

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

IPA TECHNOLOGIES INC.,

Plaintiff,

v.

LENOVO GROUP, LTD.; LENOVO  
(UNITED STATES) INC.; LENOVO  
HOLDING COMPANY, INC.;  
MOTOROLA MOBILITY LCC; and  
MOTOROLA MOBILITY HOLDINGS,  
LLC,

Defendants.

C.A. No. 17- 235-RGA

**JURY TRIAL DEMANDED**

**FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff IPA Technologies Inc. (“IPA”) as and for its first amended complaint against Lenovo Group, Ltd., Lenovo (United States) Inc., Lenovo Holding Company, Inc., Motorola Mobility LLC, and Motorola Mobility Holdings, LLC, (collectively, “Lenovo” or “Defendants”) alleges as follows:

**PARTIES**

1. IPA is a Delaware corporation with a principal place of business at 600 Anton Blvd., Suite 1350, Costa Mesa, California 92626.
2. On information and belief, Defendant Lenovo Group, Ltd. is incorporated under the laws of China with its principal place of business at No. 6 Chuang Ye Road, Haidian District, Beijing, China 100085. Upon information and belief, Lenovo Group, Ltd. owns and controls, directly and/or indirectly, Lenovo (United States) Inc., Lenovo Holding Company, Inc., Motorola Mobility LLC, and Motorola Mobility Holdings, LLC. Lenovo Group, Ltd. can be served with process pursuant to the Delaware Long Arm Statute, 10 *Del. C.* § 3104.

3. On information and belief, Defendant Lenovo (United States) Inc. is a Delaware corporation with its principal place of business at 1009 Think Place, Morrisville, North Carolina 27560. Lenovo (United States) Inc. can be served with process pursuant to the Delaware Long Arm Statute, 10 *Del. C.* § 3104.

4. On information and belief, Defendant Lenovo Holding Company, Inc. is a Delaware corporation with its principal place of business at 1009 Think Place, Morrisville, North Carolina 27560. Lenovo Holding Company, Inc. can be served with process pursuant to the Delaware Long Arm Statute, 10 *Del. C.* § 3104.

5. On information and belief, Defendant Motorola Mobility LLC is a Delaware corporation with its principal place of business at 222 Merchandise Mart Plaza, Suite 1800, Chicago, IL 60654. Motorola Mobility LLC can be served with process pursuant to the Delaware Long Arm Statute, 10 *Del. C.* § 3104.

6. On information and belief, Defendant Motorola Mobility Holdings LLC is a Delaware corporation with its principal place of business at 222 Merchandise Mart Plaza, Suite 1800, Chicago, IL 60654. Motorola Mobility Holdings LLC can be served with process pursuant to the Delaware Long Arm Statute, 10 *Del. C.* § 3104.

#### **JURISDICTION AND VENUE**

7. This action arises under the patent laws of the United States, Title 35 of the United States Code. Accordingly, this Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

8. This Court has specific and general personal jurisdiction over Defendants pursuant to due process and/or the Delaware Long Arm Statute, due to Defendants Lenovo (United States) Inc., Lenovo Holding Company, Inc., Motorola Mobility LLC, and Motorola

Mobility Holdings LLC having availed themselves of the rights and benefits of Delaware by incorporating under Delaware law and due to Defendants' substantial business in this forum, including: (i) at least a portion of the infringement alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct, and/or deriving substantial revenue from goods and services provided to individuals in Delaware and in this Judicial District.

9. Venue is proper in this District under 28 U.S.C. §§ 1391 (b)-(c) and 1400(b) because Defendants are subject to personal jurisdiction in this District.

### **BACKGROUND**

10. SRI International, Inc. ("SRI"), the original owner of the patents-in-suit, is an independent, not-for-profit research institute that conducts client-supported research and development for government agencies, commercial businesses, foundations, and other organizations.

11. Among its many areas of research, SRI has engaged in fundamental research and development related to personal digital assistants and speech-based navigation of electronic data sources.

12. SRI's innovative work on personal digital assistants was a key area of development in one of the world's largest artificial intelligence projects, the Cognitive Assistant that Learns and Organizes ("CALO"). The vision for the SRI-led CALO project, which was funded by the U.S. Defense Advanced Research Projects Agency ("DARPA"), was to create groundbreaking software that could revolutionize how computers support decision-makers.

13. SRI's work on personal digital assistants and speech-based navigation of electronic data sources, which started before the launch of the CALO project, developed further

as part of the project. SRI's engineers were awarded numerous patents on their groundbreaking personal digital assistant and speech-based navigation inventions.

14. To bring the personal digital assistant and speech-based navigation technology to the marketplace, SRI formed the spin-off company Siri, Inc. in 2007, and granted it a non-exclusive license to the patent portfolio. The technology was demonstrated as an iPhone app at technology conferences and later released as an iPhone 3GS app in February 2010. In April 2010, Apple Inc. acquired Siri, Inc. In 2011, the Siri personal digital assistant was released as an integrated feature of the iPhone 4S.

15. Speech-based navigation of electronic data sources has continued to be implemented as an effective and user-friendly solution for interacting with electronic devices.

16. On May 6, 2016, IPA acquired the SRI speech-based navigation patent portfolio. IPA is a wholly-owned subsidiary of WiLAN, a leading technology innovation and licensing business actively engaged in research, development, and licensing of new technologies.

#### **BACKGROUND ON DEFENDANTS**

17. Defendant Lenovo Group, Ltd. together with its subsidiaries develop, manufacture and market technology products and services. Their product lines include personal computers, as well as servers, workstations, servers, storage, smart TVs and a family of mobile products like smartphones, tablets, and apps.<sup>1</sup>

18. Defendant Lenovo (United States) Inc. is engaged in the distribution of IT products.<sup>2</sup>

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<sup>1</sup> See, e.g., Lenovo Group Limited | 2015/16 Annual Report at *iii* and 165, available at [https://www.lenovo.com/ww/lenovo/pdf/report/E\\_099220160603a.pdf](https://www.lenovo.com/ww/lenovo/pdf/report/E_099220160603a.pdf).

<sup>2</sup> See, e.g., *id.* at 241.

19. Defendant Lenovo Holding Company, Inc. is a large-sized organization in the computer manufacturers industry located in Morrisville, NC. It opened its doors in 2007 and now has an estimated \$128.4 million in yearly revenue and approximately 256 employees.<sup>3</sup>

20. Defendant Motorola Mobility LLC is the developer, owner, licensor and seller of communications hardware and software.<sup>4</sup> Motorola Mobility LLC markets and sells its products to customers worldwide.<sup>5</sup>

21. Defendant Motorola Mobility Holdings, LLC is a holding company. Motorola Mobility Holdings, LLC, through its subsidiaries, provides mobile media solutions such as mobile phones, software and application, tablets, home networking products, and accessories.<sup>6</sup>

22. Defendant Lenovo Group, Ltd., together with its subsidiaries, such as Defendant Lenovo (United States) Inc., Defendant Lenovo Holding Company, Inc., Defendant Motorola Mobility LLC, and Motorola Mobility Holdings LLC, coordinate their activities to infringe IPA's patents.

