

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

SECURE COMMUNICATION TECHNOLOGIES, LLC,
Patent Owner.

Case No. IPR2026-00098
Patent No. 11,995,685

**PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. § 42.1 et seq**

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<i>Ohio Willow Wood Co. v. Alps South, LLC</i> , 735 F.3d 1333 (Fed. Cir. 2013)	5

EXHIBIT LIST

Exhibit	Description
1001	U.S. Patent No. 11,995,685
1002	Prosecution History of U.S. Patent No. 11,995,685
1003	Declaration of Mark Lanning
1004	Curriculum Vitae of Mark Lanning
1005	U.S. Patent Application No. 2005/0250552 (“Eagle”)
1006	U.S. Patent Application Publication No. 2010/0138481 (“Behrens”)
1007	U.S. Patent No. 7,590,086 (“Olkkonen”)
1008	Bluetooth Special Interest Group, Bluetooth Core Specification Version 2.1 + EDR (July 26, 2007)
1009	Bluetooth Special Interest Group, Assigned Numbers (December 14, 2002) (https://web.archive.org/web/20021214114356/http://www.bluetooth.org/assigned-numbers/baseband.htm)
1010	U.S. Patent Application Publication No. 2002/0131445
1011	U.S. Patent Application Publication No. 2002/0174364
1012	U.S. Patent Application Publication No. 2005/0164717
1013	U.S. Patent Application Publication No. 2006/0165100
1014	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00903, Paper 2 (Petition for <i>Inter Partes</i> Review) (P.T.A.B May 8, 2020)
1015	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00903, Paper 31 (Final Written Decision) (P.T.A.B Nov. 8, 2021)
1016	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00904, Paper 2 (Petition for <i>Inter Partes</i> Review) (P.T.A.B May 8, 2020)
1017	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00904, Paper 30 (Final Written Decision) (P.T.A.B Nov. 8, 2021)
1018	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00931, Paper 2 (Petition for <i>Inter Partes</i> Review) (P.T.A.B May 15, 2020)
1019	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00931, Paper 30 (Final Written Decision) (P.T.A.B Nov. 8, 2021)
1020	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00932, Paper 2 (Petition for <i>Inter Partes</i> Review) (P.T.A.B May 15, 2020)
1021	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00932, Paper 30 (Final Written Decision) (P.T.A.B Nov. 8, 2021)
1022	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00933, Paper 2 (Petition for <i>Inter Partes</i> Review) (P.T.A.B May 15, 2020)

Exhibit	Description
1023	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00933, Paper 30 (Final Written Decision) (P.T.A.B Nov. 8, 2021)
1024	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00934, Paper 2 (Petition for <i>Inter Partes</i> Review) (P.T.A.B May 27, 2020)
1025	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00934, Paper 31 (Final Written Decision) (P.T.A.B Nov. 30, 2021)
1026	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00977, Paper 2 (Petition for <i>Inter Partes</i> Review) (P.T.A.B May 27, 2020)
1027	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00977, Paper 31 (Final Written Decision) (P.T.A.B Nov. 30, 2021)
1028	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00978, Paper 2 (Petition for <i>Inter Partes</i> Review) (P.T.A.B. June 1, 2020)
1029	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00978, Paper 10 (Decision Denying Institution) (P.T.A.B. Dec. 4, 2020)
1030	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00979, Paper 2 (Petition for <i>Inter Partes</i> Review) (P.T.A.B. June 1, 2020)
1031	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00979, Paper 33 (Final Written Decision) (P.T.A.B Nov. 30, 2021)
1032	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00980, Paper 2 (Petition for <i>Inter Partes</i> Review) (P.T.A.B June 1, 2020)
1033	<i>Target Corporation v. Proxicom Wireless, LLC</i> , IPR2020-00980, Paper 32 (Final Written Decision) (P.T.A.B Nov. 30, 2021)
1034	<i>Target Corporation v. Proxicom Wireless, LLC</i> , Nos. 2022-1282, 2022-1283, 2022-1338, 2022-1339, 2023 U.S. App. LEXIS 24861 (Fed. Cir. Sep. 20, 2023) (nonprecedential)
1035	Apple Inc., iPhone 3G Technical Specifications (https://web.archive.org/web/20080725084414/http://www.apple.com/iphone/specs.html)
1036	Apple Inc., iPhone User Guide for iPhone OS 3.1 Software (https://cdsassets.apple.com/live/6GJYWVAV/user/ma616_iphone_ios3_1_user_guide.pdf)
1037	[RESERVED]
1038	U.S. Patent Application Publication No. 2007/0264991 (“Jones”)
1039-1046	[RESERVED]
1047	U.S. Patent Application Publication No. 2003/0224756 (“Kallio”)

MANDATORY NOTICES

A. Real Party-In-Interest

Petitioner Google LLC¹ is a real party-in-interest to this proceeding under 37 C.F.R. §42.8(b)(1).

B. Related Matters

A decision in this proceeding could affect or be affected by the following.

1. United States Patent & Trademark Office

U.S. Patent No. 11,995,685 issued from application no. 18/204,528, filed 2023-06-01, and claims priority to the following applications:

Application No.	Filing Date
17/942,197	2022-09-12
17/366,826	2021-07-02
16/817,896	2020-03-13
15/271,410	2016-09-21
14/861,563	2015-09-22
14/472,477	2014-08-29
13/775,435	2013-02-25
13/212,723	2011-08-18
12/364,828	2009-02-03
61/095,359	2008-09-09
61/095,001	2008-09-08

¹ Google LLC is a subsidiary of XXVI Holdings Inc., which is a subsidiary of Alphabet Inc. XXVI Holdings Inc. and Alphabet Inc. are not real parties-in-interest to this proceeding.

The following patent applications claim priority to U.S. Patent No. 11,995,685 and application no. 18/204,528:

Application No.	Filing Date
19/027,075 (pending)	2025-01-17
19/027,020 (pending)	2025-01-17
18/437,306	2024-02-09

Petitioner recently filed petitions for *inter partes* review of U.S. Patent Nos. 11,687,971 (application 17/942,197; IPR2025-01183), 11,443,344 (application 17/366,826; IPR2025-01182), and 11,344,918 (application 15/217,410; IPR2025-01181), and recommends assigning this case to the same panel.

2. United States District Court

a. Western District of Texas

Secure Communication Technologies, LLC. v. Google LLC, No. 1:25-cv-01207 (W.D. Tex.), filed 2025-08-04. U.S. Patent No. 11,995,685 was added to this district court case in an amended complaint filed 2025-09-08.

C. Counsel and Service Information - §§42.8(b)(3) and (4)

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A power of attorney is submitted with the Petition. Counsel for Petitioner consents to service of all documents via electronic mail.

Petitioner requests *inter partes* review (IPR) and cancellation of claims 1-8, 10, 12-16, 19, 22-23, 25-27, 31-41, 44-48, 52-55, 57-64, 67-71, 73, 76-81, 85-87 (“Challenged Claims”) of U.S. Patent No. 11,995,685 (EX1001, the “’685”).

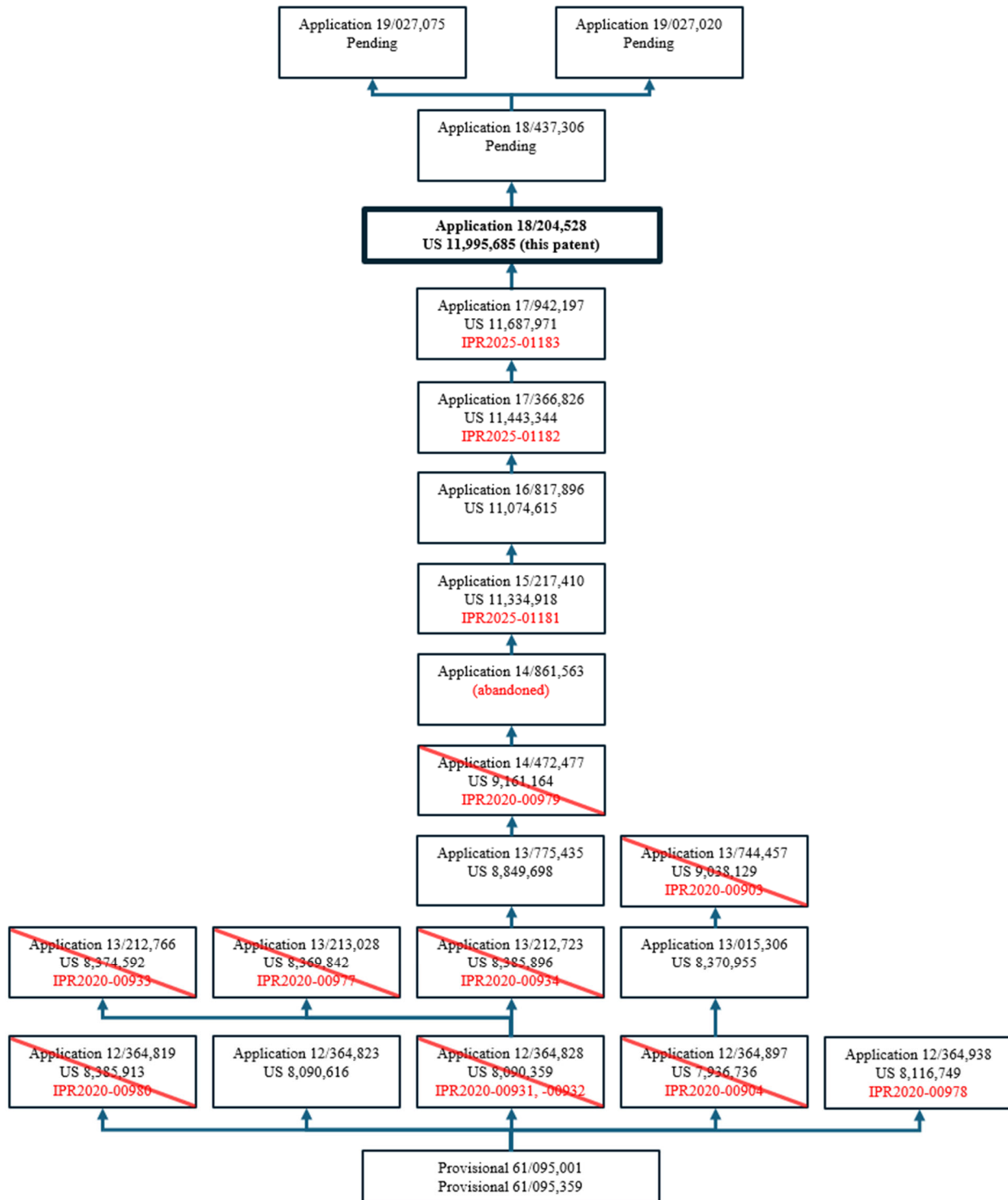
I. INTRODUCTION

The ’685 is directed to a mobile communication architecture for “facilitating the exchange of information” between two wireless devices, each device employing short-range communication (*e.g.*, Bluetooth) and long-range communication (*e.g.*, cellular) wireless capabilities. EX1001, 1:5-24, 1:49-2:63. A first device may detect an identifier transmitted from a second device in short-range proximity and sends information identifying the second device to a server via long-range communications. EX1001, 1:49-2:4, 5:25-34, 5:57-67. Based on policy information stored at the server, the server may alert the first device to the second device’s presence with, *e.g.*, the second device’s contact information. EX1001, 2:5-14, 6:7-14, 6:41-59, 6:60-7:8.

This architecture of exchanging information between nearby devices and servers was claimed in earlier patents within the ’685’s family (all claiming priority to the same provisional applications) and previously cancelled by the PTAB as known in the art. Shown in the diagram below, a majority of the family’s earlier patents were challenged before the PTAB, and claims directed to the

device-server architecture were found unpatentable in all but one proceeding.² *See* EX1014-EX1033 (Petitions and Decisions in those IPRs). Unpatentability was further confirmed in the only two IPR proceedings appealed to the CAFC (from IPR2020-00931 and IPR2020-00933). *See* EX1034.

² IPR2020-00978 was denied institution for reasons/limitations not relevant to the '685 claims. EX1029, 15-18.



The '685 claims were prosecuted while the above-described IPRs were pending and follow a similar structure to its parents that issued during that time

(e.g., US 11,687,971), by including three overall concepts: (1) the short-range and long-range communications architecture described above and found to be squarely in the prior art; (2) changing device identifiers over time, also found to be in the prior art; and (3) filtering based on short-range service identifiers. The PTAB already determined that the first two features, in combination, were well-known based on Eagle (EX1005) and Behrens (EX1006).³ Likewise, the PTAB has previously found that criteria-based filtering of short-range communicated identifiers was also known.⁴ Patent Owner is estopped from challenging here the

³ See EX1015, 7-8 and 15-34 (PTAB determining that Eagle anticipated claims including a server receiving a unique identifier from a wireless device over a “wide area link,” where that wireless device received the unique identifier from another wireless device over a “local wireless link,” and transmitting information back to the wireless device based on a policy); EX1031, 46-49 (PTAB acknowledging that Behrens teaches using “a combination of UIDs” and that users may “exercise control over which or how many UIDs are transmitted”).

⁴ See EX1015, 17, 24 (PTAB finding that Eagle discloses determining which unique identifiers to send to the server); EX1033, 18-23 (PTAB determining that prior art systems disclosed suppressing/filtering communications to servers where unique identifiers were previously encountered).

PTAB’s findings regarding the same prior art teachings. *Ohio Willow Wood Co. v. Alps South, LLC*, 735 F.3d 1333, 1342 (Fed. Cir. 2013) (“Collateral estoppel protects a party from having to litigate issues that have been fully and fairly tried in a previous action and adversely resolved against a party-opponent.”).

As Patent Owner’s claims were being cancelled in previous IPRs, continuation patents were pursued to switch its filtering criteria to a newly claimed but existing parameter (service identifier) of Bluetooth communications taken from the prior art. The addition of filtering for known Bluetooth service identifiers to the claims cannot confer patentability because the reception of service identifiers and their use in filtering search results was known in the prior art, as Olkkonen (EX1007) illustrates.

Ground 1 explains how Eagle in view of Behrens renders obvious most of the challenged claims reciting the same short-range/long-range architecture and changing identifiers previously presented to the PTAB—and Olkkonen renders obvious the “new” but trivial feature of using a service identifier for filtering.

Ground 2 explains how Kallio (EX1047) further renders obvious dependent claims reciting MAC-address-formatted numbers as identifiers.

Grounds 3-4 explain how Jones (EX1038) further renders obvious dependent claims reciting the selection of an image in a user interface.

Accordingly, Petitioner requests that the Board institute IPR and cancel the Challenged Claims.

II. STANDING CERTIFICATION

Petitioner certifies that the '685 is available for IPR and that Petitioner is neither barred nor estopped from requesting IPR of the Challenged Claims. 37 C.F.R. §42.104(a).

III. UNPATENTABILITY GROUNDS

The Challenged Claims are unpatentable as follows:

Ground	References	Claims	Pre-AIA Basis
1	Eagle in view of Behrens and Olkkonen	1-8, 10, 12-16, 19, 22-23, 26-27, 31-41, 44-48, 52-54, 57-58, 60-64, 67-71, 73, 76-77, 79-81, 85-86	§103
2	Eagle in view of Behrens, Olkkonen, and Kallio	25, 55, 78	
3	Eagle in view of Behrens, Olkkonen, and Jones	53, 59	
4	Eagle in view of Behrens, Olkkonen, Kallio, and Jones	87	

The '685's earliest possible effective filing date is 2008-09-08. EX1001, code (60). Each relied-upon reference is pre-AIA §102(b) and/or (e) prior art even under the earliest 2008 filing date.

Name	Filing Date	Issue/Publication Date
Eagle (EX1005)	2005-05-05	2005-11-10
Behrens (EX1006)	2008-04-30 (PCT)	2010-06-03
Olkkonen (EX1007)	2004-11-03	2009-09-15
Kallio (EX1047)	2002-05-30	2003-12-04
Jones (EX1038)	2006-05-15	2007-11-15

The Declaration of Mark Lanning (EX1003, ¶¶1-315; “Lanning”) describes the prior art’s scope and content at the time of the '685.

