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

Quartz Auto Technologies LLC Plaintiff, v. Lyft, Inc. Defendant.	Civil Action No. 1:20-cv-00719 The Honorable Alan D. Albright **SECOND AMENDED COMPLAINT FOR PATENT INFRINGEMENT** **JURY TRIAL DEMANDED**

**SECOND AMENDED COMPLAINT FOR PATENT INFRINGEMENT
AND DEMAND FOR JURY TRIAL**

TO THE HONORABLE JUDGE OF SAID COURT:

Plaintiff Quartz Auto Technologies LLC ("Quartz Auto" or "Plaintiff") files this Second

Amended Complaint for Patent Infringement against Defendant Lyft, Inc. ("Lyft" or "Defendant"),

and would respectfully show the Court as follows:

PARTIES

1. Plaintiff Quartz Auto is a Delaware limited liability company with its principal

place of business located at 301 S. Fremont Ave., Baltimore, Maryland 21230.

2. On information and belief, Defendant Lyft is a Delaware corporation with its

principal place of business located at 185 Berry Street, Suite 5000, San Francisco, California 94107.

Defendant is registered to conduct business in Texas, and may be served through its registered

agent, CT Corporation System, 1999 Bryan St., Suite 900, Dallas, Texas 75201-3136.

JURISDICTION AND VENUE

3. This is a civil action for patent infringement arising under the Patent Laws of the

United States as set forth in 35 U.S.C. §§ 271, *et seq*.

4.   This Court has federal subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a) and pendant jurisdiction over the other claims for relief asserted herein.

5.   This Court has personal jurisdiction over Defendant pursuant to TEX. CIV. PRAC. & REM. CODE § 17.041 *et seq*. Personal jurisdiction exists over Defendant because Defendant has minimum contacts with this forum as a result of business regularly conducted within the State of Texas and within this District, and, on information and belief, specifically as a result of, at least, committing the tort of patent infringement within Texas and this District. Personal jurisdiction also exists because, on information and belief, Defendant has: (1) operated the Internet website, https://www.lyft.com/ and provided mobile applications in order to provide ride-hailing services to users, including both riders and drivers, within this judicial District; (2) operated within the judicial District, with ride-hailing services offered to users in locations including Austin, El Paso, San Antonio, and Waco; (3) solicited business and actively advertised to residents within the District, including by actively recruiting and hiring additional drivers to provide Defendant's ride-hailing services; (4) transacted business within the State of Texas; (5) either alone or in conjunction with others, actively committed acts of infringement within this District and induced others to commit acts of infringement within this District; (6) established regular and systematic business contacts within the State of Texas and within this District; and (7) continued to conduct such business in Texas through the continued operation within this District. Accordingly, this Court's jurisdiction over Defendant comports with the constitutional standards of fair play and substantial justice and arises directly from Defendant's purposeful minimum contacts with the State of Texas.

6.   This Court also has personal jurisdiction over Defendant, because in addition to Defendant's own online website and advertising within this District, Defendant has also made its ride-hailing services available specifically within this District via the following means:

A. Offering ride-hailing within the District, in locations including:

- Austin (https://www.lyft.com/rider/cities/austin-tx)

- El Paso (https://www.lyft.com/rider/cities/el-paso-tx)

- San Antonio (https://www.lyft.com/rider/cities/san-antonio-tx)

- Waco (https://www.lyft.com/rider/cities/waco-killeen-tx)

B. Actively advertising to District residents to hire more drivers within this District. For example:

- Austin (https://www.lyft.com/driver/cities/austin-tx)

- Waco (https://www.lyft.com/driver/cities/waco-killeen-tx)

