

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Singh et al.
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App. Serial No.: 17/542,373
Filing Date: December 4, 2021
Title: AUTOMATIC MULTIMEDIA UPLOAD FOR
PUBLISHING DATA AND MULTIMEDIA CONTENT

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**PETITION FOR *INTER PARTES* REVIEW OF UNITED STATES PATENT
NO. 11,659,381 PURSUANT TO 35 U.S.C. §§ 311-319, 37 C.F.R. § 42**

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LIST OF EXHIBITS

- TTI-1001 U.S. Patent No. 8,904,030 (“the ’030 patent”)
- TTI-1002–1006 RESERVED
- TTI-1007 U.S. Patent No. 11,659,381 (“the ’381 patent”)
- TTI-1008 Excerpts from the Prosecution History of the ’381 patent
- TTI-1009 U.S. Patent App. Pub. No. 2009/0172129 to Singh et al.
 (“Singh129”)
- TTI-1010 U.S. Patent App. Pub. No. 2008/0103906 to Singh (“Singh906”)
- TTI-1011 Certified Translation of JP 2003-60953 (“Hiroishi”)
- TTI-1012 Certificate of Translation for Hiroishi
- TTI-1013 Original Japanese Publication of Hiroishi
- TTI-1014–1016 RESERVED
- TTI-1017 U.S. Patent App. Pub. No. 2004/0004737 to Kahn (“Kahn”)
- TTI-1018 U.S. Patent No. 8,385,950 to Wagner et al. (“Wagner”)
- TTI-1019 Bluetooth TM Core Specification 2.1 + EDR (“Bluetooth Core
 Specification”)
- TTI-1020 U.S. Patent No. 6,636,259 to Anderson et al. (“Anderson”)
- TTI-1021 U.S. Patent No. 7,639,943 to Kalajan (“Kalajan”)
- TTI-1022–1025 RESERVED
- TTI-1026 U.S. Patent Application No. 11/901,802 (“Singh906 Application”)
- TTI-1027 As-filed Patent Application for 17/542,373 (“the ’373 Application”)

- TTI-1028 RESERVED
- TTI-1029 U.S. Patent App. Pub. No.2002/0046249 to Shiigi (“Shiigi”)
- TTI-1030 Declaration of David B. Lett
- TTI-1031 Archived Webpage Bluetooth™ Core Specification v2.1 + EDR
(<https://web.archive.org/web/20071011031607/http://bluetooth.com/Bluetooth/Learn/Technology/Specifications/Default.htm>)
- TTI-1032 C. Bisdikian, "An overview of the Bluetooth wireless technology," in IEEE Communications Magazine, vol. 39, no. 12, pp. 86-94, Dec. 2001, doi: 10.1109/35.968817. (“The Bluetooth Overview”)
- TTI-1033 RESERVED
- TTI-1034 Memorandum, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (USPTO June 21, 2022) (“Interim Guidance”)
- TTI-1035 TikTok Stipulation letter regarding IPR grounds in District court litigation.
- TTI-1036 CellSpin Preliminary Infringement Contentions in *CellSpin Soft, Inc. v. ByteDance, Ltd. et al.*, Case No. 2:23-cv-496 (E.D. Tex.)

LISTING OF CLAIMS

Claim 1	
1.P	A system, comprising:
1.1	a mobile software application for a Bluetooth enabled cellular phone, wherein the mobile software application is embodied as executable program instructions that, when executed by a processor of the Bluetooth enabled cellular phone, configured to:
1.2	detect and receive new-data acquired in a Bluetooth enabled data capture device,
1.3.1	wherein the new-data is data acquired by the Bluetooth enabled data capture device after establishing a paired Bluetooth connection between the Bluetooth enabled data capture device and the Bluetooth enabled cellular phone,
1.3.2	wherein establishing the Bluetooth paired connection comprises the Bluetooth enabled data capture device cryptographically authenticating an identity of the Bluetooth enabled cellular phone,
1.4.1	wherein detecting and receiving new-data acquired in the Bluetooth enabled data capture device comprises: said mobile software application for the Bluetooth enabled cellular phone configured to listen for an event notification, sent from the Bluetooth enabled data capture device, over the established paired Bluetooth connection,
1.4.2	wherein the event notification corresponds to the acquired new-data and comprises sending a signal from the Bluetooth enabled data capture device to the Bluetooth enabled cellular phone; and
1.4.3	said mobile software application for the Bluetooth enabled cellular phone configured to receive, from the Bluetooth enabled data capture device, the event notification and the acquired new-data over the established paired Bluetooth connection;

1.5	store the received new-data in a memory of the Bluetooth enabled cellular phone;
1.6.1	use Hypertext Transfer Protocol to transfer the received new-data along with a user authentication credential to a remote server over a cellular data network,
1.6.2	wherein the mobile software application is further configured to use the Hypertext Transfer Protocol to send a user preference to the remote server over the cellular data network, and wherein the user preference comprises global positioning system information; and
1.7	display a mobile advertisement inside the mobile software application;
1.8	an online data publishing web service, the online data publishing web service comprising:
1.9	said remote server configured with a network internet connection to communicate with the mobile software application;
1.10	a user authentication software module, wherein the user authentication software module processes the user authentication credential received from the mobile software application;
1.11	a database, wherein the database stores a user profile; and
1.12	a mobile software application advertising software module, wherein the mobile software application advertising software module selects advertisements based on the user profile and sends the selected advertisements to the mobile software application;
1.13	said online data publishing web service configured to receive the new-data and the user authentication credential from the Bluetooth enabled cellular phone via the Hypertext Transfer Protocol; and
1.14	said online data publishing web service configured to process the received user authentication credential and the new-data.

Claim 2	
2.	The system of claim 1, wherein the user authentication credential is stored in the memory of the Bluetooth enabled cellular phone, and wherein the user authentication credential is used by the remote server to authenticate a user.
Claim 3	
3.	The system of claim 1, wherein the remote server is further configured to store the new-data.
Claim 4	
4.	The system of claim 1, wherein the mobile software application provides a touch based GUI for the received new-data.
Claim 5	
5.	The system of claim 1, wherein the mobile software application provides a touch based advertisement targeted to a user.
Claim 6	
6.	The system of claim 1, wherein the mobile advertisement is based on the user profile.
Claim 7	
7.P	A mobile software application for a Bluetooth enabled cellular phone, wherein the mobile software application is embodied as executable program instructions that, when executed by a processor of the Bluetooth enabled cellular phone, configured to:
7.1	detect and receive new-data acquired in a Bluetooth enabled data capture device
7.2.1	wherein the new-data is data acquired by the Bluetooth enabled data capture device after establishing a paired Bluetooth connection between

	the Bluetooth enabled data capture device and the Bluetooth enabled cellular phone,
7.2.2	wherein establishing the Bluetooth paired connection comprises the Bluetooth enabled data capture device cryptographically authenticating an identity of the Bluetooth enabled cellular phone,
7.3.1	wherein detecting and receiving new-data acquired in the Bluetooth enabled data capture device comprises: said mobile software application for the Bluetooth enabled cellular phone configured to listen for an event notification, sent from the Bluetooth enabled data capture device, over the established paired Bluetooth connection,
7.3.2	wherein the event notification corresponds to the acquired new-data and comprises sending a signal from the Bluetooth enabled data capture device to the Bluetooth enabled cellular phone; and
7.3.3	said mobile software application for the Bluetooth enabled cellular phone configured to receive, from the Bluetooth enabled data capture device, the event notification and the acquired new-data over the established paired Bluetooth connection;
7.4	store the received new-data in a memory of the Bluetooth enabled cellular phone;
7.5.1	use Hypertext Transfer Protocol to transfer the received new-data along with a user authentication credential to a remote server over a cellular data network
7.5.2	wherein the mobile software application is further configured to use the Hypertext Transfer Protocol to send a user preference to the remote server over the cellular data network, and wherein the user preference comprises global positioning system information
7.6	display a mobile advertisement inside the mobile software application.
Claim 8	
8.	The mobile software application of claim 7, wherein the user authentication credential is stored in the memory of the Bluetooth

	enabled cellular phone, and wherein the user authentication credential is used by the remote server to authenticate a user.
Claim 9	
9.	The mobile software application of claim 7, wherein the remote server is configured to store the new-data.
Claim 10	
10.	The mobile software application of claim 7, wherein the mobile software application provides a touch based GUI for the received new-data.
Claim 11	
11.	The mobile software application of claim 7, wherein the mobile software application provides a touch based advertisement targeted to a user.
Claim 12	
12.P	A mobile software application for a Bluetooth enabled cellular phone comprising executable program instructions that, when executed by the processor controls the processor to:
12.1	detect and receive new-data acquired in a Bluetooth enabled data capture device,
12.2.1	wherein the new-data is data acquired by the Bluetooth enabled data capture device after establishing a paired Bluetooth connection between the Bluetooth enabled data capture device and the Bluetooth enabled cellular phone,
12.2.2	wherein establishing the Bluetooth paired connection comprises the Bluetooth enabled data capture device cryptographically authenticating an identity of the Bluetooth enabled cellular phone,
12.3.1	wherein detecting and receiving new-data acquired in the Bluetooth enabled data capture device comprises: said mobile software application for the Bluetooth enabled cellular phone configured to

	receive, from the Bluetooth enabled data capture device, the acquired new-data over the established paired Bluetooth connection,
12.3.2	wherein polling comprises sending a request to the Bluetooth enabled data capture device to check if the acquired new-data is available for transfer; and
12.3.3	said mobile software application for the Bluetooth enabled cellular phone configured to receive, from the Bluetooth enabled data capture device, the acquired new-data over the established paired Bluetooth connection;
12.4	store the received new-data in a memory of the Bluetooth enabled cellular phone;
12.5.1	use Hypertext Transfer Protocol to transfer the received new-data along with a user authentication credential to a remote server over a cellular data network,
12.5.2	wherein the mobile software application is further configured to use the Hypertext Transfer Protocol to send a user preference to the remote server over the cellular data network, and wherein the user preference comprises global positioning system information; and
12.6	display a mobile advertisement inside the mobile software application.
Claim 13	
13.	The mobile software application of claim 12, wherein the user authentication credential is stored in the memory of the Bluetooth enabled cellular phone, and wherein the user authentication credential is used by the remote server to authenticate a user.
Claim 14	
14.	The mobile software application of claim 12, wherein the remote server is configured to store the new-data.

Claim 15	
15.	The mobile software application of claim 12, wherein the mobile software application provides a touch based GUI for the received new-data.
Claim 16	
16.	The mobile software application of claim 12, wherein the mobile software application provides a touch based advertisement targeted to a user.

TikTok Inc. (“Petitioner”) petitions for *Inter Partes* Review of claims 1-16 (“the Challenged Claims”) of U.S. Patent No. 11,659,381 (“the ’381 patent”). Notably, in IPR2019-00127 and IPR2019-00131, similar claims of related U.S. Patent No. 9,258,698 (“the ’698 patent”) were found unpatentable over the prior art, including the Hiroishi reference presented here. Although the Challenged Claims of the ’381 patent recite at least one additional limitation (*e.g.*, displaying a mobile advertisement inside a mobile software application and other obvious variants) the Challenged Claims are likewise not patentable.

I. REQUIREMENTS FOR IPR

A. Standing

Petitioner certifies that the ’381 patent is available for IPR and Petitioner is not barred from requesting IPR.

B. Challenge and Relief Requested

Petitioner requests IPR of the Challenged Claims on the grounds listed below. A declaration from David Lett (TTI-1030) supports this Petition.

Ground	Claims	Basis
1	1-16	§103: Hiroishi in view of Kahn and Bluetooth
2	1-16	§103: Singh129 in view of Singh906

No challenged claim can claim priority before the filing date of the application that issued as the ’381 patent because the priority documents fail to

disclose the claimed subject matter (as will be explained in Section V). Therefore, Singh129 and Singh906 each qualifies as prior art under AIA 35 U.S.C. § 102(a)(1). Each reference published more than 10 years before the filing of the application that issued as the '381 patent (December 4, 2021).

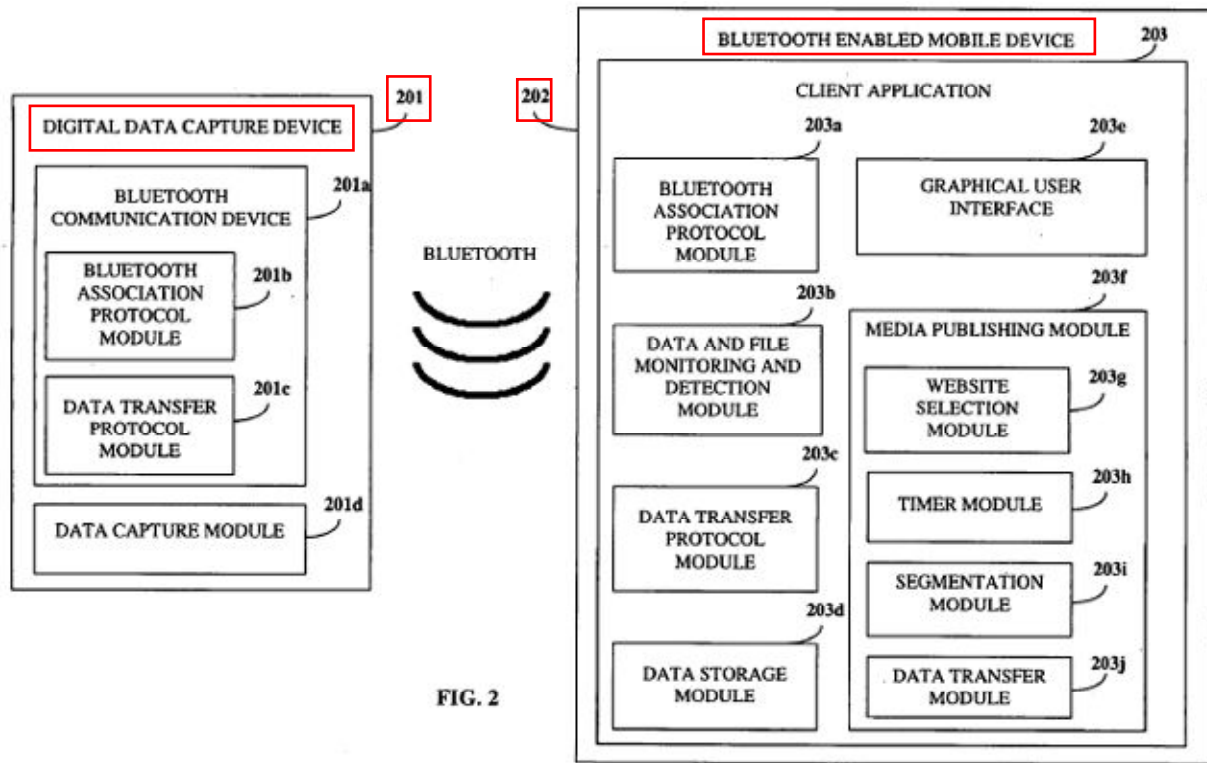
As shown below, each remaining reference pre-dates the '381 patent's earliest claimed priority date of December 28, 2007 (the alleged "Critical Date").