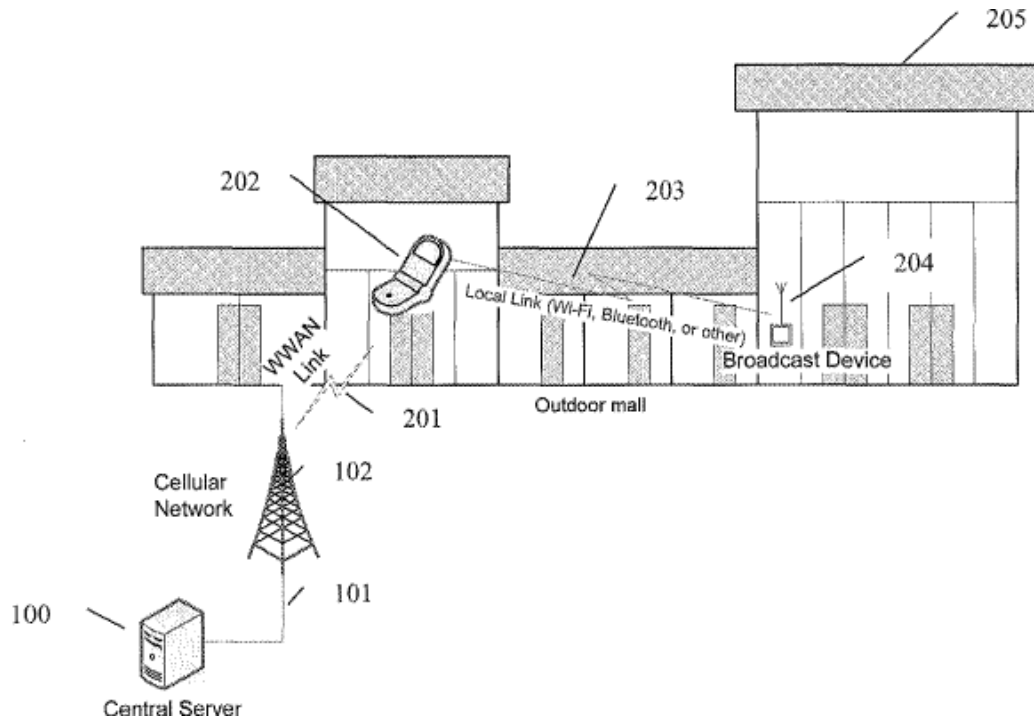
IV. '685 PATENT⁵

A. Background

The '685 is directed to the exchange of information between two wireless devices using short-range communications (*e.g.*, Bluetooth), with the aid of a remote server using long-range communications (*e.g.*, cellular). EX1001, 1:5-24, 1:49-2:63.

⁵ Unless otherwise noted, all emphasis in the Petition (including figure annotations) is added.

Fig. 2 (below) shows one implementation with devices 202 and 204 in short-range communication, and device 202 and server 100 in long-range communication. EX1001, 5:25-34.



Device 204 is associated with a museum exhibit that “transmits identifying information [to device 202] using short range wireless link 203,” which device 202 “passes... to the central server 100,” and server 100 recognizes the information as associated with device 204. EX1001, 5:30-46. The server uses stored account settings or policy information to determine “what information and under which situations information may be disclosed to another device or user” to facilitate further short-range communications. EX1001, 6:60-7:2, 13:53-64, 18:42-60.

Devices in short-range proximity identify themselves with beacon transmissions including a MAC address, unique identifier, and beacon service identifier. EX1001, 2:15-20, 2:35-45, 7:35-40, 8:35-48. Examples of service identifiers in an ad hoc Wi-Fi network include basic service set identifiers (BSSIDs, such as a 48-bit address) and service set identities (SSIDs, which are network names). EX1001, 8:12-54; *see also* Olkkonen, 12:24-30, 18:60-39:39, 27:52-56, 32:20-25, 33:44-60 (describing functionality of known short-range BSSIDs, SSIDs, access codes, and service attributes). Lanning, ¶¶40-69.

B. Prosecution History

The Examiner's rejected claims for double patenting over U.S. Patent Nos. 11,443,344, 11,687,971, and 11,074,615. EX1002, 114-143. Applicant submitted a terminal disclaimer, claim amendments, and new claims in response. EX1002, 318-343.

The Examiner allowed the claims without providing reasons for allowance. EX1002, 345-349 (allowance), 457-570 (additional amendments; corrected allowance). Lanning, ¶70.

C. POSITA

On 2008-09-08, a person having ordinary skill in the art ("POSITA") would have had a Bachelor's degree in electrical or computer engineering, or a related

field, with approximately 3-5 years of experience in wireless communications.⁶ A higher level of education may substitute for less experience. Lanning, ¶¶72-74.

V. CLAIM INTERPRETATION

Claim terms are construed herein using the standard used in civil actions under 35 U.S.C. §282(b), in accordance with the ordinary and customary meaning as understood by a POSITA and the patent's prosecution history. 37 C.F.R. §42.100(b). Remarks regarding the interpretation of claims 5, 39, 59, and 62 are included with their respective mappings in §VI.E.5 and §VIII.A below. No other constructions are required because the claims are unpatentable under any reasonable construction as detailed below.

VI. GROUND 1: EAGLE IN VIEW OF BEHRENS AND OLKKONEN RENDERS OBVIOUS CLAIMS 1-8, 10, 12-16, 19, 22-23, 26-27, 31-41, 44-48, 52-54, 57-58, 60-64, 67-71, 73, 76-77, 79-81, 85-86

A. Eagle (EX1005)

Eagle describes a mobile communication architecture or “social software introduction system” for “facilitating direct communications between consenting persons having similar interests.” Eagle, [0002], [0065].

Cellular phones with Bluetooth identify other nearby devices by a unique identification value (*e.g.*, Bluetooth address). Eagle, [0003], [0018]. When one

⁶ This level was adopted in prior patent family proceedings and is now fixed by estoppel. EX1019, 8-9.

device (hereinafter a “Requester Device”) detects another (an “Identified Device”) using the Identified Device’s unique identification value, the Requester Device notifies a remote server of that value via a long-range cellular network. Eagle, [0003], [0020]. Fig. 2 (below) illustrates devices 203 and 205 and server 220.

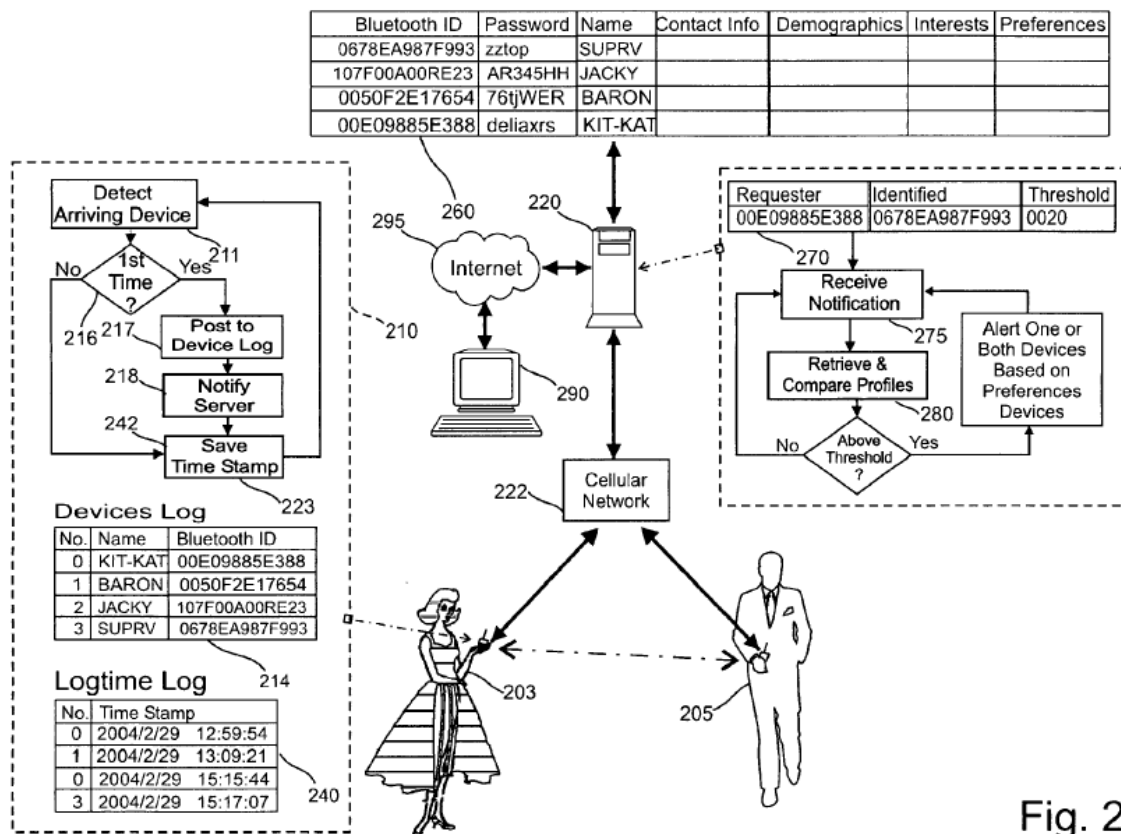


Fig. 2

The server stores profile data describing devices and owners and “fetches the profile data associated with each of the two identified devices and performs a comparison.” Eagle, [0005], [0020]. If the profiles of a Requester Device and an Identified Device match (e.g., their profiles indicate they attended the same college), the server sends an alert to each device. Eagle, [0005]-[0007], [0045], [0047], [0063]. An alert may contain contact information, personal interests, “or

any other information which is of use in a specific application [that] may be of use to identify, or promote communications....” Eagle, [0007], [0021]. Lanning, ¶¶82-85.

B. Behrens (EX1006)

Behrens describes a system for automatically establishing contact between users who are in close proximity to each other. Behrens, Abstract, [0001].

In one example, a wireless device detects the presence of another wireless device by receiving unique identifiers (UIDs) over Bluetooth. Behrens, [0094], [0097]-[0098]. UIDs “consist of any unique or quasi-unique code, number, address, symbol, or a combination thereof, which uniquely identifies a device, and, by association, the owner of the device,” such as MAC and Bluetooth Device Addresses. Behrens, [0097].

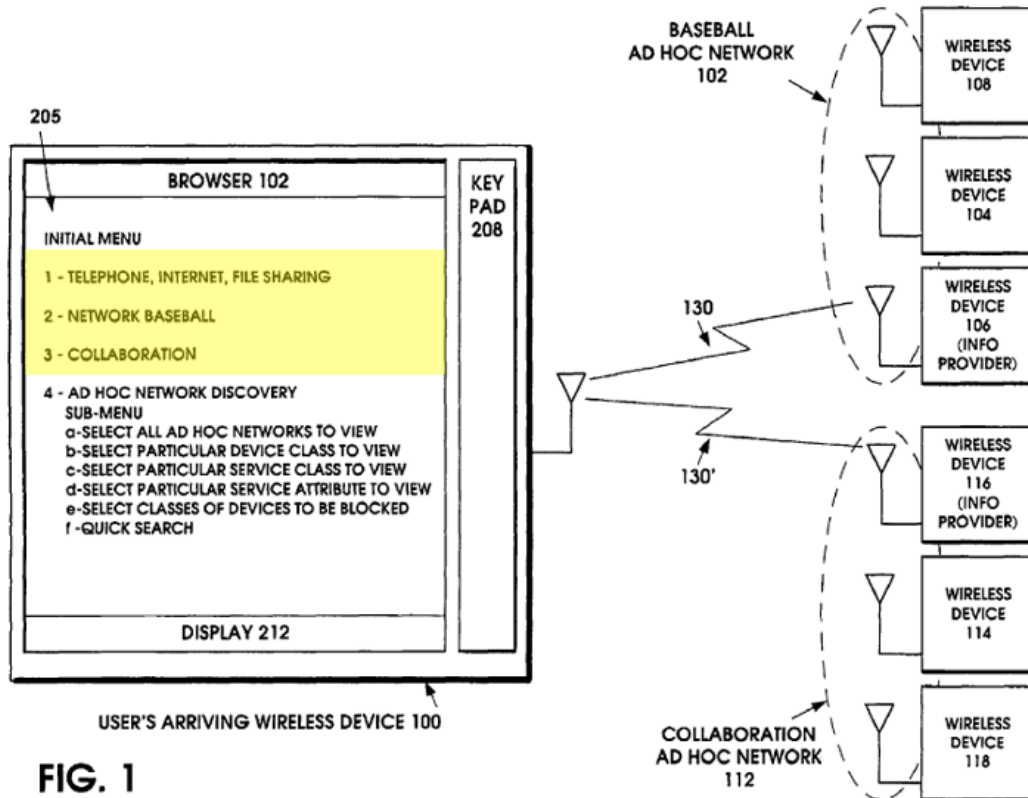
UIDs may be used in combination, and a “user may... exercise control over which or how many UIDs are transmitted by his device.” Behrens, [0061], [0103], [0115], [0122]. Accordingly, a user has “multiple or changing UIDs.” Behrens, [0061], [0115]. Lanning, ¶¶86-89.

C. Olkkonen (EX1007)

Olkkonen describes short-range wireless systems and connecting users for common purposes via ad hoc networking (*e.g.* a Bluetooth piconet). Olkkonen, 1:13-16, 1:46-2:3. Piconets are used for “collaborative work projects, collaborative

games, multi-user gateways to the Internet, and the like” that interested users may join. Olkkonen, 2:60-65. Olkkonen’s system thereby alerts users of nearby networks of interest. Olkkonen, 4:65-5:4.

A wireless device may search for nearby piconets through inquiry and discovery processes. Olkkonen, 12:39-60, 13:33-50, 18:49-63. Devices in ad-hoc networks that receive inquiry messages “respond[] with information... characterizing the ad hoc network.” Olkkonen, 5:27-33. Responses are compiled into a discovery menu listing those characteristics “in accordance with the type of characteristics of interest to the user.” Olkkonen, 6:29-38. An exemplary menu 205 is shown in Fig. 1 (below; exemplary services highlighted).



Users have the ability to filter certain devices in the menu, for example by blocking and/or displaying devices with certain device classes, service classes, or service attributes. Olkkonen, 11:33-60, 22:8-21. Lanning, ¶¶90-93.

D. Eagle in view of Behrens, in further view of Olkkonen

The '685 is in the field of wireless communications, including claiming to improve secure communications using wireless service identifiers, safety and privacy with locally stored policies, and facilitating the exchange of information between two entities associated with two wireless devices. *See* EX1001, 1:37-45, 1:49-51. Lanning, ¶94.

Eagle, Behrens, and Olkkonen are analogous to the '685, as they are in the same field of wireless communications and/or reasonably pertinent to the objectives identified above.⁷ Eagle, Abstract (Bluetooth phones identify nearby devices use a server that facilitates communications), [0008] (avoiding privacy problems); Behrens, [0001], [0136] (establishing contact between users in proximity), [0141] (social networking, Internet applications); Olkkonen, 1:13-16

⁷ Eagle and Behrens were asserted in previous related IPRs that reached final judgement (discussed above). Arguments that Eagle or Behrens are non-analogous are estopped. EX1015, 33 (finding Eagle analogous); EX1030, 70 and EX1031, 46-50 (Petition arguing Behrens analogous and FWD finding claims unpatentable).

(short-range wireless systems), 4:65-5:4 (discovery of collaborative activities in nearby networks). Lanning, ¶95.

The Challenged Claims are directed to the same well-known prior art systems cancelled in earlier IPRs against the parent patents, in which wireless devices communicating using short-range Bluetooth leverage a remote server using a long-range wireless protocol to facilitate a secure short-range Bluetooth connection. *See* §I above.

To the extent Eagle is argued by Patent Owner as failing to expressly disclose details of: particular fields of information in short-range messages used to establish connections, the filtering of service identifiers, or taking certain actions with respect to detected devices, such obvious variations would have been obvious to a POSITA in view of Behrens and Olkkonen. Lanning, ¶96.

For example, a POSITA seeking to address privacy risks in Eagle would have found it obvious to provide for changing unique identifiers, per Behrens. To make Eagle's system more efficient, a POSITA would have found it obvious to have participating devices broadcast a specific service identifier, per Olkkonen, to identify Eagle's social introduction application. A user's device would thus first filter identifiers for the correct service and then send those identifiers to the server, which maps identifiers to stored information (*e.g.*, user profile information) to facilitate connections between devices and further action, such as displaying

contact information or joining a collaborative game, as taught by Olkkonen.

Lanning, ¶97.

Motivation to modify Eagle’s system in view of Behrens’ and/or Olkkonen’s teachings is discussed below, followed by a mapping of their combined teachings (“Eagle-Behrens,” “Eagle-Olkkonen,” or “Eagle-Behrens-Olkkonen” as applicable) to the Challenged Claims.

