

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CANON U.S.A., INC., GOPRO, INC.,
GARMIN INTERNATIONAL, INC., AND GARMIN USA, INC.,
Petitioners,

v.

CELLSPIN SOFT, INC.,
Patent Owner.

IPR2019-00127¹
Patent 9,258,698 B2

Before GREGG I. ANDERSON, DANIEL J. GALLIGAN, and
STACY B. MARGOLIES, *Administrative Patent Judges*.

ANDERSON, *Administrative Patent Judge*.

JUDGMENT

Final Written Decision

Determining All Challenged Claims Unpatentable

Denying Petitioner's Motion to Strike

Denying Patent Owner's Motion to Strike/Exclude

35 U.S.C. § 318(a)

¹ GoPro, Inc., Garmin International, Inc. and Garmin USA, Inc. ('1107 Petitioners) were joined to this proceeding. See Paper 27, 30 (ordering that "the '1107 Petitioners are joined with IPR2019-00127").

I. INTRODUCTION

Canon U.S.A., Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) pursuant to 35 U.S.C. §§ 311–19 to institute an *inter partes* review of claims 1–22 (“challenged claims”) of U.S. Patent No. 9,258,698 (“’698 patent”), which was filed on November 5, 2014.² Ex. 1001, code(22). Cellspin Soft, Inc. (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”). We instituted an *inter partes* review of all challenged claims (Paper 7, “Inst. Dec.”).

After institution, Patent Owner filed a Patent Owner Response (Paper 17, “PO Resp.”), Petitioner filed a Reply (Paper 24, “Reply”), and Patent Owner filed a Sur-Reply (Paper 29, “Sur-reply”). The Petition is supported by the Declaration of Dr. Vijay Madiseti, Ph.D. (Ex. 1003, “Madiseti Declaration”). The Reply is supported by the Reply Declaration of Dr. Vijay Madiseti, Ph.D. (Ex. 1043, “Madiseti Reply Declaration”). The deposition of Dr. Madiseti was taken by Patent Owner after the Madiseti Declaration was filed (Ex. 1042, “Madsetti Deposition”).³ The Response is supported by the Declaration of Dr. Michael Foley (Ex. 2009, “Foley Declaration”). The Sur-reply is supported by the Declaration of Dr. Michael Foley Concerning Patent Owner’s Sur-reply to Petitioner’s Reply (Ex.

² Petitioner states that the ’698 patent claims priority to Provisional Application No. 61/017,202, filed December 28, 2007. Pet. 6; Ex. 1001, code(60), 1:26–29. All of the prior art references were published or issued more than one year prior to December 11, 2008—the filing date of the earliest application in the chain of related continuation applications. *See* Ex. 1001, code(63). We therefore do not reach the issue of whether any of the challenged claims are entitled to the filing date of the provisional application.

³ Panasonic Corporation and Panasonic Corporation of North America also filed a petition for *inter partes* review of some of the claims of the ’698 patent in *Panasonic Corporation of North America et al., v. Cellspin Soft, Inc.*, IPR2019-00131 (“’131 IPR”). The ’131 IPR alleges different grounds of unpatentability.

2026, “Foley Sur-reply Declaration”). The deposition of Dr. Foley was taken by Petitioner after the Foley Declaration was filed (Ex. 1040, “Foley Deposition”). An oral hearing was held on January 28, 2020, and a transcript made of record (Paper 50, “Tr.”).

We authorized each party to file a motion to strike (Paper 36, “Order”). Pursuant to our Order, Petitioner filed a Motion to Strike New Arguments and Evidence Submitted in Patent Owner’s Sur-Reply (Paper 44, “Pet. Mot.”), to which Patent Owner filed a Response (Paper 40, “PO Opp.”). Also as authorized in the Order, Patent Owner filed its separate Motion to Strike and, Alternatively, Exclude Improper Reply and Reply Evidence (Paper 43, “PO Mot.”), to which Petitioner filed an Opposition (Paper 45, “Pet. Opp.”).

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed below, Petitioner has shown by a preponderance of the evidence that claims 1–22 of the ’698 patent are unpatentable.

II. BACKGROUND

A. Related Proceedings

Petitioner advises us that Patent Owner has asserted the ’698 patent against Petitioner in *Cellspin Soft, Inc. v. Canon USA, Inc.*, No. 4:17-cv-05938 (N.D. Cal.) (“District Court lawsuit”). Pet. 2. Patent Owner has also asserted the ’698 patent against other parties in the U.S. District Court for the Northern District of California, including the following: JK Imaging, Ltd. (Case No. 4:17-cv-06881); Garmin International, *et al.* (Case No. 4:17-cv-05934); GoPro, Inc. (Case No. 4:17-cv-005939); and Panasonic Corporation of America (Case No. 4:17-cv-05941). Pet. 3; Paper 4, 2.

In each of these district court cases, the District Court granted a motion to dismiss, finding the claims of the ’698 patent ineligible for patent protection under

35 U.S.C. § 101. *See Cellspin Soft, Inc. v. Fitbit, Inc.*, 927 F.3d 1306, 1309 (Fed. Cir. 2019); *see also* Ex. 1021 (Order Re: Omnibus Motion to Dismiss; Motion for Judgment on the Pleadings, dated April 3, 2018)). On June 25, 2019, the Federal Circuit vacated the district court’s dismissal and remanded for further proceedings. *Cellspin Soft, Inc. v. Fitbit, Inc.*, 927 F.3d 1306, 1309, 1320 (Fed. Cir. 2019).

The ’698 patent is also challenged in the ’131 IPR. Petitioners in *GoPro, Inc., Garmin International, Inc. and Garmin USA, Inc. v. Cellspin Soft, Inc.*, IPR2019-01108 (“’1108 IPR”) were joined as parties to the ’131 IPR. *See* ’131 IPR, Paper 27 (joining ’1108 petitioners to the ’131 IPR).

B. Real Parties in Interest

Petitioner Canon U.S.A., Inc. alleges it is a real-party-in-interest, as is its parent corporation Canon, Inc. Pet. 2. GoPro, Inc., Garmin Int’l, Inc., Garmin USA, Inc., Garmin Switzerland GmbH are also identified as real parties in interest. IPR2019-01107, Paper 1, 2. Patent Owner Cellspin Soft, Inc. alleges it is the real-party-in-interest. Paper 4, 2.

C. Technology and the ’698 Patent

The ’698 patent is directed to “distribution of multimedia content.” Ex. 1001, 1:40–41. The system described includes using a digital data capture device in conjunction with a cellular phone to automatically publish “data and multimedia content on one or more websites simultaneously.” *Id.* at 1:41–45.

1. Technology

According to the ’698 patent, in the prior art, the user would capture an image using a digital camera or a video camera, store the image on a memory device of the digital camera, and transfer the image to a computing device such as a personal computer (PC). In order to transfer the image to the PC, the user would transfer the image off-line to the PC, use a cable such as a universal serial bus (USB) or a memory stick and plug the cable into the PC. The user

would then manually upload the image onto a website which takes time and may be inconvenient for the user.

Ex. 1001, 1:46–55.

2. The '698 Patent (Ex. 1001)

The '698 patent describes a digital data capture device, which may be “a digital camera, a video camera, digital modular camera systems, or other digital data capturing systems.” Ex. 1001, 3:34–38, 3:41–44. The digital data capture device works with a Bluetooth-enabled mobile device, e.g., a cell phone, “for publishing data and multimedia content on one or more websites automatically or with minimal user intervention.” *Id.* at 3:34–38.

Figure 2 of the '698 patent is reproduced below.

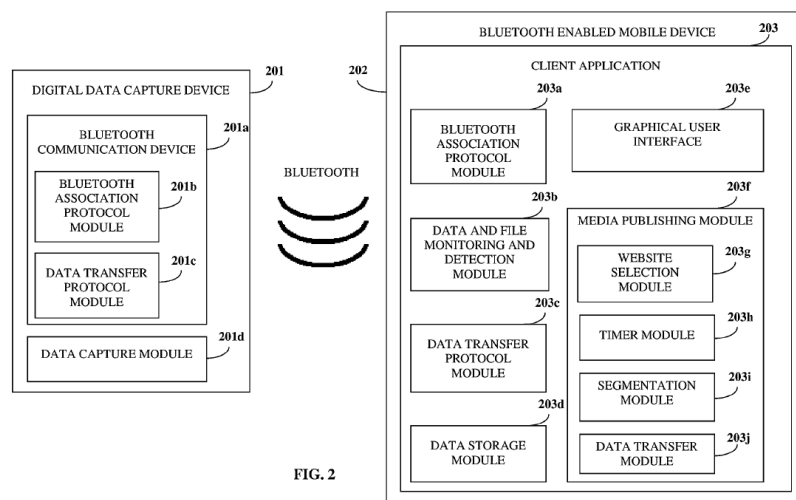


Figure 2 “illustrates a system for utilizing a digital data capture device in conjunction with a Bluetooth enabled mobile device.” Ex. 1001, 3:14–18. Referring to Figure 2, “[t]he BT [(‘Bluetooth’)] communication device 201a on the digital data capture device 201 is paired 103 with the mobile device 202 to establish a connection between the digital data capture device 201 and the mobile device 202.” *Id.* at 3:60–63. According to the '698 patent, Bluetooth pairing involves establishing a connection between two Bluetooth devices that “mutually

agree to communicate with each other.” *Id.* at 3:63–65. A communication may be authenticated cryptographically using a “common password known as a passkey,” which “is exchanged between the BT communication device 201a and the mobile device 202.” *Id.* at 3:65–4:8.

Still referring to Figure 2, a user captures data and multimedia content using digital data capture device 201. Ex. 1001, 4:26–27. Client application 203 on mobile device 202 detects the captured data, the multimedia content, and “files associated with the captured data and the multimedia content.” *Id.* at 4:29–32. The client application initiates a transfer of the captured data and the digital data capture device automatically transfers the captured data from the mobile device using one or a combination of file transfer protocols. *Id.* at 4:32–42. The transfer protocols include “one or a combination of BT profile protocols such as the object exchange (OBEX) protocol,” such as the generic object exchange profile (GOEP) protocol, the media transfer protocol (MTP) the picture transfer protocol (PTP), and the PictBridge protocol implemented using a USB. *Id.* at 4:42–48.

The user may set preferences regarding timing of the publication of the captured data and the destination website. Ex. 1001, 5:23–38. “The client application 203 on the mobile device 202 then automatically publishes 107 the transferred data and multimedia content on one or more websites.” *Id.* at 5:39–41.

D. Illustrative Claim

Claims 1 (method), 5 (device), 8 (system), and 13 (computer readable-medium) are independent claims. Claims 2–4 depend directly from claim 1. Claims 6, 7, 17, 19, and 21 depend directly or indirectly from claim 5. Claims 9–12, 20, and 22 depend directly or indirectly from claim 8. Claims 14–16 and 18 depend directly from claim 13.

Claim 1 is reproduced below as illustrative.

- [1(a)⁴] A machine-implemented method of media transfer, comprising:
- [1(b)] for a digital camera device having a short-range wireless capability to connect with a cellular phone, wherein the cellular phone has access to the internet, performing in the digital camera device:
- [1(c)] establishing a short-range paired wireless connection between the digital camera device and the cellular phone, wherein establishing the short-range paired wireless connection comprises, the digital camera device cryptographically authenticating identity of the cellular phone;
- [1(d)] acquiring new-media, wherein the new-media is acquired after establishing the short-range paired wireless connection between the digital camera device and the cellular phone;
- [1(e)] creating a new-media file using the acquired new-media;
- [1(f)] storing the created new-media file in a first non-volatile memory of the digital camera device;
- [1(g)] receiving a data transfer request initiated by a mobile software application on the cellular phone, over the established short-range paired wireless connection, wherein the data transfer request is for the new-media file, and wherein the new-media file was created in the digital camera device before receiving the data transfer request; and
- [1(h)] transferring the new-media file to the cellular phone, over the established short-range paired wireless connection, wherein the cellular phone is configured to receive the new-media file, wherein the cellular phone is configured to store the received new-media file in a non-volatile memory device of the cellular phone,

⁴ Petitioner identifies limitations using a format where the claim number is followed by the claim's limitations designated by letters within parentheses. *See, e.g.,* Pet. 9–10 (claim 1(a)–(j)). Patent Owner adopts the format. *See* PO Resp. 30 (limitation 1(c)). We also adopt the format.

[1(i)] wherein the cellular phone is configured to use HTTP to upload the received new-media file along with user information to a user media publishing website, and

[1(j)] wherein the cellular phone is configured to provide a graphical user interface (GUI) in the cellular phone, wherein the graphical user interface (GUI) is for the received new-media file and to delete the created new-media file.

Ex. 1001, 11:54–12:26 (alterations and line breaks added); *see* Pet. 9–10.

E. Evidence

1. Hiroishi, JP 2003-60953, published February 28, 2003 (“Hiroishi,” Ex. 1004 (original Japanese language version, Ex. 1005 (certified English translation))). We reference the English translation, Exhibit 1005.

2. Takahashi, JP 2005-303511, published October 27, 2005 (“Takahashi,” Ex. 1007 (original Japanese language version), Ex. 1008 (certified English language translation))). We reference the English translation, Exhibit 1008.

3. Ando, JP P2003-46841A, published February 14, 2003 (“Ando,” Ex. 1014 (original Japanese language version), Ex. 1015 (certified English translation))). We reference the English translation, Exhibit 1015.

4. Nozaki, JP 2004-96166, published March 25, 2004 (“Nozaki,” Ex. 1011 (original Japanese language version), Ex. 1011 (certified English translation))). We reference the English translation, Exhibit 1011.

5. Hollstrom, US Patent No. 6,763,247 B1, issued July 13, 2004 (“Hollstrom,” Ex. 1013).

F. Prior Art and Asserted Grounds

Petitioner asserts that claims 1–22 are unpatentable. Pet. 4–5. Petitioner alleges the following grounds:

Claims Challenged	35 U.S.C. § ⁵	References/Basis
1–20	103	Hiroishi, Takahashi
21, 22	103	Hiroishi, Takahashi, Ando
1–22	103	Hiroishi, Takahashi, Nozaki
21, 22	103	Hiroishi, Takahashi, Nozaki, Ando
1, 3–5, 7, 8, 10–13, 15–20	103	Hollstrom, Takahashi
2, 6, 9, 14, 21, 22	103	Hollstrom, Takahashi, Ando

III. ANALYSIS

A. Claim Construction

This Petition was filed prior to November 13, 2018, and so we interpret claim terms of the challenged claims using the broadest reasonable construction in light of the specification of the '698 patent (“BRI”). 37 C.F.R. § 42.100(b) (2018); *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142 (2016) (upholding the use of broadest reasonable construction standard in *inter partes* review); *see also* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340, 51,340 (Oct. 11, 2018) (final rule) (“This rule is effective on November 13, 2018 and applies to all IPR, PGR and CBM petitions filed on or after the effective date.”).

Patent Owner identifies “paired connection,” “cryptographically authenticating,” “graphical user interface” (“GUI”), and “along with” as requiring

⁵ The Leahy-Smith America Invents Act (AIA), Pub. L. No. 112-29, 125 Stat. 284, 285–88 (2011), amended 35 U.S.C. §§ 102 and 103, and those amendments became effective March 16, 2013. The '698 patent claims priority through a chain of continuation applications to Application 12/333,303 [U.S. Pat. No. 8,392,591], filed on December 11, 2008, which is before the effective date of the relevant sections of the AIA. Ex. 1001, code (63). Thus, the grounds asserted are under the pre-AIA version of § 103.

construction. PO Resp. 13–17 (“paired connection”), 17–21 (“cryptographically authenticating”), 21–22 (“GUI”), 22–23 (“along with”); *see also id.* at 23 (summarizing Patent Owner’s proposed claim constructions). Petitioner’s Reply agrees with the preliminary construction of “cryptographically authenticating” from the Institution Decision. Reply 7–8 (citing Inst. Dec. 12). With respect to the other terms Patent Owner proposes for construction, Petitioner relies on plain and ordinary meaning of the terms. *Id.* at 3–9.

