

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

CONTEXT DIRECTIONS LLC

Plaintiff,

v.

LG ELECTRONICS INC. and

LG ELECTRONICS U.S.A., INC.,

Defendants.

Civil Action No. 6:20-cv-1064

JURY TRIAL DEMANDED

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Context Directions LLC (“CONTEXT” or “Plaintiff”), for its First Amended Complaint against Defendants LG Electronics Inc. (“LG Electronics”) and LG Electronics U.S.A., Inc. (“LG USA”), with LG Electronics and LG USA referred to herein collectively as “LG” or “Defendants,” alleges the following:

NATURE OF THE ACTION

1. This is an action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*

THE PARTIES

2. Plaintiff CONTEXT is a limited liability company organized under the laws of the Delaware with a place of business at 261 West 35th Street, Suite 1003, New York, NY 10001.

3. Upon information and belief, Defendant LG Electronics is a corporation organized under the laws of South Korea, with a place of business at LG Twin Tower, Yeoui-daero, Yeongdeungpo-gu, Seoul, South Korea.

4. Upon further information and belief, Defendant LG USA is a corporation organized under the laws of the State of Delaware, having a principal place of business at 1000 Sylvan Avenue Englewood Cliffs, New Jersey 07632. LG USA is a wholly owned subsidiary of LG Electronics and oversees domestic sales and distribution of LG Electronics' consumer electronics products and services, including the products and services accused of infringement in this case.

5. LG imports, sells, offers to sell, uses and/or causes to be used products and services throughout the United States, including in this judicial district, and introduces such infringing products and services into the stream of commerce, including mobile phones and tablets, knowing that they would and will be sold and/or used in this judicial district and elsewhere in the United States.

JURISDICTION AND VENUE

6. This is an action for patent infringement arising under the Patent Laws of the United States, Title 35 of the United States Code.

7. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

8. Venue is proper in this judicial district under 28 U.S.C. §§ 1400(b) and 1391(c).

9. Venue is proper as to LG Electronics in this judicial district under 28 U.S.C. §1391(c)(3). On information and belief, LG Electronics is not resident in the United States and may be sued in any judicial district.

10. LG USA maintains a regular and established place of business in this district, including at 9420 Research Blvd, Austin, Texas 78759, and a representative office at 9600 Great Hills Trail, Suite 150W, Austin, Texas 78759. LG USA maintains additional regular and established places of business at 21251-2155 Eagle Parkway, Fort Worth, Texas 76177 and 14901 Beach St, Fort Worth, TX 76177.

11. LG USA may be served with process through its registered agent for service in Texas: United States Corporation Co. 211 E. 7th Street, Suite 620, Austin, Texas 78701.

12. Venue is proper against LG USA in this District pursuant to 28 U.S.C. § 1400(b) because it has maintained established and regular places of business in this district and has committed acts of patent infringement in this district.

13. This Court has personal jurisdiction over LG Electronics and LG USA under the laws of the State of Texas, due at least to their substantial business in Texas and in this judicial district, directly or through intermediaries, including: (i) at least a portion of the infringing activity 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 the State of Texas.

BACKGROUND

The Invention

14. Pawel Aksamit is the inventor of U.S. Patent No. 9,807,564 (“the ’564 patent”). A true and correct copy of the ’564 patent is attached as Exhibit A. The ’564 patent resulted from the pioneering efforts of Mr. Aksamit (hereinafter, “the Inventor”) in the area of methods of detecting context in mobile devices, such as mobile phones, laptops, PDAs, tablets, watches, music players, satellite navigation devices and cameras, as well as the devices themselves having such context detection capability. Detecting context in mobile devices includes, for example, the awareness of a device regarding the environment in which it is located, the activity of the user and/or the circumstances of the user of the device, all of which can help to improve the usability of the device, as well as the comfort and safety of its use. (*See* ’564 patent at 1:27-35.)