23. Litigation records show that Defendant Lenovo Group, Ltd., Defendant Lenovo (United States) Inc., and Defendant Lenovo Holding Company, Inc. are closely related companies. Defendants Lenovo Group, Ltd., Defendant Lenovo (United States) Inc., and Defendant Lenovo Holding Company, Inc. were among the petitioners in at least two *Inter Partes* Review of patents.<sup>7</sup>

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<sup>3</sup> See, e.g., <http://listings.findthecompany.com/1/32582159/Lenovo-Holding-Company-Inc-in-Morrisville-NC>.

<sup>4</sup> See, e.g., Lenovo Group Limited | 2015/16 Annual Report at 242.

<sup>5</sup> See, e.g., <https://www.bloomberg.com/profiles/companies/0867887D:US-motorola-mobility-holdings-llc>.

<sup>6</sup> See, e.g., *id.*

<sup>7</sup> See, e.g., PETITION FOR INTER PARTES REVIEW UNDER 35 U.S.C. § 311 AND 37 C.F.R. § 42.100, IPR2015-00846, *Lenovo (United States) Inc. v. Personal Audio LLC*, 2009 Pat.

**BACKGROUND ON ACCUSED PRODUCTS**

24. Defendants' accused products include and use the Android operating system.

25. The Google Now digital assistant has been included with the Android operating system since at least July 2012. Since at least October 2016, the functionality of the Google Now digital assistant has been included in Google's Voice Actions and use of the term "Google Now" has apparently been discontinued. The terms "Google Now" and "Google Now digital assistant" as used herein include but are not limited to the Voice Actions functionalities relating to the Google Now digital assistant.

26. The Google Now digital assistant uses features of the Android operating system such as voice search and cards for the display of selected information.

27. Voice search allows users to interact with the Google Now digital assistant using natural spoken language.

28. Cards present visual representations of voice search results, and allow further user interaction with the Google Now digital assistant through touch response.

29. Google Now can retrieve and display a variety of types of information such as directions, calendar, weather, flight, sports, and restaurant information.

30. Defendants' infringing products include mobile telephone and tablet products having the Google Now digital assistant, including but not limited to Vibe Z2, Vibe Z2 Pro, Vibe X2, Phab 2, Phab2 Pro, Phab2 Plus, Droid Ultra, Droid MAXX, Droid Mini, Moto X, Moto G, Moto G LTE, Moto E, Moto G (2014), Moto G (2014), Moto X (2014), Nexus 6, Droid Turbo,

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App. Filings LEXIS 312 (US Patent trial and Appeal Board court, Mar. 6, 2015); *see also* PETITION FOR INTER PARTES REVIEW UNDER 35 U.S.C. § 311 AND 37 C.F.R. § 42.100, IPR2015-00845, *Lenovo (United States) Inc. v. Personal Audio LLC*, 2001 Pat. App. Filings LEXIS 42 (US Patent trial and Appeal Board court, Mar. 6, 2015).

Moto Maxx, Moto E (2015), Moto G (2015), Moto G (3rd Gen), Moto X Pure Edition, Moto G4, Moto Z, Moto Z Force, IdeaTab A10, IdeaTab A1000, IdeaTab A1000 (8GB), IdeaTab A1000L, IdeaTab A3000, IdeaTab A7-40, IdeaTab A7-50, IdeaTab A8-50, IdeaTab S5000, IdeaTab S6000 (16GB), IdeaTab S6000 (32GB), IdeaTab S6000L, Tab 2 A10 (16GB), Tab 2 A10 (32GB), Tab 2 A10 (Qualcomm/16GB), Tab 2 A7-10, Tab 2 A7-20 (16GB), Tab 2 A7-20 (8GB), Tab 2 A7-30 (16GB), Tab 2 A7-30 (8GB), Tab 2 A8, Tab 3 Essential, Tab S8-50, Tab3 10 Business, Tab3 7, Tab3 8, Yoga Book (Android), Yoga Tab 3 10", Yoga Tab 3 8", Yoga Tab 3 Pro 10, Yoga Tablet 10 (16GB), Yoga Tablet 10 (32GB), Yoga Tablet 10 HD+, Yoga Tablet 2 10 Android, Yoga Tablet 2 13 Pro, Yoga Tablet 2 8 Android, Yoga Tablet 8 (16GB), Yoga Tablet 8 (32GB), Moto G5 Plus, Moto G5 Plus Amazon Prime Exclusive, Moto Z Force Droid, Moto Z Droid, Moto Z Play, Moto Z Play Droid,

31. Moto G4 Plus, Moto G4 Amazon Prime Exclusive, Moto G4 Play, Moto G4 Play Amazon Prime Exclusive, Droid Turbo 2, Droid Maxx 2, Tab 3 10 Plus, A12, Yoga Tablet 3 Pro (MultiTouch), and related products and/or processes (“Lenovo Google Now-enabled products”).

32. Android is also used for smartwatch products in a version of the operating system called Android Wear. Android Wear includes voice capabilities that involve speech-based navigation of electronic data sources.

33. Defendants’ infringing products include smartwatch products with Android Wear, including but not limited to Moto 360, Moto 360 (2nd Gen), Moto360 Sport, and related products and/or processes (“Lenovo Android Wear products”).

#### **ASSERTED PATENTS**

34. IPA is the owner by assignment of U.S. Patent No. 6,742,021 (the “’021 Patent”). The ’021 Patent is entitled “Navigating Network-Based Electronic Information Using Spoken

Input With Multimodal Error Feedback.” The ’021 Patent issued on May 25, 2004. A true and correct copy of the ’021 Patent is attached hereto as Exhibit A.

35. IPA is the owner by assignment of U.S. Patent No. 6,523,061 (the “’061 Patent”). The ’061 Patent is entitled “System, Method, and Article of Manufacture For Agent-Based Navigation in a Speech-Based Data Navigation System.” The ’061 Patent issued on February 18, 2003. A true and correct copy of the ’061 Patent is attached hereto as Exhibit B.

**COUNT I**  
**(Infringement of U.S. Patent No. 6,742,021)**

36. Plaintiff re-alleges and incorporates by reference the allegations in the foregoing paragraphs as if fully set forth herein.

37. Plaintiff is informed and believes, and on that basis alleges, that Defendants have infringed and are currently infringing one or more claims (*e.g.*, claim 1) of the ’021 Patent, in violation of 35 U.S.C. § 271.

38. Defendants have infringed and are currently infringing literally and/or under the doctrine of equivalents, by, among other things, making, using, offering for sale, selling, and/or importing within this judicial district and elsewhere in the United States, without license or authority, Lenovo Google Now-enabled products and Lenovo Android Wear products falling within the scope of one or more claims of the ’021 Patent, including claim 1.<sup>8</sup>

39. On information and belief, the Lenovo Google Now-enabled products and Lenovo Android Wear products perform a method for speech-based navigation of an electronic data source, the electronic data source being located at one or more network servers located remotely

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<sup>8</sup> Plaintiff reserves the right to identify additional asserted claims as this litigation proceeds. For example, Plaintiff expressly reserves the right to identify additional asserted claims in its infringement contentions to be served during the discovery process.



from a user. For example, Hugo Barra, Android’s director of product management, explained in an interview that “Google Now touches every back-end of Google, every different web service that’s been developed over the last ten years or so is part of this service.”<sup>9</sup> Consistent with this statement, the figure below was published in a companion article to the interview, showing that Google Now accesses resources and information which may be locally stored on the device (*e.g.*, Android operating system), privately on remote servers (*e.g.*, Gmail), publicly accessible websites and databases (*e.g.*, News, weather, and stock quotes) and as well as information stored on other services and apps (*e.g.*, Google Maps, YouTube).<sup>10</sup>

