IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:
James A. Proctor, Jr., et al.

Serial No.: 15/271,410

Filed: September 21, 2016

For: EXCHANGING IDENTIFIERS BETWEEN WIRELESS COMMUNICATION TO DETERMINE FURTHER INFORMATION TO BE EXCHANGED OR FURTHER SERVICES TO BE PROVIDED

Examiner: Sherr, Cristina Owen

Art Unit: 3685

Confirmation No.: 7653

DECLARATION OF JAMES A. PROCTOR, JR UNDER 37 CFR 1.132

I. INTRODUCTION

1. My name is James Arthur Proctor, Jr.

2. I am one of the named inventors in the above-referenced patent application, which I will refer to as the "'410 application".

3. I serve as managing director of Proxicom Wireless, LLC, the applicant in the above-referenced application.

4. All statements made herein of my own knowledge are true, and all statements made on information and belief are believed by me to be true.

5. All of my opinions stated herein are based on my own personal knowledge and judgment, and my analysis of the materials and information currently available to me.

II. QUALIFICATIONS AND PROFESSIONAL EXPERIENCE

6. I am qualified by education and experience to testify as an expert in the field of telecommunications. Attached as Exhibit 1 to this Declaration is a copy of my Curriculum Vitae (CV) detailing my education and experience. Additionally, the following overview of my background pertains to my qualifications for providing expert testimony in this matter.

7. I have worked as an engineer and entrepreneur in the field of wireless communications for over 25 years, and have been involved with various aspects of wireless communications for the duration of my career.

8. I currently am named inventor or co-inventor on more than 290 issued U.S. patents, and more than 700 international patent publications. The vast majority of these patents and patent applications are related to wireless communications. I have multiple patents which have been deemed "standards essential" for 3G and 4G wireless standards, within the 3rd Generation Partnership Project (3GPP) standards organization.

9. As will be discussed in further detail below, the subject of the '410 patent relates generally to wireless devices that use beacon services to control the exchange of information.

10. I have testified at trial as a technical expert on matters of patent validity, including issues of claim interpretation and patent validity, trial in the matter of Prism Technologies, LLC v. T-Mobile USA, Inc., in the United States District Court for the District of Nebraska, No. 8:12-cv-00124.

11. I have also provided technical tutorials to the Court in U.S. Southern District of Florida in the matter of Wi-Lan v. Ericsson (Case No. 1:12-23569-Civ).

12. Additionally, I have been engaged as an expert to provide testimony in form of expert reports and/or deposition testimony relating to wireless communications by leading companies in the wireless communications industry including (further details may be found in my CV attached as Exhibit 1):

a. Mobile Device providers: Apple, Blackberry, LG, HTC, ZTE, and Sierra Wireless

b. Mobile Infrastructure (base station) providers: Alcatel, Ericsson, and Nokia

c. Wireless Network Operators: AT&T, Sprint, Verizon, and T-Mobile

13. I am an inventor on the following patents related to methods of exchanging information between mobile or wireless devices:

U.S. Patent 8,385,913 entitled "Using a first wireless link to exchange identification information used to communicate over a second wireless link", issued February 26, 2013;

U.S. Patent 8,090,616 entitled "Visual identification information used as confirmation in a wireless communication" issued January 3, 2012.

U.S. Patent 8,116,749 entitled "Protocol for anonymous wireless communication" issued February 14, 2012.

U.S. Patent 9,135,612 entitled "Proximity detection, virtual detection, or location based triggering of the exchange of value and information" issued September 15, 2015.

14. A substantial portion of my formal education and professional work has been focused on wireless communication systems and products.

15. For example, my educational background includes a Bachelor of Science in Electrical Engineering (BSEE) from the University of Florida (1991) and a Master of Science in Electrical Engineering (MSEE) from the Georgia Institute of Technology (1992) focusing on digital signal processing.

16. From 1986 to 1991, while at the University of Florida, I interned with Harris Corporation in various roles including mechanical design, software development, and digital design. From 1991 to 1992, while at Georgia Institute of Technology, I worked at the Georgia Tech Research Institute (GTRI) as a graduate research assistant, performing software development on classified government programs.

17. From 1993 to 1995, while working for Harris Corporation, I designed various cellular communications systems for voice, data, and tracking/location. Many of the systems I designed utilized advanced communications technologies, such as those utilized in the then-developing and now widespread telecommunication standards (such as IS-95, W-CDMA, and aspects of LTE).

18. From 1995 to 1998, I worked at Spectrian in advanced development and technical marketing. At Spectrian, I interfaced with Nortel's and Qualcomm's product management and performed advanced technology development and systems analysis. In this role, I designed IS-95 CDMA and GSM base station power amplifiers and control electronics, and received several patents associated with advanced linearization techniques for the reduction of transmitted distortion.

19. From 1998 to 2002, I served as the Director of Strategic and Technical Marketing at Tantivy Communications, a venture capital-funded 3G cellular data and chip set company. At Tantivy, I helped to architect and standardize the I-CDMA Spread Spectrum Systems Air Interface Standard (T1P1.4). I also developed both subscriber units and base stations that complied with the standard. The base stations utilized various protocols, and interfaced with the wire line network utilizing IP over Ethernet. Additionally, I participated in and provided technical contributions to 3GPP/3GPP2 standardization efforts related to the development of CDMA2000 and 1xEV-DO. This work resulted in my being named as a co-inventor on more than 150 pending or issued U.S. patents or applications.

20. From 2002 to 2007, as co-founder of WiDeFi, Inc., I served in various roles including as its President, CEO, CTO, and board member. As the CEO, my responsibilities included advanced development of platform technologies. I was co-inventor of wireless technology components, including a frequency translating TDD repeater, a same frequency repeater architecture for TDD/FDD-based systems, and physical layer multi-stream MIMO repeater technology. WiDeFi invented and provided wireless home networking products based on WiFi and cellular technologies. While at WiDeFi, I was a named inventor on over 25 issued U.S. patents or patent applications.

21. From 2007 to 2009, I consulted as a principal engineer for Qualcomm Inc. as part of their acquisition of WiDeFi's technology. While at Qualcomm, I worked with its corporate R&D division and developed consumer 3G and 4G cellular coverage enhancement systems utilizing WiDeFi's baseband interference cancellation technologies. My responsibilities included working with international cellular operators on product requirements, detailed W-CDMA simulations, Long Term Evolution ("LTE") systems analysis, and participation in prototype product realization. I am currently a named inventor on roughly 45 issued U.S. patents or patent applications assigned to Qualcomm.

22. From 2010 to the present, I have served as managing director and co-founder of Proxicom Wireless, LLC, which has developed and continues to develop cloud-based, mobile social networking and mobile payments technology based upon the proximity and location of mobile devices. Proxicom currently holds twelve issued U.S. patents and multiple pending patent applications, of which I am a co-inventor. Significant aspects of Proxicom's technology involve a mobile device's use of short range wireless technologies (802.11, near field communications, and Bluetooth) in combination with cellular data links (3G/WCDMA or 4G/LTE, for example) to facilitate frictionless interactions via a wireless networked central cloud server.

23. Since 2007, I also have been the principal of Proctor Consulting, LLC. In this role, I have been a consultant relating to wired, wireless, and cellular communication and technologies, start-up companies and intellectual property. I also have been involved with numerous patent infringement, patent validity, and patent analysis assignments for public and private companies in the wired, wireless, and cellular networking industries.

24. Additionally, I have worked and consulted for both cellular infrastructure and device focused companies (Spectrian, Qualcomm, Fastback Networks), and defense contractors (Harris Corporation), where I developed covert-tracking and location technologies involving CDMA and smart-antenna technologies.

25. In various of the above-detailed roles, I have been responsible for the development of business plans, product development plans, product development budgets, and product bill of materials estimations. I have been responsible for numerous product development teams,

including schedule and costs of the development process at various stages of my career. For example, at Tantivy Communications, I ran a joint development of I-CDMA cellular base stations in Seoul, Korea that were used in a field trial in that country. Additionally, as founder and CEO of WiDeFi, Inc., I was responsible for similar such activities, as required to raise venture capital funding and reporting to the board of directors.

26. For these reasons, and because of my technical experience and training as outlined below, I am qualified to offer the opinions expressed herein regarding the validity of the '410 patent application.

III. MATERIALS CONSIDERED

27. In connection with my analysis in this case thus far, I reviewed and considered a number of documents, including

a. the original specification and drawings that were filed as the '410 application;

b. U.S. Patent Publication 2017/0011425A1, which is the published version of the '410 application;

c. The Office Action dated November 19, 2018;

d. the Office Action dated January 22, 2020 (which I refer to as the "last Office Action" below);

e. the Appeal Brief filed September 25, 2019; and

f. other publicly available information and documents as identified herein.

28. I understand that the claims pending in the '410 application, as of the date I sign this declaration, are reflected in the claim listing attached as Exhibit 2.

29. This information, where my consideration of it relates to opinions expressed in this report, is identified through citation and serves as my identification of the facts and documents I considered in forming my opinions.

30. I reserve the right to rely upon any additional information or materials that may be provided to me or that are relied upon by the Patent Office in this case, if asked to give additional opinions regarding this matter.

IV. RELEVANT LEGAL PRINCIPLES

31. In forming my opinions, I have relied upon certain principles of law that legal counsel in this matter and in multiple other contested matters have explained to me. My understanding of these concepts is summarized below.

A. Person of Ordinary Skill in the Art

32. I have been informed that claims are construed from the perspective of one of ordinary skill in the art to which the patented subject matter pertains at the time of the invention. That analysis should consider the perspective of the skilled person at the time the invention was made. Furthermore, I understand that a determination of the level of ordinary skill in the art includes as relevant factors (1) the person's educational level; (2) the type of problems encountered in the art; (3) the prior solutions to those problems; (4) the rapidity with which innovations are made in the art; (5) the sophistication of the technology in the art; and (6) the educational level of other active workers in the field.

B. Written Description and Enablement

33. I have been informed that certain other requirements are imposed on the form of a patent's disclosure: the specification must meet both the "written description" and "enablement" requirements. I understand that these requirements can be summarized as follows:

34. I understand that to have an adequate written description, the patent must convey with reasonable clarity to one skilled in the art that, as of the filing date sought, that the patentee was in possession of the invention.