1. “*paired wireless connection*” (claims 1, 2, 5–6, 8–9, 13–14, 17–20)

The claim terms “paired wireless connection” (sometimes referred to here and in the papers as “paired,” “paired connection,” or “pairing”) and “cryptographically authenticating,” discussed immediately below in Section III.A.2, appear in the following “wherein” clause of claim 1:

wherein establishing the short-range *paired wireless connection* comprises, the digital camera device *cryptographically authenticating* identity of the cellular phone.

Ex. 1001, 11:62–65 (emphasis added). The same language appears following “wherein” clauses in the other independent claims 5, 8, and 13. For purposes of institution in this case, we did not expressly construe the term “paired.” Inst. Dec. 10.

Patent Owner proposes that the BRI of “paired connection” as bidirectional communications link between devices which provides encrypted data exchange between the devices, and the communication link can be disconnected and reconnected without having to repeat pairing or authentication.

PO Resp. 16 (citing Ex. 2009 ¶¶ 46–47) (emphasis omitted). Petitioner disagrees and argues “the term should receive its plain and ordinary meaning which, under the broadest reasonable interpretation, encompasses an association between two

devices that allows for two-way communication over a wireless connection.”
Reply 6–7.

Among other arguments based on the Specification, Patent Owner argues “Figure 1 of the ’698 patent illustrates a method of utilizing a digital data capture device 201 in conjunction with a physically separate Bluetooth enabled mobile device 202.” PO Resp. 13 (citing Ex. 1001, 3:34–41); *id.* at 14 (quoting Ex. 1001, 3:60–4:25), *see also id.* (citing Ex. 1001, 4:1–3, 6:23–39 (further describing Bluetooth pairing)). Relying on the cited disclosures from columns 3 and 6 of the ’698 patent and the Bluetooth specification, Patent Owner argues “pairing involves association and an exchange of credentials to fulfilling the agreement in addition to merely communicating back and forth.” *Id.* at 14 (citing Ex. 2009 ¶ 45), *id.* at 15–16 (citing Ex. 2018,⁶ 80, 135; Ex. 2009 ¶ 46).

With respect to the “association” of Bluetooth pairing, Patent Owner cites to the Bluetooth specification’s (Ex. 2018) description of “Association Models.” PO Resp. 15–16 (citing Ex. 2018, 80, 135 (§§ 5.4, 5.4.5, Fig. 1)). Patent Owner contends to a person of ordinary skill, “under BRI, pairing is the steps taken which result in a paired connection.” *Id.* at 16 (citing Ex. 2009 ¶¶ 46–47) (emphasis omitted). Further, according to Patent Owner, “a paired connection must be distinguished from mere authentication and from other methods of communications that involve exchanges of credentials but not pairing.” *Id.* at 17 (citing Ex. 2009 ¶ 48) (emphasis omitted).

Petitioner first argues Patent Owner’s proposal is too narrow in requiring “encrypted data exchange” and the ability of a pairing once made to “be

⁶ Bluetooth Specification, Version 2.1 (Bluetooth Special Interest Group (“SIG”) 2007). Exhibit 2006 is a duplicate of Exhibit 2018. Petitioner’s evidence includes the Specification of the Bluetooth System, Version 1.1 (Bluetooth SIG 2001), Ex. 1018.

disconnected and reconnected without having to repeat pairing or authentication.” Reply 3–4 (citing Ex. 1001, 11:54–12:26 (claim 1); Ex. 1040, 27:2–10; Ex. 1041, 58:18–24, 99:5–17). Second, Petitioner argues there is no definition of “paired connection” nor is there a disavowal of a broader “understanding of the term.” *Id.* at 4 (citing *Hill-Rom Services, Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014)). Petitioner notes that the claims and Specification are not limited to Bluetooth. *Id.* (citing Ex. 1001, 9:45–47 (“The method and system disclosed herein is realized with, but not limited to Bluetooth communication protocol.”), claim 19). In addition, according to Petitioner, the Specification’s description of Bluetooth “says nothing about encrypted data exchange or disconnecting and reconnecting.” *Id.* at 4–5 (citing Ex. 1001, 3:60–4:25). Third, Petitioner argues that Patent Owner improperly relies on extrinsic evidence that contradicts the intrinsic evidence—namely Dr. Foley’s declaration, which relies exclusively on the Bluetooth specification, even though the Specification and claims expressly state that pairing is not limited to Bluetooth. *Id.* at 5.

We agree with Petitioner’s arguments and reasoning and decline to adopt Patent Owner’s construction. As further explained below, we also need not adopt any construction that Patent Owner alleges Petitioner makes in its Reply. *See* Reply 7; *see also* Section III.K.2 below.

Patent Owner’s construction requires both “encrypted data exchange” and that “the communication link can be disconnected and reconnected without having to repeat pairing or authentication.” Neither the claims nor the Specification mention “encrypted data exchange,” or disconnection and reconnection, or equivalent language, in the context of pairing. Patent Owner cites to none. The Specification mentions “encryption” once, explaining that “various security, *encryption* and compression techniques” can be used “to enhance the overall user experience.” Ex. 1001, 10:60–62 (emphasis added). But that discussion does not

relate to “paired connection” but rather describes “algorithms . . . [that] may be implemented in a computer readable medium.” *Id.* at 10:16–19.

The ’698 patent also expressly states that the invention is not limited to a Bluetooth embodiment. Ex. 1001, 9:45–47 (“The method and system disclosed herein is realized with, but not limited to Bluetooth communication protocol.”). Moreover, dependent claims 17 and 18 recite that “the short-range paired wireless connection is one of a Bluetooth paired wireless connection, a Wi-Fi paired wireless connection, and other personal area wireless networking technologies that use pairing.” Ex. 1001, 16:10–15.

Patent Owner’s inclusion of “encrypted data exchange” is based on the Specification’s description of initiating the Bluetooth pairing process by exchanging “a passkey . . . between the BT communication device 201a and the mobile device 202.” PO Resp. 13; *see also* Ex. 1001, 4:3–7 (describing initiating the “pairing process” by exchanging a passkey). Patent Owner contends that “encrypted data exchange” must be “provided for” and that a person of ordinary skill would have understood that pairing “provides for encryption.” Tr. 43:1–44:12; *see* Sur-reply 6 (“Cellspin’s construction states encryption is provided for, but not required.”) (emphasis omitted).

Patent Owner argues the Specification supports its construction. Sur-reply 6. Specifically, Patent Owner argues a person of ordinary skill “reading the specification would already understand that pairing *provides for* encrypted data exchange and that a touchstone of paired connections is that they are ‘disconnected and reconnected without having to repeat pairing or authentication.’” *Id.* (quoting Ex. 2026 ¶ 50).

Patent Owner does not persuasively explain how Dr. Foley’s testimony, which in turn is based on the Bluetooth specification, supports Patent Owner’s proposed construction of “paired wireless connection.” As explained above, the

Specification's discussion of Bluetooth falls far short of forming any basis for incorporating features of Bluetooth into the construction of "paired connection." The independent claims broadly recite "paired wireless connection" and are not limited to Bluetooth pairing.

The cited paragraph of Dr. Foley's Sur-reply Declaration includes a statement that the Specification would "enable a [person of ordinary skill] to make and use the invention." *See* Ex. 2026 ¶ 50. Enablement is not at issue. What is at issue is the extent to which the Specification describes pairing as requiring "encrypted data exchange" and disconnecting and reconnecting. Dr. Foley's unsupported conclusion that Petitioner is "incorrect" in arguing no such support is present is not persuasive. *Id.*

Patent Owner relies on the Foley Declaration as support for the disconnection and reconnection part of its proposal. *See* PO Resp. 16 (citing Ex. 2009 ¶¶ 46, 47). The cited paragraphs describe features of Bluetooth's "Association Model," which includes illustrations of "Secure Simple Pairing." Ex. 2009 ¶ 46 (citing Ex. 2018, 80, 135, Fig. 5.1). In its Sur-reply, Patent Owner relies on Dr. Madisetti's citation to the Bluetooth specification as purported further support. Sur-reply 7 (citing Ex. 2026 ¶ 54); Ex. 2026 ¶ 54 (citing Madisetti Reply Declaration and Bluetooth specification); Ex. 1043 ¶ 5 (citing Ex. 1018⁷ ¶ 18).

That a passkey is disclosed as part of initiating a Bluetooth pairing process in the Specification does not mean that aspect of Bluetooth should be incorporated into the construction of "paired connection" to support "encrypted data exchange" in Patent Owner's proposed construction, particularly when the Specification explicitly states that the invention is not limited to Bluetooth. *See SuperGuide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) ("[I]t is

⁷ Specification of the Bluetooth System, Version 1.1 (Feb. 22, 2001).

important not to import into a claim limitations that are not a part of the claim.”). Similarly, that Bluetooth provides that “a paired connection must be capable of being disconnected” is part of the Bluetooth specification and not the claims or the Specification. *See* Ex. 2026 ¶ 54. For both proposed additions, “encryption” and “reconnection,” an improper incorporation of the Bluetooth specification is required to support Patent Owner’s position. The intrinsic evidence of the claim language and Specification does not provide that support.

As discussed above, the intrinsic evidence does not support Patent Owner’s proposed construction. The extrinsic evidence cited by Patent Owner includes the Bluetooth specification and the Foley Declaration and Reply Declaration. *See* PO Resp. 15–17 (citing Ex. 2006/2018, 35, 80, 133, 135; Ex. 2009 ¶¶ 46–48); Sur-reply 4–8 (citing Ex. 1018, 150; Ex. 2006, 35, 133, Fig. 5.1; Ex. 2026 ¶¶ 12, 31–38, 40–42, 44–46, 49–50, 54–56, 65–70; Ex. 2031,⁸ 13–14). The extrinsic evidence of the Bluetooth specification (Exhibits 2006/2018, 2031) shows that Bluetooth pairing has certain features, but the intrinsic evidence supports our conclusion that the invention is not limited to Bluetooth and need not include in the pairing process the particular functionality of Bluetooth identified by Patent Owner. The Foley Declaration also cites to the Bluetooth specification. *See* Ex. 2009 ¶ 46 (citing Ex. 2018, 80, 135, Fig. 5.1). Only one of the citations to the Foley Sur-reply Declaration relates to claim construction and it has been discussed above. *See* Ex. 2026 ¶¶ 49–50.⁹

Dr. Foley’s testimony that other types of paired connections include encryption and store reconnection information also is not persuasive. *See* Ex. 2026

⁸ Bluetooth Specification, File Transfer Protocol (Bluetooth SIG © 2001–2015).

⁹ The other cited paragraphs of the Foley Reply Declaration: deny contentions made in Petitioner’s Reply; explain Foley Deposition testimony (Ex. 2026 ¶¶ 12, 44–46, 54–56, 65–70); discuss Zigbee Forum and Wi-Fi Alliance as other

¶¶ 31–37. For example, the ZigBee standard relied on by Patent Owner undermines Patent Owner’s argument. ZigBee states that “[p]airing is the process by which devices establish bidirectional links with other devices.” Ex. 2003, 6.¹⁰ ZigBee further states: “If a pairing is successful and if the originator and recipient both support security, a key exchange procedure is then attempted. The key exchange establishes a link key that is used to encrypt messages sent between the originator and recipient.” Ex. 2003, 6. Thus, according to ZigBee, pairing occurs first and then, if the devices support security, they establish a link key. The link key establishment to provide encryption occurs after pairing. Therefore, ZigBee does not support Patent Owner’s contention that pairing itself includes encryption.

Furthermore, it is important to note that the dispute here is over the meaning of the claim term “paired wireless connection.” Patent Owner argues that “a paired connection may be encrypted or unencrypted and even change from encrypted to unencrypted during a connection.” Sur-reply 3. Thus, Patent Owner acknowledges that an unencrypted paired connection is still a paired connection. Whether additional steps are taken to “provide[] encrypted data exchange” under Patent Owner’s proposed construction (PO Resp. 16) does not change the fact that an unencrypted paired connection satisfies the requirement of a paired connection.

The Specification describes an embodiment in which a BT communication device on a “digital data capture device” (such as a digital camera) and a “mobile device” (such as a cellular phone) are “paired.” Ex. 1001, 3:60–63. The Specification further explains—in connection with that embodiment—that “pairing” “involves establishing a connection between two . . . devices that

protocols for pairing which also reconnect without repeating the pairing process (Ex. 2026 ¶¶ 31–37); rebut Petitioner’s alleged “new construction” for pairing (Ex. 2026 ¶¶ 38, 40–42).

¹⁰ We refer to the exhibit page numbers added by Patent Owner.

mutually agree to communicate with each other.” *Id.* at 3:63–67 (in the context of Bluetooth); *see also* Tr. 11:16–23 (Petitioner argument for plain and ordinary meaning of “paired” citing to same). This description does not include a requirement of encrypted data exchange or disconnection and reconnection.

Patent Owner’s reliance on extrinsic evidence in the form of the Bluetooth specification, and expert testimony which relies on the Bluetooth specification, improperly incorporates Bluetooth features, even though the Specification and claims show that the invention is not limited to Bluetooth. *See* Ex. 1001, 9:45–47, 16:10–15. Accordingly, we determine that “paired wireless connection” is not limited in the manner proposed by Patent Owner; rather, the phrase means “a wireless connection between two devices that mutually agree to communicate with each other.”

2. “*cryptographically authenticating*” (claims 1, 5, 8, and 13)

The claim term “cryptographically authenticating” is sometimes referred to here and by the parties as “cryptographic authentication,” “cryptographically authenticated,” or “authentication.” Patent Owner argues that “cryptographically authenticating” means “verified as a legitimate transmission, user, or system including by use of encryption and decryption involving an algorithm.” PO Resp. 21, 23; *see also id.* at 17–21 (arguing against our preliminary construction) (citing Ex. 2009 ¶¶ 48, 50–56, 58–62), 23. Patent Owner, however, does not argue any distinction of the challenged claims over the prior art based on its proposed construction. *See* PO Resp. 33–38. Rather, Patent Owner acknowledges that cryptographic authentication was known but argues against Petitioner’s motivation to modify Hiroishi and Hollstrom to include it. *See, e.g.*, PO Resp. 37 (“[T]he Bluetooth standard does support authentication and encryption as optional features in the core specification.”). Thus, we find it unnecessary to construe the term “cryptographically authenticating” to address the patentability issues before us.

See, e.g., Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co., 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

3. “*along with*” (claims 1, 5, 8, 13)

Claim 1 recites “wherein the cellular phone is configured to use HTTP to upload the received new-media file *along with* user information to a user media publishing website.” Ex. 1001, 12:19–21 (emphasis added). Claims 5, 8, and 13 have similar limitations. Patent Owner proposes that “along with” be construed as meaning “in addition to (something or someone).” PO Resp. 22–23 (citing Ex. 2009 ¶ 67 (citing Ex. 2022)). In the context of distinguishing the prior art, Patent Owner argues its interpretation means that whatever is “in addition to” is not “part of the image file or inside the image file.” PO Resp. 41 (discussing Takahashi). Patent Owner then argues “along with” means the recited “new-media file uploaded to the user media publishing website by the mobile device” must be *the same* new-media file received from the camera. *Id.* (citing Ex. 2009 ¶ 114).