15. The ’564 patent includes claims directed to a method for detecting the context of a mobile device, as well as a mobile device having such detection capability, where the mobile

device has a plurality of sensors assigned to sensor groups arranged in a hierarchy, along with classifiers assigned to the sensor groups and a context detection module that activates and adapts the classifiers to evaluate the context of the mobile device based on signals from one or more of the sensors.

16. At the time of the Inventor's pioneering efforts, there were other methods known for addressing the problem of context detection in a mobile device. One of the most widely implemented technologies employed the device's sensors to detect context by indirect means only. In that type of system, for example, one could detect that a mobile device is located in a moving vehicle by determining its approximate position from signals of base stations for cellular phones, and then calculating the average speed of the device. However, those types of systems were not very accurate and resulted in uncertainty as to the position of the device on the order of a few hundred meters to several kilometers, as well as frequent false classifications indicating the movement of the device when that was not the case. (*See* '564 patent at 1:56-2:3.)

17. Other methods could be used to detect whether a mobile device is in a moving vehicle by analyzing the speed of the device using a global satellite positioning ("GPS") system. While this provided more accurate positioning than using the signals of mobile phone cell towers, the GPS receiver consumed significant amounts of energy and unacceptably reduced the life of the mobile device's battery. (*See* '564 patent at 2:4-13.)

18. Another system used on an industrial scale utilized a vehicle-mounted, short-range radio transmitter and a mobile device equipped with a receiver that was compatible with the transmitter. The system assumed the mobile device was in a vehicle when it was in range of the transmitter, but an obvious disadvantage of this system was the need for the transmitter in the vehicle. (*See* '564 patent at 2:29-44.)

19. Yet another method for specifying a device's context was based on analysis of signals from different sensors in the device, such as microphones, accelerometers, light sensors, magnetic field sensors, compasses, cameras and others. However, information from the signals of an individual sensor often was not sufficient to accurately determine the device's context, so most of the known methods of this sort used parallel analysis of signals from multiple sensors. While that increased the effectiveness of the classification, it also increased power consumption and caused a shorter battery life for the mobile device. (*See* '564 patent at 2:53-3:3.)

20. The '564 patent describes technical improvements and addressed technical problems with other prior systems. The '564 patent describes an accurate and efficient method for determining the context of a mobile device based on signals from sensors found in such mobile devices.

21. As one example, the '564 patent describes a mobile device having a plurality of sensors assigned to groups arranged in a hierarchy, along with classifiers assigned to the sensor groups, and a context detection module configured to activate and adapt the classifiers to evaluate the context of the mobile device based on signals from one or more of the sensors. Each classifier is adapted to detect the context of the device based on readings from the sensors belonging to its given group. The context detection module is configured to evaluate the context of the mobile device by reading the result of the classification indicated by an active group classifier. The context detection module may also, for example, adapt the configuration of the classifiers associated with a given sensor group based on the results of classifications indicated by the classifiers associated with a higher level sensor group. (*See* '564 patent at 5:19-41.)

Advantages

22. The '564 patent describes a number of advantages over certain prior systems and, in particular, improves the operation of context detection in a mobile device (e.g. by making it more accurate and efficient). The improvements in context detection may be achieved by a variety of features that correspond to features recited in the claims, aspects of which are forth in this Complaint.

23. The '564 patent also describes equipping a mobile device with a context detection module and classifiers, where the sensors of the mobile device are assigned to at least two sensor groups, each of which comprises at least one sensor, and each such group is allocated a classifier adapted to detect the context of the device based on the indications of the sensors belonging to the given sensor group. The groups of sensors are ordered hierarchically, and the context of the mobile device is detected by reading a classification result indicated by the classifier of the currently active group of sensors in the mobile device. When an identified context is detected, the power supply of the sensors in the lower group may be switched on and classification in a group with a higher level activated. The context of the mobile device is read based on the higher group's classifier, and based on the results of the classification indicated by the higher group's classifiers, the configuration of the lower group's classifiers is adapted. (*See* '564 patent at 3:66-4:17.)