Reference	Publication Date	Prior Art At Least Under
Hiroishi	Feb. 28, 2003	Pre-AIA §102(b)
Kahn	Jan. 8, 2004	Pre-AIA §102(b)

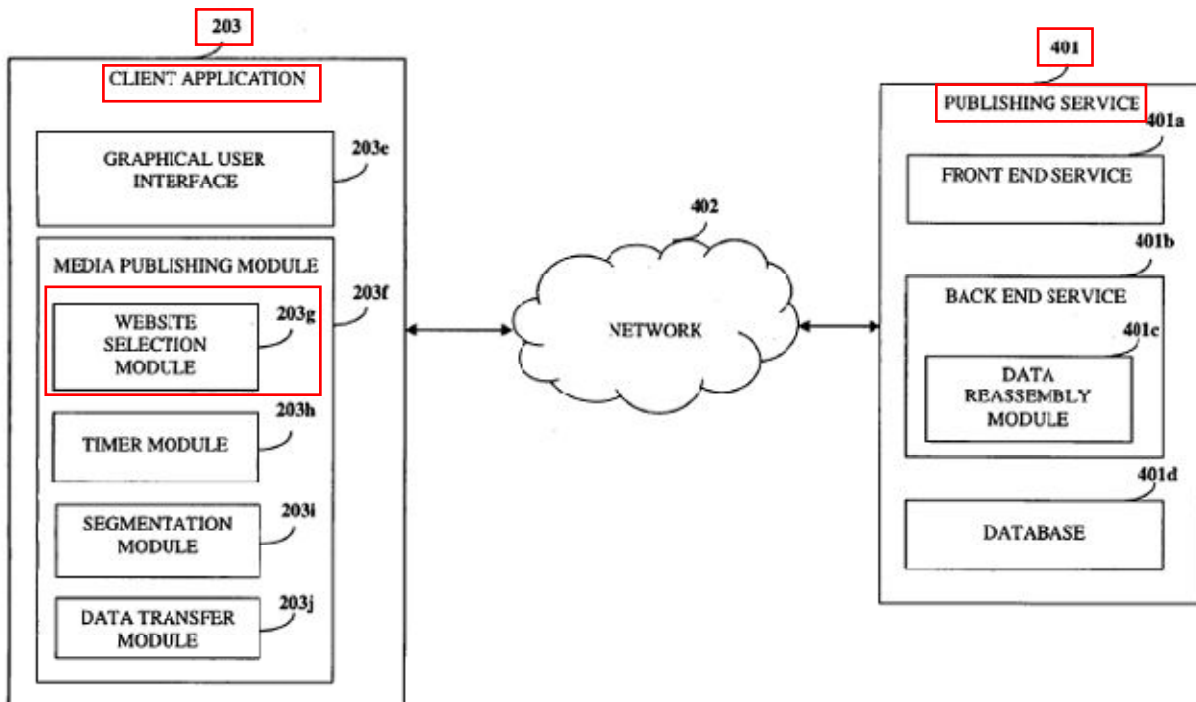
II. THE '381 PATENT

A. Brief Description

The '381 patent discloses "utilizing a digital capture device in conjunction with a Bluetooth (BT) enabled mobile device for publishing data and multimedia content on one or more websites automatically or with minimal user intervention." TTI-1007, Abstract. The '381 patent's system includes, among other things, digital data capture device 201, BT enabled mobile device 202, and publishing service 401. *Id.*, Figs. 2, 4.



Id., Fig. 2 (annotated).



Id., Fig. 4 (annotated).

As shown above, mobile device 202 includes client application 203, which “detects capture of data and multimedia content on the digital data capture device” and the “digital data capture device transfers the captured data, multimedia content, and the associated files to the client application.” *Id.*, Abstract. Then, the “client application automatically publishes the transferred data and multimedia content on one or more websites.” *Id.*

The ’381 patent has a section entitled “Cross Reference to Related Applications,” which provides the priority chain and further attempts to incorporate by reference U.S. Pat. App. 11/901,802, which published as Singh906. TTI-1007, 1:50-54. That application is not otherwise mentioned or discussed in the ’381 patent. The ’802 application discloses a different system—one that uses a client application 202 on a mobile device that generates multimedia content and sends that content to publishing service 204. TTI-1010, FIGs. 1-3, [0004]-[0006].

The ’802 application discloses a system with features missing from the ’381 patent, namely, the transfer of user credentials, the display of advertising, and the use of GPS. *Id.*, FIGs. 2-3, [0005], [0023].

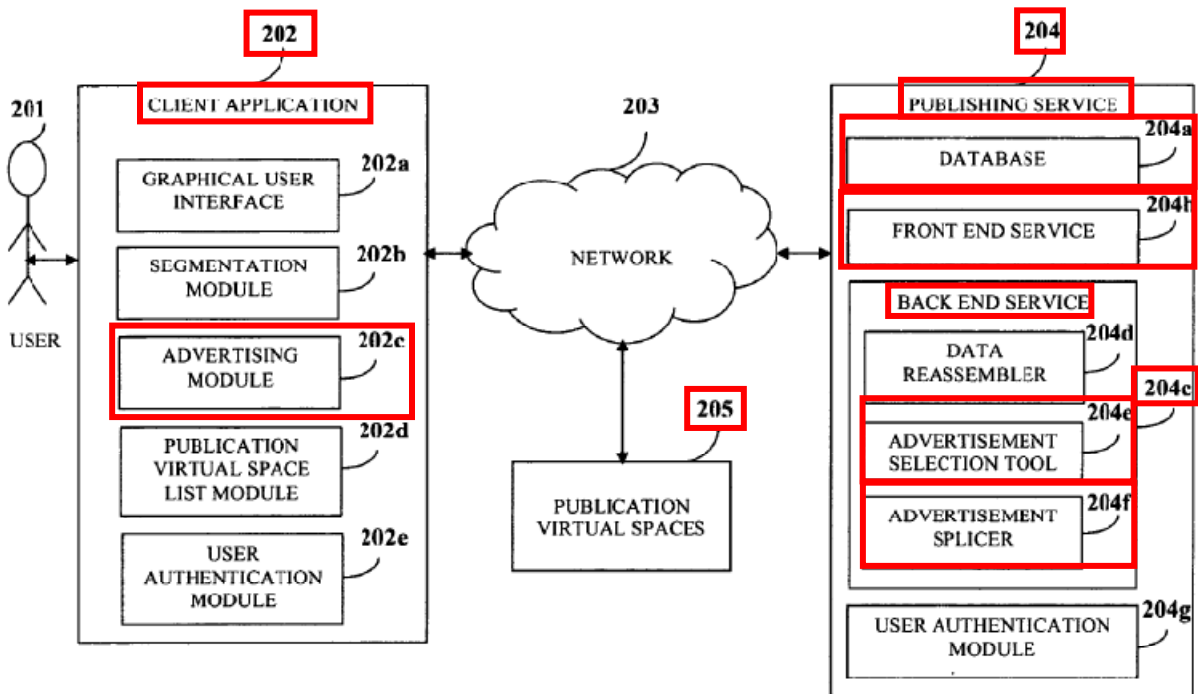


FIGURE 2

TTI-1010, FIG. 2 (annotated).

However, the '802 application does not discuss Bluetooth functionality or a camera sending data to a mobile phone over a wireless connection.

B. Prosecution History

U.S. Patent Application No. 17/542,373 was filed on December 4, 2021. The claims were first rejected for obviousness-type double patenting, which was overcome by a terminal disclaimer. TTI-1008, 35-77.

The claims were also rejected the claims under 35 U.S.C. §112 for failing to comply with the written description requirement because the specification does not disclose “display[ing] a mobile advertisement inside the mobile software application” and a “touch-based advertisement to a user.” *Id.*, 78-80. In response,

the Applicant pointed to Singh906 for support. *Id.*, 40-47. The examiner (erroneously) withdrew the rejections. *Id.*, 10.

The claims were further rejected as obvious in view of prior art. *Id.*, 80. The Applicant amended the claims to include “wherein the mobile software application is further configured to use the Hypertext Transfer Protocol to send a user preference to the remote server over the cellular data network, and wherein the user preference comprises global positioning system information.” *Id.*, 26.

III. LEVEL OF ORDINARY SKILL

A person of ordinary skill in the art (“POSITA”) at the time of the ’381 patent’s alleged Critical Date would have had at least a bachelor’s degree in electrical engineering, computer engineering, or computer science, and two years of experience in the field consumer electronics, with exposure to digital camera technology and wireless communications. TTI-1030, [94]-[95]. Superior education could compensate for a deficiency in work experience, and vice-versa. *Id.*

IV. CLAIM CONSTRUCTION

All claim terms should be construed according to the *Phillips* standard. *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005); 37 C.F.R. § 42.100. Based on the well-established principal that “claim terms need only be construed to the extent necessary to resolve the controversy,” no express constructions are required

to institute review and find the Challenged Claims unpatentable. *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011).

Nonetheless, Petitioner notes that, for purposes of determining whether to institute IPR2019-00127 regarding related U.S. Pat. No. 9,258,698, the Board “determine[d] that ‘cryptographically authenticating [the] identity of the cellular phone’ encompasses ‘authenticating the identity of the cellular phone using some form of security or encryption, including by use of a shared passkey on the digital camera device and the cellular phone.’” *Canon U.S.A., Inc. v. Cellspin Soft, Inc.*, IPR2019-00127, Paper 7, p. 11 (P.T.A.B. April 29, 2019); *but see id.* at Paper 51, pp. 17-18 (finding that no construction was required to address the patentability issues).

V. THE CHALLENGED CLAIMS ARE NOT ENTITLED TO CLAIM PRIORITY TO ANY EARLIER FILING DATE

The '381 patent claims priority, through a series of continuation applications, to a provisional application filed on December 28, 2007. TTI-1007, 1:8-49. Notably, Patent Owner previously pursued claims directed to the methods and systems described in the specification of the '381 patent, but those claims were found unpatentable. *Canon*, IPR2019-00127, Paper 51 (finding all claims of related U.S. Patent No. 9,258,698 unpatentable). Shortly thereafter, Patent Owner began filing new claims, including those at issue here, that mix and match details

pulled from different systems described in a variety of incorporated patents.

However, Patent Owner failed to describe in any of the priority documents a system that has all the limitations of the claims, and therefore Patent Owner is not entitled to any priority date earlier than the filing of the application maturing as the '381 patent.

A. Legal Standard

Priority

To rely on the filing date of an earlier application, 35 U.S.C. § 120 requires that the earlier application include a disclosure that complies with the written description requirement of 35 U.S.C. § 112. *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1571-72 (Fed. Cir. 1997) (confirming the written description must provide more than that which “would lead one to speculate as to modifications that the inventor might have envisioned, but failed to disclose”).¹ The written description requirement is separate and distinct from the enablement requirement. *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1340 (Fed. Cir. 2010) (en banc); *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1560 (Fed. Cir. 1991).

¹ See *SAP Am., Inc. v. Pi-Net Int’l, Inc.*, IPR No. 2014-00414, Paper No. 11, 1114 (P.T.A.B. Aug. 18, 2014) (relying on § 112 case law is proper in an *inter partes* review to establish effective filing date).

The written description requirement has several policy objectives. One objective is to convey to the public what the applicant claims as the invention. *See Regents of the Univ. of Cal. v. Eli Lilly*, 119 F.3d 1559, 1566 (Fed. Cir. 1997), *cert. denied*, 523 U.S. 1089 (1998). “[T]he disclosure as originally filed does not have to provide *in haec verba* support for the claimed subject matter at issue.” *Purdue Pharma L.P. v. Faulding Inc.*, 230 F.3d 1320, 1323 (Fed. Cir. 2000). However, “one skilled in the art, reading the original disclosure, must immediately discern the limitation at issue in the claims.” *Id.*

“The question is not a question of whether one skilled in the art might be able to construct the patentee’s device from the teachings of the disclosure ... it is a question whether the application necessarily discloses that particular device.” *Lockwood*, 107 F.3d at 1572. As explained by the Federal Circuit, “one cannot disclose a forest in the original application, and then later pick a tree out of the forest and say here is my invention. In order to satisfy the written description requirement, the blaze marks directing the skilled artisan to that tree must be in the originally filed disclosure.” *Purdue Pharma*, 230 F.3d at 1326-1327; *see also Fujiwara v. Wattanasin*, 93 F.3d 1559, 1571 (Fed. Cir. 1996); *Intuitive Surgical, Inc. v. Ethicon LLC*, IPR2019-01110, Paper 30 at 10-15 (P.T.A.B Nov. 20, 2020) (rejecting amended claims for lack of written description support because the patent did not “inform one skilled in the art that the inventors contemplated the

specific combination of elements recited in the proposed substitute claims”).

Incorporation by Reference

Essential material is material that is needed to fulfill one or more of the requirements for a patent application. 37 C.F.R. § 1.57(d). Incorporated material is deemed essential if it is necessary to fulfill the written description requirement. *Id.* Essential material may only be incorporated by reference to a U.S. patent or a U.S. patent application publication that contains the essential material and does not, itself, incorporate the essential material by reference. *Id.*; *see also SharkNinja Operating LLC, et al. v. iRobot Corp.*, IPR2020-00733, Paper 31, 19 (PTAB Oct. 4, 2021).

B. The Priority Applications Do Not Contain Written Description Support For The Claimed Combination of Elements

Each Challenged Claim requires “a mobile software application ... configured to”² perform several particular functions. No such system is disclosed in the priority documents.

Instead, the Challenged Claims mix and match features from two distinct systems found in two distinct documents. TTI-1030, [102]-[118]. Specifically, the

² In claim 12, this element is written as “[a] mobile software application ... controls the processor to.”

Challenged Claims combine features from (i) client application 203, which interacts with digital data capture device 201 (disclosed in priority application 12/333,303, which published as Singh129 (TTI-1009)), and (ii) a distinct “client application 202” (disclosed in unrelated incorporated application 11/901,802, which published as Singh906 (TTI-1010)) that does not interact with a digital data capture device.

Client applications 202 and 203 are different software programs that address different perceived problems in the prior art. TTI-1030, [103]. Singh906’s client application 202, for example, addresses the purported “unmet need for a method and system to create and publish multimedia content online using a *single* device.” TTI-1010, [0003]. In contrast, Singh129’s client application 203 addresses the purported “need for a method and system to utilize a [separate] digital capture device *in conjunction with* a mobile device for automatically detecting capture of data and multimedia content, transferring the captured data and multimedia content to the mobile device, and publishing the data and multimedia content on one or more websites automatically.” TTI-1009, [0005]. Moreover, the two applications are clearly directed toward dramatically different users—*i.e.*, those that create content with their phones (Singh906’s client application 202) and those that create content with a separate digital capture device (Singh129’s client application 203) while using a phone merely as an internet connection. TTI-1030, [103].

The differences between the two applications are myriad. For example, unlike Singh906's client application 202, Singh129's client application 203 does not: (i) provide targeted advertising to the user; (ii) provide to a remote server authentication credentials, transaction identifications, a list of publication virtual spaces, global positioning system geographical codes, area codes for the phone numbers of the mobile device, file formats of the user created multimedia content, or compression rates of multimedia content; (iii) allow the user to identify publication virtual spaces that include meta-destinations; (iv) allow the user to identify other users of any system as publication destinations; (v) allow the user to identify arbitrary emails and phone numbers as a destination; (vi) allow the user capture multimedia using the mobile device itself; (vii) allow the user to change the quality of the multimedia; or (viii) provide buttons in a GUI to control the playback of a recorded message. *Id.* In fact, instead of allowing the user to review and delete recorded media on their phone, as is done with Singh906's client application 202, Singh129's client application 203 automatically publishes images to one or more websites. *See, e.g.*, TTI-1009, [0029]. Furthermore, Singh129 expressly teaches that using client application 203 to "shar[e] information over electronic mail (emails)," as is done with Singh906's client application 202, "may be inconvenient." *See, e.g.*, TTI-1009, [0045], TTI-1010, [0053].

Similarly, unlike Singh129's client application 203, Singh906's client

application 202 does not detect, receive, store, or transfer data acquired in a Bluetooth enabled data capture device and it does not include a timer module for setting the time to automatically publish multimedia content. TTI-1030, [105]. And there is no indication that Singh906's mobile device is a Bluetooth enabled cellular phone and thus no indication that Singh906's client application 202 would have even been capable of detecting or receiving data acquired in a Bluetooth enabled data capture device, much less in the specific way claimed in the '381 patent. *Id.* In any event, receiving data from a separate data capture device would have been inconsistent with the stated purpose of client application 202 to create and publish multimedia content using a single device. TTI-1010, [0002].

During prosecution of the '381 patent, the examiner correctly noted that the specification "fails to sufficiently point out or describe ***display a mobile advertisement inside the mobile software application.***" TTI-1008, 78-79 (emphasis original). As support for this limitation, Patent Owner directed the examiner to Figure 3 and paragraph [0021] of the '802 application (published as Singh906). *Id.*, 41, 45-46.

Therefore, disclosures in the '802 application are "essential material" necessary to satisfy 35 U.S.C. § 112. *See* 37 C.F.R. § 1.57(d)(1)-(3). But, essential material can only be incorporated by reference "by way of ... a ***U.S. patent or U.S. patent application publication,***" not by incorporation of an

unpublished application like the '802 application. *See id.* § 1.57(d) (emphasis added). As such, the incorporation of the '802 application is not effective for the essential material. *Id.* § 1.57(h); *see also SharkNinja*, IPR2020-00733, Paper 31 at p. 19. The applicant did not seek to replace the reference to the unpublished application with a reference to the published application. It is too late to do so now. The public is entitled to rely on the patent as drafted—and recognize that the unpublished application cannot provide essential material.

Furthermore, there is no disclosure in any priority application directing a person of ordinary skill in the art to use any of Singh906's features in Singh129's client application 203, much less use the specific features recited in the Challenged Claims. Although each priority application incorporates the '802 application by reference (along with nine other applications), and the '802 application eventually published as Singh906, the priority applications do not identify any features disclosed in Singh906. In fact, other than the initial incorporation, which is insufficient under 37 C.F.R. 1.57(d), Singh906 is not mentioned or otherwise referenced in the specification. The bald incorporation in effect was no more meaningful than taking the old application and stapling it to the back of the current application. There is no suggestion of how the two applications might be combined or any suggestion that they be combined.