35. I understand that to demonstrate possession of the invention, the specification must permit such a person with ordinary skill in the art to visualize or recognize the identity of the subject matter purportedly described.

36. Although the specification need not describe the claimed subject matter verbatim to demonstrate possession of the invention, generalized language will not suffice if it does not convey the details of the claimed invention in some way.

37. I understand that to have an adequate written description, each element of the claimed invention must be actually or inherently disclosed in the specification. I understand that material added by amendment is not inherent to the original specification for this purpose, if that amendment would broaden the scope of the invention beyond that which is supported in the initial disclosure.

38. I understand that to be an enabling disclosure, the specification must adequately disclose to one skilled in the art how to make or carry out the claimed invention without undue experimentation.

39. I also understand that my opinions expressed herein must be supported by factual evidence, to which I will refer.

C. Clarity of Claim Language

40. I understand that patents must have definite claims that clearly and precisely inform persons skilled in the art of their boundaries.

41. It is my understanding that the claims in patent applications are interpreted, not solely on the basis of the specific language used, but also by giving claims their broadest reasonable construction in light of the specification as it would be interpreted by one of ordinary skill in the art at the time the invention was made.

42. I also understand that under this broadest reasonable interpretation, the words in a claim are to be interpreted in a manner that is consistent with their ordinary and customary meaning of

the term, unless specific term(s) have been given a special definition in the specification. Any such special meaning must be consistent with the text of the specification and drawings.

V. PERSON OF ORDINARY SKILL IN THE ART FOR THE ‘410 APPLICATION

43. In my opinion, the person of ordinary skill in the art needed to have the capability of understanding the scientific and engineering principles applicable to the ‘410 patent application. Such a person would typically have a Master’s degree in electrical engineering or related field with emphasis in digital communications and at least one year of industry experience with wireless communication design, or a Bachelor’s degree in electrical engineering or related field with emphasis in digital communication and at least two years of industry experience with wireless communication design.

44. The Office Action dated November 19, 2018 the Patent Office determined that the ‘410 application was entitled to a filing date of January 28, 2009.

45. As of January 28, 2009, I would have qualified as a person of ordinary skill in the art. I would have thus appreciated the perspective of such a person as of that date.

VI. ANALYSIS

46. By way of introduction, the invention claimed in the ‘410 application uses a certain type of radio transmission, called a proximity beacon, to activate special services when one wireless device is detected near another. In the approach set forth in the claims, as more fully explained below, a wireless device uses two radios for this purpose within a single device. A first radio receives, from a server, “identifier related information” associated with the service. The second radio receives a so-called short-range transmission from other wireless devices. When a received

short range transmission has a particular format - e.g., a so-called proximity beacon transmission - then that fact can be used, together with the received "identifier related information", to determine that an entity or object associated with the service is in proximity.

Claim 31 and "actions which may or may not be done"

47. I see that the Last Office Action considers the final paragraph of claim 31 to recite "actions which may or may not be done", and thus are indefinite.

48. Claim 31 actually includes several "determining" steps. Read in context, the last part of claim 31 recites:

> a) determining that a particular short range transmission of the plurality of short range transmissions includes a MAC address,
> b) determining that the proximity beacon service identifier (PBSI) is present, and
> c) determining that the PBSI indicates the particular short range transmission is a proximity beacon transmission associated with the proximity beacon service; and
> when the three determining steps a) b) and c) are each true, then d) determining that an entity or object associated with the proximity beacon service is within proximity to the mobile device, by utilizing the identifier related information and the unique identifier.

49. Testing for the logical state of a thing, to see if it has a true value or a false value, is not a "conditional" step.

50. The "determining" steps labeled a), b), and c), being tests for the logical state of a thing, are thus unconditionally performed for the "particular" short range transmission having the required format.

51. One of skill in the art would have thus understood these three steps a), b) and c) must be performed.

52. But so too must the determining step in the final clause be performed, for the particular short range transmission. That clause requires testing the logical result of three prior steps – that is, it requires determining that three things are true:

a) "a particular… short range transmission includes a MAC address",

b) "the PBSI is present"; and

c) "the PBSI indicates the particular short range transmission is a proximity beacon transmission associated with the proximity beacon service".

53. Therefore, there is no "option" to perform, or to not perform, the final step of claim 31.

54. The last part of claim 31 states a requirement to test for three logical states, and one of skill in the art would have understood that to be the case.

55. The result of that test, when the determination is made that all three logical states are true, then the rest of the claim is also performed – namely, a conclusion is made that the device is in proximity, by using both the identifier related information and the unique identifier.

56. In my opinion, one skilled in the art at the time of filing the '410 application would have readily understood the scope of the claim.

57. This conclusion that the device is in proximity is also not optional – it must be performed.

58. I also see that the last part of claim 1 calls for:

> determining if a particular short range transmission of the plurality of short range transmissions a) includes a MAC address, and b) includes the proximity beacon service identifier (PBSI) and if c) the PBSI indicates the particular short range transmission is a proximity beacon transmission associated with the proximity beacon service;
>
> then:
>
> determining if an entity or object associated with the proximity beacon service is in proximity to the mobile wireless device, by utilizing the identifier related information and the unique identifier.

59. These parts of claim 1 require the same three determining steps a), b), and c) to be performed as are recited in claim 31.

60. Claim 1 also requires that the same final determining step to be performed – namely, "if" all three of a), b), and c) are true, then a determination must be made that "an entity or object" is in proximity to the mobile wireless device, by further using the "identifier related information" and the "unique identifier".

61. I note that the analogous language in claim 1 has not been questioned by the Patent Office as being "optional" or "indefinite".

62. In my opinion, one of skill in the art as of the filing date of the '410 application would have therefore also considered claim 31 to be of the exact same scope, and no less definite than claim 1.

Introduction; Claims 1 and 31

63. Claim 1 recites:

> A mobile wireless device comprising:
> a first radio;
> a second radio;
> one or more processors;
> one or more non-transitory memory devices coupled to the one or more processors, the one or more non-transitory 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:
> receiving, using the first radio, identifier related information associated with a proximity beacon service, from one or more servers;
> receiving, using the second radio, a plurality of short range transmissions, including a plurality of proximity beacon transmissions when the device is located within a detection range of one or more beacon transmitter devices associated with the proximity beacon service, each of the proximity beacon transmissions including a respective MAC address, a respective unique identifier , and a proximity beacon service identifier (PBSI);
> determining if a particular short range transmission of the plurality of short range transmissions a) includes a MAC address, and b) includes the proximity beacon service identifier (PBSI) and if c) the PBSI indicates the

particular short range transmission is a proximity beacon transmission associated with the proximity beacon service;

then:

determining if an entity or object associated with the proximity beacon service is in proximity to the mobile wireless device, by utilizing the identifier related information and the unique identifier.

64. According to an accepted dictionary definition (See Exhibit 3), "comprising" means "to include or contain", or "to consist; be composed of".

65. According to an accepted dictionary definition (See Exhibit 4), "storing" means "to accumulate or put away, for future use".

66. The plain English meaning of the word "comprising" therefore is not the same thing as the plain English meaning of the word "storing".

67. What is plainly recited in claim 1 is that the two radios are part of an apparatus. The apparatus of claim 1 includes (that is, it "comprises") a "first radio", and "a second radio".

68. The apparatus of claim 1 also comprises "one or more processors", and "one or more memory devices". The one or more memory devices are coupled to the one or more processors, to permit the processor(s) to perform the instructions to process information received from the two radios (such as the "identifier related information" and the "short range transmissions").

69. Claim 31 is a method claim. The method of claim 31 "comprises" a set of steps that are executed within a mobile device, and processes certain information (such as the "identifier related information" and the "short range transmissions") received using two radios.

70. Claim 31 states, in its entirety:

31. A method for facilitating use of proximity beacons, the method executing within a mobile device, and the method comprising:

communicating between the mobile device and one or more servers and receiving, at the mobile device, identifier related information, using a first radio;

receiving, at the mobile device using a second radio, a plurality of short range transmissions, including a plurality of proximity beacon transmissions from one or more beacon transmitter devices associated with the proximity beacon service, each of the proximity beacon transmissions including a respective

MAC address, a respective unique identifier (UID), and a proximity beacon service identifier (PBSI);

a) determining that a particular short range transmission of the plurality of short range transmissions includes a MAC address,

b) determining that the proximity beacon service identifier (PBSI) is present, and

c) determining that the PBSI indicates the particular short range transmission is a proximity beacon transmission associated with the proximity beacon service; and

when the three determining steps a) b) and c) are each true, then d) determining that an entity or object associated with the proximity beacon service is within proximity to the mobile device, by utilizing the identifier related information and the unique identifier.

71. Claim 31 does not recite or use the word "storing" anywhere.

72. To equate the word "comprising" to the word "storing" is therefore also inconsistent within what the claims actually say.

"first radio" and "second radio"

73. Paragraph 12 of the Last Office Action is correct in observing that Fig. 1 shows two wireless devices 106 and 108.

74. However, neither claim 1 nor claim 31 actually recites "two wireless devices".

75. What claim 1 actually recites is "***A***" mobile wireless device" comprising "a first radio" and "a second radio" (emphasis supplied).

76. Note that claim 31 recites a method "executing within ***a mobile device***" with steps of "receiving, at the mobile device, identifier related information, using a first radio" and "receiving, at the mobile device using a second radio, a plurality of short range transmissions…" (emphasis supplied).

77. Each of claim 1 and claim 31 therefore refers only to a ***<u>single wireless device</u>***, with that ***<u>single wireless device having two different radios</u>*** (in the case of apparatus claim 1) ***<u>or using two different radios</u>*** (in the case of method claim 31).

78. The Last Office Action therefore confuses the usual and customary meaning of a single "wireless device" "having two radios" with the usual and customary meaning of "two wireless devices".

79. The specification also clearly shows each example wireless device 106 and 108, in both the drawings and in the text, as including the claimed "first radio" and claimed "second radio."

80. Figure 1 from the published version of the '410 application (reproduced below), illustrates mobile device 106 has having the "first radio". That is, the radio that mobile device 106 uses for communicating over link 107 (labelled as being a Local Link, Wi-Fi, Bluetooth, etc) is the claimed "first radio" in one embodiment.