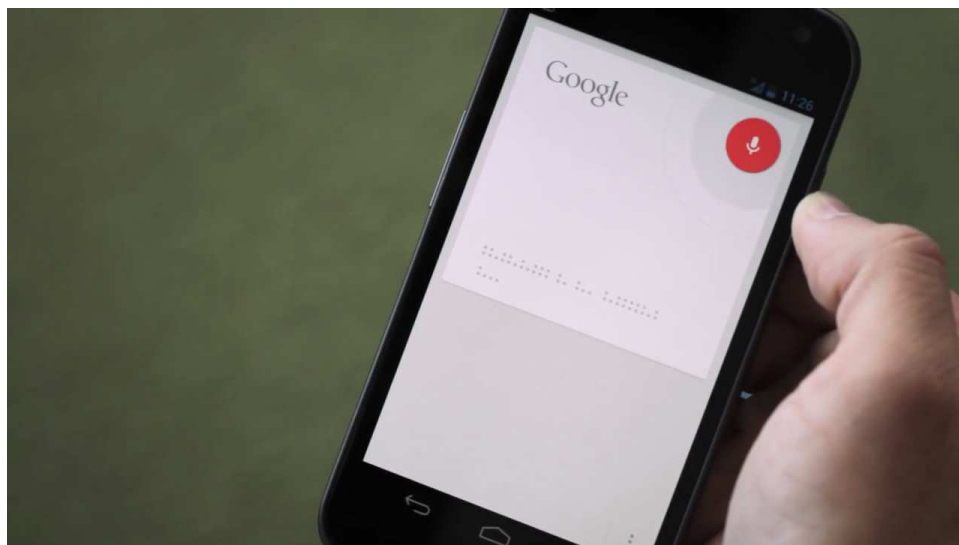
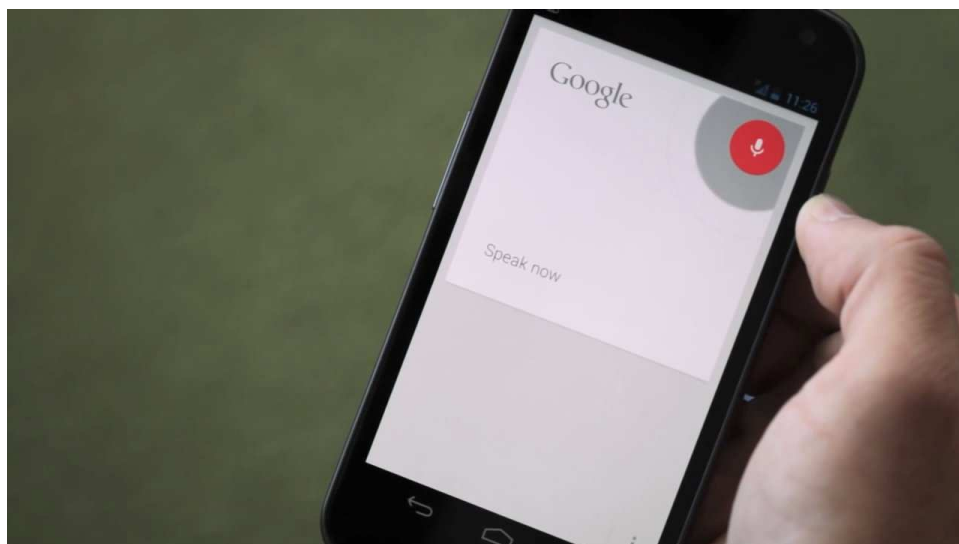


40. On information and belief, the Lenovo Google Now-enabled products and Lenovo Android Wear products perform the step of receiving a spoken request for desired information from the user. For example, a segment of the interview video featuring Hugo Barra showed

<sup>9</sup> The Verge, *Google Now and the predictive future of search* (Oct. 29, 2012), <https://www.youtube.com/watch?v=ZXtudZl5mzM>.

<sup>10</sup> See, *e.g.*, Dieter Bohn, *Google Now: behind the predictive future of search*, Vox Media, Inc. (Oct. 29, 2012), <http://www.theverge.com/2012/10/29/3569684/google-now-android-4-2-knowledge-graph-neural-networks>.

Google Now receiving Hugo Barra’s spoken request of “directions to the museum with the William Haley exhibition.” as shown below.<sup>11</sup>



As another example, a segment of the interview video featuring Vincent Vanhoucke explained the process for turning sounds into something meaningful for the computer to interpret.<sup>12</sup>

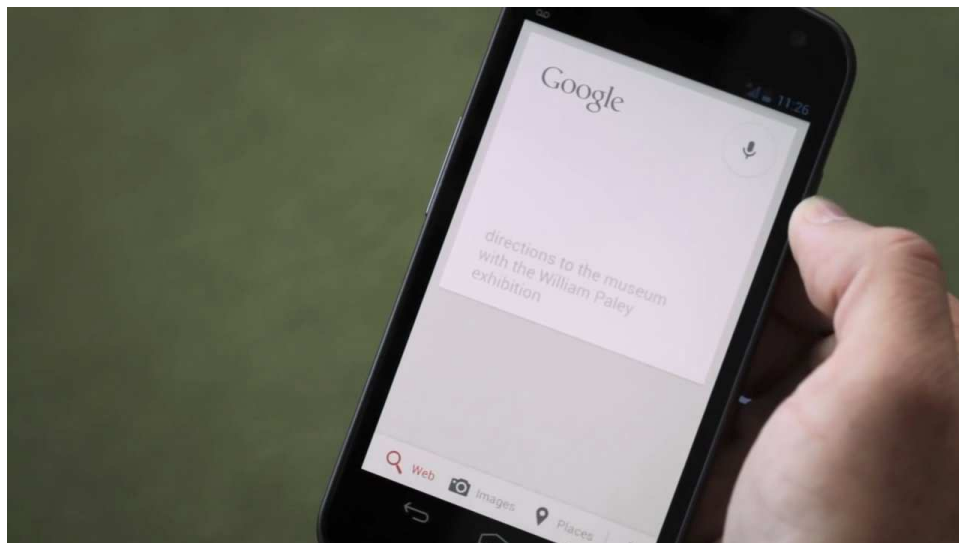
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<sup>11</sup> The Verge, *Google Now and the predictive future of search* (Oct. 29, 2012), <https://www.youtube.com/watch?v=ZXtudZl5mzM>.