Neither the Specification nor the written description of the ’802 application¹¹ uses “along with” outside the claims. The Specification explains that upon creation of a “new file in the digital capture device,” the captured data is “automatically transfer[ed]” to one or more websites. *See* Ex. 1001, 3:34–38, 4:38–42. The Specification does not associate any information as being “along with” the “new file.” User information is described in the context of user preferences for publication of the file on the website. Ex. 1001, 8:9–19; Ex. 2021,

¹¹ U.S. No. 11/901,802 (“’802 application,” Ex. 2021) is incorporated by reference in the Specification. Ex. 1001, 1:32–36.

2:12–16. The Specification describes “[t]he data transfer module 203j may transfer the data and the multimedia content as a single multimedia file, multiple data segments in the case of large files, or electronic mail attachments to the back end service 401b of the publishing service 401 via the front end service 401a.” *Id.* at 8:13–18.

The claim language uses “along with.” As set forth above, the Specification does not clearly support Patent Owner’s proposed construction or give any reason to deviate from the meaning of “along with.” We agree with Petitioner that “along with” is a “plain English term that does not require clarification.” Reply 8–9. Patent Owner’s proposed construction is not supported by the intrinsic evidence of record, and we are not persuaded to adopt it. We determine that “along with” does not require express construction.

4. “*graphical user interface (GUI)*” (claims 1, 5, 6, 8, 9, 13, 21, 22)

The challenged claims require a cellular phone that includes a graphical user interface (“GUI”). Specifically, claim 1 recites “wherein the cellular phone is configured to provide a graphical user interface (GUI) in the cellular phone, wherein the graphical user interface (GUI) is for the received new-media file and to delete the created new media file.” Ex. 1001, 12:22–26. Independent claims 5, 8, and 13 include similar limitations. *Id.* at 13:18–22, 14:22–25, 15:14–18. The ’698 patent does not illustrate the GUI other than as a box labeled “graphical user interface” in Figure 2. *Id.* at Fig. 2 (element 203e). In the accompanying description, the ’698 patent states that client application 203 on mobile device 202 includes “a graphical user interface (GUI) 203e” but provides no details of how the GUI appears on the mobile device. *Id.* at 6:25–30. The ’698 patent adds that a user may use the GUI to set preferences, such as selecting websites for publishing data and configuring timers. *Id.* at 6:58–7:3.

Even though the '698 patent does not depict the GUI, the '802 application depicts examples of GUIs in its Figure 3, shown below.

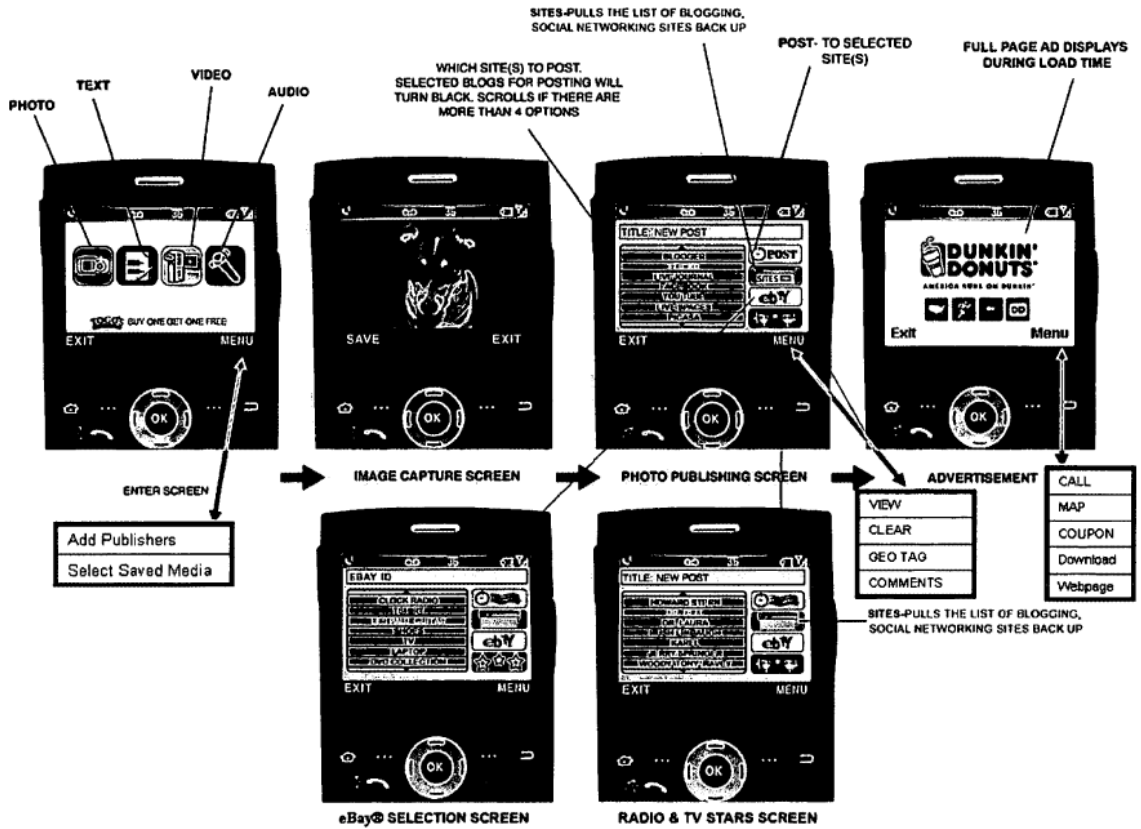


FIGURE 3

Figure 3 of the '802 application illustrates the publishing of multimedia content using a client application on a mobile device. Ex. 2021, 14:19–21. The '802 application characterizes the client application as having a “graphical user interface (GUI)” and describes various interactions with the screens illustrated in Figure 3 above. *Id.* at 8:13–15, 9:28–10:6, 14:21–26, 14:34–15:9, 15:24–26, 16:33–17:7.

Patent Owner proposes that “graphical user interface (GUI)” be construed as meaning

an interface through which a user interacts with electronic devices such as computers, hand-held devices and other appliances. This interface uses icons, menus and other visual indicator (graphics) representations to display information and related user controls, unlike text-based

interfaces, where data and commands are in text. GUI representations are manipulated by a pointing device such as a mouse, trackball, stylus, or a finger on a touch screen.

PO Resp. 21 (citing Ex. 2009 ¶ 64 (citing Ex. 2020¹²)), 23. Patent Owner relies on the testimony of Dr. Foley, who adopts the above definition of “graphical user interface” from the website www.technopedia.com, which apparently was retrieved in July 2019. Ex. 2009 ¶ 64 (quoting Ex. 2020). Even though Dr. Foley does not explain why he did not rely on a contemporaneous definition of the claim term, he opines that the definition is consistent with the ’698 patent specification, and specifically the incorporated-by-reference ’802 application. *Id.* ¶ 65. Patent Owner likewise asserts that the above definition is consistent with the Specification, particularly with the incorporated written description of the ’802 application. PO Resp. 21 (citing Ex. 2009 ¶ 65). Patent Owner alleges the ’802 application shows a GUI 202a in Figure 3 in the form of an “enter screen.” *Id.* at 21–22 (citing Ex. 2021, 40–42,¹³ Fig. 3). Patent Owner argues the “enter screen” is the means for the selection of the multimedia content to be created. *Id.* at 22 (citing Ex. 2021, 40–42).

Petitioner argues the proposed construction is limited in order to avoid the prior art. Reply 8. Further, Petitioner contends the Specification is not limited to, for example, “icons, menus and other visual indicator (graphics) representations.” *Id.* Petitioner also points to both experts as support for a finding that other elements may “fall within the scope of ‘graphical user

¹² <https://www.techopedia.com/definition/5435/graphical-user-interface-gui>.

¹³ Page references are to exhibit footers.

interface.’” *Id.* (citing Ex. 1040, 103:2–16; Ex. 1043 ¶ 8; Ex. 1044,¹⁴ 17 (describing keyboard commands)).

We do not adopt Patent Owner’s proposed construction. First, the ’698 patent does not define the term “graphical user interface” or disavow some particular understanding of that term. Second, the ’802 application illustrates examples of GUIs but does not state each of the disclosed features is a requirement of the GUI. Third, Patent Owner fails to provide contemporaneous evidence showing that, at the time of the claimed invention, a graphical user interface was understood as to *require* “icons, menus and other visual indicator (graphics) representations to display information and related user controls,” as set forth in Patent Owner’s proposed construction. In view of the preceding, Dr. Foley’s adoption of a 2019 definition from the technopedia website is neither persuasive nor consistent with the intrinsic evidence. Ex. 2009 ¶¶ 64–65.

As discussed below in the context of the patentability analysis, the interfaces disclosed in either Hiroishi or Hollstrom—such as buttons on the phone to select items displayed on the screen—teach the claimed graphical user interface. *See* Section III.D.4.d below.

B. Legal Standard for Obviousness

A patent claim is unpatentable as obvious if the differences between the claimed subject matter and the prior art are “such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 103(a).

¹⁴ Brad A. Myers, *A Taxonomy of Window Manager User Interfaces*, IEEE (Sept. 1988) (Ex. 1043, “Myers”).

The ultimate determination of obviousness is a question of law, but that determination is based on underlying factual findings. The underlying factual findings include (1) “the scope and content of the prior art,” (2) “differences between the prior art and the claims at issue,” (3) “the level of ordinary skill in the pertinent art,” and (4) “the presence of secondary considerations of nonobviousness such ‘as commercial success, long felt but unsolved needs, failure of others,’” and unexpected results. *In re Nuvasive, Inc.*, 842 F.3d 1376, 1381 (Fed. Cir. 2016) (citing, inter alia, *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966)).

“To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016). Furthermore, in assessing the prior art, the Board must consider whether a person of ordinary skill would have been motivated to combine the prior art to achieve the claimed invention. *Nuvasive*, 842 F.3d at 1381. As the Federal Circuit stated, quoting from the Supreme Court’s decision in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 418–19 (2007),

“because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known,” “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”

Personal Web Techs., LLC v. Apple, Inc., 848 F.3d 987, 991–92 (Fed. Cir. 2017).

C. Level of Ordinary Skill in the Art

In the Institution Decision, we determined a person of ordinary skill would have had a bachelor's degree in electrical engineering or computer science, or an equivalent degree, and two years of industry experience with software development, electronic system design, digital camera technology, and/or wireless communications.

Inst. Dec. 14. Petitioner does not comment on this determination in its Reply. However, the determination is all but identical to Petitioner's initial proposal. *See* Pet. 17 (citing Ex. 1003 ¶¶ 68–70). Patent Owner agrees with this definition of a person of ordinary skill. PO Resp. 11.

We maintain our determination from the Institution Decision.

D. Obviousness of Claims 1–20 over Hiroishi and Takahashi (Ground 1)

Petitioner alleges the subject matter of claims 1–20 would have been obvious over Hiroishi and Takahashi. Pet. 23–53. The Petition is supported by the Madisetti Declaration. Ex. 1003 ¶¶ 93–207.

1. Hiroishi (Ex. 1005)

Hiroishi discloses a photographing system where a mobile phone stores an image sent by a digital camera. Ex. 1005, Abstract. “[V]arious keys provided to the mobile phone 40 are used to remotely operate the digital camera 50 by transmitting various instruction information from the mobile phone 40 to the digital camera 50.” *Id.* ¶ 43. The wireless two-way communication between the mobile phone and the digital camera may be through Bluetooth. *Id.* ¶ 66.

Hiroishi describes release instruction information, which “is the information for instructing the timing of photographing with the camera.” Ex. 1005 ¶ 34. According to Hiroishi, “the timing in which the release instruction information is transmitted serves as the photographing timing.” *Id.* Figure 5 of Hiroishi is reproduced below.

(FIG. 5)

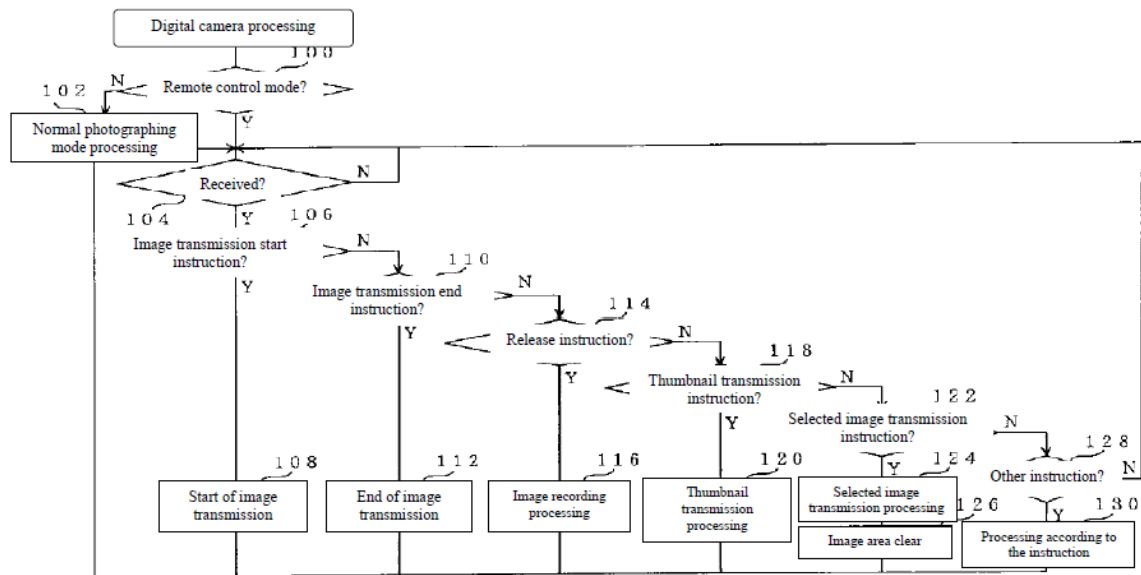


Figure 5 “is a flow chart showing the flow of processing of the digital camera processing program executed by CPU 60 built in the digital camera 50.” Ex. 1005 ¶ 71. When the digital camera is turned on, “the program is stored in advance in the predetermined area of ROM 55B in the built-in memory 55.” *Id.*; *see also id.* at Fig. 4 (memory 55). The camera may also transmit a thumbnail of the image to the mobile device. *Id.* ¶ 81.

As shown in Figure 5, at step 114, the mobile device issues a release instruction to the camera, which causes the camera to acquire and store a new photograph. Ex. 1005 ¶ 78; *see also id.* at Fig. 1 (showing communication of instruction information from mobile phone 40 to digital camera 50), ¶ 34 (describing release instruction information), ¶ 73 (describing that the camera receives instruction information from the mobile phone). A thumbnail image “selected by the operator of the mobile phone 40 from a plurality of images shown by the thumbnails transmitted according to the thumbnail transmission instruction information is read from the photographed image data storage area” of the digital camera. *Id.* ¶ 84, Fig. 4 (SDRAM 55A). At step 122, the mobile device may also send an instruction that causes the camera to transmit the stored image file to the

mobile device and at step 126, delete it from the camera. *Id.* As shown in Figure 1, “the photographing system 10 transmits the image information to the mobile phone 40, and the mobile phone 40 forwards the image information received from the digital camera 50 to a terminal device.” Ex. 1005 ¶ 44. As shown in Figure 7, mobile phone 40 includes display unit 47 and a KB key which operates communication control unit 44 and transceiver 45 to transfer an image. *Id.* ¶¶ 55, 70. Figure 7(C) illustrates thumbnail images on the display unit, which may be selected by a UB, DB, or KB key of the mobile phone for printing at a print shop or transmission to a home terminal. *Id.* ¶ 105, Fig. 7(C). Figure 7(D) shows “a rectangular frame for entering the information showing the desired transfer destination to transmit the digital image data received from the digital camera 50.” *Id.* ¶ 108, Fig. 7(D).