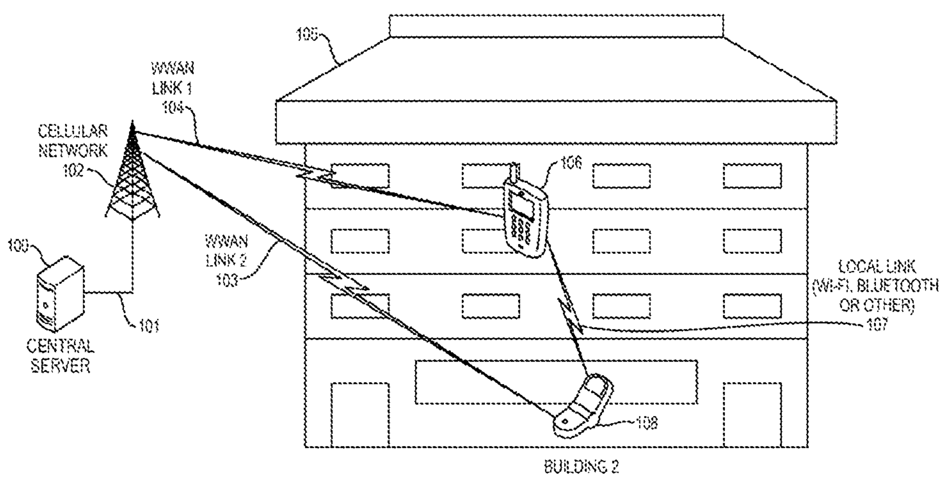

Figure 1

81. The "second radio" in mobile device 106 is the radio 104 that mobile device 106 uses to communicate over the other link 104 (labelled as being a WWLAN (Wireless Wide Area Network) Link 104.

82. One of skill in the art understands from Figure 1 that the single device 106 thus , uses two different radios to communicate over the two different wireless links 104 and 107.

83. One of skill in the art also understands each of "lightening bolts" (103,104, and 107) in Figure 1 to illustrate that wireless communication is taking place between the devices connected by the lightening bolts.

84. One of skill in the art also views Figure 1 and sees device 108 as another example mobile device. It is similar to device 106, as it also has a "first radio" – that is the radio that enables the communication over illustrated link 107 (e.g., a Local Link Wi-Fi, Bluetooth, or other radio). The "second radio" in mobile device 108 is the radio for link 103 (labelled as being a WWLAN (Wireless Wire Area Network)

85. It is my understanding that the specification as a whole must be considered to determine whether there is an enabling disclosure or not.

86. In this declaration, I will sometimes refer to various paragraphs of the published version of the '410 application (U.S. Patent Publication 2017/0011425A1) as their corresponding bracketed numbers.

87. For example, paragraphs [0039] and [0043] also provide a complete description of the claimed "mobile wireless device" and/or "mobile device" as follows:

> [0039] Referring to FIG. 1, a central server 100 is connected to devices 106 and 108 by an internet protocol (IP) based network, carried over a series of connections, at least one of which is a wireless connection. For example, the server 100 has a connection allowing IP based communications to a cellular network 102 using connection 101. The cellular network is connected to devices 106 and 108 by wide area wireless links 104 and 103 respectively, allowing for IP based communications between the devices (106 and 108) and the server 100.
>
> ...
>
> [0043] More particularly, a given device 106, 108 uses a short range wireless link 107 such as a Bluetooth (IEEE802.15.1) or Wi-Fi (IEEE802.11) link to detect the presence of other devices such as device 108, and uses the wide area wireless network connections 103, 104 such as IS-2000, WCDMA, GPRS, EDGE, LTE, Wi-Max (IEEE802.16), or the like to perform communications to central server 100, and to perform the actual substantive communications between the wireless devices 106 and 108.
> Device 108 typically uses the short range wireless link 107 and wide area wireless link 103 in a similar manner to locate and initiate communicate with device 106. One

> distinction relative to prior art is that the short range wireless 107 is only used for the detection process, or to advertise a device's presence. In this embodiment, specific information called "wireless identifier" or simply "identify" (described in more detail below) is passed between devices 106 and 108 over the short range link 107. By transmitting a wireless identifier using the short range Wi-Fi, Bluetooth or other short range wireless link 107 and receiving wireless identifiers from other devices, this short range wireless link 107 will allow for a proximity detection process.

88. Therefore, one of skill in the art as of the earliest claimed filing date of the application, would have understood that the example claimed wireless device, such as wireless device 106 or wireless device 108, has a first radio needed to communicate on the WWAN link (either link 103 or 104, e.g. such as IS-2000, WCDMA, GPRS, EDGE, LTE, Wi-Max (IEEE802.16), or the like) and a second radio needed to communicate on a local link (e.g., the Wi-Fi or Bluetooth link 107).

89. One of ordinary skill in the art would have further understood the disclosed embodiments including different and incompatible wireless standards for each of the two wireless links (for example WCDMA and Bluetooth) would require two radios, because each radio must conform to the specified wireless standard required for each separate link in order to communicate with their respective end points. One of ordinary skill would, for example, know that a WCDMA radio can not wirelessly communicate with Bluetooth radio, and therefore two radios are required within embodiments of mobile devices 106 and 108.

"memory devices"

90. Paragraph 14 of the Last Office Action notes that the word "memory" appears in paragraph [0041] of the specification. However the Last Office Action neglects to consider that paragraph in its entirety, or the context and meaning of that paragraph with its surrounding paragraphs.

91. For example, the prior paragraph [0040] explains that "storage" is part of the wireless device, and issued, along with a processor "for executing wireless system protocols, interfaces, and application level programs":

> [0040] Devices 106, 108 can be considered "client(s)" of the server 100. The clients 106, 108 and server 100 provide processing, storage, and input/output devices for executing wireless system protocols, interfaces, and application level programs according to the invention. Client devices 106, 108 can also be linked through various communications networks to other computing devices, including other client devices/processes and other server computer(s). Communications network(s) providing the connection 101 can typically be part of a remote access network, a global network (e.g., the Internet), a worldwide collection of computers, Local area or Wide area networks, and gateways that currently use respective protocols (TCP/IP, 3G Wireless, Bluetooth, etc.). Other electronic device/computer network architectures are suitable.

92. And paragraphs [0041-0042] further explain that:

> [0041] The internal structure of devices 106, 108 or server 100 includes one or more data processors (not shown in detail) that are well known in the art to include a system bus for data transfer among the other internal components of a computer system (e.g., processor, disk storage, memory, input/output ports, network ports, etc.). Attached to the bus are other input/output devices (e.g., keyboard, mouse, displays, printers, speakers, network interfaces, etc.). Network interfaces allow the computer to connect to various other devices attached to a network. Memory provides volatile storage for computer software instructions and data used to implement an embodiment of the present invention (e.g., applications programs and the like). Disk storage can provide non-volatile storage for computer software instructions and data used to implement an embodiment of the present invention.

> [0042] In one embodiment, the invention may include a computer program product including a computer readable medium (e.g., a removable storage medium such as one or more DVD-ROM's, CD-ROM's, diskettes, tapes, etc.) that provides at least a portion of the software instructions for the invention system. Computer program product can be installed by any suitable software installation procedure, as is well known in the art. In another embodiment, at least a portion of the software instructions may also be downloaded over a cable, communication and/or wireless connection. In other embodiments, the invention programs are a computer program propagated signal product 107 embodied on a propagated signal on a propagation medium (e.g., a radio wave, an infrared wave, a laser wave, a sound wave, or an electrical wave propagated over a global network such as the Internet, or other network(s)). Such carrier medium or signals provide at least a portion of the software instructions for the present invention.

93. One of skill in the art, at the time the 410 application was filed, would consult all of these paragraphs [0040-0042] to further understand how the claimed wireless device includes storage for "computer software instructions".

94. Such a person would have understood that in one example, a "memory" may provide volatile storage for such programs and that a "disk" provides non-volatile storage for such programs.

95. A dictionary definition of "volatile" include "evaporating rapidly; … fleeting; transient". See Exhibit 6 hereto.

96. A dictionary definition of "transitory" is "lasting only a short time; brief; short-lived; temporary". See Exhibit 7 hereto.

97. Such a person would have, therefore, understood the use of the word "non-transitory" in claim 1 to mean the same thing as "non-volatile" as stated in the specification.

98. That same person would have also understood that the computer program(s) can be installed by "any suitable software installation procedure."

99. For example, one of skill in the art, at the time the invention was made, would have understood paragraph [0042] to mean that computer programs may be stored on a variety of non-volatile, non-transitory computer readable media, and that these would have included DVD-ROMs, CD-ROMs, diskettes, tapes, and other non-volatile media.

100. Paragraph [0041] also explains that a system bus provides for data transfer among these different components.

101. Thus, that person of skill in the art understands that any data (including programs) can be installed by, for example, transferring them from the non-volatile disk storage to the volatile memory via the system bus.

102. The specification thus teaches one of skill in the art how to provide the claimed "non-transitory memory" for "storing a set of instructions" of claim 1.

103. It is also my opinion that, even if the specification lacked the detailed description of paragraphs [0041-0042], the skilled person was taught, at least as early as their undergraduate engineering courses, how programs are routinely stored, loaded, and executed in a computer system.

Claim 13 and "downloading application software"

104. Claim 13 depends from claim 1 and adds additional operations performed by the one or more processors as follows:

> sending of the unique identifier by the mobile wireless device to at least one server of the one or more servers; and
>
> in response to the sending of the unique identifier, downloading the application software.

105. Paragraph [0046] of the published specification for the '410 application provides an example where an application is "downloaded" after the "unique identifier" is sent to the server:

> [0046] An example of an application using this infrastructure follows. The device 204 will simply broadcast an identifier, with no WWAN connection but may facilitate advertising or local information. For instance, an account associated with one or more identifiers may belong to a museum. As a museum patron walks to an exhibit, the ***patron's device 202 will receive an identifier sent from museum broadcast device 204 operated by the museum. The patron device 202 passes the identifier or museum device 204 to the central server 100***, which in-turn recognizes it as being associated with that exhibit within that museum and ***passes relevant information back to the user's device 202***. A distinguishing feature of this approach relative to prior art is that the patron device 202 in this example may move out of proximity of broadcast device 204, yet continue to view the content being provided by the server 100 related to the detected broadcast device 204. ***Content may include text, pictures, web pages, application software*** such as games, ***informative display applications***, or other content such as audio or video to be offered to the user's device as well. Other examples might include electronic coupons (such as in a grocery store), menus or special offers in a restaurant. (Emphasis added)

106. In this example, a museum patron walks over to an exhibit. Her mobile device 202 receives an identifier from the museum's broadcast device 204. The patron's device then passes that identifier "for" the museum device to the server 100 – and the server then "***passes relevant information back to the user's device".*** The content passed back can include "text, pictures, web pages, and ***application software such as games, informative display applications or other content..***"

107. One of skill in the art, in my opinion, would have appreciated after reading paragraph [0046] that the claimed "application software" is, in some embodiments, b "downloaded"(i.e. "content passed back") to the mobile device as a result of having previously sent the "identifier" to the server.

