, 16:7-10, 17:39-41 (claim 17), FIGS 2-3A), Chouraki based on relationship with the device (friend vs. neutral vs. blacklist) (EX1075, 38:9-15), and Johanson based on distance (EX1076, [0020], claim 3). A POSITA would have been motivated to incorporate each of these filtering functionalities because each provides

⁹ The Certificate of Correction corrects the claim to depend from claim 20, not claim 1.

a streamlined list of detected devices, allowing the user to quickly select a desired recipient without being inundated with too many options. *E.g.*, EX1071, 2:45-48 (filtering the list of available Bluetooth devices beneficially reduces the user being “inundate[d]” with “information about those Bluetooth devices that he/she wishes to ignore”); EX1003, ¶214. Additional motivations are discussed below for each set of grounds.

1. Grounds 4-6: Aholainen’s Class-Of-Device-Based Filtering

Aholainen (EX1071) published September 5, 2006, and is prior art under Section 102(b). Aholainen is analogous art to the ’933 patent because they are both within the same field of endeavor: data transfer between wireless devices. *E.g.*, EX1001, Title; EX1071, 1:23-2:35, 2:51-6:39, 12:12-38, 15:33-38, 17:66-18:15 (claim 20); EX1003, ¶215.

Aholainen discloses using Bluetooth to detect other devices (*e.g.*, EX1071, 1:17-2:18, 2:54-65, 7:23-64, 8:35-51, 11:30-39, 14:49-15:22), and filtering out devices that a user has blocked/prohibited so that the user is “not inundate[d]” with “information about those Bluetooth devices that he/she wishes to ignore.” *Id.*, 2:45-48, 16:7-10; *see also id.*, Abstract, 2:51-53, 5:21-6:3, 7:6-23, 13:19-27, 15:20-55, 17:39-41 (claim 17), FIGS 2-3A. For example, the user can block certain types of devices (*i.e.*, classes of devices or “CoD” for short), such as “advertisement broadcasting” devices and “vending machine” devices. *Id.*, 1:28-33, 5:21-53, 13:19-

27. The user's device then displays an indication (e.g., an icon) of only those detected devices that are not on the user's prohibited list (a subset of the detected devices based on the user's selected criteria). *Id.*, Abstract, 2:51-54, 5:53-6:3, 7:7-10, 15:20-55, 16:7-10. EX1003, ¶216.

A POSITA would have been motivated to implement the Ahya+McKillop and Hoddie+Hinckley devices to allow the user to customize which types of detected devices are displayed so that the user is not inundated with unwanted options, as taught by Aholainen. EX1071, 2:45-48, 16:7-10. For example, someone who never uses vending machines may not want vending machines cluttering the list of available devices. Similarly, someone who primarily uses their mobile phone to share photos with friends may want to see only mobile phones. EX1003, ¶217.

A POSITA would have reasonably expected success in implementing this filtering functionality in the Ahya+McKillop and Hoddie+Hinckley devices because it would have required only minor software code. The Ahya+McKillop and Hoddie+Hinckley devices already use Bluetooth discovery to detect other devices and display the detected devices to the user. EX1004, [0018-20], FIG. 1; EX1006, 3:29-31 (Bluetooth discovery), 10:3-9 (Bluetooth discovery), 11:23-26 (display detected devices). This Bluetooth discovery process discovers the detected devices' type. EX1071, Abstract, 1:11-55; EX1053, 56-57, 105-109; EX1014, 28, 38-56, 92-93, 334. EX1003, ¶218.

Thus, a POSITA would have only needed to modify the software of the Ahya+McKillop and Hoddie+Hinckley devices to: allow the user to block certain types of devices, cross-check detected devices' types against this list of prohibited devices types, and display only the types of devices not on the user's prohibited list. This reasonable expectation of success is further confirmed by the fact that others had disclosed a similar kind of device filtering based on the detected devices' capabilities. EX1038, [0028-54]; EX1075, 38:12-16. EX1003, ¶219.

Thus, Ahya+McKillop+Aholaenen (ground 4), Ahya+McKillop+Turner+Aholaenen (ground 5), and Hoddie+Hinckley+Aholaenen (ground 6) each render obvious claims 20 and 21. EX1003, ¶220. EX1003, ¶220.

2. Grounds 7-9: Chouraki's Relationship-Based Filtering

Chouraki (EX1075) published September 8, 2006, and is prior art under Section 102(b). Chouraki is analogous art to the '933 patent because they are both within the same field of endeavor: data transfer between wireless devices. *E.g.*, EX1001, Title; EX1075, 3:26-36, 5:19-23, 17:32-33, 18:15-17, 41:16-39, 46:29-32. EX1003, ¶221.

Chouraki discloses allowing a user to filter which Bluetooth-detected devices are displayed on the user's device based on the detected devices' "relationship with the device: 'Friend', 'Neutral', 'Blacklist'." EX1075, 38:9-15; *see also id.*, 23:17-

19 (Explaining that this “configurable filter” “excludes devices” from “the list of detected devices.”), 27:1-10, 32:11-36. EX1003, ¶222.