In one embodiment, the computer network includes Internet 12 and “public telephone network 14 built and provided by a telecommunications company of each country or each region as communication media.” *Id.* ¶ 47, Fig. 2. Mutual access to the photographing system is available as between two users to access a network “according to a predetermined communication protocol, such as TCP/IP (Transmission Control Protocol/Internet Protocol), or the like.” *Id.* ¶ 49.

2. *Takahashi (Ex. 1008)*

Takahashi teaches a system that allows a mobile device to upload image data to a remote server using HTTP. Ex. 1008, Abstract, ¶ 49. An “image storage server 4 sends an email containing the URL of a web page that publishes an image data selected by the mobile telephone.” *Id.* at Abstract, ¶ 5. The image is stored on a mobile terminal (telephone), selected and transmitted over a network via an HTTP request, and received and stored by “storage means” or image storage processing unit. *Id.* ¶ 6, Fig. 4 (block 22). Uploaded information includes the image data with a filename that identifies user information including a user ID. *Id.*

¶ 66. The storage server processes the received image file in order to publish it.
Id. ¶ 52.

3. Independent Claims 1 and 13

Patent Owner disputes that Petitioner has persuasively shown limitation 1(c), specifically “paired connection” and “cryptographically authenticating.” PO Resp. 30–38. Patent Owner’s arguments regarding limitation 1(c) are also applied to limitations 1(d), 1(e), 1(g) and 1(h). *Id.* at 39 (“same reasons noted with respect to [limitation 1(c)]”). Patent Owner also separately disputes the showings made for limitations 1(h), 1(i), and 1(j). *Id.* at 39–45. Last, Patent Owner disputes that Petitioner has shown a motivation for combining Hiroishi and Takahashi. *Id.* at 45–46.

Patent Owner’s arguments are all directed to claim 1 and we address those arguments as also applying to claim 13, which recites all but identical limitations in the context of preamble, limitation 13(a), which recites a “non-transitory computer-readable medium.” If the preamble is limiting, we find Hiroishi teaches “a non-transitory computer-readable medium” because it teaches machine executable instructions executed by a processor on a digital camera “with short-range wireless capability (such as Bluetooth), cause the processor to perform certain functions.” Pet. 47 (citing Ex. 1005, Abs., ¶¶ 5, 66, Fig. 1; Ex. 1003 ¶ 185). For the reasons discussed below, we are persuaded by Petitioner’s arguments and find that Petitioner has shown that the combination of Hiroishi and Takahashi teaches the subject matter of claim 1 and 13 and has shown motivation to combine the teachings of Hiroishi and Takahashi.

a. “paired wireless connection” (Limitation 1(c))

Patent Owner disputes two parts of limitation 1(c). The first issue is over the showing made concerning “paired wireless connection,” which we construe in Section III.A.1 above. Petitioner’s showing relies on Hiroishi’s teaching of the use

of Bluetooth to provide “a short-range paired wireless connection between the digital camera and the cellular phone.” Pet. 24 (citing Ex. 1005 ¶ 66).

Patent Owner agrees that “Hiroishi teaches the use of Bluetooth for a short-range wireless connection between a digital camera and cellular phone.” PO Resp. 30–33. Patent Owner alleges “Hiroishi does not mention pairing or paired connections.” *Id.* at 31 (citing Ex. 2009 ¶ 85). Patent Owner concludes that a person of ordinary skill would have understood that “not all” two-way communication is “paired” nor would a finding that Hiroishi teaches two-way communication “equate” with limitation 1(c)’s requirement of a “short-range paired wireless connection.” *Id.* (citing Ex. 2009 ¶ 86).

Patent Owner’s first argument relies on the Bluetooth specification’s disclosure that “pairing is an *optional* component of connection establishment.” PO Resp. 31–32 (citing Ex. 2018, 861, Fig. 3.1 (annotated with red circles around Steps 7a (“Optional Pairing”) and Step 7b (“Optional Authentication”)); Ex. 2009 ¶ 88) (emphasis added). Patent Owner then argues that the option to pair is based on a given case. *Id.* at 32 (citing Ex. 2023, BIP,¹⁵ § 3.3, 16 (“pairing can be performed as necessary and is left to the implementer’s discretion.”); Ex. 2009 ¶ 89). Patent Owner alleges that “[w]ithin BIP, Image Pull is the most relevant to the ‘698 patent.” *Id.* According to Patent Owner, a person of ordinary skill “would not see the necessity for using a paired connection over the short-range wireless link for accomplishing Image Pull.” *Id.* (citing Ex. 2009 ¶ 89). Relying on pairing being “optional,” Patent Owner argues Hiroishi would not teach a person of ordinary skill to “to include a paired connection, including since *pairing is optional* in the Bluetooth specification and is not recommended in BIP for image pull or image push scenario.” *Id.* at 33 (citing Ex. 2009 ¶ 91); *see also* Tr. 50:14–

¹⁵ Bluetooth Documentation, Basic Imaging Profile (Bluetooth SIG 2003) (“BIP”).

24 (Patent Owner argues, because pairing is optional, the “capability” to pair does not teach “pairing”).

Patent Owner next seeks to distinguish Hiroishi’s teaching from limitation 1(c), arguing Hiroishi does not necessarily teach “pairing.” PO Resp. 32. Patent Owner cites Hiroishi’s description of Infrared Mobile Communication (“IrDA”), an infrared system that can be used “interchangeably” with Bluetooth for establishing a connection between communication units 49 and 59. *Id.* at 33 (citing Ex. 1005 ¶ 121; Ex. 2009 ¶ 90); *see also* Ex. 1005 ¶¶ 51, 58 (describing communications units 49 and 59 as respectively for the mobile phone and digital camera). Paragraph 90 of the Foley Declaration states that “IrDA doesn’t support pairing.”

We are not persuaded by Patent Owner’s arguments. We determine in Section III.A.1 above that “paired wireless connection” as used in the claims of the ’698 patent “involves establishing a connection between two devices that mutually agree to communicate with each other.” To the extent Patent Owner’s arguments are based on its rejected construction of “paired wireless connection,” they are not persuasive. Based on our construction of “paired wireless connection,” we find that Hiroishi teaches pairing because it teaches mutually-agreed communication between the digital camera 50 and cellular phone 40. Pet. 24 (citing Ex. 1005 ¶ 66; Ex. 1003 ¶¶ 97–100).

Hiroishi discloses that mobile phone 40 has communication unit 49 and that digital camera 50 has communication unit 59 and that communication units 49 and 59 “are configured so as to allow a communication” between the mobile phone and digital camera. Ex. 1005 ¶ 67. Because the mobile phone and digital camera use the communication units to establish communication between the two devices, we find that the digital camera and cellular phone mutually agree to communicate with each other. Therefore, we find that Hiroishi teaches “establishing a short-range

paired wireless connection between the digital camera device and the cellular phone,” as recited in claim 1, under our construction of a “paired wireless connection.”

Patent Owner argues there are more options in Bluetooth “than just paired or unpaired.” PO Resp. 13–14 (citing Ex. 2026 ¶¶ 22–24). Further, Patent Owner argues there are “32,767 total combinations of optional activities after ACL¹⁶ connection establishment.” *Id.* at 13 (citing Ex. 2026 ¶¶ 22, 93). According to Patent Owner, selection of any one combination involves improper hindsight. *Id.*

Our construction of pairing does not require conformance to Bluetooth or any option available in Bluetooth. The evidence cited by Petitioner supports our finding that Bluetooth is an example of “pairing.” *See* Pet. 24, 61; Ex. 1003 ¶¶ 98, 228. The ’698 patent discloses the method and system as “realized with, but not limited to Bluetooth communication protocol.” Ex. 1001, 9:45–47, *see also id.* at 4:1–5 (describing pairing in the context of Bluetooth). Hiroishi teaches the same thing and teaches a person of ordinary skill that pairing using Bluetooth was known at the time of its filing. *See* Ex. 1005 ¶ 66 (“Bluetooth is a wireless transfer standard . . .”). Hiroishi’s disclosure tracks our construction of pairing in the context of Bluetooth, teaching “[t]he photographing system 10 . . . is configured so as to perform a two-way wireless communication between the mobile phone 40 and the digital camera 50 through Bluetooth.” *Id.*; *see also* Reply 10 (citing Ex. 1005 ¶ 66; Ex. 1013, 5:58–67; Pet. 31, 51).

For the reasons discussed above, we find Petitioner has persuasively shown that Hiroishi’s disclosure of a camera and phone that mutually agree to

¹⁶ Asynchronous connection link. Ex. 1017, 4 (inserted footer page number of Exhibit 1017).

communicate with each other meets the “paired wireless connection” element of limitation 1(c).

b. “cryptographically authenticating” (Limitation 1(c))

The second dispute Patent Owner raises with respect to limitation 1(c) is whether Petitioner has shown “cryptographically authenticating.” PO Resp. 33–38.

Although Petitioner does not rely on Hiroishi for teaching the “cryptographically authenticating” recitation in limitation 1(c), it asserts that Hiroishi discloses that Bluetooth is used for its communication system and that it would have been obvious at the time of the invention to modify Hiroishi to include “cryptographic authentication” functionality. Pet. 24 (citing Ex. 1003 ¶¶ 99–100). Based on supporting evidence, Petitioner argues that “[c]ryptographic authentication between wireless devices like a digital camera and cellular phone was routine at the time of the invention.” *Id.* (citing Ex. 1017,¹⁷ 91–92; Ex. 1019¹⁸ ¶ 55; Ex. 1020¹⁹ ¶ 19); *see also* Ex. 1003 ¶ 99 (Madisetti Declaration citing same evidence). For example, Exhibit 1017 discloses that Bluetooth’s Link Manager Protocol(LMP) provides “authentication and encryption.” Ex. 1017, 91–92.

Petitioner alleges that a person of ordinary skill would have been motivated to include cryptographic authentication with short-range wireless communication, *inter alia*, “to ensure that each device is communicating with its intended recipient.” Pet. 25 (citing Ex. 1003 ¶¶ 44–47, 99–100). Further, Petitioner cites to Hiroishi’s teaching of Bluetooth as a data transmission mechanism and argues there would have been no unexpected results from adding cryptographic

¹⁷ Bisdikian, *An Overview of the Bluetooth Wireless Technology*, IEEE COMMUNICATIONS MAGAZINE (Dec. 2001).

¹⁸ Margalit, US 2002/0141586 A1, published October 3, 2002.

¹⁹ Montulli, US 2006/0189349 A1, published August 24, 2006.

authentication to Hiroishi's system. *Id.*; *see also* Ex. 1005 ¶ 66 (referencing Bluetooth for two-way communication).

Patent Owner asserts that Petitioner's evidence that cryptographic authentication was known, specifically Exhibits 1017, 1019, and 1020, does not address authenticating the "identity of the cellular phone." PO Resp. 33–34. Patent Owner again argues that both pairing and authentication were "optional" in the context of the Bluetooth standard. *Id.* at 40 (citing Ex. 2009 ¶ 95); *see also* Section III.D.a above discussing Ex. 2018, 861, Fig. 3.1 (annotated with red circles around Steps 7a ("Optional Pairing") and Step 7b ("Optional Authentication"))).

Dr. Madisetti gives deposition testimony that a person of ordinary skill would have understood that Bluetooth has a security mode including "modes that mandate cryptographic authentication." Ex. 1042, 33:10–19. Patent Owner agrees with Dr. Madisetti that Security Mode 3 mandates cryptographic authentication, but points to Security Mode 4 as a security option which teaches away from Security Mode 3. PO Resp. 34–36 (citing Ex. 2009 ¶¶ 97–99; Ex. 2018, 1269 (Table 5.1), 1273 (§ 5.2.2 ("Security mode 4 (service level enforced security)"))). Patent Owner also argues that cryptographic authentication "isn't the default behavior" defined in Bluetooth and is "nor is it recommended in BIP . . . [for] image transfer by Pull or Push." PO Resp. 36 (citing Ex. 2009 ¶ 102).

As it did for its pairing argument, Patent Owner contends Hiroishi discloses IrDA as an alternative. PO Resp. 37. However, according to Patent Owner, IrDA does not utilize cryptographic authentication or encrypted link. *Id.* (citing Ex. 2009 ¶ 103). On this basis, Patent Owner concludes the use of cryptographic authentication or encrypted link would not have been obvious. *Id.* This argument is irrelevant to the Petition's showing, which acknowledges Hiroishi does not teach cryptographic authentication but alleges the feature would have been obvious to a person of ordinary skill. *See* Pet. 24.

Patent Owner also argues that, in the authentication context, the Bluetooth specification “support[s] authentication and encryption as *optional features* in the core specification.” PO Resp. 37 (citing Ex. 2009 ¶ 104). Patent Owner also repeats its argument that authentication and encryption are not recommended in certain “use cases,” like “BIP scenarios for Image Pull and Image Push.” *Id.*

We are not persuaded that because “cryptographic authentication” is an option in Bluetooth, it negates the fact that Bluetooth teaches the feature. Patent Owner agrees the feature is provided for in some implementations. PO Resp. 37. Thus, there is no dispute that authentication was known in Bluetooth. The Bluetooth specification “is prior art for all that it teaches,” including “authentication.” *See Beckman Instruments, Inc. v. LKB Produkter AB*, 892 F.2d 1547, 1551 (Fed. Cir. 1989); *see also In re Mouttet*, 686 F.3d 1322, 1334 (Fed. Cir. 2012) (“[J]ust because better alternatives exist in the prior art does not mean that an inferior combination is inapt for obviousness purposes.”).

Patent Owner argues the default behavior in Security mode 4 is to require an “unauthenticated” link key and does not require authenticated link keys. PO Resp. 36 (citing Ex. 2009 ¶ 100). Regardless, we agree with Petitioner that “cryptographic authentication was a design choice in Bluetooth 2.1 +EDR, which is the version Cellspin relied on to support its argument.” Reply 15 (citing PO Resp. 36 (citing Ex. 2018, 1273)). As Petitioner points out, “cryptographic authentication was even more than a design choice—it was a feature for three of the four ‘association models’ in Bluetooth version 2.1 +EDR, Security Mode 4.” *Id.* (citing Ex. 1039, 18).

Patent Owner’s arguments regarding Security Mode 4 fail to rebut the showing made by Petitioner for similar reasons to those relevant to the “optional feature” argument above. Patent Owner admits Security Mode 4 has an “Authenticated Link Key” required level of security. *See* PO Resp. 36 (citing Ex.

2018, 1273 (§ 5.2.2). Patent Owner does not dispute that cryptographic authentication is taught by an “authenticated link key.” We agree with Petitioner that a person of ordinary skill would have been motivated to use cryptographic authentication and that this feature was mandatory in Security Mode 3. Reply 16–17 (citing Ex. 1040, 65:2–17; Ex. 1039, 7).

Patent Owner argues that “common sense” may supply a missing limitation for obviousness purposes only under certain conditions. PO Resp. 37–38 (citing *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1363 (Fed. Cir. 2016)). Neither Petitioner nor the Madisetti Declaration argue “common sense” as a reason to supply the “missing limitation” of “cryptographically authenticating.” The argument made is that it would have been obvious to modify Hiroishi to “cryptographically authenticate the identity of the phone.” Pet. 24–25 (citing Ex. 1003 ¶¶ 99–100; Ex. 1018, 148 (“Bluetooth Security . . . in each Bluetooth unit, the authentication and encryption routines are implemented in the same way.”)). Even assuming “common sense” is part of the showing here it is “supported by evidence and a reasoned explanation.” *See Arendi*, 832 F.3d at 1363.