<sup>12</sup> *Id.*



41. On information and belief, the Lenovo Google Now-enabled products and Lenovo Android Wear products perform the step of rendering an interpretation of the spoken request. For example, a segment of the interview video featuring Hugo Barra showed Google Now rendering an interpretation of Hugo Barra’s spoken request, as shown below.<sup>13</sup>

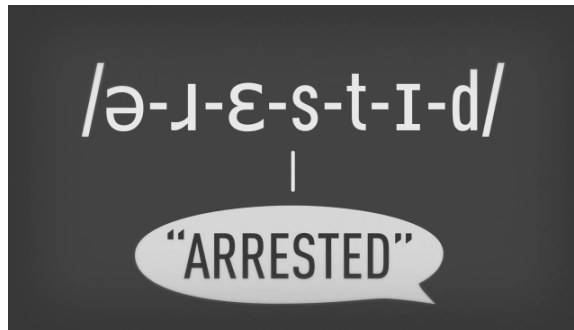


As another example, Vincent Vanhoucke explained that “[w]e want to turn sounds into what we call phonemes.”<sup>14</sup>

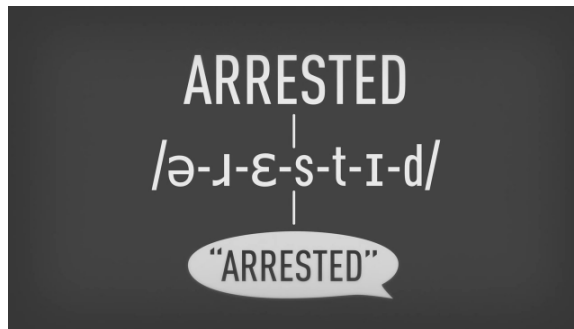
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<sup>13</sup> *Id.*

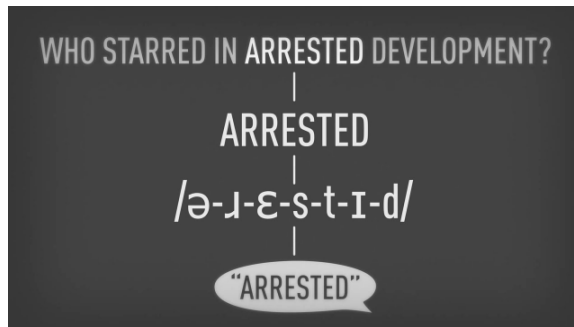
<sup>14</sup> *Id.*



Vanhoucke explained “from the phonemes you want to turn them into words.”<sup>15</sup>



Vanhoucke explained “from the words you construct sentences.”<sup>16</sup>



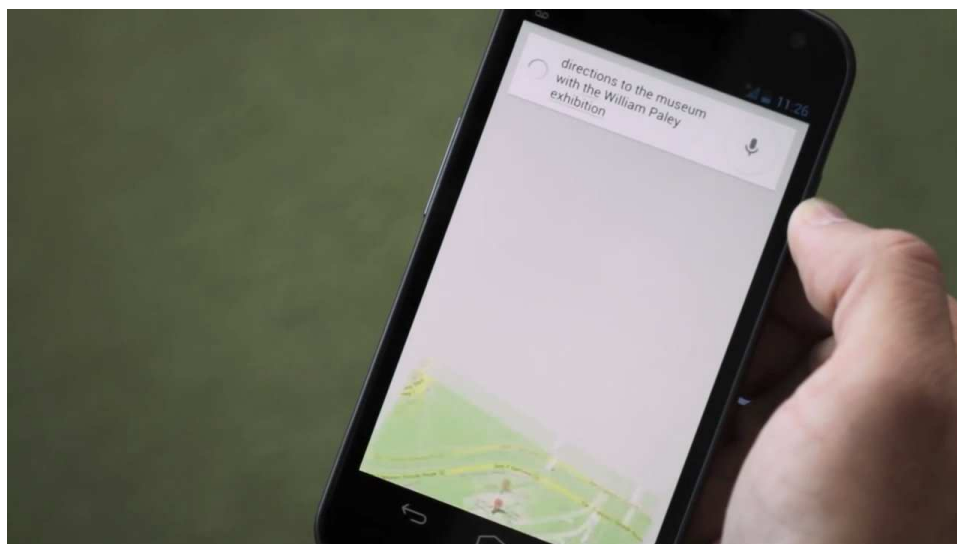
42. On information and belief, the Lenovo Google Now-enabled products and Lenovo Android Wear products perform the step of constructing at least part of a navigation query based upon the interpretation. For example, a segment of the interview video featuring Hugo Barra

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<sup>15</sup> *Id.*

<sup>16</sup> *Id.*

showed Google Now constructing at least part of a navigation query based upon the interpretation of Hugo Barra's spoken request, as shown below.<sup>17</sup>



As another example, Vincent Vanhoucke explained that “once you have a sentence you have a transcript of what you said – you have to turn that into something that’s meaningful for the computer to interpret.”<sup>18</sup>



Vincent Vanhoucke stated, “so if you’re doing a search query, you’re asking for ‘pictures of cats,’ the computer has to understand that you’re really doing an image search for the word ‘cats.’”<sup>19</sup>

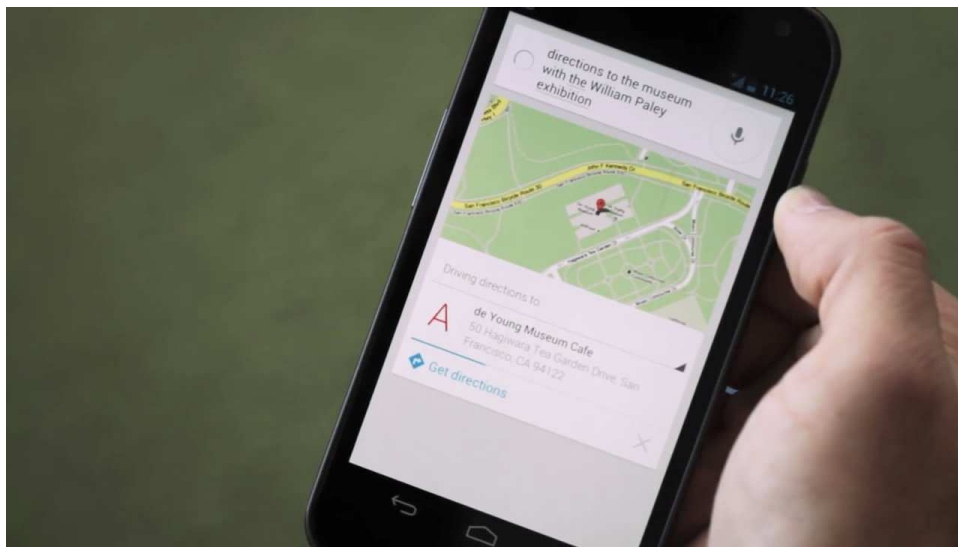
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<sup>17</sup> *Id.*

<sup>18</sup> *Id.*

<sup>19</sup> *Id.*

43. On information and belief, the Lenovo Google Now-enabled products and Lenovo Android Wear products perform the step of soliciting additional input from the user, including user interaction in a non-spoken modality different than the original request without requiring the user to request said non-spoken modality. For example, a segment of the interview video featuring Hugo Barra showed Google Now soliciting additional input from the Hugo Barra, by presenting search result / card having various information, including a map, an address, and the option of getting directions, as shown below, as shown below.<sup>20</sup>