1. Receiving different identifying information from the same device

Claims of the ’685 require receiving, at a wireless device from a *same transmitting device*, different beacon transmissions in two different time periods, including a *first* transmission with a MAC address and unique identifier, and a *second* transmission with a different MAC address and different unique identifier. *See, e.g.*, EX1001, claims 1-3, 34-36. That is, the claimed system changes identifying data as a function of time to enhance security. EX1001, 7:66-8:11, 15:14-40, 18:35-41. Lanning, ¶98.

Eagle describes that Identified Devices identify themselves to Requester Devices with a “unique identification value, such as a Bluetooth device address value.” Eagle, [0003]. To the extent it is argued that Eagle does not explicitly describe receiving different first and second MAC addresses and different unique identifiers from the same device, it would have been obvious to a POSITA for the following reasons. Lanning, ¶99.

Behrens teaches that devices in short-range proximity “uniquely identif[y]” themselves and their owners with a “combination” of unique identifiers (UIDs) including WLAN MAC addresses, Bluetooth Device addresses, unique numbers, and others. Behrens, [0061], [0097], [0111], [0115], [0122]. A user can have “multiple or changing UID[s]” and has “control over which or how many UID[s] are transmitted by his device.” Behrens, [0103], [0115]. Lanning, ¶¶100-101. Behrens explains that changing UID[s] of combinations of different information advantageously allows a user to have a single managed account with different online identities (*e.g.* for different social events or parties), adding a method for users to create distinct or particular profile data in Eagle’s system. Behrens, [0115]; Eagle, [0063] (teaching mode indicators to select different profile data in different situations). Thus, the user’s identity can be changed, protected, or masked by changing identification information that uniquely identifies the user. Lanning, ¶¶102-103.

Additionally, a POSITA would have recognized that Behrens’ changing UID[s] would have prevented others from tracking devices based on static identifiers, resolving known privacy and security concerns for short-range wireless communications. EX1010, [0002]-[0004]; EX1011, Abstract, [0006]; EX1012, [0002]-[0008]; and EX1013, [0008]-[0011] (addressing security, privacy, and tracking with temporary and/or random identifiers). *See also* Behrens, [0003]

(apprehension in sharing of personal information). Thus, where Bluetooth addresses and UIDs are transmitted “continuously or repeatedly” (Behrens, [0097]; Eagle, [0003]), changing identifiers advantageously prevents the tracking and correlating of users, activities, and devices over time. Lanning, ¶¶104-107.

The described modification would have been further obvious to a POSITA as it is no more than the application of a known technique (Behrens’s changing combination UIDs) to a known device ready for improvement (Eagle’s system that identifies devices by unique identification values and identifies profile data by mode indicator values) to yield predictable results (allowing for different online identities; enhancing privacy and security). *KSR Int’l v. Teleflex*, 550 U.S. 398, 417-418 (2007). Lanning, ¶108.

A POSITA would have had a reasonable expectation of success in modifying Eagle with the teachings of Behrens. Use of UIDs (*i.e.*, data values used as identifiers) in place of Eagle’s identification values would have required no more than ordinary software coding skills to change such values, and track, select, store, communicate, and analyze those values as known in the art. Moreover, where Behrens teaches that UIDs borrow from existing values such as a wireless device’s addresses, Behrens provides techniques for obtaining those values and synchronizing UIDs with the server. Behrens, [0077]; *see also* Behrens, [0065],

[0076] (user supplies UUIDs to the server to link to user accounts). Modification would have been well within the skill of a POSITA. Lanning, ¶109.

2. Filtering beacon service identifiers

Claims of the '685 require that beacon transmissions include a *beacon service identifier* that *identifies a wireless beacon service*. See, e.g., EX1001, claims 1-2, 34, 35-36. The same claims further require *filtering the beacon transmissions which include a particular beacon service identifier*. Noted above, filtering of short-range parameters was shown to be well-known in the art via previous IPRs. See §I.

To the extent Patent Owner argues that Eagle does not explicitly describe *beacon service identifiers* as claimed, it would have been obvious to a POSITA to filter UUIDs based on beacon service identifiers (e.g., service class/type information identifying Eagle's social introduction "BlueAware" application) received in inquiry responses, consistent with the teachings of Olkkonen, for the following reasons. Lanning, ¶110-111.

Eagle teaches that it is unnecessary for a Requester Device to notify the server of every UUID that it receives from nearby Identified Devices. For example, when an Identified Device is detected, the Requester Device "determine[s] whether the detection of a given device warrants the transmission of a notification message to the server" by filtering out recently detected devices that would have already

been notified to the server. Eagle, [0023]-[0025]. Thus, Eagle teaches selectively notifying the server of nearby devices such that the user is not alerted of every device that is nearby, and communications with the server and mobile device communication processing are minimized. Lanning, ¶112.

Olkkonen teaches additional filtering techniques known to POSITAs in the context of Bluetooth ad hoc networks. For example, service class information (which may include service “attributes”) describes and identifies programs running in ad hoc networks (*e.g.*, a network baseball game). Olkkonen, Fig. 5 (showing a service class with a program identity service attribute), 30:22-28. This service identification information is received in Bluetooth inquiry responses. *See* Olkkonen, 5:27-33, 12:40-48, 13:33-43, and 17:49-63 (Identified Devices’ inquiry responses include service registry information “characterizing the ad hoc network”); 5:13-17 and 17:17-22 (service classes “characterize the ad hoc network” and include, *e.g.*, the type of distributed program running). Lanning, ¶113.

It would have been obvious to use Olkkonen’s service class information to identify Eagle’s social introduction application (which is a service and a program running on wireless devices) such that Identified Devices identifying Eagle’s service are included in notifications to the server, excluding devices not participating in Eagle’s service. Lanning, ¶114.

For example, Olkkonen teaches that lists of discovered Identified Devices presented to the user in a discovery menu should be customized to user preferences, *e.g.*, by ignoring or blocking undesirable Identified Devices and by listing Identified Devices of interest. Olkkonen, 11:30-60. One such filter blocks all devices identifying themselves as providing an advertisement broadcast service. Olkkonen, 11:33-42, 22:34-43.⁸ In another example, a user may only want to see devices in particular service classes or having particular service attributes (such as those identifying a particular program, such as a “GAME PROGRAM”). Olkkonen, 11:43-60. Lanning, ¶115.

As Eagle requires active participation in its social introduction system by running a program (“BlueAware”) on their devices (Eagle, [0019], [0029], [0038], [0065]) and by registering with a server (Eagle, [0029], [0045]-[0046]), POSITAs would have recognized that it would have been wasteful and inefficient to notify

⁸ While Olkkonen describes “advertisements” and “advertisement broadcaster” as classes of devices, a POSITA would have recognized that “advertisement” is not a standard type of Bluetooth device class. “Advertisement” is an intended use or service provided by the device, not a class of the device itself, and it would have been obvious to alternatively identify advertisement functions as custom service information. Lanning, ¶115.

the remote server of *every* Bluetooth device that the Requester Device encounters without screening/filtering them first as participating in the service of a social introduction system. In this regard, Eagle emphasizes that its system links users with “selection criteria that [are] useful to service users.” Eagle, [0011]. A notification identifying a device that is not even participating in Eagle’s social introduction system would have been useless to the remote server and would have increased communications and server load for no benefit. Therefore, it would have been obvious to modify Eagle’s Identified Devices to specifically identify Eagle’s social introduction application using a service class identifier (when the particular Identified Device participates in Eagle’s services) and to modify Eagle’s Requester Device to filter inquiry responses so that only UIDs identifying themselves as being relevant to Eagle’s social introduction system would be notified to the server. As a result, only UIDs from Identified Devices that warrant notification to the server (Eagle, [0024]) are actually notified to the server. Lanning, ¶116.

Additionally, Eagle teaches that device resources are limited. Eagle, [0024] (conserving memory by deleting old logs), [0026] (continuous scanning/logging expends battery life). By only contacting the server with useful UIDs, these resources are further conserved. Irrelevant Identified Devices do not need to be logged or tracked and do not need to be passed to the server. Lanning, ¶117.

The modifications would have been further obvious to a POSITA as no more than the application of a known technique (Olkkonen's teachings of including service information in inquiry responses and filtering responses based on that information) to a known device ready for improvement (Eagle's system that determines whether detection of an Identified Device warrants notification) to yield predictable results (selectively notifying the server of Identified Devices). *KSR*, 550 at 417-418. Lanning, ¶118.

A POSITA would have had a reasonable expectation of success in modifying Eagle to receive and analyze service information in inquiry responses. A POSITA would have recognized that Bluetooth communications include several methods for conveying service and class information through various fields, including but not limited to those within class-of-device information and extended inquiry responses (EIRs) that include fields for service class universally unique identifiers (UUIDs) and manufacturer specific data. Eagle, [0032]; EX1008, 1305-1310. Service information may be included in these fields or appended to any inquiry response so that the necessary descriptive information is conveyed, as discussed above. Filtering based on those values would have required no more than ordinary data processing skills to receive and analyze those values, well within the skill of a POSITA. Lanning, ¶¶119-120.

3. Actions

Several claims of the '685 require taking a first and/or second “action” relating to stored information. Claimed examples include actions related to: a function being performed on a device (claim 4), receiving and presenting advertising information (claim 6), allowing a user access to an object or device (claim 22), controlling communications between devices (claim 23), and others. Lanning, ¶121.

Eagle describes that its social introduction system “enables a diverse suite of applications,” *e.g.*, connecting people working on similar projects, connecting users with like interests, as greeting beacons at trade shows, notifications of nearby resources, etc. Eagle, [0061]-[0068]. Alerts therefore include “any... information which is of use in a specific application” and useful to “promote communication between[] nearby devices and their owners,” including contact information. Eagle, [0007], [0041], [0050]. Lanning, ¶122.

Olkkonen, like Eagle, teaches that users/wireless devices connect for a variety of applications. For example, Bluetooth devices form networks for telephone, internet, and file sharing services, participating in games, collaborative CAD designs, and more. Olkkonen, 2:59-65, 6:19-21, 11:61-12:2, 18:60-63, 19:13-16, 20:41-43, 25:48-52, 25:63-26:33. Lanning, ¶123.

Behrens, like Eagle, teaches that when two wireless devices detect each other in close proximity, further actions include receiving alerts from a server and connecting with the other device (Behrens, [0085], [0107]-[0110], [0139], [0158]-[0161]) or, alternatively, ignoring certain devices (Behrens, [0162]). Devices are ignored based on blacklist instructions received from a server. Behrens, [0026], [0101]-[0102], [0124]. Lanning, ¶124.

Accordingly, Eagle leaves to a POSITA what further actions to take after one device is alerted of another nearby, and it would have been obvious to perform various actions, as taught by Olkkonen and/or Behrens. The performance of any particular action would have been no more than a simple substitution of known elements (Olkkonen's and Behrens's actions and communications relate to Internet sharing, network baseball, CAD design, messaging, ignoring, etc.) for another (Eagle's exemplary actions related to social networking, greeting beacons, transportation, etc.) to obtain predictable results (facilitating the use of wireless devices in diverse ways). *KSR*, 550 at 417-418. Lanning, ¶125.

Furthermore, none of the wide variety of actions claimed in the '685 require more than ordinary skill to understand and/or implement. For example, joining ad hoc networks to take advantage of network resource, as taught by Olkkonen, would have been well within the skill of a POSITA, as Bluetooth ad hoc network functions were well-known as part of the Bluetooth standard, and the multitude of

uses for wireless computing devices were also varied and well-known. Olkkonen, 1:20-3:14. Olkkonen specifically provides means for finding users (such as those that a user would have been alerted to in Eagle’s system) and joining their networks. Olkkonen, Fig. 2B-2C, 15:64-16:64. Other claimed functions, such as sending and receiving data, or preventing communications based on received information, or presenting advertising information—spread amongst the many dependent claims—are basic or well-known computing actions that would have required no more than ordinary skill to take. Lanning, ¶126.

E. Mapping to Claims

Claims 1, 34, 35, and their dependent claims are directed to a “method,” “wireless device,” and “program product” with substantially similar limitations. Similar claims are discussed together. Lanning, ¶¶127-284.

Where collateral estoppel applies to a limitation because of the PTAB’s final findings (with all appeals exhausted) regarding Eagle or Behrens, Petitioner has stated below “*Collateral estoppel applies*” with cites to the relevant findings.

1. Claim 1

a. [1.PRE] “A method comprising:”

To the extent this preamble is limiting, Eagle teaches *a method* for facilitating networking communications among multiple devices (*e.g.*, phones) and a server. Eagle, Abstract, [0003]-[0005]. Fig. 2 (below) illustrates communications between a first Bluetooth phone carried by individual 203, a second Bluetooth

phone carried by individual 205, and remote server 220. Eagle, Fig. 2, [0018], [0022]. Lanning, ¶127.

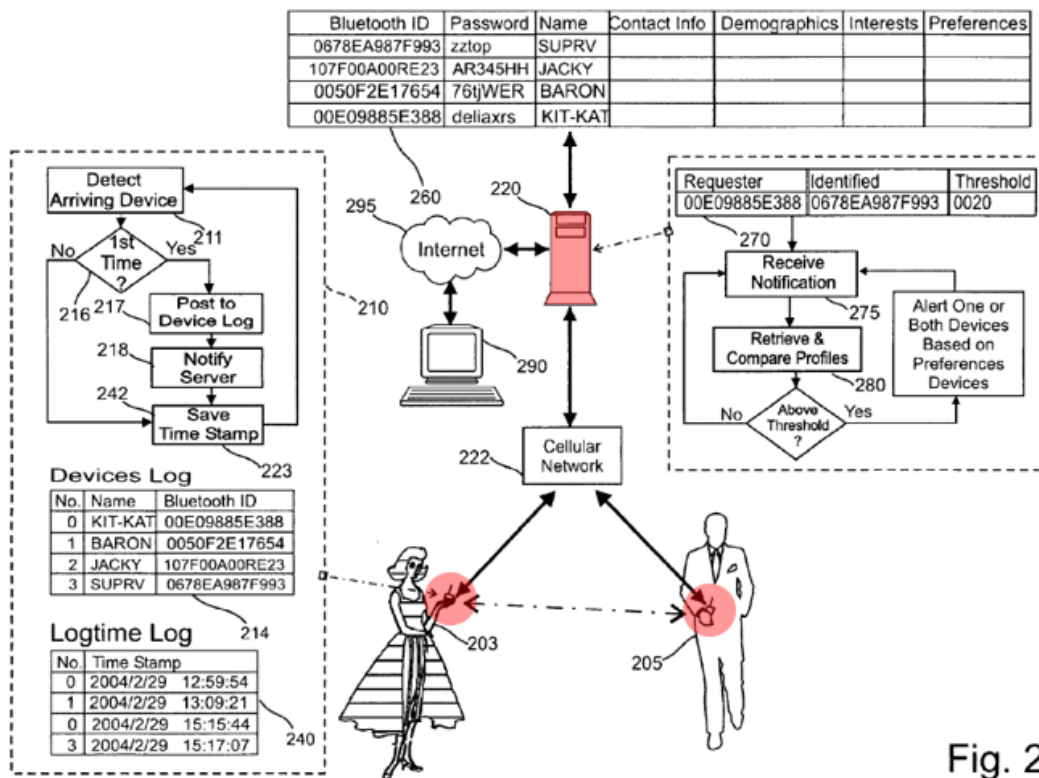


Fig. 2

- b. [1.A.I] “causing processing, at a wireless device, of a first plurality of beacon transmissions received at the wireless device via a short range wireless protocol, each beacon transmission comprising three fields”

Collateral estoppel applies: Past FWDs determined that Eagle discloses similar limitations of receiving transmissions at a wireless device from a second wireless device via a short-range wireless protocol and then analyzing the transmissions to identify “new” devices. EX1015, 19-20, EX1017, 17-18.

Eagle-Behrens-Olkkonen teaches *causing processing, at a wireless device* (e.g., receiving, logging, and filtering information, at a first Bluetooth phone), of a

first plurality of beacon transmissions received at the wireless device via a short range wireless protocol (e.g., inquiry responses containing identifying information, via Bluetooth protocol), each beacon transmission comprising three fields.

Eagle describes that the first Bluetooth phone carried by individual 203 (a Requester Device) is a wireless device that includes “short range radio transceivers that use the Bluetooth protocol” for communications. Eagle, Fig. 2 (below), Abstract, [0018]. Bluetooth devices transmit *beacon transmissions* when “used as beacons to identify a device to other nearby devices” by transmitting “device identification codes.” Eagle, [0008]. The device log shows exemplary separate fields “name,” “Bluetooth ID,” etc.