A POSITA would have been motivated to implement this filtering functionality in the Ahya+McKillop and Hoddie+Hinckley devices to streamline the list of displayed devices, as taught by Aholainen, prioritize and more easily facilitate interactions with friends, help avoid sending personal information to mere acquaintances (“Neutral” individuals), and avoid seeing or communicating with individuals the user did not want to see or communicate with (“Blacklist[ed]” individuals). EX1075, 27:1-10, 23:17-19. By their very nature, “friend” and “blacklist” reflect what was well-known and common-sense: users regularly share things with their friends and often wish to not engage with certain “blacklisted” users when sharing content. EX1003, ¶223. Reading these passages in Chouraki, a POSITA would have understood the benefits of this filtering functionality: avoiding unwanted interactions with those on a blacklist and allowing the user to prioritize and more easily facilitate interactions with friends. *Id.*

A POSITA would have reasonably expected success in implementing this filtering functionality in the Ahya+McKillop and Hoddie+Hinckley devices because it would have required only minor software modifications to: allow the user to designate devices as either friends or blacklisted devices, allow the user to filter

based on their desired level of privacy/relation, and display the devices according to the user's filter setting. EX1003, ¶224.

Thus, Ahya+McKillop+Chouraki (ground 7), Ahya+McKillop+Turner+Chouraki (ground 8), and Hoddie+Hinckley+Chouraki (ground 9) each render obvious claims 20 and 21. EX1003, ¶225.

3. Grounds 10-12: Johanson's Distance-Based Filtering

Johanson published January 23, 2003, and is prior art under Section 102(b). Johanson is analogous art to the '933 patent because they are both within the same field of endeavor: data transfer between wireless devices. *E.g.*, EX1001, Title; EX1076, [0001], [0005-7], [0016-26], claims 1, 7-9, 17-19, 21-23, 25-29, FIGS. 1-2, 5. EX1003, ¶226.

Johanson notes that the increasing number of wireless devices, especially in crowded mobile environments, made it more difficult for a user to “select to which wireless device a connection is desired.” EX1076, [0002]-[0003]. It further notes the potential benefits of selecting a device “based on its location relative to the wireless user.” *Id.* [0004]. Against this backdrop, Johanson teaches a technique that purportedly “makes it easy to select a nearby wireless electronic device” ([0005]) and “mitigates” the above-noted problems ([0006]). *See also id.*, Abstract, [000-4], [0007], [0015], [0019-20], [0025]. Among other things, Johanson teaches allowing a user to filter displayed devices based on a “maximum distance.” EX1076, [0020]

(“the user can set the maximum distance that an electronic device 20 can be from the user and still be displayed”), claim 3. EX1003, ¶227.

A POSITA would have been motivated to implement a distance-based filtering functionality in the Ahya+McKillop and Hoddie+Hinckley devices to “make[] it easy to select a nearby wireless electronic device[] to communicate with,” and mitigate the issues encountered in crowded mobile environment, as taught by Johanson. EX1076, [0002-0006], [0020]. For example, if two users next to one another in a crowded area want to share photos with each other, they would face less difficulty selecting each other’s devices if the displayed devices were limited to a smaller area. EX1003, ¶228.

A POSITA would have reasonably expected success in implementing this “maximum distance” filtering functionality in the Ahya+McKillop and Hoddie+Hinckley devices because it required only minor software modifications to transmit GPS coordinates over Bluetooth, allow the user to filter based on their desired search radius, and display only the devices within the user-set radius. EX1003, ¶229.

Thus, Ahya+McKillop+Johanson (ground 10), Ahya+McKillop+Turner+Johanson (ground 11), and Hoddie+Hinckley+Johanson (ground 12) each render obvious claims 20 and 21. EX1003, ¶230.

B. Claims 42-43

Claims 42-43 are substantively identical to claims 21-22 but recite performing the claimed actions with the processor and circuitry of claim 23. As explained above in Sections VIII.D.14 and X.D.14, the devices of Ahya+McKillop and Hoddie+Hinckley each perform their disclosed actions with one or more programmable processors. EX1004, [0007], [0044-56], [0067-68], claims 19-20, FIG. 2; EX1006, 15:26-16:14. Thus, these claims 42-43 are obvious over the ground 4-12 combinations for the same reasons claims 21-22 are obvious. *Supra* Section XI.A.1-3. EX1003, ¶220.

XII. CONCLUSION

Petitioner requests institution of *inter partes* review and cancellation of the challenged claims on Grounds 1-12 specified in this petition.

Respectfully submitted,

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**CERTIFICATE OF COMPLIANCE WITH
TYPE-VOLUME LIMITATION PURSUANT TO 37 C.F.R. § 42.24**

This brief complies with the type-volume limitation of 37 C.F.R. § 42.24(a)(1)(i).

The brief contains 13,897 words, excluding the parts of the brief exempted by 37 C.F.R. § 42.24(a).

The brief has been prepared in a proportionally spaced typeface using Microsoft Word for O365 in a 14-point Times New Roman font.

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CERTIFICATE OF SERVICE
IN COMPLIANCE WITH 37 C.F.R. § 42.6(E)(4)

The undersigned certifies that the **Petition for *Inter Partes* Review of U.S. Patent No. 8,737,933 and Exhibits 1001–1010, 1012-1039, 1042, 1044-1051, 1053-1055, 1057-1062, and 1064-1080** were served on December 20, 2023, via **Express Mail** on the Patent Owner at the following address of record as listed on the USPTO Patent Center:

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