

PATROLL Winning Submission

U.S. Patent 11,100,163

U.S. Patent 11,100,163 (“*Mimzi LLC*” or the “patent-at-issue”) was filed on November 29, 2018 and claims an earliest priority on July 29, 2008. Claim 1 of the patent-at-issue is generally directed to a system designed to deliver location-specific information and advertisements to mobile electronic devices based on their geographic position. This system encompasses a communication network interface port and a sophisticated database system for the seamless storage and retrieval of pertinent data for travelers. Additionally, it features at least one server outfitted with an automated processor. This processor's duties include regulating access to the database, processing location and location-based data received from mobile devices, fetching relevant travel information and tailored advertisements from the database keyed to the device's location and certain spoken keywords, and subsequently displaying these advertisements to the user.

The primary reference, U.S. Patent 10,521,846 (“*Jones*”), was filed on January 27, 2015, and claims priority on January 16, 2008. The patent is directed to systems, apparatus, and methods for precisely detecting the movement activity of a mobile entity (e.g., being stationary, walking, running, biking, driving) through the analysis of sensor data collected from sensors on a wireless communication device carried by the entity. This detection enables the strategic selection and delivery of advertisements tailored to the activity being performed. The sensors, which may include accelerometers, gyroscopes, magnetometers, and others, provide data that captures the physical movement of the device in three-dimensional space, facilitating the identification of the specific motion activity of the mobile entity.

The primary reference, U.S. Patent App. 2009/0187463 (“*daCosta*”), was filed on January 18, 2008, and claims priority on the same date. The patent application is directed to a method where advertising content is chosen and delivered to a user of a mobile device by leveraging both the user's location and profile information. Specifically, in one embodiment, the mobile device sends the user's location and profile data to an advertisement server via a network connection. A lookup operation in an advertisement database is then conducted, using the mobile device's current location combined with the user's profile information. This operation aims to pinpoint the advertisements most relevant and likely to capture the user's interest at that particular moment.

A sample claim chart comparing claim 1 of *Mimzi LLC* to *Jones* and *DaCosta* is provided below.

US11100163 (“ <i>Mimzi LLC</i> ”)	A. US10521846 (“<i>Jones</i>”) B. US20090187463 (“<i>DaCosta</i>”)
<p>1.pre. A system for presenting location-based information to a mobile electronic device dependent on its location, comprising:</p>	<p>A. US10521846 “1. A method for use in connection with a wireless communication device (WCD) transported by a mobile thing (MT), the WCD having a computer architecture that has access to a memory, comprising: determining a mobile thing motion activity (MTMA) associated with the MT that is transporting the WCD based at least in part upon sensor data. . .” <i>Jones</i> at Claim 1</p> <p>4. The method of claim 1, further comprising determining a location of the WCD and wherein the selecting the advertisement is further based at least in part upon the location in addition to the determined MTMA.” <i>Jones</i> at Claim 4</p> <p>B. US20090187463 “The present disclosure relates generally to selecting and presenting advertising content to a mobile device user based on user location information in combination with user profile information.” <i>DaCosta</i> at par. 0010</p>
<p>1.a. a communication network interface port;</p>	<p>A. US10521846 “With reference to FIG. 2D, the WCD 104 includes at least a processor(s) 110, such as a microprocessor, a memory (ies) 112, a transmitter(s) and perhaps a receiver(s) (TX/RX(s)) 114, and a sensor(s) 116. . . All of the foregoing are communicatively coupled via a local interface(s) 118.” <i>Jones</i> at col. 29:48-57</p> <p>B. US20090187463 “11. An advertisement server configured to provide advertising content over a network, the advertising server comprising: a network interface configured to connect the server to the. . .” <i>DaCosta</i> at Claim 11</p> <p>“In particular, communication system 100 is depicted as including a carrier network 105 which provides wireless communications services to at least one mobile device 110. The carrier network 105 supports at least one wireless communications protocol such as Global System for Mobile communications (GSM), General Packet Radio Service</p>

