**UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

<table>
<tr><td>

AERITAS, LLC,

      Plaintiff

      v.

OFFICE DEPOT, LLC,

      Defendant

</td><td>

Case No. 6:22-cv-00986-ADA

JURY TRIAL DEMANDED

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</table>

AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Aeritas, LLC ("Aeritas" or "Plaintiff") files this Amended Complaint for patent infringement against Office Depot, LLC ("Office Depot" or "Defendant"), and alleges as follows:

NATURE OF THE ACTION

1.   This is an action for patent infringement arising under 35 U.S.C. § 1 *et seq*.

PARTIES

2.   Aeritas is a limited liability company organized and existing under the laws of the State of Texas with its principal place of business in Dallas, Texas.

3.   Upon information and belief, Defendant is a limited liability company organized and existing under the laws of the State of Delaware, and has a regular and established place of business at 5524 Bosque Blvd, Waco, Texas 76710.

JURISDICTION AND VENUE

4.   This Court has original jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

5.   Upon information and belief, Defendant is subject to personal jurisdiction of this Court based upon it having regularly conducted business, including the acts complained of herein, within the State of Texas and this judicial district and/or deriving substantial revenue from goods and services provided to individuals in Texas and in this District.

6.   Venue is proper in this judicial district under 28 U.S.C. §1400(b) because Defendant has committed acts of patent infringement in this District and has a regular and established place of business in this District. Specifically, Defendant has a regular and established place of business at 5524 Bosque Blvd, Waco, Texas 76710. In addition, Aeritas has suffered harm in this District.

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OVERVIEW OF THE ASSERTED PATENTS

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A.   The '819, '285, '364, and the '107 Patents

7.   This family of patents relates to mixed-mode (*i.e.*, voice and data) interaction and shares a specification. The inventors obtained protection for a range of claims relating to mixed-mode interaction using wireless devices and recognized a need to leverage the capabilities of wireless devices to use Internet-based services and provide convenience to a mobile device user. Thus, the inventions include a method of using a mixed-mode system for performing tasks. In this system, notification criteria are obtained from either the user or from other sources. For example, in the context of conducting commerce, a collector may wish to be notified when a rare item is offered for sale in a particular geographical area around his home. The collector may also specify in his conditions for notification what type of notification he wishes to receive—whether it be email, text, or voice notification via a mobile device, as examples. After the notification criteria are obtained, the inventions provide a notification to a mobile device based at least in part on the location of a user and the notification criteria. In the collector example, the collector may be notified that the rare item is available to purchase. To the convenience of the collector, he may now act on this opportunity with time saved. The shared specification provides multiple real-world examples which reveal the

improvements of the claimed invention over the prior art, such as improved facilitation of transactions that may be time sensitive.

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THE ASSERTED PATENTS RECITE
PATENABLE SUBJECT MATTER UNDER 35 U.S.C. §101

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8.   The claims of the '819 Patent, the claims of the '285 Patent, the claims of the '364 Patent, and the claims of the '107 Patent recite patentable subject matter under 35 U.S.C. §101. *See* Exh. A.

9.   In *Alice*, the Court warned that courts should "tread carefully" in searching for abstract ideas "lest [the concept] swallow all of patent law": "At some level, all inventions embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas." *Id.* at 2354. An invention is therefore not "ineligible for patent simply because it involves an abstract concept," but only if it claims "the building blocks of human ingenuity." *Id.* (internal quotation marks and alterations omitted).

10.   Claim 1 of the '819 Patent as a whole relates to a method comprising the steps of "receiving spoken input from a wireless communication device; obtaining data identifying a current location of the wireless communication device; based on the current location of the wireless communication device and the spoken input, retrieving information; delivering, to the wireless communication device by a notification server, a non-verbal response to the spoken input, the non-verbal response based on the retrieved information and including a drill-down menu by which additional information related to the retrieved information can be obtained; and providing additional information related to the retrieved information in response to receipt of at least one additional input provided via the drill-down menu." '819 Patent, 12:16-32.

11.   Claim 1 of the '285 Patent as a whole relates to a method, comprising the steps of "at a first time, receiving and storing an input in a user profile in a database, the input comprising consumer interest data; at a second time distinct from the first time, obtaining data identifying a current location of the mobile communication device; based on the input stored in the user profile and the current location

of the mobile communication device, initiating a search to locate information pertinent to the input; receiving results derived from the search; and in response to the input and the search, delivering, by a notification server, information to the mobile communications device." '285 Patent, 11:57 – 12:9.

12.   Claim 1 of the '364 Patent as a whole relates to an "[a]pparatus, comprising: a processor; computer memory holding computer program instructions to execute a rules engine that correlates data identifying a location of a mobile communication device, consumer interest data associated with one or more inventory attributes, and notification criteria that defines when a notification is to be delivered to the mobile communications device and a type of such notification, and to generate a message for delivery to the mobile communication device if at least one matching rule in the rules engine is triggered and the notification criteria are met, the message identifying one or more suppliers in the location with inventory that a user of the mobile communication device has expressed an interest in as indicated by the consumer interest data; and computer memory holding computer program instructions executed by the processor to selectively deliver the message to the mobile communications device according to the notification criteria." '364 Patent, 12:8-27.

13.   Claim 5 of the '107 Patent as a whole relates to "[a]pparatus, comprising: a processor; computer memory holding computer program instructions to: receive first data indicating a permission to provide a mobile device user a notification, the notification having an associated notification criteria; at a given time, determine a location of a mobile device; based at least in part on a determined location of the mobile device and the notification criteria, to provide to the mobile device the notification, the notification being associated at the mobile device with one of: an audible, visual and tactile alert; receive second data as a result of an input being received at the mobile device following the notification; retrieve information associated with the input and the determined location of the mobile device; and provide to the mobile device a response to the input, the response based on the retrieved information; wherein the computer program instructions comprise a rules engine that comprises first and second components, a first component that evaluates the notification criteria,

and a second component that executes notification rules." '107 Patent, 12:64-13:22.

14.   The Supreme Court in *Alice*, relying on its prior decision in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289 (2012), described a two-part test for determining whether a patent claims only an unpatentable "abstract idea." First, courts "determine whether the claims at issue are directed to" an abstract idea. *Alice*, 134 S. Ct. at 2355. If a patent is directed to an "abstract idea," courts must then consider in a second step whether the claims contain an "inventive concept—*i.e.* an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself." *Id.* (internal quotation marks and alterations omitted).

15.   Applying *Alice* in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014), the Federal Circuit found patentable a method whereby a host website that advertised a third-party website could allow the user to access the third-party's website's contents while remaining on the host website. *Id.* at 1248-49. The Court held that the claims at issue do not "merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet," but instead provide a solution that "is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." *Id.* at 1257-58.

16.   Thus, under *Alice*, a patent cannot simply transfer a pre-computer idea to a computer, or a pre-Internet idea to the Internet. But under *DDR*, patents are valid if they use computer technology in order to solve a problem that arose for the first time in the context of computers.

Claim 1 Of The '819 Patent Recites A Concrete, Not Abstract Solution For Addressing Problems Specific To Wireless Devices And Networks

17.   The method of claim 1 is not an elemental and longstanding "building block[] of human ingenuity" like the method at issue in *Alice*. Instead, it is a concrete solution for resolving particular problems that first arose with the development of networks hosting wireless devices: how to receive spoken input from a wireless device along with the location of a wireless device, and how to interact with

the wireless device to deliver information based on the spoken input and location data. Claim 1 addresses these problems with a concrete solution in a novel and unobvious way: to receive spoken input from a wireless device and the location of the wireless device, to retrieve information based on the spoken input and location, to deliver to the wireless device a non-verbal response based on the retrieved information including a drill-down menu from a particular device called a notification server, and to provide additional information related to the retrieved information in response to receipt of at least one additional input provided via the drill-down menu.

18.   Any attempt to characterize this solution to a network problem as an "abstract idea" such as mere communication between a wireless device and a server, must fail. Any such characterization misses the specificity both of the problem and the claimed technical solution and would thereby violate Supreme Court precedent by neglecting to consider many important limitations of the claims. *Alice*, 134 S. Ct. at 2354.

19.   The '819 Patent does not threaten to inhibit innovation. Instead, it claims a method for solving a problem that only arose with the advent of wireless devices. Any such broad characterization as mere communication fails to recognize that the patent's invention does not apply to communication generally, but only to the particular problem of how to receive spoken input from a wireless device along with the location of a wireless device, and how to interact with the wireless device to deliver information based on the spoken input and location data. '819 patent, 12:16-32. There was simply never a need to address the problem of receiving spoken input from a wireless device along with the location of the wireless device and interacting with the wireless device to deliver information based on the spoken input and location data before the proliferation of mobile wireless devices.

20.   Not only is the problem the patent addressed specific and new, the patent's solution is also concrete, not abstract. There are numerous other ways to receive a query from a wireless device and to respond to the query. For example, a server could receive a text query from a wireless device and simply transmit to the wireless device the universal resource locators (URLs) returned from a conventional search.

The patent does not claim those types of methods or any of the myriad of other communication methods.

21.   Claim 1 of the '819 Patent is directed to an improvement in communication protocol technology with a mobile, wireless device. The claimed invention contains many limitations that are not present in a simplistic example of mere communication with a wireless device. Such an abstract mischaracterization does not include the steps of (i) receiving spoken input from a wireless device and the location of the wireless device, (ii) retrieving information based on the spoken input and location, (iii) delivering to the wireless device a non-verbal response based on the retrieved information including a drill-down menu from a particular device called a notification server, and (iv) providing additional information related to the retrieved information in response to receipt of at least one additional input provided via the drill-down menu. '819 patent, 12:16-32.

22.   FIG. 1 of the '819 Patent is reproduced below.
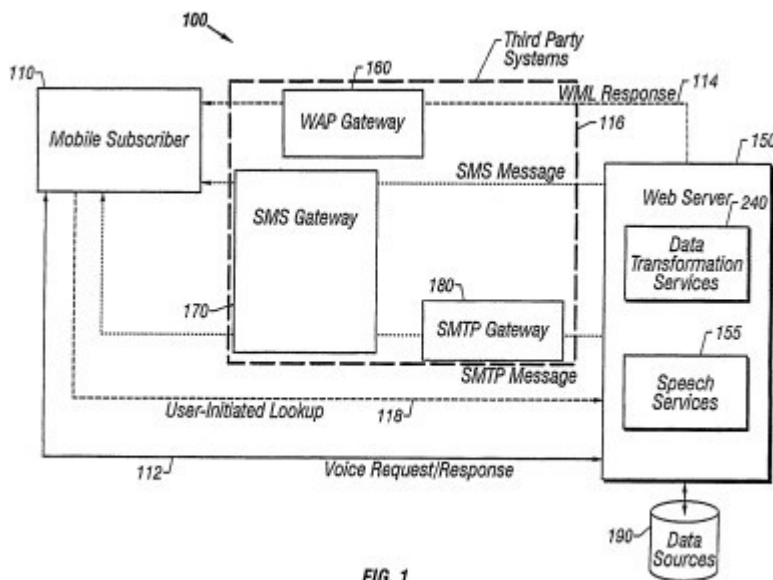
FIG. 1

23.   FIG. 1 illustrates an embodiment of a system on which the method of the claimed invention of claim 1 the '819 Patent may execute:

> In at least one embodiment, mobile subscriber 110 initiates communication with web server 150 by issuing a voice request for information via voice request/response channel 112. Voice request/response channel 112 includes any necessary cellular or PCS stations, telephone lines, repeaters, routers, communications switches, etc. which are commonly used in making voice calls from a mobile phone or other wireless device. The voice request is received by the

speech services 155 of web server 150, which translates the voice request into a data format more suitable for processing by web server 150. Web server 150, using data transformation services 240 or otherwise, retrieves the information requested by mobile subscriber 110 by accessing data sources 190. Data sources 190 are preferably accessible through a network, such as the Internet, but may include privately accessible data sources under the control of the same person or organization controlling web server 150. Once web server 150 has retrieved the necessary information from data sources 190, the information is delivered to mobile subscriber 110 in a non-verbal format.

'819 Patent, 3:28-46.

24.   Claim 1 of the '819 Patent requires particular operations to be performed by a computer system and addresses problems that arise in the realm of computer systems. For example, the problem of how to receive spoken input from a wireless device along with the location of a wireless device, and how to interact with the wireless device to deliver information based on the spoken input and location data arises in the realm of computer systems.

25.   Because the claimed method is concrete, not abstract, it does not threaten to "t[ie] up" a "building block[] of human ingenuity," which is the "concern that drives" the judicial carve-out of "abstract ideas" from § 101. *Alice*, 134 S. Ct. at 2354. Whereas allowing a patent to claim all use of a computer for an intermediated settlement would "inhibit human discovery" by barring the use of widely known, abstract concepts, claim 1 of the '819 Patent focuses on a specific method of (i) receiving spoken input from a wireless device and the location of the wireless device, (ii) retrieving information based on the spoken input and location, (iii) delivering to the wireless device a non-verbal response based on the retrieved information including a drill-down menu from a particular device called a notification server, and (iv) providing additional information related to the retrieved information in response to receipt of at least one additional input provided via the drill-down menu. '819 patent, 12:16-32. Further, that solution was novel and non-obvious; the prior art does not teach that solution. The '819 patent's novel and non-obvious invention does not bar methods of data communication with wireless devices through something other than the specific type of protocol recited in claim 1. *See DDR*, 773 F.3d at 1259 (claims patentable

in part because they "do not attempt to preempt every application of the idea of increasing sales by making two web pages look the same," but instead "recite a specific way" to achieve that outcome).

26.   For all these reasons, claim 1 of the '819 Patent is not directed to an abstract idea.

Claim 1 Of The '819 Patent Recites Significantly More Than Any Abstract Idea Because It Uses Technology To Address A Problem Unique To A New Technological Area

27.   Even if claim 1 of the '819 Patent were somehow understood to claim an abstract idea, it is still patentable under the second step in the *Alice* framework because it includes an "inventive concept." Under the Federal Circuit's decision in *DDR*, even claims based at some level on an abstract idea are patentable if they are "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." 773 F.3d at 1257. The '819 Patent falls squarely within this holding.