Contrary to Patent Owner’s argument, we find a person of ordinary skill in the art would have found cryptographically authenticating the “identity of the cellular phone” to be obvious. *See* PO Resp. 34. Petitioner relies on Hiroishi’s teaching of Bluetooth and what a person using a camera to communicate with a mobile phone “would have understood the basic motivation for using cryptographic authentication: to ensure that *each device is communicating with its intended recipient* and that information is protected from outsiders when transmitted between devices.” Pet. 25 (citing Ex. 1003 ¶¶ 99–100, 44–47) (emphasis added). Patent Owner’s arguments discussed above do not rebut this reasoning, which we find persuasive.

For the reasons discussed above, we find Petitioner has persuasively shown that Hiroishi's disclosure of pairing and Bluetooth, as understood by a person of ordinary skill, meets the "cryptographically authenticating" element of limitation 1(c).

c. "wherein the cellular phone is configured to use HTTP to upload the received new-media file along with user information to a user media publishing website" (Limitation 1(i))

Petitioner relies on Takahashi to teach limitation 1(i), pointing to Takahashi's disclosure of a mobile device using HTTP to upload image data and share it on a user media publishing website. Pet. 32 (citing Ex. 1008 ¶¶ 37, 52, 62, 63; Ex. 1003 ¶¶ 120–122). Petitioner also argues that Takahashi teaches that the "uploaded information includes the image data, along with a filename that identifies user information including a user ID." *Id.* (citing Ex. 1008 ¶ 66).

Patent Owner disputes the showing made for limitation 1(i). PO Resp. 39–42. Patent Owner quotes Takahashi as disclosing "[i]n the mobile phone 1, when an image data is transmitted to the image storage server 4, the user on the image storage server 4 side is specified by including the **user ID in the file name** of image data." *Id.* at 40 (quoting Ex. 1008 ¶ 66). Patent Owner argues "the user ID is actually transmitted as part of the image file name, and **not along with** the image file." *Id.* (citing Ex. 2009 ¶ 112). Based on its proposed claim construction of "along with," Patent Owner argues limitation 1(i) is not shown because the "user information" must be uploaded in addition to the image file and not as part of it. *Id.* at 41 (citing Ex. 2009 ¶ 113). Patent Owner also contends there is no allegation in the Petition that it would have been obvious to upload user information "along with" the image file. *Id.*

Patent Owner then argues Takashi teaches the "**user ID is added to the file name at the cellular phone**" in the 'file name-generating processing unit 16.'" PO

Resp. 41 (citing Ex. 1008 ¶ 56). Patent Owner asserts a person of ordinary skill would have understood that, in the combination of Hiroishi and Takahashi, “when the image is received by the mobile phone” a new file name is created, which Patent Owner argues is a new media file. *Id.* (citing Ex. 1008 ¶¶ 56, 66). Based on the language of limitation 1(i), Patent Owner asserts “the same new-media file received from the camera must be the new-media file uploaded to the user media publishing website by the mobile device.” *Id.* (citing Ex. 2009 ¶ 114). Patent Owner argues the same new-media file is not uploaded in Takashi because the file has a different name when uploaded. *Id.*

We are not persuaded by Patent Owner’s arguments because we rejected its narrow construction of “along with.” *See* Section III.A.3 above. Regardless, we agree with Petitioner that, even under Patent Owner’s construction of “along with,” Takahashi’s teaching that the user ID is added to the filename discloses uploading user information “in addition to” the media file. Reply 18 (citing Ex. 1008 ¶ 66 (“when an image data is transmitted to the image storage server 4, the user on the image storage server 4 side is specified by including the user ID in the file name of image data.”)). Petitioner contends that a person of ordinary skill would understand adding a user ID to the existing file name “does not generate a different file.” *Id.* at 19 (citing Ex. 1043 ¶¶ 16–17).

We find Petitioner has persuasively shown that Takahashi’s disclosure of uploading the image data, with a filename that identifies user information including a user ID, does meet limitation 1(i). *See* Ex. 1008 ¶ 66 (“[W]hen an image data is transmitted to the image storage server 4, the user on the image storage server 4 side is specified by including the user ID in the file name of image data.”). Takahashi’s disclosure of receiving a file name with a user ID discloses the claimed receiving a new-media file “along with user information.”

For the reasons discussed above, we find Petitioner has persuasively shown that Hiroishi and Takahashi teach the use of HTTP to upload the received new-media file of limitation 1(i).

*d. “wherein the cellular phone is configured to provide a graphical user interface (GUI) in the cellular phone, wherein the graphical user interface (GUI) is for the received new-media file and to delete the created new-media file”
(Limitation 1(j))*

To show limitation 1(j), Petitioner cites Figure 7(D) of Hiroishi, which, according to Petitioner, illustrates the GUI of the phone for “entering the information showing the desired transfer destination to transmit the digital image data received from the digital camera 50, i.e., the digital image data corresponding to the image on the thumbnail selected by the operator, is displayed on the image transfer screen according to this embodiment.” Pet. 33 (quoting Ex. 1005 ¶ 108; citing *id.* at Fig. 7(D); Ex. 1003 ¶¶ 123–125); *see also id.* at 34 (citing Ex. 1005 ¶ 105, Fig. 7(C) shows “GUI for selecting image to delete”). For the deletion of images, Petitioner quotes from Hiroishi that “the camera is further provided with an erasing means for deleting the stored image information transmitted by the image information transmission means from the storage means.” *Id.* (quoting Ex. 1005 ¶ 17; Ex. 1003 ¶¶ 124–125); *see also id.* (citing Ex. 1005 ¶¶ 71–88, Fig. 5 (illustrating operations performed on the camera when it is under remote control of the phone)). Petitioner cites to the steps of the flow chart of Hiroishi’s Figure 5 regarding selecting and deleting a selected image based on an instruction from the phone. *Id.* at 33–34 (citing Ex. 1005 ¶¶ 70, 84, 105, 106, 117, Fig. 7C).

In Section III.A.4 we rejected Patent Owner’s proposed construction for the term “graphical user interface” (“GUI”). Patent Owner’s proposed construction requires, among other things, an “an interface” of an electronic device that “uses icons, menus, and other visual indicator” to display information and control the device. *See* PO Resp. 23. Patent Owner’s construction specifically excludes “text-

based interfaces.” *Id.* Patent Owner’s argument that limitation 1(j) is not taught by Hiroishi is based on its now rejected construction. *Id.* at 43–45. Patent Owner focuses on Hiroishi’s use of keys to select actions instead of its proposed implementation of a GUI that includes “a mouse, trackball, stylus, or a finger on a touch screen.” *Id.* at 43 (citing Ex. 2009 ¶ 124).

Petitioner responds that the ’698 patent does not limit a GUI as including the elements Patent Owner seeks to incorporate nor does it exclude “other common GUI elements, such as fields that receive input via a keypad as implemented in a laptop or Blackberry device.” Reply 8 (citing Ex. 1001, 6:25–30, Fig. 2). In addition, Petitioner asserts that Dr. Foley “admitted that these other elements fall within the scope of the term ‘graphical user interface,’ and that is consistent with how a [person of ordinary skill] would have understood the term at the time of the alleged invention.” *Id.* (citing Ex. 1040, 103:2–16; Ex. 1043 ¶ 8; Ex. 1044, 17).

Patent Owner’s Sur-Reply repeats the arguments made in its Response. Sur-reply 17–18. Patent Owner and Dr. Foley admit “[u]sing a keyboard to enter text into such a GUI is within the purview of a GUI.” *Id.* at 18 (citing Ex. 2026 ¶ 119). Patent Owner then argues “the display needs to be *graphical* and not text based” and text based input controls are not a GUI. *Id.* (citing Ex. 2026 ¶ 119) (emphasis added).

There is no dispute that Hiroishi teaches a “user interface.” The question is whether or not it teaches a “*graphical* user interface.” GUI is broadly understood by a person of ordinary skill in the art to have many structures or elements which fall within its plain and ordinary meaning. *See* Section III.A.4 above. Hiroishi teaches a display unit 47 for the mobile phone which includes a KB key to operate communication control unit 44 and transceiver 45 to acquire and transfer an image. Ex. 1005 ¶ 70. Figure 7(C) of Hiroishi illustrates thumbnail images on the display unit that may be selected using the up and down arrow keys, UB and DB,

respectively, and the KB key of the mobile phone for printing at a print shop or transmission to a home terminal. *Id.* ¶ 105, Fig. 7(C). Figure 7(D) shows “a rectangular frame for entering the information showing the desired transfer destination to transmit the digital image data received from the digital camera 50.” *Id.* ¶ 108, Fig. 7(D).

Based in part on the preceding, we credit the Madisetti Declaration testimony that Figure 7(C) and (D) are a GUI as understood by a person of ordinary skill. Ex. 1003 ¶¶ 123–124. Although Dr. Foley testifies that entering characters into a box on a textual display, as shown in Figure 7(D), he does not address Figure 7(C). *See* Ex. 2026 ¶ 76.

Hiroishi’s disclosures are similar to the ’802 application. For example, both have display screens and keys for navigating the screen. *Compare* Ex. 2021, Fig. 3 (“OK” button), *with* Ex. 1005, Fig. 7 (KB key). The ’802 application has an entry screen, buttons, and a menu. Ex. 2021, 10:3–6, 14:21–22, Fig. 3. Hiroishi has a display, where a mode may be selected, i.e., a menu, and buttons. Ex. 1005 ¶¶ 97, 105, 107, Figs. 7(A)–7(D). The ’802 application’s disclosure of GUI is no more illustrative of a “graphical” user interface than Hiroishi. We do not find this situation to present facts that would allow a narrower construction of GUI than what is disclosed in the ’802 application in order to avoid prior art of the same scope. Thus, we are persuaded that Hiroishi shows a “graphical” user interface.

For the reasons discussed above, we find Petitioner has persuasively shown limitation (1)(j).

e. Undisputed Limitations

With respect to the remaining undisputed limitations 1(a),²⁰ 1(b), and 1(f), we agree with Petitioner’s arguments and supporting evidence in the Petition. Pet. 23–24, 27–28. The Petition’s showing regarding these limitations is supported by the Madisetti Declaration. Ex. 1003 ¶¶ 94–96, 106–108. Accordingly, based on Petitioner’s showing, we find that Hiroishi, the only reference relied on for these limitations, teaches each of these limitations. *See* Ex. 1005 Abs., ¶¶ 5, 11–13, 48–49, 66, Figs. 1, 2. With respect to limitation 1(f), we agree with Petitioner that, if not taught by Hiroishi, “storing image files in non-volatile memory” would have been obvious to a person of ordinary skill. Pet. 27–28 (citing Ex. 1003 ¶¶ 37–40, 108; Ex. 1026,²¹ 3:7–25; Ex. 1024,²² 67).

For the reasons discussed above, we find Petitioner has persuasively shown the undisputed limitations.

f. Motivation to Combine Hiroishi and Takahashi

Petitioner argues a person of ordinary skill would have been motivated to combine Hiroishi and Takahashi. Pet. 51–53 (citing Ex. 1003 ¶¶ 203–207). In support of its proposed combination of Hiroishi and Takahashi, Petitioner argues Hiroishi and Takahashi are from the same field of endeavor as the claimed invention—“wireless image transfer from one electronic device to another”—and an ordinarily skilled artisan combining the two would have had a reasonable expectation of success because such a combination would “have required simply packaging the image data from the mobile device of Hiroishi in an HTTP message

²⁰ Regardless of whether the preamble is limiting, Petitioner has shown that the recitation in the preamble is satisfied by the prior art. *See* Pet. 24 (citing Ex. 1005, Abs., ¶ 5, Fig. 1; Ex. 1003 ¶ 94).

²¹ Kagle, U.S. Patent No. 6,148,149, issued Nov. 14, 2000.

²² Narayanaswami, *Expanding the Digital Camera’s Reach*, IEEE Computer Society (Dec. 2004).

as Takahashi teaches.” *Id.* at 51–53 (citing Ex. 1005, Abstract, ¶¶ 44, 66; Ex. 1008, Abstract, ¶ 49; Ex. 1023,²³ Background; Ex. 1028²⁴; Ex. 1003 ¶¶ 204–207).

Patent Owner argues that if, as Petitioner argues, a person of ordinary skill would “use optional cryptographic authentication for the short-range transfer described in Hiroishi,” then there would have been no motivation to combine Takahashi, which does not teach authentication and uploads occur using only the user ID. PO Resp. 41–42 (citing Ex. 2009 ¶¶ 115, 118–119; quoting Ex. 1008 ¶ 35 (“a user can be identified by the file name of the image data, without having to authenticate the user with a password, or the like, and the image data can be stored for each user.”)). That Takahashi does not *require* authentication by a password, would not preclude combining it with Hiroishi, in which it would have been obvious to use authentication, as discussed above. We agree with Petitioner that the circumstances surrounding Takahashi do not rise to the level of teaching away. *See* Reply 19 (citing *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004)). Patent Owner argues Hiroishi and Takahashi are not analogous art and there would be no motivation to combine them. PO Resp. 42–43 (citing Ex. 2009 ¶ 120). Patent Owner argues Hiroishi is a remote control camera “without a paired wireless connection.” *Id.* (citing Ex. 1005 ¶ 1). For the sake of clarity, we find Hiroishi *does teach* a “paired wireless connection” in Section III.D.3.a above. As for Takahashi, Patent Owner asserts it permits access to images by email notification and not as email attachments. *Id.* (citing Ex. 2009 ¶ 120; Ex. 1008 ¶ 1).

The two criteria to determine whether a reference is analogous are: “(1) whether the art is from the same field of endeavor, regardless of the problem

²³ Anderson, US Patent No. 6,636,259, issued October 21, 2003.

²⁴ Kalajan, US Patent No. 7,639,943, filed November 15, 2005, issued December 29, 2009.

addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved." *In re Clay*, 966 F.2d 656, 658–59 (Fed. Cir. 1992) (citing *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568 n.9 (Fed. Cir. 1987)). Petitioner persuasively shows Takahashi is analogous to the claimed invention. Takahashi is in the same field and addresses the same problem as the claimed invention as both are both concerned with uploading images using HTTP and a mobile device. Compare '698 patent claim 1, with Ex. 1008 ¶ 6, Fig. 4 (block 22) (the image is stored on a mobile terminal (telephone), selected and transmitted over a network via an HTTP request); see also Pet. 51–53 ("Hiroishi and Takahashi... are from the same field of endeavor as the claimed invention—'photo-sharing websites and personal blogs'").

Patent Owner argues that a person of ordinary skill would not have been motivated to combine the "substantially different methods and apparatuses of Hiroishi and Takahashi." PO Resp. 45 (citing Ex. 2009 ¶ 129). Patent Owner alleges Hiroishi's subject matter includes a mobile phone to transfer image data to a terminal unit at a print shop or house. *Id.* (citing Ex. 2009 ¶ 129; Ex. 1005, Abstract, ¶ 49). Patent Owner argues "[i]n contrast, in Takashi the mobile telephone 1 sends the image data to an intermediate image storage server 4, which then sends an email containing the URL of a web page that publishes an image data selected by the mobile telephone 1." *Id.* (citing Ex. 1008, Abstract).

Petitioner explains that its obviousness contention is not based on a bodily incorporation of Takahashi into Hiroishi but rather is based on combining "Takahashi's teaching of uploading an image file and user information via HTTP with Hiroishi's teaching of uploading image files over the internet." Reply 20 (citing Pet. 31–32, 51–53). Moreover, we are persuaded that the references are analogous to the claimed invention for the reasons identified by Petitioner. See

Pet. 51–52; *see also* Section III.D.3.c above. We do not agree with Patent Owner that the references’ *differences* cited by Patent Owner undermine Petitioner’s rationale to combine. Dr. Madisetti testifies to the *similarities* between the two, including that both are “directed to wireless image transfer from one electronic device to another” and are pertinent to the problem solved by the ’698 patent, “seamless transmission of image data captured by a digital camera.” *See* Ex. 1003 ¶ 204; *see also id.* ¶¶ 205–207 (additional motivations described).