<p>(cont.) 1.a. a communication network interface port;</p>	<p>(GPRS), Code Division Multiple Access (CDMA) or Wideband CDMA (WCDMA). The mobile device 110 may be any electronic device adapted to communicate with the carrier network 105, such as a cellular telephone, smartphone, personal digital assistant (PDA), handheld computer, etc.” <i>DaCosta</i> at par. 0016</p>
<p>1.b. a database system, configured to automatically store and retrieve location-based information for a traveler, the location-based information comprising location-based travel information and location-based advertisements; and</p>	<p>A. US10521846 “FIG . 2E is a block diagram of an example of the MT / MTMA database 119 of FIG . 2D (as well as FIG . 2F discussed hereafter) . As shown , the database 119 can include , among things , any of the following , as desired : MTMA reference signatures 117a , historical data 117b , user preferences data 117c , MTMA - sensor cross reference table 117d , event reference signatures 117e , requestor ID data 117f , MT reference signatures 117g , and MT - sensor cross reference table 117h .” <i>Jones</i> at col. 30:51-59</p> <p>“The method comprises the steps of producing, receiving, or enabling or initiating access to data indicative of movement of the WCD, the data produced directly or indirectly with one or more sensors associated with the WCD; storing historical data; selecting one or more of the sensors based upon the historical data; and identifying an MTMA associated with the MT (and/or identifying the MT itself) based upon the produced sensor data from the one or more sensors.” <i>Jones</i> at col. 8:13-23</p> <p>“1. A method for use in connection with a wireless communication device (WCD) transported by a mobile thing (MT), the WCD having a computer architecture that has access to a memory, comprising: determining a mobile thing motion activity (MTMA) associated with the MT that is transporting the WCD based at least in part upon sensor data . . . selecting an advertisement based at least in part upon the determined MTMA; causing the advertisement to be communicated to the WCD; and. . . .” <i>Jones</i> at Claim 1</p> <p>“With reference to FIG. 2D, the WCD 104 includes at least a processor(s) 110, such as a microprocessor, a memory (ies) 112, a transmitter(s) and perhaps a receiver(s) (TX/RX(s)) 114, and a sensor(s) 116. . .” <i>Jones</i> at col. 29:48-51</p>

(cont.)

1.b. a database system, configured to automatically store and retrieve location-based information for a traveler, the location-based information comprising location-based travel information and location-based advertisements; and

“In some embodiments, the **sensors 116 may include a GPS receiver, which produces location data that can also be used to also help more accurately identify the MTMA 105.**”
Jones at col. 44:11-13

“A **history of MTMAs 105 and/or MTs 106 associated with the WCD 104 may be recorded**, as part of historical data 117 b (FIG. 2E), for analysis purposes.” *Jones* at col. 71:48-50

“The **MTMAs can include, for example but not limited to, standing/stationary, walking, running, driving,** skiing, sleeping, snoring, hiking, skateboarding, sky diving, bicycling, unicycling, golfing, falling down, swimming, riding a ski lift, a motor vehicle, a motorcycle, an airplane, a train, or a water vessel, accelerating or decelerating in a motor vehicle, motorcycle, train, airplane, or water vessel, vibrating, propagating through a medium, rotating, riding in a wheelchair, looking or not looking or looking at an angle at a WCD display, assuming a position relative to the WCD, etc.”
Jones at col. 23:46-56

“FIG. 24I is a flowchart of an example of a ninth set of embodiments, which involves causing an advertisement 107 (FIG. 2D) to be communicated to a user of the WCD 104 **based upon the detected MTMA 105 and/or MT 106.** As shown in FIG. 24I, the ninth set of embodiments includes at least the following program code (or logic): program code 1281 designed **to detect an MTMA 105 pertaining to the MT 106 associated with the WCD 104** (and/or an ID for the MT 106), **based at least in part upon an analysis of sensor data 96** from one or more sensors 116 associated with the WCD 104, and causing an advertisement 107 to be communicated to the user of the WCD 104 based at least in part upon the detected MTMA 105 (and/or detected MT 106).”
Jones at col. 78:27-39