28.   Like the claims in *DDR*, claim 1 of the '819 Patent does not recite applying a known business process to a technological environment. Instead, it addresses problems specific to the new technology of wireless devices and the problems of how to receive spoken input from a wireless device along with the location of a wireless device, and how to interact with the wireless device to deliver information based on the spoken input and location data. '819 patent, 12:16-32. Claim 1 of the '819 Patent solves these problems with a specific method of (i) receiving spoken input from a wireless device and the location of the wireless device, (ii) retrieving information based on the spoken input and location, (iii) delivering to the wireless device a non-verbal response based on the retrieved information including a drill-down menu from a particular device called a notification server, and (iv) providing additional information related to the retrieved information in response to receipt of at least one additional input provided via the drill-down menu. '819 patent, 12:16-32.

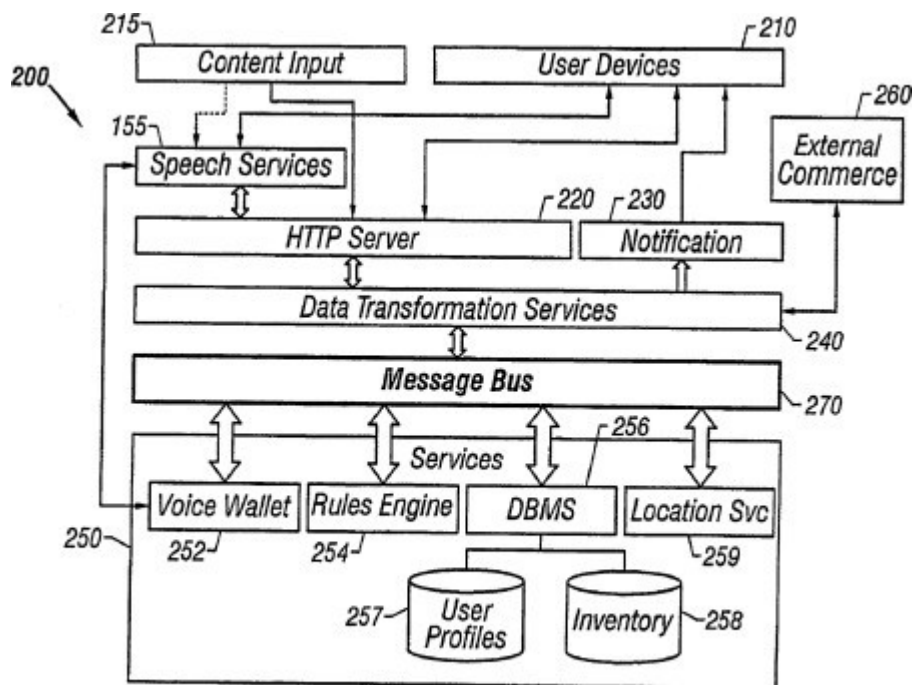29.   FIG. 2 of the '819 Patent is reproduced below.

FIG. 2

30.   FIG. 2 illustrates one embodiment of a system having components on which some of the

steps recited in claim 1 of the '819 Patent may execute:

> In one example of how mixed-mode system 200 can be used, mobile
> subscriber 110 (FIG. 1) sends a voice request from user devices 210 to
> HTTP server 220, via speech services 155. User devices 210 preferably
> include mobile phones or other user devices capable of both voice and
> data communications. However, in at least one embodiment, one device
> is a voice capable device, for example an older cellular telephone, and
> another device is data only enabled, such as some PDAs. These two
> devices can be used in combination to implement a mixed-mode system
> capable of sending voice requests and receiving data replies, or sending
> data requests and receiving voice replies.
>
> Speech services 155 may include any suitable combination of hardware
> and software needed for speech recognition and/or translation. In one
> embodiment, speech services 155 is used to translate spoken requests
> into suitably formatted data for use by HTTP server 220. In other
> embodiments, speech services 155 is used to translate replies from
> HTTP server 220 into speech for delivery to a voice capable user device
> 210. Speech services 155 may also be used in conjunction with voice
> wallet 252, as subsequently discussed.
>
> Content received through content input 215 can be either voice content
> that is routed to HTTP server after translation by speech services 155,
> or data content delivered directly to HTTP server 220. The content can
> include recorded audio and/or visual content for display, various types

of information to be stored in database DBMS 256, or any other suitable type of content that may provide value or aid in implementing the present invention.

HTTP server 220 employs services 250 to fulfill requests from user devices 210. HTTP server 220 accesses services 250 through data transformation service 240, which in turn uses message bus 270. Data transformation service 240 supplies application program interfaces (APIs) for creating extensible markup language (XML) documents, as well as converting between different XML document dialects that may be employed by external commerce systems 260, or other external systems and devices. Various suitable scripting languages may be employed to perform these functions consistent with the objects of the present invention.

External commerce systems 260 include Internet web sites and web pages, private systems maintained by companies for inventory, scheduling, transportation, or other similar systems. External commerce systems 260 may be utilized to allow mobile subscriber 110 (FIG. 1) to make purchases directly from merchants in control of external commerce systems 260. Alternatively, external commerce systems 260 may supply information for storage in database DBMS 256 or for use by other services 250. Message bus 270 is used to add publish/subscribe capabilities to mixed-mode system 200, in addition to providing greater interoperability with external systems, improved internal modularity within mixed-mode system 200, and enhanced scalability.

'819 Patent, 6:12-51.

31.   The primary reasoning of *DDR* was that the technology at issue was "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks," not "the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet." *Id.* at 1257. That reasoning applies equally to claim 1 of the '819 Patent. That claim overrides a routine sequence of events in that it provides a novel method for returning information to a wireless device based on verbal input from the wireless device and the location of the wireless device.

32.   Clearly, the scope of claim 1 of the '819 Patent is much narrower than the abstract idea of communicating with a wireless device. The Federal Circuit's decision in *DDR* directly controls the analysis under *Alice*'s second step. Under *DDR*, the challenged claims recite patentable subject matter.

33.   For all these reasons, claim 1 of the '819 Patent recites patentable subject matter under 35 U.S.C. § 101.

Claim 1 Of The '285 Patent Recites A Concrete, Not Abstract Solution For Addressing Problems Specific To Wireless Devices And Networks.

34.   The method of claim 1 is not an elemental and longstanding "building block[] of human ingenuity" like the method at issue in Alice. Instead, it is a concrete solution for resolving particular problems that first arose with the development of networks hosting wireless devices: how to receive input including consumer interest data along with the location of a wireless device, and how to interact with the wireless device to deliver information based on the consumer interest data and location data. Claim 1 addresses these problems with a concrete solution in a novel and unobvious way: "at a first time, receiving and storing an input in a user profile in a database, the input comprising consumer interest data; at a second time distinct from the first time, obtaining data identifying a current location of the mobile communication device; based on the input stored in the user profile and the current location of the mobile communication device, initiating a search to locate information pertinent to the input; receiving results derived from the search; and in response to the input and the search, delivering, by a notification server, information to the mobile communications device." '285 Patent, 11:57-12:10.

35.   Any attempt to characterize this solution to a network problem as an "abstract idea" such as mere communication between a wireless device and a server, must fail. Any such characterization misses the specificity both of the problem and the claimed technical solution and would thereby violate Supreme Court precedent by neglecting to consider many important limitations of the claims. *Alice*, 134 S. Ct. at 2354.

36.   The '285 Patent does not threaten to inhibit innovation. Instead, it claims a method for solving a problem that only arose with the advent of wireless devices. Any such broad characterization of the '285 Patent as mere communication fails to recognize that the patent's invention does not apply to communication generally, but only to the particular problem of how to receive input including consumer interest data along with the location of a wireless device, and how to interact with the wireless

device to deliver information based on the consumer interest data and location data. '285 Patent, 11:57-12:10. There was simply never a need to address the problem of receiving input including consumer interest data from a wireless device along with the location of the wireless device and interacting with the wireless device to deliver information based on the consumer interest and location data before the proliferation of mobile wireless devices.

37.   Not only is the problem the patent addressed specific and new, the patent's solution is also concrete, not abstract. There are numerous other ways to receive a query from a wireless device and to respond to the query. For example, a server could receive a text query from a wireless device and simply transmit to the wireless device the universal resource locators (URLs) returned from a conventional search. The patent does not claim those types of methods or any of the myriad of other communication methods.

38.   Claim 1 of the '285 Patent is directed to an improvement in communication protocol technology with a mobile, wireless device. The claimed invention contains many limitations that are not present in a simplistic example of mere communication with a wireless device. Such an abstract mischaracterization does not include the steps of (i) "at a first time, receiving and storing an input in a user profile in a database, the input comprising consumer interest data;" (ii) "at a second time distinct from the first time, obtaining data identifying a current location of the mobile communication device; based on the input stored in the user profile and the current location of the mobile communication device," (iii) initiating a search to locate information pertinent to the input; receiving results derived from the search;" and (iv) "in response to the input and the search, delivering, by a notification server, information to the mobile communications device." '285 Patent, 11:57-12:10.

39.   FIG. 2 of the '285 Patent is reproduced below.
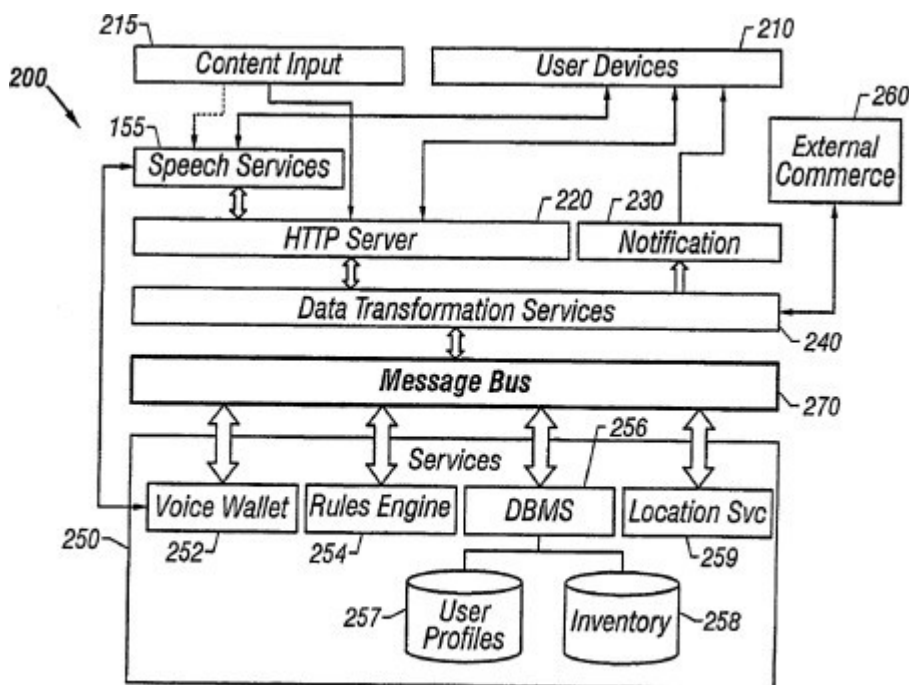
FIG. 2

40.   FIG. 2 illustrates one embodiment of a system having components on which some of the

steps recited in claim 1 of the '285 Patent may execute:

> In one example of how mixed-mode system 200 can be used, mobile
> subscriber 110 (FIG. 1) sends a voice request from user devices 210 to
> HTTP server 220, via speech services 155. User devices 210 preferably
> include mobile phones or other user devices capable of both voice and
> data communications. However, in at least one embodiment, one device
> is a voice capable device, for example an older cellular telephone, and
> another device is data only enabled, such as some PDAs. These two
> devices can be used in combination to implement a mixed-mode system
> capable of sending voice requests and receiving data replies, or sending
> data requests and receiving voice replies.
>
> Speech services 155 may include any suitable combination of hardware
> and software needed for speech recognition and/or translation. In one
> embodiment, speech services 155 is used to translate spoken requests
> into suitably formatted data for use by HTTP server 220. In other
> embodiments, speech services 155 is used to translate replies from
> HTTP server 220 into speech for delivery to a voice capable user device
> 210. Speech services 155 may also be used in conjunction with voice
> wallet 252, as subsequently discussed.
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> Content received through content input 215 can be either voice content
> that is routed to HTTP server after translation by speech services 155,
> or data content delivered directly to HTTP server 220. The content can

include recorded audio and/or visual content for display, various types of information to be stored in database DBMS 256, or any other suitable type of content that may provide value or aid in implementing the present invention.

HTTP server 220 employs services 250 to fulfill requests from user devices 210. HTTP server 220 accesses services 250 through data transformation service 240, which in turn uses message bus 270. Data transformation service 240 supplies application program interfaces (APIs) for creating extensible markup language (XML) documents, as well as converting between different XML document dialects that may be employed by external commerce systems 260, or other external systems and devices. Various suitable scripting languages may be employed to perform these functions consistent with the objects of the present invention.

External commerce systems 260 include Internet web sites and web pages, private systems maintained by companies for inventory, scheduling, transportation, or other similar systems. External commerce systems 260 may be utilized to allow mobile subscriber 110 (FIG. 1) to make purchases directly from merchants in control of external commerce systems 260. Alternatively, external commerce systems 260 may supply information for storage in database DBMS 256 or for use by other services 250. Message bus 270 is used to add publish/subscribe capabilities to mixed-mode system 200, in addition to providing greater interoperability with external systems, improved internal modularity within mixed-mode system 200, and enhanced scalability.

'285 Patent, 6:4-56.

41.   Claim 1 of the '285 Patent requires particular operations to be performed by a computer system and addresses problems that arise in the realm of computer systems. For example, the problem of how to receive input including consumer interest data along with the location of a wireless device, and how to interact with the wireless device to deliver information based on the consumer interest data and location data ('285 Patent, 11:57-12:10) arises in the realm of computer systems.