Although not identified by the examiner of the '381 patent, for each

challenged claim, the specification of each priority application fails to describe a system that includes all the following elements recited, for example, in claim 1:

- “a user authentication software module, wherein the user authentication software module processes the user authentication credential received from the mobile software application;”
- “a database, wherein the database stores a user profile;”
- “a mobile software application advertising software module, wherein the mobile software application advertising software module selects advertisements based on the user profile and sends the selected advertisements to the mobile software application;”
- “said online data publishing web service configured to receive the new-data and the user authentication credential from the Bluetooth enabled cellular phone via the Hypertext Transfer Protocol;” and
- “said online data publishing web service configured to process the received user authentication credential and the new-data.”

Id. As with the elements identified by the examiner, these claim elements are likewise described only in Singh906 in connection with a Singh906’s **distinct system**. There is no disclosure of using these elements from Singh906’s client application 202 with Singh129’s client application 203.

Thus, Patent Owner cannot base a priority claim on mixing and matching

features from priority applications that are not combined in those priority applications. There is no description or suggestion to do so in any priority application. *See, e.g., Intuitive*, IPR2019-01110, Paper 30 at 10-15 (rejecting the mixing and matching of embodiments without a disclosure directing the reader to do so); *see also Research Corp.*, 627 F.3d at 870 (“Entitlement to a filing date extends only to the subject matter that is disclosed; not to that which is obvious.”); *Lockwood*, 107 F.3d at 1571-72 (similar).

For each of these reasons, no challenged claim can claim priority to an earlier application. *See Arthrex, Inc. v. Smith & Nephew, Inc.*, 35 F.4th 1328, 1344 (Fed. Cir. 2022) (confirming the Board’s statutory authority to decide whether priority applications meet the written description requirement for the purpose of determining whether a reference is prior art).

VI. THE CHALLENGED CLAIMS ARE UNPATENTABLE

A. GROUND 1—Claims 1-16 are obvious over Hiroishi, Kahn, and Bluetooth

1. Hiroishi

Hiroishi is a Japanese patent application published on February 28, 2003. TTI-1011, Face. Hiroishi teaches a system that allows users of a mobile phone 40 to control a digital camera 51 remotely. *See, e.g., TTI-1011*, Abstract, [0043], [0068], FIGS. 5-6. TTI-1030, [122]-[125]. Hiroishi teaches the mobile phone 40 connected to a digital camera 50 using Bluetooth. *See, e.g., id.*, [0048]-[0049],

[0066]-[0067], FIG. 1.

In operation, while the mobile phone is paired with the camera, Hiroishi teaches a release instruction sent by the mobile device causes the camera to acquire and store new images. *See, e.g., id.*, [0078]. The mobile device may then instruct the digital camera to transmit thumbnails to the mobile phone for user review and selection. *See, e.g., id.*, [0081]-[0082]. The user's selected image are sent to the mobile phone. *See, e.g., id.* [0084]. Once received, the mobile device may then upload image(s) to another computing device using a cellular data network and the Internet. *See, e.g., id.*, [0044]-[0049], [0110]-[0113], FIG. 2.

2. Kahn

Kahn, titled, "Imaging System Providing Automated Fulfillment of Image Photofinishing Based on Location," was filed on July 2, 2002 and published on January 8, 2004. TTI-1030, [130]-[132], [515]-[519].

Kahn teaches an imaging system that includes a camera coupled to a cellular phone by a cable or wireless connection. *See, e.g.*, TTI-1017, [0055], FIG. 3.

Kahn teaches that the "camera device 310 is preferably a wireless camera device, such as camera device 100 (shown in FIG. 1A)." *Id.* The cellular phone can be a "host device" for the camera. *Id.* The cellular phone includes a global positioning module 325. The cellular phone or camera determines a location ID, which is GPS derived longitude and latitude, and sends the location ID with the images to the

image server. *See, e.g., id.*, [0058]. The server can use “the location information may be used to offer location-dependent promotions to the user.” *See, e.g., id.*, [0051].

In addition, Kahn teaches that the host device (i.e., the cellular phone) “communicates with an online Web-based image management server 330” using, for example, “HTTP protocol.” *Id.*, [0056].

3. Bluetooth

As of the alleged Critical Date, Bluetooth wireless technology (BT), had established its role in replacing cables for personal device interconnectivity and facilitating spontaneous communication between devices within a localized “communications bubble.” TTI-1032, 1-2; TTI-1030, [47]-[60]. The Bluetooth Overview discloses that Bluetooth’s aim was to provide a universal, user-friendly interface for data services, enabling ad hoc connectivity and serving as a personal gateway for accessing remote services while maintaining convenience and privacy. TTI-1032, 1-2; TTI-1019, 1, 46-47. “Connecting to data services through one’s cellular phone gives rise to the concept of a personal gateway. People will carry their personal gateways wherever they go.” TTI-1032, 1. The BT specification details security implementation at both link and application layers, with cryptographic authentication through LMP Pairing and Secure Simple Pairing methods. TTI-1019, 131-136, 1260, 1270, 1313-1319. Cryptographic

authentication was routine pre-dating the patent's Critical Date. TTI-1019, 131-438. Bluetooth's packet format allows flexible payload transportation, enabling image transfer. TTI-1019, 291-298. Event listening/notification mechanisms like polling and sniff mode are defined in the Bluetooth specification. TTI-1019, 126-129, 235, 282-284, 330-332, 345-348; TTI-1030, [47]-[60].

Bluetooth technology was available before the critical date of the patent, as supported by various pieces of evidence. TTI-1019, 1; TTI-1030, [47]. First, the face of the TTI-1019 provides publication date as July 26, 2007. Second, the same TTI-1019 was provided as an exhibit by the Patent Owner in two IPR proceedings (IPR2019-00127 as Ex. 2018 and IPR2019-00131 as Ex. 2006), both involving U.S. Patent 9,258,698 (a family member of the '030 patent), thus confirming the authenticity and accuracy of the document. Third, the WayBack Machine contains an archived webpage in October, 2007, confirming the publication of the TTI-1019 on July 26, 2007, and its public accessibility by no later than October, 2007. TTI-1031, 1. The content of the page is credible as it mentions Bluetooth 2.1 as the latest available release and thus predates the release of Bluetooth 2.2.

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Bluetooth Technical Specification documents are made available in Adobe Acrobat format (PDF). If you have an idea for a new use case or for specification enhancements, please email Member Relations.

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Items 1 - 15 of 47

Items per page: 15

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Bluetooth Core Specifications	Publish Date
Core Specification v2.1 + EDR	26-Jul-2007
Core Specification v2.0 + EDR	10-Nov-2004

TTI-1031, 1 (annotated).

Finally, the '381 patent relies on pre-existing Bluetooth technology and thus acknowledges that Bluetooth is prior art. TTI-1007, 2:25.

4. The Predictable Hiroishi-Kahn-Bluetooth Combination

In the proposed combination, as described by Hiroishi, a photograph system includes a cellular phone that connects to a camera via a Bluetooth connection. TTI-1030, [1074]-[1096]. The cellular phone controls the camera to capture images, store images, and transmit images to the cellular phone. TTI-1030, [1074]-[1080]. The cellular phone then transmits images to a remote computer destination by a cellular network connection via the Internet. *Id.* In the combination, the mobile phone is configured to upload images to a remote terminal or server using HTTP, in a manner similar to what was suggested by Kahn. *Id.* Also in the combination, the mobile phone sends a user preference that includes global positioning information as taught by Kahn. *Id.* The mobile phone program

displays an advertisement on the mobile phone, as taught by Kahn. *Id.* And the remote terminal includes an authentication server to authenticate the user for accessing the remote terminal, as taught by Kahn. *Id.* The remote terminal in the combination also includes a database and a mobile software application advertising software module, as taught by Kahn. *Id.*

If necessary, in the combination, the cellular phone uses a touch-based GUI, like that taught by Kahn, which can display touch-based advertisements, and a timestamp signal from the digital camera to the mobile phone corresponding to the acquired new-data, as taught by Kahn. *Id.*

5. Motivation to Combine

A POSITA at the time of the invention would have been motivated to combine the teachings of Hiroishi and Kahn, thus rendering the subject matter of the '381 patent Challenged Claims obvious. TTI-1030, [1081]-[1096].

First, both Hiroishi and Kahn are analogous art to the claimed invention. *Id.*, [1082]. Both references are from the same field of endeavor as the claimed invention: wireless image transfer from one electronic device to another. *Id.* Indeed, each of Hiroishi, Kahn, and the '381 patent are directed to transferring images among three devices: a camera; a phone; and a server. *Id.* Hiroishi teaches techniques for enabling a mobile device to control a digital camera and transfer image files between and instructions between the two devices. *See, e.g.*, TTI-1011,

Abstract, [0066]. Kahn is directed to wirelessly transferring image files from a mobile device to a publishing website over the Internet using HTTP. *See, e.g.*, TTI-1017, [0056], [0074]-[0082].

Hiroishi and Kahn are also pertinent to the problem of the '381 patent: transmission of image data by a cellular phone that was captured by a digital camera. TTI-1007, 1:55-2:29. TTI-1030, [1083]. Hiroishi addresses this problem through Bluetooth wireless data transmission and software-based control of the digital camera from the mobile device. *See, e.g.*, TTI-1011, [0043], [0053], [0061], [0066]. Kahn addresses the problem through efficient publishing of image data from a cellular phone to a website using HTTP. *See, e.g.*, TTI-1017, [0056], [0063].

Second, a POSITA would have been motivated to use Kahn's upload technique to publish image data received at the mobile device of Hiroishi. TTI-1030, [1084]. At the time of the alleged Critical Date, photo-sharing websites and personal blogs had become ubiquitous. *See, e.g.*, TTI-1020, 3:25-49, 4:47-67; TTI-1021, 5:49-56 (describing using HTTP to send images from the phone to the server). Websites like FLICKR, PHOTOBUCKET, and PICASA allowed users to publish photographs and share them with friends, colleagues, and internet users. *See, e.g.*, TTI-1018, 5:25-28.

Cellular phones had also become ubiquitous. TTI-1030, [1085]. The

original iPhone was released six months before the provisional filing date of the '381 patent (the iPhone was released on June 29, 2007), and years before that companies like Blackberry, Motorola, and Nokia had developed cellular phones that could be used to transfer image data over the Internet. *See e.g.*, TTI-1011, [0015], [0047], FIG. 2; TTI-1030, [1085]. The '381 patent even refers to mobile phones as “ubiquitous.” TTI-1007, 10:21-22 (“The mobile device 202 may, for example, be a ubiquitous mobile phone.”). Kahn also teaches a camera wirelessly connected to a mobile phone for capturing images and uploading images to a remote server. *See, e.g.*, TTI-1017, [0045], [0055]-[0057].

Kahn recognizes both of these trends and teaches an efficient and predictable technique for uploading image data (captured by a camera) from a mobile device to a publishing website. *See, e.g., id.*, [0063]. TTI-1030, [1086].

The teachings of Kahn would have provided straightforward benefit to the user of the mobile device in Hiroishi: predictable upload of image files and an action setting using an existing HTTP connection between the mobile device and a remote (publishing) server. TTI-1030, [1087]. Hiroishi already teaches the desire to transfer image data from a digital camera to a mobile device and to a terminal device. *See, e.g.*, TTI-1011, [0044]. Kahn would have furthered this purpose by allowing the user to share image data over the Internet in a straight-forward and well-known way. TTI-1030, [1087].

Third, there would have been a reasonable expectation of success in combining the teachings of Hiroishi and Kahn. TTI-1030, [1088]. The combination would have required simply packaging the image data from the mobile device of Hiroishi in an HTTP message as Kahn teaches and as what well known at the time for packet data transfer over the Internet. *Id.* Both modifications would have been well within the ability of a POSITA. *Id.* Doing so would have allowed the user to record the images remotely using the well-known and efficient Internet transfer protocol of HTTP used by Kahn. *Id.*

Fourth, a POSITA would have been motivated, and found it obvious, to include user identifier that uniquely identifies a particular user of the Internet service. TTI-1030, [1089]. Hiroishi already teaches that the email address of the destination terminal is used to send images via email to the destination terminal. TTI-1011, [0110]. Because the '381 patent's claims do not require that the user identifier uniquely identifies the operator of the mobile phone, Hiroishi alone would invalidate this feature. TTI-1030, [1089]. To the extent that the user identifier is interpreted to be the identifier of the user of the mobile phone, a POSITA would have found it obvious to include the user identifier with the images when transferring the images to the remote internet server. *See, e.g., id.*; TTI-1017, [0098]. This way, a POSITA would recognize the advantage of being able to uniquely identify the owner of the images, e.g., using an NAI or using a

database field for user ID. TTI-1017, [0071], [0098]. In the example scenario of Hiroishi's print shop, the print shop worker can quickly and easily identify the owner of the images by (for example, the file name), and can validate the owner when providing the printed images. TTI-1030, [1089]. Likewise, the fulfillment center worker of Kahn can easily identify the owner of the images. *Id.*

A POSITA would have also been motivated to combine Hiroishi to include the location ID with the images sent to the remote server, in a manner similar to that taught by Kahn. TTI-1030, [1090]. Hiroishi describes sending the images from the phone to a print shop. *See, e.g.*, TTI-1011, [0049], [0104]-[0111]. In the combination, a POSITA would have recognized the advantage of including location information with the images to identify a print shop (Kahn's fulfillment center) that was close by. *See, e.g.*, TTI-1030, [1090]-[1092]; TTI-1017, [0094]. A POSITA would have been further motivated to include GPS information for the reason stated in Kahn – to offer location-dependent promotions to the user. TTI-1030, [1090]-[1092]; TTI-1017, [0051].

A POSITA would have found it obvious that the remote terminals of Hiroishi would include a user software authentication module to authenticate the user of the cellular phone, as taught by Kahn. *See, e.g.*, TTI-1017, [0082]; TTI-1030, [1093]. It would have been obvious to include such a server to store authentication credentials so that a user could securely access their remote image

library, and so that the images stored on the remote image library could be secured from unauthorized accesses. TTI-1030, [1093]. Establishing such an authentication process would have been well within the abilities of a POSITA at the time because authenticating a user for remote access to private information was a common and well-known security tool at the time. *Id.*

A POSITA would have found it obvious to include a mobile client application advertising software module at the remote location, as taught by Kahn. *See, e.g.*, TTI-1017, [0051], [0071], [0087]; TTI-1030, [1094]. A POSITA would have been further motivated to include GPS information for the reason stated in Kahn – to offer location-dependent promotions to the user. TTI-1017, [0051]; TTI-1030, [1094]. As mentioned before, one of the terminals Hiroishi contemplates is a print shop, just like the fulfillment center of Kahn. TTI-1011, [0112]-[0113], [0122]. In Kahn, the fulfillment center is identified based on global positioning information, so that fulfillment centers close to the user can be identified. TTI-1017, [0055], [0087]. It has already been established that a POSITA would have found it obvious to modify Hiroishi to also use global positioning information to likewise identify print shops that are close to the user. It would have also been obvious to include an advertisement software module to provide promotions and other advertisement information about nearby print shops / fulfillment centers to the user operating the program for uploading the images.

TTI-1030, [1094]. Doing so would have allowed the user to select a print shop / fulfillment center with good prices or coupons to save money. *Id.* Likewise, the print shop or fulfillment center would earn business and make money by sending advertisements to the program of the cellular phone. *Id.*

A POSITA would have found it obvious to modify Hiroishi to include timestamp information with the image data, as was a well-known technique at the time. *See, e.g.*, TTI-1017, [0008] (describing prior art imaging devices recording information about date/time (timestamp) when image was captured), [0060] (describing that “the image data already includes timestamp information (i.e., timestamp indicating when the image is captured”); TTI-1030, [1090]-[1096]. Kahn makes it clear that timestamp information being included with image data was a well-known technique for recording the date and time of when an image was captured. TTI-1030, [1090]-[1096].

A POSITA would have been motivated to include the timestamp information with the image data of Hiroishi to record the date and time of when the images were captured. TTI-1030, [1091]. The date and time would provide information to the user to later correlated images with when those images were taken, for posterity. *Id.* In addition, as explained by Kahn, the timestamp information could also be used to correlate location information with the images, “by matching timestamps of the various images against the system’s time-correlated historical

location information.” TTI-1017, [0060]. As already discussed, a POSITA would have known that having the location of the images would help in identifying a near-by print shop, in addition to enhancing the user’s photographing experience and memories. TTI-1030, [1091].