B. US20090187463

“Continuing to refer to FIG. 2, once the user profile information has been determined at block 230, it may be transmitted to the advertisement server at block 240. Process 200 may then loop back to block 210 where **updated user location information may be determined.** In this fashion, a user profile and **location history may be updated and maintained by a central advertising server**, in accordance with the principles of the invention.” *DaCosta* at par. 0027

<p>(cont.) 1.b. a database system, configured to automatically store and retrieve location-based information for a traveler, the location-based information comprising location-based travel information and location-based advertisements; and</p>	<p>“Process 300 may then continue to block 330 where a user profile that is associated with a given mobile device, may be updated based on the received user location information of block 310 and/or the user profile data of block 320. In this fashion, a historical record of the user's online habits and physical locations may be maintained.” <i>DaCosta</i> at par. 0029</p> <p>“11. An advertisement server configured to provide advertising content over a network, the advertising server comprising: a network interface configured to connect the server to the; a memory containing processor-executable instructions for implementing online content selection; and a processor electrically coupled to the memory, the processor configured to execute the processor-executable instructions to: receive current location information for the mobile device over the network, access user profile information corresponding to a user of the mobile device, perform an advertising database lookup based on said current location information and said user profile information, select advertising content based on said advertising database lookup, and transmit said advertising content to the mobile device over the network.” <i>DaCosta</i>, Claim 11</p>
<p>1.c. at least one server having at least one automated processor, configured to:</p>	<p>A. US10521846 “In this embodiment, the MTMAI system 101 and the AD system 102 are implemented in computer software within the WCD 104.” <i>Jones</i> at col. 29:45-47</p> <p>“With reference to FIG. 2D, the WCD 104 includes at least a processor(s) 110, such as a microprocessor, a memory (ies) 112. . .” <i>Jones</i> at col. 29:47-50</p> <p>B. US20090187463 “11. An advertisement server configured to provide advertising content over a network, the advertising server comprising: a network interface configured to connect the server to the; a memory containing processor-executable instructions for implementing online content selection; and a processor electrically coupled to the memory, the processor configured to execute the processor-executable instructions to:” <i>DaCosta</i>, Claim 11</p>

1.d. **automatically control access to the database system, to store and retrieve the location-based information;**

A. US10521846

“As shown in FIG. 19C, the MTMAI system 101 includes at least the following program code (or logic): **program code 681 designed to retrieve historical data** 117b (FIG. 2E) from database 119; program code 682 designed to select one or more sensors 116 and/or one or more sensor data 96 based at least in part upon the historical data; and program code 683 designed to identify the MTMA 105 (and/or MT 106) based upon data from the selected sensor(s) 116 or the selected sensor data 96.” *Jones* at col. 57:17-25

“The **method comprises the steps of** producing, receiving, or enabling or initiating access to data indicative of movement of the WCD, the data produced directly or indirectly with one or more sensors associated with the WCD; **storing historical data**; selecting one or more of the sensors based upon the historical data; and identifying an MTMA associated with the MT (and/or identifying the MT itself) based upon the produced sensor data from the one or more sensors.” *Jones* at col. 8:13-23

“With reference to FIG. 2D, **the WCD 104 includes at least a processor(s) 110, such as a microprocessor, a memory (ies) 112. . .**” *Jones* at col. 29:47-50

“The **computer program code (instructions) associated with the software in memory 112 is executed by the processor 110** in order to perform the methodologies of the present disclosure.” *Jones* at col. 30:1-4

“FIG. 24I is a flowchart of an example of a ninth set of embodiments, which involves causing an advertisement 107 (FIG. 2D) to be communicated to a user of the WCD 104 based upon the detected MTMA 105 and/or MT 106. As shown in FIG. 24I, the ninth set of embodiments includes at least the following **program code (or logic): program code 1281 designed to detect an MTMA 105 pertaining to the MT 106 associated with the WCD 104 (and/or an ID for the MT 106), based at least in part upon an analysis of sensor data** 96 from one or more sensors 116 associated with the WCD 104, and causing an advertisement 107 to be communicated to the user of the WCD 104 based at least in part upon the detected MTMA 105 (and/or detected MT 106).” *Jones* at col. 78:27-39