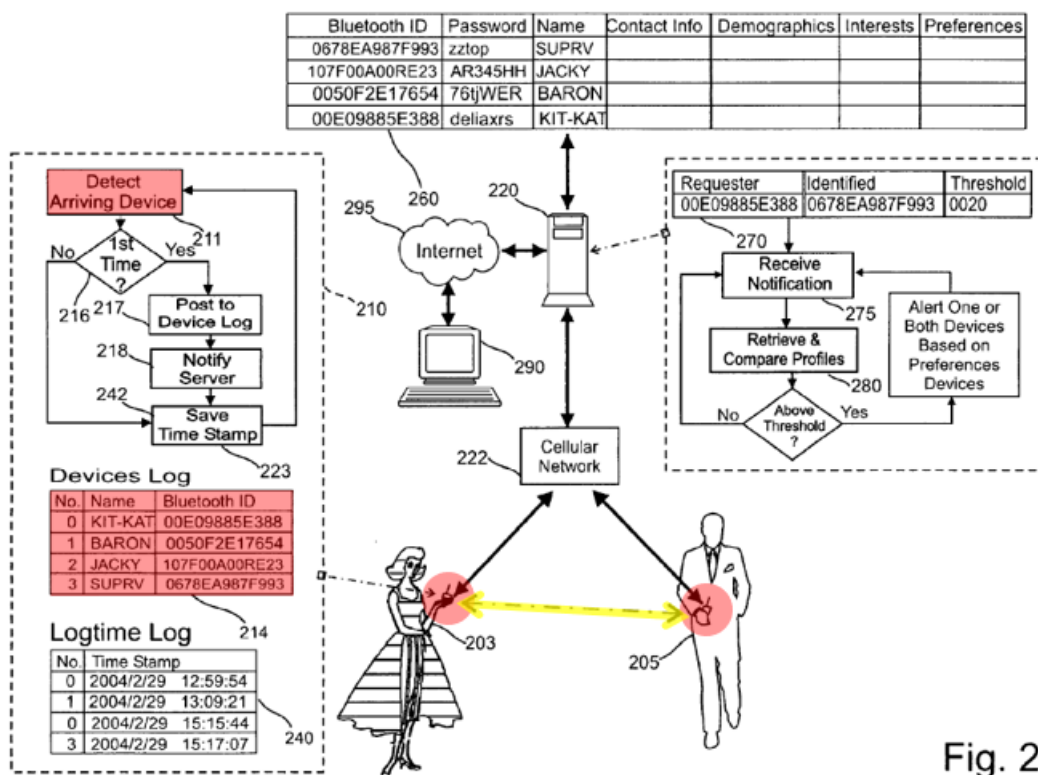


Fig. 2

As an example, the Requester Device detects the presence (step 211) of the second Bluetooth phone carried by individual 205 (an Identified Device) via reception of the Identified Device's beacon transmissions, including a "Bluetooth ID" (an assigned address value). Eagle, Fig. 2, [0022]. This information is received when a Requester Device "perform[s] an inquiry function to determine the identity and Device Class of other 'discoverable' Bluetooth devices," and the Identified Device responds to the inquiry. Eagle, [0033]-[0038].

Additionally, Devices Log 214 in the Requester Device "indexes every device encountered by the phone" and, as shown in Fig. 2 above, the Requester Device has encountered several devices. Eagle, [0022]-[0025]. Accordingly, based on communications with Identified Devices, Eagle teaches that the Requester Device processes a received *first plurality of beacon transmissions* from a plurality of Identified Devices. Additional processing is further performed through analysis and filtering of the beacon transmissions. *See* [1.C]. Lanning, ¶¶128-131.

The '685 does not provide express formatting details or examples regarding beacon transmission "fields." *See* EX1001, 2:15-53 (beacon transmissions "comprise" or "include" a MAC address, unique identifier, and beacon service identifier). However, a POSITA would have recognized that the use of *fields* facilitates the recognition and interpretation of relevant information in transmissions. Thus, to the extent Eagle does not explicitly describe every type of

information communicated in a “field,” it would have been obvious to format beacon transmissions with fields so that the information conveyed by the Identified Device may be understood by the Requester Device. Lanning, ¶132; Olkkonen, 27:12-20 (inquiry response packet structure includes fields); EX1008, 283-285, 1259-1260, 1288, 1305-1310 (Bluetooth specification defines fields for address, class, service, and manufacturer information).

Discussed with respect to limitations [1.A.II]-[1.A.IV] below, Eagle-Behrens-Olkkonen teaches *each beacon transmission comprising three fields*.

c. [1.A.II] “(a) a MAC address,”

Eagle-Behrens discloses the beacon transmission including *a MAC address* in two separate ways.

i. MAC address in UIDs

Collateral estoppel applies: Past FWDs determined that Eagle discloses receiving a Bluetooth Device address as a unique identifier (EX1015, 35-36) and Behrens discloses receiving MAC addresses in UIDs (EX1031, 46-48).

Eagle-Behrens teaches *a MAC address* (e.g., a BD_ADDR is included in the UIDs).

As discussed (§VI.D.1), Behrens teaches that the Identified Device identifies itself to the Requester Device with a combination of UIDs including, e.g., a 48-bit “Bluetooth Device Address” or BD_ADDR. Behrens, [0061], [0097], [0122]. The

'685 acknowledges that "MAC address" includes a "48 bit number matching a format of a Bluetooth BD_ADDR." EX1001, 2:57-59, 7:17-25. Lanning, ¶¶135-137.

ii. MAC address in Bluetooth communications

Eagle teaches that the Requester Device and Identified Device use Bluetooth protocols. Eagle, [0018], [0028]. Bluetooth protocols rely on MAC addresses in communications, and so the Identified Device identifying itself to the Requester device would have included *a MAC address* in its inquiry response. Eagle, [0033]-[0037] (Bluetooth discovery process with inquiry messages and inquiry responses); Olkkonen, 2:23-31 ("inquiry response... containing the responding device's Bluetooth Device Address"), 27:12-20 (describing inquiry response structure including a BD_ADDR); EX1008, 283 (same).

The '685 acknowledges that a transmitting device's MAC address is "always broadcast" in Bluetooth operations. EX1001, 8:25-26, 8:42-44. Lanning, ¶¶138-139.

d. [1.A.III] "(b) a unique identifier, wherein the unique identifier of each respective beacon transmission is a numeric value, and"

Collateral estoppel applies: Past FWDs determined that Eagle discloses receiving a unique identifier from a second wireless device (EX1015, 20; EX1017, 17-18) and Behrens discloses combination UIDs (EX1031, 46-48).

Eagle-Behrens teaches this limitation. As discussed (§VI.D.1), the Identified Device identifies itself with a combination of UIDs. UIDs are any “code, number, address, symbol, or a combination thereof, which uniquely identifies a device... and [its] owner.” Behrens, [0061], [0097]. Eagle-Behrens therefore teaches that each respective beacon transmission from Identified Devices includes *a unique identifier that is a numeric value*, such as a unique number. UIDs like a unique number are included in beacon transmissions in addition to the MAC address identified for [1.A.II] above because UIDs may be a combination of different unique identifiers. Behrens, [0097], [0122]. Lanning, ¶¶140-141.

- e. **[1.A.IV] “(c) a beacon service identifier, wherein the beacon service identifier of each respective beacon transmission identifies a wireless beacon service in which the unique identifier is relevant to stored information relating to an entity or object associated with a transmitter of a respective beacon transmission;”**

Eagle-Olkkonen teaches each beacon transmission comprising *(c) a beacon service identifier (e.g., service class information), wherein the beacon service identifier of each respective beacon transmission identifies a wireless beacon service (e.g., service class information identifies Eagle’s social introduction system) in which the unique identifier is relevant to stored information relating to an entity or object associated with a transmitter of a respective beacon transmission (e.g., a device that transmits beacon transmissions has associated*

Identified Device UUIDs (received in the same responses) used to lookup that device user's/owner's stored profile information at a server).

As discussed (§VI.D.2), it would have been obvious in Eagle's system for an Identified Device to respond to inquiries from a Requester Device with *beacon service identifiers* such as service class information for filtering UUIDs as taught by Olkkonen.

Service class information includes information that Identified Devices access from their service registries "characterizing the ad hoc network" of which it is a member. Olkkonen, 5:27-33, 12:40-48, 13:33-43, and 17:49-63. This information includes service class information identifying running application programs (Olkkonen, 5:13-17, 17:17-22, 30:22-28, Fig. 5) and, when applied to Eagle, would have included an identification of Eagle's social introduction system—the *wireless beacon service* provided by the application program and the server. *See* §VI.D.2. Lanning, ¶¶142-144.

As discussed (§VI.D.2), it would have been obvious to selectively provide UUIDs of Identified Devices to the server based on service class information. The server analyzes its stored information, including profile information, with those UUIDs. Eagle, [0019]-[0021], [0041], [0045], [0051] (identification values used to fetch profile data); *see also* Behrens, [0075] (UUIDs linked to user accounts). The profile information includes database information that "describes each device and

its owner,” *e.g.*, demographic and contact information. Eagle, [0005], [0045], [0050]. *See also* [1.B.II] below. Lanning, ¶145.

Accordingly, because the service identifier (service class information) is used to select relevant UIDs for transmission to the server by identifying Eagle’s social introduction system, the service class information is a *beacon service identifier* that *identifies a wireless beacon service*. Additionally, each selected UID is used to fetch user profile information at the server, and the UIDs are therefore *relevant to stored information relating to an entity or object associated with a transmitter of a respective beacon transmission*. Lanning, ¶146.

See also [1.B.I]-[1.B.II] (sending notifications to a server and receiving alerts in response) and [1.C] below (filtering unique identifiers based on beacon service identifiers for notifications). Lanning, ¶146.

f. [1.B.I] “causing a transfer of the stored information between the wireless device and one or more servers via a second wireless protocol,”

Collateral estoppel applies: Past FWDs determined that Eagle discloses communications with the server over a wide area link, not a local wireless link, and receiving stored information from the server. EX1015, 19-30; EX1017, 16-18, 27-28.

Eagle teaches *causing a transfer of the stored information between the wireless device and one or more servers via a second wireless protocol (e.g.,*

transmitting stored profile information from the server to the Requester Device via a cellular connection).

When the Requester Device notifies the server of an Identified Device, the server compares the Requester and Identified Devices' profile information to determine whether they satisfy matching criteria. Eagle, [0005], [0020], [0024], [0040], [0042], [0048], [0051]. If so, an alert message is transmitted to the Requester Device. Eagle, [0006], [0020], [0052]. The Requester Device receives the alert over a "large area wireless network," *e.g.*, a cellular phone network. Eagle, [0039]-[0042].

The alert includes stored profile information associated with the matching Identified Device, *e.g.*, contact information and "information... of use in a specific application" and useful to "promote communications between" the devices and their owners. Eagle, [0007], [0020]-[0021], [0053], [0058]. Lanning, ¶¶147-150.

- g. [1.B.II] "wherein at least a portion of the stored information relates to a particular entity or object associated with a first unique identifier, and"**

Collateral estoppel applies: Past FWDs determined that Eagle discloses server stored information relating to the unique identifier received from the second device and to an entity associated with the second device. EX1015, 20-21, 35; EX1017, 18, 27-28.

Eagle-Behrens teaches that the Requester Device’s notification to the server includes the Identified Device’s UIDs (Eagle, [0048]; *see* §VI.D.1), and the server uses the received UIDs to fetch the *stored information* from the profile database (Eagle, [0005], [0020], [0041], [0045], [0050]-[0051]).

As the profile database of *stored information* describes each device and its owner with bibliographic/demographic and contact information (*see* [1.B.I]), *at least a portion of the stored information therefore relates to a particular entity or object associated with a first unique identifier* (relates to the Identified Device and device owner associated with the UIDs). Lanning, ¶¶151-153.

h. [1.B.III] “wherein the second wireless protocol is different from the short range wireless protocol;”

Collateral estoppel applies: (Eagle) *see* [1.B.I].

Eagle teaches that *the second wireless protocol* (large area wireless network; *see* [1.B.I]) *is different from the short range wireless protocol* (Bluetooth; *see* [1.A.I]). Lanning, ¶154.

i. [1.C] “causing selection of one or more of the unique identifiers from the first plurality of beacon transmissions, by filtering the beacon transmissions which include a particular beacon service identifier; and”

Eagle-Olkkonen teaches this limitation. The Requester Device receives, from Identified Devices, inquiry responses including *beacon service identifiers*

such as service class information identifying Eagle’s social introduction system.
See [1.A.IV].

As discussed (§VI.D.2), Eagle teaches the Requester Device determining whether the detection of an Identified Device “warrants” the transmission of the Identified Device’s UUIDs to the server (Eagle, [0020], [0024], [0040], [0051]), and Olkkonen teaches filtering/selecting the UUIDs of Identified Devices that identify Eagle’s social introduction system in respective received service class information. Olkkonen, 11:33-60, 22:34-43; §VI.D.2. Selecting techniques (*i.e.*, techniques for analyzing data to determine the presence of a desired value) were well-known in the art. *E.g.*, Olkkonen, 22:8-12, 22:34-43 (determining if data “matches” a desired type).

The UUIDs received from Identified Devices are chosen (selected) to be notified to the server, and Eagle-Olkkonen therefore teaches *causing selection of one or more of the unique identifiers from the first plurality of beacon transmissions* (*e.g.*, selecting UUIDs for notification to the server), *by filtering the beacon transmissions which include a particular beacon service identifier* (*e.g.*, filtering received transmissions that include service information identifying Eagle’s social introduction system). Lanning, ¶¶155-158.

j. [1.D] “taking first further action relating to the stored information, if the first unique identifier is present among the selected one or more unique identifiers.”

As discussed for [1.C], Eagle-Olkkonen teaches the *selection of one or more unique identifiers*, which as discussed for [1.B.II] are included in notifications to the server. The server uses received unique identifiers to fetch corresponding profile information from a database (*i.e.*, the *stored information*) and generate an alert for the Requester Device in alerts. Eagle, [0005], [0041], [0051]; *see also* [1.B.I]. The Requester Device receives the profile data and displays it, allowing the user to attempt contact with the Identified Device (and its owner). Eagle, [0019], [0021], [0058]. The user of the Requester Device is thereby alerted to the presence of users sharing similar personal interests, for example.

Each of the actions described above—notifying the server, receiving profile information, displaying received profile information, and attempting contact—are examples of *first further action relating to the stored information*. *See* EX1001, 24:41-50 (receiving information), 25:3-8 (sending an identifier and receiving stored information); *see also* 9:29-12:3 (facilitating a transaction with a merchant). Moreover, because these actions are only taken for UIDs that are selected (and not filtered out) as discussed for [1.C], these actions are performed *if the first unique identifier is present among the selected one or more unique identifiers*. Lanning, ¶¶159-160.

2. Claim 2

- a. **[2.PRE] “The method of claim 1, wherein the processing of the first plurality of beacon transmissions occurs in a first time period, and”**

The *processing of the first plurality of beacon transmissions* may be defined as occurring in a *first time period*. Lanning, ¶161.

- b. **[2.A] “wherein the method further comprises, during a second time period:”**

Eagle teaches its system operating over many time periods, including a *second time period*. For example, the Requester Device periodically scans for Identified Devices. Eagle, [0026], [0033]. Furthermore, the same Identified Device may be detected at different times (Eagle, [0023]) and a Requester Device may join and leave existing networks and activities, or detect and re-detect other devices as they move in and out of range (Olkkonen, 1:46-61, 2:51-65). Any device that is in Bluetooth range of the Requester Device and that is in a “discoverable” mode responds to the Requester Device’s inquiries and be detected as an Identified Device. Eagle, [0019], [0033]-[0037].

For illustrative purposes to address this claim and related limitations, it may be assumed that a particular Identified Device is detected one or more times in a *first time period*, and the same Identified Device is detected again one or more times in a *second time period* that follows the first time period. In both time periods, the Identified Device remains a participant in the same services and

networks (e.g., participating in Eagle’s social introduction system and running Eagle’s software, participating in an ongoing baseball game or CAD design project). For example, over the course of a work week or while attending a multi-day event (e.g., one day being a first time period and a second day being a second time period), a user of an Identified Device has “chang[ed] UUIDs” overnight to present themselves with a “new online identity” on the second day while still having a “single user account” on the server. Behrens, [0061], [0115]; *see also* [0103] (users control which UUIDs are transmitted). As discussed above (§VI.D.1), changing UUIDs in this manner prevents tracking over time. Lanning, ¶¶162-163.

c. [2.B.I] “causing processing, at the wireless device, of a second plurality of beacon transmissions received at the wireless device via the short range wireless protocol, each of the second plurality of beacon transmissions comprising three fields”

Eagle-Behrens-Olkkonen teaches this limitation for the same reasons discussed for [1.A.I] (processing beacon transmissions comprising three fields) and [2.A] (detecting devices in first and second time periods). Lanning, ¶164.

d. [2.B.II] “(a) a MAC address,”

Eagle-Behrens-Olkkonen teaches the *second beacon transmissions* including a *MAC address* in two separate ways. Lanning, ¶165.

i. MAC address in UUIDs

Collateral estoppel applies: A past FWD determined that Behrens discloses changing UUIDs. EX1031, 46-48 (claim 8).