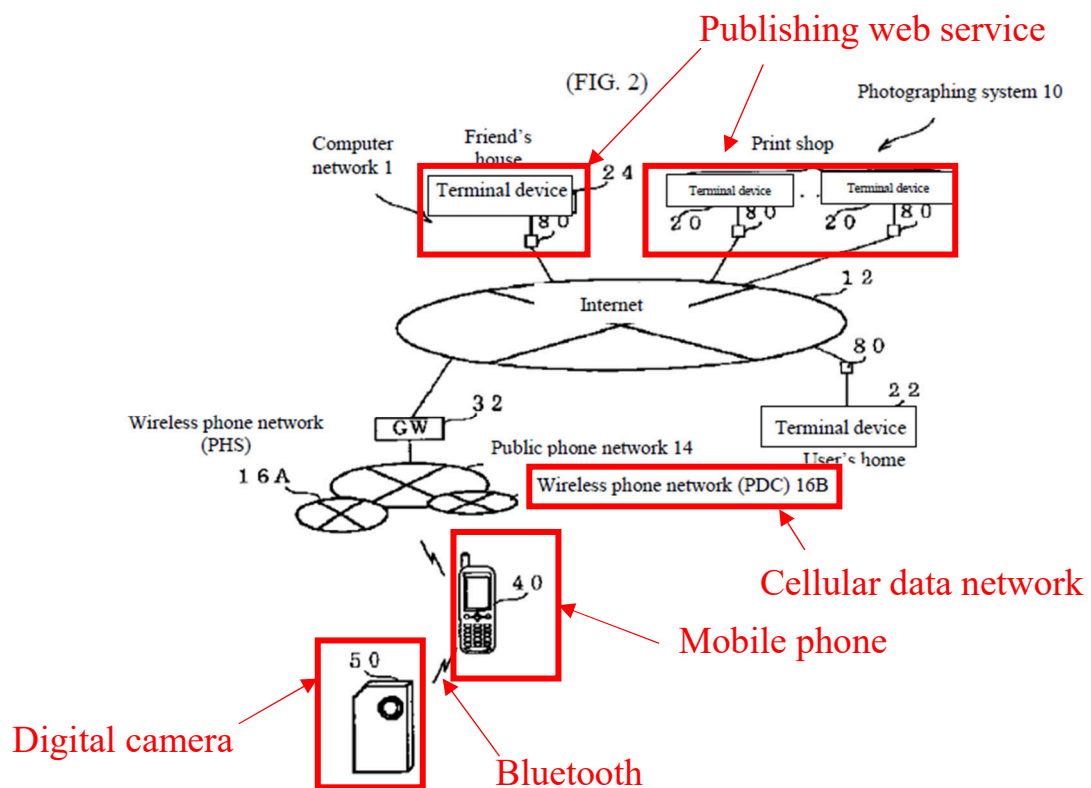
Finally, because Hiroishi relies on Bluetooth, a POSITA would have been motivated to look to Bluetooth (*e.g.*, Bluetooth Core Specification V2.1) for more information on the implementation and features of Bluetooth. To the extent that the Bluetooth features are not inherent or envisaged by a skilled artisan reading Hiroishi, it would have been obvious to use the details disclosed in Bluetooth with a system like Hiroishi, which states that Bluetooth is used for local wireless communication. In the combination, a POSITA would use the features disclosed in Bluetooth. TTI-1030, [1090]-[1096].

6. Analysis

[7.P]

To the extent the preamble is limiting, the Hiroishi-Kahn-Bluetooth combination (“Hiroishi-Kahn-Bluetooth”) renders it obvious. TTI-1030, [1097]-[1102]. In the combination, Hiroishi teaches a mobile software application (Hiroishi’s program) embodied as executable instructions on a Bluetooth enabled cellular phone (mobile phone 40). *Id.*; TTI-1011, [Abstract], [0001]-[0004], [0042]-[0054], [0066] . First, Hiroishi teaches a Bluetooth-enabled cellular phone

(mobile phone 40) with cellular data capabilities to communicate over the Internet.
TTI-1011, Fig. 2 (showing “mobile phone 40” connected to “Internet 12”), [0048]-
[0049]. Hiroishi teaches a mobile phone 40 connected to a digital camera 50 using
Bluetooth. *Id.*, [0048]-[0049], [0066]-[0067], FIGS. 1-2. In FIG. 2, Hiroishi
illustrates the photographing system. *Id.*, [0126].



Id., FIG. 2.

Hiroishi teaches “[a] recording medium, capable of being read by a
computer in which a program that controls the operation of a camera is installed.”

Id., Claim 10. Hiroishi’s system provides “a photographing system, a

photographing method, a camera, a recording medium, **and a program** that allows the photographer him/herself to take a self-portrait reliably and to grasp the photographing timing correctly.” *Id.*, [0004] (emphasis added); *see also* FIGS. 4, 7A-D (illustrating the GUI screens of the program on the mobile phone). Hiroishi teaches that “a ROM 42 for recording various control programs, parameters....” *Id.*, [0051]. Hiroishi lists the various instructions that the Bluetooth enabled cellular phone can send to the digital camera over the Bluetooth connection to control the digital camera. *Id.*, [0068]-[0069].

[7.1]

Hiroishi-Kahn-Bluetooth renders [7.1] obvious. TTI-1030, [1103]-[1105]. In the combination, Hiroishi teaches that new-data acquired by the camera (images captured and stored in camera memory) are “detected” when the mobile phone receives thumbnail images representative of the images captured and stored in camera memory (new-data acquired). *See, e.g.*, TTI-1011, FIGs. 4, 7A-7D, [0068], [0081]-[0082]. The program running on the mobile phone receives and displays the thumbnails in a graphical user interface. *See, e.g., id.* Later, the mobile phone receives the images captured by the camera and stored in camera memory (new-data acquired). *See, e.g., id.*, [0084], [0105]-[0106]; *see also* Ground 1, [7.3.1]-[7.3.3].

[7.2.1]

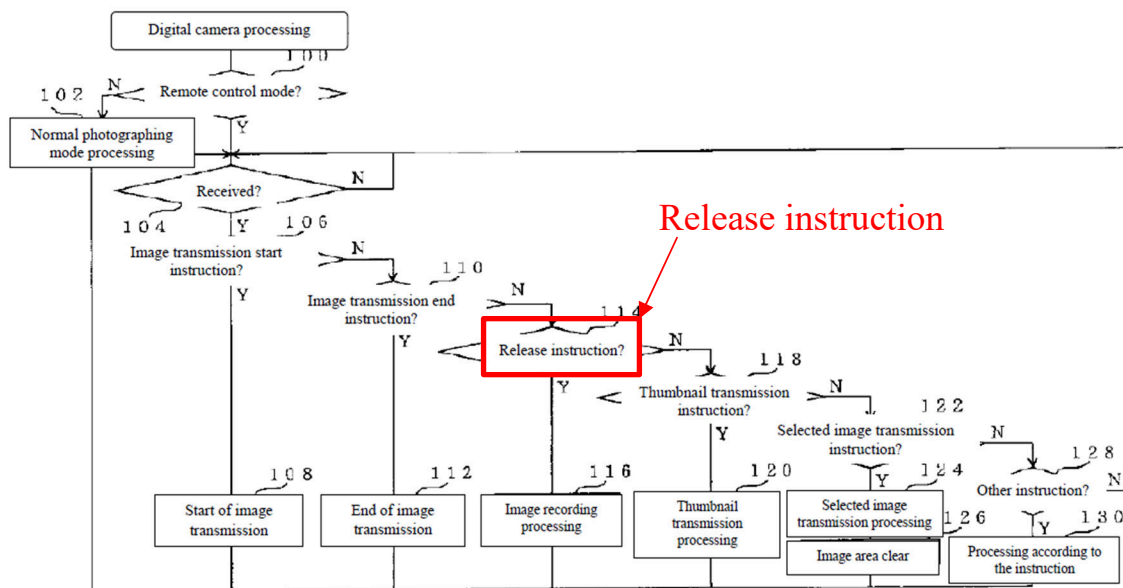
Hiroishi-Kahn-Bluetooth renders [7.2.1] obvious. TTI-1030, [1106]-[1108].

In the combination, Hiroishi discloses “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 ... and can perform transfer of data signals.” TTI-1011, [0066]-[0067]. The connection is paired because it allows two-way communication between the digital camera 50 and cellular phone 40. *Id.*, [0066]. In FIG. 5, Hiroishi illustrates remote control of the digital camera by the cellular phone. *Id.*, FIG. 5, [0071]-[0078]. In steps 100 and 104, the camera determines whether it is under remote control of the phone via the Bluetooth. *Id.*; *see also id.*, [0070], [0074]-[0088], [0091]-[0107], [0121].

In the combination, based on the teachings of Hiroishi, the mobile software application program is configured to detect new data upon receipt of thumbnail images from the camera. TTI-1011, [0068], [0104]. In operation, the camera of Hiroishi continuously sends images to the mobile phone. *See, e.g., id.*, [0068], [0071]. Hiroishi teaches that the program on the mobile phone sends a “release instruction” from the mobile phone to the digital camera 50 after establishing a Bluetooth connection between the camera and the phone. *See, e.g., id.*, Abstract, [0012]. Hiroishi emphasizes that “the release instruction information is the information for instructing the timing of photographing with the camera of the present invention.” *Id.*, [0034]. The release instructions from the mobile phone

would allow the camera “to photograph a picture... by transmitting the release instruction information at the timing one wishes to take a photograph with the camera of the present invention. Therefore, since the timing in which the release instruction information is transmitted serves as the photographing timing, the photographer can grasp the photographing timing correctly.” *Id.*, [0034].

(FIG. 5)



Id., FIG. 5.

As shown above in FIG. 5, Hiroishi illustrates remote control of the digital camera by the cellular phone. *Id.*, FIG. 5, [0071]-[0078]. In steps 100 and 104, the camera determines whether it is under remote control of the phone via the Bluetooth. *Id.* At step 114, the camera receives a release instruction from the phone causing it to acquire a new image. *Id.*, Abstract (“the mobile phone 40 ...

transmits the release instruction information to the digital camera 50”), [0034] (“it is possible to photograph a picture with a camera also at the position away from the camera, by transmitting the release instruction information at the timing one wishes to take a photograph with the camera”), [0078] (“In Step 114, a determination is made as to whether the instruction information received in Step 104 is the release instruction information....”). A POSITA would understand that, because the release instruction is received from the phone over the Bluetooth connection, the image is acquired after the wireless connection is established. *Id.* TTI-1030, [1106]-[1108].

[7.2.2]

Hiroishi-Kahn-Bluetooth renders [7.2.2] obvious. TTI-1030, [1109]-[1113]. In the combination, Hiroishi teaches that the mobile phone and the camera are linked via a Bluetooth connection. *See, e.g., id.*, [0066]-[0067]. For the mobile phone and the camera to communicate via Bluetooth, the mobile phone and the camera must have been “paired.” *See, e.g.*, TTI-1019, 412 (4.2.2 Pairing), 131 (5 Secure Simple Pairing Overview). The TTI-1019 uses cryptographic authentication as part of the Bluetooth pairing process. *Id.* For example, the TTI-1019 describes authentication procedures. Specifically, the pairing process includes the exchange of BD_ADDR, which is a Bluetooth device identifier, along with an initialization key and PIN. TTI-1019, 412-415. The BD_ADDR is the

address of the Bluetooth device, which is a unique identifier. TTI-1030, [1109]-[1110]. In this way, the cryptographic authentication authenticates the identify of the mobile phone. *Id.*

To the extent that the Patent Board finds that cryptographically authenticating the identity of the mobile device is not inherent by the use of Bluetooth, it would have been obvious at the time to cryptographically authenticate the identity of the mobile phone by the camera in order pair the mobile phone with the camera to securely establish the Bluetooth connection. TTI-1030, [1111].

Cryptographic authentication between wireless devices like a digital camera and cellular phone communicatively coupled via Bluetooth was routine at the time of the alleged Critical Date. TTI-1030, [1112]. It would have been obvious to a POSITA at the time of the invention to modify Hiroishi to include this feature because Hiroishi teaches using Bluetooth as the standard for communications between the mobile phone 40 and the camera 50. *See, e.g., id.*; TTI-1011, [0066]-[0067].

A POSITA also would have found this benefit directly applicable to the digital camera and cellular phone system disclosed Hiroishi, because it would have ensured the secure transmission of image files and related data between the two devices. TTI-1030, [1113]. Hiroishi teaches that the digital camera and cellular phone implement a “predetermined communication protocol” and identifies

Bluetooth as the preferred data transmission mechanism, so there would not have been any unexpected result if the digital camera and cellular phone were configured to cryptographically authenticate each other. *Id.*; TTI-1011, [0049]-[0052], [0058].

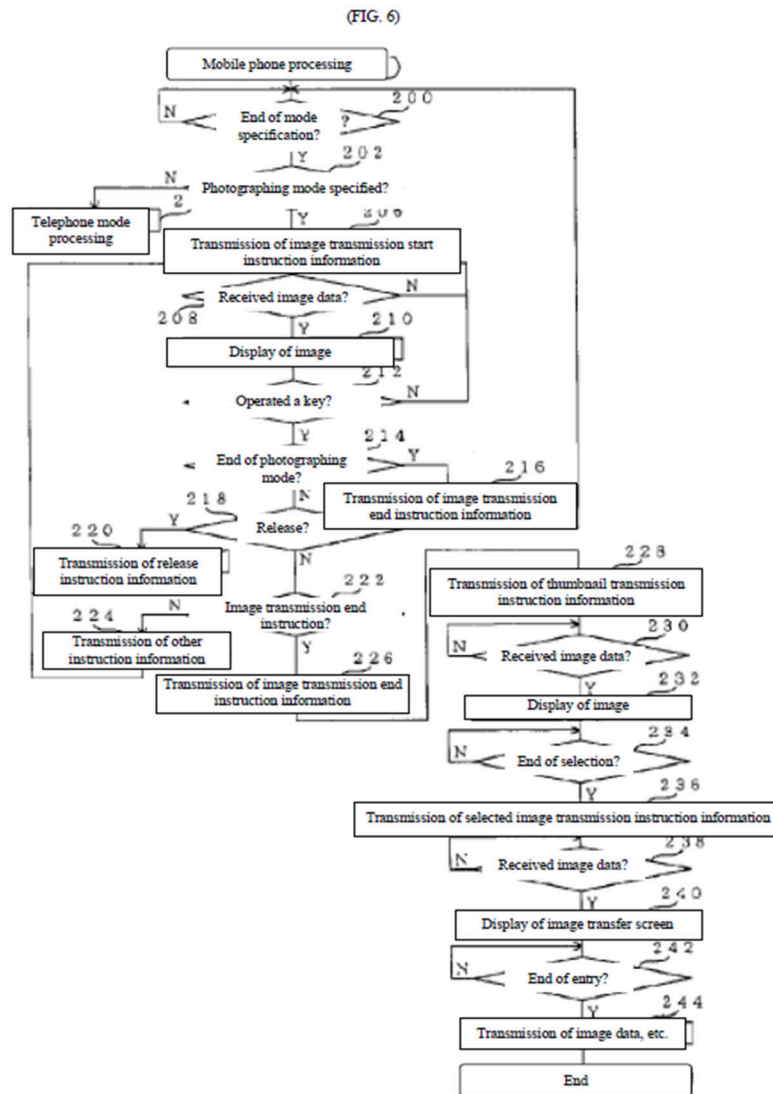
[7.3.1]

Hiroishi-Kahn-Bluetooth renders [7.3.1] obvious. TTI-1030, [1114]-[1121]. In the combination, Hiroishi's program is configured to wait for response (listen) for a thumbnail image (an event notification) from the camera over the Bluetooth connection. TTI-1011, [0081]-[0082], [0093], [0104]-[0105].