42.   Because the claimed method is concrete, not abstract, it does not threaten to "t[ie] up" a "building block[] of human ingenuity," which is the "concern that drives" the judicial carve-out of "abstract ideas" from § 101. *Alice*, 134 S. Ct. at 2354. Whereas allowing a patent to claim all use of a computer for an intermediated settlement would "inhibit human discovery" by barring the use of widely known, abstract concepts, claim 1 of the '285 Patent focuses on a specific method of (i) "at a

first time, receiving and storing an input in a user profile in a database, the input comprising consumer interest data;" (ii) "at a second time distinct from the first time, obtaining data identifying a current location of the mobile communication device; based on the input stored in the user profile and the current location of the mobile communication device," (iii) initiating a search to locate information pertinent to the input; receiving results derived from the search;" and (iv) "in response to the input and the search, delivering, by a notification server, information to the mobile communications device." '285 Patent, 11:57-12:10. Further, that solution was novel and non-obvious; the prior art does not teach that solution. The '285 Patent's novel and non-obvious invention does not bar methods of data communication with wireless devices through something other than the specific type of protocol recited in claim 1. *See DDR*, 773 F.3d at 1259 (claims patentable in part because they "do not attempt to preempt every application of the idea of increasing sales by making two web pages look the same," but instead "recite a specific way" to achieve that outcome).

43.   For all these reasons, claim 1 of the '285 Patent is not directed to an abstract idea.

Claim 1 Of The '285 Patent Recites Significantly More Than Any Abstract Idea Because It Uses Technology To Address A Problem Unique To A New Technological Area.

44.   Even if claim 1 of the '285 Patent were somehow understood to claim an abstract idea, it would still be patentable under the second step in the *Alice* framework because it includes an "inventive concept." Under the Federal Circuit's decision in *DDR*, even claims based at some level on an abstract idea are patentable if they are "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." 773 F.3d at 1257. The '285 Patent falls squarely within this holding.

45.   Like the claims in *DDR*, claim 1 of the '285 Patent does not recite applying a known business process to a technological environment. Instead, it addresses problems specific to the new technology of wireless devices and the problems of how to receive input including consumer interest data along with the location of a wireless device, and how to interact with the wireless device to deliver

information based on the consumer interest data and location data. '285 Patent, 11:57-12:10. Claim 1 of the '285 Patent solves these problems with a specific method of (i) "at a first time, receiving and storing an input in a user profile in a database, the input comprising consumer interest data;" (ii) "at a second time distinct from the first time, obtaining data identifying a current location of the mobile communication device; based on the input stored in the user profile and the current location of the mobile communication device," (iii) initiating a search to locate information pertinent to the input; receiving results derived from the search;" and (iv) "in response to the input and the search, delivering, by a notification server, information to the mobile communications device." '285 Patent, 11:57-12:10.

46.   The Specification of the '285 Patent describes one embodiment for locating information pertinent to consumer interest data in a user's profile:

> Another service, rules engine 254 works in conjunction with information stored in database DBMS 256, and information received from external commerce system 260 and content input 215. Rules engine 254 correlates consumer interests with inventory attributes such as price, location and quantity, and with dynamic attributes such as time and threshold. The rules engine may be considered to be dual sided, inasmuch as one side performs evaluations of the interest rules and the other side evaluates and executes notification rules. In a preferred embodiment, each rule contains two sets of information. The first set of information is a 1 to n list of conditions and their Boolean relationships. The second set of information is a 1 to n list of actions to be taken when particular rules are evaluated as true. A very basic example is a rule that specifies sending an SMS message listing local produce suppliers with excess inventory in response to a standing request for notification of produce available for purchase at three o'clock every business day.

> Much of the information upon which rules engine 254 operates is stored in database DBMS 256. DBMS 256 preferably includes user profiles database 257 and inventory database 258. Additional and/or different databases may be employed consistent with the objects of the present invention. Inventory database 258 may include information received from external commerce servers 260 and content input 215. User profiles database 257 preferably includes information associated with user preferences and purchasing patterns, shipping addresses,

payment information, and the like. Some of this information is preferably supplied by mobile subscriber 110 (FIG. 1) through user devices 210, and other information is gleaned from past user actions. It will be appreciated that user profiles database 257 can include any suitable information that may be useful in providing mobile subscriber 110 pertinent information regarding available purchasing options or otherwise.

Inventory database 258 preferably includes information regarding available merchandise, services, accommodations, or other items available for purchase. Preferably, inventory database 258 is updated frequently by external commerce systems 260, so that the information in inventory database 258 accurately reflects currently available purchasing opportunities. In at least one embodiment of the present invention, information in user profiles database 257 is compared against currently available purchasing opportunities stored in inventory database 258 using rules engine 254 to determine when, and what type of notification should be sent to particular mobile subscribers 110.

In addition to the information stored in database DBMS 256, rules engine 254 may use information from location services 259 to determine when a notification should be sent to a particular one of user devices 210. Location services 259 are responsible for location determination and searching functions. These functions include, but are not limited to, geocoding addresses, route plotting, dynamic positioning, geodetic database searches, and the like. Once a mobile subscriber's position has been determined, rules engine 254 can use the position information to identify purchasing opportunities that are geographically relevant to the mobile subscriber 110. Location services 259 can be used in conjunction with information from inventory database 258, external commerce systems 260 or content input 215 to ensure that only relevant information is delivered to mobile subscriber 110. For example, if a mobile subscriber 110 is on a business trip, and submits a request to find a tailor, the user probably has no use for the phone number of a tailor in his home city, rather, he is likely to be interested only in finding a tailor near his current location.

'285 Patent, 7:17-8:14.

47.   The primary reasoning of *DDR* was that the technology at issue was "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks," not "the performance of some business practice known from the pre-Internet

world along with the requirement to perform it on the Internet." *Id.* at 1257. That reasoning applies

equally to claim 1 of the '285 Patent. That claim overrides a routine sequence of events in that it

provides a novel method for returning information to a wireless device based on consumer interest

data from the wireless device and the location of the wireless device.

48.   Clearly, the scope of claim 1 of the '285 Patent is much narrower than the abstract

idea of communicating with a wireless device. The Federal Circuit's decision in *DDR* directly controls

the analysis under *Alice*'s second step. Under *DDR*, the challenged claims recite patentable subject

matter.

49.   For all these reasons, claim 1 of the '285 Patent recites patentable subject matter under

35 U.S.C. § 101.

Claim 1 Of The '364 Patent Recites A Concrete, Not Abstract Solution For Addressing Problems Specific To Wireless Devices And Networks.

50.   The apparatus of claim 1 is not an elemental and longstanding "building block[] of

human ingenuity" like the method at issue in Alice. Instead, it is a concrete solution for resolving

particular problems that first arose with the development of networks hosting wireless devices: how

to match location and consumer interest data with available inventory near the location. Claim 1

addresses these problems with a concrete solution in a novel and unobvious way: an "[a]pparatus,

comprising: a processor; computer memory holding computer program instructions to execute a rules

engine that correlates data identifying a location of a mobile communication device, consumer interest

data associated with one or more inventory attributes, and notification criteria that defines when a

notification is to be delivered to the mobile communications device and a type of such notification,

and to generate a message for delivery to the mobile communication device if at least one matching

rule in the rules engine is triggered and the notification criteria are met, the message identifying one

or more suppliers in the location with inventory that a user of the mobile communication device has

expressed an interest in as indicated by the consumer interest data; and computer memory holding computer program instructions executed by the processor to selectively deliver the message to the mobile communications device according to the notification criteria." '364 Patent, 12:8-28.

51.   Any attempt to characterize this solution as an "abstract idea" such as mere communication with an apparatus containing a processor and memory misses the specificity both of the problem and the claimed technical solution and would thereby violate Supreme Court precedent by neglecting to consider many important limitations of the claims. *Alice*, 134 S. Ct. at 2354.

52.   The '364 Patent does not threaten to inhibit innovation. Instead, it claims an apparatus for solving a problem that only arose with the advent of mobile wireless communication devices. Any such broad characterization of the '364 Patent as mere communication fails to recognize that the patent's invention does not apply to communication generally, but only to the particular problem of how to match location and consumer interest data with available inventory near the location. '364 Patent, 12:8-28. There was simply never a need to address the problem of matching location data for a mobile device along with consumer interest data with available inventory near the location, before the proliferation of mobile wireless devices.

53.   Not only is the problem the patent addressed specific and new, the patent's solution is also concrete, not abstract. There are numerous other ways to receive a query from a wireless device and to respond to the query. For example, a server could receive a text query from a wireless device and simply transmit to the wireless device the universal resource locators (URLs) returned from a conventional search. The patent does not claim those types of methods or any of the myriad of other communication methods.

54.   Claim 1 of the '364 Patent is directed to an improvement in communication protocol technology with a mobile, wireless device. The claimed invention contains many limitations that are not present in a simplistic example of mere communication with a wireless device. Such an abstract mischaracterization does not include computer program instructions "to execute a rules engine that correlates data identifying a location of a mobile communication device, consumer interest data associated with one or more inventory attributes, and notification criteria that defines when a notification is to be delivered to the mobile communications device and a type of such notification, and to generate a message for delivery to the mobile communication device if at least one matching rule in the rules engine is triggered and the notification criteria are met, the message identifying one or more suppliers in the location with inventory that a user of the mobile communication device has expressed an interest in as indicated by the consumer interest data; and computer memory holding computer program instructions executed by the processor to selectively deliver the message to the mobile communications device according to the notification criteria." '364 Patent, 12:8-28.

55.   FIG. 2 of the '364 Patent is reproduced below.
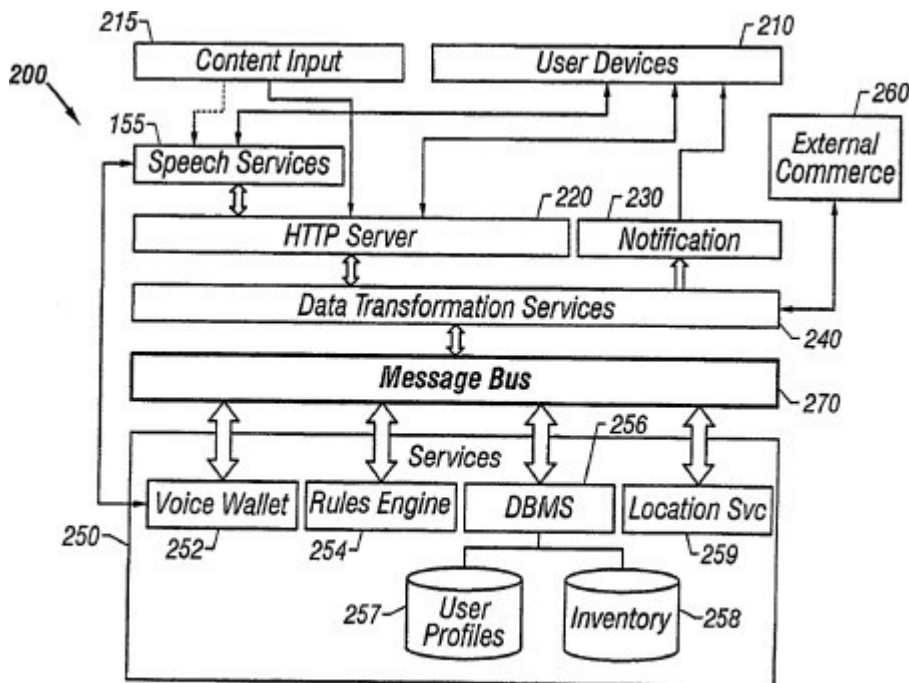
FIG. 2

56.   FIG. 2 illustrates one embodiment of a system within which a computer program

having the instructions of claim 1 of the '364 Patent may execute:

> In one example of how mixed-mode system 200 can be used, mobile
> subscriber 110 (FIG. 1) sends a voice request from user devices 210
> to HTTP server 220, via speech services 155. User devices 210
> preferably include mobile phones or other user devices capable of
> both voice and data communications. However, in at least one
> embodiment, one device is a voice capable device, for example an
> older cellular telephone, and another device is data only enabled,
> such as some PDAs. These two devices can be used in combination
> to implement a mixed-mode system capable of sending voice
> requests and receiving data replies, or sending data requests and
> receiving voice replies.
>
> Speech services 155 may include any suitable combination of
> hardware and software needed for speech recognition and/or
> translation. In one embodiment, speech services 155 is used to
> translate spoken requests into suitably formatted data for use by
> HTTP server 220. In other embodiments, speech services 155 is
> used to translate replies from HTTP server 220 into speech for
> delivery to a voice capable user device 210. Speech services 155 may
> also be used in conjunction with voice wallet 252, as subsequently

discussed.

Content received through content input 215 can be either voice content that is routed to HTTP server after translation by speech services 155, or data content delivered directly to HTTP server 220. The content can include recorded audio and/or visual content for display, various types of information to be stored in database DBMS 256, or any other suitable type of content that may provide value or aid in implementing the present invention.

HTTP server 220 employs services 250 to fulfill requests from user devices 210. HTTP server 220 accesses services 250 through data transformation service 240, which in turn uses message bus 270. Data transformation service 240 supplies application program interfaces (APIs) for creating extensible markup language (XML) documents, as well as converting between different XML document dialects that may be employed by external commerce systems 260, or other external systems and devices. Various suitable scripting languages may be employed to perform these functions consistent with the objects of the present invention.

External commerce systems 260 include Internet web sites and web pages, private systems maintained by companies for inventory, scheduling, transportation, or other similar systems. External commerce systems 260 may be utilized to allow mobile subscriber 110 (FIG. 1) to make purchases directly from merchants in control of external commerce systems 260. Alternatively, external commerce systems 260 may supply information for storage in database DBMS 256 or for use by other services 250. Message bus 270 is used to add publish/subscribe capabilities to mixed-mode system 200, in addition to providing greater interoperability with external systems, improved internal modularity within mixed-mode system 200, and enhanced scalability.

'364 Patent, 6:4-56.