Claims 45 and 50 and "a single method in context of the rest of the claim"

108. In my opinion, dependent claims 45 and 50 do not introduce any "new matter" that was not already included in the specification as filed.

109. Quite the contrary, an exact description was provided in the application that would have enabled one of skill in the art to understand where each of the elements of claims 45 and 50 are found.

110. Indeed, the specification provides a clear example of an embodiment that performs the claimed steps in a single method "in the context of the rest of the claim",

111. In my opinion, one of skill in the art would have readily interpreted at least Figure 7 and the other parts of the specification that it explicitly references, as an example of an embodiment that is a single such coherent logical method.

112. For example, the example coherent method consists of at least the numbered steps 704, 705, 706, 707 illustrated as being executed in sequence in Figure 7.

113. The text in Paragraph [0061] explains the context of Figure 7 to one of skill in the art as follows:

> [0061] FIG. 7 shows an example of a message flow diagram for an embodiment where an individual is in a library for example, and a friend arrives. The individual is notified by their device receiving an identifier that their friend is present and they enter a chat session. Each person has a **device (FIGS. 1, 106 and 108** respectively) **that implements the preferred embodiments described above. The first individual associated with Device 1 (702) referred to as Entity 1 (EI1) performs a detection process as described in FIGS. 4, 5, and 6 previously (step 704). The device identifier associated with Device 2 (703), DI2 is thereby detected. Device 1 (702) then transmits an inquiry message 705 using the WWAN (cellular data link such as GPRS, EDGE, 1×EV-DO, IS-2000, Wi-Max, LTE, or the like) to the server** 701 inquiring if information related to the account and entity associated with DI2 is relevant, and available to the entity EI1 associated with Device 1 (702). The server 701 retrieves the account information related to EI1 and determines that EI2 is listed in a friends list in the account associated with EI1 and that EI1 should be notified when EI2 is detected. Next the server retrieves the account information associated with EI2 and determines that EI1 is on a list of entities which are allowed to be notified of EI2 being present and personal information such as the name of the individual, their phone number and the like. **The server having determined that EI1 wants to be notified and is allowed to be notified responds in Step 706 to Device 1 (702) with a message indicating the DI2 is relevant to EI1 and including information such as Entity Identifier EI2 and associated details. A user application on Device 1 (702) notifies the user that the entity associated with Device 2 is in proximity in step 707.** The user of Device 1 provides input to the device directing it to request a chat session with the entity associated with Device 2 (703), and a message 708 is sent the server 701 commanding "send 'Hello' to EI2". The server acknowledges reception of the message with a "ACK" message 709, in return. Next server 701 sends "Request Chat: 'Hello' from Ell" to Device 2 703. The user of Device 2 accepts the chat and returns a message "I'm by the front door" with message 711, sending it to the server to be relayed to device 1 (702).

114. Thus one of skill in the art understands that Figure 7 illustrates a series of steps, performed in sequence.

115. Those steps are carried out by one of the example wireless devices 106 (or 108) that the skilled person knows were already shown and described in connection with Fig. 1.

116. The skilled reader also understands paragraph [0061] to mean that step 704, which is the first step shown in Fig. 7, performs an "identifier search" process" according to the detection process that was previously described in Figures 4, 5 and 6.

117. I will now refer to each of the features of claims 45 and 50 called into question in the Last Office Action, and where support for those questioned elements are found in the single embodiment of Figure 6 and Figure 7.

> *"sending the unique identifier, using the first radio, to at least one server of the one or more servers"*

118. Step 705 is a step of the wireless device (106 or 108) sending a detected identifier (e.g., DI2) to the server 100 via the claimed "first radio" that was shown in Fig. 1.

> *"receiving further information relating to the entity or object associated with being within proximity to the mobile device"*

119. Step 706 represents that the same wireless device then "receives further information". In this particular example, the "further information" is the "Device 2 Entity Identifer" EI2.

> *"receiving, using the second radio, a plurality of short range transmissions, including a plurality of proximity beacon transmissions when the device is located within a detection range of one or more beacon transmitter devices associated with the proximity beacon service*

120. From step 704 and paragraph [0061], the skilled reader also understands the wireless device (106 or 108) also performs a "IBSS scan process" (as shown in the example of Fig. 6) to receive "beacon transmissions" 604, 605. These beacons are received using the short range

wireless link (such as Bluetooth (IEEE802.15.1) or WiFi (IEEE 802.11) accessible via the claimed "second radio".

> *each of the proximity beacon transmissions including a respective MAC address, a respective unique identifier, and a proximity beacon service identifier (PBSI)"*

121. The skilled person also understands the description of step 704 to mean that the example IBSS beacons were already shown in Fig. 6 and described in the corresponding text.

122. The specification actually at least two different ways to assign these beacon transmission fields to the three claimed featured purposes: a MAC address, a "Proximity Beacon Service Identifier (PBSI) and a "unique identifier'.

123. The immediate prior paragraph, paragraph [0060] explains that in one embodiment, the claimed "MAC address" is the MAC address of the station or the network adapter, claimed "PBSI" is the BSSID field of the beacon, and the claimed "unique identifier" is the SSID field of the beacon.

124. Paragraph [0060] also explains another embodiment, where the claimed "MAC address is the BSSID field, the claimed "PBSI" is the SSID, and the claimed "unique identifier" is the MAC address of the station identifier or network adapter"[1].

> *"determining if an entity or object associated with the proximity beacon service is in proximity to the mobile wireless device, by utilizing the identifier related information and the unique identifier associated with the particular short range transmission."*

[1] Exhibit 8 submitted herewith (described in more detail below), is a chart with references to the parts of paragraph [0060] and Figure 6 that explain example formats for these beacon transmissions.

125. Steps 706 and 707 and the associated text in paragraph [0061] also explain how a "user application" running on the mobile device then uses the detected unique identifier (DI2) and the entity-related information (EI1) returned from the server to notify a user that a specific entity is in proximity.

126. For example, the specification explains at [0061]:

> "The server having determined that EI1 wants to be notified and is allowed to be notified responds in Step 706 to Device 1 (702) with a message indicating the DI2 is relevant to EI1 and including information such as Entity Identifier EI2 and associated details. A user application on Device 1 (702) notifies the user that the entity associated with Device 2 is in proximity in step 707."

127. Note here that paragraph [0061] also explains how "relevance", as that word is used in the specification, means that the entity associated with Device 2 is "in proximity".

128. See too the reference to "information related to the account and entity associated with DI2 is relevant and available" and that "A user application notifies the user that the entity associated with Device 2 is in proximity in step 707".

129. Therefore, the specification explains how both the unique identifier (DI2) and the identifier related information from the server (EI2) are also used in the single coherent method to make the proximity determination, by the user application running on mobile Device 1.

Claims 44 and 46 and "preventing the sending of the unique identifier"

130. What claim 44 actually states is that (claim 46 is analogous):

> preventing the sending of the unique identifier, using the first radio, to the one or more servers, based upon previous detections of the respective unique identifier associated with the proximity beacon transmission.

131. In my opinion, one of skill in the art would have interpreted these words to mean that the ***previously*** detected unique identifier is what is prevented from being sent to the server.

132. My interpretation is also consistent with the specification. For example, paragraphs [0047] and [0048] provide:

> [0047] .. If identifiers are found in 302, the device may employ an action function 303, which would ***act as a filter that determines which of the detected identifiers should be passed to the server***. This function may instead be omitted and all identifiers passed to the server 100. The idealized effect of the action function would be to reduce the number of requests to the server by not re-requesting recently requested identifiers which have already been passed to the server, for some period of time. [..]
>
> [0049] [..] In the preferred embodiment, the server would determine the identity and the relevance of the detected identifiers, ***and the action function 303 would work to reduce frequency of re-requests to the server***. ...

133. Therefore, there is a first step of receiving detected identifiers; but only after that step is performed, is then a step of passing the detected identifiers to the server performed.

134. In this example embodiment described in paragraphs [0047-0048], an "action function" can be used to reduce the frequency of re-requests to the server, for example, by not submitting a subsequent request to the server for identifiers that have already been passed (for a period of time).

135. Therefore, the specification supports both an initial step of (a) receiving identifier related information from the server, and then (b) preventing the sending of that same respective detected identifier should it be subsequently received.

Claim 57 and sending email

136. Claim 57 states:

> 57. The method of Claim 31, additionally comprising:
> sending the unique identifier, using the first radio, to at least one server of the one or more servers, and wherein the one or more servers perform the following steps:
> associating an object or entity as being within proximity to the mobile device;
> storing a user's purchasing practices or requests from the one or more servers, related to the associated object or entity information as stored proximity user behavior;
> retrieving a stored user email address associated with an account associated with the mobile device; and
> sending an email, addressed to the user email address containing customized content based upon the stored proximity user behavior.

137. While the Last Office Action mentions paragraph [0067] of the specification, it contains no attempt to interpret the words in that paragraph or explain why it supposedly has any shortcomings.

138. What paragraph [0067] actually states is that:

> [0067] Finally, the transaction details may be stored by the server, or sent to a thirdly party ***<u>server for tracking spending habits of that account holder</u>***, or customers of that merchant allowing the merchant to track that specific customer's behavior and ***<u>cater to them in the future with various specials delivered via email</u>***, or during their next visit via their device in the form of an electronic coupon. This process can be performed with a goal to help the merchant expose the customer to other products or services the merchant believes the customer might find desirable.