In the claim, the cellular phone detects and receives new data by listening for an event notification signal. The signal informs the cellular phone that new data is available. In the Hiroishi-Kahn-Bluetooth combination, there are a variety of signals that would perform the event notification function. For example, Hiroishi sends thumbnails to the cellular phone. Upon receipt of the thumbnails, the cellular phone is notified that the pictures represented by the thumbnails are available. In addition, it would have been obvious to include header information, metadata, or some other information with the thumbnails or in addition to the thumbnails that informs the cellular phone of the nature of the received data—that new photos are available. A person of ordinary skill would have reason to provide an event notification or designate pre-existing data as an event notification so that

the cellular phone is made aware that new data is available so that it may then take appropriate actions in response. Because thumbnails provide a straight-forward event notification to the user, a person of ordinary skill would further use the thumbnails or associated metadata identifying the thumbnails as thumbnails as an event notification in the software running on the cellular phone. TTI-1030, [1115]

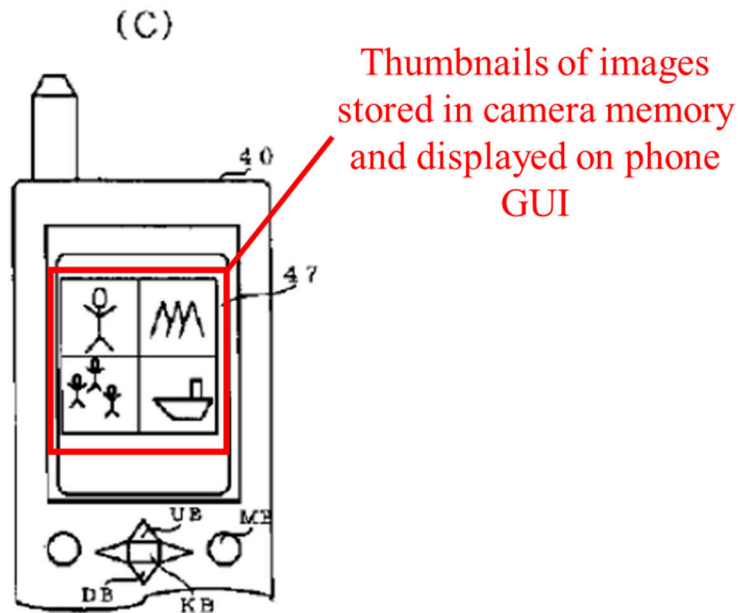
A POSITA would have understood that the program on the mobile phone “waits” for the thumbnail images, the waiting constituting as the phone listening for the event notification signal. *See, e.g.*, TTI-1011, [0104]; TTI-1030, [1116].



TTI-1011, FIG. 6.

The camera performs “thumbnail transmission ... and the image data for displaying thumbnails is transmitted to the mobile phone 40.” *Id.*, [0102]. During this time, the phone “waits until it receives the image data that can display the thumbnail from the digital camera 50, and in the following Step 232, after a decompression process is performed to the received image data, the thumbnail

shown according to the image data is displayed on the display unit 47 [of the phone].” *Id.*, [0104]. TTI-1030, [1117].



Id., FIG. 7(c) (annotated).

The thumbnails correspond to the acquired new data (the image captured by the camera and stored on the camera memory when the release instruction is given). TTI-1030, [1118]. The “image data that can display thumbnails is created by performing a predetermined image processing to the digital image data stored in the photographed image data storage area of SDRAM 55A (not shown), a thumbnail transmission processing for transmitting the image data to the mobile phone 40 is performed, and the process returns to Step 104 thereafter.” TTI-1011, [0081]-[0082].

Accordingly, Hiroishi teaches that the mobile phone's program is configured to listen (waits) for an event notification (thumbnail images). In the combination, the thumbnails notify the program in the cellular phone that images have been taken and are ready for transmission. The thumbnails provide such a notification to the user and it would have been obvious to extend that notification to the software in the cellular phone as well. TTI-1030, [1119].

In addition, or in the alternative, Kahn teaches the program (applet) configured to listen for an event notification. TTI-1030, [1120]. For example, Kahn teaches that the user selecting an upload or upload all button on the phone's GUI causes images on the camera to be transferred to the server. *See, e.g.*, TTI-1017, FIG. 5B. A POSITA would have understood that when the user selects upload/upload all, the phone would have listen for a signal from the camera. TTI-1030, [1120]; TTI-1017, [0074]-[0079]. In Kahn, the images include a timestamp. *See, e.g.*, TTI-1017, [0008], [0060]. The '381 patent fails to describe what the event notification is.³ Thus, a POSITA reviewing the '381 patent family would have turned to other intrinsic evidence to understand what the event notification was. According to the '030 patent, which shares the same specification and priority claim, the data signal notification can include timestamp attribute inside

³ The '381 patent specification does not use the term "event notification."

the data object. *See, e.g.*, TTI-1001, Claim 6. A POSITA reviewing the '381 patent family would have recognized that a timestamp was an event notification from claim 6 of the '030 patent. TTI-1030, [1120].

In addition, or in the alternative, Hiroishi's use of Bluetooth satisfies element [7.3.1]. TTI-1030, [1121]. Specifically, Bluetooth teaches polling. *Id.*; TTI-1019, 235-236, 332. In Bluetooth polling, the slave device (the camera) has to send an AR_ADDR message to the master device so that the slave can send data. TTI-1019, 332. After sending a polling request to the slave, the master device listens for the AR_ADDR, which is the event notification. *Id.*

[7.3.2]

Hiroishi-Kahn-Bluetooth renders [7.3.2] obvious. TTI-1030, [1122]-[1125]. In the combination, a POSITA would have also understood that the thumbnails of Hiroishi being sent to the phone from the camera constitute the signal representing the event notification. *Id.* In operation, after the camera of Hiroishi captures and stores an image, the user of the mobile phone can request thumbnails of the images stored in the camera memory. *Id.*; TTI-1011, [0068], [0081]-[0082]. The camera creates thumbnails from images stored in memory. TTI-1011, [0082]. The camera then sends the thumbnails to the mobile phone for display to the user on the program's user interface. *Id.*, [0081]-[0082], [0084], [0102].

The thumbnails (event notification) created by the camera represent (i.e.,

correspond to) the full resolution images captured (new-data acquired) by the camera. TTI-1030, [1123]. In the combination, the thumbnails received by the mobile phone and displayed to the user on the program constitute a signal sent from the camera to the mobile phone and would be used to provide an event notification informing the camera that new image data is available. *Id.*

In addition, or in the alternative, the timestamp described in Kahn is used in the combination as an event notification because it is a signal that “corresponds to the acquired new-data.” *See, e.g., id.*, TTI-1030, [1124]-[1125]; TTI-1017, [0008] (describing “prior art imaging devices have only been able to record information about date/time (timestamp) that an image was captured”), [0060] (describing that “the image data already includes timestamp information (i.e., **timestamp indicating when the image is captured**” (emphasis added)); See Ground 1, Claim, [7.3.1]. The timestamp is the signal of element [7.3.2] because it is in the image data that is sent from the camera to the phone during the upload to the server. *Id.*; TTI-1030, [1124]-[1125]. And, as mentioned, the timestamp corresponds to when the image is captured, making it unique to each image. TTI-1017, [0008], [0060]; TTI-1030, [1124]-[1125].

In Bluetooth, the AR_ADDR message that the slave sends when it wants to send data corresponds to the new data acquired. TTI-1019, 269; TTI-1030, [1124]-[1125]. During polling, the slave device must respond to a polling request; but it

only responds with AR_ADDR when it has new data to send. *Id.* Thus, the AR_ADDR message corresponds to acquired new data. *Id.*

[7.3.3]

Hiroishi-Kahn-Bluetooth renders [7.3.3] obvious. TTI-1030, [1126]-[1129]. In the combination, Hiroishi teaches the mobile software application configured to receive an event notification (thumbnails) and the acquired new-data (full resolution images) over the Bluetooth connection. *Id.* As discussed above, Hiroishi's program (mobile software application) is configured to receive, from the camera, the thumbnail (event notification) and the acquired full resolution image (new-data) over the established Bluetooth connection. *See* Ground 1, Claim [7.P], [7.2]; *see also* TTI-1011, claim 10, [0066]-[0068], [0106]-[0108], [0121].

In addition, or in the alternative, Kahn teaches that the timestamp is included in the image data that is sent from the camera to the mobile phone. *See, e.g.*, TTI-1017, [0008], [0060]; *See* Ground 1, Claim [7.3.1]-[7.3.2]. Thus, the event notification (timestamp) and acquired new-data (full resolution images) are received by the mobile phone. In the combination, a POSITA would use the timestamp as a notification that images are available for uploading. TTI-1030, [1129].

Naturally, the AR_ADDR message is transferred across the established Bluetooth link. TTI-1030, [1126]-[1129].

[7.4]

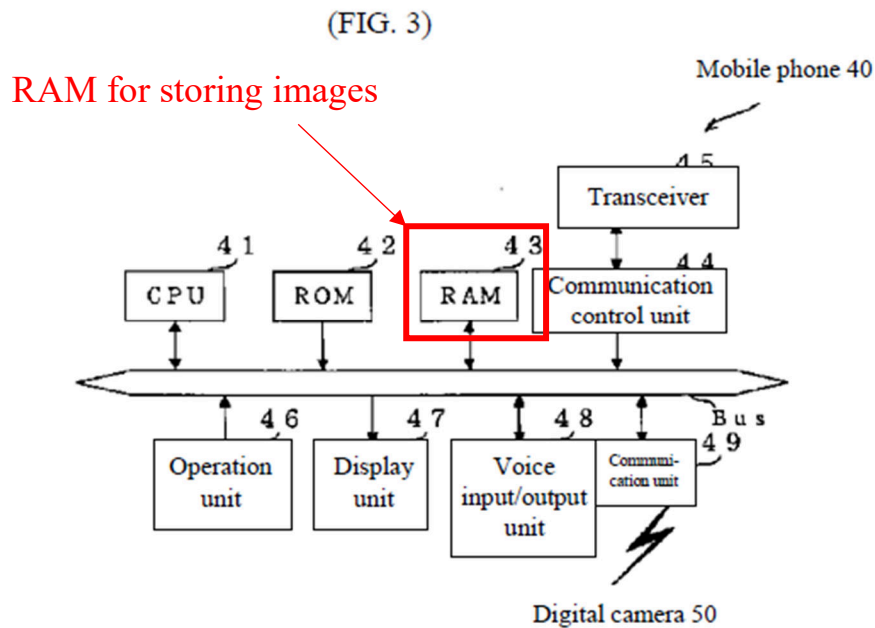
Hiroishi-Kahn-Bluetooth renders [7.4] obvious. TTI-1030, [1130]-[1133]. In the combination, based on Hiroishi, the cellular phone stores the received new-data in a memory. *Id.* For example, Hiroishi teaches that selected image files are transmitted to the cellular device over the Bluetooth connection, and those images are then sent to a remote terminal. *See, e.g.,* TTI-1011, [0107]; *See Ground 1, Claim* [7.1] and [7.2]. FIG. 3 of Hiroishi refers to the processor and memory of the mobile phone 40. It would have been obvious to a POSITA at the time of the alleged invention for at least the following reasons. TTI-1030, [1130].

It would have been obvious to a POSITA that the cellular phone in Hiroishi stores new-data received from the digital camera because after receiving the new-data, Hiroishi teaches that the cellular phone sends the file to a remote destination over a cellular network and the Internet. TTI-1030, [1131]; TTI-1011, FIG. 6, [0108] (“FIG. 7(D) shows the image transfer screen displayed on the display unit 47... for entering the information showing the desired transfer destination to transmit the digital image data....”), [0078], [0084]. To be able to transmit the images from the mobile phone to a remote server using a cellular data network and the Internet, a POSITA would have recognized that the mobile phone would have had to packetize the image (new-data) in a manner compliant with the transmission protocols. TTI-1030, [1131]-[1132]. This would have required at least

temporarily storing the images (new-data) while preparing the images for transfer.

Id.

Furthermore, Hiroishi teaches that the cellular phone includes RAM 43 memory devices. TTI-1011, FIG. 3, [0051].



Id., FIG. 3 (annotated)

A POSITA reviewing Hiroishi would have recognized that RAM 43 would have been configured for storing images, particularly since SDRAM 55A in the camera is describe for performing the same function. TTI-1030, [1130]-[1133]; TTI-1011, [0055].

[7.5.1]

Hiroishi-Kahn-Bluetooth renders obvious Element [7.5.1]. TTI-1030, [1134]-[1143]. In the combination, the images and user authentication credential

are uploaded to a remote terminal (i.e., made available on a remote terminal for others to view) using HTTP, like in Kahn. *Id.* Hiroishi already teaches that the cellular phone is configured to upload the received new-data to a “terminal” via the internet. TTI-1011, Fig. 2, [0044] (“the mobile phone 40 forwards the image information received from the digital camera 50 to a terminal device”). Hiroishi is silent as to the transport protocol used for sending the images to the remote server.

Kahn describes the host device (a cell phone) in communication with a server using HTTP. *See, e.g.*, TTI-1017, [0056] (“In order to communicate with the image management server 330, the host device 320 establishes an Internet connection to the server, for example, using HTTP protocol.”). Images are “uploaded to a corresponding user account at the image management server.” *Id.*, [0057]. “[T]he uploading process occurs via wireless communication technique, with the local host (e.g., cell phone, wireless PDA, or the like) assuming responsibility for establishing a wireless data connection.” *Id.*

In addition, Kahn teaches sending a user authentication credential with the images. *See, e.g., id.*, [0064] (“The upload program 410 assembles the image data for the images and the corresponding metadata comprising location information and user (identity) information, and then transmits all of that information/data to the image management server, via its communication with the server-side application 440.”). TTI-1030, [1136]-[1141].

[7.5.2]

Hiroishi-Kahn-Bluetooth renders [7.5.2] obvious. TTI-1030, [1134]-[1143]; *see also See* Ground 1, Claim [7.5.1]. In the combination, Kahn teaches “the mobile software application is further configured to use the Hypertext Transfer Protocol to send a user preference to the remote server over the cellular data network, and wherein the user preference comprises global positioning system information.” TTI-1030, [1142]-[1143]. Referring to FIG. 1, Hiroishi’s phone application is further configured to send a user preference (e.g., the number of sheets to be printed and the scheduled pick-up date and time specifying the terminal unit 20 of a print shop) to the remote server (the email server of the print shop) over the cellular data network. *Id.*; TTI-1011, [0105]-[0114].

In Kahn, the “upload program 410 assembles the image data for the images and the corresponding metadata comprising location information and user (identity) information, and then transmits all of that information/data to the image management server, via its communication with the server-side application 440.” TTI-1017, [0064]. Kahn’s location information is “GPS-derived longitude and latitude.” *Id.*, [0058]. TTI-1030, [1142]-[1143].

[7.6]

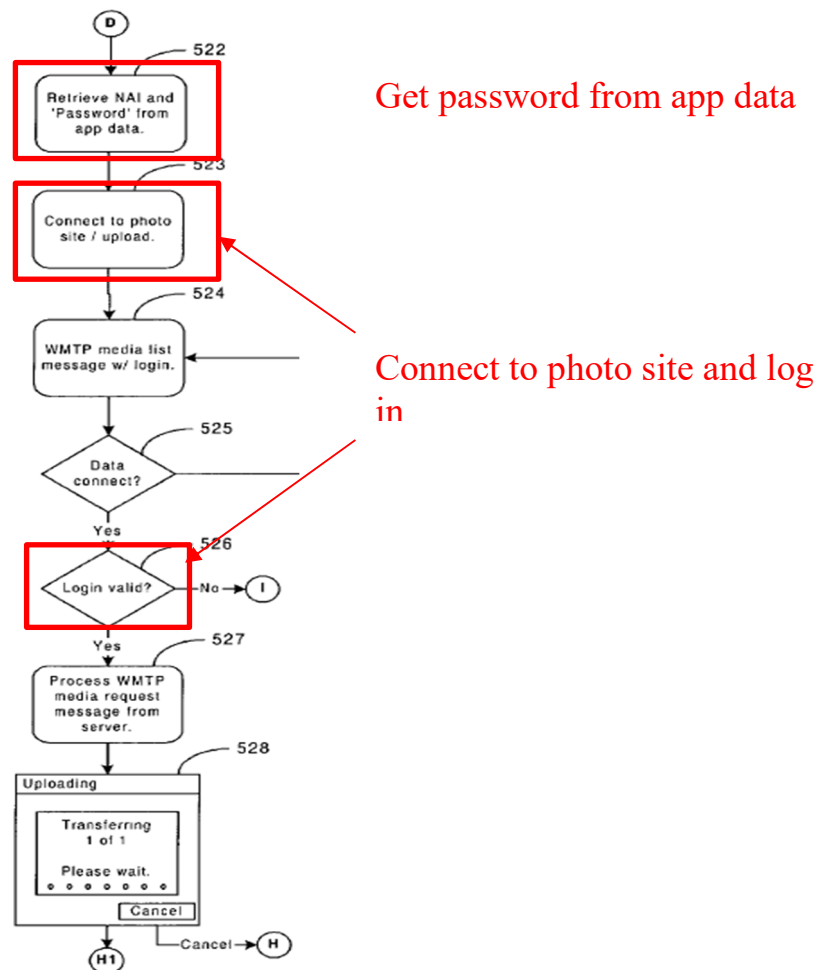
The Hiroishi-Kahn-Bluetooth combination renders obvious [7.6]. Hiroishi-Kahn-Bluetooth teaches display a mobile advertisement inside the mobile software

application. For example, Kahn teaches displaying promotion on the user's device, particularly, "promotions that are relevant to that user location." Kahn, [0087].

Kahn teaches about "location information" being "used to offer location-dependent promotions to the user." Kahn, [0051]. See Ground 1, Claim [11]. TTI-1030, [1144]-[1146].