57.   Claim 1 of the '364 Patent requires a program with particular instructions and addresses problems that arise in the realm of computer systems. For example, the problem of how to match location and consumer interest data with available inventory near the location ('364 Patent, 12:8-28) arises in the realm of computer systems.

58.   Because the claimed apparatus is concrete, not abstract, it does not threaten to "t[ie] up" a "building block[] of human ingenuity," which is the "concern that drives" the judicial carve-out of "abstract ideas" from § 101. *Alice*, 134 S. Ct. at 2354. Whereas allowing a patent to claim all use of a computer for an intermediated settlement would "inhibit human discovery" by barring the use of widely known, abstract concepts, claim 1 of the '364 Patent focuses on specific computer program instructions "to execute a rules engine that correlates data identifying a location of a mobile communication device, consumer interest data associated with one or more inventory attributes, and notification criteria that defines when a notification is to be delivered to the mobile communications device and a type of such notification, and to generate a message for delivery to the mobile communication device if at least one matching rule in the rules engine is triggered and the notification criteria are met, the message identifying one or more suppliers in the location with inventory that a user of the mobile communication device has expressed an interest in as indicated by the consumer interest data; and computer memory holding computer program instructions executed by the processor to selectively deliver the message to the mobile communications device according to the notification criteria." '364 Patent, 12:8-28. Further, that solution was novel and non-obvious; the prior art does not teach that solution. The '364 Patent's novel and non-obvious invention does not bar methods of data communication with wireless devices through something other than the specific instructions recited in claim 1. *See DDR*, 773 F.3d at 1259 (claims patentable in part because they "do not attempt to preempt every application of the idea of increasing sales by making two web pages look the same," but instead "recite a specific way" to achieve that outcome).

59.   For all these reasons, claim 1 of the '364 Patent is not directed to an abstract idea.

<u>Claim 1 Of The '364 Patent Recites Significantly More Than Any Abstract Idea Because It Uses Technology To Address A Problem Unique To A New Technological Area.</u>

60.   Even if claim 1 of the '364 Patent were somehow understood to claim an abstract idea, it would still be patentable under the second step in the *Alice* framework because it includes an "inventive concept." Under the Federal Circuit's decision in *DDR*, even claims based at some level on an abstract idea are patentable if they are "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." 773 F.3d at 1257. The '364 Patent falls squarely within this holding.

61.   Like the claims in *DDR*, claim 1 of the '364 Patent does not recite applying a known business process to a technological environment. Instead, it addresses problems specific to the new technology of mobile wireless devices and the problems of how to match location and consumer interest data with available inventory near the location. '364 Patent, 11:57-12:10. Claim 1 of the '364 Patent solves these problems with the specific computer instructions "to execute a rules engine that correlates data identifying a location of a mobile communication device, consumer interest data associated with one or more inventory attributes, and notification criteria that defines when a notification is to be delivered to the mobile communications device and a type of such notification, and to generate a message for delivery to the mobile communication device if at least one matching rule in the rules engine is triggered and the notification criteria are met, the message identifying one or more suppliers in the location with inventory that a user of the mobile communication device has expressed an interest in as indicated by the consumer interest data; and computer memory holding computer program instructions executed by the processor to selectively deliver the message to the mobile communications device according to the notification criteria." '364 Patent, 12:8-28.

62.   The Specification of the '364 Patent describes one embodiment for locating information pertinent to consumer interest data in a user's profile:

Another service, rules engine 254 works in conjunction with information stored in database DBMS 256, and information received from external commerce system 260 and content input 215. Rules engine 254 correlates consumer interests with inventory attributes such as price, location and quantity, and with dynamic attributes such as time and threshold. The rules engine may be considered to be dual sided, inasmuch as one side performs evaluations of the interest rules and the other side evaluates and executes notification rules. In a preferred embodiment, each rule contains two sets of information. The first set of information is a 1 to n list of conditions and their Boolean relationships. The second set of information is a 1 to n list of actions to be taken when particular rules are evaluated as true. A very basic example is a rule that specifies sending an SMS message listing local produce suppliers with excess inventory in response to a standing request for notification of produce available for purchase at three o'clock every business day.

Much of the information upon which rules engine 254 operates is stored in database DBMS 256. DBMS 256 preferably includes user profiles database 257 and inventory database 258. Additional and/or different databases may be employed consistent with the objects of the present invention. Inventory database 258 may include information received from external commerce servers 260 and content input 215. User profiles database 257 preferably includes information associated with user preferences and purchasing patterns, shipping addresses, payment information, and the like. Some of this information is preferably supplied by mobile subscriber 110 (FIG. 1) through user devices 210, and other information is gleaned from past user actions. It will be appreciated that user profiles database 257 can include any suitable information that may be useful in providing mobile subscriber 110 pertinent information regarding available purchasing options or otherwise.

Inventory database 258 preferably includes information regarding available merchandise, services, accommodations, or other items available for purchase. Preferably, inventory database 258 is updated frequently by external commerce systems 260, so that the information in inventory database 258 accurately reflects currently available purchasing opportunities. In at least one embodiment of the present invention, information in user profiles database 257 is compared against currently available purchasing opportunities stored in inventory database 258 using rules engine 254 to determine when, and what type of notification should be sent to particular mobile subscribers 110.

In addition to the information stored in database DBMS 256, rules engine 254 may use information from location services 259 to determine when a notification should be sent to a particular one of user devices 210. Location services 259 are responsible for location determination and searching functions. These functions include, but are not limited to, geocoding addresses, route plotting, dynamic positioning, geodetic database searches, and the like. Once a mobile subscriber's position has been determined, rules engine 254 can use the position information to identify purchasing opportunities that are geographically relevant to the mobile subscriber 110. Location services 259 can be used in conjunction with information from inventory database 258, external commerce systems 260 or content input 215 to ensure that only relevant information is delivered to mobile subscriber 110. For example, if a mobile subscriber 110 is on a business trip, and submits a request to find a tailor, the user probably has no use for the phone number of a tailor in his home city, rather, he is likely to be interested only in finding a tailor near his current location.

'364 Patent, 7:17-8:15.

63.   The primary reasoning of *DDR* was that the technology at issue was "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks," not "the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet." *Id.* at 1257. That reasoning applies equally to claim 1 of the '364 Patent. That claim overrides a routine sequence of events in that it provides a novel method for returning suppliers to a mobile wireless device having inventory matching consumer interest data from the wireless device and the location of the wireless device.

64.   Clearly, the scope of claim 1 of the '364 Patent is much narrower than the abstract idea of communicating with a wireless device. The Federal Circuit's decision in *DDR* directly controls the analysis under *Alice*'s second step. Under *DDR*, the challenged claims recite patentable subject matter.

65.   For all of these reasons, claim 1 of the '364 Patent recites patentable subject matter under 35 U.S.C. § 101.

Claim 5 Of The '107 Patent Recites A Concrete, Not Abstract Solution For Addressing Problems Specific To Wireless Devices And Networks.

66.   The apparatus of claim 5 is not an elemental and longstanding "building block[] of human ingenuity" like the method at issue in Alice. Instead, it is a concrete solution for resolving particular problems that first arose with the development of networks hosting wireless devices: how to match location and consumer interest data with available inventory near the location. Claim 5 addresses these problems with a concrete solution in a novel and unobvious way: an "[a]pparatus, comprising: a processor; computer memory holding computer program instructions to: receive first data indicating a permission to provide a mobile device user a notification, the notification having an associated notification criteria; at a given time, determine a location of a mobile device; based at least in part on a determined location of the mobile device and the notification criteria, to provide to the mobile device the notification, the notification being associated at the mobile device with one of: an audible, visual and tactile alert; receive second data as a result of an input being received at the mobile device following the notification; retrieve information associated with the input and the determined location of the mobile device; and provide to the mobile device a response to the input, the response based on the retrieved information; wherein the computer program instructions comprise a rules engine that comprises first and second components, a first component that evaluates the notification criteria, and a second component that executes notification rules. '107 Patent, 12:64-13:22.

67.   Any attempt to characterize this solution as an "abstract idea" such as mere communication with an apparatus containing a processor and memory misses the specificity both of

the problem and the claimed technical solution and would thereby violate Supreme Court precedent by neglecting to consider many important limitations of the claims. *Alice*, 134 S. Ct. at 2354.

68.   The '107 Patent does not threaten to inhibit innovation. Instead, it claims an apparatus for solving a problem that only arose with the advent of mobile wireless communication devices. Any such broad characterization of the '107 Patent as mere communication fails to recognize that the patent's invention does not apply to communication generally, but only to the particular problem of how to match location and consumer interest data with available inventory near the location. '107 Patent, 12:64-13:22. There was simply never a need to address the problem of matching location data for a mobile device along with consumer interest data with available inventory near the location, before the proliferation of mobile wireless devices.

69.   Not only is the problem the patent addressed specific and new, the patent's solution is also concrete, not abstract. There are numerous other ways to receive a query from a wireless device and to respond to the query. For example, a server could receive a text query from a wireless device and simply transmit to the wireless device the universal resource locators (URLs) returned from a conventional search. The patent does not claim those types of methods or any of the myriad of other communication methods.

70.   Claim 5 of the '107 Patent is directed to an improvement in communication protocol technology with a mobile, wireless device. The claimed invention contains many limitations that are not present in a simplistic example of mere communication with a wireless device. Such an abstract mischaracterization does not include computer program instructions "receive first data indicating a permission to provide a mobile device user a notification, the notification having an associated notification criteria; at a given time, determine a location of a mobile device; based at least in part on

a determined location of the mobile device and the notification criteria, to provide to the mobile device the notification, the notification being associated at the mobile device with one of: an audible, visual and tactile alert; receive second data as a result of an input being received at the mobile device following the notification; retrieve information associated with the input and the determined location of the mobile device; and provide to the mobile device a response to the input, the response based on the retrieved information; wherein the computer program instructions comprise a rules engine that comprises first and second components, a first component that evaluates the notification criteria, and a second component that executes notification rules." '107 Patent, 12:64-13:22.

71.   FIG. 2 of the '107 Patent is reproduced below.
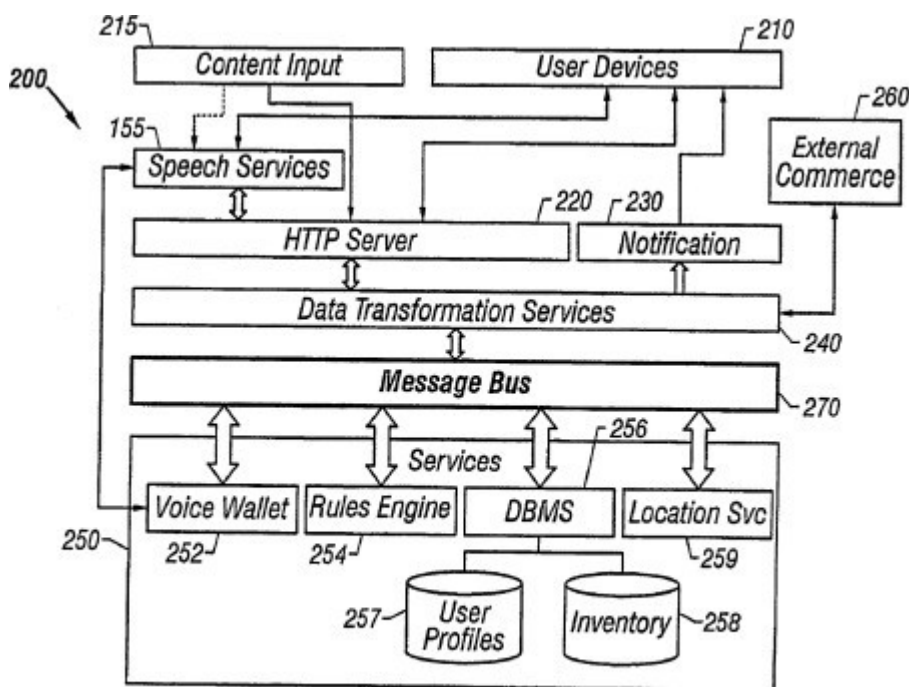
FIG. 2

72.   FIG. 2 illustrates one embodiment of a system within which a computer program having the instructions of claim 1 of the '107 Patent may execute:

> In one example of how mixed-mode system 200 can be used, mobile
> subscriber 110 (FIG. 1) sends a voice request from user devices 210
> to HTTP server 220, via speech services 155. User devices 210

preferably include mobile phones or other user devices capable of both voice and data communications. However, in at least one embodiment, one device is a voice capable device, for example an older cellular telephone, and another device is data only enabled, such as some PDAs. These two devices can be used in combination to implement a mixed-mode system capable of sending voice requests and receiving data replies, or sending data requests and receiving voice replies.

Speech services 155 may include any suitable combination of hardware and software needed for speech recognition and/or translation. In one embodiment, speech services 155 is used to translate spoken requests into suitably formatted data for use by HTTP server 220. In other embodiments, speech services 155 is used to translate replies from HTTP server 220 into speech for delivery to a voice capable user device 210. Speech services 155 may also be used in conjunction with voice wallet 252, as subsequently discussed.

Content received through content input 215 can be either voice content that is routed to HTTP server after translation by speech services 155, or data content delivered directly to HTTP server 220. The content can include recorded audio and/or visual content for display, various types of information to be stored in database DBMS 256, or any other suitable type of content that may provide value or aid in implementing the present invention.

HTTP server 220 employs services 250 to fulfill requests from user devices 210. HTTP server 220 accesses services 250 through data transformation service 240, which in turn uses message bus 270. Data transformation service 240 supplies application program interfaces (APIs) for creating extensible markup language (XML) documents, as well as converting between different XML document dialects that may be employed by external commerce systems 260, or other external systems and devices. Various suitable scripting languages may be employed to perform these functions consistent with the objects of the present invention.