Behrens teaches that (1) UIDs include combinations of UID values, and (2) UIDs change. *See* §VI.D.I, [1.A.II], [2.A]. An Identified Device’s UIDs may therefore be changed for the second time period to use a WLAN MAC address instead of the BD_ADDR in the first time period. Behrens, [0061], [0097], [0103], [0111], [0115], [0122]. Lanning, ¶¶166-167.

ii. MAC address in Bluetooth communications

As discussed for [1.A.II], Eagle teaches using Bluetooth protocols, which include a MAC address in each transmission. Lanning, ¶168.

e. [2.B.III] “(b) a unique identifier, wherein the unique identifier of each respective beacon transmission is a numeric value, and”

Behrens teaches that (1) UIDs include combinations of UID values, and (2) UIDs change. *See* §VI.D.1, [1.A.III], [2.A]. An Identified Device’s UIDs may therefore be changed for the second time period to use a different numeric value, such as a different unique number or a 24-bit LAP (Lower Address Part). Behrens, [0061], [0097], [0103], [0115], [0122]. Lanning, ¶¶169-170.

f. [2.B.IV] “(c) a beacon service identifier, wherein the beacon service identifier of each respective beacon transmission identifies a wireless beacon service in which the unique identifier is relevant to the stored information relating to an entity or object associated with a transmitter of a respective beacon transmission;”

Eagle-Olkkonen teaches this limitation (for the second time period) for the same reasons discussed for [1.A.IV] (for the first time period).

Moreover, an Identified Device continuing to participate in the same services (*i.e.*, Eagle’s social introduction system) will include the same beacon service identifier (service class). Lanning, ¶¶172-173.

- g. [2.C] “causing selection of one or more of the unique identifiers from the second plurality of beacon transmissions, by filtering the beacon transmissions which include the same particular beacon service identifier; and”**

Eagle-Olkkonen teaches this limitation (for the second time period) for the same reasons discussed for [1.C] (for the first time period).

Furthermore, as discussed above for [2.A], Eagle teaches periodically detecting devices in the first and second time periods. As the detection of Identified Devices—and subsequent transmissions of notifications and reception of alerts to/from the server, if any—is performed in each time period for the same purpose (*i.e.*, as part of Eagle’s social introduction system), Eagle-Olkkonen teaches *causing selection of one or more of the unique identifiers from the second plurality of beacon transmissions* with the same particular beacon service identifier indicating an association with the same particular wireless beacon service as those discussed for [1.C]. Lanning, ¶¶173-174.

- h. [2.D.I] “taking second further action relating to the stored information, if a second unique identifier is present among the one or more unique identifiers selected from the second plurality of beacon transmissions,”**

Eagle-Olkkonen teaches *taking second further action* in the second time period (relating to a second unique identifier), for the same reasons discussed for the first time period (relating to the first unique identifier). *See* [1.D].

For example, if the Identified Device has been removed from Eagle’s log of recently detected devices between the first and second time periods, then the same exemplary actions of notifying the server, receiving an alert, displaying the alert, and attempting contact will be performed again. Eagle, [0023]-[0024]. Lanning, ¶¶175-176.

- i. [2.D.II] “wherein the first unique identifier and the second unique identifier are both associated with the same particular entity or object, and wherein the second unique identifier is not equal to the first unique identifier, and further wherein the received beacon transmissions including the first and second unique identifiers are received from a same transmitting device.”**

Eagle-Behrens teaches that *the first unique identifier and the second unique identifier are both associated with the same particular entity or object* because the first and second transmissions including the first and second unique identifiers are received from the same detected Identified Device. *See* [2.A]. For the same reason, Eagle-Behrens teaches that *the received beacon transmissions including the first*

and second unique identifiers are received from a same transmitting device (i.e., the same Identified Device).

Eagle-Behrens teaches that *the second unique identifier is not equal to the first unique identifier* because the first unique identifier includes a first numeric value (*see* [1.A.III]) and the second unique identifier included in a separate later transmission includes a different numeric value (*see* [2.B.III]). Lanning, ¶¶177-178.

3. Claims 3/37

- a. [3.A] “The method of claim 2 wherein the MAC address received in a beacon transmission including the second unique identifier is different from the MAC address received in a beacon transmission including the first unique identifier, but each such beacon transmission includes the same particular beacon service identifier, and”**

Eagle-Behrens teaches MAC addresses in two ways. *See* [1.A.II] and [2.B.II]. Eagle-Behrens-Olkkonen further teaches this limitation as follows. Lanning, ¶179.

i. MAC address in UIDs

Eagle-Behrens-Olkkonen teaches that *the MAC address received in a beacon transmission including the second unique identifier (e.g., second time period UIDs include the WLAN MAC address; see [2.B.II]) is different from the MAC address received in a beacon transmission including the first unique identifier (e.g., changed from the first time period’s UIDs including the BD_ADDR; see [1.A.II]),*

but each such beacon transmission includes the same particular beacon service identifier (e.g., the first and second transmissions, received from the same Identified Device participating in Eagle’s social introduction system, includes the same beacon service identifier; see [2.B.IV]). See §VI.D.1. Behrens explains that the user may supply their UIDs to the server for synchronization. Behrens, [0065], [0076]. Lanning, ¶180.

ii. MAC address in Bluetooth communications

To the extent Eagle does not explicitly describe that the first and second MAC addresses accompanying each Identified Device transmission according to the Bluetooth protocol (*see* [1.A.II] and [2.B.II]) are *different*, it would have been obvious to a POSITA to modify the Identified Device’s MAC address for privacy and security.

POSITAs recognized short-range wireless communications system concerns regarding privacy and tracking—and the changing of identifiers as a solution to those concerns. *See* §VI.D.1. Known solutions included randomly generated numbers, such as a “randomized version of the BD_ADDR” “used in all the functions... that normally use the BD_ADDR.” EX1011, [0006]-[0013]. One known method used a random number generator to generator a pseudonym BD_ADDR and substituted the pseudonym BD_ADDR for the real BD_ADDR in

transmissions including inquiry responses. EX1011, [0054], [0057], [0088].

Lanning, ¶182.

Therefore, a POSITA would have been motivated to modify the Identified Device (and other Bluetooth devices in the system) to randomize the BD_ADDR transmitted in Bluetooth communications, and would have had a reasonable expectation of success in doing so. Lanning, ¶¶181-183.

- b. **[3.B]/[37] “[cont. from 3.A][The mobile wireless device of claim 34] wherein a plurality of beacon transmissions including the particular beacon service identifier and the first unique identifier are received in the first time period, and no beacon transmissions including the same particular beacon service identifier and the second unique identifier are received in the first time period.”**

Eagle-Behrens-Olkkonen teaches that *a plurality of beacon transmissions including the particular beacon service identifier and the first unique identifier are received in the first time period.*

As discussed for [2.A], a particular Identified Device may be detected by the Requester Device several times in the first time period. Eagle, [0023]. The same Identified Device that has not changed its UIDs (taught by Behrens; *see* §VI.D.1) and that continues to participate in Eagle’s social introduction system will therefore include the same first unique identifier and service identifier in a *plurality of transmissions* during the first time period.

The same Identified Device continuing to participate in Eagle’s social introduction system transmits a second unique identifier (different from the first unique identifier) and a beacon service identifier (same as the first beacon service identifier) in the second time period. *See* [2.B.III] and [2.B.IV]. The second unique identifier is different from the first unique identifier because the combination of UIDs changed between time periods. *See* [2.D.II]. Transmissions with the changed second unique identifier with a different combination of UIDs could not have been received in the first time period, where the transmissions had the first unique identifier. Accordingly, *no beacon transmissions including the same particular beacon service identifier and the second unique identifier are received in the first time period.* Lanning, ¶¶184-186.

4. Claims 4/38/61: “[Claim 3][Claim 37][Claim 60] wherein the second further action is based upon a function currently being performed on a device associated with the wireless beacon service.”

Eagle-Olkkonen teaches that *the second further action is based upon a function currently being performed on a device associated with the wireless beacon service (e.g., joining and participating in collaborative services, games, projects).*

As discussed (§VI.D.3), it would have been obvious to a POSITA for the Requester Device to take a variety of “actions” with respect to selected unique

identifiers, including connecting with Identified Devices to take advantage of services or participate in collaborative activities.

Eagle explains that its social introduction system facilitates collaboration and presents the Requester Device with “information which is of use in a specific application” and useful to “promote communication” with Identified Devices.

Eagle, [0007], [0041], [0050], [0065]. Collaboration may be, *e.g.*, for social functions, work projects, and other “job[s] or subject[s],” and information presented on the Requester Device therefore includes information useful for connecting with Identified Devices, including contact information, Bluetooth addresses, and Bluetooth device names. Eagle, [0028], [0038], [0041], [0050], [0063]-[0065]. Lanning, ¶¶187-189.

Olkkonen describes other similar collaborative uses of Bluetooth networks, including phone, internet, and file sharing services, collaborative programs, CAD design projects, and games in which an Identified Device may already be a participant. Olkkonen, 11:29-30 (joining a game being played), 19:7-16 and 20:37-43 (describing telephone, internet, file sharing, printer, fax machine services), 19:51-20:25 and 24:48-61 (information exchanged for a network baseball application to “play ball” and update scoreboards), 25:63-26:33 (collaborative CAD design routines update and share data among members). Lanning, ¶190.

Accordingly, as Eagle teaches collaborative applications work projects and social functions, and Olkkonen teaches examples of Bluetooth services, work projects (CAD design), and social functions (network baseball) in progress, it would have been obvious for the Requester Device to join the Identified Device in those Bluetooth networks and participate in those collaborative functions—actions *based upon a function currently being performed on a device associated with the wireless beacon service*. Lanning, ¶¶187-192.

5. Claims 5/39/62: “[Claim 4][Claim 38][Claim 61] wherein the function is related to a current phone call.”

As discussed for claim 4, *the action based on a function is, e.g., related to using telephone services*. Olkkonen, Figs. 1, 3B, 19:4-16. When the Requester Device uses that service (*i.e., performs an action of transmitting/receiving voice signals*), *the function is related to a current phone call* (related to a phone call connection facilitated by the telephone service).⁹ Lanning, ¶193.

⁹ The '685 does not appear to describe an embodiment with a function related to a phone call or any particular meaning of “current.” However, the wireless device is, *e.g., a phone* (EX1001, 4:64, 9:60), and a “phone call” was a standard phone function, as illustrated in the prior art.

6. **Claims 6/26/80: “[Claim 2][Claim 1][Claim 60] wherein the first [or the second] further action is related to receiving advertising¹⁰ information for presentation to a user of the wireless device, based upon the first [or the second] unique [identifier][identifiers], or information derived from the first [or second] unique identifier.”**

As discussed for [1.B.I] and [1.D], *the first further action* includes, *e.g.*, receiving and displaying information about an Identified Device *based upon the first unique identifier* (its UIDs). This information is *advertising information received for presentation to a user* of the Requester Device because it advertises the Identified Device (and its owner) as having interests relevant to the Requester Device (and its owner).

Other actions include receiving and presenting tradeshow “instructions or announcements,” information regarding “nearby resources or facilities” (*e.g.*, nearby taxis and restrooms), and offerings from salesmen. Eagle, [0061]-[0063]. These are also *advertising information for presentation*, as they make the user of the Requester Device aware of useful information, goods, and services. Lanning, ¶¶194-195, 223, 281.

As discussed for [2.D.I], the same actions for the *first further action* may also occur as the *second further action*, further meeting these claims.

¹⁰ “Advertising” information is non-functional descriptive material not accorded patentable weight. MPEP §2111.05.

7. **Claims 7/27/40/63/81: “[Claim 2][Claim 1][Claim 37][Claim 60][Claim 60] wherein [one or more of] the first further action [and the second further action] includes receiving content from a server based upon information derived from [either] the first unique identifier [or the second unique identifier].”**

Collateral estoppel applies: Past FWDs determined that Eagle disclosed receiving an alert from the server based on determinations regarding friends and trust networks. EX1015, 21-30 (claim 1.d); EX1017, 19-28 (claims 1.f-1.g).

As discussed for [1.B.I], [1.D], and [2.D.I], *the first and the second further action includes, e.g., receiving content from a server based on the first and second unique identifiers (e.g., receiving and displaying alerts based on the first and second unique identifiers used to search stored information in the server).*

Eagle further teaches that the reception of content from the server is *based on information derived from the first or second unique identifier*. For example, an alert is only provided to a Requester Device if profile data associated with an Identified Device (identified by unique identifier) indicates that the user associated with an Identified Device is “trusted” as a “friend” of the user of the Requester Device. Eagle, [0056], [0066]. As the profile data is fetched from the profile database based on the unique identifiers, the trust information is *derived from* the unique identifiers. Lanning, ¶¶196-197, 224, 255, 270, 282.

8. Claims 8/41/64: “[Claim 2][Claim 37][Claim 60], wherein the first or second further action includes sending a message to another device associated with an account related to the first and the second unique identifiers.”

As discussed for claim 4, the Requester Device takes further actions such as participating in a network baseball game or collaborative CAD design. Such actions include *sending a message to another device* because updates in those collaborations are relayed to all devices participating in those collaborations, including the devices associated with the first and the second unique identifiers (e.g., the participating Identified Device). The Identified Device is *another device* (i.e., not the Requester Device) and is *associated with an account related to the first and the second unique identifiers* (e.g., the Identified Device and its owner have an account with profile information at the server, associated by UIDs; *see* Eagle, [0045] (users assigned names and passwords to edit profiles); *see also* [1.B.II] (profile database information fetched by UIDs)).

For example, network baseball’s “update score” and “play ball” routines update game service records and send those updates to every member of the network. Olkkonen, 20:11-25; *see also* 7:15-18, 14:41-15:3, 18:4-13 (updates distributed to all network members). Updates for collaborative CAD design follows similar messaging steps. Olkkonen, 25:63-26:2. Lanning, ¶¶198-199, 256, 271.

9. **Claim 10: “[Claim 2] wherein the second further action includes preventing sending of the second unique identifier or information derived from the second unique identifier by the wireless device to at least one of the one or more servers.”**

Collateral estoppel applies: Past FWDs determined that Eagle discloses similar limitations of selectively transmitting a notification to the server based on timestamps. EX1015, 17, 23-24; EX1017, 14.

Eagle teaches this limitation. For example, the Requester Device maintains a timestamped log of encountered devices, and if an encountered Identified Device is already in the log (*i.e.*, recently detected), then the Requester Device is prevented from notifying the server of that Identified Device’s UIDs. Eagle, [0022]-[0024], [0048]. Therefore, in that situation, *the second further action includes preventing sending of the second unique identifier or information derived from the second unique identifier by the wireless device to at least one of the one or more servers.* Lanning, ¶¶200-202.

10. **Claims 12/44/67: “[Claim 2][Claim 37][Claim 60] wherein the [taking] first further action [further] includes causing the wireless device[,] to: send the first unique identifier or information derived from the first unique identifier to at least one of the one or more servers, and receive the stored information in response.”**

As discussed for [1.D], Eagle-Behrens teaches that *taking first further action* (*e.g.*, notifying the server) *further includes causing the wireless device to send the first unique identifier or information derived from the first unique identifier to at*

least one of the one or more servers (e.g., sending a notification including the unique identifier to the server), and receive the stored information in response (e.g., receiving an alert containing stored profile information in response).

Lanning, ¶¶203, 257, 272.

11. **Claims 13/14/45/46/68/69: “[Claim 2][Claim 37][Claim 39][Claim 60][Claim 62] wherein the stored information is received at the wireless device from at least one of the one or more servers prior to [the taking of the first][performing the second][performing one or more of the first and the second] further action.”**

As discussed for [1.D], Eagle teaches that *the stored information is received at the wireless device from at least one of the one or more servers prior to the taking of the first further action (e.g., the alert containing stored profile information from the server is received prior to taking the first further action of displaying the information)*. As discussed for [2.D.I], Eagle teaches the same for the reception and taking of the second further action. Lanning, ¶¶204-205, 258-259, 273-274.