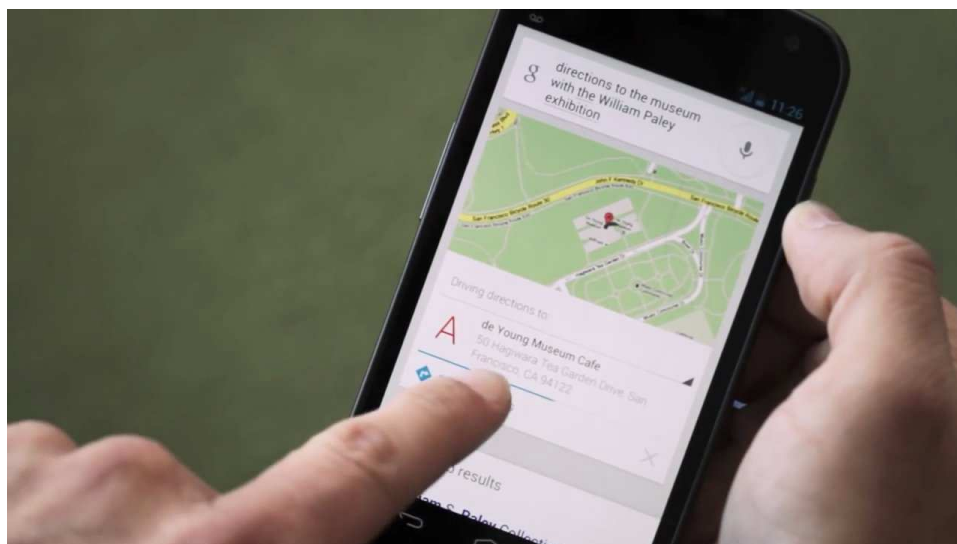


A user can select any of the presented information for further action, such as opening a larger map, opening a webpage (or search page) showing the information requested, or open a Google Maps app to get directions. In the video Hugo Barra touched the option of “Get directions.”<sup>21</sup>

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<sup>20</sup> *Id.*

<sup>21</sup> *Id.*



As another example, Google announced in its official blog that

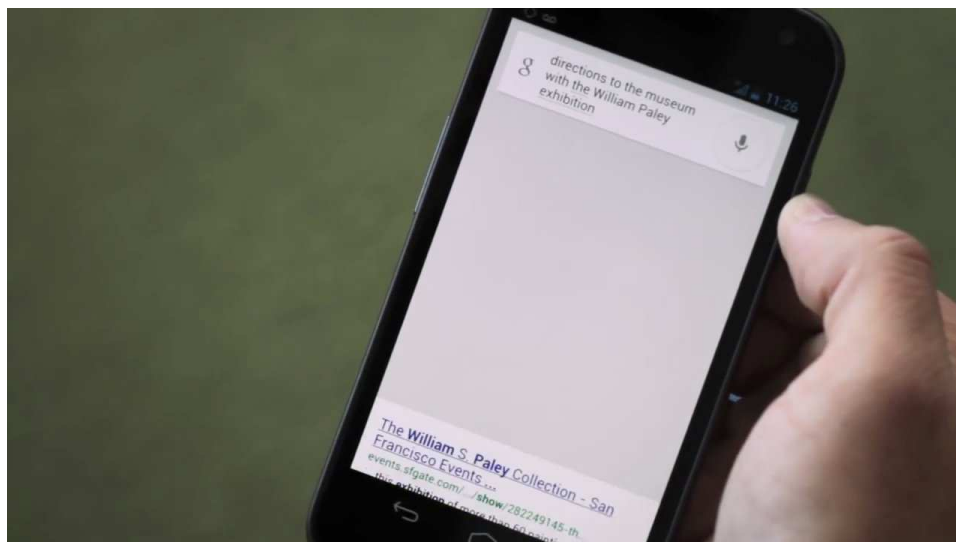
You're running late for an interview, but that little gas light on your dash has been on... for well... too long. You reroute Google Maps to the nearest gas station and start to fill up—and that's when you notice the gas across the street is 25 cents cheaper. When you finally close the tank, re-type the original address into your phone and get on the road again, you're short 15 minutes and \$5. Over the next few weeks, we're rolling out an update to Google Maps on Android that will make your next gas stop more convenient and affordable. Now you can check out gas prices and add detours to your route, without having to exit out of navigation.<sup>22</sup>

On information and believe, the Google Maps reroute example quoted above has been implemented by Google. For example, a user can add a detour for getting gas by speaking to a Lenovo Google Now-enabled products and Lenovo Android Wear products. Google Maps will solicit additional input from the user by presenting gas station options and the corresponding reroute paths for the user to choose from. The user can interact with Google Maps in a non-spoken modality by touch selecting a location option.

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<sup>22</sup> The official blog for Google Maps, *Google Maps making stressful times easier* (Oct. 20, 2015), <https://maps.googleblog.com/2015/10/google-maps-making-stressful-times.html>.

44. On information and belief, the Lenovo Google Now-enabled products and Lenovo Android Wear products perform the step of refining the navigation query, based upon the additional input. For example, a segment of the interview video featuring Hugo Barra showed Google Now refining the navigation query, based upon Hugo Barra's touch input.<sup>23</sup>



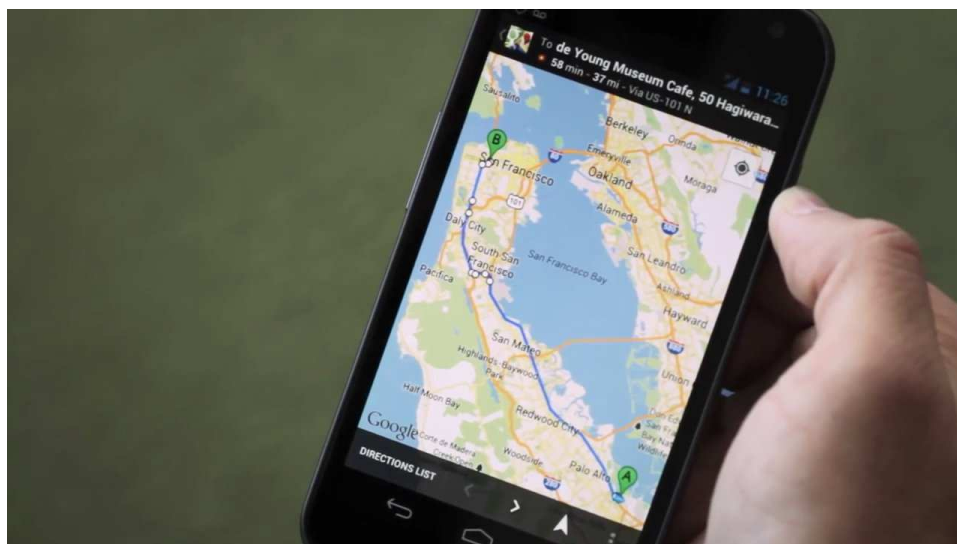
45. On information and belief, the Lenovo Google Now-enabled products and Lenovo Android Wear products perform the step of using the refined navigation query to select a portion of the electronic data source. For example, a segment of the interview video featuring Hugo Barra showed Google Now using the refined navigation query to select a portion of the electronic data source for at least a map, Google Maps app, and other data affiliated with maps and navigation (*e.g.*, map, real-time traffic, and other alerts).<sup>24</sup>

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<sup>23</sup> *Id.*

<sup>24</sup> *Id.*





On information and belief, the Lenovo Google Now-enabled products and Lenovo Android Wear products perform the step of transmitting the selected portion of the electronic data source from the network server to a client device of the user. For example, a segment of the interview video featuring Hugo Barra showed Google Now transmitting the selected portion of the electronic data source from the network server to Hugo Barra's device.<sup>25</sup> Hugo Barra noted in the video that "Google [Now] crosses all these various different pieces of information in my question to give me an answer back which in this case is actually a map."<sup>26</sup>

46. There are at least several types of direct infringers of the '021 Patent under 35 U.S.C. § 271(a). For example, employees of Defendant Lenovo (United States) Inc. and Defendant Motorola Mobility LLC use Google Now digital assistant to demonstrate the capabilities of Lenovo Google Now-enabled products and Lenovo Android Wear products in the course of employees' sales, marketing, and distribution efforts, directly infringing the '021 Patent.

