IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ROUTE GUIDANCE SYSTEMS LLC, Plaintiff, v. MAPLEBEAR INC. D/B/A INSTACART, Defendant.	**Civil Action No. 22-178-MN** **JURY TRIAL DEMANDED**

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Route Guidance Systems LLC ("RGS" or "Plaintiff"), for its First Amended Complaint against Maplebear Inc. d/b/a Instacart, (referred to herein as "Instacart" or "Defendant"), 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 RGS is a limited liability company/corporation organized under the laws of the State of Delaware with a place of business at 3107 Boardwalk, Atlantic City, NJ 08401.

3. Upon information and belief, Instacart is a Delaware corporation with a place of business at 50 Beale Street, Suite 600, San Francisco CA 94105, and can be served through its registered agent for service in Delaware, Cogency Global Inc., 850 New Burton Road Suite 201, Dover DE 19904. Upon information and belief, Instacart sells, offers to sell, and/or uses products and services throughout the United States, including in this judicial district, and

introduces infringing products and services into the stream of commerce knowing that they would be sold and/or used in this judicial district and elsewhere in the United States.

JURISDICTION AND VENUE

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

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

6. Venue is proper in this judicial district under 28 U.S.C. § 1400(b). On information and belief, Instacart is incorporated in the State of Delaware.

7. This Court has personal jurisdiction over Instacart under the laws of the State of Delaware, due at least to its substantial business in Delaware and in this judicial district, directly or through intermediaries, including: (i) at least a portion of the infringements 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 Delaware. Further, this Court has personal jurisdiction and proper authority to exercise venue over Instacart because it is incorporated in Delaware and by doing so has purposely availed itself of the privileges and benefits of the laws of the States of Delaware.

BACKGROUND

The Inventions

8. David Kenneth Martell and Jeffrey Solomon are the inventors of U.S. Patent No. 6,917,876 (the "'876 patent" or "patent in suit").

9. A true and correct copy of the '876 patent is attached as Exhibit 1.

10. The '876 patent resulted from the pioneering efforts of Mr. Martell and Mr. Solomon (hereinafter "the Inventors") in the area of route guidance for vehicles. These efforts resulted in the development of methods and apparatuses for calculating and providing route

guidance to a vehicle, with reduced installation and running costs. At the time of these pioneering efforts, most commercially available route guidance technology required a transmission channel between a central computer and the vehicle to remain open and required the driver to communicate with the central computer by way of a key pad. The Inventors conceived of the inventions claimed in the '876 patent in suit as a way to reduce installation and running costs by requiring minimal equipment in the vehicle and by turning off the channel of communication between the central computer and the in-vehicle device unless necessary and for a very short time period. (*See* '876 patent at 2:21-34; 4:53-60.)

11. For example, the Inventors developed methods and systems to calculate route guidance data and provide a route for the vehicle to the desired destination, supply the vehicle with the route guidance data over a channel of communication open for a short burst and then closed, until a need for further transmission arises, receive the route guidance data from the central computer, and present instructions to the vehicle as to the route to be taken to the destination. (*See* '876 patent cl. 1.)

Advantage Over the Prior Art

12. The patented inventions disclosed in the '876 patent provide many advantages over the prior art, and in particular improved the operations of route guidance systems. (See '876 patent at 1:40-47.) One advantage of the patented inventions is that the transmission channel between the central computer and the vehicle need not be kept permanently open, thereby reducing running costs of the system. (See '876 patent at 2:21-23; 4:57-60.)

13. At the time of the inventions of the '876 patent, most commercially available route guidance technology required a transmission channel between a central computer and the vehicle to remain open and required the driver to communicate with the central computer by way

of a key pad. The inventions claimed in the '876 patent in suit worked to reduce installation and running costs by requiring minimal equipment in the vehicle and using the channel of communication between the central computer and the in-vehicle device only when necessary and for a very short time period. (*See* '876 patent at 1:40-47; 1:65-2:2; 2:21-23; 2:52-60; 4:3-20; 4:45-60.) This is an important benefit in light of the limited capacity of wide area wireless networks (i.e., cellular) around the year 2000. Most wireless communication systems at the time of the '876 invention consisted of second generation (2G) wireless systems like GSM exhibiting relatively low data rate of only few 10's kbps.