12. **Claims 15/47/70: “[Claim 1][Claim 45][Claim 68] further comprising: using the stored information to determine if the first unique identifier is present among the first selected one or more unique identifiers.”**

Eagle-Behrens teaches *using the stored information to determine if the first unique identifier is present among the first selected one or more unique identifiers (e.g., server’s stored information includes blacklist instructions, transferred to the*

Requester Device to determine if a blacklisted Identified Device is present among the selected received UIDs).

As discussed (§VI.D.3), it would have been obvious for the Requester Device to take a variety of “actions” with respect to selected unique identifiers, including ignoring an Identified Device (detected in either the first or second time periods) if its UIDs are found on a blacklist received from a server. Behrens, [0101]-[0102], [0124] (receiving blacklist instructions stored on a server and ignoring UIDs listed therein).

Eagle-Behrens-Olkkonen leaves to a POSITA the order of operations for the selection (*e.g.*, filtering based on service identifier as taught by Olkkonen) and blacklist filtering (*e.g.*, ignoring blacklisted UIDs as taught by Behrens), and it would have been obvious to perform the selection first and then filter based on the received blacklist, as there are only two finite and predictable options (filter first, blacklist second; or blacklist first, filter second) and they both produce substantially the same result (narrowing down Identified Devices based on two criteria). *KSR*, 550 at 402-403. Lanning, ¶¶206-208, 260, 275.

13. Claims 16/48/71: “[Claim 2][Claim 37][Claim 60] wherein all beacon transmitter devices participating in the particular wireless beacon service have the same particular beacon service identifier.”

Eagle-Olkkonen teaches that *all beacon transmitter devices participating in the particular wireless beacon service have the same particular beacon service identifier.*

As discussed above regarding Eagle-Olkkonen (§VI.D.2) and [1.A.IV] and [2.B.IV], an Identified Device participating in Eagle’s social introduction system will include the same beacon service identifier (service class information) in different time periods. Similarly, other Identified Devices participating in Eagle’s social introduction system will also transmit the same beacon service identifier. Lanning, ¶¶209-210, 261, 276.

14. Claims 19/31/73: “[Claim 2][Claim 1][Claim 60] wherein the [second][first] further action is related to either a product tied to a location or an advertisement tied to a location.”

Eagle teaches that *the second further action is related to either a product tied to a location or an advertisement tied to a location.*

As discussed for [1.D] and [2.D.I], exemplary first and second further actions include displaying alerts based on profile information fetched at the server. Examples include an advertisement of “instructions or announcements whenever

[the Requester Device] come[s] within range of a greeting beacon” that is tied to the “physical infrastructure” of a trade show. Eagle, [0061].

Reception and display of instructions or announcements are therefore *related to a product or advertisement* (e.g., the trade show product and its announcements) *tied to a location* (e.g., tied to the trade show location). *See also* Eagle, [0061] (alternate example identifying a nearby restroom, also *a product or advertisement tied to a location*). Lanning, ¶¶211-213, 231, 277.

- 15. Claims 22/52/76: “[Claim 2][Claim 37][Claim 60] wherein the second further action includes allowing a user associated with the wireless device to be provided access to an object or device associated with the wireless beacon service.”**

Eagle-Olkkonen teaches that *the second further action includes allowing a user associated with the wireless device to be provided access to an object or device associated with the wireless beacon service* (e.g., providing the user of the Requester Device access to printers, Internet gateways, and files through the Identified Device associated with Eagle’s social introduction system).

As discussed (§VI.D.3), it would have been obvious for the Requester Device to take a variety of “actions” with respect to selected unique identifiers, including connecting with Identified Devices to take advantage of services or participate in collaborative activities.

Olkkonen teaches that network services include providing user access to printers, fax machines, Internet gateways, and shared files. Olkkonen, 6:19-21, 18:60-63, 19:13-16, 25:48-52. Lanning, ¶¶214-216, 262, 278.

16. Claims 23/32/53/57/77/85

- a. **Claims [23.A][32][53.A][57][77.A][85]: “[Claim 3][Claim 37][Claim 60] wherein the taking second further action additionally comprises: controlling further communications between the wireless device and at least one device or server associated with an entity [or object] in proximity to the wireless device[.], and]”**

Eagle-Behrens-Olkkonen teaches this limitation in two ways.

First, Eagle teaches that *the taking second further action additionally comprises: controlling further communications between the wireless device and at least one device or server (e.g., not sending a notification to the server if the associated device was previously encountered) associated with an entity or object in proximity to the wireless device (e.g., the server is associated with the user being blocked, who is in Bluetooth proximity of the Requester Device and is registered with Eagle’s social introduction system). See discussion of claim 10 (determination to prevent notification to the server).* Lanning, ¶¶217-218.

Second, as discussed for claim 15, Eagle-Behrens teaches receiving, from a server, a blacklist of UIDs that the Requester Device should ignore. Behrens, [0101]-[0102], [0124]. POSITAs would have recognized that obvious ways for

implementing blacklisted UIDs included not notifying the server of such UIDs (*see* Eagle, [0023]-[0025] (“determining whether... detection of a given device warrants the transmission of a notification message to the server”)) and/or blocking the Requester Device from contacting those associated Identified Devices (*see* Behrens, [0026], [0101] (blacklists “stop the other user[s] from further contacting [the user to be ignored]”)). Lanning, ¶219.

Eagle-Behrens therefore further teaches that *taking second further action additionally comprises: controlling further communications between the wireless device and at least one device (e.g., instructing the Requester Device to ignore and block further contact with a blacklisted Identified Device) or server (e.g., not notifying the server of that Identified Device) associated with an entity or object in proximity to the wireless device (e.g., the Identified Device and the server are associated with the user being blocked, who is in Bluetooth proximity of the Requester Device and is registered with Eagle’s social introduction system).* Lanning, ¶¶220, 226, 263, 279, 283.

b. Claims [23.B]/[53.B]/[77.B]: “wherein the stored information includes contact information of the entity in proximity utilized to determine the presence of the second unique identifier prior to taking the second further action.”

As discussed for [1.A.IV]-[1.B.I], Eagle teaches that the alert includes *stored information* such as *contact information*. As discussed for [1.D], received profile

information is displayed so that the user of the Requester Device is alerted to the presence of the Identified Device (and its owner) and may attempt to make contact.

The user of the Requester Device is therefore made aware of *the presence of the second unique identifier* via the contact information because the contact information is only displayed when the second unique identifier has been detected nearby. Where the second further action includes, *e.g.*, attempting to contact the Identified Device (*see* [1.D] and [2.D.I]) and the Requester Device then blocking contact with the Identified Device (*see* [23.A]), these actions occur after the contact information is displayed on the Requester Device. That is, the contact information is displayed so that (*prior to*) the user may attempt to contact the Identified Device, and then the contact is blocked. Lanning, ¶¶221-222, 263, 279.

17. Claims 33/54/58/79/86: “[Claim 2][Claim 37][Claim 37][Claim 60][Claim 60] further comprising: using the stored information to determine if the second unique identifier is present among the selected one or more of the unique identifiers from the second plurality of beacon transmissions.”

Eagle-Behrens-Olkkonen teaches this limitation (for the second unique identifier) for the same reasons discussed for claim 15 (for the first unique identifier). Lanning, ¶¶227, 264, 266, 280, 284.

18. Claim 34

Claim 34 recites a “wireless device” (including radio(s), a processor, and memory) performing functions substantially similar to steps in claim 1-2’s

“method,” and is obvious over Eagle-Behrens-Olkkonen for the same reasons. *See* §VI.E.1-§V.E.2. Limitations specific to claim 34’s device are discussed below.

a. [34.PRE] “A mobile wireless device comprising:”

To the extent this preamble is limiting, Eagle-Behrens-Olkkonen teaches a *mobile wireless device* (e.g., the Requester Device is a phone communicating via Bluetooth and cellular protocols). *See* [1.A.I]. Lanning, ¶228.

b. [34.A] “one or more radios for providing reception and transmission for each of a Bluetooth wireless protocol and a second wireless protocol;”

Eagle teaches the Requester device including *one or more radios for providing reception and transmission for each of a Bluetooth wireless protocol and a second wireless protocol*. Eagle, [0018] (phones incorporate transceivers for the Bluetooth protocol), claim 2 (including a “short range radio transmitter” and “receiver,” and a “long range communications interface coupled to [a] long range communications network”); *see also* [0019]-[0020], [0022], [0028], [0038]-[0040]. Lanning, ¶229.

c. [34.B] “one or more processors; and”

Eagle teaches the Requester device including *one or more processors*. Eagle, [0019] (“Each... cellular phone[] includes a processor that is specially programmed”), [0020], [0028], claim 2. Lanning, ¶230.

- d. **[34.C] “one or more memory devices coupled to the one or more processors, the one or more memory devices storing a set of instructions that when executed by the one or more processors cause the one or more processors to perform operations including:”**

Eagle teaches the Requester Device including *one or more memory devices coupled to the one or more processors, the one or more memory devices storing a set of instructions that when executed by the one or more processors cause the one or more processors to perform operations* (e.g., processor executes programming installed on the Requester Device).

Eagle teaches that its described methods are performed, in part, by executing an application program that is “downloaded” and “installed” on the Requester Device. Eagle, [0028]-[0029]. A POSITA would have recognized that downloading, installing, and executing an application program obviously, if not necessarily, requires that program on a *memory* coupled to the processor. Lanning, ¶¶231-232; Olkkonen, 15:31-34, 35:39-41, 49:56-59; Eagle, [0023]-[0024].

- e. **[34.D] “receiving from a beacon transmitter... a first plurality of beacon transmissions during a first time period...”**

See [1.A.I]-[1.A.IV] (receiving beacon transmissions comprising three fields), [2.PRE] (first transmissions are received in a first time period).

Lanning, ¶¶233-240 (corresponding to [34.D]-[34.K]).

- f. **[34.E] “transferring... stored information...;”**

See [1.B.I]-[1.B.II].

- g. **[34.F] “selecting one or more unique identifiers... by filtering the beacon transmissions...;”**

See [1.C].

- h. **[34.G] “taking first further action... if the first unique identifier is present...;”**

See [1.D].

- i. **[34.H] “receiving... during a second time period, a second plurality of beacon transmissions...;”**

See [2.A]-[2.B.IV].

- j. **[34.I] “selecting one or more of the unique identifiers... by filtering the beacon transmissions...;”**

See [2.C].

- k. **[34.J] “taking second further action... if a second unique identifier is present..., wherein the second unique identifier is associated with the same entity or object, and wherein the second unique identifier is not equal to the first unique identifier, and further wherein the received beacon transmissions including the first and second unique identifiers are received from a same transmitting device; and”**

See [2.D.I]-[2.D.II].

- l. **[34.K] “wherein the [second beacon transmission] MAC address... is different from the [first beacon transmission] MAC address..., but each... includes the same particular beacon service identifier.”**

See [3.A].

19. Claim 35

Claims 35-36 recite a “computer program product” performing functions substantially similar to steps in claim 1-3’s “method” and in claim 34’s “wireless device,” and are obvious over Eagle-Behrens-Olkkonen for the same reasons. *See* §VI.E.1-§V.E.3, §VI.E.18. Limitations specific to claim 35-36’s program product are discussed below.

- a. **[35.PRE] “A computer program product for installation in a non-volatile memory in a wireless device, the computer program product comprising computer program instructions that, when read from the non-volatile memory, and then executed by one or more processors in the wireless device, cause the wireless device to:”**

See [34.B]-[34.C]; Eagle, [0028]-[0029] (wireless device including memory coupled to processors executing an installed program).

Furthermore, to the extent this preamble is limiting, “non-volatile” memory would have been well-known to POSITAs (Behrens, [0106] (device includes “memory, which may be FLASH memory”) and it would have been obvious to a POSITA to use existing non-volatile memories for program storage so that the device does not need to download and install the program repeatedly. Lanning, ¶241.

- b. **[35.A] “process a first plurality of beacon transmissions..., each beacon transmission comprising three fields...;”**

See [1.A.I]-[1.A.IV], [34.D] (receiving and processing beacon transmissions), *also* [34.F]-[34.G] (selecting one or more unique identifiers and, *e.g.*, notifying the server, requires *processing* the transmissions). Lanning, ¶242.

- c. **[35.B] “transfer stored information...;”**

See [1.B.I]-[1.B.III], [34.E] (transferring stored information). Lanning, ¶243.

- d. **[35.C] “select one or more of the unique identifiers... by filtering the beacon transmissions...; and”**

See [34.F]. Lanning, ¶244.

- e. **[35.D] “perform a first further action... if the first unique identifier is present....”**

See [34.G]. Lanning, ¶245.

20. Claim 36

- a. **[36.PRE] “[Claim 35] wherein the computer program instructions, when executed by the one or more processors in the wireless device, cause the wireless device to:”**

See claim 35.

- b. **[36.A] “during a first time period: process the first plurality of beacon transmissions..., and”**

See [35.A] (processing the first plurality of beacon transmissions), [34.D] (the first plurality of beacon transmissions are received in a first time period). The

time period in which the processing occurs may be defined as a *first time period*.

Lanning, ¶247.

c. [36.B] “during a second time period:”

See [34.H]. Lanning, ¶248.

d. [36.C] “process a second plurality of beacon transmissions..., each beacon transmission comprising three fields...;”

See [34.H] (receiving second beacon transmissions in a second time period) and [34.I]-[34.J] (selecting one or more unique identifiers and, *e.g.*, notifying the server, requires *processing* the transmissions). Lanning, ¶249.

e. [36.D] “select one or more of the unique identifiers... by filtering the beacon transmissions which include the same particular beacon service identifier; and”

See [34.I]. Lanning, ¶250.

f. [36.E] “perform a second further action... if a second unique identifier is present....”

See [34.J]. Lanning, ¶251.

21. Claim 60: “[Claim 36] wherein the [first and second beacon transmission] MAC address [are different], but each... beacon transmission includes the same particular beacon service identifier, and... no beacon transmissions including the same particular beacon service identifier and the second unique identifier are received in the first time period.”

See [34.K] and [3.A]-[3.B]. Lanning, ¶252.

VII. GROUND 2: EAGLE IN VIEW OF BEHRENS, OLKKONEN, AND KALLIO RENDERS OBVIOUS CLAIMS 25, 55, AND 78

Claims 25, 55, and 78 of the '685 recite that *the MAC address of the selected beacon transmissions having the particular beacon service identifier and the second unique identifier is a randomly generated 48 bit number matching a format of a Bluetooth BD ADDR, and is not directly usable by the wireless device to establish a connection with the transmitter of that beacon transmission via the Bluetooth wireless protocol.*

Eagle-Behrens-Olkkonen teaches that *the MAC address of the selected beacon transmissions having the particular beacon service identifier and the second unique identifier is, e.g., a WLAN MAC address. See [2.C] (second unique identifier is selected based on the particular beacon service identifier), [2.B.I]-[2.B.IV] (beacon transmission having the second unique identifier and the particular beacon service identifier also has a MAC address that is the Identified Device's WLAN MAC address). A WLAN MAC address is a 48 bit number matching a format of a Bluetooth BD_ADDR. Olkkonen, 32:20-25 (format of an "IEEE 802.11 wireless LAN" identifier is "identical to that of an IEEE 48-bit address"), 2:29-31 (BD_ADDR also a "48-bit IEEE address"). Lanning, ¶289.*

Additionally, a device's WLAN MAC address (*e.g., for Wi-Fi*) is not a BD_ADDR (*e.g., for Bluetooth*) and therefore *is not directly usable by the wireless device to establish a connection with the transmitter of that beacon transmission*

via the short range wireless protocol (i.e., via Bluetooth, as in [1.A.I]). Lanning, ¶290.

To the extent Eagle-Behrens-Olkkonen do not describe the MAC address *randomly generated* as claimed, it would have been obvious to a POSITA to use a randomly generated MAC-address-formatted number in view of Kallio. Lanning, ¶291.

Kallio (EX1047), in the same field of endeavor (*see* §VI.D (regarding the '685); Kallio, [0001]-[0003], [0011]-[0017] (facilitating access to services from, *e.g.*, a Bluetooth base station with managing servers), [0024] (communicating device and service identifiers)), teaches that a wireless device terminal identifying itself to a server may use an identifier such as a MAC address, a Bluetooth device address (also a “MAC address,” *see* [1.A.II]), or a “randomly generated” MAC address in the form of a “48-bit address similar in form to a Bluetooth hardware address, but whose composition [bears] no relation to any identifier corresponding to [the] terminal.” Kallio, [0020], [0024]-[0026]. Lanning, ¶¶286-287.