<p>(cont.) 1.d. automatically control access to the database system, to store and retrieve the location-based information;</p>	<p>B. US20090187463 “Upon receiving the location information of block 410, process 400 may continue to block 320 where the user profile corresponding to the given mobile device may be accessed (e.g., from profile database 165). While in one embodiment, this lookup operation may be performed using an identification code transmitted with the location information, it should equally be appreciated that numerous other methods may be similarly employed. For example, a location client (e.g., location client 125) executing on the mobile device may forward the location information to the advertisement server over a persistent connection and/or according to a particular data format. Once the appropriate user profile information has been accessed at block 420, process 400 may continue to block 430 where a lookup operation of an advertisement database (e.g., ad database 160) may be performed based on a combination of the current location information received at block 410, and the user profile information accessed at block 420.” <i>DaCosta</i> at par. 0031-0032</p>
<p>1.e. automatically receive a location from a mobile electronic device;</p>	<p>A. US10521846 “In some embodiments, the sensors 116 may include a GPS receiver, which produces location data that can also be used to also help more accurately identify the MTMA 105.” <i>Jones</i> at col. 44:11-13</p> <p>B. US20090187463 “11. An advertisement server configured to provide advertising content over a network, the advertising server comprising: . . . a processor electrically coupled to the memory, the processor configured to execute the processor-executable instructions to: receive current location information for the mobile device over the network . . .” <i>DaCosta</i>, Claim 11</p>
<p>1.f. automatically receive location-based information from the mobile electronic device;</p>	<p>A. US10521846 “In some embodiments, the sensors 116 may include a GPS receiver, which produces location data that can also be used to also help more accurately identify the MTMA 105.” <i>Jones</i> at col. 44:11-13</p> <p>“As shown in FIG. 24I, the ninth set of embodiments includes at least the following program code (or logic): program code 1281 designed to detect an MTMA 105 pertaining to the MT 106 associated with the WCD 104 (and/or an ID for the MT 106), based at least in part upon an analysis of sensor data</p>

<p>(cont.) 1.f. automatically receive location-based information from the mobile electronic device;</p>	<p>96 from one or more sensors 116 associated with the WCD 104. . .” <i>Jones</i> at col. 78:27-36</p> <p>B. US20090187463 “One aspect of the invention is to provide user location information for a given mobile device to an advertisement server over a network connection. Additionally, user profile information, corresponding to the historical online activities of the mobile device's user, is also provided to the advertisement server. In one embodiment, the user profile information may also include historical location information for the given mobile device.” <i>DaCosta</i> at par. 0011</p>
<p>1.g. automatically retrieve location-based travel information from the database system dependent on the received location of the mobile electronic device;</p>	<p>A. US10521846 “In some embodiments, the sensors 116 may include a GPS receiver, which produces location data that can also be used to also help more accurately identify the MTMA 105.” <i>Jones</i> at col. 44:11-13</p> <p>“As shown in FIG. 24I, the ninth set of embodiments includes at least the following program code (or logic): program code 1281 designed to detect an MTMA 105 pertaining to the MT 106 associated with the WCD 104 (and/or an ID for the MT 106), based at least in part upon an analysis of sensor data 96 from one or more sensors 116 associated with the WCD 104. . .” <i>Jones</i> at col. 78:27-39</p> <p>B. US20090187463 “Continuing to refer to FIG. 2, once the user profile information has been determined at block 230, it may be transmitted to the advertisement server at block 240. Process 200 may then loop back to block 210 where updated user location information may be determined. In this fashion, a user profile and location history may be updated and maintained by a central advertising server, in accordance with the principles of the invention.” <i>DaCosta</i> at par. 0027</p> <p>“Process 300 may then continue to block 330 where a user profile that is associated with a given mobile device, may be updated based on the received user location information of block 310 and/or the user profile data of block 320. In this fashion, a historical record of the user's online habits and physical locations may be maintained.” <i>DaCosta</i> at par. 0029</p>