C. Actively promoting working for Lyft to District residents who have downloaded the Lyft Rider application by including "Drive with Lyft" in the application drop down menu, and incentivizing new drivers with guaranteed money dependent on "X" number of drives in the first 30 days (guaranteed money amount and number of drives depends on location).
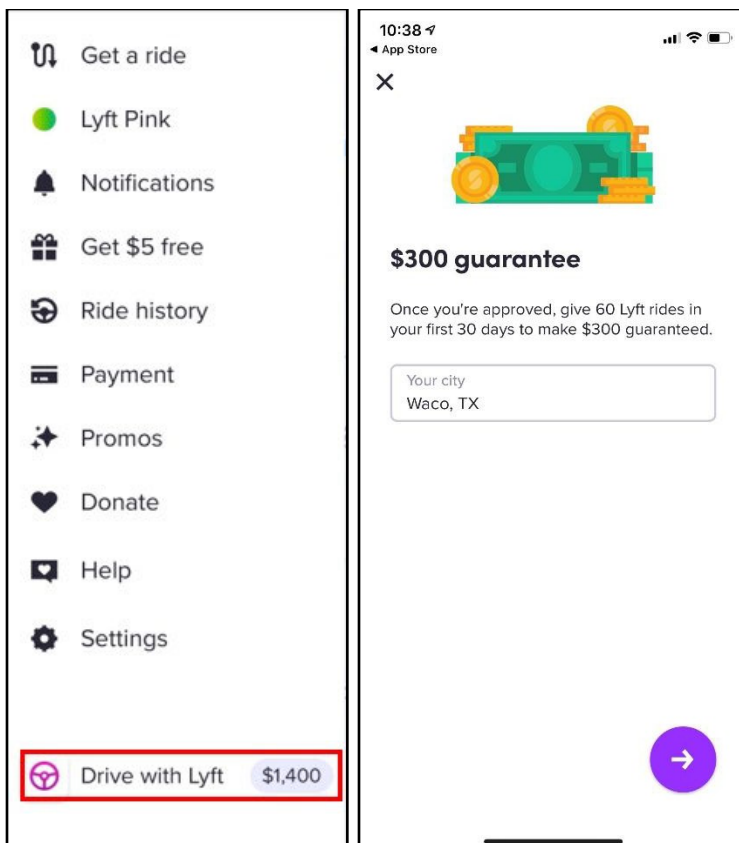
Lyft Rider Application Screenshots February 16, 2020

D. On information and belief, providing in-person support via "Driver Hubs" within the Western District of Texas, including a driver center in Austin (6375 US-290, Austin, TX 78723) (https://thehub.lyft.com/hours/texas) and a Lyft Express Drive facility in San Antonio (8770 Crownhill Blvd., San Antonio, TX 78217) (https://help.lyft.com/hc/en-us/articles/115013080108-Express-Drive-overview).

7.   Defendant is subject to this Court's specific and general personal jurisdiction pursuant to due process and/or the Texas Long Arm Statute, due at least to Defendant's substantial business in this forum, including: (i) committing at least a portion of the infringements alleged herein; and/or (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 Texas and in this District.

4

8.   Venue is proper in this Court under 28 U.S.C. §§ 1391(b) and (c) and 28 U.S.C. § 1400(b) based on the information and belief that Defendant has committed or induced acts of infringement in this judicial District, as more specifically alleged below in paragraphs 9–12. In addition, Defendant maintains regular and established places of business in this district, as discussed in paragraph 6(d). The Driver Hub and Express Drive facilities are each physically located within this District and are regular and established places of business. On information and belief, the Lyft driver center in Austin has been in operation since in or around January 2020. On information and belief, Defendant's Express Drive facility in San Antonio has been in operation since at least September 2018.

9.   Venue is proper as to U.S. Patent No. 6,446,004 ("the '004 patent") at least because, as alleged in further detail herein, Defendant, in conjunction with its employee drivers, has committed acts of direct infringement of the '004 patent in this District at least by practicing steps of the claimed methods in this District, and by making and using the claimed systems and computer program products in this District. To the extent that the drivers are not employees of Defendant, the drivers' acts in this District are nevertheless attributable to Defendant under principles of joint infringement. On information and belief, Defendant has also committed acts of direct infringement in this District through other Lyft employees who have and continue to practice steps of the claimed methods in this District and make and use the claimed systems and computer program products in this District for development, testing and/or demonstration purposes. As alleged in further detail herein, Defendant has also committed in this District acts of inducing infringement of the '004 patent. On information and belief, discovery will confirm whether Defendant has further directly performed one or more steps of the accused methods on one or more servers located in this District.