As Eagle-Behrens-Olkkonen teaches using UIDs that are a combination of unique identifiers comprising any type and combination of addresses, numbers, symbols, etc., including MAC addresses (*see* §VI.D.1, discussion of claims [1.A.II]-[1.A.III] and [2.B.II]-[2.B.III] above; Behren, [0061], [0097]), it would have been obvious to use any type of identifier, including the randomly generated

“48-bit address” taught by Kallio, which further provides a degree of anonymity. Kallio, [0020], [0024]-[0026]. This modification would have been no more than the simple substitution of one known element (Kallio’s randomly generated MAC address) for another (Eagle-Behrens-Olkkonen’s UID MAC address) to yield predictable results (using a MAC-address-formatted identifier while maintaining privacy). *KSR*, 550 at 417-418. Lanning, ¶292.

A POSITA would have also had a reasonable expectation of success in modifying Eagle-Behrens-Olkkonen’s to use a randomly generated MAC address. For example, Kallio describes at least one method for assigning a random MAC address by randomly selecting from a “bank of acceptable anonymity addresses.” Kallio, [0024]-[0026]. Thus, when a Requester Device first registers with Eagle’s server (Eagle, [0029]), the server may assign the Requester Device an address for future identification. Lanning, ¶293.

Eagle-Behrens-Olkkonen further in view of Kallio therefore renders obvious that *the MAC address... is a randomly generated 48 bit number matching a format of a Bluetooth BD_ADDR*.

VIII. GROUND 3: EAGLE IN VIEW OF BEHRENS, OLKKONEN, AND JONES RENDERS OBVIOUS CLAIMS 53 AND 59

A. Interpretation

Claim 53 depends from claim 37 and recites “*the taking second further action additionally comprises: controlling further communications between the*

wireless device and at least one device or server associated with an entity in proximity to the wireless device, and wherein the stored information includes contact information of the entity in proximity utilized to determine the presence of the second unique identifier prior to taking the second further action.”

Claim 59 depends from claim 53 and recites that “*the stored information includes an image of the entity in proximity, wherein the image is displayed on a screen of the wireless device as part of the second further action, and wherein the wireless device requires input from a user of the second wireless device selecting the image of the entity as part of the controlling of the further communications.*”

Regarding claim 59’s “a user of the second wireless device,” there is no antecedent basis for these terms—no other claim in the ’685 recites a “second wireless device.” For this Petition, and consistent with the ’685 specification and with analogous claim 87 (which does not recite a “second” wireless device), Petitioner interprets “the second wireless device” as “the wireless device.”¹¹ For example, the ’685 illustrates that a user of a wireless device wishing to transact with a detected second device (associated with a merchant) may receive identifying information (such as the merchant’s logo), to which the user of the wireless device provides input to confirm the merchant’s identity. EX1001, 10:22-52. Thus, the

¹¹ Petitioner reserves the right to address §112 issues in district court.

limitation is interpreted as “the wireless device requires input from a user of the ~~second~~ wireless device.” Lanning, ¶300. *See K/S HIMPP v. III Holdings 4, LLC*, IPR2017-00782, Paper 8, 24-25 (Jul. 27, 2017), *Google Inc. v. Spring Ventures Ltd.*, IPR2017-01653, Paper 68 at 37 n.7 (Jan. 15, 2019), and *Apple Inc. v. FastVDO LLC*, IPR2016-01203, Paper 39, 9-10 (Dec. 11, 2017) (interpreting claims with indisputable corrections; correcting typos).

B. Eagle-Behrens-Olkkonen-Jones

Eagle-Behrens-Olkkonen renders obvious claim 37, from which claims 53 and 59 depend. *See* §VI.E.3.

Eagle further discloses that *the stored information includes contact information of the entity in proximity utilized to determine the presence of the second unique identifier prior to taking the second further action (e.g., received contact information is displayed in the alert prior to attempting contact with that other entity) and the stored information includes an image of the entity in proximity, wherein the image is displayed on a screen of the wireless device as part of the second further action (e.g., received photo is displayed in the alert).*

For example, Eagle teaches that the received alert message includes stored profile information, such as contact information and a photograph, which is displayed on the Requester Device so that the user of the Requester Device is alerted to the presence of other nearby devices (and owners). *See* [1.A.IV]-[1.B.I],

[1.D]; Eagle, Figs. 1a-1c (below), [0007], [0021], [0050], [0058]. Lanning, ¶¶301-302.

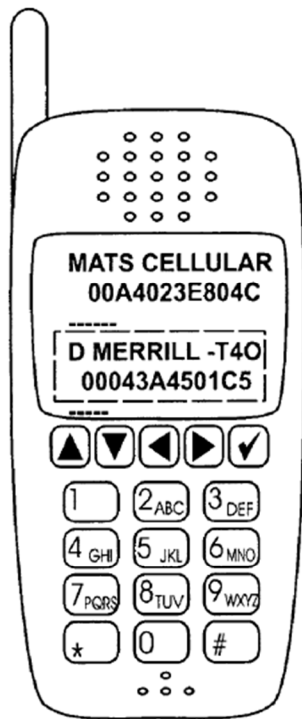


Fig. 1a

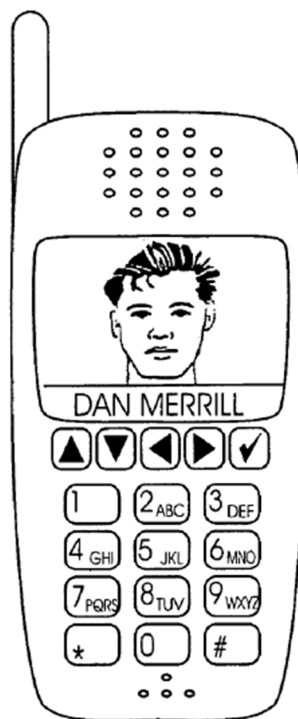


Fig. 1b



Fig. 1c

While Eagle describes making the user aware of nearby interests, which in view of Olkkonen includes collaborative activities they may join (*see* §VI.D.3), Eagle leaves to the POSITA the manner by which the user proceeds to make use of the alerted information to communicate with an Identified Device (and its owner), including steps of selecting the image as part of controlling further communications for the second further action, as required by claims 53 and 59. Lanning, ¶303.

Jones is in the same field of endeavor of wireless communications and reasonably pertinent to objectives of facilitating the exchange of information between entities and devices (Jones, [0001], [0023]-[0026] (describing difficulties in discovering and connecting with nearby wireless services)). Jones teaches a method for connecting with a discovered service—whether discovered through active, passive, or other means—through a graphical user interface. Jones, [0028]. Jones Fig. 4 (below) illustrates window 400 listing nearby discovered services. Jones, [0048].

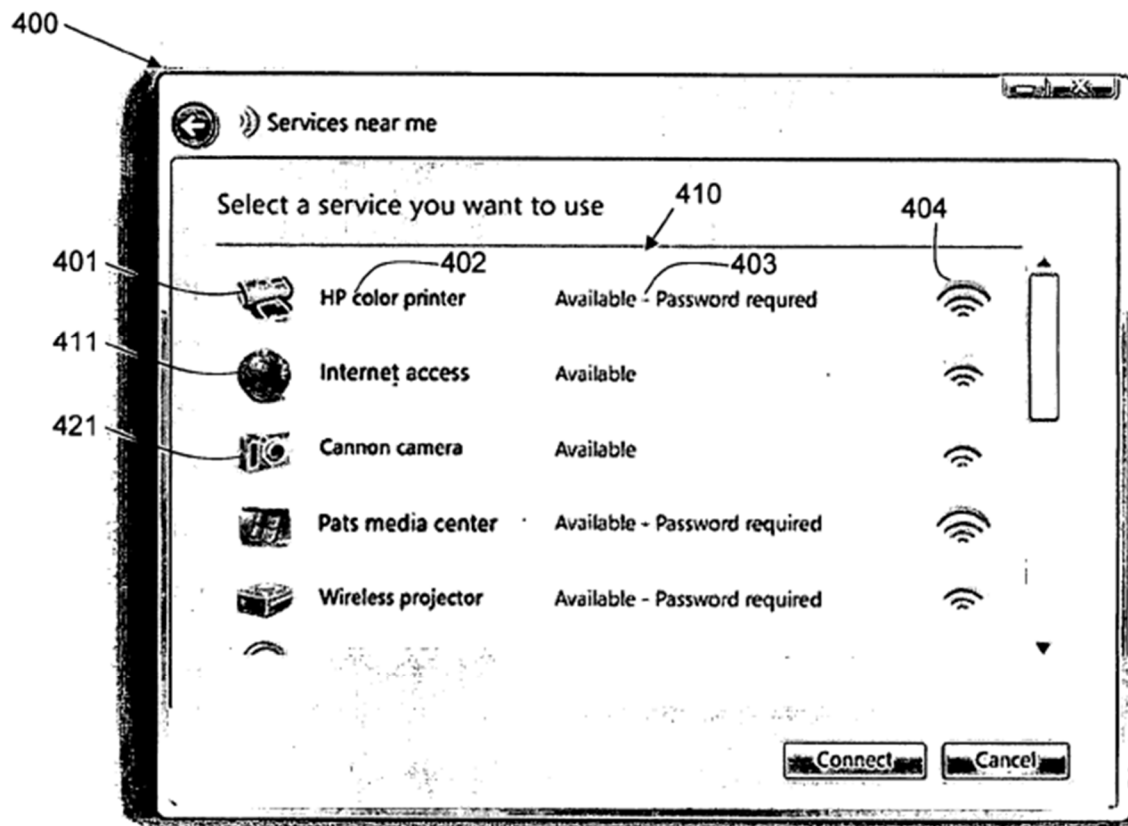


Fig. 4

Each listing includes an icon 401 (e.g., an image) and service name and information 402. Jones, [0048]-[0050]. A user interested in any particular service selects the service image, as shown in Fig. 7 (below), and initiates a connection via connect button 706 or by double-clicking the selection. Jones, [0039], [0056]. Lanning, ¶¶295-298.

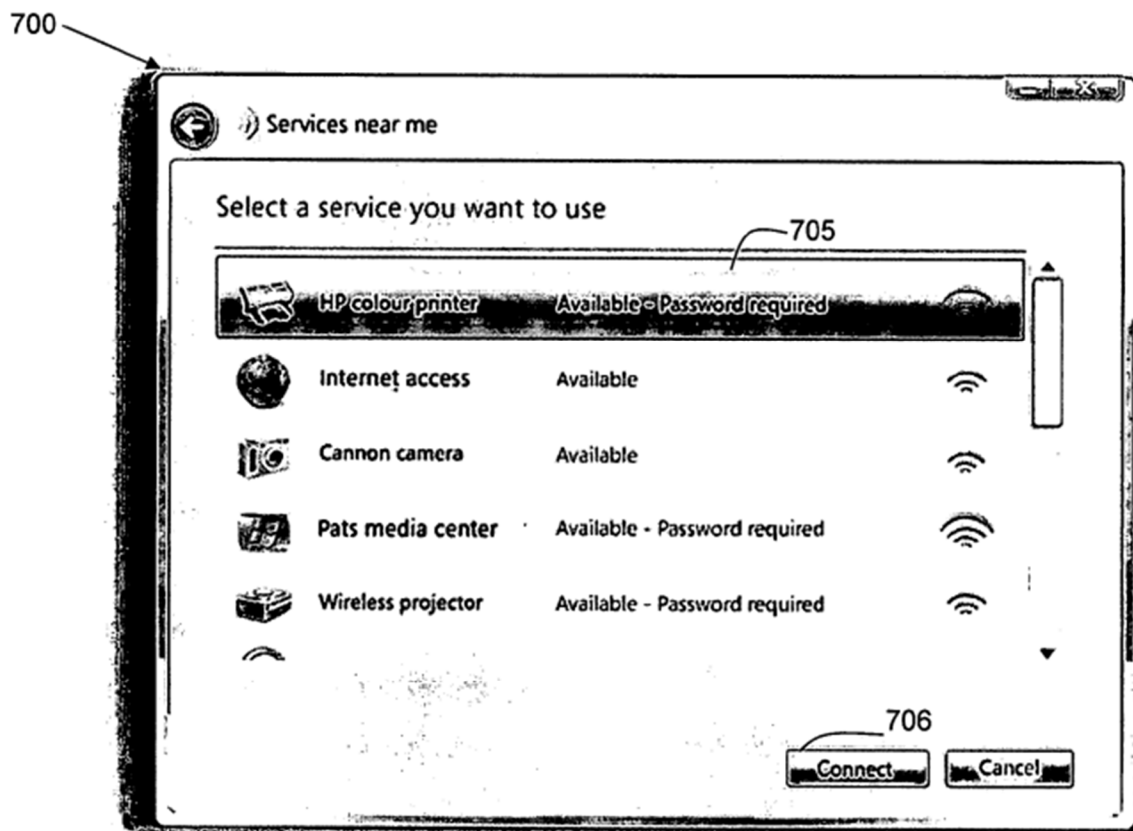


Fig. 7

It would have been obvious to a POSITA to modify Eagle's alert system so that the wireless device requires input from the user to select the image of the nearby entity to make a connection (*i.e., selecting the image as part of controlling*

further communications, and then controlling communications with the device with an entity in proximity, as claimed), thereby providing a simple method for the user to pursue their interests. Jones explains that its selection simplifies connections for users that “simply wish to easily find and use” and “access [a] desired service.” Jones, [0007]; see also [0063]-[0067] (processing any type of connection with the selection). Thus, where Eagle-Olkkonen describes various discoverable and connectable entities and services (see §VI.D.3), whose presences are made known through displayed images (e.g., connecting to a user as in Fig. 1b above), it would have been advantageous to facilitate connections with those entities and services through simple selection of those images. Lanning, ¶304.

Moreover, the above modification would have been the use of a known technique (Jones’s image selection to facilitate communications) to similar devices (devices alerting users of nearby entities) yielding predictable results (providing a simple communication process). *KSR*, 550 at 417-418. Lanning, ¶305.

A POSITA would have also had a reasonable expectation of success in modifying Eagle-Behrens-Olkkonen to permit selection of an image, which is a basic user interface action, via any input mechanism (Jones, [0032], [0039]) to make desired communications through standardized wireless technologies, including phone and data networks (Eagle, [0042], [0046], [0058]; Jones, [0005]-[0007], [0027], [0042], [0063]-[0067]; Olkkonen, 1:46-5:4). Lanning, ¶306.

IX. GROUND 4: EAGLE IN VIEW OF BEHRENS, OLKKONEN, KALLIO, AND JONES RENDERS OBVIOUS CLAIM 87

Claim 87 depends from claim 78, which is obvious in view of Eagle-Behrens-Olkkonen-Kallio (*see* §VII), and claim 87 is obvious further in view of Jones for the same reasons discussed for claim 59 above (*see* §VIII.B). Lanning, ¶¶306-307.

X. CONCLUSION

The Board should institute review and cancel the Challenged Claims.

Respectfully submitted,
Google LLC

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APPENDIX A: U.S. PATENT NO. 11,995,685 CLAIM LISTING

Claim 1
[1.PRE] A method comprising:
[1.A] [1.A.I] causing processing, at a wireless device, of a first plurality of beacon transmissions received at the wireless device via a short range wireless protocol, each beacon transmission comprising three fields [1.A.II] (a) a MAC address, [1.A.III] (b) a unique identifier, wherein the unique identifier of each respective beacon transmission is a numeric value, and [1.A.IV] (c) a beacon service identifier, wherein the beacon service identifier of each respective beacon transmission identifies a wireless beacon service in which the unique identifier is relevant to stored information relating to an entity or object associated with a transmitter of a respective beacon transmission;
[1.B.I] causing a transfer of the stored information between the wireless device and one or more servers via a second wireless protocol, [1.B.II] wherein at least a portion of the stored information relates to a particular entity or object associated with a first unique identifier, and [1.B.III] wherein the second wireless protocol is different from the short range wireless protocol;
[1.C] causing selection of one or more of the unique identifiers from the first plurality of beacon transmissions, by filtering the beacon transmissions which include a particular beacon service identifier; and
[1.D] taking first further action relating to the stored information, if the first unique identifier is present among the selected one or more unique identifiers.
Claim 2
[2.PRE] The method of claim 1, wherein the processing of the first plurality of beacon transmissions occurs in a first time period, and
[2.A] wherein the method further comprises, during a second time period:
[2.B] causing processing, at the wireless device, of a second plurality of beacon transmissions received at the wireless device via the short range wireless protocol, each of the second plurality of beacon transmissions comprising three fields (a) a MAC address, (b) a unique identifier, wherein the unique identifier of each respective beacon transmission is a numeric value, and (c) a beacon service identifier, wherein the beacon service identifier of each respective beacon transmission identifies a wireless beacon service in which the unique identifier is relevant to the stored information relating to an entity or object associated with a transmitter of a respective beacon transmission;
[2.C] causing selection of one or more of the unique identifiers from the second plurality of beacon transmissions, by filtering the beacon transmissions which include the same particular beacon service identifier; and

[2.D] taking second further action relating to the stored information, if a second unique identifier is present among the one or more unique identifiers selected from the second plurality of beacon transmissions, wherein the first unique identifier and the second unique identifier are both associated with the same particular entity or object, and wherein the second unique identifier is not equal to the first unique identifier, and further wherein the received beacon transmissions including the first and second unique identifiers are received from a same transmitting device.