139. One of skill in the art therefore understands, after reading paragraph [0067] that the service can track "prior habits" of an account holder. The server then caters to such users in the future, by sending emails to their device with specials, or in the form of an electronic coupon.

140. One of skill in the art understands that in order for the server to send an email to a user, it must have previously stored the email address, so that it knows where to send the customized content.

141. Therefore, support is provided for the claimed "storing a user's purchasing practices or requests", "retrieving a stored user email address", and "sending an email … containing customized content based on prior behavior".

Relative Terms

142. Paragraphs 29-36 of the Last Office Action conclude that the terms "respective MAC address" "respective unique identifier" and "determining .. in proximity" as used in claims 1 and 31 and the phrase "receiving … in proximity" as used in claims 45 and 50 are "relative terms". I disagree.

"Respective"

143. I first refer to the attached dictionary definition (Exhibit 5) of the word "respective". It means "pertaining individually or severally to each of a number of persons, things, etc.; particular."

144. In claims 1 and 31, the term "respective" is used in the customary way, as an attributive adjective – meaning a feature that concerns or is appropriate to each of the things listed.

145. Therefore, as used in claims 1 and 31, the term "respective" is actually indicate that each proximity beacon transmission includes a particular "MAC address", and a particular "unique identifier."

146. In other words, the plain meaning to one of skill in the art is that each "proximity beacon transmission" has it own MAC address and unique identifier, which may be different from those of other detected transmissions.

147. The lack of the adjective "respective" before the recitation of "proximity beacon service identifier (PBSI)" means, in claims 1 and 31, to one of skill in the art, that the PBSI in a proximity beacon transmission may not be "particular". That is, this part of the claim means that more than one proximity beacon transmission may share the **same** PBSI.

148. This interpretation makes perfect sense to one of skill in the art, since the purpose of the PBSI is to identify transmissions associated with the proximity beacon service. The PBSI for a given service is shared among multiple wireless devices that use the service. But the MAC address and the unique identifier, will be unique to a particular device and a particular entity associated with the device.

149. Paragraph [0060] of the published application, in connection with Figure 6, describes different embodiments of the PBSI. To the extent that the Last Office Action calls into question whether the claimed format for the PBSI is supported, the Attached Exhibit 8 contains a detailed reference to where support for each of two possible embodiments is found in Paragraph [0060].

150. Therefore, one of skill in the art, as of the earliest claimed filing date of the '410 application, understands what the word "respective" means. It is not being used as a "relative term". Its use is consistent with the usual English language usage and the specification as interpreted by one of skill in the art.

"Proximity"

151. Regarding claim 1, one of skill in the art would have understood that the word "proximity" is not also a "relative" term.

152. By way of review and as explained above, the '410 application explains how a certain type of radio transmission, called a proximity beacon, can be used to activate special services when wireless transmissions of a certain type are detected. A first radio receives, from a server, "identifier related information" associated with the service. A second radio receives a so-called short-range transmission. When that short range transmission has a particular format - e.g., a so-called proximity beacon transmission - then that fact can be used, together with the received "identifier related information", to determine that an entity or object associated with the service is "in proximity" – that is, it can now participate in the services enabled by the proximity beacon.

153. To properly interpret a claim, I understand that it must be read in its entirety, and in the context of the specification.

154. Accordingly, claim 1 recites a device having a first and second radio, and a processor that executes steps including (with support in the specification highlighted):

> receiving, using the first radio, identifier related information associated with a proximity beacon service, from one or more servers;
>
> receiving, using the second radio, a plurality of short range transmissions, including a plurality of proximity beacon transmissions ***when the device is located within a detection range of one or more beacon transmitter devices*** associated with the proximity beacon service, each of the proximity beacon transmissions including a respective MAC address, a respective unique identifier , and a proximity beacon service identifier (PBSI);
>
> determining if a particular short range transmission of the plurality of short range transmissions a) includes a MAC address, and b) includes the proximity beacon service identifier (PBSI) and if c) the PBSI indicates the particular short range transmission is a proximity beacon transmission associated with the proximity beacon service;
>
> then:
>
> determining if an entity or object associated with the proximity beacon service is in proximity to the mobile wireless device, by utilizing the identifier related information and the unique identifier.

155. Thus, the claim is not just referring to measuring some distance between devices. Rather, the second "receiving step" states that the "short range transmissions" are received "**when the device is located within a detection range".**

156. One of skill in the art thus understands such short range transmissions will be received when, say the device 106 of Fig. 1 is within radio range of another device 108, e.g., the device 106 is receiving transmissions over the short range local link 107.

157. One of skill in the art also looks to the specification to understand what is meant by a "proximity beacon transmission" in the claim.

158. The word "proximity" appears numerous times in the specification.

159. As one example, paragraph [0060] of the specification describes the "ad hoc" operation mode (as opposed to "infrastructure mode") as being the preferred embodiment when the network is a Wi-Fi network:

> "The second topology for Wi-Fi networks is the so-called Ad-Hoc mode of operations, referred to as an independent basic service set or IBSS."

and that

> "In an IBSS all devices participating or advertising their interest in participating in an ad-hoc network transmit identifiers called beacons. These beacons contain the MAC address of the transmitting network adapter, the basic Service set identifier (BSSID), and ad-hoc network name or service set identity (SSID).")

160. That very same paragraph [0060] then explains different ways to assign these proximity beacon transmission fields to the three claimed featured purposes: a MAC address, a "Proximity Beacon Service Identifier (PBSI) and a "unique identifier'. See also Exhibit 8 hereto.

161. Consistent with the description, the accordingly recites that the "proximity" determination depends on several things.

162. First, a determination is made of whether the "short range transmission" is of a particular type -- namely a "proximity beacon transmission" that has a format associated with the "proximity beacon service".

163. As claimed, this determination involves examining the received short range transmission – as received over the short range radio link (e.g., WiFi or Bluetooth) to see if it has the three claimed things – a) a MAC address, a PBSI, and whether the PBSI indicates the transmission is associated with the service.

164. Taking time to review the rest of the claim in context makes it clear to one of skill in the art that (i) one of these identifiers (the claimed "PBSI") is used to indicate that the particular short range transmission is a proximity beacon transmission associated with the proximity beacon service and that (ii) another identifier (the claimed "unique identifier") is used along with "identifier related information" to determine if an entity or object associated with the proximity beacon service is in proximity.

165. Indeed, how the claimed device determines if an "entity or object" "associates with the services" is "in proximity" is even explicitly defined in the plain meaning of the claim itself.

166. Namely, when the three fields indicate that a beacon transmission having the proper format is detected as being present, as the claim states, that fact is then used together with received unique identifier to determine that a device associated with that beacon service has been detected, and thus is "in proximity".

167. One of skill in the art thus understands the metes and bounds of the claim, and where to find a description in the specification.

168. Other parts of the specification also support this interpretation. For example, recall that paragraph [0046] explains a museum patron example:

> [0046] As a museum patron walks to an exhibit, the patron's device **202** will receive an identifier sent from museum broadcast device **204** operated by the museum*. The patron device **202** passes the identifier or museum device **204** to the central server **100**, which in-turn recognizes it as being associated with that exhibit within that museum and passes relevant information back to the user's device **202**.* A distinguishing feature of this approach relative to prior art is that the patron device **202** in this example may ***move***

> ***out of proximity*** of broadcast device **204**, yet continue to view the content being provided by the server **100** related to the detected broadcast device **204.** Content may include text, pictures, web pages, application software such as games, informative display applications, or other content

169. Here in this embodiment, the museum patron's device is at first receiving and exchanging identifiers over the Bluetooth or WiFi radio. But later the patron moves to another location in the museum, and thus "moves out of proximity", meaning that the transmissions having "identifiers" associated with the "proximity beacon service" are no longer being received. And yet despite having moved out of range, content from the museum broadcast device can still be viewed.

170. The meaning of the term "proximity" is thus further described in [0046] as well.

171. I note also that Step 707 of Figure 7 states "Notify Device 1 Entity that Device 2 Entity is within proximity". The reader understands that this "notification" is based in part, upon the detection of device 2 beacon transmissions in the prior step 704 which states "Devices Perform Identifier Search Process. Device 1 detects Device 2 identifier (DI2)".

172. The specification describes the context of these relevant steps of Figure 7 as follows:

> [0061] …. Each person has a device (FIG. 1, 106 and 108 respectively) that implements the preferred embodiments described above. The first individual associated with Device 1 (702) referred to as Entity 1 (EI1) performs a detection process as described in FIGS. 4, 5, and 6 previously (step 704). The device identifier associated with Device 2 (703), DI2 is thereby detected … **A user application on Device 1 (702) notifies the user that the entity associated with Device 2 is in proximity in step 707.**

173. The meaning of two devices "being in proximity" is also understood from still other parts of the specification:

> [0011]….In one embodiment, this can be accomplished by a first device using a first short range wireless capability **to detect an identifier transmitted from a second device in proximity to the first device, ideally using existing short range radio communication standard capabilities such as Bluetooth (IEEE802.15.1-2002) or Wi-Fi (IEEE802.11).** The detected identifier, being associated with the device, is also associated with an entity. Rather than directly exchanging application data flow between the two devices using the short range wireless capability, a second wireless capability then allows for one or more of the devices to communicate with a central server via the internet, and perform an exchange of application data flow."

and

> [0043] …. By transmitting a wireless identifier using the short range Wi-Fi, Bluetooth or other short range wireless link 107 and receiving wireless identifiers from other devices, this **short range wireless link 107 will allow for a proximity detection process.**"

174. In other words, the proximity detection depends upon the two devices being able to receive (e.g., detect) identifiers received using the short range radio (either Bluetooth or WiFi), in different embodiments.

175. Therefore, it is my opinion that one of skill in the art would be reasonably apprised as to what the words "respective" and "proximity" mean in the context of the claims, and certainly after reading and appreciating the content of the specification.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. I have been warned that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. 1001) and may jeopardize the validity of the application or any patent issuing thereon.

Executed this 20th day of April 2020 in ______Indialantic, FL_______

James A. Proctor, Jr.

James A. Proctor Jr.