We find Petitioner has persuasively shown that a person of ordinary skill in the art would have been motivated to combine the teachings of Hiroishi and Takahashi. In particular, we are persuaded by Petitioner’s contentions and supporting evidence showing that Takahashi “teaches an efficient and predictable technique for uploading image data from a mobile device to a publishing website” and that “[t]he teachings of Takahashi would have provided straightforward benefit to the user of the mobile device in Hiroishi: predictable upload of image files using an existing HTTP connection between the mobile device and a publishing server.” *See* Pet. 53 (citing 1003 ¶ 206; Ex. 1008, code (57)). As Petitioner correctly notes, “Hiroishi already teaches the desire to transfer image data from a digital camera to a mobile device to a terminal device.” Pet. 53 (Ex. 1003 ¶ 206; Ex. 1005 ¶ 44). We agree with Petitioner that “Takahashi would have furthered this purpose by allowing the user to share image data over the internet.” Pet. 53 (citing Ex. 1003 ¶ 206).

For the reasons discussed above, we find Petitioner has persuasively shown a person of ordinary skill would have been motivated to combine Hiroishi and Takahashi.

4. *Independent Claims 5 and 8*

Patent Owner separately argues independent claims 5 and 8. PO Resp. 46–47. Independent claims 5 and 8 include similar limitations to claim 1, and Petitioner shows such similarity. *See, e.g.*, Pet. 37 (showing regarding claim 5 referring to prior showings regarding limitations 1(b) and 1(f)). Claims 5 and 8 do not include any additional limitations beyond the limitation discussed below. Patent Owner does not argue any other limitation of claims 5 or 8. To the extent Patent Owner’s arguments made regarding claim 1 apply to claims 5 and 8, we refer to our analysis of claim 1.

Limitation 5(h) recites “wherein the cellular phone comprises a mobile software application that when executed by a processor of the cellular phone is configured to . . . send request to the camera, store received data . . . use HTTP . . . [and] provide a graphical user interface.” PO Resp. 46 (emphasis omitted); *see also* Pet. 11 (limitation 5(h)). Patent Owner argues claim 8, and limitations 8(j), 8(k), 8(l), 8(m), 8(n), and 8(o), are similar in reciting “software application [on] the cellular phone . . . is configured to control the processor of the cellular phone to: send . . . receive . . . store . . . provide . . . and use HTTP to upload . . .” PO Resp. 46; *see also* Pet. 13 (limitations 8(j) through 8(o)).

For limitation 5(h), Petitioner argues Hiroishi discloses a processor with a software application that controls a processor to receive and store a new-media file. Pet. 40 (citing Ex. 1005 ¶¶ 51, 55, 73, 106, Fig. 3; Ex. 1003 ¶¶ 153–154). Further, Petitioner asserts the cellular phone storing the new-media files in non-volatile memory would have been obvious to a person of ordinary skill. *Id.* (citing Pet. 30–31 (showing for limitation 1(h)). For limitations 8(j) through 8(o), Petitioner makes a similar showing. *Id.* at 44–45 (citing Ex. 1005 ¶¶ 89, 92, 106; Ex. 1003 ¶¶ 172–177; citing Pet. 30–31, 33–34 (showing for limitations 1(h) and 1(j))).

Patent Owner does not dispute the showing for claims 5 and 8 described above; instead, Patent Owner argues a “single mobile software application” must perform the various recited steps. PO Resp. 46. According to Patent Owner, “[c]learly this ‘application’ is required to perform multiple functions in claims 5, 8 and their dependent claims” and Petitioner has not made a sufficient showing. Sur-reply 18.

Petitioner argues that “*a* mobile software application” means “one or more.” Reply 24 (citing *Baldwin Graphics Systems, Inc. v. Siebert*, 512 F.3d 1338, 1342 (Fed. Cir. 2008)). Petitioner argues that “under the BRI, claims 5 and 8 encompass one or more applications that perform the various steps listed above.” *Id.* Patent Owner responds that the claim language refers to a single application. Sur-reply 18. Patent Owner argues its position is supported by the Specification and prosecution history, which consistently references a single application. *Id.* at 18–20 (citing Ex. 1001 Figs. 2 and 3 (“one box for client application 203”); Ex. 203[0],²⁵ 372 (distinguishing Ex. 2029²⁶ “[i]n applicant’s method, the software application (not the browser) . . . ‘is attaching the user information’”)).

Petitioner explains that Hiroishi’s “phone comprises *a* mobile software application that when executed by a processor of the phone is configured to control the processor of the phone to *receive* the new-media file, [and] *store* the received new-media file in a non-volatile memory device of the phone.” Pet. 40 (citing Ex. 1003 ¶¶ 153–154) (emphasis added). We agree with Petitioner that Hiroishi “perform[s] the steps of receiving, storing, and uploading the new-media file, as well as providing the graphical user interface” as recited in claims 5 and 8. Reply 24. Hiroishi discloses that CPU 41 “is responsible for the entire operation of the

²⁵ US Pat. App. No. 14,503,104, the application for the ’698 patent.

²⁶ Hardman, US 2004/0059941 A1, issued March 25, 2004.

mobile phone 40” and executes “various control programs” that are stored in a read only memory (ROM) and are loaded to a random access memory (RAM) “at the time of execution.” Ex. 1005 ¶ 51, *cited in* Pet. 50. Thus, Hiroishi discloses that the CPU performs operations according to program instructions that are stored in the device. We are persuaded, and find, that this disclosure of mobile phone software controlling the operation of the phone and Hiroishi’s disclosure of the particular claimed operations teach a software application as claimed. Indeed, Hiroishi’s disclosure of the mobile phone software taking the form of “various control programs” is consistent with the ’698 patent’s description of different modules in “one box” called “client application.” *See* PO Sur-reply 18–19 (reproducing Figures 2 and 4 from the ’698 patent and noting that “Figures 2 and 4 of the ’698 patent depict one box for client application 203”).

For the reasons discussed above, we find Petitioner has persuasively shown that the combination of Hiroishi and Takahashi would have rendered the subject matter of claims 5 and 8 obvious.

5. Dependent Claims 2–4, 6–7, 9–12, and 14–20

We have reviewed Petitioner’s showing regarding dependent claims 2–4, 6, 7, 9–12, and 14–20. *See* Pet. 34–36 (claims 2–4), 41–42 (claims 6–7), 46–47 (claims 9–12), 50–53 (14–20); Ex. 1003 ¶¶ 126–139 (claims 2–4), 158–162 (claims 6–7), 178–184 (claims 9–12), 196–202 (claims 14–20). Patent Owner does not separately argue patentability of any dependent claim.

We find Petitioner has persuasively shown that Hiroishi and Takahashi would have rendered the subject matter of claims 2–4, 6–7, 9–12, and 14–20 obvious.

6. Summary (Ground 1)

Petitioner has shown by a preponderance of the evidence that claims 1–20 would have been obvious over Hiroishi and Takahashi.

*E. Obviousness of claims 21 and 22 over
Hiroishi, Takahashi, and Ando (Ground 2)*

Petitioner alleges the subject matter of claims 21 and 22 would have been obvious over Hiroishi, Takahashi, and Ando. Pet. 54–56. The Petition is supported by the Madisetti Declaration. Ex. 1003 ¶¶ 208–213.

1. Ando (Ex. 1015)

Ando teaches a system of sending thumbnails of images captured by a digital camera from the camera to a connected cellular phone. Ex. 1015, Abstract, Fig. 2. The phone can then be used to browse the thumbnail images. *Id.* ¶ 23. According to Ando, “[w]hen the simple digital camera receives [a] deletion signal, it deletes the image data and its thumbnail image corresponding to the designated frame number.” *Id.* ¶ 43. Ando teaches that the connection between the camera and phone can be accomplished via a wireless communication method such as Bluetooth. *Id.* ¶ 39.

2. Claims 21 and 22

Claims 21 and 22 depend indirectly from claims 5 and 8 respectively, discussed in Section III.D.4 above. Claim 21 recites in part “to control the processor of the cellular phone to receive input through the graphical user interface (GUI) to delete the created associated file.” Claim 22 recites a similar limitation “to control the processor of the cellular phone to delete the created associated file based on input received through the graphical user interface (GUI).”

Petitioner argues Ando “teaches a cellular phone that is configured to receive input through a GUI to delete a thumbnail image file, as well as the underlying image data to which the thumbnail is associated, from a digital camera that is wirelessly connected to the cellular phone.” Pet. 54 (citing Ex. 1003 ¶¶ 209, 86–87; Ex. 1015, Abstract, Fig. 2, ¶¶ 39, 43 (“When the simple digital camera receives this deletion signal, it deletes the image data and its thumbnail image

corresponding to the designated frame number.”)). Patent Owner argues the claims are not unpatentable because “Ando does not teach of a GUI on a cellular phone.” PO Resp. 48.

Patent Owner’s arguments that Ando does not teach a GUI include that Ando teaches “[i]nstead an LCD display is used to display images and textual operations. Keys on the cellular phone are then used to execute operations.” PO Resp. 48 (citing Ex. 1015 ¶ 23). This argument is based on Patent Owner’s proposed construction of GUI, which we reject. *See* Section III.A.4 above.

For reasons discussed above, we find Hiroishi teaches a GUI. With respect to claims 21 and 22 and their recitation that the GUI is able to “delete the created associated file” we are persuaded that Ando teaches a GUI. *See* Pet. 54 (citing Ex. 1015, Abstract, ¶¶ 39, 43, Abstract, Fig. 2); Reply 23 (citing Ex. 1003 ¶ 209; Ex. 1043 ¶¶ 18–19). For example, Ando discloses “operating the various keys 36b of the mobile phone 36, such as a numeric keyboard *or cursor keys*.” Ex. 1015 ¶ 23 (emphasis added). Ando also discloses displaying images on the display and providing a delete instruction from the mobile phone. *Id.* ¶ 43.

Petitioner argues that Ando is analogous art to the claimed invention. Pet. 55. Patent Owner argues that Hiroishi and Takahashi are not analogous art to the claimed invention and also that there would have been no motivation to combine because of alleged differences among Hiroishi, Takahashi, and Ando. PO Resp. 49. As discussed above, we are persuaded that Hiroishi and Takahashi are analogous art for the reasons stated by Petitioner. *See* Pet. 51–52.

As to the motivation to combine, we are persuaded Petitioner has set forth sufficient reasoning to combine the references, including that combining them in the manner asserted would have improved the device. *See id.* at 51–52, 55–56. For example, Petitioner alleges the combination “would have improved the device’s control over the digital camera and allowed a mobile device user to clear

additional memory on the camera if necessary to store new images and thumbnails.” *Id.* at 55 (citing Ex. 1003 ¶ 212). That there are differences among the references, without more, does not persuade us that motivation is missing.

Patent Owner argues a person of ordinary skill “would understand that digital cameras have the ability to delete images, and thus there would be no motivation to offload that functionality onto the mobile phones of Hiroishi or Takahashi.” PO Resp. 49–50 (citing Ex. 2009 ¶ 143). Patent Owner’s argument is not persuasive because both the ’698 patent and Hiroishi relate to pairing a mobile phone with a digital camera. *See also* Reply 25–26 (arguing the deletion functionality improves the combination). We agree with Petitioner that “Hiroishi further teaches control of the digital camera via a software application on the mobile device” and Ando “furthers” the functions already present by “allow[ing] a mobile device to delete both image data and associated thumbnail files on a digital camera.” Pet. 55 (citing Ex. 1005 ¶ 43); *see also PAR Pharm., Inc. v. TWI Pharm., Inc.*, 773 F.3d 1186, 1197–1198 (Fed. Cir. 2014) (It is not required that “the motivation be the *best* option, only that it be a *suitable* option from which the prior art did not teach away.”) (citations omitted). Patent Owner’s argument that Hiroishi already discloses deleting photos from the camera does not address Petitioner’s contentions as to deleting of thumbnail data, as taught by Ando. *See* PO Resp. 49; Pet. 55 (citing Ex. 1015 ¶ 43). Indeed, Petitioner acknowledges that “Hiroishi already teaches deleting image data in the digital camera.” Pet. 55.

For the reasons discussed above, Petitioner has shown by a preponderance of the evidence that claims 21 and 22 would have been obvious over Hiroishi, Takahashi, and Ando.

*F. Obviousness of Claims 1–22 over Hiroishi,
Takahashi, and Nozaki (Ground 3)*

Petitioner alleges the subject matter of claims 1–22 would have been obvious over Hiroishi, Takahashi, and Nozaki. Pet. 56–58. The Petition is supported by the Madisetti Declaration. Ex. 1003 ¶¶ 221–222.

1. Nozaki (Ex. 1011)

Nozaki teaches a digital camera wirelessly connected to a cellular phone via Bluetooth so that the camera can wirelessly transmit images to the phone. Ex. 1011, Abstract. After the image has been transmitted to the phone, the user can delete the original image corresponding to the image that was transmitted from the camera by pressing the key corresponding to a “delete icon” on the LCD display of the phone. *Id.* ¶ 28. “[T]he mobile phone 200 transmits the signal for instructing the deletion of the image data file and . . . the electronic still camera 100 deletes the image data” *Id.* ¶ 31; *see also id.* ¶¶ 44, 62–64, Figs. 4–5, 8, 13 (showing user interface and steps for deletion).

2. Analysis

For claims 1–20, Petitioner relies on its showing in connection with the challenge based on Hiroishi and Takahashi. Pet. 56. In the instant ground, Petitioner adds Nozaki to the combination of Hiroishi and Takahashi to “teach the limitations directed to a GUI of the phone for deleting the new image files and associated files,” including claims 21 and 22. *Id.* Petitioner argues “it would have been obvious to a [person of ordinary skill in the art] at the time of the invention to modify the combination to include[] these features based on the teachings of Nozaki.” *Id.* at 56–57 (citing Ex. 1011, Abstract, ¶¶ 13, 28, 31, 44, 62–64, Figs. 4–5, 8, 13; Ex. 1003 ¶¶ 214–220).

Petitioner argues a person of ordinary skill would have combined Hiroishi, Takahashi, and Nozaki, in part, because “the GUI and deletion functionality

disclosed in Nozaki would be implemented in the cellular phone and digital camera of Hiroishi, thus allowing the user of the phone to delete not only image files but also associated files stored in non-volatile memory of the camera by using the GUI and mobile application on his/her phone, as recited in claims 21 and 22.” Pet. 57 (citing Ex. 1003 ¶¶ 216–217); *see also* Section III.D.3.f above (motivation for combining Hiroishi and Takahashi). In support of its proposed combination, Petitioner argues the references are analogous to the claimed invention; Hiroishi already teaches, and thus suggests, the desirability of deleting images from the digital camera and using software on a mobile phone to control the camera; and the combination is simple and a person of ordinary skill would have had a reasonable expectation of success. *Id.* at 57–58 (citing 1005, Abstract, ¶¶ 43, 66; Ex. 1011, Abstract, ¶¶ 5, 31; Ex. 1003 ¶¶ 216–220).

Patent Owner agrees that Petitioner “adds Nozaki to the combination of Hiroishi and Takahashi to ‘teach the limitations directed to a GUI of the phone for deleting the new image files and associated files.’” PO Resp. 50 (citing Pet. 56–58 (citing Ex. 1003 ¶¶ 221–222)). Patent Owner argues a person of ordinary skill “would not combine Nozaki with Hiroshi **because there is no motivation to delete photos on the Hiroishi camera using the phone, *because in Hiroishi the photos are deleted from the camera once they are transmitted to the phone.***” *Id.* (citing Ex. 2009 ¶ 149 (citing Ex. 1005 ¶¶ 106–117, 120)); *see also* Sur-Reply 20–21 (making the same argument). Patent Owner contends there is no motivation to make the combination because a person of ordinary skill would understand “digital cameras have the ability to delete images, and thus there would be no motivation to offload that functionality onto the mobile phones of Hiroishi or Takahashi.” *Id.* (citing Ex. 2009 ¶149).