24. Another advantage of the '564 patent relates to detecting the context of a mobile device when a user is driving a car. It is inadvisable in such circumstances, for example, to send and receive text messages. On the other hand, in those same circumstances, it might be advantageous to activate other functions, like navigation, or download information from an external database on known hazards on the roads and to inform the user when he is approaching

them, through a message of a tone, voice, visual, or any combination thereof. (*See* '564 patent at 1:36-55.) The use of certain embodiments described by the '564 patent enables this to occur by effectively detecting the context of the mobile device so that the appropriate sensors in the mobile device are activated in an efficient manner.

25. Yet another advantage of the '564 patent concerns efficiency. The sensor groups in the mobile device are ordered hierarchically, such that the total amount of energy required to determine a classification result in lower level groups is less than the amount of energy required to determine the result of the classification in groups of higher levels. That arrangement, coupled with the context detection module's adapting of the configuration of the lower level classifier based on classification results returned by classifiers of a higher level, results in greater energy efficiency as the adaptations proceed. (*See* '564 patent at 6:1-14.)

26. CONTEXT believes that the '564 patent presents significant commercial value for companies like LG. Indeed, today's mobile devices, including LG's products at issue in this case, are equipped with a large number of different types of sensors, which allow, *inter alia*, automatic activation and deactivation of individual functions or to change configuration of mobile devices, depending on the context. Awareness of the context improves the usability of these devices.

Technological Innovation

27. The '564 patent describes embodiments that address technical problems related to context detection for mobile devices. The '564 patent describes effective and efficient methods for determining the context of a mobile device by using a context detection module and associated classifiers to evaluate that context based on signals from various types of sensors in that mobile device.

28. As the '564 patent explains, a major limitation of some prior art systems for detecting the context of a mobile device was the indirect means of that detection, such as detecting that a mobile device is located in a moving vehicle by determining its approximate position from signals of base stations for cellular phones or through a GPS system, which were either inaccurate (as with cell tower system) and/or inefficient (as with the GPS system, which more rapidly drained the battery of the mobile device). (*See* '564 patent at 1:56-2:3 and 2:4-13.) Other known methods consisted of parallel analysis of signals from multiple sensors in the mobile device, which resulted in a substantial increase in the effectiveness of the classification. However, that increase in effectiveness was only achieved at the expense of increased power consumption, and thus a shorter time of operation of a battery-powered mobile device. (*See* '564 patent at 2:53-3:3.) The '564 patent describes embodiments that overcome the limitations of such prior systems and addresses technical problems.

29. The claims of the '564 patent do not merely recite the performance of some well-known business practice from the pre-Internet world, along with the requirement to perform it on the Internet or through the mobile device. Instead, the claims of the '564 patent recite inventive concepts that are deeply rooted in engineering technology, and overcome problems specifically arising out of how to ascertain the context of a mobile device based on signals from its various sensors.

30. In addition, the claims of the '564 patent recite inventive concepts related to improved functioning of the mobile device itself, particularly by assigning the plurality of sensors in the mobile device to groups arranged in a hierarchy, while utilizing classifiers assigned to the sensor groups and a context detection module configured to activate and adapt the classifiers to evaluate the context of the mobile device based on signals from one or more of

the sensors. More specifically, each classifier is adapted to detect the context of the device based on readings from the sensors belonging to its given group, while the context detection module is configured to evaluate the context of the mobile device by reading the result of the classification indicated by the currently active sensor group's classifier. The context detection module also adapts the configuration of the classifiers associated with a given sensor group based on the results of classifications indicated by the classifiers associated with a higher level sensor group. (See '564 patent at 5:19-41.) The foregoing, particular configuration used in the system of context detection improves the accuracy and efficiency of that detection in mobile devices. (See '564 patent at 6:44-7:17.)

31. Moreover, the claims of the '564 patent recite inventive concepts that are not merely routine or conventional use of mobile device or context detection technology. Instead, the patented invention of the '564 patent is directed to a novel solution to specific problems related to methods of context detection.