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EDUCATION

Georgia Institute of Technology, Atlanta, Georgia M.S. Electrical Engineering

Graduated: September 1992

Interests: Digital Signal Processing, Communications, Optics

The University of Florida, Gainesville, Florida B.S. Electrical Engineering

Graduated: May 1991

Minor Studies: Business

Honors & Activities: PI ETA SIGMA Honor Society

ALPHA LAMBDA DELTA Freshman Honor Society

ETA KAPPA NU National Electrical Engineering Fraternity

Skills & Achievements

- Successfully led Qualcomm / WiDeFi integration efforts resulting in a new product effort within Qualcomm related to the 3G/4G Market
- Co-founded WiDeFi and successfully raised >$14M of venture funding
- Generated intellectual property and product strategy leading to the acquisition of two companies (WiDeFi, and Tantivy Communications), contributing to > $100M of revenue
- Performed extensive customer and industry business development to provide support for innovative product definition, requirement definition, and customer support for business plan and forecasts (Qualcomm, WiDeFi, and Tantivy Communications)
- Led and coached many R&D teams to refine and de-risk innovative wireless concepts
- Led cross functional product teams to deliver high volume ready prototypes
- Ability to balance market, programmatic, and technical concerns and refine clear strategy and actionable plans
- Generated >290 issued US Patents Currently and >700 international patent publications
- Have spoken at numerous public events: industry, venture, and technical
- Strong communication and technical skills

Work Experience

Proctor Consulting, LLC **December 2008 - Present**

- Early stage market and technology strategy
  - Interim CTO/Team Member, business development/validation
  - Roadmap / IP development
  - Advisory Board Member
- Technical / Market Consultant
  - Fastback Networks, Audigence, Peregrine Semiconductor
- Intellectual property portfolio analysis within the communications market space
  - Market / Product Applicability, Claims Chart Development and Analysis, Valuation
  - Expert Witness Consulting in Wireless Communications (WiFi, 2G-GSM, 3G-C2K/WCDMA, 4G/LTE and associated networks)

Proxicom Wireless. Co-Founder, Managing Director **November 2011 – Present**

- Proximity based mobile technology utilizing a centralized trusted third party
- Development of foundational Intellectual Property (12+ US Patents)
- Enabling technology applicable to a variety of proximity based applications including highly secure: Mobile Payments, Electronic Coupons and Loyalty, Rating and Reviews, Social Commerce

Qualcomm Inc., Principal Engineer (Consulting) **October 2007 - October 2009**

- Technical and Business development leadership of a consumer level 3G wireless repeater product concept based upon WiDeFi's technology during the integration
- Provided technical leadership in architecture development
  - Defined initial architecture approach for the wireless repeater concept based upon WiDeFi's technology
  - Worked with technical team to refine approach and achieve "key proof points"
- Performed Business Development with International Wireless Operators
  - Worked closely with business development from ESG and QCT divisions
  - Developed bottoms up forecast with the top international wireless operators for consumer repeater products.
  - Refined product features to meet carrier's requirements
- Market Analysis to estimate Market Size and Competitive Landscape
- Named inventor on 44+ Issued or pending patents for Qualcomm on wireless repeater concepts

WiDeFi, Inc., EVP/CTO, and Co-Founder, Director **August 2005 - October 2007**

- Focused on aligning WiDeFi's technology and product roadmaps to customer and market drivers
  - Strategic and Technical Marketing, Product Definition
  - Market Analysis to estimate Market Size and Competitive Landscape
  - Collaborated with customers and internal team to define and pursue product/customer opportunities (Retail Wi-Fi, Mesh Repeater, VoiP over Wi-Fi Repeater, Cellular Repeaters, Wi-Max Repeaters, In-Building Distribution Systems)
  - Customer Development from initial contact, joint testing, first purchase order, to new product introduction
  - Contributed to and managed WiDeFi's IP portfolio
  - Pursued fund raising from corporate and venture capital communities

WiDeFi, Inc., President, CEO, and Co-Founder, Director **July 2002 - August 2005**

- Led WiDeFi from inception to the recruitment of an expansion-stage CEO.
- Principal duties:
  - Direct Fundraising of initial seed and Series A Venture Capital
  - General Management (Finance, Business Administration, Legal/Contracts and Organizational Development/Recruiting)
  - Coordination of Board of Directors and Investors
  - Sales (WiDeFi was Cash Flow positive prior to venture investment)

Tantivy Communications **April 1998 - June 2002**
Director of Strategic and Technical Marketing

- Business Development/Technical Due Diligence
- Represented Tantivy in a wide range of Wireless Broad Band Industry Conferences
- Intellectual Property Management and Strategy
  - Represented Tantivy's Patents and their value to External Companies
  - Performed Validity, Infringement, and Value Analysis of Tantivy Patents for non-Tantivy products
- Industry Standards Representation for 3G Technologies
  - TIA/3GPP2, Over 15 Technical Contributions/Papers
  - T1P1 (3GPP Member)
- Project Management of an International Technology Transfer Team (S Korea)
- Performed System Architecture and Analysis

Spectrian, Advanced Development and Technical Marketing **1995 - April 1998**

- Interfaced with NORTEL/Qualcomm's Product Management
- Performed Advanced Technology Development/Systems Analysis

Harris Corp. GCSD, **September 1992 - 1995**
Senior Engineer Signal Processing Section, Modems Group

Georgia Tech Research Institute, CSITL **June 1991 - August 1992**

Harris Corp.. ISD, Electro-optics, Co-op **May 1990 - August 1990**
- Acousto-optic signal processing

Standards Development

- Participated in architecting "Internet CDMA" (I-CDMA)
- Jointly led establishment of the Committee T1, working group T1P1.4 "WWINA" standardization effort, which stands for "Wireless Wideband Internet Access"
  - T1 Approved this system as the T1.723-2002 standard
- ATIS approved as **ATIS0700723-2002 I-CDMA Spread Spectrum Systems Air Interface Standard**
- Participated in 3GPP2 Standards Developments (including 15+ technical contributions)

Intellectual Property

- More than 290 Issued U.S. Patents
- More than 700 Issued or Pending International Patent Applications (WIPO)
- Patents Cited at the USPTO more than 6000 times
- 55+ Patents Assigned to Intel
- 45+ Patents Assigned to Qualcomm
- 16+ Patents designated as "Standards Essential" for UMTS (WCDMA)
- 6+ Patents designated as "Standards Essential" for LTE

Testifying Expert Experience

SPH Am., LLC v. Acer, Inc., 09CV02535-CAB MDD, 2012 WL 1344515 (S.D. Cal. Apr. 18, 2012).
Testifying Expert offering opinions on validity for the defense. The technology related to WCDMA modulation techniques. Resulted in settlement prior to trial.

WI-LAN USA, INC. and WI-LAN INC. v. ELEFONAKTIEBOLAGET LM ERICSSON and ERICSSON INC.,
Case No. I:12-23569-Civ (S.D. FL)
Testifying expert offering opinions on infringement for the defense. The technology involved LTE "contention free" handover (CFRA), and Media Access Control (MAC) layer messaging for Quality of Service (QOS). Resulted in a summary judgement finding of non-infringement for the defense, and settlement after appeal.

U.S. ETHERNET INNOVATIONS. LLC. V. STMICROELECTRONICS. INC.,
Civil Action No. 6:12-cv-4181-MHS-JDL
Testifying expert offering opinions on both validity and infringement for the defense. The technology related to Ethernet devices. Resulted in settlement prior to trial.

UNWIRED PLANET. V. SQUARE. INC.,
Case No. 3:13-CV-00579-RCJ-WGC, DISTRICT OF NEVADA,
Case CBM2014-00156, Case IPR2014-01164, Case IPR2014-01165, UNITED STATES PATENT TRIAL AND APPEAL BOARD,

Provided testimony related to claim construction, and validity for the defense. The technology was related to location based services (LBS). The case resulted in a finding by the Patent Trial and Appeal Board of unpatentability of all asserted claims.

PRISM TECHNOLOGIES LLC. V. T-MOBILE USA, INC., Case No. 12-CV-124

Testifying expert at trial, and deposition offering opinions on both validity and infringement for the defense. The technology was related to SIM/USIM/ISIM based authentication in UMTS, LTE, and IMS networks. The case resulted in a jury verdict of non-infringement.

FASTVDO LLC. V. AT&T Mobility LLC, AT&T Services, Inc., and Apple Inc.,
Case No. 3:16-cv-00385-H-WVG

Engaged by Apple as the testifying expert offering opinions on infringement for the defense. The technology was related to Forward Error Correction (FEC) and voice codecs in GSM and WCDMA standards, including detailed FEC performance simulations. The case was stayed pending IPR outcome and a finding of unpatentable subject matter by the PTAB.

BLACKBERRY LIMITED V. BLU PRODUCTS, INC.,
Case No.: 16-23535-CIV-MORENO

Engaged by Blackberry as the testifying expert offering opinions on infringement for the plaintiff. The technology involved WCDMA and battery saving techniques in Radio Resource Control (RRC) states. The case was settled between the parties prior to trial.

CELLULAR COMMUNICATIONS EQUIPMENT LLC V. AT&T Inc., and Apple Inc.
Case No.: 2:15-cv-00576-RWS-RSP

Engaged by Apple as the testifying expert offering opinions on validity and benefits of the alleged inventions for the defense. The technology involved Media Access Control (MAC) messaging for LTE (Power Headroom Reporting) and LTE Advanced (CSI reporting for Carrier Aggregation). The case resulted in summary judgement for the defense.

GENERAL ACCESS SOLUTIONS, LTD. v. Sprint Corporation et al.
Civil Action No. 2:16-cv- 00465 (E.D. Tex.) and PTAB Proceedings (IPR2017-01885 (Patent 7,173,916 B2) IPR2017-01887 (Patent 6,891,810 B2) IPR2017-01889 (Patent 7,230,931 B2),

Engaged by Sprint to provide expert testimony relating to claim construction, and validity for the defense before the Patent Trial and Appeal Board (PTAB) relating to an Inter Partes Review petition, providing multiple expert declarations, and deposition testimony. The technology related to Adaptive Modulation and Coding (AMC) in a wireless system; Adaptive Beamforming, Sectorization, and Multi-Input Multi-Output (MIMO). All trials were instituted by the PTAB Board, with a finding of all petitioned claims unpatentable for two of the three patents.