External commerce systems 260 include Internet web sites and web pages, private systems maintained by companies for inventory, scheduling, transportation, or other similar systems. External commerce systems 260 may be utilized to allow mobile subscriber 110 (FIG. 1) to make purchases directly from merchants in control of external commerce systems 260. Alternatively, external commerce systems 260 may supply information for storage in database DBMS 256 or for use by other services 250. Message bus

AMENDED COMPLAINT FOR PATENT INFRINGEMENT   PAGE | 14

> 270 is used to add publish/subscribe capabilities to mixed-mode system 200, in addition to providing greater interoperability with external systems, improved internal modularity within mixed-mode system 200, and enhanced scalability.

'107 Patent, 6:16-7:2.

73.   Claim 5 of the '107 Patent requires a program with particular instructions and addresses problems that arise in the realm of computer systems. For example, the problem of how to match location and consumer interest data with available inventory near the location ('107 Patent, 12:64-13:22) arises in the realm of computer systems.

74.   Because the claimed apparatus is concrete, not abstract, it does not threaten to "t[ie] up" a "building block[] of human ingenuity," which is the "concern that drives" the judicial carve-out of "abstract ideas" from § 101. *Alice*, 134 S. Ct. at 2354. Whereas allowing a patent to claim all use of a computer for an intermediated settlement would "inhibit human discovery" by barring the use of widely known, abstract concepts, claim 5 of the '107 Patent focuses on specific computer program instructions "receive first data indicating a permission to provide a mobile device user a notification, the notification having an associated notification criteria; at a given time, determine a location of a mobile device; based at least in part on a determined location of the mobile device and the notification criteria, to provide to the mobile device the notification, the notification being associated at the mobile device with one of: an audible, visual and tactile alert; receive second data as a result of an input being received at the mobile device following the notification; retrieve information associated with the input and the determined location of the mobile device; and provide to the mobile device a response to the input, the response based on the retrieved information; wherein the computer program instructions comprise a rules engine that comprises first and second components, a first component that evaluates the notification criteria, and a second component that executes notification rules." '107 Patent, 12:64-13:22. Further, that solution was novel and non-obvious; the prior art does not teach that solution. The

'107 Patent's novel and non-obvious invention does not bar methods of data communication with wireless devices through something other than the specific instructions recited in claim 1. *See DDR*, 773 F.3d at 1259 (claims patentable in part because they "do not attempt to preempt every application of the idea of increasing sales by making two web pages look the same," but instead "recite a specific way" to achieve that outcome).

75.   For all these reasons, claim 1 of the '364 Patent is not directed to an abstract idea.

Claim 1 Of The '107 Patent Recites Significantly More Than Any Abstract Idea Because It Uses Technology To Address A Problem Unique To A New Technological Area.

76.   Even if claim 5 of the '107 Patent were somehow understood to claim an abstract idea, it would still be patentable under the second step in the *Alice* framework because it includes an "inventive concept." Under the Federal Circuit's decision in *DDR*, even claims based at some level on an abstract idea are patentable if they are "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." 773 F.3d at 1257. The '364 Patent falls squarely within this holding.

77.   Like the claims in *DDR*, claim 5 of the '107 Patent does not recite applying a known business process to a technological environment. Instead, it addresses problems specific to the new technology of mobile wireless devices and the problems of how to match location and consumer interest data with available inventory near the location. '107 Patent, 12:14-30. Claim 5 of the '107 Patent solves these problems with the specific computer instructions "receive first data indicating a permission to provide a mobile device user a notification, the notification having an associated notification criteria; at a given time, determine a location of a mobile device; based at least in part on a determined location of the mobile device and the notification criteria, to provide to the mobile device the notification, the notification being associated at the mobile device with one of: an audible, visual and tactile alert; receive second data as a result of an input being received at the mobile device

following the notification; retrieve information associated with the input and the determined location

of the mobile device; and provide to the mobile device a response to the input, the response based on

the retrieved information; wherein the computer program instructions comprise a rules engine that

comprises first and second components, a first component that evaluates the notification criteria, and

a second component that executes notification rules." '107 Patent, 12:64-13:22.

78.   The Specification of the '107 Patent describes one embodiment for locating

information pertinent to consumer interest data in a user's profile:

> Another service, rules engine 254 works in conjunction with information stored in database DBMS 256, and information received from external commerce system 260 and content input 215. Rules engine 254 correlates consumer interests with inventory attributes such as price, location and quantity, and with dynamic attributes such as time and threshold. The rules engine may be considered to be dual sided, inasmuch as one side performs evaluations of the interest rules and the other side evaluates and executes notification rules. In a preferred embodiment, each rule contains two sets of information. The first set of information is a 1 to n list of conditions and their Boolean relationships. The second set of information is a 1 to n list of actions to be taken when particular rules are evaluated as true. A very basic example is a rule that specifies sending an SMS message listing local produce suppliers with excess inventory in response to a standing request for notification of produce available for purchase at three o'clock every business day.
>
> Much of the information upon which rules engine 254 operates is stored in database DBMS 256. DBMS 256 preferably includes user profiles database 257 and inventory database 258. Additional and/or different databases may be employed consistent with the objects of the present invention. Inventory database 258 may include information received from external commerce servers 260 and content input 215. User profiles database 257 preferably includes information associated with user preferences and purchasing patterns, shipping addresses, payment information, and the like. Some of this information is preferably supplied by mobile subscriber 110 (FIG. 1) through user devices 210, and other information is gleaned from past user actions. It will be appreciated that user profiles database 257 can include any suitable information that may be useful in providing mobile subscriber 110 pertinent information regarding available purchasing options or otherwise.

Inventory database 258 preferably includes information regarding available merchandise, services, accommodations, or other items available for purchase. Preferably, inventory database 258 is updated frequently by external commerce systems 260, so that the information in inventory database 258 accurately reflects currently available purchasing opportunities. In at least one embodiment of the present invention, information in user profiles database 257 is compared against currently available purchasing opportunities stored in inventory database 258 using rules engine 254 to determine when, and what type of notification should be sent to particular mobile subscribers 110.

In addition to the information stored in database DBMS 256, rules engine 254 may use information from location services 259 to determine when a notification should be sent to a particular one of user devices 210. Location services 259 are responsible for location determination and searching functions. These functions include, but are not limited to, geocoding addresses, route plotting, dynamic positioning, geodetic database searches, and the like. Once a mobile subscriber's position has been determined, rules engine 254 can use the position information to identify purchasing opportunities that are geographically relevant to the mobile subscriber 110. Location services 259 can be used in conjunction with information from inventory database 258, external commerce systems 260 or content input 215 to ensure that only relevant information is delivered to mobile subscriber 110. For example, if a mobile subscriber 110 is on a business trip, and submits a request to find a tailor, the user probably has no use for the phone number of a tailor in his home city, rather, he is likely to be interested only in finding a tailor near his current location.

'107 Patent, 7:31-8:32.

79.   The primary reasoning of *DDR* was that the technology at issue was "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks," not "the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet." *Id.* at 1257. That reasoning applies equally to claim 1 of the '107 Patent. That claim overrides a routine sequence of events in that it

provides a novel method for returning suppliers to a mobile wireless device having inventory matching consumer interest data from the wireless device and the location of the wireless device.

80.   Clearly, the scope of claim 1 of the '107 Patent is much narrower than the abstract idea of communicating with a wireless device. The Federal Circuit's decision in *DDR* directly controls the analysis under *Alice*'s second step. Under *DDR*, the challenged claims recite patentable subject matter.
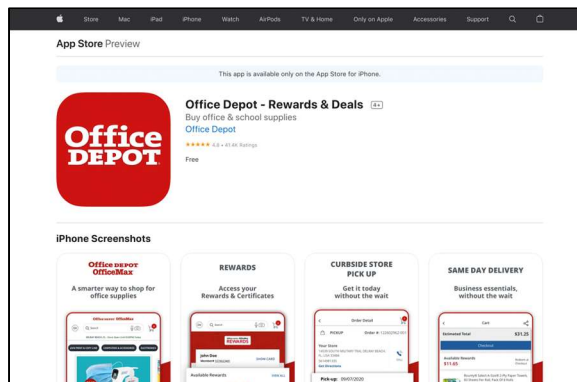
81.   For all of these reasons, claim 5 of the '107 Patent recites patentable subject matter under 35 U.S.C. § 101.

OVERVIEW OF THE OFFICE DEPOT APP

82.   Defendant provides for its customers' use the Office Depot App, which is available for use with iOS and Android devices:

https://www.officedepot.com/
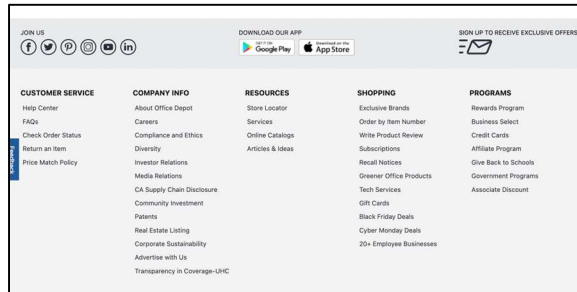
https://apps.apple.com/us/app/office-depot/id382457983?cm_sp=FooterLinks-_-MobileApp-_-AppleIOS
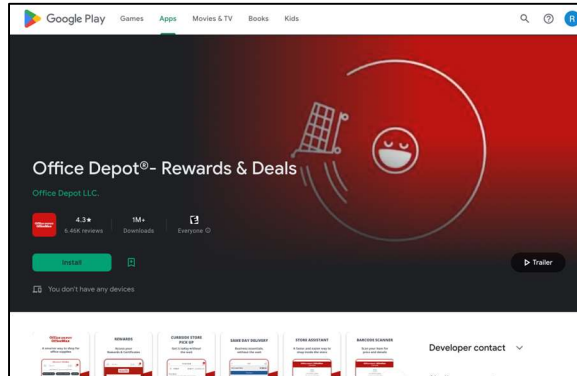
https://play.google.com/store/apps/details?id=com.officedepot.mobile.ui&feature=search_result &cm_sp=FooterLinks-_-MobileApp-_-Android

83.   To enable use of the enhanced features of the Office Depot App, a Office Depot server asks for permission to access the mobile device's location to determine the location of the user's device (e.g., upon receiving GPS coordinates from the mobile device) and will identify the closest Office Depot to the mobile device:
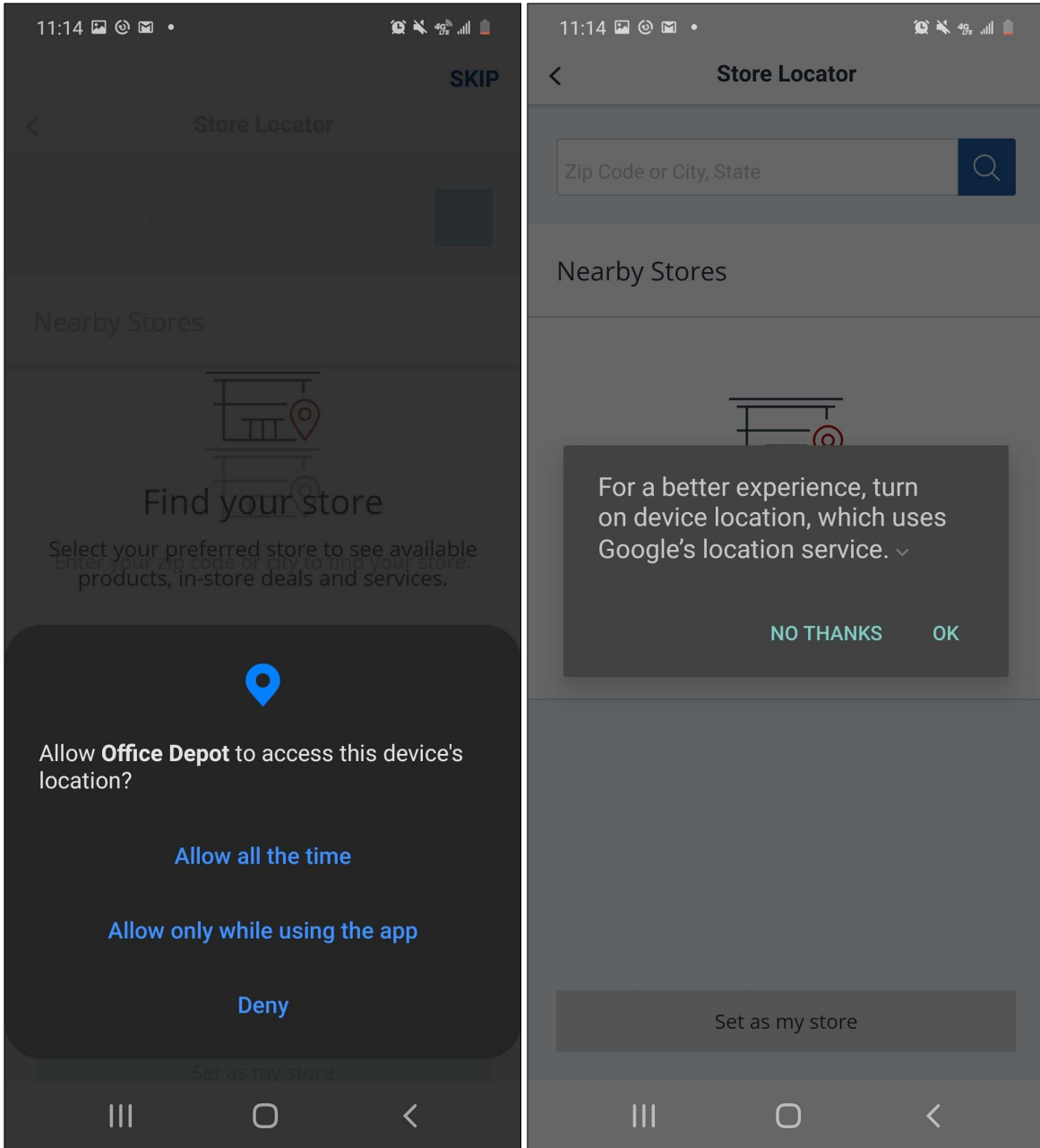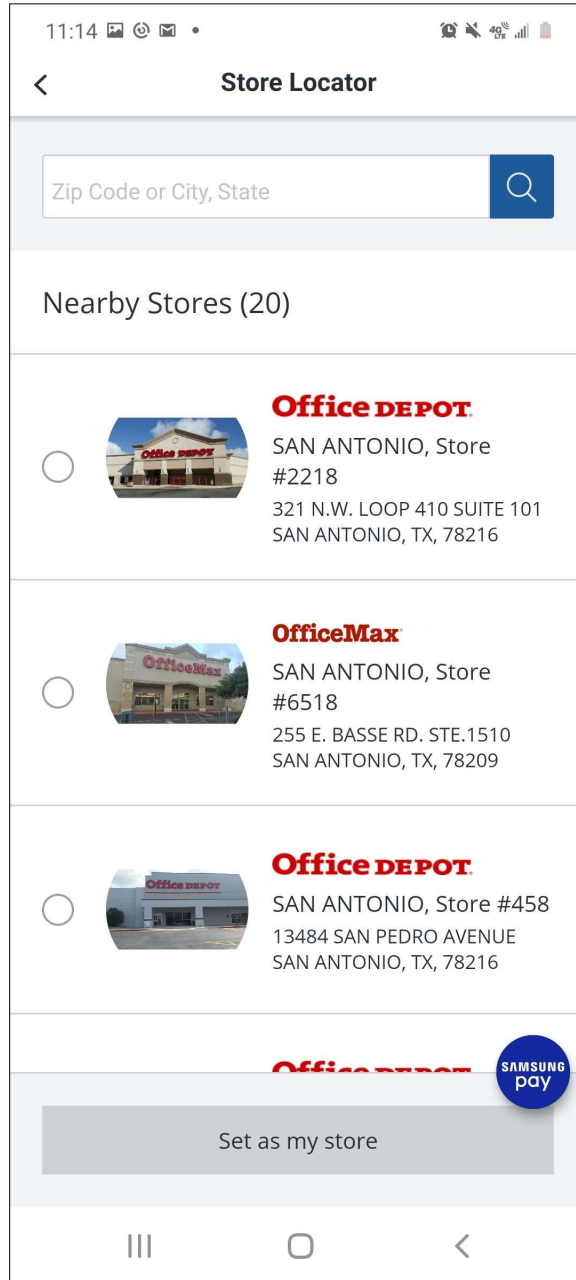
(Screenshots from Office Depot mobile application)