[8]

Hiroishi-Kahn-Bluetooth renders obvious Claim [8]. TTI-1030, [1147]-[1148]. In the combination, Kahn teaches the user authentication credential is stored in the memory of the Bluetooth enabled cellular phone, and wherein the user authentication credential is used by the remote server to authenticate a user. *Id.* For example, Kahn teaches "the applet retrieves the network access identifier or NAI (e.g., user cell phone number) and password." TTI-1017, [0071]. The password is stored in application data, on the mobile phone, and is used as a credential for accessing the photo site for uploading. *See, e.g., id.*, FIG. 5C. FIG. 5C is shown below:



Id., FIG. 5C (partial, annotated).

Kahn also teaches a database that includes a database table that is “keyed by a unique element (image) ID, and also includes fields for user ID, timestamp (date/time), and location ID (longitude and latitude decimal values).” *Id.*, [0098].

[9]

Hiroishi-Kahn-Bluetooth renders obvious Claim [9]. TTI-1030, [1149]-[1150]; *see also* See Ground 1, Claim [7.5]. In the combination, Hiroishi teaches the remote server is configured to store the new-data. *Id.* For example, Hiroishi

teaches storing the images at a remote server, such as a friend's terminal or the user's terminal; and at least temporarily, the images would have been stored in the print shop terminal. *See, e.g.*, TTI-1011, [0114] (describing that "the digital image data received from the mobile phone 40 is stored in a predetermined area of a built-in storage device (not shown) in the terminal unit 22 or the terminal unit 24."); *see also id.*, [0111]-[0113] (describing print shop receiving and inherently storing the images).

To the extent that Hiroishi is interpreted to not teach the features of claim 9, Kahn so teaches. TTI-1030, [1150]. For example, Kahn teaches image servers for storing images received from the mobile phone. *See, e.g.*, TTI-1017, [0056], [0064], [0098]. It would have been obvious to a POSITA to store the images in a remote image server, as taught by Kahn, so that the images could be viewed, downloaded, printed (fulfilled) at the user's discretion without taking up local storage on the mobile phone or camera. TTI-1030, [1150]. In addition, it would have been obvious to store the images prior to fulfillment at the print shop or fulfillment center so that the images could be edited and/or printed. *See, e.g., id.*; TTI-1017, [0068]; TTI-1011, [0111]-[0113].

[10]

Hiroishi-Kahn-Bluetooth renders obvious Claim [10]. TTI-1030, [1151]-[1157]. In the combination, Kahn teaches the mobile software application provides

a “user interface (UI).” *See, e.g.*, TTI-1017, [0025], FIGS. 5A-E.

As shown in FIGS 5A-E, Kahn presents interactive buttons that are displayed on the GUI:

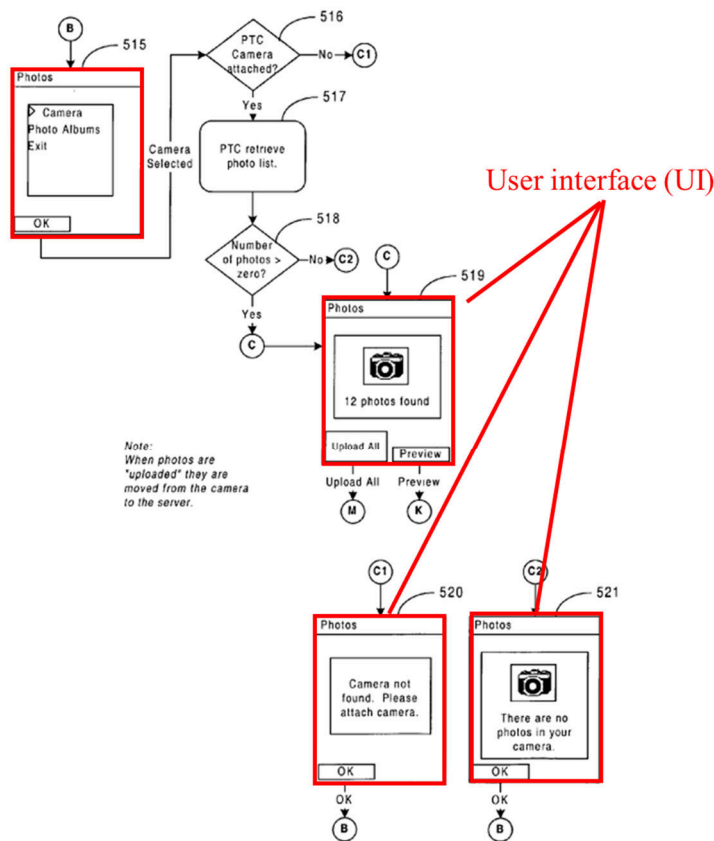


FIG. 5B

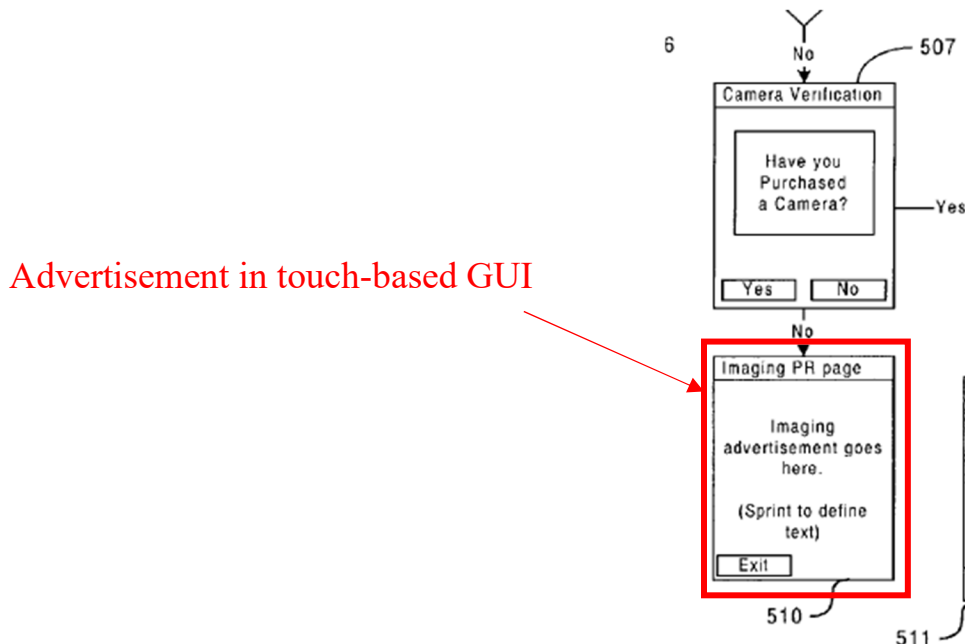
TTI-1017, FIG. 5B (annotated).

Based on the examples provided, a POSITA would have understood that Kahn discloses mobile software application provides a touch based GUI for the received new-data. TTI-1017, [0089] (“screen buttons”). Kahn further discloses “a Palm PDA device ... with wireless connectivity (e.g., Palm i705),” which

provides a touch-based GUI. Moreover, it would have been obvious to provide a system with a cellular phone with a touch-based GUI, as a POSITA would have recognized that touch-based GUIs were becoming increasingly popular, and an instant success after the release of the iPhone. TTI-1030, [1151]-[1157]; *see also* TTI-1029, [0009] (providing option of touch screen).

[11]

Hiroishi-Kahn-Bluetooth renders obvious Claim [11]. TTI-1030, [1158]; *see also See Ground 1, Claim* [7.6] and [10]. In the combination, Kahn teaches that advertisements and promotions are displayed on the GUI, e.g., a WAP Page. *See, e.g.*, TTI-1017, [0087], FIG. 5A:



Id., FIG. 5A (annotated, partial).

[1.P-1.7]

See Ground 1, [7.P]-[7.6]. TTI-1030, [1159]-[1165].

[1.8]

Hiroishi-Kahn-Bluetooth renders [1.8] obvious. TTI-1030, [1166]. In the combination, Kahn teaches an online data (image) publishing web service. Kahn teaches an image management server 330 being “a Web-based server accessible via the Internet.” *Id.*; TTI-1017, [0056]. Kahn describes organizing images into an online photo album that may “be accessed by the user (and shared with other users) using Web browser software (e.g., Microsoft Internet Explorer).” TTI-1017, [0065]; *see also* FIG. 6 (showing photos being available for viewing online).

[1.9]

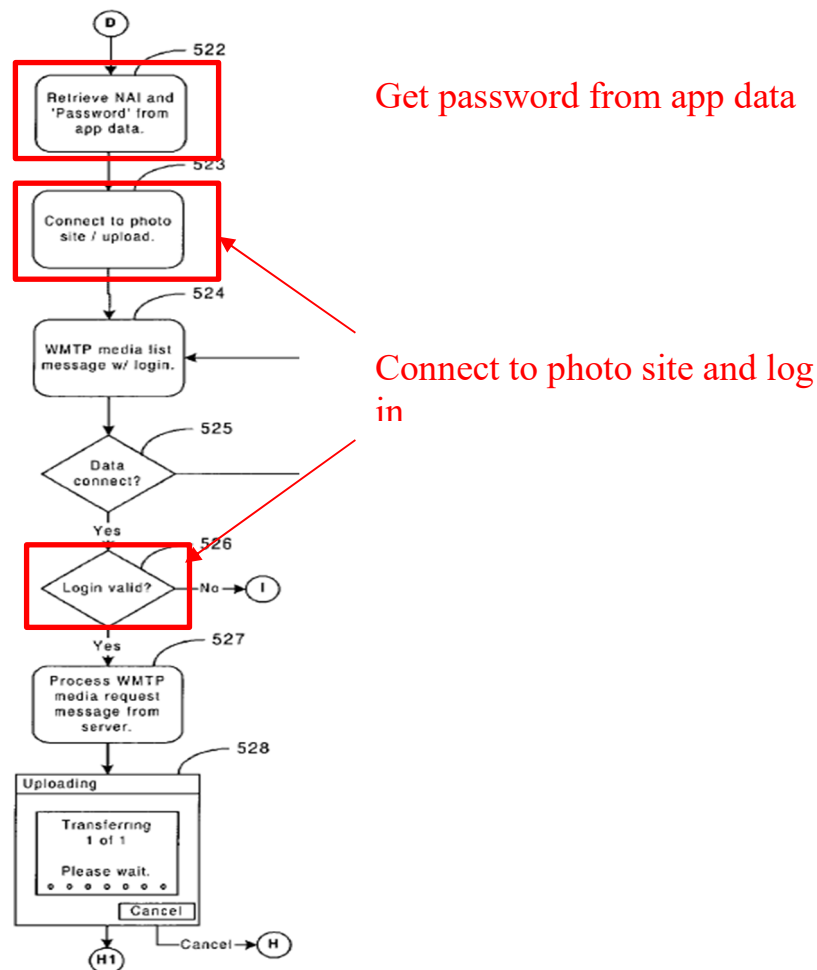
Hiroishi-Kahn-Bluetooth renders [1.9] obvious. TTI-1030, [1167]-[1168]. In the combination, Hiroishi teaches that the program on the mobile phone can communicate one or more remote terminals by a cellular data network and the Internet. *See, e.g., id.*; TTI-1011, [0048]-[0049], [0110]. For example, Hiroishi teaches that the terminals 20, 22, and 24 are configured with a network internet connection to communicate with the mobile software application. *Id.*, [1167]-[1168]. In Hiroishi, the print shop or other remote terminals are connected to the Internet. *See, e.g., id.*, [0049], FIG. 2.

To the extent that Hiroishi is shown to not teach elements of [1.9], a POSITA would have found it obvious that the remote servers of Kahn were

configured with an Internet connection to communicate with the mobile software application. TTI-1030, [1167]-[1168]. According to Kahn, “the host device 320 communicates with an online Web-based image management server 330. In the currently preferred embodiment, the image management server 330 is a Web-based server accessible via the Internet.” TTI-1017, [0056]. “In order to communicate with the image management server 330, the host device 320 establishes an Internet connection to the server, for example, using HTTP protocol.” *Id.*

[1.10]

Hiroishi-Kahn-Bluetooth renders [1.10] obvious. TTI-1030, [1169]-[1171]. In the combination, Kahn teaches a user authentication software module, wherein the user authentication software module processes the user authentication credential received from the mobile software application. *Id.* For example, Kahn teaches “the applet retrieves the network access identifier or NAI (e.g., user cell phone number) and password.” TTI-1017, [0071]. The password is stored in application data, on the mobile phone, and is used as a credential for accessing the photo site for uploading. *See, e.g., id.*, FIG. 5C. FIG. 5C is shown below:



Id., FIG. 5C (partial, annotated).

A POSITA would have recognized that to authenticate the user using a password, Kahn would have inherently included a software module for authenticating the user at the remote server or at a remote location connected with the server. TTI-1030, [1170]-[1171]. This way, the user could “login” to the remote server, as shown by FIG. 5C. *Id.*

Kahn also teaches a database that includes a database table that is “keyed by a unique element (image) ID, and also includes fields for user ID, timestamp

(date/time), and location ID (longitude and latitude decimal values).” TTI-1017, [0098].

[1.11]

Hiroishi-Kahn-Bluetooth renders [1.11] obvious. TTI-1030, [1172]. In the combination, Kahn teaches a database, wherein the database stores a user profile. For example, Kahn teaches a metadata database. *See, e.g., id.*; TTI-1017, [0098]. According to Kahn, the images are stored as individual files (e.g., using UNIX file system).” TTI-1017, [0098]. On the other hand, the “metadata, including the location ID, is stored as a database record in a database table in the metadata database. The database table is keyed by a unique element (image) ID, and also includes fields for user ID, timestamp (date/time), and location ID (longitude and latitude decimal values).” *Id.* That the database is keyed for user ID means that the database stores user profile. *Id.* The user profile includes location ID. *Id.*

[1.12]

Hiroishi-Kahn-Bluetooth renders [1.12] obvious. TTI-1030, [1173]-[1175]. In the combination, Kahn teaches a mobile software application advertising software module, wherein the mobile software application advertising software module selects advertisements based on the user profile and sends the selected advertisements to the mobile software application. *Id.* For example, Kahn discloses “[d]etermination of applicable promotions ...[involves] the user’s

location is matched against a list or database of promotions that are relevant to that user location. The resulting Set of promotions is transmitted back to the host device [mobile device], for viewing/selection by the user.” TTI-1017, [0087]. In FIG. 5A, Kahn illustrates that an advertisement can appear on “a client-side embedded applet (i.e., a small footprint application)” such that “the applet proceeds to display an advertisement UI dialog 510.” *Id.*, FIG. 5A, [0071].

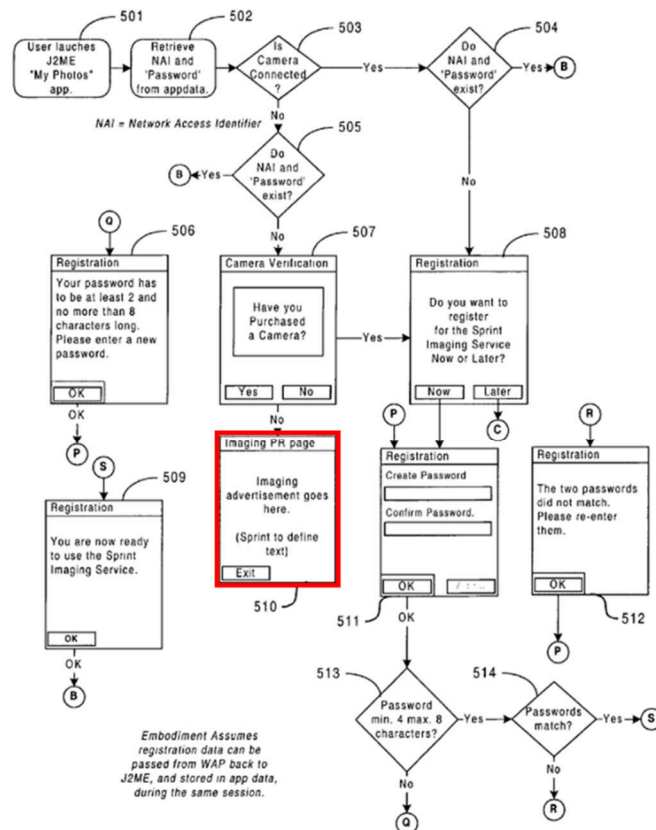


FIG. 5A

Id., FIG. 5A (annotated).

In addition, according to Kahn, “the location information may be used to offer location-dependent promotions to the user. This may use the location

information of individual photos (e.g., 20 percent off photofinishing for pictures taken at Disneyland), or may use the location information of where the user is currently located (e.g., 10 percent off photofinishing at Los Angeles-area Walgreens).” *See, e.g., id.*, [0051].