TC TECHNOLOGY LLC. V., Sprint Corporation and Sprint Spectrum, L.P
Case 1:16-cv-00153-RGA

Engaged by Sprint to provide expert testimony relating to validity and infringement by the defense, in the district of Delaware. The technology related to OFDMA and SC-FDMA use in the LTE uplink, for multiplexing transmissions from different UEs utilizing mutually exclusive OFDM subcarriers. The matter is currently pending.

Mobility Workx, LLC v T-Mobile US, Inc.
Civil Action No. 4:17-cv-00567-ALM
Retained by the defendant, and provided declarations and deposition for claim construction, engaged for both invalidity and non-infringement analysis and testimony. This matter relates to LTE handover, and Mobile IP. The case was settled between the parties prior to trial.

Mobility Workx, LLC v Cellco Partnership d/b/a Verizon Wireless
Case No. 4:17-cv-872-ALM
Retained by the defendant, engaged for both invalidity and non-infringement analysis and testimony. This matter relates to LTE handover, and Mobile IP. The case was settled between the parties prior to trial.

Uniloc USA, Inc., et al. v. Apple Inc.
No. 18-cv-158 and 18-cv-161, engaged by Apple as a technical and testifying expert. This matter relates to Quality of Service aspect of 3G UMTS (WCDMA), and the request and allocation of uplink resources in LTE. The matter was stayed, pending result of PTAB IPR Trial.

Wi-LAN v. LG.
Case No. Case No.: 3:18-cv-01577-H-BGS
Engaged by LG as a technical and testifying expert. The technology involved LTE "contention free" handover (CFRA), Media Access Control (MAC) layer messaging for bandwidth management and Quality of Service (QOS).

Fractus, S.A. v. Sprint Communications Company, L.P. et al.,
Civil Action No. 2:18-cv-00135 (E.D. Tex.), Engaged by Sprint and Verizon Wireless as a technical and testifying expert for invalidity. The technology involved design aspects of antenna element placement in multiband antenna arrays for use at cellular base stations.

Wilson Electronics, LLC v.Cellphone-Mate,Inc. dba SureCall,
Case No. 2:17-cv- 00305-DB (District of Utah)
Retained by the Wilson Electronics, and engaged for both invalidity and non-infringement analysis and testimony. This matter relates to cellular multi-band wireless signal boosters / repeaters. This matter is pending.

Sol IP, LLC v Joint Defense Group (AT&T, Ericsson, Nokia, Sprint, Verizon)
Civil Action No. 2:18-cv-00526 (E.D. Tex.)
Retained by each of the defendants, and engaged to provide testimony relating to infringement of the asserted claims for 8 of the asserted patents. The subject matter related to random access, paging, resource allocation, and carrier aggregation in LTE. The matter remains pending.

CLAIMS

1. A mobile wireless device comprising:

a first radio;

a second radio;

one or more processors;

one or more non-transitory memory devices coupled to the one or more processors, the one or more non-transitory 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:

receiving, using the first radio, identifier related information associated with a proximity beacon service, from one or more servers;

receiving, using the second radio, a plurality of short range transmissions, including a plurality of proximity beacon transmissions when the device is located within a detection range of one or more beacon transmitter devices associated with the proximity beacon service, each of the proximity beacon transmissions including a respective MAC address, a respective unique identifier , and a proximity beacon service identifier (PBSI);

determining if a particular short range transmission of the plurality of short range transmissions a) includes a MAC address, and b) includes the proximity beacon service identifier (PBSI) and if c) the PBSI indicates the particular short range transmission is a proximity beacon transmission associated with the proximity beacon service;

then:

determining if an entity or object associated with the proximity beacon service is in proximity to the mobile wireless device, by utilizing the identifier related information and the unique identifier.

2. The mobile wireless device of Claim 1, wherein the MAC address is a randomly generated 48 bit number matching a format of a Bluetooth BD_ADDR.

3. (Cancelled).

4. The mobile wireless device of claim 1 wherein the one or more processors further execute the instructions to perform operations including:

receiving, by the second radio, a first proximity beacon transmission including a first MAC address and a first unique identifier at a first time; and

receiving, by the second radio, a second proximity beacon transmission including a second MAC address and a second unique identifier at a second time, the second MAC address being different from the first MAC address and the second unique identifier being different from the first unique identifier; and

associating the first and second unique identifier with a single beacon transmitter device.

5-7. (Cancelled).

8. The mobile wireless device of Claim 1, wherein the one or more processors further execute the instructions to perform operations including:

further determining that at least one beacon transmitter device associated with the beacon service is in proximity to the mobile wireless device, by utilizing an action function including one or more previously downloaded unique identifiers.

9-11. (Cancelled).

12. The mobile wireless device of Claim 1, wherein the one or more processors further execute the instructions to perform operations including

determining, based upon at least a portion of the identifier related information, that at least one beacon transmitter is a broadcast device having a predetermined location.

13. The mobile wireless device of Claim 1, wherein the identifier related information comprises application software for execution upon the mobile wireless device, and the one or more processors further execute the instructions to perform operations including:

sending of the unique identifier by the mobile wireless device to at least one server of the one or more servers; and

in response to the sending of the unique identifier, downloading the application software.

14. (Cancelled)

15. The mobile wireless device of Claim 4 wherein

the identifier related information comprises a list of contact information, and the one or more processors further execute the instructions to perform operations including:

further determining that at least one beacon transmitter device associated with the beacon service is further matched with an entity included within the list of contact information based upon comparing a contact identifier information with at least the portion of the unique identifier, and

the mobile wireless device, upon determining there is a match, allowing further communications with the detected beacon transmitter device associated with the entity included within the list of contact information, wherein the further communications utilize the first radio.

16. (Cancelled).

17. The mobile wireless device of claim 1 wherein the one or more processors further execute the instructions to perform operations including:

receiving, via a second radio, the plurality of proximity beacon transmissions further includes receiving a first unique identifier at a first time that is different from a second unique identifier received at a second time; and

associating the first and second unique with a single beacon transmitter device.

18-30. (Cancelled).

31. A method for facilitating use of proximity beacons, the method executing within a mobile device, and the method comprising:

communicating between the mobile device and one or more servers and receiving, at the mobile device, identifier related information, using a first radio;

receiving, at the mobile device using a second radio, a plurality of short range transmissions, including a plurality of proximity beacon transmissions from one or more beacon transmitter devices associated with the proximity beacon service, each of the proximity beacon transmissions including a respective MAC address, a respective unique identifier (UID), and a proximity beacon service identifier (PBSI);

a) determining that a particular short range transmission of the plurality of short range transmissions includes a MAC address,

b) determining that the proximity beacon service identifier (PBSI) is present, and

c) determining that the PBSI indicates the particular short range transmission is a proximity beacon transmission associated with the proximity beacon service; and

when the three determining steps a) b) and c) are each true, then d) determining that an entity or object associated with the proximity beacon service is within proximity to the mobile device, by utilizing the identifier related information and the unique identifier.

32-34. (Cancelled).

35. The method of claim 31,

wherein a first one of the plurality of proximity beacon transmissions received at a first time includes a first unique identifier, and wherein a second one of the plurality of proximity beacon transmissions received at a second time includes a second unique identifier the second unique identifier being different from the first unique identifier; and associating both the first unique identifier and the second unique identifier with a particular entity or object in proximity to the mobile device.

36-40. (Cancelled).

41. The method of claim 31 wherein the MAC address is selected from a group consisting of (a) a randomly generated 48 bit number matching a format of a MAC address and (b) a Bluetooth BD_ADDR.

42. The method of claim 31

wherein a first one of the plurality of proximity beacon transmissions is received at a first time and includes a first unique identifier and first MAC address, and the Proximity beacon Service Identifier (PBSI), and

wherein a second one of the plurality of proximity beacon transmissions received at a second time includes a second unique identifier different from the first unique identifier and a second MAC address different from the first MAC address, and the proximity beacon service identifier; and

associating both the first unique identifier and the second unique identifier with the same entity or object in proximity to the mobile device.

43. (Withdrawn) A method for facilitating use of proximity beacons comprising:

communicating between a mobile device and one or more servers and receiving, at the mobile device, identifier related information, using a first radio;

receiving, at the mobile device using a second radio, a plurality of short range transmissions, including proximity beacon transmissions from a beacon transmitter device associated with a proximity beacon service, each of the proximity beacon transmissions including a respective MAC address, a respective unique identifier, and a proximity beacon service identifier (PBSI);

wherein the MAC addresses and unique identifiers associated with the proximity beacon transmissions as received from the beacon transmitter device associated with the proximity beacon service occasionally change;

wherein the receiving, at the mobile device using the second radio, the proximity beacon transmissions occurs without first transmitting, by the mobile device, to the beacon transmitter device; and

when a particular short range transmission:

a) includes a MAC address; and

b) includes a proximity beacon service identifier (PBSI); and

c) the PBSI indicates the particular short range transmission is a proximity beacon transmission associated with the proximity beacon service,

then performing additional steps including:

determining that an entity or object associated with the proximity beacon service is within proximity to the mobile device, by utilizing the identifier related information and the unique identifier;

sending the unique identifier, using the first radio, to at least one server of the one or more servers; and

receiving further information relating to an object or entity associated with being within proximity to the mobile device.

44. The method of Claim 31, further comprising

preventing the sending of the unique identifier, using the first radio, to the one or more servers, based upon previous detections of the respective unique identifier associated with the proximity beacon transmission.

45. The mobile wireless device of Claim 1, wherein the instructions further comprise:

sending the unique identifier, using the first radio, to at least one server of the one or more servers, and

receiving further information relating to an object or entity associated with being within proximity to the mobile device.

46. The mobile wireless device of Claim 1, wherein the instructions further comprise:

preventing the sending of the unique identifier, using the first radio, to the one or more servers, based upon previous detections of the respective unique identifier associated with the proximity beacon transmission.

47. The mobile wireless device of Claim 1, wherein the instructions further comprise:

controlling further communications between the mobile device and at least one device or server associated with an entity or object in proximity to the mobile device.

48. The method of Claim 31, further comprising:

receiving, using the first radio, access code information by the mobile device from at least one of the servers; and

utilizing the access code information to gain access to the entity or object determined to be in proximity to the mobile device.

49. The method of Claim 31, wherein receiving the identifier related information, using the first radio, is performed in response to sending at least the unique identifier to at least one of the one or more servers using the first radio.