84.   When a user of the Office Depot App on an Android smartphone searches for a particular location using their voice, Office Depot receives spoken input from a wireless communication device.
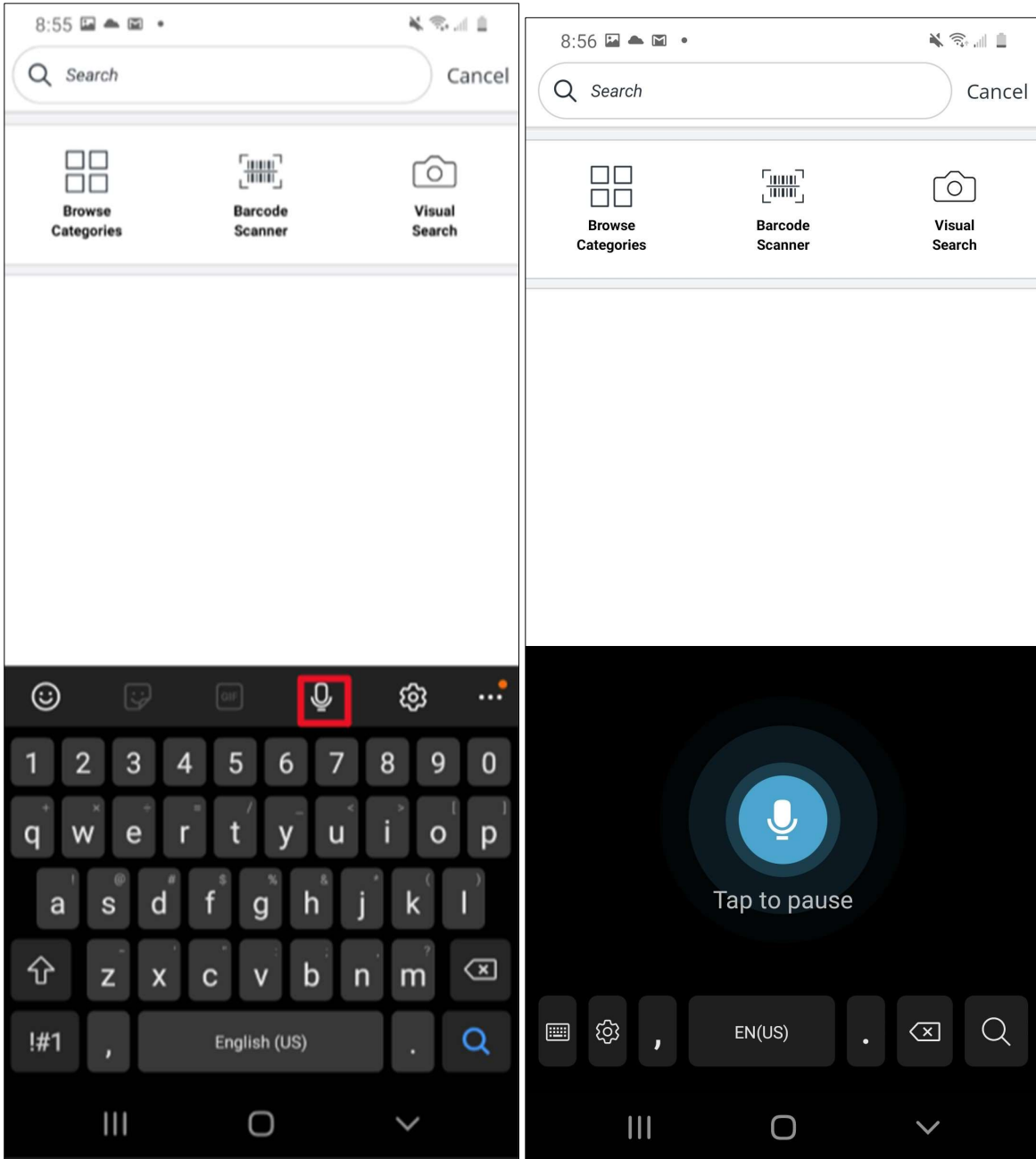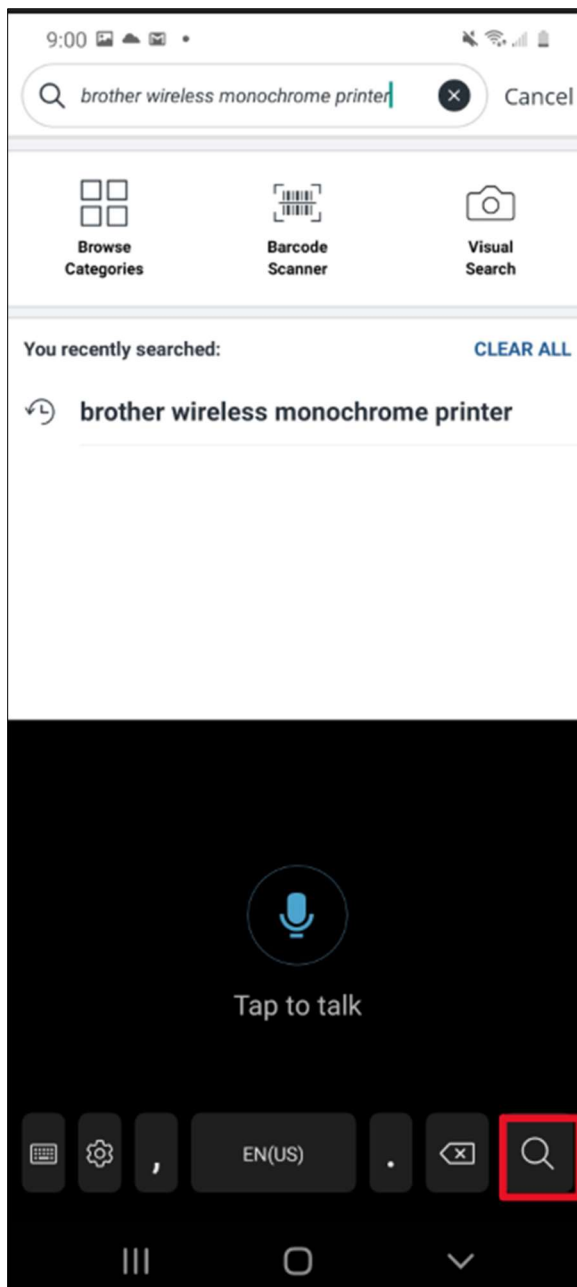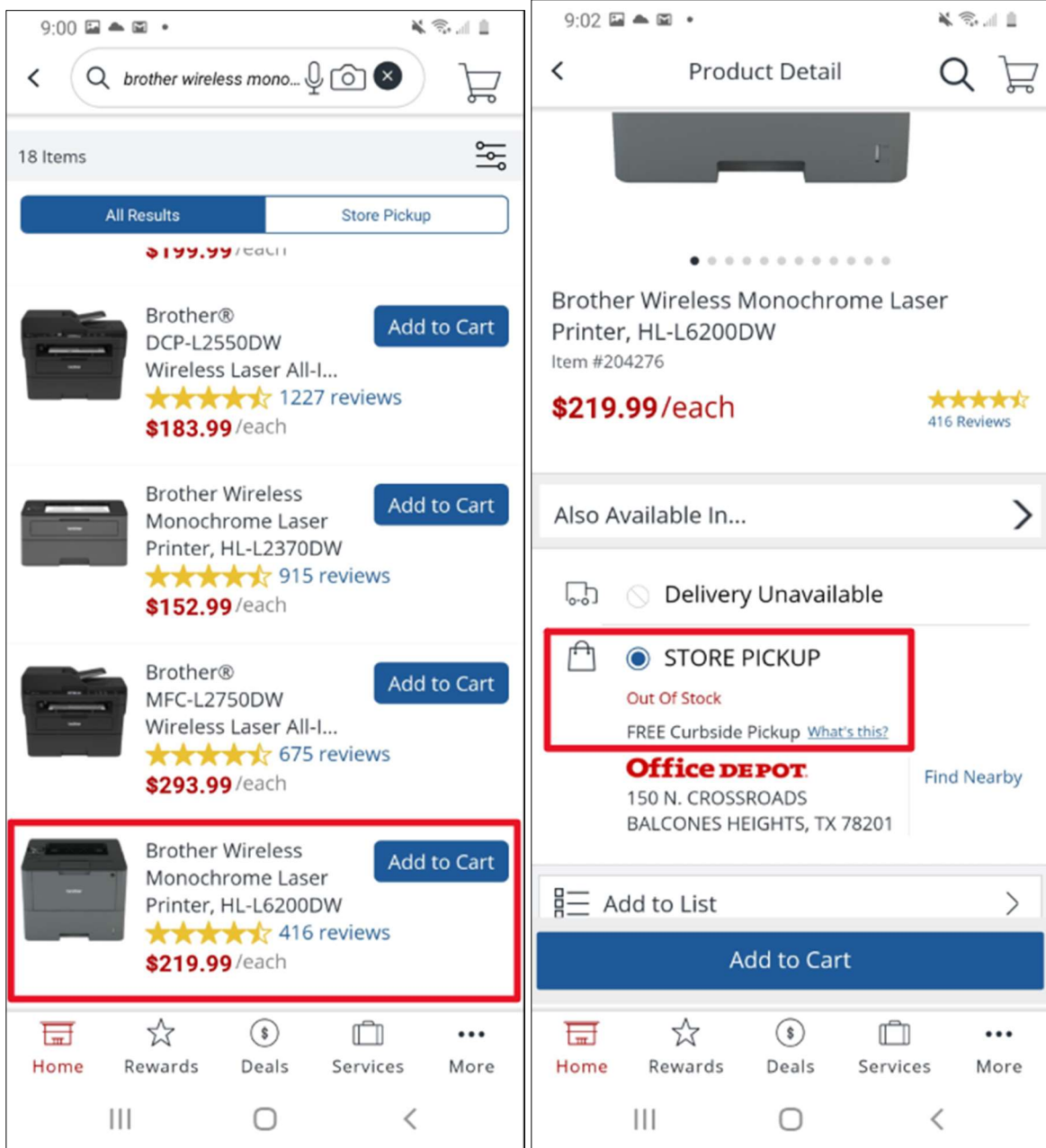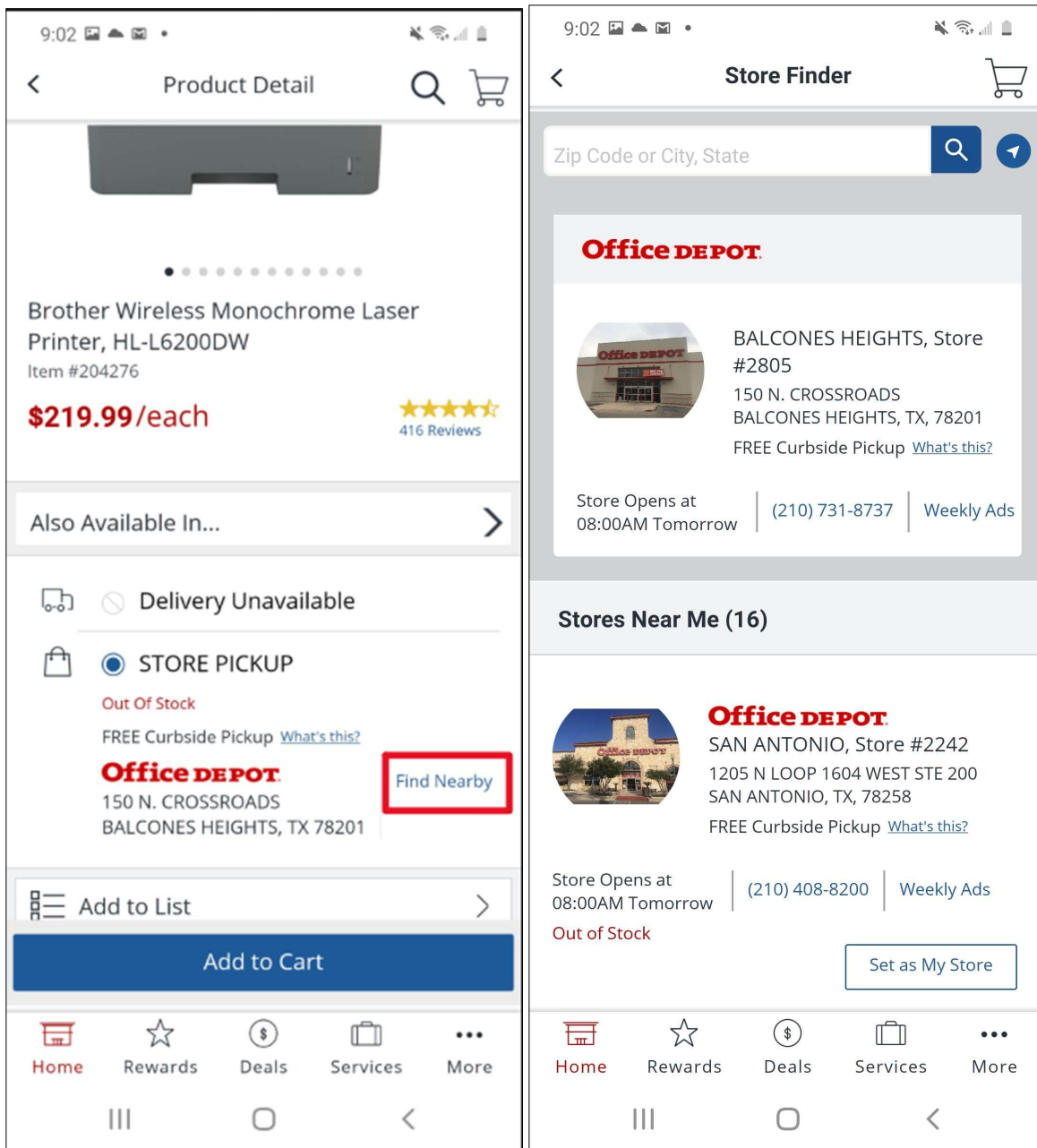
(Screenshots from the Office Depot mobile application showing the process of using spoken input within the app)