Per Kahn, the applicable promotions is determined by matching the user’s location “against a list or database of promotions that are relevant to that user location. The resulting set of promotions is transmitted back to the host device, for viewing/selection by the user, for example as a WAP page, an SMS message, an e-mail alert, or the like.” *Id.*, [0087]. A POSITA would have recognized the database and the software for searching and retrieving information from the database to be an advertising software module, as claimed. TTI-1030, [1173]-[1175].

[1.13]

See Ground 1, Claims [7.5.2], [1.8]-[1.12]. The remote server is a web service. TTI-1030, [1176].

[1.14]

See Ground 1, Claims [7.5.1], [1.8]-[1.10]. The web service processes the received user authentication credentials and the new-data when it stores and publishes the received images in secure photo albums or otherwise as disclosed in Kahn or via a print shop with customer authentication as disclosed in Hiroishi,

which would be implemented as a web-based server per Kahn. TTI-1030, [1177].

[2]/[5]

See Ground 1, Claims [8]-[11]. TTI-1030, [1178]-[1181].

[6]

Hiroishi-Kahn-Bluetooth renders claim 6 obvious. TTI-1030, [1182]; *see also* Ground 1, Claim [1.16]. In the combination, Kahn teaches that the image manager stores the images in an image server and “stores the location ID information in the metadata database.” TTI-1017, [0098]. “The metadata, including the location ID, is stored as a database record in a database table in the metadata database.” *Id.* The database table “includes fields for user ID, timestamp (date/time), and location ID (longitude and latitude decimal values).” *Id.* This database table that includes the user ID, timestamp, and location ID is a user profile. *See Ground 1, Claim [1.16]*. Kahn also teaches that “the location information may be used to offer location-dependent promotions to the user.” TTI-1017, [0051]. Because the location information is stored in the user profile, a POSITA would have recognized Kahn for teaching that the location-dependent promotions are based on the user profile. TTI-1030, [1182].

[12.P]/[12.2.2]

See Ground 1, Claim [7.P]-[7.2.2]. TTI-1030, [1183]-[1184].

[12.3.1]

Hiroishi-Kahn-Bluetooth renders obvious Element [12.2]. TTI-1030, [1185]-[1186]. For example, Hiroishi teaches sending, from the program running on the mobile phone, a thumbnail instruction to the camera, which is a polling instruction. *See, e.g.*, TTI-1011, [0081], [0084], [0102], FIGS. 5-6; TTI-1019, 235-237, 315-337. The thumbnail instruction is sent to determine the images available in the camera's memory for transmission. *Id.* In response, the camera sends thumbnails of the images stored in the camera's memory. *Id.*, [0081]-[0084]. These thumbnails represent the full resolution images that are available for transfer. *See Ground 1, Claim*, [7.3.1]-[7.3.2].

In addition, or in the alternative, Bluetooth teaches polling. *See, e.g.*, TTI-1019, 332 (8.6.1 Polling in the active mode). Specifically, Bluetooth teaches that “to avoid collisions on the ACL logical transport, a slave is only allowed to transmit **when addressed** by the LT_ADDR in the packet header in the preceding master-to-slave slot.” *Id.* (emphasis added). A POSITA would have recognized that the Bluetooth operations taught by Hiroishi satisfy elements [1.3.1]-[1.3.2]. TTI-1030, [1185]-[1186].

[12.3.2]

The Hiroishi-Kahn-Bluetooth combination teaches that the program on the mobile phone sends a thumbnail instruction to the camera. *See Ground 1, Claims* [7.3.1]-[7.3.2], [12.3.1]. The camera response to a thumbnail instruction with a set

of newly captured images stored in memory that are available for transfer. *Id.*; *see also* TTI-1011, [0081]-[0084], FIG. 7C; TTI-1030, [1187]-[1188]. Thus, the thumbnail instruction of Hiroishi constitutes polling. TTI-1030, [1187]-[1188].

In addition, or in the alternative, Hiroishi's use of Bluetooth satisfies [12.3.2]. *See* Ground 1, Claim [12.3.1]. Bluetooth uses polling to, e.g., control slave transmissions to avoid collisions on the transport channel. TTI-1019, 235-237, 315-337, 332 (8.6.1 Polling in the active mode); TTI-1030, [1187]-[1188].

[12.3.3]-[12.6]

See Ground 1, Claim [7.3.3]-[7.6]. TTI-1030, [1189]-[1192].

[13]-[16]

See Ground 1, Claim [8]-[11]. TTI-1030, [1193]-[1196].

**VII. GROUND 2—CLAIMS 1-16 ARE OBVIOUS OVER SINGH129
IN VIEW OF SINGH906**

Singh129 provides the same disclosure as the '381 patent, including the subject matter disclosed in '802 application. *Compare* TTI-1007 and TTI-1009. Singh906 provides the same disclosure as the incorporated '802 application. *Compare* TTI-1010 to TTI-1026. And it would have been obvious to combine Singh129 with teachings found in Singh906 to arrive at the Challenged Claims, particularly because Singh906 is referenced by Singh129 and discloses an alternative publishing system. A POSITA would look to the features of both systems when considering an improved publishing system. TTI-1030, [1197]-

[1200].

Patent Owner should not be heard to argue that the combination of Singh129 and Singh906 fails to disclose each limitation of the Challenged Claims because such an argument would necessarily be an admission that the '381 patent lacks written description. Rather, the only question is whether it would have been obvious to combine the Singh129 embodiment with the teachings concerning the distinct embodiment of Singh906. The answer to this question is “yes.”

Specifically, it would have been obvious to modify Singh129's: (1) database 401d to include user profiles as taught by Singh906; (2) back end service 401b to include an advertisement selection tool and an advertisement splicer as taught by Singh906; and (3) client application 203 to include an advertising module that displays advertisements as taught by Singh906. TTI-1030, [1197]-[1200].

A person of ordinary skill in the art would have been motivated to make these modifications for several reasons. For example, a skilled artisan starting with Singh129 would naturally look to Singh906 because Singh129 incorporates by reference the '802 application that published as Singh906. TTI-1030, [1197]-[1200].

Furthermore, the proposed modifications would have enabled Singh129's system to display targeted advertisements on mobile devices and websites (*e.g.*, “Flickr™, Picasa™, YouTube™, eBay®, etc.”). Singh129, [0042]. The addition

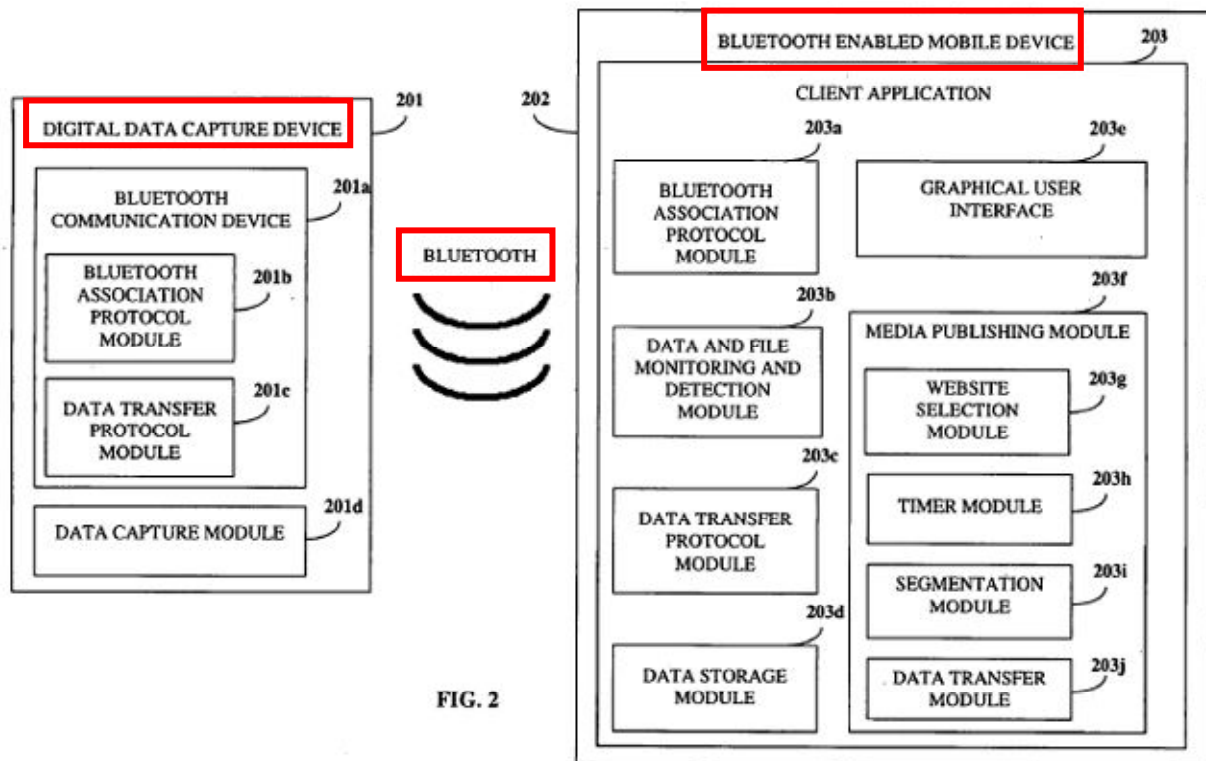
of targeted advertising to Singh129's system would have been beneficial for various reasons. TTI-1003, [1197]-[1200]. For example, it would have generated a source of revenue to support Singh129's media publishing service and thus also allow the operator of the system to make money while providing services to users at either no cost or a reduced cost. *Id*; Singh906, [0009].

A person of ordinary skill in the art also would have been motivated to modify Singh129's user preferences to include authentication credentials and global positioning system information as taught by Signh906. TTI-1030, [1197]-[1200]. Indeed, adding authentication credentials and global position system information to Singh129's user preferences would have given the user more control over the publishing of their multimedia content. *Id*.

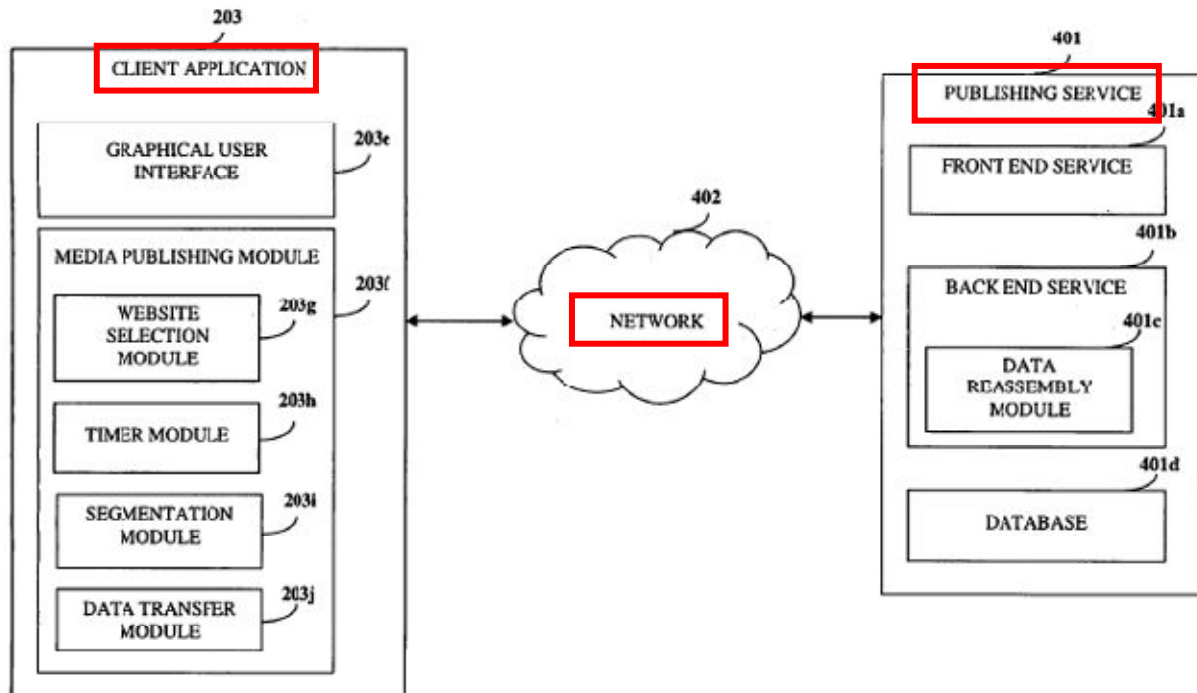
A POSITA would have had a reasonable expectation of success when modifying Singh129 as described above. TTI-1030, [1197]-[1200]. Indeed, the proposed modifications required no more than the application of known techniques (using an advertisement selection tool, advertisement splicer, advertising module, authentication credentials, and GPS information) to a known system (Singh129's system) in the same field of endeavor (media publishing) and from the same assignee (CellSpinSoft) to obtain the benefits described above. Furthermore, in the resulting system, each element merely performs the same predictable functions as before. *Id*.

[1.P]

To the extent the preamble is limiting, the Singh129/Singh906 combination renders obvious element [1.P]. TTI-1030, [1201]. For example, the Singh129/Singh906 combination includes a system comprising Singh129's digital data capture device 201, BT enabled mobile device 202, and publishing service 401. TTI-1009 (Singh129), Figs. 2, 4.



Id., Fig. 2 (annotated).



Id., Fig. 4 (annotated)

[1.1]

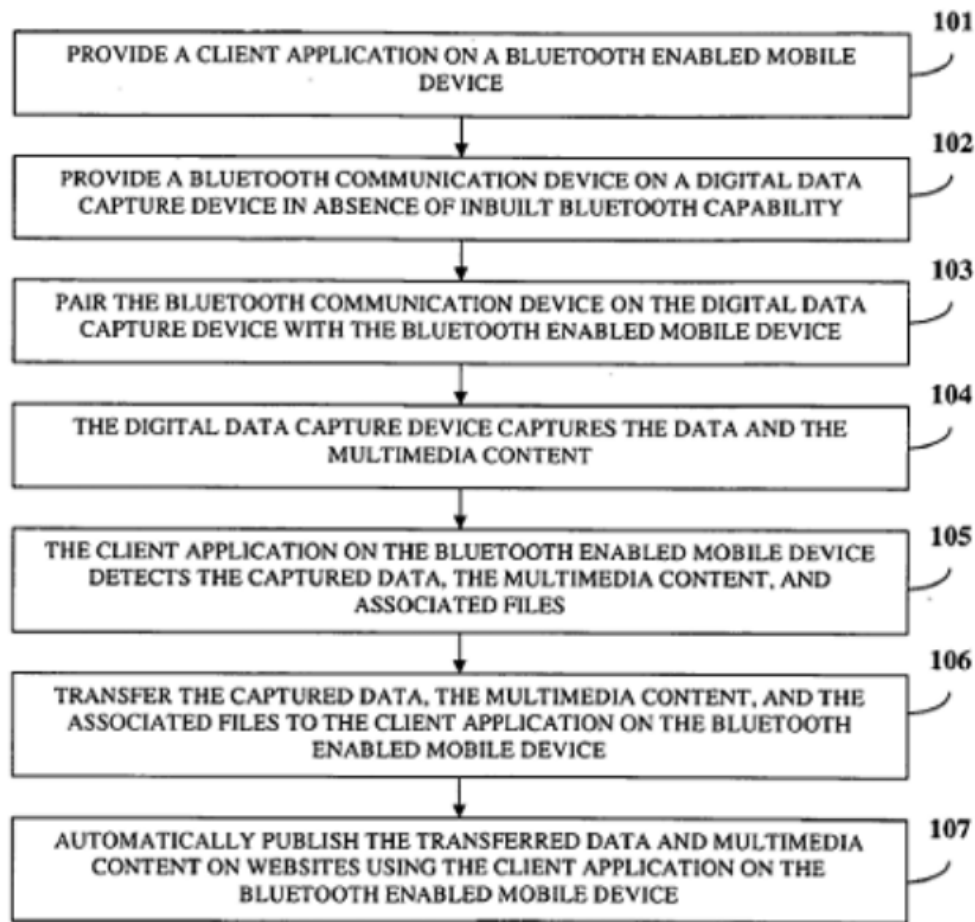
The Singh129/Singh906 combination renders obvious element [1.1]. TTI-1030, [1202]. The Singh129/Singh906 combination includes a mobile software application (Singh129's client application 203 modified to include an advertising module as taught by Singh906) for a Bluetooth enabled cellular phone (Singh129's mobile device 202, which can be a "mobile phone"), wherein the mobile software application is embodied as executable program instructions that, when executed by a processor of the Bluetooth enabled cellular phone, is configured to perform the recited functions as explained below. TTI-1009 (Singh129), Figs. 2, 4, [0020], [0046], [0048].