50. The method of Claim 31, additionally comprising:

sending the unique identifier, using the first radio, to at least one server of the one or more servers, and

receiving further information relating to an object or entity associated with being within proximity to the mobile device.

51. The method of Claim 50, wherein the further information relates to one or more of the following:

a loyalty program;

a payment service; or

a coupon relating to an entity in proximity to the mobile device; or

advertising content.

52. The method of Claim 50, wherein the further information relates to a service for providing a menu for use by a user of the mobile device for use in purchasing items, and further comprising:

allowing for the user take delivery at or near the location of a fixed proximity beacon device.

53. The method of Claim 50, wherein the further information relates to a nearby user of an application on another device, in common with an application on the mobile device.

54. The method of Claim 53, wherein the application is a multiuser game.

55. The method of Claim 31, additionally comprising:

controlling further communications between the mobile device and at least one device or server associated with an entity or object in proximity to the mobile device.

56. The method of Claim 31, wherein the step of determining that an entity or object is within proximity further comprises:

comparing the identifier related information with the unique identifier or information derived from the unique identifier.

57. The method of Claim 31, additionally comprising:

sending the unique identifier, using the first radio, to at least one server of the one or more servers, and wherein the one or more servers perform the following steps:

associating an object or entity as being within proximity to the mobile device;

storing a user's purchasing practices or requests from the one or more servers, related to the associated object or entity information as stored proximity user behavior;

retrieving a stored user email address associated with an account associated with the mobile device; and

sending an email, addressed to the user email address containing customized content based upon the stored proximity user behavior.

58. The mobile wireless device of Claim 1, wherein the one or more processors further execute the instructions to perform the operations for determining that an entity or object is within proximity by further:

comparing the identifier related information with the unique identifier or information derived from the unique identifier.

59. The mobile wireless device of Claim 1, wherein the receiving of the identifier related information, using the first radio, is performed in response to the one or more processors executing instructions for:

sending at least the unique identifier to at least one of the one or more servers using the first radio.

60. The method of Claim 31, wherein the proximity beacon transmissions are received, at the mobile device, without requiring the mobile device to first perform a step of transmitting to the one or more beacon transmitter devices from which the plurality of proximity beacon transmissions are received.

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DEFINITIONS comprising

TOP DEFINITIONS QUIZZES RELATED CONTENT EXAMPLES

EXPLORE DICTIONARY BRITISH

comprise [k*uh* m-**prahyz**] SHOW IPA

SEE SYNONYMS FOR *comprise* ON THESAURUS.COM

verb (used with object), **com·prised, com·pris·ing.**

1 to include or contain:
The Soviet Union comprised several socialist republics.

2 to consist of; be composed of:
The advisory board comprises six members.

3 to form or constitute:
Seminars and lectures comprised the day's activities.

Dictionary.com Thesaurus.com

DEFINITIONS storing

TOP DEFINITIONS QUIZZES RELATED CONTENT EXAMPLES

EXPLORE DICTIONARY BRITISH IDIOMS AND PHRASES

store [stawr, stohr] SHOW IPA

SEE SYNONYMS FOR *store* ON THESAURUS.COM

noun

1 an establishment where merchandise is sold, usually on a retail basis.

2 a grocery:
We need bread and milk from the store.

SEE MORE

verb (used with object), **stored, stor·ing.**

8 to supply or stock with something, as for future use.

9 to accumulate or put away, for future use (usually followed by *up* or *away*).

SEE MORE

verb (used without object), **stored, stor·ing.**

12 to take in or hold supplies, goods, or articles, as for future use.

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DEFINITIONS respective

Pick T Word The D And V

TOP DEFINITIONS QUIZZES RELATED CONTENT EXAMPLES

EXPLORE DICTIONARY BRITISH

respective [ri-**spek**-tiv] SHOW IPA

SEE SYNONYMS FOR *respective* ON THESAURUS.COM

adjective

1 pertaining individually or severally to each of a number of persons, things, etc.; particular:
I will now discuss the respective merits of the candidates.

volatile

[**vol**-*uh*-tl, -til *or, esp. British*, -tahyl] SHOW IPA

SEE SYNONYMS FOR *volatile* ON THESAURUS.COM

adjective

1 evaporating rapidly; passing off readily in the form of vapor:
Acetone is a volatile solvent.

2 tending or threatening to break out into open violence; explosive:
a volatile political situation.

3 changeable; mercurial; flighty:
a volatile disposition.

4 (of prices, values, etc.) tending to fluctuate sharply and regularly:
volatile market conditions.

5 fleeting; transient:
volatile beauty.

SEE MORE

noun

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Test Your Word Play N

DEFINITIONS transitory

TOP DEFINITIONS QUIZZES RELATED CONTENT EXAMPLES

EXPLORE DICTIONARY BRITISH

transitory

[**tran**-si-tawr-ee, -tohr-ee, -zi-] SHOW IPA

SEE SYNONYMS FOR *transitory* ON THESAURUS.COM

adjective

1. not lasting, enduring, permanent, or eternal.
2. lasting only a short time; brief; short-lived; temporary.

QUIZZES

PSST, CALLING ALL QUIDNUNCS! THE NEW WORD OF THE DAY QUIZ HAS ARRIVED!

This week's quiz is chockablock with wonderful words. See how many you remember

EXHIBIT 8. EXAMPLE EMBODIMENTS FOR MAC ADDRESS, PBSI AND UNIQUE IDENTIFIER

	MAC address	PBSI	Unique Identifier
Embodiment 1	MAC address of the station device or network adapter[1]	BSSID[2]	SSID[3]

[1] "These beacons contain the *MAC address of the transmitting network adapter*, the basic Service set identifier (BSSID), and ad-hoc network name or service set identity (SSID). Par. [0060] at lines 14-17

[2] "There are several embodiments related using the IBSS beacons and the identifiers. First the identifier may be used as the MAC address of the station device or network adapter, *and one or both the BSSID and the SSID may be used to indicate these particular beacons are associated with a service*. Par. [0060] at lines 22-27.

[3] "*In other embodiments, one or more of the BSSID and the SSID may be used as the identifier.*" Par. [0060] at lines 27-29.

	MAC Address	PBSI	Unique Identifier
Embodiment 2	BSSID[4] (a MAC Address)	SSID[5]	MAC address of the station device or network adapter [6]

[4] "These beacons contain the MAC address of the transmitting network adapter, the basic Service set identifier (BSSID), and ad-hoc network name or service set identity (SSID). *The BSSID in a typical ad-hoc network is generated by the first station to enter the BSSID and is locally administered, typically a randomly generated 48 bit number matching the format of a MAC address."* Par. [0060] lines 14-20.

[5] "First the identifier may be used as the MAC address of the station device or network adapter, and one or both the BSSID and ***the SSID** may be used to indicate these particular beacons are associated with a service*". Par. [0060] lines 24-27.

[6] "[the] identifier may be used as the MAC address of the station device or network adapter" Par. [0060] lines 24-25.

"In the preferred embodiment, where the MAC address is used for the identifier, all the devices participating would likely have the same network name and SSID to aid in the identification of the device as being enabled" Par. [0060] lines 37-41.

In this embodiment the "SSID" is the "network name", See "("These beacons contain the MAC address of the transmitting network adapter, the basic Service set identifier (BSSID), *and ad-hoc network name or service set identity (SSID)"* Par. [0060] lines 14-17.

Electronic Acknowledgement Receipt

EFS ID:	39212266
Application Number:	15271410
International Application Number:	
Confirmation Number:	7653
Title of Invention:	EXCHANGING IDENTIFIERS BETWEEN WIRELESS COMMUNICATION TO DETERMINE FURTHER INFORMATION TO BE EXCHANGED OR FURTHER SERVICES TO BE PROVIDED
First Named Inventor/Applicant Name:	James Arthur Proctor
Customer Number:	86012
Filer:	David J. Thibodeau/Elisabeth Smith
Filer Authorized By:	David J. Thibodeau
Attorney Docket Number:	111054-0001U4C7
Receipt Date:	20-APR-2020
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Time Stamp:	21:30:36
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	20200420_111054-0001U4C7_TPO_Transmittal.pdf	70742 4ed72722e30e3327ec2be39f592b6419580000f8	no	1

Warnings:

Information:					
2	Affidavit/Dec/Exhibit after Notice of Appeal	20200420_111054-0001U4C7_TPO_Declaration_James_A_Proctor_Jr.pdf	642517 7d6b52db6d74e5ec11987ffc6b6533fb13bfc7b7	no	34
Warnings:					
Information:					
3	Affidavit/Dec/Exhibit after Notice of Appeal	Exhibit1JamesAProctorJrCV.pdf	106753 f0c7bb1a6ee0d6b1c048af9bdccd9efb883082d2	no	5
Warnings:					
Information:					
4	Affidavit/Dec/Exhibit after Notice of Appeal	Exhibit2ClaimsasofApr-20-2020.pdf	39299 e8cbf4019c8fde905e4c59899a24c18c67a9477e	no	10
Warnings:					
Information:					
5	Affidavit/Dec/Exhibit after Notice of Appeal	Exhibit3Comprising.pdf	88015 c94d99cac920066145825024fc705cd6387c7ba7	no	1
Warnings:					
Information:					
6	Affidavit/Dec/Exhibit after Notice of Appeal	Exhibit4Storing.pdf	85436 09829dbbfdcc7852b267027406ce70e3178c7f7e	no	1
Warnings:					
Information:					
7	Affidavit/Dec/Exhibit after Notice of Appeal	Exhibit5Respective.pdf	26780 203cf79777b43f047174e638b75006b29d56522f	no	1
Warnings:					
Information:					
8	Affidavit/Dec/Exhibit after Notice of Appeal	Exhibit6Volatile.pdf	26952 5439bd2ca5368773e39c0228f6bc6d0610126711	no	1
Warnings:					
Information:					

9	Affidavit/Dec/Exhibit after Notice of Appeal	Exhibit7Transitory.pdf	25437 9ade68a24f18fe90692ff05dd66d75c4d37650e3	no	1
Warnings:					
Information:					
10	Affidavit/Dec/Exhibit after Notice of Appeal	Exhibit8MACAddressPBSIUniqueID.pdf	92413 7fb9646896b24535f83ee044b9175a3d63edcc3a	no	2
Warnings:					
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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
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If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.