10.   Venue is proper as to U.S. Patent No. 6,807,464 ("the '464 patent") at least because, as alleged in further detail herein, Defendant, in conjunction with its employee drivers, has committed acts of direct infringement of the '464 patent in this District at least by practicing steps of the claimed methods in this District, and by making and using the claimed system in this District. To the extent that the drivers are not employees of Defendant, the drivers' acts in this District are nevertheless attributable to Defendant under principles of joint infringement. The riders' acts in this District are also attributable to Defendant under principles of joint infringement. On information and belief, Defendant has also committed acts of direct infringement in this District through other Lyft employees who have and continue to practice steps of the claimed methods in this District and make and use the claimed system in this District for development, testing and/or demonstration purposes. As alleged in further detail herein, Defendant has also committed in this District acts of inducing infringement of the '464 patent. On information and belief, discovery will confirm whether Defendant has further directly performed one or more steps of the accused methods on one or more servers located in this District.

11.   Venue is proper as to U.S. Patent No. 7,370,085 ("the '085 patent") at least because, as alleged in further detail herein, Defendant, in conjunction with its employee drivers, has committed acts of direct infringement of the '085 patent in this District at least by practicing steps of the claimed methods in this District. To the extent that the drivers are not employees of Defendant, the drivers' acts in this District are nevertheless attributable to Defendant under principles of joint infringement. The riders' acts in this District are also attributable to Defendant under principles of joint infringement. On information and belief, Defendant has also committed acts of direct infringement in this District through other Lyft employees who have and continue to practice steps of the claimed methods in this District for development, testing and/or demonstration

purposes. On information and belief, discovery will confirm whether Defendant has further directly performed one or more steps of the accused methods on one or more servers located in this District.

12.   Venue is proper as to U.S. Patent No. 9,460,616 ("the '616 patent") because, as alleged in further detail herein, Defendant, in conjunction with its employee drivers, has committed acts of direct infringement of the '616 patent in this District at least by practicing steps of the claimed methods in this District, and by making and using the claimed systems and computer program products in this District. To the extent that the drivers are not employees of Defendant, the drivers' acts in this District are nevertheless attributable to Defendant under principles of joint infringement. On information and belief, Defendant has also committed acts of direct infringement in this District through other Lyft employees who have and continue to make and use the claimed systems and computer program products in this District for development, testing and/or demonstration purposes. On information and belief, discovery will confirm whether Defendant has further directly performed one or more steps of the accused methods on one or more servers located in this District.

<p style="text-align:center"><u>THE PATENTS-IN-SUIT</u></p>

13.   On September 3, 2002, the '004 patent, entitled "System and Method for Implementing Proximity or Location Driven Activities" was duly and legally issued by the United States Patent and Trademark Office ("USPTO") to Kevin Trung Cao, Daniel Alexander Ford, and Reiner Kraft, with the International Business Machines Corporation ("IBM") as assignee. A copy of the '004 patent is attached hereto as **Exhibit A**.

14.   On October 19, 2004, the '464 patent, entitled "Systems and Methods for Distributing Information to an Operator of a Vehicle" was duly and legally issued by the USPTO to

Philip Shi-lung Yu, David P. Greene, Edith H. Stern, and Barry E. Willner, with IBM as assignee. A copy of the '464 patent is attached hereto as **Exhibit B**.

15.   On May 6, 2008, the '085 patent, entitled "Method, System, and Program for Providing User Location Information with a Personal Information Management Program" was duly and legally issued by the USPTO to Michael Wayne Brown, Rabindranath Dutta, and Michael A. Paolini, with IBM as assignee. A copy of the '085 patent is attached hereto as **Exhibit C.**

16.   On October 4, 2016, the '616 patent, entitled "Management of Mobile Objects and Service Platform for Mobile Objects" was duly and legally issued by the USPTO to Tomohiro Miyahira and Gaku Yamamoto, with IBM as assignee. A copy of the '616 patent is attached hereto as **Exhibit D**.

17.   The '004, '464, '085, and '616 patents are referred to hereinafter as the "Quartz Auto Patents" or the "Asserted Patents."

18.   Plaintiff Quartz Auto is the owner of the entire right, title, and interest in and to the Quartz Auto Patents, including the right to sue for and collect past, present, and future damages and to seek and obtain injunctive or any other relief for infringement of the Quartz Auto Patents. The Quartz Auto Patents were originally owned by and assigned to IBM, as assignee from the inventors thereof. IBM transferred ownership of the Asserted Patents to Daedalus Group, LLC ("Daedalus") pursuant to a Patent Assignment Agreement entered into on September 30, 2019, and, through Plaintiff's immediate predecessor in interest, Slingshot IOT LLC, the Asserted Patents were ultimately assigned to Quartz Auto on or about February 13, 2020 and February 14, 2020, and recorded in the USPTO, with all right, title, and interest in and to the Asserted Patents to Quartz Auto.