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<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

47. As another example, employees of the Defendant Motorola Mobility LLC use Google Now digital assistant to perform speech-based navigation of electronic data sources in the course of their employment to develop software and apps, directly infringing the '021 Patent.

48. On information and belief, consumers use, for example, Google Now digital assistant to directly infringe the '021 Patent.

49. Defendants have also infringed indirectly and continue to infringe indirectly the '021 Patent by active inducement under 35 U.S.C. § 271(b).

50. On information and belief, Defendants have intended, and continue to intend, to induce patent infringement by their users and have had knowledge that the inducing acts would cause infringement or has been willfully blind to the possibility that its inducing acts would cause infringement. For example, Defendants encourage and instruct end users to perform speech-based navigation of an electronic data source using a method as claimed in claim 1 of the '021 Patent through the very nature of the products. On information and belief, Defendants also encourage and instruct end users to perform speech-based navigation of an electronic data source using a method as claimed in claim 1 of the '021 Patent through materials and information made available to users, including product manuals and technical information.<sup>27</sup> By using the infringing products to perform speech-based navigation of an electronic data source, users directly infringe at least claim 1 of the '021 Patent. By continuing to provide instructions to users on how to use the infringing products to perform speech-based navigation of an electronic

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<sup>27</sup> See also, e.g., Use Google Now, available at <http://www.motorola.com/hc/3083/41/verizon/en-us/ksm121030103.html> (providing instructions to “Start using Google Now”); How can I use voice commands with my Moto 360?, available at [https://motorola-global-portal.custhelp.com/app/answers/prod\\_answer\\_detail/a\\_id/100813/p/2815,9141](https://motorola-global-portal.custhelp.com/app/answers/prod_answer_detail/a_id/100813/p/2815,9141) (“Just say ‘OK Google’ or touch anywhere on the watch screen to speak to Google.”).

data source using a method as claimed in claim 1 of the '021 Patent, and by continuing to encourage such use, Defendants have and continue to specifically intend to induce infringement of the '021 Patent.

51. The Defendants' infringement of the '021 Patent is or has been willful. On information and belief, Defendants gained knowledge of the '061 Patent at least as early as September 2003. The '061 Patent is based on the continuation application that issued as the '021 Patent, but the '061 patent had issued before '021 Patent. The '021 and the '061 Patents share the same disclosures in the specification. On information and belief, Motorola Mobility LLC was under the duty to disclose its knowledge of the '061 Patent to the Patent Office. Motorola Mobility LLC cited the '061 Patent during the prosecutions of its U.S. Patent No. 8,601,096 (filed May 14, 2002) as well as U.S. Patent Application Publication No. US 2008/0039056 (filed June 28, 2006). In any event, on information and belief, Defendants gained knowledge of the '021 Patent no later than the filing of this complaint or shortly thereafter.

52. Despite having actual knowledge of the '021 Patent, Defendants have continued to willfully, wantonly, and deliberately infringe the '021 Patent. Accordingly, Plaintiff seeks enhanced damages pursuant to 35 U.S.C. § 284 and a finding that this is an exceptional case within the meaning of 35 U.S.C. § 285, entitling Plaintiff to its attorneys' fees and expenses.

53. To the extent applicable, the requirements of 35 U.S.C. § 287(a) have been met with respect to the '021 Patent.

54. As a result of Defendants' infringement of the '021 Patent, Plaintiff has suffered monetary damages in an amount adequate to compensate for Defendants' infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together

with interest and costs as fixed by the Court, and Plaintiff will continue to suffer damages in the future unless Defendants' infringing activities are enjoined by this Court.

55. Unless a permanent injunction is issued enjoining Defendants and their agents, servants, employees, representatives, affiliates, and all others acting or in active concert therewith from infringing the '021 Patent, Plaintiff will be greatly and irreparably harmed.

**COUNT II**  
**(Infringement of U.S. Patent No. 6,523,061)**

56. Plaintiff re-alleges and incorporates by reference the allegations in the foregoing paragraphs as if fully set forth herein.

57. Plaintiff is informed and believes, and on that basis alleges, that Defendants have infringed and are currently infringing one or more claims (*e.g.*, claim 1) of the '061 Patent, in violation of 35 U.S.C. § 271.

58. Defendants have infringed and are currently infringing literally and/or under the doctrine of equivalents, by, among other things, making, using, offering for sale, selling, and/or importing within this judicial district and elsewhere in the United States, without license or authority, Lenovo Google Now-enabled products and Lenovo Android Wear products falling within the scope of one or more claims of the '061 Patent, including claim 1.<sup>28</sup>

59. On information and belief, the Lenovo Google Now-enabled products and Lenovo Android Wear products perform a method for utilizing agents for speech-based navigation of an electronic data source. For example, Hugo Barra explained in The Verge interview that "Google Now touches every back-end of Google, every different web service that's been developed over

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<sup>28</sup> Plaintiff reserves the right to identify additional asserted claims as this litigation proceeds. For example, Plaintiff expressly reserves the right to identify additional asserted claims in its infringement contentions to be served during the discovery process.

the last ten years or so is part of this service.”<sup>29</sup> Consistent with this statement, a figure presented previously was published in a companion article to the interview, showing that Google Now accesses resources and information which may be locally stored on the device (*e.g.*, Android operating system), privately on remote servers (*e.g.*, Gmail), publicly accessible websites and databases (*e.g.*, News, weather, and stock quotes) and as well as information stored on other services and apps (*e.g.*, Google Maps, YouTube).<sup>30</sup> In the interview, Scott Huffman, Engineering Director of Search at Google, stated that

We’re obviously very excited about search on mobile devices on Android and about the idea of people being able to interact with their phone in just a natural way.

And if you think about what that takes, we feel like there’s a few key elements that have to come together.

One obviously is voice recognition.

The second piece is once I have those words is natural language understanding.

And the third piece which is a fairly new thing for us that Google is understanding what are the basic kind of components and facts in the world.

And this is something we call our knowledge graph.

And it’s really the first time in sort of computer science history that those three things are all available and not just available in some giant from computational center; but available, you know, in a powerful device that’s in my pocket.<sup>31</sup>

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<sup>29</sup> The Verge, *Google Now and the predictive future of search* (Oct. 29, 2012), <https://www.youtube.com/watch?v=ZXtudZl5mzM>.

<sup>30</sup> See, *e.g.*, Dieter Bohn, *Google Now: behind the predictive future of search*, Vox Media, Inc. (Oct. 29, 2012), <http://www.theverge.com/2012/10/29/3569684/google-now-android-4-2-knowledge-graph-neural-networks>.

<sup>31</sup> The Verge, *Google Now and the predictive future of search* (Oct. 29, 2012), <https://www.youtube.com/watch?v=ZXtudZl5mzM>.