14. Prior art navigation systems were limited in the number of vehicles they could support because of finite computing and communications resources at the central computer, as they relied on an open communication channel between a vehicle and a central server or computer for the entire duration of route guidance. For example, to transfer data bidirectionally between a vehicle and a central computer, the driver had to initiate a data-call from the in-vehicle device, using his mobile phone, to the central computer where a data connection was open until the driver terminated the data-call. During the data-call, the vehicle continuously transmitted its position and received route guidance in return. The inventions in the '876 patent eliminate this limitation by using an on-demand connection between the vehicle and a central computer, resulting in a system that can support many vehicles concurrently. This is possible thanks to the short-duration data connection between each vehicle and the central computer for sending data in short bursts. (*See* '876 patent at 1:40-47; 1:65-2:2; 2:21-23; 2:52-60; 4:3-20; 4:45-60.)

15. Another advantage of the patented inventions is that drivers can be informed as to the best routes for their vehicles to take to their respective destinations, in such manner that traffic congestion pertinent to the routes is taken into account. (*See* '876 patent at 1:36-39.)

16. Because of these significant advantages that can be achieved through the use of the patented inventions, RGS believes that the '876 patent presents significant commercial value for companies like Instacart. Indeed, centralized route guidance for vehicles is more commonplace than ever, particularly with the number of passengers and drivers on app-based ride platforms such as Instacart. Therefore, even incremental improvements in complexity and cost of route guidance technology may significantly improve scalability and ease of use of the Instacart platform. These advantages are taught by the inventions of the '876 patent.

Technological Innovation

17. The '876 patent offered substantial improvements. For example, the Specification notes that the inventions allow respective vehicles on a road network to be supplied with route guidance data calculated by a central computing apparatus, and to be provided and presented with advantageous routes for the respective vehicles to take to the respective desired destinations. Further, the claimed inventions provide the calculated route guidance data to each vehicle over a transmission channel that is open only for a short burst and then closed, unless and until a further transmission is required. As the '876 patent explains, one of the limitations of the prior art as regards route guidance technology was that the transmission channel between the central computer and each vehicle had to be kept permanently open. (*See, e.g.*, '876 patent at 1:40-47; 1:65-2:2; 2:21-23; 2:52-60; 4:3-20; 4:45-60.)

18. The patented inventions disclosed in the '876 patent provide a new and novel solution to specific problems related to automating the process of transmitting route guidance data to the vehicle while minimizing the required network connectivity, thereby reducing overall cost and complexity. For instance, the '876 patent teaches that "in respect of each vehicle, said transmitting apparatus provides a channel of communication which is opened to transmit said

route guidance data to the vehicle in a short burst and is then closed, so that transmission to the vehicle via said channel ceases, unless and until a need for further transmission via said channel to said vehicle arises." ('876 patent at 1:64-2:2.)

19. Further, the '876 patent discloses a system and method for providing efficient and interactive route guidance. The system architecture consists of servers and in-vehicle user devices communicating bidirectionally in short bursts. According to the '876 patent, the communications channel (which may be a combination of voice and/or data) is used on-demand (i.e., as needed) or intermittently, resulting in high capacity and high system scalability, that is, the system is able to support a large number of in-vehicle user devices and yet provide highly interactive and updated route guidance.

20. Due to the increased scalability made possible by the inventions of the '876 patent, a centralized route guidance and navigation system can support more users (i.e., drivers) simultaneously. For instance, with a phone-based dispatch system as recently as ten or twenty years ago, if the phone lines were busy when a driver called for directions, the call could not be completed (due to finite or limited number of circuits).[1] On the other hand, the '876 patent enables far more drivers to connect to a central navigation server by limiting the data transmissions with each driver to a short burst, thereby freeing up bandwidth for use by any driver who requires route guidance. ('876 patent at 2:52-60; 4:3-20; 4:45-60.) The improvements of the '876 patent stem from the characteristics of packet data networks compared to circuit switched networks that are far less efficient when communicating through short bursts.

[1] The number of voice calls using circuit switching technology is far less than the number of voice calls using packet networks (e.g., Internet). For example, Skype uses Voice over Internet Protocol (VoIP) and it could have a much larger number of voice calls compared with legacy circuit switched phone calls.

21. With the short bursts used for route guidance, as taught by the '876 patent, each request for directions and transmission of the route guidance data would have no call-setup time—in other words, a driver would be connected to the central server and receive route guidance data near-instantaneously, without the typical delays involved in a phone-based dispatch system (such as connection setup and tear-down times). Short data bursts allow each data packet to be processed by the central computer faster and more efficiently than with a conventional system.

22. Therefore, the route guidance system taught by the '876 patent enables an entirely new business model with its instant connection requests and responses from the central computer. This is analogous to the development of interactive messaging, which increased efficiency of communications among large numbers of users by limiting each communication to a short burst of data and freeing up bandwidth for other users.