1.h. **automatically retrieve a location-based advertisement from the database system dependent on at least the received location of the mobile electronic device and relevant to at least one spoken keyword**; and

A. US10521846

“FIG. 24I is a flowchart of an example of a ninth set of embodiments, which involves causing **an advertisement 107** (FIG. 2D) to be communicated to a user of the WCD 104 **based upon the detected MTMA 105 and/or MT 106**. As shown in FIG. 24I, the ninth set of embodiments includes at least the following **program code (or logic): program code 1281 designed to detect an MTMA 105 pertaining to the MT 106 associated with the WCD 104** (and/or an ID for the MT 106), **based at least in part upon an analysis of sensor data 96 from one or more sensors 116 associated with the WCD 104**, and causing an advertisement 107 to be communicated to the user of the WCD 104 based at least in part upon the detected MTMA 105 (and/or detected MT 106).” *Jones* at col. 78:27-39

“These embodiments may be provided with **program code that is designed to select the advertisement based, in whole or in part, upon the detected MTMA 105 (and/or MT 106). More specifically, other sensor data 96 may also be considered in selecting the advertisement, for example but not limited to, a location of the WCD 104 so that the selecting is further based upon the location** in addition to the detected MTMA 105 (and/or MT 106).” *Jones* at col. 78:52-59

“In some embodiments, the **sensors 116 may include a microphone, which produces audio data that can be used to more accurately determine the MTMA 105**. An algorithm 113 (FIG. 2D) can be employed to identify an MTMA 105 and/or MT 106 based upon the other sensor data 96 (indicative of physical movement) along with the **microphone measured audio data**. . . As another example, the audio data can be analyzed to identify an MT 106 in the form of a person.” *Jones* at col. 44:26-38

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“6. The method of claim 1, further comprising **performing a speech-to-text conversion operation on a verbal communication from said mobile device**.

7. The method of claim 6, further comprising **updating said user profile information using one or more keywords from said verbal communication**.” *DaCosta* at Claims 6-7

“Another example of user profile information may be based on user communications, including the actual content of emails and text messages. Such communications may be parsed by an

<p>(cont.) 1.h. automatically retrieve a location-based advertisement from the database system dependent on at least the received location of the mobile electronic device and relevant to at least one spoken keyword; and</p>	<p>application executing on the mobile device (e.g., one of applications 135), or alternatively on the advertisement server (e.g., ad server 150). In either case, one or more keywords may be transmitted, as profile data, to the advertising server for updating the given user's profile information. Similarly, spoken communications may be converted to text (e.g., using the speech-to-text application 130 and/or the speech recognition server 155 of FIG. 1), with the parsed data being forwarded to the advertisement server.” <i>DaCosta</i> at par. 0026</p>
<p>1.i. automatically present the retrieved location-based advertisement to a user of the mobile electronic device.</p>	<p>A. US10521846 “2. The method of claim 1, wherein the advertisement is communicated to the WCD via an email or text message.” <i>Jones</i>, Claim 2</p> <p>“FIG. 24I is a flowchart of an example of a ninth set of embodiments, which involves causing an advertisement 107 (FIG. 2D) to be communicated to a user of the WCD 104 based upon the detected MTMA 105 and/or MT 106. As shown in FIG. 24I, the ninth set of embodiments includes at least the following program code (or logic): program code 1281 designed to detect an MTMA 105 pertaining to the MT 106 associated with the WCD 104 (and/or an ID for the MT 106), based at least in part upon an analysis of sensor data 96 from one or more sensors 116 associated with the WCD 104, and causing an advertisement 107 to be communicated to the user of the WCD 104 based at least in part upon the detected MTMA 105 (and/or detected MT 106). The advertisement can be communicated to the user from the WCD itself or another communication device. The advertisement can be sent to the user via email, text message, telephonic voice message, etc.” <i>Jones</i> at col. 78:27-39</p> <p>B. US20090187463 “The present invention relates generally to providing location-based advertisement content, and more particularly to providing location-based advertisement content to mobile device users based on user profile information.” <i>DaCosta</i> at par. 0001</p>