Also in the interview, Vincent Vanhoucke, a Research Scientist at Google, stated that “[s]peech recognition is the process of turning sounds into meaning. And between those two there’s many levels of processing.”<sup>32</sup>

60. On information and belief, the Lenovo Google Now-enabled products and Lenovo Android Wear products perform the step of receiving a spoken request for desired information from a user. For example, a segment of the interview video featuring Hugo Barra showed Google Now receiving Hugo Barra’s spoken request of “directions to the museum with the William Haley exhibition,” as previously shown.<sup>33</sup> As another example, a segment of the interview video featuring Vincent Vanhoucke explained the process for turning sounds into something meaningful for the computer to interpret.<sup>34</sup>



61. On information and belief, the Lenovo Google Now-enabled products and Lenovo Android Wear products perform the step of rendering an interpretation of the spoken request. For example, a segment of the interview video featuring Hugo Barra showed Google Now rendering an interpretation of Hugo Barra’s spoken request, as shown previously.<sup>35</sup> As another

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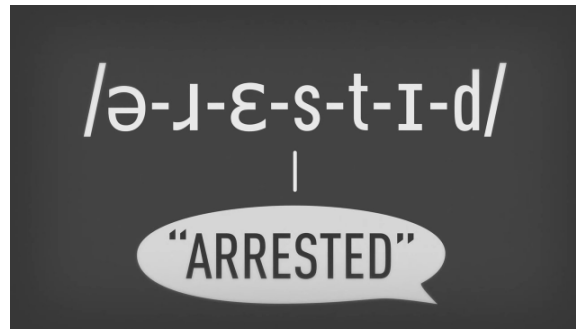
<sup>32</sup> *Id.*

<sup>33</sup> *Id.*

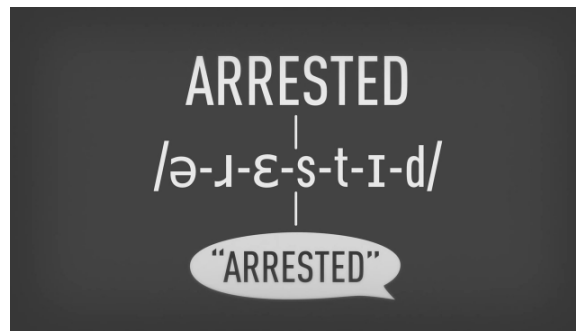
<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

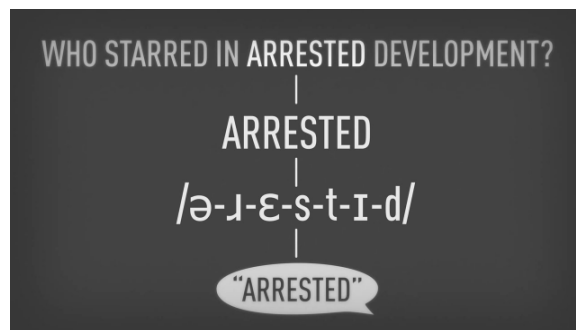
example, Vincent Vanhoucke explained that “[w]e want to turn sounds into what we call phonemes.”<sup>36</sup>



Vanhoucke explained “from the phonemes you want to turn them into words.”<sup>37</sup>



Vanhoucke explained “from the words you construct sentences.”<sup>38</sup>



62. On information and belief, the Lenovo Google Now-enabled products and Lenovo Android Wear products perform the step of constructing a navigation query based upon the

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<sup>36</sup> *Id.*

<sup>37</sup> *Id.*

<sup>38</sup> *Id.*

interpretation. For example, a segment of the interview video featuring Hugo Barra showed Google Now constructing a navigation query based upon the interpretation of Hugo Barra's spoken request, as shown previously.<sup>39</sup> As another example, Vincent Vanhoucke explained that "once you have a sentence you have a transcript of what you said – you have to turn that into something that's meaningful for the computer to interpret."<sup>40</sup>



Vincent Vanhoucke stated, "so if you're doing a search query, you're asking for 'pictures of cats,' the computer has to understand that you're really doing an image search for the word 'cats.'"<sup>41</sup>

63. On information and belief, the Lenovo Google Now-enabled products and Lenovo Android Wear products perform the step of routing the navigation query to at least one agent, wherein the at least one agent utilizes the navigation query to select a portion of the electronic data source. For example, a segment of the interview video featuring Hugo Barra showed his Android smartphone routing the navigation query to at least one agent (*e.g.*, Google Now, Google Search and Google Maps), wherein the at least one agent utilizes the navigation query to select a portion of the electronic data source for at least a map, Google Maps app, and other data affiliated with maps and navigation (*e.g.*,

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<sup>39</sup> *Id.*

<sup>40</sup> *Id.*

<sup>41</sup> *Id.*



map, real-time traffic, and other alerts), as shown previously.<sup>42</sup> Consistent with this statement, the figure below was published in a companion article to the interview, showing that Google Now accesses resources and information which may be locally stored on the device (*e.g.*, Android operating system), privately on remote servers (*e.g.*, Gmail), publicly accessible websites and databases (*e.g.*, News, weather, and stock quotes) and as well as information stored on other services and apps (*e.g.*, Google Maps, YouTube).<sup>43</sup>



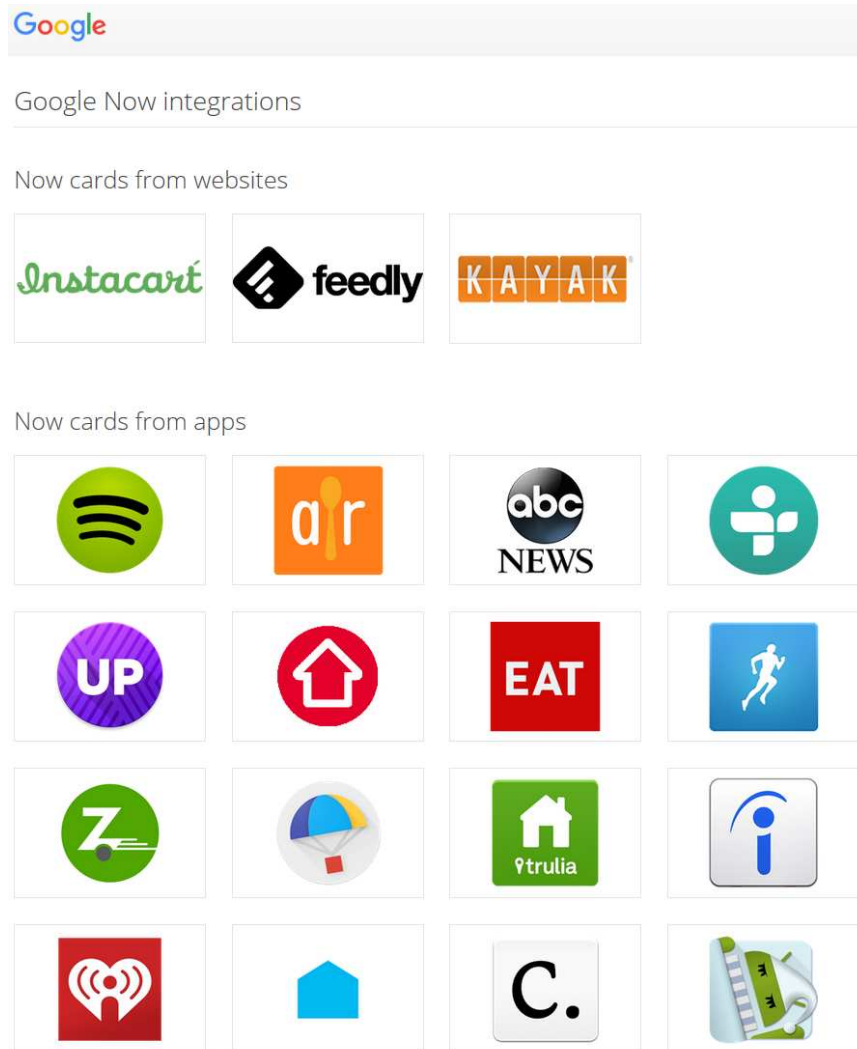
64. On information and belief, the Lenovo Google Now-enabled products and Lenovo Android Wear products perform the step of invoking a user interface agent for outputting the selected portion of the electronic data source to the user, wherein a facilitator manages data flow among multiple agents and maintains a registration of each of said agents' capabilities. For example, a segment of the interview video featuring Hugo Barra showed his Android smartphone invoking a user interface agent for outputting the selected portion of the electronic data source to