For reasons already detailed above, we disagree that a person of ordinary skill would not have been motivated to combine Takahashi with Hiroishi. *See*

Section III.D.3.f above. Nozaki is analogous because it, like Hiroishi, teaches an electronic still camera and a mobile phone connected by “wireless communication, such as Bluetooth (trademark), or the like.” Ex. 1011, Abstract.

We are persuaded Petitioner has set forth sufficient reasoning to combine the references, including that combining them in the manner asserted would have improved the device. *See* Pet. 58. Specifically, Nozaki discloses functions that are desirable in the context of digital images and are suggested in Hiroishi: deletion of selected images and control of the digital camera via a software application on the mobile device. Ex. 1005 ¶¶ 43 (mobile phone remotely controls digital camera), 84 (digital image data is deleted); Ex. 1011 ¶ 31 (mobile phone deletes image data from camera). In addition, as Petitioner alleges, adding Nozaki’s functionality for deleting image data and associated files on a digital camera “would have improved the device’s control over the digital camera and allowed a user to clear memory on the camera if necessary to store new images.” *Id.* at 58 (citing Ex. 1003 ¶ 219).

As already explained above, we agree with Petitioner that it would have been desirable to control the digital camera with the mobile phone to delete images and associated data from the digital camera. *See* Pet. 57–58. Accordingly, Patent Owner’s argument that Hiroishi deletes the photos from the camera once they are transmitted to the phone is not persuasive. *See* PO Resp. 50 (citing Ex. 1005 ¶¶ 106, 117, 120).

For the reasons discussed above, Petitioner has shown by a preponderance of the evidence that claims 1–22 would have been obvious over Hiroishi, Takahashi, and Nozaki.

*G. Obviousness of Claims 21 and 22 over
Hiroishi, Takahashi, Nozaki, and Ando (Ground 4)*

Petitioner alleges the subject matter of claims 21 and 22 would have been obvious over Hiroishi, Takahashi, Nozaki, and Ando. Pet. 59–60. The Petition is supported by the Madisetti Declaration. Ex. 1003 ¶¶ 214–220.

This challenge is a synthesis of the above references relied on by Petitioner for its challenges analyzed in Sections III.D. E and F, namely Hiroishi, Takahashi, Nozaki, and Ando. See Pet. 59–60. As explained above, we determine that Petitioner has shown that claims 21 and 22 are unpatentable as obvious over Hiroishi, Takahashi, and Ando and also over Hiroishi, Takahashi, and Nozaki. See Sections III.E and III.F above. For the same reasons we determine that Hiroishi, Takahashi, Ando, and Nozaki teach or suggest each limitation of claims 21 and 22. Pet. 59–60. Petitioner’s arguments regarding motivation for the combination are the same as those made in connection with the other grounds. *Id.* (citing Ex. 1003 ¶¶ 221–222).

Patent Owner argues the claims are patentable for the reasons argued in connection with the challenge to claims 21 and 22 based on Ando. PO Resp. 50. We find those arguments are not persuasive. See Sections III.E and III.F above. Patent Owner does not make any new arguments for our consideration.

For the reasons discussed above, Petitioner has shown by a preponderance of the evidence that the subject matter of claims 21 and 22 would have been obvious over Hiroishi, Takahashi, Nozaki, and Ando.

*H. Obviousness of Claims 1, 3–5, 7, 8, 10–13, and 15–20 over
Hollstrom and Takahashi (Ground 5)*

Petitioner alleges the subject matter of claims 1, 3–5, 7, 8, 10–13, and 15–20²⁷ would have been obvious over Hollstrom and Takahashi. Pet. 60–79. The Petition is supported by the Madisetti Declaration. Ex. 1003 ¶¶ 223–298.

1. Hollstrom (Ex. 1013)

Hollstrom teaches a mobile device and associated application software that allows for remote control of wirelessly connected devices, such as a digital camera. Ex. 1013, Abstract. The application allows a user of the mobile device to perform certain camera functions remotely, such as capturing, viewing, modifying, and deleting images. *Id.* at 6:1–13, 6:29–46.

Figures 2 and 3 are reproduced below.

²⁷ Petitioner introduces its argument by stating “[t]he combined teachings of Hollstrom and Takahashi render obvious claims 1–22 of the ’698 Patent.” Pet. 60. However, there is no showing made with respect to claims other than 1, 3–5, 7, 8, 10–13, and 15–20. Petitioner elsewhere (e.g., Pet. 5, 60) states this ground as challenging only claims 1, 3–5, 7, 8, 10–13, and 15–20. We ignore the introduction and proceed on the showing made.

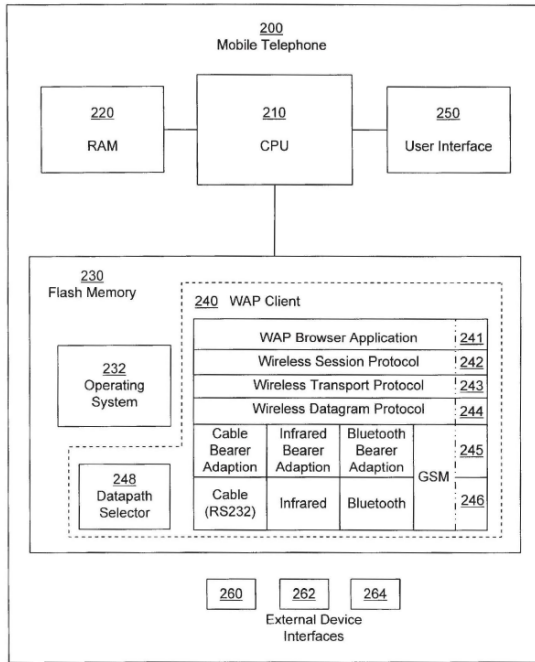


Fig 2

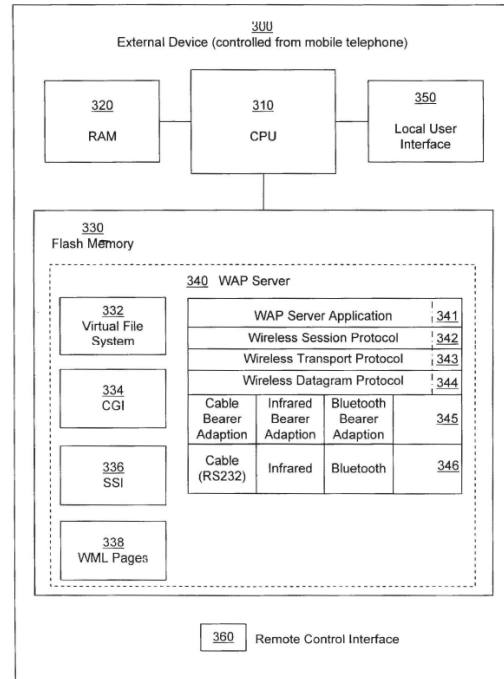


Fig 3

Figures 2 and 3, respectively, illustrate the structure of the mobile device and the digital camera. Ex. 1013, 2:54–57, 4:36–39. As depicted in the Figures, Hollstrom discloses that the mobile phone includes a “user interface formed by the display 13 and keypad 14a–b,” which are shown in Figure 1 of Hollstrom. *Id.* at 3:49–52. Hollstrom further discloses that the mobile phone includes WAP client 240, including a WAP browser application, “which when executed by the controller 210 will form a graphical user interface on the display 13.” *Id.* at 3:54–57, 3:63–4:3.

Hollstrom teaches that the mobile telephone and the digital camera can be connected via a Bluetooth interface. *Id.* at 5:58–67. After receiving new image files from the digital camera, the mobile device is configured to upload the files to a designated publishing website. *Id.* at 6:1–28.

2. Independent Claims 1, 5, 8, and 13

Petitioner relies principally on its showing regarding claim 1 for claims 5, 8, and 13, referencing the showing made for like limitations. For example, for

limitation 5(c), the support for limitation 1(c) is cited as support. Pet. 67 (citing Pet. 61–62 (Petition Section IX.E.1.c)). The showing for claims 8 and 13 also relies on the arguments and evidence supporting claim 1. Pet. 69–73 (claim 8), 74–76 (claim 13). Likewise, Patent Owner’s argument does not differentiate between the independent claims. *See* PO Resp. 51–52. Patent Owner specifically identifies only limitation 1(i). *Id.* at 52. We proceed with claim 1 as illustrative of the independent claims.

Patent Owner disputes that Petitioner has persuasively shown limitation 1(c), specifically “paired connection” and “cryptographically authenticating.” PO Resp. 51. Patent Owner also disputes the showings made for limitation 1(i). *Id.* at 52. Patent Owner disputes that Petitioner has shown a motivation for combining the teachings of Hollstrom and Takahashi. *Id.* at 52.

Patent Owner’s arguments regarding limitation 1(i), Takahashi as teaching HTTP, were addressed in Section III.D.4.c above. The remaining independent claim arguments are analyzed below.

a. “paired wireless connection” (Limitation 1(c))

Petitioner asserts that Hollstrom teaches establishing a short-range wireless connection between a digital camera and cellular phone via Bluetooth and that the “connection is paired because it allows two-way communication between the camera and phone.” Pet. 61 (citing Ex 1003 ¶¶ 228–230; Ex. 1013, 6:1–13; 6:29–39). We construe “paired wireless connection” in Section III.A.1 above as “a wireless connection between two devices that mutually agree to communicate with each other.”

Patent Owner argues that pairing is optional in Bluetooth and that a person of ordinary skill in the art “understands that all two-way Bluetooth communications are not paired.” PO Resp. 51 (citing Ex. 2009 ¶ 52). Patent

Owner argues that Hollstrom’s teaching of a two-way communication link “does not equate with the devices being *paired*.” *Id.* (citing Ex. 2009 ¶ 52).

For reasons addressed in connection with the Hiroishi and Takahashi ground in Section III.D.3.a. above, we are not persuaded by Patent Owner’s arguments that because pairing is optional in Bluetooth, Hollstrom does not teach the claimed paired connection. As explained above in Section III.A.1, “paired wireless connection” is not limited in the manner proposed by Patent Owner (e.g., to require encrypted data exchange or disconnecting and reconnecting without having to repeat pairing or authentication). We agree with Petitioner that Hollstrom teaches a “connection is paired because it allows two-way communication between the camera and phone.” *See* Pet. 61 (citing Ex 1003 ¶¶ 228–230; Ex. 1013, 6:1–13; 6:29–39).

Hollstrom also teaches connection of mobile telephone 1 and digital camera 50 through a serial cable. Ex. 1013, 5:58–67. Hollstrom explains that “[o]bviously, the camera could equally well have been connected via an infrared or Bluetooth interface.” *Id.* Once there is a connection between the camera and phone, the phone may be used to control the camera. *See* Pet. 61 (citing Ex 1003 ¶¶ 228–230; Ex. 1013, 6:1–13 (“The start page [of the mobile phone] contains a plurality of controls, representing different functions of the digital camera 50.”)). Because the mobile phone and digital camera are connected by the user to establish communication between the two devices, we find that the digital camera and cellular phone mutually agree to communicate with each other.

For the reasons discussed above, Petitioner has persuasively shown that Hollstrom’s disclosure of connecting a phone and a camera meets the “paired wireless connection” element of limitation 1(c).

b. “cryptographically authenticating” (Limitation 1(c))

Petitioner does not rely on Hollstrom to teach “cryptographically authenticates the identity of the phone” but contends a person of ordinary skill would have found it obvious to include the functionality. Pet. 61 (citing Ex. 1003 ¶¶ 229–230).

Petitioner cites evidence that “[c]ryptographic authentication between wireless devices like a digital camera and cellular phone was routine at the time of the invention.” Pet. 61 (citing Ex. 1017, 91–92; Ex. 1019 ¶ 55; Ex. 1020 ¶ 19; Ex. 1003 ¶¶ 229–230). Petitioner alleges that a person of ordinary skill would have been motivated to include cryptographic authentication with short-range wireless communication, inter alia, to “ensure[] the secure transmission of image files and related data between the two devices.” *Id.* (citing Ex. 1003 ¶¶ 229–230, 44–47). Further, Petitioner cites to Hollstrom’s teaching of Bluetooth as a data transmission mechanism and argues there would have been no unexpected results from adding cryptographic authentication to Hollstrom’s system. *Id.* at 60–61 (citing Ex. 1013, 5:39–43).

Patent Owner argues that because (i) none of the references cited by Dr. Madsetti disclose a camera cryptographically authenticating a cellular phone, and (ii) the Bluetooth specification does not require cryptographic authentication between a digital camera and a cellular phone in order to exchange images, Petitioner has not shown that cryptographic authentication was routine. PO Resp. 51–52. Petitioner acknowledges that cryptographic authentication is not expressly taught by Hollstrom. Pet. 61. As stated above, Petitioner’s argument is that cryptographic authentication would have been obvious to a person of ordinary skill. *Id.* (citing Ex. 1003 ¶¶ 229–230). The evidence shows that cryptographic authentication was known in the prior art, as evidenced by its disclosure in Bluetooth specifications. *See id.* (citing Ex. 1017, 91–92 (“The algorithms for

authentication and encryption are part of the baseband portion of the Bluetooth specification.”); Ex. 1019²⁸ ¶ 55 (“using a Bluetooth communication protocol”); Ex. 1020²⁹ ¶ 19 (“For security, link encryption for either Bluetooth or 802.11 transmissions is done”). Indeed, Patent Owner acknowledges that cryptographic authentication between devices communicating via Bluetooth was known. PO Resp. 37 (“[T]he Bluetooth standard does support authentication and encryption as *optional features* in the core specification.”).

Patent Owner argues that “Hollstrom is based on WAP-based communication between the two devices.” PO Resp. 52 (citing Ex. 1003 ¶ 230). Further, Patent Owner contends “Dr. Madisetti does **not** appear to assert that it would have been obvious for a POSITA to use cryptographic authentication for Hollstrom WAP-based communications.” *Id.* (citing Ex. 1003 ¶ 230). Petitioner, however, relies on Hollstrom’s express disclosure of connecting the phone and the camera via Bluetooth. *See* Pet. 60–61; Ex. 1013, 5:64–67 (“Obviously, the camera could equally well have been connected via an infrared or Bluetooth interface.”).

To the extent Patent Owner argues options and requirements, or lack thereof, in the Bluetooth specification, the Bluetooth specification “is prior art for all that it teaches.” *See Beckman Instruments*, 892 F.2d at 1551. We find that that the Bluetooth specification teaches cryptographic authentication. *See* Pet. 61 (citing Ex. 1018, 148 (Bluetooth includes “authentication and encryption routines”). As discussed above, the Madisetti Declaration testimony is based on the Bluetooth specification and what is taught by Hollstrom and we give it weight. *See* Ex. 1003 ¶ 230.

²⁸ Margalit, US 2002/0141586 A1, Oct. 3, 2002.

²⁹ Montulli, US 2006/0189349 A1, Aug. 24, 2006.