85.   An Office Depot notification server delivers a non-verbal response to the spoken input (product page), including a drill down menu in the form of a "Find Nearby" link.
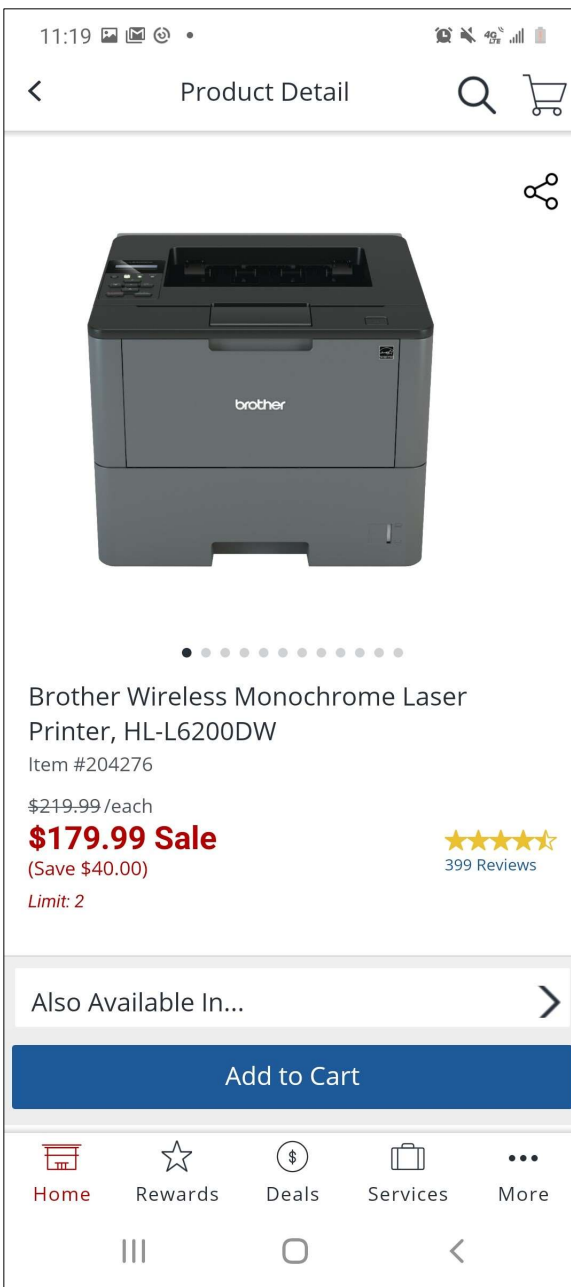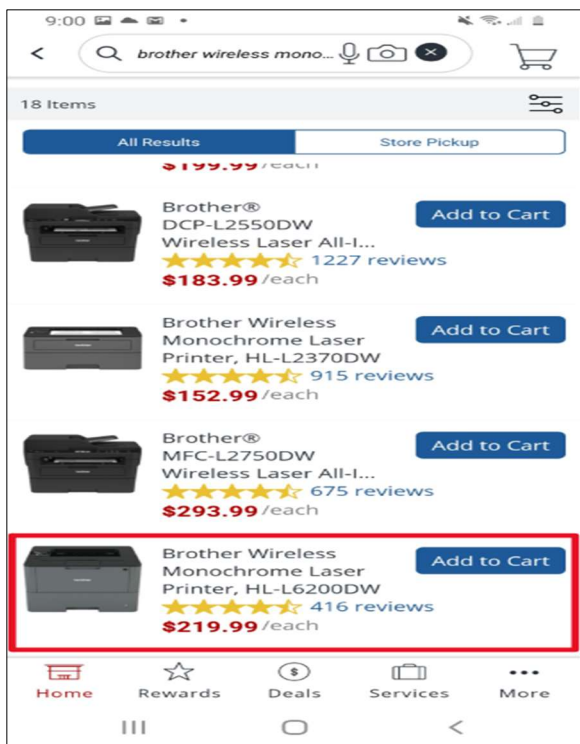
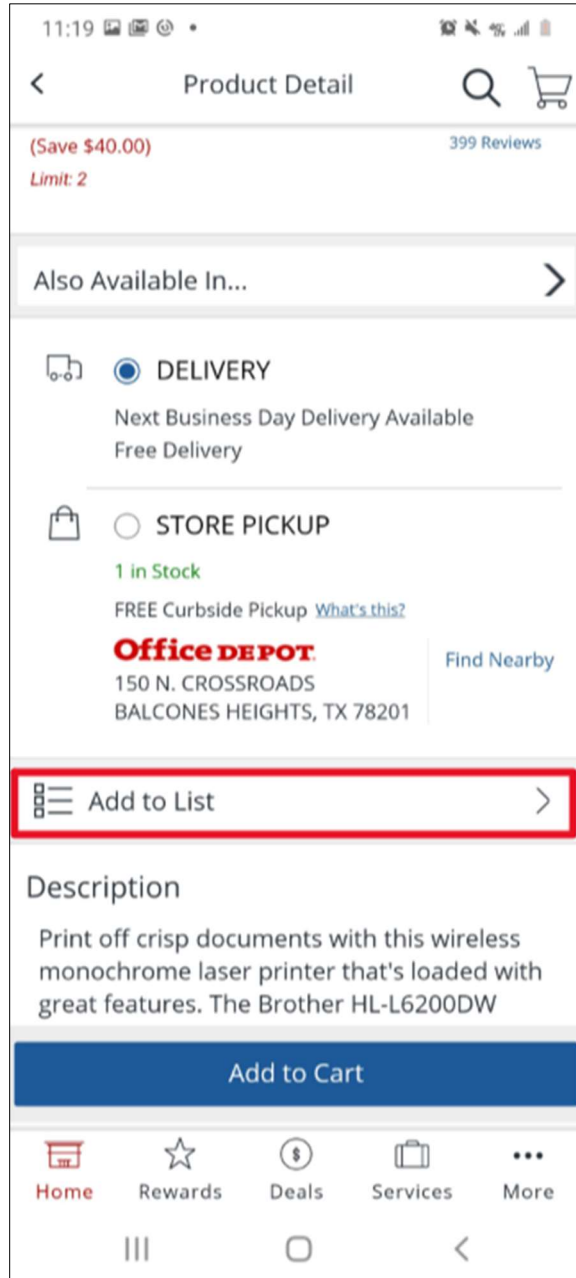(Screenshot from Office Depot mobile application)

86.   An Office Depot server provides additional information related to the retrieved information (store information) in response to receipt of at least one additional input provided via the drill-down menu.

(Screenshot from Office Depot mobile application)

87.   Office Depot receives and stores consumer interest data (e.g., specific Office Depot locations can be favorites and are saved in the user's profile).
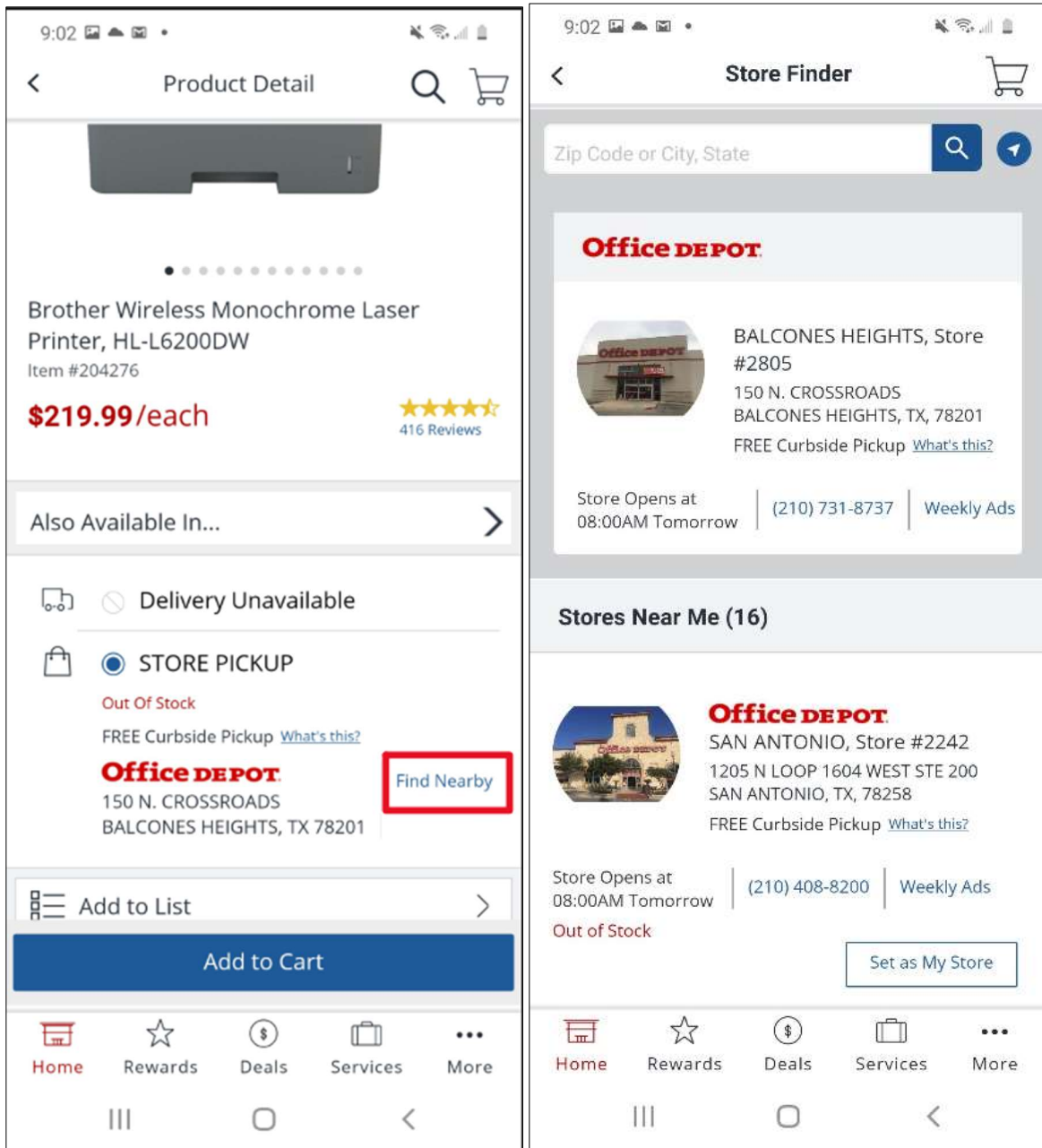
(Screenshot from Office Depot mobile application)

The Best Buy Android app lets you quickly and easily shop for thousands of high quality electronics and accessories, and get those products shipped promptly to your home or to a store near you for convenient pick-up. Locate any of our 1,400+ stores using the app. When in a store, use your phone's camera to scan bar codes to get more info about products. It's easy to use the app to check order status and view past purchases, create a wish list or wedding registry, and stay up on the weekly and daily deals on a wide variety of electronics and accessories. Looking to upgrade or trade in older electronics? Find trade-in values for your old electronics using the app!