[1.2]

The Singh129/Singh906 combination renders obvious element [1.2]. TTI-1030, [1203]. The Singh129/Singh906 combination's mobile software application is configured to detect (via Singh129's data and file monitoring and detection module 203b) and receive (via Singh129's data transfer protocol module 203c) new-data ("the captured data, the multimedia content, and files associated with the captured data and the multimedia content") acquired in a Bluetooth enabled data capture device (Singh129's "BluetoothTM enabled mobile device 202"). TTI-1009, Abstract, Figs. 1-2, [0009]-[0010], [0019], [0023], [0033]-[0034]. "The data and multimedia content may, for example, comprise image files, audio files, video files, text files, or any combination thereof." TTI-1009, [0023].

[1.3.1]

The Singh129/Singh906 combination renders obvious element [1.3.1]. TTI-1030, [1204]. As shown in Figure 1 of Singh129, the new-data is data acquired by the Bluetooth enabled data capture device in step 104 after establishing (in step 103) a paired Bluetooth connection between the data capture device and the cellular phone. TTI-1009, Fig. 1, [0021]-[0023], [0033], [0041].



TTI-1009, Fig. 1.

[1.3.2]

The Singh129/Singh906 combination renders obvious element [1.3.2]. TTI-1030, [1205]. As explained in Singh129 (at [0021]), the Bluetooth paired connection (Singh129's step 103) comprises the Bluetooth enabled data capture device cryptographically authenticating an identity of the Bluetooth enabled cellular phone using "a common password known as a passkey [that] is exchanged between the BT communication device 201a and the mobile device 202." TTI-

1009, [0021] (“A BT device that wants to communicate only with a trusted device can cryptographically authenticate the identity of another BT device.”)

[1.4.1]

The Singh129/Singh906 combination renders obvious element [1.4.1]. TTI-1030, [1206]. Detecting and receiving new-data in the Bluetooth enabled data capture device comprises: said mobile software application for the Bluetooth enabled cellular phone configured to listen (via Singh129’s “file event listener in the client application 203”) for an event notification (Singh129’s “signal from the digital data capture device 201”), sent from the Bluetooth enabled data capture device “in the event a new file is created,” over the established paired Bluetooth connection. TTI-1009, [0025]; *see also* [0021]-[0022].

[1.4.2]

The Singh129/Singh906 combination renders obvious element [1.4.2]. TTI-1030, [1207]. The event notification corresponds to the acquired new-data (because it is sent “in the event a new file is created”) and comprises sending a signal from the Bluetooth enabled data capture device (Singh129’s “signal [that is sent] from the digital data capture device 201”) to the Bluetooth enabled cellular phone. TTI-1009, [0025].

[1.4.3]

The Singh129/Singh906 combination renders obvious element [1.4.3]. TTI-

1030, [1208]. The mobile software application for the Bluetooth enabled cellular phone is configured to receive, from the Bluetooth enabled data capture device, the event notification and the acquired new-data over the established paired Bluetooth connection. TTI-1009, [0025] (“A file event listener in the client application 203 listens for the signal from the digital data capture device 201. The user may then initiate the transfer by a press of a button or a key on the digital data capture device 201.”).

[1.5]

The Singh129/Singh906 combination renders obvious element [1.5]. TTI-1030, [1209]. The mobile software application is configured to store the received new-data in a memory (Singh129’s “data storage module 203d”) of the Bluetooth enabled cellular phone. TTI-1009, Fig. 2, [0033], [0035] (“The data storage module 203d stores the captured data, the multimedia content, and the associated files on the mobile device 202.”), [0037] (“In the case of a mobile device 202 with limited memory and processing capabilities, the client application 203 partitions the multimedia content of large files stored on the mobile device 202 into multiple data segments using the segmentation module 203i.”), [0048] (describing various forms of memory).

[1.6.1]

The Singh129/Singh906 combination renders obvious element [1.6.1]. TTI-

1030, [1210]. The mobile software application is configured to use HTTP to transfer (using Singh129's data transfer module 203i) the received new-data along with a user authentication credential (Singh129's user preferences modified to include Singh906's "authentication ID") to a remote server (Singh129's front end service 401a alone or in combination with Singh129's database 401d) over a cellular data network (Singh129's network 402, which may be "a cellular network"). *Id.*; TTI-1009, [0039], [0040], [0046]- [0047] ("The transport protocol that is used between the client application 203 and the publishing service 401 may be hypertext transfer protocol (HTTP)..."); TTI-1010, Fig. 4, [0023] ("The user preferences may comprise authentication credentials....")

[1.6.2]

The Singh129/Singh906 combination renders obvious element [1.6.2]. TTI-1030, [1211]. The mobile software application is further configured to use HTTP to send a user preference (e.g., "websites selected for publishing the data and multimedia content" as taught by Singh129, authentication credentials as taught by Singh906, and/or GPS information as taught by Singh906) to the remote server over the cellular data network. *Id.*; TTI-1009, [0028]; TTI-1010, [0023] ("authentication credentials" and "global positioning system geographical codes").

[1.7]

The Singh129/Singh906 combination renders obvious element [1.7]. TTI-

1030, [1212]. The mobile software application is configured to display (using an advertising module 202c as taught by Singh 906) a mobile advertisement (*see* example below in Fig. 3 of Singh906). TTI-1010, Fig. 3, [0007], [0022], [0032]. In the combination, those advertisements would be displayed on Singh129's mobile device.



TTI-1010, Fig. 3.

[1.8]

The Singh129/Singh906 combination renders obvious element [1.8]. TTI-1030, [1213]. The Singh129/Singh906 combination's system includes an online

data publishing web service (Singh129's publishing service 401 modified to include targeted advertising functionality as taught by Singh906). *Id.*; TTI-1009, Fig. 4, [0026]; TTI-1010, Fig. 2, [0018], [0034]-[0037].

[1.9]

The Singh129/Singh906 combination renders obvious element [1.9]. TTI-1030, [1214]. In the combination, the remote server (Singh129's front end service 401a) is configured with a network connection (Singh129's network 402, which connects the client application and the publishing service) to communicate with the mobile software application. *Id.*; TTI-1009, Fig. 4, [0026], [0037]-[0039].

[1.10]

The Singh129/Singh906 combination renders obvious element [1.10]. TTI-1030, [1215]. In the combination, the online data publishing web service includes a user authentication software module (Singh906's user authentication module 204g, which is included in Singh129's publishing service in the Singh129/Singh906 combination), wherein the user authentication software module processes the user authentication credential received from the mobile software application and stored in the back end service as taught by Singh906. *Id.*; TTI-1010, Fig. 1 (Step 104), Fig. 4 (steps 407, 410), [0028], [0034] ("a user authentication module 204g."), [0035] ("The back end service 204c is provided with credentials for user authentication"), [0037] ("The user 201 is authenticated"),

[0047] (“authentication identification”), [0049] (“The front end service 204b ... authenticates 410 the user 201....”).

[1.11]

The Singh129/Singh906 combination renders obvious element [1.11]. TTI-1030, [1216]. In the combination, the online data publishing web service includes a database (Singh129’s database 410d), which is modified to store a user profile as taught by Singh906. *Id.*; TTI-1009, Fig. 4, [0040], [0049]; TTI-1010, Fig. 2, [0034] (“The database 204a of the publishing service 204 comprises user profiles....”).

[1.12]

The Singh129/Singh906 combination renders obvious element [1.12]. TTI-1030, [1217]. In the combination, the online data publishing web service includes a mobile software application advertising software module (Singh906’s backend service 4024c, which includes advertisement selection tool 204e), wherein the mobile software application advertising software module selects advertisements based on the user profile and sends the selected advertisements (via Singh129’s front end service 401a and network 402) to the mobile software application. *Id.*; TTI-1010, Figs. 2-3, [0032], [0036] (“Targeted advertisements based on the user profile may be selected from the database 204a....”).

[1.13]

The Singh129/Singh906 combination renders obvious element [1.13]. TTI-1030, [1218]. In the combination, the online data publishing web service is configured to receive the new-data and the user authentication credential from the Bluetooth enabled cellular phone via HTTP. *See* Ground 2, element [1.6.1]; TTI-1030, [1218].

[1.14]

The Singh129/Singh906 combination renders obvious element [1.14]. TTI-1030, [1219]. In the combination, the online data publishing web service is configured to process the received user authentication credential (e.g., by using the authentication credential to authenticate the user) and the new-data (e.g., by reassembling the data segments, splicing advertisement into the new data, and/or publishing the new-data with advertisements). *Id.*; Ground 2, element [1.10] (processing the received user authentication credential); TTI-1009, [0040], TTI-1010, [0024].

[2]

The Singh129/Singh906 combination renders obvious claim 2. TTI-1030, [1220]. The user authentication credential (*see* [1.6.1]) is stored in the memory of the Bluetooth enabled cellular phone (Singh129's data storage module 203d). *Id.*; TTI-1009, Fig. 2, [0042]; TTI-1010, [0028]. In the combination, Singh129's user preferences include user authentication credentials. And Singh129 confirms that

the “user 502 may ... store the preferences on the mobile device 202.” TTI-1009, [0042]. As explained in Ground 2, elements [1.10] and [1.14], the user authentication credential is used by the remote server to authenticate a user. TTI-1030, [1220].

/3/

The Singh129/Singh906 combination renders obvious claim 3. TTI-1030, [1221]. The remote server (*see* [1.6.1]) is configured to store the new-data. *Id.*; TTI-1009, [0040] (“The transferred data and multimedia content is stored in the database 401d of the publishing service 401.”).

/4/

The Singh129/Singh906 combination renders obvious claim 4. TTI-1030, [1222]. The mobile software application (*see* [1.1]-[1.7]) provides a touch based GUI (Singh129’s GUI 203e) for the received new-data. *Id.*; TTI-1009, [0033], [0035]. Singh906 further discloses a touch based GUI. TTI-1010, FIGs 2, 4, [0023], [0025], [0029], [0042].

/5/

The Singh129/Singh906 combination renders obvious claim 5. TTI-1030, [1223]. As explained in Ground 2, Element [1.7], the mobile software application provides an advertisement to the user on the touch screen of the mobile device. That advertisement is a touch based advertisement. TTI-1030, [1223]; TTI-1010,

Fig. 3, [0023] (“Depending on the interface provided by the mobile device, the single input action of the user 201 may be a click or touch of a button provided on the graphical user interface 202a of the mobile device....”).

[6]

The Singh129/Singh906 combination renders obvious claim 6. TTI-1030, [1224]. As explained in Ground 2, Element [1.12], the mobile advertisement is based on the user profile.

[7]

See Ground 2, Elements [1.1]-[1.8]. TTI-1030, [1225].

[8-11]

See Ground 2, Claims [2]-[5]. TTI-1030, [1226].

[12.P-12.2.2], [12.3.3-12.6]

See Ground 2, Elements [1.1]-[1.3.2], [1.4.3]-[1.8]. TTI-1030, [1227].

[12.3.1]-[12.3.2]

The Singh129/Singh906 combination renders obvious element [12.3.1]-[12.3.2]. TTI-1030, [1228]. Detecting and receiving new-data in the Bluetooth enabled data capture device comprises: said mobile software application for the Bluetooth enabled cellular phone configured to (in the “pull mode”) poll the Bluetooth enabled data capture device, over the established paired Bluetooth connection. *Id.*; TTI-1009, [0023] (“In the pull mode, the client application 203

periodically polls the digital data capture device 201 to determine the creation of a new file in the digital data capture device 201.”).

[13]/[16]

See Ground 2, Claims [8]-[11].

VIII. DISCRETIONARY CONSIDERATIONS

A. The *Advanced Bionics* Test Favors Institution—§325(d)

Advanced Bionics and the *Becton* factors strongly favor institution.

Advanced Bionics LLC v. MED-EL Elektromedizinische Gerate GmbH, IPR2019-01469, Paper 6 (PTAB Feb. 13, 2020) (precedential); *Becton, Dickinson and Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017) (precedential). Under Part I of the two-part framework, the board considers “whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office.” *Advanced Bionics*, IPR2019-01469, Paper 6 at 7-9.

If the Board finds that Part 1 of the test is satisfied (it is not), the board must consider “whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of the challenged claims,” based on the considerations under the *Becton Dickinson* factors C, E and F. *Advanced Bionics*, IPR2019-01469, Paper 6 at 7-9. Here, the examiner clearly erred by withdrawing the written description objections to the challenged claims. As discussed above in Section V,

although the examiner identified individual limitations that are not disclosed in the specification of the '381 patent, the examiner did not analyze whether the applicants were in possession of the claimed combinations of elements that mix and match features from unrelated patent applications and the examiner failed to recognize that the '381 patent improperly incorporates by reference essential material disclosed in the '802 application. As a result, the examiner incorrectly assumed that the challenged claims are entitled to a priority date earlier than December 4, 2021, and thus did not analyze whether the challenged claims were obvious over Singh129 in view of Singh906.

In addition, the examiner did not consider the grounds presented in the remaining grounds of this Petition.

Accordingly, the Board should not exercise its discretion under §325(d).

B. The *Fintiv* Factors Favor Institution—§314(a)

The PTAB considers a set of non-exclusive factors (the *Fintiv* factors) in determining whether to institute an IPR proceeding where there is parallel district court litigation. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential). On June 21, 2022, Director Vidal issued “binding agency guidance” entitled “Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation.” TTI-1034 (hereinafter the “Interim Guidance”). This Interim Guidance presents “several

clarifications... to the PTAB's... application of *Fintiv* to discretionary institution where there is parallel litigation.” *Id.*, 2.

One clarification provided by the Interim Guidance specifies the effect of particular types of stipulations presented by petitioners on the Board's application of the *Fintiv* framework. *Id.*, 3, 7-8. In particular, the Interim Guidance unequivocally states that “***the PTAB will not discretionarily deny institution*** of an IPR or PGR in view of parallel district court litigation where a petitioner stipulates not to pursue in a parallel district court proceeding the same grounds as in the petition or any grounds that could have reasonably been raised in the petition.” *Id.*, 7 (emphasis added) (citing *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020)). In the present case, Petitioner presents a stipulation, should institution be granted, not to pursue in the parallel district court proceeding the same grounds as in the Petition or any grounds that could have reasonably been raised in the Petition if this IPR is instituted. *See* TTI-1035. Accordingly, based on the Interim Guidance, institution of the Petition ***should not*** be discretionarily denied in view of the parallel district court proceeding. *See* TTI-1034, 7.

IX. PAYMENT OF FEES – 37 C.F.R. §42.103

Petitioner authorizes the Patent and Trademark Office to charge Deposit Account No. 06-1050.

X. MANDATORY NOTICES UNDER 37 C.F.R § 42.8(A)(1)

A. Real Party-In-Interest Under 37 C.F.R. § 42.8(b)(1)

TikTok Inc., Bytedance Inc., Bytedance Ltd., Bytedance Pte Ltd., and TikTok Pte Ltd. are the real parties-in-interest.

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

Petitioner is not aware of any disclaimers, reexamination certificates, or petitions for *inter partes* review for the '381 patent. The '381 patent is the subject of a civil action *CellSpin Soft, Inc. v. ByteDance, Ltd. et al.*, Case No. 2:23-cv-496 (E.D. Tex.).

The '381 patent is in the same family as U.S. Patent Nos. 11,234,121 (“the '121 patent”), 9,900,766 (“the '766 patent”), 8,756,336 (“the '336 patent”), 8,862,757 (“the '757 patent”), 8,898,260 (“the '260 patent”), and 8,904,030 (“the '030 patent”). Petitioner is concurrently petitioning for *Inter Partes* Review of the '381, '121, '766, '336, '757, '260, and '030 patents.

The '831 patent is also in the same family as U.S. Pat. No. 9,258,698, which was the subject of IPR2019-00127, IPR2019-00131, IPR2019-01107, and IPR2019-01108.

U.S. Patent Application No. 18/193,686 is in the same patent family as the '381, '121, '766, '336, '757, '260, and '030 patents and is currently pending before the Patent Office.

C. Lead And Back-Up Counsel Under 37 C.F.R. § 42.8(b)(3)

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D. Service Information

Please address correspondence/service to the above-listed address.

Petitioner consents to email service at IPR50048-0054IP1@fr.com.

Respectfully submitted,

Dated: April 5, 2024

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CERTIFICATION UNDER 37 CFR § 42.24

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Petition for *Inter Partes* Review totals 13,810 words, which is less than the 14,000 allowed under 37 CFR § 42.24.

Dated: April 5, 2024

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(4)(i) *et seq.* and 42.105(b), the undersigned certifies that on April 5, 2024, a complete and entire copy of this Petition for *Inter Partes* Review and all supporting exhibits were provided via Federal Express, to the Patent Owner, by serving the correspondence address of record as follows:

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