For the reasons discussed above, Petitioner has persuasively shown that a person of ordinary skill would have included “cryptographic authentication” with Hollstrom to teach element of limitation 1(c) and the corresponding limitations for claims 5, 8, and 13.

c. Undisputed Limitations

With respect to the remaining undisputed limitations 1(a), 1(b), 1(d), 1(e), 1(f), 1(g), 1(h), 1(i), and 1(j), we agree with Petitioner’s arguments and supporting evidence in the Petition. Pet. 60, 62–66. The Petition’s showing regarding these limitations is supported by the Madisetti Declaration. Ex. 1003 ¶¶ 224–227, 231–243. Accordingly, based on Petitioner’s showing, we find that Hollstrom as understood by a person of ordinary skill teaches all the undisputed limitations, except for limitation 1(i). See Ex. 1013, 5:58–6:13, Fig. 1 (limitation 1(a)); Ex. 1013, 4:36–47, 3:21–24, 3:45–48, 5:64–67, Figs. 2, 3 (limitation 1(b)); Ex. 1013, 5:30–42, 6:29–38, Fig. 3 (limitation 1(d)); Ex. 1013, 5:58–67 (limitation 1(e)); Ex. 1003 ¶ 234 (limitation 1(f)); Ex. 1013, 5:58–67, 6:8–13; Ex. 1003 ¶ 235 (limitation 1(g)); Ex. 1013, 5:58–67, 6:18–24, Fig. 2; Ex. 1003 ¶¶ 38–41, 236–238; Ex. 1026, 3:7–25; Ex. 1024, 67 (limitation 1(h)); Ex. 1013, Abs., Figs. 1–3, 3:49–4:3, 6:29–44; Ex. 1003 ¶¶ 242–243 (limitation 1(j)). The combination of Hollstrom and Takahashi is the basis for our finding on limitation 1(i). Ex. 1013, 6:18–24; Pet. 32 (citing Ex. 1008 ¶¶ 37, 52, 62–63, 66, 121–122)); Ex. 1003 ¶¶ 239–241.

For the reasons discussed above, Petitioner has persuasively shown the undisputed limitations of claim 1.

d. Motivation to Combine Hollstrom and Takahashi

Petitioner argues that a person of ordinary skill in the art would have been motivated to combine the teachings of Hollstrom and Takahashi for reasons similar to those provided for the combination of Hiroishi and Takahashi. Pet. 77–79. For example, Petitioner argues that “[t]he teachings of Takahashi would have provided

straightforward benefit to the user of the mobile device in Hollstrom: predictable upload of image files using an existing HTTP connection between the mobile device and a publishing server.” Pet. 78 (citing Ex. 1003 ¶ 297). Patent Owner argues that “Takahashi does not teach using HTTP to upload the received new-media file along with user information to a user media publishing website.” PO Resp. 52 (citing Ex. 2009 ¶ 156). Patent Owner argues a security minded person of ordinary skill “would be concerned about combining Hollstrom with Takahashi, because Takahashi is teaching away from using password protection” and the solution would be less secure. *Id.* Patent Owner’s argument adds nothing to its prior argument and we agree with the reasons for the combination articulated by Petitioner. *See* Pet. 77–79.

For the reasons discussed above, we find Petitioner has persuasively shown that a person of ordinary skill in the art would have had reason to combine the teachings of Hollstrom and Takahashi.

e. Dependent Claims 3–4, 7, 10–12, and 15–20

We have reviewed Petitioner’s showing regarding dependent claims 3–4, 7, 10–12, and 15–20. *See* Pet. 66 (claims 3–4), 69 (claim 7), 73–74 (claims 10–12), 76–77 (15–20); Ex. 1003 ¶¶ 244–245 (claims 3–4), 260 (claim 7), 278–279 (claims 10–12), 291–293 (claims 15–20). Patent Owner does not separately argue patentability of any dependent claim.

We find Petitioner has persuasively shown that Hollstrom and Takahashi would have rendered the subject matter of claims 3–4, 7, 10–12, and 15–20 obvious.

3. Summary (Ground 5)

For the reasons discussed above, Petitioner has shown by a preponderance of the evidence that claims 1, 3–5, 7–8, 10–13, and 15–20 would have been obvious over Hollstrom and Takahashi.

I. Obviousness of Claims 2, 6, 9, 14, 21, and 22 over Hollstrom, Takahashi, and Ando (Ground 6)

Petitioner alleges the subject matter of claims 2, 6, 9, 14, 21, and 22 would have been obvious over Hollstrom, Takahashi, and Ando. Pet. 79–81. The Petition is supported by the Madisetti Declaration. Ex. 1003 ¶¶ 299–306.

Patent Owner argues the claims are not unpatentable for the reasons already stated in connection with the challenge based on Hollstrom and Takahashi. PO Resp. 52. Patent Owner also repeats its argument made regarding whether or not Ando teaches a GUI. *Id.* Patent Owner’s argument adds nothing to its prior argument and is not persuasive for the same reasons previously discussed in connection with the challenge based on Hollstrom and Takahashi. *See* Section III.H above. As noted above in our discussion of undisputed limitations, we are persuaded Hollstrom teaches a GUI, and, therefore, we need not rely on Ando to teach a GUI. *See* Ex. 1013, 3:63–4:3 (disclosing that “a WAP browser application is provided, which when executed by the controller 210 will form a graphical user interface on the display 13”).

Petitioner has shown by a preponderance of the evidence that claims 2, 6, 9, 14, 21, and 22 would have been obvious over Hollstrom, Takahashi, and Ando.

J. Patent Owner’s Remaining Arguments

Patent Owner challenges the constitutionality of this proceeding on numerous grounds. PO Resp. 53–55; Paper 26 (“Patent Owner’s Objections to this Proceeding for Violating the Appointments Clause of the U.S. Constitution”). We decline to consider Patent Owner’s constitutional challenges as they have been addressed by the Federal Circuit in *Celgene Corp. v. Peter*, 931 F.3d 1342, 1357–63 (Fed. Cir. 2019) and *Arthrex, Inc. v. Smith & Nephew, Inc.*, 941 F.3d 1320 (Fed. Cir. 2019).

K. Motions to Strike

Per our authorization, both parties filed motions to strike. *See* Order.

1. Petitioner’s Motion to Strike

Petitioner’s Motion seeks to strike Exhibits 2026–2033³⁰ submitted with Patent Owner’s Sur-Reply and arguments in the Sur-Reply based on the exhibits. Pet. Mot. 1. Petitioner also argues the Sur-Reply proposes “impermissibly narrow claim construction positions based on extrinsic testimony from its expert, Dr. Michael Foley,” including the construction of “paired wireless connection.” *Id.* (citing PO Resp. 12–23). Petitioner contends the “Board’s Consolidated Trial Practice Guide (‘Guide’) expressly prohibits this type of belated reliance on new evidence and arguments in a sur-reply.” *Id.* at 3–6 (citing Guide, 73).

Petitioner also argues the new evidence and argument submitted with the Sur-reply is prejudicial because Petitioner does not have an opportunity to respond. Pet. Mot. 6–8. Petitioner alleges its due process rights are violated. *Id.* at 8–10. Last, Petitioner argues there is no evidence that the new evidence and arguments could not have been timely submitted with Patent Owner’s Response. *Id.* at 10–13.

Patent Owner’s arguments regarding the construction of “paired wireless connection” were part of its Response. PO Resp. 13–17, 23. Those arguments were timely made. To the extent the Foley Sur-reply Declaration (Ex. 2026) is relied on to support the proposed construction and in response to Petitioner’s Reply, it is properly part of a Sur-reply evidence and argument. Guide, 74 (“Generally, a reply or sur-reply may only respond to arguments raised in the preceding brief.”). To the extent the Foley Sur-reply Declaration is relied on to support other arguments, Petitioner does not identify those portions that we should

³⁰ As Petitioner notes, Exhibits 2024 and 2025 have never been filed. Pet. Mot. 1, n.2.

not consider. We are not tasked with going through the record to identify what is and what is not proper. Guide, 74 (“The Board is not required to attempt to sort proper from improper portions of the reply or sur-reply.”). Because some of it is proper for a Sur-reply and Petitioner has not stated what the improper portions are, we decline to strike the Foley Sur-reply Declaration in its entirety. The Motion is denied as to Exhibit 2026.

Exhibits 2027–2028, 2031, and 2033 are all argued, at least in part, in response to Petitioner’s claim construction arguments. *See* Sur-reply 3 (citing Exs. 2027, 2028, 2033), 8 (citing Ex. 2031). Petitioner’s Motion describes these exhibits but does not address why they are not a proper response to the claim construction issue so central to this case. *See* Pet. Mot. 3–5. As previously noted, we need not sort the proper from the improper. The Motion is denied as to Exhibits 2027–2028, 2031, and 2033.

Exhibit 2029 is argued as a part of Patent Owner’s argument that claims 5 and 8 are patentable because Petitioner has not shown “a mobile software application” performing the multiple functions of the claims. Sur-reply 20. Petitioner does not specifically address why this argument and supporting evidence is improper. *See* Guide, 74. The Motion is denied as to Exhibit 2029.

Exhibits 2030 and 2032 are not argued as part of the Sur-reply. Exhibit 2032, but not Exhibit 2030, is argued as supporting the Foley Sur-reply Declaration. *See* Ex. 2026 ¶ 34. Because there is no argument relying on Exhibit 2030 or explanation of its relevance, Petitioner’s Motion is denied as moot with respect to Exhibits and Exhibit 2032.

2. Patent Owner’s Motion to Strike/Objections

Patent Owner’s Motion seeks to strike alleged new arguments in the Reply and Exhibits 1036–1040 and 1043–1045 submitted with the Reply. PO Mot. 1, 15. Patent Owner also filed “Objections to Petitioner’s Reply and to Evidence

Submitted With Petitioners' Reply" ("Objections"). Paper 25. Patent Owner did not file a separate motion to exclude, instead incorporating its Objections in its Motion by alternatively moving to exclude. *See* PO Mot. 1 (Title). We therefore limit our analysis to the Motion.

Patent Owner's Motion lists the following as Petitioner's allegedly new arguments:

- a. "paired wireless connection" would have been obvious in view of Bluetooth (PO Mot. 4–8);
- b. "paired wireless connection" construction requires an "association" instead of "merely requiring two-way communications" (PO Mot. 8–9);
- c. "cryptographic authenticating" would have been obvious using Bluetooth standard or other new exhibits (PO Mot. 9–11);
- d. to establish a connection person of ordinary skill would necessarily use or "have to use" cryptographic authentication" (PO Mot. 11–12);
- e. "cryptographic authentication" is a "mandatory" feature under Security Mode 3 (PO Mot. 12);
- f. GUI argument is new (PO Mot. 12–13);
- g. rationale for combining references (PO Mot. 13–15); and
- h. Takahashi argument that "if" file has a new name is a new obviousness theory (PO Mot. 15).

Petitioner argues the Motion is untimely. Pet. Opp. 2–3. This argument is moot as a result of our Order. *See* Paper 36. Petitioner argues generally that its alleged new arguments in the Reply are proper responses to arguments Patent Owner first raised in its Response. Pet. Mot. 4–6.

We do not rely on Petitioner's arguments regarding Patent Owner's construction of "paired wireless communication." Therefore, we need not decide whether or not the arguments are new. We therefore deny the Motion as to arguments "a." and "b." above as moot.

Our Decision does not rely on any of Petitioner's Reply arguments regarding "cryptographically authenticating" alleged as improper at "c." above. *See* Section III.D.3.b above. The Petition alleges "cryptographically authenticating the identity of the cellular phone" would have been obvious to a person of ordinary skill. *See* Pet. 24. Neither do we rely on "cryptographically authenticating" being necessary, which is alleged as improper in "d." Regarding "e.," Security Mode 3 was made relevant in the Response, and therefore properly subject to response in the Reply. Patent Owner argued the capabilities of various versions of Bluetooth. PO Resp. 34–35. We therefore deny the Motion as to arguments "c., d., and e." above as moot.

Regarding "f.," Patent Owner's Response adopted a narrow construction of GUI, which we declined to adopt. *See* Section III.A.4 above. Petitioner's Reply is directed to responding to Patent Owner's proposed construction of GUI. *See* Pet. Opp. 12 (citing Reply 8, 21, 23). We therefore deny the Motion as to argument "f." above as moot.

Regarding "g.," our Decision relies on the showing made in the Petition as to why there would have been a motivation for a person of ordinary skill to combine Ando and Nozaki's image deletion functionality with Hiroishi and/or Hollstrom. *See* Section III.D.3.e, III.F.2, III.G above. We did not rely on the alleged new theory that "substitution of Hiroishi's deletion mechanism for that of Nozaki or Ando" was either simple or predictable. *See* PO Mot. 13–14 (citing Reply 25–26). The Motion as to argument "g." is denied as moot.

As to argument “h.,” Petitioner argues the Reply is proper because the “Patent Owner Response argued that Takahashi generates a different media file when it adds the user ID to the filename, and thus would not meet the claim requirements if combined with Hiroishi and Hollstrom.” Pet. Opp. 13–14 (citing PO Resp. 41). In its Response, Patent Owner made an issue of the construction of “along with,” arguing “along with” means “in addition to.” *See* Section III.A.3 above. We agree with Petitioner that Takahashi’s teaching that the user ID is added to the filename discloses uploading user information meets Patent Owner’s proposed construction of “along with” as meaning “in addition to.” *See* Section III.D.3.c above (citing Reply 18). Petitioner’s arguments were a proper response to the new issue raised by Patent Owner. We therefore deny the Motion as to argument “h.” above.

Patent Owner’s Motion seeks to strike Exhibits 1036–1040 and 1043–1045 as supporting the improper arguments. PO Mot. 15. Above, we deny the Motion as to the alleged improper arguments as not relied on in the Decision. We therefore deny the Motion as to the supporting Exhibits 1036–1039 and 1043 as well. Exhibits 1040 and 1044–1045 were filed with the Reply but are not cited in the Reply or the Madisetti Reply Declaration and we deny the Motion as to those exhibits as moot.

Patent Owner also argues the exhibits should “alternatively” be excluded “under §42.23(b), the APA and/or due process.” PO Mot. 15. Patent Owner’s listing of possible reasons for exclusion without any legal or factual argument are insufficient basis to exclude the exhibits.

IV. CONCLUSION³¹

Petitioner has shown unpatentability by a preponderance of the evidence as to all of its challenges on all challenged claims.

V. ORDER

In consideration of the foregoing, it is hereby
ORDERED that,

³¹ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

In summary:

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not shown Unpatentable
1–20	103	Hiroishi, Takahashi	1–20	
21, 22	103	Hiroishi, Takahashi, Ando	21, 22	
1–22	103	Hiroishi, Takahashi, Nozaki	1–22	
21, 22	193	Hiroishi, Takahashi, Nozaki, Ando	21, 22	
1, 3–5, 7, 8, 10–13, 15–20	103	Hollstrom, Takahashi	1, 3–5, 7, 8, 10–13, 15–20	
2, 6, 9, 14, 21, 22	103	Hollstrom, Takahashi, Ando	2, 6, 9, 14, 21, 22	
Overall Outcome			1–22	

FURTHER ORDERED that

Petitioner’s Motion to Strike is *denied* as to arguments made in the Sur-reply and Exhibits 2026–2033; and

FURTHER ORDERED that

Patent Owner’s Motion to Strike is *denied* as to arguments made in the Reply *denied* as to Exhibits 1036–1040 and 1043–1045.

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For PETITIONER:

Jared Newton
QUINN EMANUEL URQUHART & SULLIVAN, LLP
jarednewton@quinnemanuel.com

David Xue
Karineh Khachatourian
RIMON LAW
david.xue@rimonlaw.com
karinehk@rimonlaw.com

For PATENT OWNER:

Rene Vazquez
GARTEISER HONEA, PLLC
rvazquez@sinergialaw.com

John Edmonds
Stephen Schlather
EDMONDS & SCHLATHER, PLLC
pto-edmonds@ip-lit.com
sschlather@ip-lit.com