32. The '564 patent does not preempt all the ways of detecting the context of a mobile device based on signals from its sensors. Nor does the '564 patent preempt any other well-known or prior art technology.

33. Accordingly, the claims in the '564 patent recite a combination of elements that amounts to significantly more than a patent-ineligible abstract idea.

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 9,807,564

34. The allegations set forth in the foregoing paragraphs 1 through 33 are incorporated into this First Count for Relief.

35. On October 31, 2017, the '564 patent was duly and legally issued by the United States Patent and Trademark Office under the title “Method of Detecting Context of a Mobile Device and a Mobile Device with a Context Detection Module.”

36. CONTEXT is the assignee and owner of the right, title and interest in and to the '564 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

37. Upon information and belief, LG has and continues to directly infringe one or more claims of the '564 patent by selling, offering to sell, making, using, importing and/or providing and causing to be used LG's mobile phone and tablet products, including, for example, the LG G8 THINQ mobile phone product (*see, e.g.*, <https://www.lg.com/us/mobile-phones/g8-thinq>) (the "Accused Instrumentalities").

38. Upon information and belief, the Accused Instrumentalities include a mobile device and perform a method for detecting the context of the mobile device, where the mobile device has a plurality of sensors assigned to sensor groups arranged in a hierarchy, along with classifiers assigned to the sensor groups, and a context detection module that activates and adapts the configuration of the classifiers, and evaluates the context of the mobile device based on signals from one or more of the sensors.

39. An exemplary infringement analysis showing a representative mapping of claims 23 and 24 of the '564 patent to an illustrative Accused Instrumentality of the '564 patent is set forth in Exhibit B. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by LG with respect to the '564 patent. CONTEXT reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the '564 patent.

40. The Accused Instrumentalities infringed and continue to infringe at least claims 23 and 24 of the '564 patent during the pendency of the '564 patent.

41. Upon information and belief, since at least the time of service of this Complaint, LG has had knowledge of the '564 patent and has induced and continues to induce others to infringe at least claims 23 and 24 of the '564 patent under 35 U.S.C. § 271(b) by, among other things, and with specific intent or willful blindness, actively aiding and abetting others to infringe, including but not limited to LG's partners and customers, whose use of the Accused Instrumentalities constitutes direct infringement of at least claims 23 and 24 of the '564 patent.

42. In particular, LG's actions that aid and assist others such as its partners and customers to infringe include distributing the Accused Instrumentalities and providing materials and/or services related to the Accused Instrumentalities. On information and belief, LG has engaged in such actions with specific intent to cause infringement or with willful blindness to the resulting infringement because LG has had actual knowledge of the '564 patent and that its acts were inducing infringement of the '564 patent since at least the time of service of this Complaint.

43. For example, LG aids and assists others such as its partners and customers to infringe the '564 patent through at least one of its websites. (*See, e.g.*, <https://www.lg.com/us/mobile-phones/g8-thinq>.) The LG websites advertise the Accused Instrumentalities, including at least the LG GQ THINQ, while also touting the sensors and operating software system for those products. In this manner, for example, LG is aiding and abetting others to purchase and use the Accused Instrumentalities to infringe the '564 patent (as described in this Complaint).

44. CONTEXT has been and continues to be harmed by LG's infringing activities.

JURY DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, CONTEXT demands a trial by jury on all issues triable as such.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff CONTEXT demands judgment for itself and against LG as follows:

A. An adjudication that the Defendants LG Electronics and LG USA (together, “LG” herein) have infringed the ’564 patent;

B. An award of damages to be paid by LG adequate to compensate CONTEXT for LG’s past infringement of the ’564 patent, and any continuing or future infringement through the date such judgment is entered, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;

C. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of CONTEXT’s reasonable attorneys’ fees; and

D. An award to CONTEXT of such further relief at law or in equity as the Court deems just and proper.

Dated: February 12, 2021

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