23. When compared to conventional phone-based route guidance systems in which the phone line or data connection had to remain open for a longer duration than necessary, the reduced delay for each user with the patented inventions results in an instantaneous user experience, while increasing the capacity and scalability of the overall system. (*See* '876 patent at 1:40-47; 1:65-2:2; 2:21-23; 2:52-60; 4:3-20; 4:45-60.)

24. Another benefit of the system is that the central computer/server has a global system view allowing sharing important and useful information among users, e.g., when users report any obstacles on the road, constructions, accidents, or police activity.

25. Another benefit of the invented route guidance system and method is the use of "text-to-speech" technology, whereby, voice prompts are triggered when a driver arrives to certain points along the route (providing driving instructions) or for notifying the driver

regarding important events (e.g., expected delays along the routes, new route available, etc.). ('876 patent at 3:1-5.) This is an efficient delivery of information to the driver without causing any distraction. The strings of phrases are delivered using data messages via short bursts from the central computer to the vehicles. The '876 specification describes that "[a] string of tokens generates speech in at least one spoken sentence by assembling the words and phrases in the order that the relevant tokens are triggered by the arrival of the vehicle at a given latitude and longitude." (*Id.* at 3:1-5.)

26. The claims of the '876 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. Instead, the claims of the '876 patent recite one or more inventive concepts that are rooted in computerized route guidance technology, and overcome problems specifically arising in the realm of computerized route guidance technologies.

27. Similarly, the inventions of the '876 patent did not merely add computer functionality to increase the speed or efficiency of an abstract process, as the benefits of the '876 patent relate to *communication*-related improvements rather than *computing*-related improvements. For instance, an old computer connected to a fast network will be able to perform faster and more efficient communication than a modern computer connected to, say, a dial-up network. Even if the modern computer is able to calculate thousands of routes per second, the purpose of the invention would be defeated if it could not transmit that data to the thousands of drivers. Optimizing use of the communication channel by transmitting route guidance data in a short burst or only as needed, therefore, is a communication-related improvement, not a computing-related one.

28. Moreover, the claims of the ’876 patent recite inventive concepts that are not merely routine or conventional use of route guidance systems and methods. Instead, the patented inventions disclosed in the ’876 patent provide a new and novel solution to specific problems related to automating the process of calculating an optimal route on a road network and providing the route guidance data to the vehicle while minimizing the required network connectivity, thereby reducing overall cost and complexity. For instance, the ’876 patent teaches that “in respect of each vehicle, said transmitting apparatus provides a channel of communication which is opened to transmit said route guidance data to the vehicle in a short burst and is then closed, so that transmission to the vehicle via said channel ceases, unless and until a need for further transmission via said channel to said vehicle arises.” (’876 patent at 1:64-2:2.) The claims of the ’876 patent thus specify how route guidance data and available network bandwidth are manipulated to yield a desired result.

29. And finally, the patented inventions disclosed in the ’876 patent do not preempt all the ways of using computerized route guidance systems and methods, nor preempt the use of all computerized route guidance systems and methods, nor preempt any other well-known or prior art technology. Accordingly, the claims in the ’876 patent recite a combination of elements sufficient to ensure that the claim in substance and in practice amounts to significantly more than a patent-ineligible abstract idea.

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 6,917,876

30. The allegations set forth in the foregoing paragraphs 1 through 29 are incorporated into this First Claim for Relief.

31. On July 12, 2005, the ’876 patent, entitled “Route Guidance for Vehicles,” was duly and legally issued by the United States Patent and Trademark Office.

32. RGS is the assignee and owner of the right, title and interest in and to the '876 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

33. Upon information and belief, Instacart has and continues to directly infringe at least claims 1 and 26 of the '876 patent by making, using, providing, and/or causing to be used products, systems and/or software solutions, which by way of example include, but are not limited to, the Instacart Shopper App, as well as the related computer systems operated by Instacart that work in conjunction with the Shopper App (the "Accused Instrumentalities"), as set forth in detail in the attached preliminary and exemplary claim charts provided in Exhibit 2.

34. Instacart was made aware of the '876 patent and its infringement thereof at least as early as the filing of this Complaint.

35. RGS has been harmed by Instacart's infringing activities.

JURY DEMAND

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

PRAYER FOR RELIEF

WHEREFORE, Plaintiff RGS demands judgment for itself and against Instacart as follows:

A. An adjudication that Instacart has infringed the '876 patent;

B. An award of damages to be paid by Instacart adequate to compensate RGS for Instacart's past infringement of the '876 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 RGS's reasonable attorneys' fees; and

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

Dated: June 29, 2022

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