https://play.google.com/store/apps/details?id=com.bestbuy.android

88.   Office Depot receives results from the search (store information, whether or not products are in stock, etc.) and delivers that information to the mobile device.
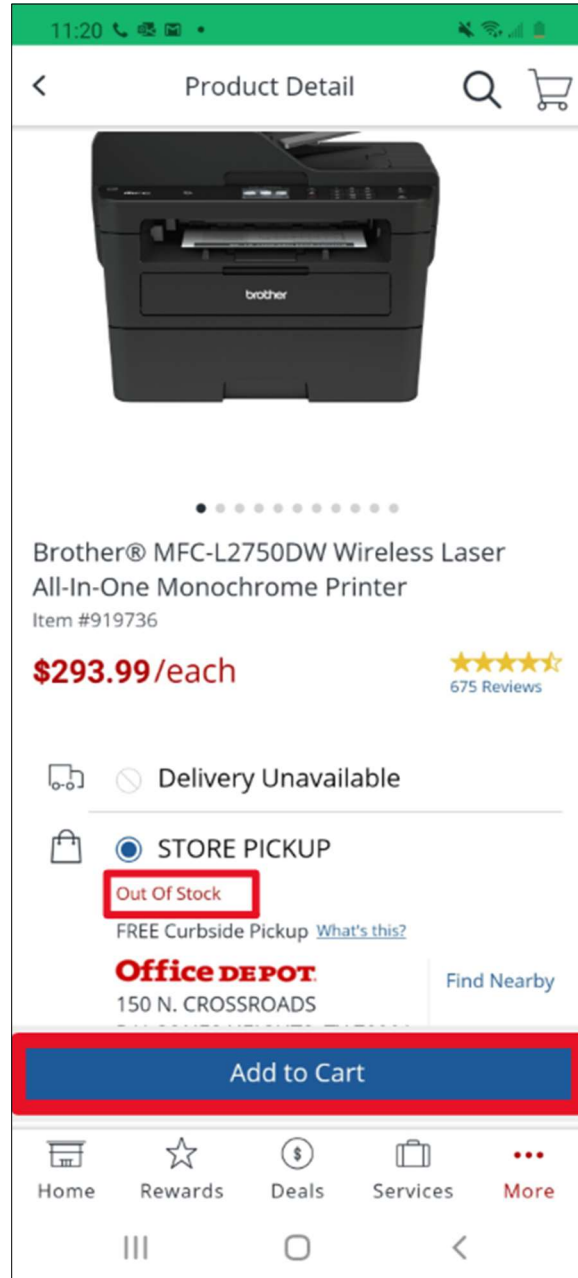
(Screenshot from Office Depot mobile application)

89.   The Office Depot app includes notification criteria that define when notifications are to be delivered to the mobile communications device and a type of notification (at least push vs in-app notifications).
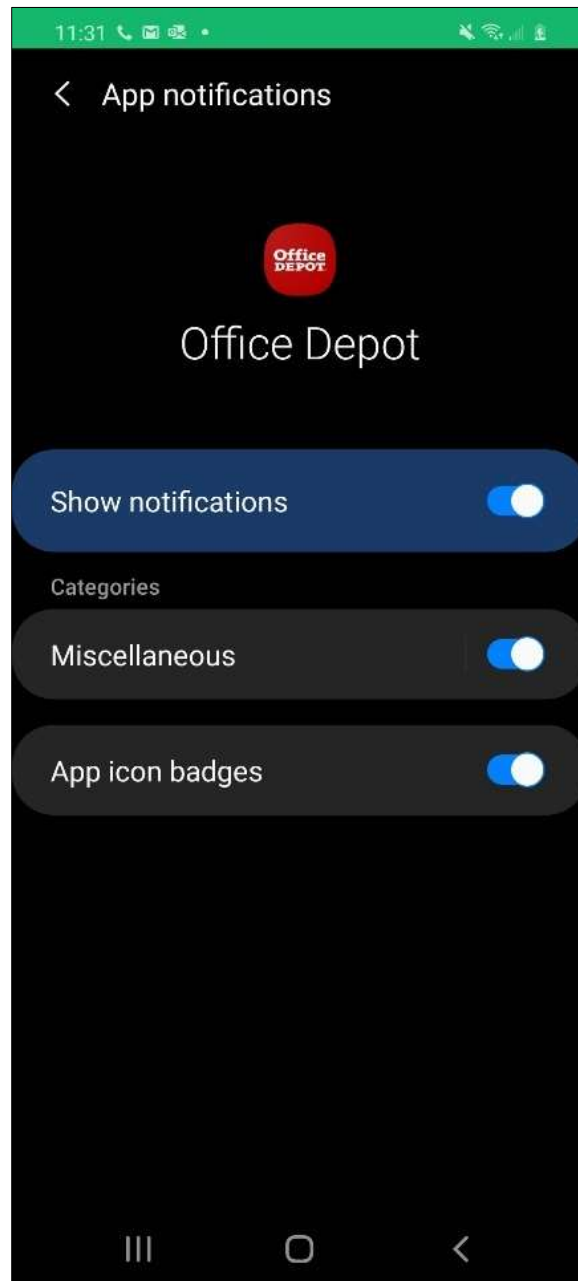
(Screenshot from Office Depot mobile application)

90.   The Office Depot app generates messages for delivery to the mobile communication device if at least one matching rule in the rules engine is triggered (i.e. message indicating an item is not available for in-store pick up at a particular store but is available at another nearby location).

(Screenshot from Office Depot mobile application)

COUNT I
(Infringement of U.S. Patent No. 7,706,819)

91.   Aeritas incorporates the above paragraphs as though fully set forth herein.

92.   Plaintiff is the owner, by assignment, of U.S. Patent No. 7,706,819 (the "'819 Patent"), entitled MIXED-MODE INTERACTION, which issued on April 27, 2010.

93.   The '819 Patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

94.   Defendant has been and is now infringing one or more claims of the '819 Patent under 35 U.S.C. § 271 by making and using the Office Depot App with users' iOS and Android devices and the Office Depot server in the United States without authority.

95.   Defendant, Office Depot, has also infringed the '819 Patent by encouraging users of the Office Depot App to use the user's iOS or Android devices with the Office Depot App to practice the claims of the '819 Patent.

96.   Claim 1 recites:

1.   A method comprising:

receiving spoken input from a wireless communication device;

obtaining data identifying a current location of the wireless communication device;

based on the current location of the wireless communication device and the spoken input, retrieving information;

delivering, to the wireless communication device by a notification server, a non-verbal response to the spoken input, the non-verbal response

based on the retrieved information and including a drill-down menu

by which additional information related to the retrieved information

can be obtained; and

providing additional information related to the retrieved information in

response to receipt of at least one additional input provided via the

drill-down menu.

97.   More particularly, Defendant infringes at least claim 1 of the '819 Patent. Defendant receives spoken input from a wireless communication device (e.g., when a user searches for a location or specific store using voice input). Defendant obtains data identifying the current location of the mobile device (e.g., as evidenced by permissions required to access the device's location and subsequent provision of location-based information and the location of the device on a search result map). Based on the location and the spoken input, Defendant retrieves information (e.g., the nearby availability of stores subject to the voice search). Defendant delivers to the wireless device by a notification server, a non-verbal response to the spoken input, the non-verbal response based on the retrieved information and including a drill-down menu by which additional information related to the retrieved information can be obtained (e.g., the nearby stores subject to the voice search, distance to mobile device). Defendant provides additional information related to the retrieved information in response to receipt of at least one additional input provided via the drill-down menu (e.g., distance and other information about nearby stores in response to selection of the "Change Store" link).

98.   Aeritas has been damaged by Defendant's infringing activities.

COUNT II
(Infringement of U.S. Patent No. 8,055,285)

99.   Aeritas incorporates the above paragraphs as though fully set forth herein.

100.   Plaintiff is the owner, by assignment, of U.S. Patent No. 8,055,285 (the "'285 Patent"), entitled MIXED-MODE INTERACTION, which issued on November 8, 2011.

101.   The '285 Patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

102.   Defendant has been and is now infringing one or more claims of the '285 Patent under 35 U.S.C. § 271 by making and using the Office Depot App with users' iOS and Android devices and the Office Depot server in the United States without authority.

103.   Defendant, Office Depot, has also infringed the '285 Patent by encouraging users of the Office Depot App to use the user's iOS or Android devices with the Office Depot App to practice the claims of the '285 Patent. Defendant has notice of the '285 Patent at least as of the date of service of this complaint.

104.   Claim 1 recites:

1.   A method, comprising:

at a first time, receiving and storing an input in a user profile in a database, the input comprising consumer interest data;

at a second time distinct from the first time, obtaining data identifying a current location of the mobile communication device;

based on the input stored in the user profile and the current location of the mobile communication device, initiating a search to locate information pertinent to the input;

receiving results derived from the search; and

in response to the input and the search, delivering, by a notification server, information to the mobile communications device.

105.   More particularly, Defendant infringes at least claim 1 of the '285 Patent. Defendant receives and stores an input in a user profile in a database, the input comprising consumer interest data. At a second time, data identifying a current location of the mobile communications device on which the Accused Instrumentality is installed is obtained. Based on the input and location, Defendant performs a search to locate pertinent information (e.g., nearby stores) and receive the results of such search, distance from mobile device. Defendant then provides the information to the mobile communications device.

106.   Aeritas has been damaged by Defendant's infringing activities.

COUNT III
(INFRINGMENT OF U.S. PATENT NO. 8,620,364)

107.   Aeritas incorporates the above paragraphs as though fully set forth herein.

108.   Plaintiff is the owner, by assignment, of U.S. Patent No. 8,620,364 (the "'364 Patent"), entitled MIXED-MODE INTERACTION, which issued on December 31, 2013.

109.   The '364 Patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

110.   Defendant has been and is now infringing one or more claims of the '364 Patent under 35 U.S.C. § 271 by making and using the Office Depot App with users' iOS and Android devices and the servers in the United States without authority.

111.   Defendant has also infringed the '364 Patent by encouraging users of the Office Depot App to use the user's iOS or Android devices with the Office Depot App to practice the

claims of the '364 Patent. Defendant has notice of the '364 Patent at least as of the date of service of this complaint.

112.   Claim 1 recites:

1.   Apparatus, comprising:

a processor;

computer memory holding computer program instructions to:

execute a rules engine that correlates data identifying a location of a mobile communication device, consumer interest data associated with one or more inventory attributes, and notification criteria that defines when a notification is to be delivered to the mobile communications device and a type of such notification, and to generate a message for delivery to the mobile communication device if at least one matching rule in the rules engine is triggered and the notification criteria are met, the message identifying one or more suppliers in the location with inventory that a user of the mobile communication device has expressed an interest in as indicated by the consumer interest data; and

computer memory holding computer program instructions executed by the processor to selectively deliver the message to the mobile communications device according to the notification criteria.

113.   More particularly, Defendant infringes at least claim 1 of the '364 Patent. On information and belief, Defendant employs a processor and computer memory holding computer program instructions to perform the functions described herein. Defendant receives information

indicating that the user has provided permission to provide notifications to the user. Defendant asks for permission to obtain the user's location and obtains the user's location if permission is granted. When location access is granted, the Defendant obtains the user's location. Defendant stores consumer interest items such as items in a shopping cart. Defendant stores data associated with available inventory, such as whether an item is in stock at a store, etc. Defendant stores notification criteria to define when notifications are to be delivered to the user including the type of notification. Defendant utilizes a rules engine to evaluate when notification criteria are met. If the notification criteria are met, Defendant generates a message to be delivered to the user. The message alerts the user that the item is in stock at nearby locations.

114.   Aeritas has been damaged by Defendant's infringing activities.

COUNT IV
(INFRINGMENT OF U.S. PATENT No. 9,888,107)

115.   Aeritas incorporates the above paragraphs as though fully set forth herein.

116.   Plaintiff is the owner, by assignment, of U.S. Patent No. 9,888,107 (the "'107 Patent"), entitled MIXED-MODE INTERACTION, which issued on February 6, 2018.

117.   The '107 Patent is valid, enforceable, and was duly issued in full compliance with

118.   Title 35 of the United States Code.

119.   Defendant has been and is now infringing one or more claims of the '107 Patent under 35 U.S.C. § 271 by making and using the Office Depot App with users' iOS and Android devices and the Office Depot servers in the United States without authority.

120.   Defendant has also infringed the '107 Patent by encouraging users of the Office Depot App to use the user's iOS or Android devices with the Office Depot App to practice the claims of the '107 Patent.

121.   Claim 5 recites:

5.   Apparatus, comprising:

a processor;

computer memory holding computer program instructions to receive first

data indicating a permission to provide a mobile device user a

notification, the notification having an associated notification

criteria;

at a given time, determine a location of a mobile device;

based at least in part on a determined location of the mobile device and the

notification criteria, to provide to the mobile device the notification,

the notification being associated at the mobile device with one of:

an audible, visual and tactile alert;

receive second data as a result of an input being received at the mobile

device following the notification;

retrieve information associated with the input and the determined location

of the mobile device; and

provide to the mobile device a response to the input, the response based on

the retrieved information; wherein the computer program

instructions comprise a rules engine that comprises first and second

components, a first component that evaluates the notification

criteria, and a second component that executes notifications rules.

122.   More particularly, Defendant infringes at least claim 5 of the '107 Patent. On

information and belief, Defendant employs a processor with computer memory that holds

computer program instructions to perform the functions described above. Defendant receives data indicating permission to provide a notification to a mobile device user in accordance with notification criteria. Defendant asks for permission to obtain the user's location and obtains the user's location if permission is granted. Based on the location and notification criteria, Defendant provides at least a visual alert notification. Defendant receives second data as a result of an input being received at the mobile device, retrieves information associated with the input and location, and provides responsive information to the mobile device (e.g., order prices based on store location). Upon user selecting a different store, Defendant receives a visual notification informing the user of different pricing and availability. This notification is evidence of a rules engine that evaluates notification criteria and sends only those notifications that conform to a rule set.

123.   Aeritas has been damaged by Defendant's infringing activities.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff respectfully requests the Court enter judgment against Defendant:

1.   declaring that the Defendant has infringed the '819, '285, '364 and the '107 Patents;

2.   awarding Plaintiff its damages suffered as a result of Defendant's infringement of the '819, '285, '364 and the '107 Patents;

3.   awarding Plaintiff its costs, attorneys' fees, expenses, and interest; and

4.   granting Plaintiff such further relief as the Court finds appropriate.

JURY DEMAND

Plaintiff demands trial by jury, Under Fed. R. Civ. P. 38.

Dated: November 7, 2022   Respectfully submitted,

/s/ Raymond W. Mort, III
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AERITAS, LLC**