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<sup>42</sup> *Id.*

<sup>43</sup> See, *e.g.*, Dieter Bohn, *Google Now: behind the predictive future of search*, Vox Media, Inc. (Oct. 29, 2012), <http://www.theverge.com/2012/10/29/3569684/google-now-android-4-2-knowledge-graph-neural-networks>.

the user, wherein the Android operating system and Google Now manages data flow among multiple apps on the device and maintains a registration of each of said agents' capabilities, as shown previously. Further, Google advertised various websites and apps that are integrated with Google Now, as shown below.<sup>44</sup>



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<sup>44</sup> See, e.g., <https://web.archive.org/web/20160904040129/http://www.google.com/landing/now/integrations.html>.

Google also published examples of ways in which products and services work with Google Now, as shown below.<sup>45</sup>

The screenshot shows the Google Schemas website. The header includes the Google logo, 'Google Schemas', and a search bar. Navigation links for 'HOME', 'GUIDES', 'REFERENCE', and 'SUPPORT' are visible. A left sidebar lists various guides and tutorials. The main content area is titled 'Google Now' and explains that Google Now provides updates to restaurant and hotel reservations or flight information received in Gmail. Below this, it says 'After an email confirming...' and shows two examples of Google Now cards: 'A flight' for Virgin America flight 25 and 'A hotel reservation' for Le Gavroche in London. Each card includes details like status, departure/arrival times, and location, along with interactive buttons like 'Navigate to JFK / 32 min' and 'View email'.

65. There are at least several types of direct infringers of the '061 Patent under 35 U.S.C. § 271(a). For example, employees of Defendant Lenovo (United States) Inc. and Defendant Motorola Mobility LLC use Google Now digital assistant to demonstrate the capabilities of Lenovo Google Now-enabled products and Lenovo Android Wear products in the course of employees' sales, marketing, and distribution efforts, directly infringing the '061 Patent. As another example, employees of the Defendant Motorola Mobility LLC use Google Now digital assistant to perform speech-based navigation of electronic data sources in the course of their employment to develop software and apps, directly infringing the '061 Patent.

<sup>45</sup> See, e.g., <https://web.archive.org/web/20160916060246/https://developers.google.com/schemas/now/cards#close> (last updated May 28, 2015).

66. On information and belief, consumers, for example, use Google Now digital assistant and to directly infringe the '061 Patent.

67. Defendants have also infringed indirectly and continue to infringe indirectly the '061 Patent by active inducement under 35 U.S.C. § 271(b). On information and belief, Defendants have intended, and continue to intend, to induce patent infringement by their users and have had knowledge that the inducing acts would cause infringement or have been willfully blind to the possibility that their inducing acts would cause infringement. For example, Defendants encourage and instruct end users to perform speech-based navigation of an electronic data source using a method as claimed in claim 1 of the '061 Patent through the very nature of the products. On information and belief, Defendants also encourage and instruct users to use the infringing products to perform speech-based navigation of an electronic data source using a method as claimed in claim 1 of the '061 Patent through materials and information made available to users, including product manuals and technical information.<sup>46</sup> By using the infringing products to perform speech-based navigation of an electronic data source, users directly infringe at least claim 1 of the '061 Patent. By continuing to provide instructions to users on how to use the infringing products to perform speech-based navigation of an electronic data source using a method as claimed in claim 1 of the '061 Patent, and by continuing to encourage such use, Defendants have and continue to specifically intend to induce infringement of the '061 Patent.

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<sup>46</sup> See also, e.g., Use Google Now, *available at* <http://www.motorola.com/hc/3083/41/verizon/en-us/ksm121030103.html> (providing instructions to “Start using Google Now”); How can I use voice commands with my Moto 360?, *available at* [https://motorola-global-portal.custhelp.com/app/answers/prod\\_answer\\_detail/a\\_id/100813/p/2815,9141](https://motorola-global-portal.custhelp.com/app/answers/prod_answer_detail/a_id/100813/p/2815,9141) (“Just say ‘OK Google’ or touch anywhere on the watch screen to speak to Google.”).

68. Defendants have been and still are willfully infringing the '061 Patent. On information and belief, Defendants gained knowledge of the '061 Patent at least as early as September 2003, and also at least as early as September 18, 2008. On information and belief, Motorola Mobility LLC was under the duty to disclose its knowledge of the '061 Patent to the Patent Office. Motorola Mobility LLC cited the '061 Patent during the prosecutions of its U.S. Patent No. 8,601,096 (filed May 14, 2002) as well as U.S. Patent Application Publication No. US 2008/0039056 (filed June 28, 2006). In any event, on information and belief, Defendants gained knowledge of the '061 Patent no later than the filing of this complaint or shortly thereafter.

69. Despite having actual knowledge of the '061 Patent, Defendants have continued to willfully, wantonly, and deliberately infringe the '061 Patent. Accordingly, Plaintiff seeks enhanced damages pursuant to 35 U.S.C. § 284 and a finding that this is an exceptional case within the meaning of 35 U.S.C. § 285, entitling Plaintiff to its attorneys' fees and expenses.

70. To the extent applicable, the requirements of 35 U.S.C. § 287(a) have been met with respect to the '061 Patent.

71. As a result of Defendants' infringement of the '061 Patent, Plaintiff has suffered monetary damages in an amount adequate to compensate for Defendants' infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court, and Plaintiff will continue to suffer damages in the future unless Defendants' infringing activities are enjoined by this Court.

72. Unless a permanent injunction is issued enjoining Defendants and their agents, servants, employees, representatives, affiliates, and all others acting or in active concert therewith from infringing the '061 Patent, Plaintiff will be greatly and irreparably harmed.

**PRAYER FOR RELIEF**

Plaintiff prays for the following relief:

- A. A judgment that Defendants have infringed one or more claims of the '021 and '061 Patents;
- B. A permanent injunction enjoining Defendants and their officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in active concert or participation with Defendants, from infringing the '021 and '061 Patents;
- C. An award of damages resulting from Defendants' acts of infringement in accordance with 35 U.S.C. § 284;
- D. A judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding to Plaintiff its reasonable attorneys' fees against Defendants.
- E. A judgment and order requiring Defendant to provide accountings and to pay supplemental damages to Plaintiff, including, without limitation, prejudgment and post-judgment interest; and
- F. Any and all other relief to which Plaintiff may show itself to be entitled.

**JURY TRIAL DEMANDED**

Plaintiff hereby demands a trial by jury of all issues so triable.

Dated: May 12, 2017

BAYARD, P.A.

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