Claim 3

[3.A] The method of claim 2 wherein the MAC address received in a beacon transmission including the second unique identifier is different from the MAC address received in a beacon transmission including the first unique identifier, but each such beacon transmission includes the same particular beacon service identifier, and **[3.B]** wherein a plurality of beacon transmissions including the particular beacon service identifier and the first unique identifier are received in the first time period, and no beacon transmissions including the same particular beacon service identifier and the second unique identifier are received in the first time period.

Claim 4

The method of claim 3 wherein the second further action is based upon a function currently being performed on a device associated with the wireless beacon service.

Claim 5

The method of claim 4 wherein the function is related to a current phone call.

Claim 6

The method of claim 2 wherein the first or the second further action is related to receiving advertising information for presentation to a user of the wireless device, based upon the first or the second unique identifier, or information derived from the first or second unique identifier.

Claim 7

The method of claim 2 wherein one or more of the first and the second further action includes receiving content from a server based upon information derived from either the first unique identifier or the second unique identifier.

Claim 8

The method of claim 2, wherein the first or second further action includes sending a message to another device associated with an account related to the first and the second unique identifiers.

Claim 10

The method of claim 2 wherein the second further action includes preventing sending of the second unique identifier or information derived from the second unique identifier by the wireless device to at least one of the one or more servers.
Claim 12
The method of claim 2 wherein the taking first further action further includes causing the wireless device, to: send the first unique identifier or information derived from the first unique identifier to at least one of the one or more servers, and receive the stored information in response.
Claim 13
The method of claim 2 wherein the stored information is received at the wireless device from at least one of the one or more servers prior to the taking of the first further action.
Claim 14
The method of claim 2 wherein the stored information is received at the wireless device from at least one of the one or more servers prior to performing the second further action.
Claim 15
The method of claim 1 further comprising: using the stored information to determine if the first unique identifier is present among the first selected one or more unique identifiers.
Claim 16
The method of claim 2 wherein all beacon transmitter devices participating in the particular wireless beacon service have the same particular beacon service identifier.
Claim 19
The method of claim 2 wherein the second further action is related to either a product tied to a location or an advertisement tied to a location.
Claim 22
The method of claim 2 wherein the second further action includes allowing a user associated with the wireless device to be provided access to an object or device associated with the wireless beacon service.
Claim 23
The method of claim 3 wherein the taking second further action additionally comprises: controlling further communications between the wireless device and at least one device or server associated with an entity or object in proximity to the wireless device, and wherein the stored information includes contact information of the

entity in proximity utilized to determine the presence of the second unique identifier prior to taking the second further action.
Claim 25
The method of claim 3 wherein the MAC address of the selected beacon transmissions having the particular beacon service identifier and the second unique identifier is a randomly generated 48 bit number matching a format of a Bluetooth BD_ADDR, and is not directly usable by the wireless device to establish a connection with the transmitter of that beacon transmission via the short range wireless protocol.
Claim 26
The method of claim 1 wherein the first further action is related to receiving advertising information for presentation to a user of the wireless device, based upon the first unique identifier, or information derived from the first unique identifier.
Claim 27
The method of claim 1 wherein the first further action includes receiving content from a server based upon information derived from the first unique identifier.
Claim 31
The method of claim 1 wherein the first further action is related to either a product tied to a location or an advertisement tied to a location.
Claim 32
The method of claim 3 wherein the taking second further action additionally comprises: controlling further communications between the wireless device and at least one device or server associated with an entity or object in proximity to the wireless device.
Claim 33
The method of claim 2 further comprising: using the stored information to determine if the second unique identifier is present among the selected one or more of the unique identifiers from the second plurality of beacon transmissions.
Claim 34
[34.PRE] A mobile wireless device comprising:
[34.A] one or more radios for providing reception and transmission for each of a Bluetooth wireless protocol and a second wireless protocol;
[34.B] one or more processors; and
[34.C] one or more memory devices coupled to the one or more processors, the one or more memory devices storing a set of instructions that when executed by

the one or more processors cause the one or more processors to perform operations including:
[34.D] receiving from a beacon transmitter, using the Bluetooth wireless protocol, a first plurality of beacon transmissions during a first time period, each of the beacon transmissions including (a) a MAC address, (b) a unique identifier, wherein the unique identifier of each respective beacon transmission is a numeric value, and (c) a beacon service identifier, wherein the beacon service identifier of each respective beacon transmission identifies a wireless beacon service in which the unique identifier is relevant to stored information relating to an entity or object associated with a transmitter of a respective beacon transmission;
[34.E] transferring, between the wireless device and one or more servers via the second wireless protocol, stored information related to an entity or object associated with a first unique identifier;
[34.F] selecting one or more unique identifiers from the first plurality of beacon transmissions, by filtering the beacon transmissions which include a particular beacon service identifier;
[34.G] taking first further action relating to the stored information, if the first unique identifier is present among the selected one or more unique identifiers;
[34.H] receiving, by the wireless device, using the Bluetooth wireless protocol, during a second time period, a second plurality of beacon transmissions, each of the second plurality of beacon transmissions comprising three fields (a) a MAC address, (b) a unique identifier, wherein the unique identifier of each respective beacon transmission is a numeric value, and (c) the beacon service identifier, wherein the beacon service identifier of each respective beacon transmission identifies a wireless beacon service in which the unique identifier is relevant to the stored information relating to an entity or object associated with a transmitter of a respective beacon transmission;
[34.I] selecting one or more of the unique identifiers from the second plurality of beacon transmissions, by filtering the beacon transmissions which include the same particular beacon service identifier indicating that a particular received beacon transmission is associated with the same particular wireless beacon service;
[34.J] taking second further action relating to the stored information, if a second unique identifier is present among the one or more unique identifiers selected from the second plurality of beacon transmissions, wherein the second unique identifier is associated with the same entity or object, and wherein the second unique identifier is not equal to the first unique identifier, and further wherein the received beacon transmissions including the first and second unique identifiers are received from a same transmitting device; and

[34.K] wherein the MAC address received in a beacon transmission including the second unique identifier is different from the MAC address received in a beacon transmission including the first unique identifier, but each such beacon transmission includes the same particular beacon service identifier.

Claim 35

[35.PRE] A computer program product for installation in a non-volatile memory in a wireless device, the computer program product comprising computer program instructions that, when read from the non-volatile memory, and then executed by one or more processors in the wireless device, cause the wireless device to:

[35.A] process a first plurality of beacon transmissions, received at the wireless device via a Bluetooth wireless protocol, each beacon transmission comprising three fields (a) a MAC address, (b) a unique identifier, wherein the unique identifier of each respective beacon transmission is a numeric value, and (c) a beacon service identifier, wherein the beacon service identifier of each respective beacon transmission identifies a wireless beacon service in which the unique identifier is relevant to stored information relating to an entity or object associated with a transmitter of a respective beacon transmission;

[35.B] transfer stored information between one or more servers to the wireless device via a second wireless protocol, wherein the stored information relates to an entity or object associated with a first unique identifier, and wherein the second wireless protocol is different from the Bluetooth wireless protocol;

[35.C] select one or more of the unique identifiers from the first plurality of beacon transmissions, by filtering the beacon transmissions which include a particular beacon service identifier; and

[35.D] perform a first further action, the first further action relating to the stored information, if the first unique identifier is present among the selected one or more unique identifiers.

Claim 36

[36.PRE] The computer program product of claim 35 wherein the computer program instructions, when executed by the one or more processors in the wireless device, cause the wireless device to:

[36.A] during a first time period:

process the first plurality of beacon transmissions in the first time period, and

[36.B] during a second time period:

[36.C] process a second plurality of beacon transmissions, received at the wireless device via the Bluetooth wireless protocol, each beacon transmission comprising three fields (a) a MAC address, (b) a unique identifier, wherein the unique identifier of each respective beacon transmission is a numeric value, and

(c) a beacon service identifier, wherein the beacon service identifier of each respective beacon transmission identifies a wireless beacon service in which the unique identifier is relevant to the stored information relating to an entity or object associated with a transmitter of a respective beacon transmission;
[36.D] select one or more of the unique identifiers from the second plurality of beacon transmissions, by filtering the beacon transmissions which include the same particular beacon service identifier; and
[36.E] perform a second further action relating to the stored information, if a second unique identifier is present among the one or more unique identifiers selected from the second plurality of beacon transmissions, wherein the first unique identifier and the second unique identifier are both associated with the same particular entity or object, and wherein the second unique identifier is not equal to the first unique identifier, and further wherein the received beacon transmissions including the first and second unique identifiers are received from a same transmitting device.
Claim 37
The mobile wireless device of claim 34 wherein a plurality of beacon transmissions including the particular beacon service identifier and the first unique identifier are received in the first time period, and no beacon transmissions including the same particular beacon service identifier and the second unique identifier are received in the first time period.
Claim 38
The mobile wireless device of claim 37 wherein the second further action is based upon a function currently being performed on a device associated with the wireless beacon service.
Claim 39
The mobile wireless device of claim 38 wherein the function is related to a current phone call.
Claim 40
The mobile wireless device of claim 37 wherein one or more of the first further action and the second further action includes receiving content from a server based upon information derived from either the first unique identifier or the second unique identifier.
Claim 41
The mobile wireless device of claim 37, wherein the first or second further action includes sending a message to another device associated with an account related to the first and the second unique identifiers.
Claim 44

The mobile wireless device of claim 37 wherein the taking first further action further includes causing the wireless device, to: send the first unique identifier or information derived from the first unique identifier to at least one of the one or more servers, and receive the stored information in response.
Claim 45
The mobile wireless device of claim 37 wherein the stored information is received at the wireless device from at least one of the one or more servers prior to the taking of the first further action.
Claim 46
The mobile wireless device of claim 39 wherein the stored information is received at the wireless device from at least one of the one or more servers prior to performing one or more of the first and the second further action.
Claim 47
The mobile wireless device of claim 45 further comprising: using the stored information to determine if the first unique identifier is present among the first selected one or more unique identifiers.
Claim 48
The mobile wireless device of claim 37 wherein all beacon transmitter devices participating in the particular wireless beacon service have the same particular beacon service identifier
Claim 52
The mobile wireless device of claim 37 wherein the second further action includes allowing a user associated with the wireless device to be provided access to an object or device associated with the wireless beacon service.
Claim 53
The mobile wireless device of claim 37 wherein the taking second further action additionally comprises: controlling further communications between the wireless device and at least one device or server associated with an entity in proximity to the wireless device, and wherein the stored information includes contact information of the entity in proximity utilized to determine the presence of the second unique identifier prior to taking the second further action.
Claim 54
The mobile wireless device of claim 37 further comprising: using the stored information to determine if the second unique identifier is present among the selected one or more of the unique identifiers from the second plurality of beacon transmissions.
Claim 55

The mobile wireless device of claim 53 wherein the MAC address of the selected beacon transmissions having the particular beacon service identifier and the second unique identifier is a randomly generated 48 bit number matching a format of a Bluetooth BD ADDR, and is not directly usable by the wireless device to establish a connection with the transmitter of that beacon transmission via the short range Bluetooth wireless protocol.

Claim 57

The mobile wireless device of claim 37 wherein the taking second further action additionally comprises:
controlling further communications between the wireless device and at least one device or server associated with an entity or object in proximity to the wireless device.

Claim 58

The mobile wireless device of claim 37 further comprising:
using the stored information to determine if the second unique identifier is present among the selected one or more of the unique identifiers from the second plurality of beacon transmissions.

Claim 59

The mobile wireless device of claim 53 wherein the stored information includes an image of the entity in proximity, wherein the image is displayed on a screen of the wireless device as part of the second further action, and wherein the wireless device requires input from a user of the second wireless device selecting the image of the entity as part of the controlling of the further communications.

Claim 60

The computer program product of claim 36 wherein the MAC address received in a beacon transmission including the second unique identifier is different from the MAC address received in a beacon transmission including the first unique identifier, but each such beacon transmission includes the same particular beacon service identifier, and wherein a plurality of beacon transmissions including the particular beacon service identifier and the first unique identifier are received in the first time period, and no beacon transmissions including the same particular beacon service identifier and the second unique identifier are received in the first time period.

Claim 61

The computer program product of claim 60 wherein the second further action is based upon a function currently being performed on a device associated with the wireless beacon service.

Claim 62

The computer program product of claim 61 wherein the function is related to a current phone call.
Claim 63
The computer program product of claim 60 wherein one or more of the first further action and the second further action includes receiving content from a server based upon information derived from either the first unique identifier or the second unique identifier.
Claim 64
The computer program product of claim 60, wherein the first or second further action includes sending a message to another device associated with an account related to the first and the second unique identifiers.
Claim 67
The computer program product of claim 60 wherein the taking first further action further includes causing the wireless device, to: send the first unique identifier or information derived from the first unique identifier to at least one of the one or more servers, and receive the stored information in response.
Claim 68
The computer program product of claim 60 wherein the stored information is received at the wireless device from at least one of the one or more servers prior to the taking of the first further action.
Claim 69
The computer program product of claim 62 wherein the stored information is received at the wireless device from at least one of the one or more servers prior to performing one or more of the first and the second further action.
Claim 70
The computer program product of claim 68 further comprising: using the stored information to determine if the first unique identifier is present among the first selected one or more unique identifiers
Claim 71
The computer program product of claim 60 wherein all beacon transmitter devices participating in the particular wireless beacon service have the same particular beacon service identifier.
Claim 73
The computer program product of claim 60 wherein the second further action is related to either a product tied to a location or an advertisement tied to a location.
Claim 76

The computer program product of claim 60 wherein the second further action includes allowing a user associated with the wireless device to be provided access to an object or device associated with the wireless beacon service.
Claim 77
The computer program product of claim 60 wherein the taking second further action additionally comprises: controlling further communications between the wireless device and at least one device or server associated with an entity in proximity to the wireless device, and wherein the stored information includes contact information of the entity in proximity utilized to determine the presence of the second unique identifier prior to taking the second further action.
Claim 78
The computer program product of claim 77 wherein the MAC address of the selected beacon transmissions having the particular beacon service identifier and the second unique identifier is a randomly generated 48 bit number matching a format of a Bluetooth BD ADDR, and is not directly usable by the wireless device to establish a connection with the transmitter of that beacon transmission via the Bluetooth wireless protocol.
Claim 79
The computer program product of claim 60 further comprising: using the stored information to determine if the second unique identifier is present among the selected one or more of the unique identifiers from the second plurality of beacon transmissions.
Claim 80
The computer program product of claim 60 wherein the first further action is related to receiving advertising information for presentation to a user of the wireless device, based upon the first unique identifier, or information derived from the first unique identifier.
Claim 81
The computer program product of claim 60 wherein the first further action includes receiving content from a server based upon information derived from the first unique identifier.
Claim 85
The computer program product of claim 60 wherein the taking second further action additionally comprises: controlling further communications between the wireless device and at least one device or server associated with an entity or object in proximity to the wireless device.
Claim 86

The computer program product of claim 60 further comprising:
using the stored information to determine if the second unique identifier is
present among the selected one or more of the unique identifiers from the second
plurality of beacon transmissions.

Claim 87

The computer program product of claim 78 wherein the stored information
includes an image of the entity in proximity, wherein the image is displayed on a
screen of the wireless device as part of the second further action, and wherein the
wireless device requires input from a user of the wireless device selecting the
image of the entity as part of the controlling of the further communications.

CERTIFICATE OF SERVICE UNDER 37 C.F.R. §42.6(E)(4)

I certify that on November 11, 2025, a copy of the foregoing document, including any exhibits or appendices filed therewith, is being served via *Overnight FedEx* at the following correspondence address of record for the patent:

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CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. §42.24, the undersigned certifies that the foregoing Petition for *Inter Partes* Review contains 13,975 words excluding a table of contents, a table of authorities, Mandatory Notices under §42.8, a certificate of service or word count, or appendix of exhibits or claim listing. Petitioner has relied on the word count feature of the word processing system used to create this paper in making this certification.

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