19.   Each of the Quartz Auto Patents are presumed valid under 35 U.S.C. §282.

United States Patent No. 6,446,004

20.   The '004 patent discloses and claims a system and associated method for implementing a proximity driven activity. In one embodiment, the system and an associated method of the '004 patent allow requests to be executed at some point in the future without specifying the exact time or necessarily a precise location. The execution time of the request is linked to the arrival of a person at, or near a geographic location or destination. When a person arrives at that location, or comes within a proximity threshold distance of that location, the request to interact will be executed. The proximity threshold "can be adjustable and programmable" (col. 2, lines 6–7). A "mobile computing device" may be, for example, a personal computer, a personal digital assistant, and preferably possesses a wireless means of communication. In the present complaint, Defendant's ride-hailing system and method infringe on these inventive aspects of the '004 patent by, for example, using both passenger and driver applications that input, collect, and transmit such proximity driven activity between the passenger and the driver, and vice versa, via Lyft's server platform. Here, the Lyft Rider and Driver applications, installed and used on mobile computing devices (most often wireless mobile phones), collect a passenger's current location and inputted destination as well as the location of available drivers, and Lyft's servers execute software code to determine which driver is within the proximity threshold to complete the passenger's request. The passenger's current location and inputted destination are then transmitted to the selected driver's mobile device.

21.   The '004 patent overcomes shortcomings in the prior art, which were ineffective at integrating location positioning (col. 1, lines 36–40) into functional applications in the ever-advancing areas of GPS and mobile computing. Certain of the inventive aspects of the '004 patent addressed the need for improvements in the area of location dependent data processing, by

developing software for use with a mobile computing device combined with a global positioning system locator (col. 1, lines 16–24). More specifically, the inventive aspects of executing an activity linked to the arrival of a person at or near a geographic location or destination, which is dependent on a mobile computing device and the calculated current location and destination of the mobile device (col. 1, lines 61–67), were not well-understood, routine, or conventional at the time of the invention.

<div align="center">**United States Patent No. 6,807,464**</div>

22.   In one embodiment, the '464 patent discloses and claims a method and associated system of distributing vehicle control information by determining, at a controller location, the vehicle control information associated with the location of the vehicle and vehicle operator, and then arranging the information to provide an indication to the vehicle operator. Such "vehicle control information" may refer to any information that can be used by an operator with respect to a vehicle, and may be provided to the operator, for example, via text information, image information, audio information, dashboard information, and/or HUD information. In the present complaint, Defendant's ride-hailing system and method infringe on these inventive aspects of the '464 patent by, for example, using both passenger and driver applications that communicate such vehicle control information between the passenger and the driver, and vice versa, via Lyft's servers. Here, the Lyft Rider (passenger) application serves as the controller, while the Lyft Driver (driver) application serves as the vehicle device of the operator, and the requisite information is provided by text, image, and audio, as needed.

23.   The '464 patent overcomes shortcomings in the prior art, which required information be presented through traditional signage and traffic signals placed along roads (col. 1, lines 20–21). The prior art is not an effective means to disseminate all kinds of information (col. 1,

lines 39–46). Certain of the inventive aspects of the '464 patent addressed the need for improvements in the area of distributing information to the operator of a vehicle, by better facilitating the dissemination of information via a vehicle device (col. 2, lines 1–5). More specifically, the inventive aspects of collecting vehicle control information and distributing the information to the individual vehicle device for a plurality of vehicles (col. 13, lines 55–67), were not well-understood, routine, or conventional at the time of the invention.

<div align="center"><u>United States Patent No. 7,370,085</u></div>

24.   The '085 patent discloses and claims a method for providing user location information for a personal information management (PIM) program by generating position coordinates of a wireless device with related time information. Additionally, the '085 patent claims another method for generating a calendar for a PIM program by receiving a time interval and determining position coordinates of a wireless device in order to display a user's activity with the corresponding time. In one embodiment, the '085 patent then determines whether a rate of change in distance per unit of time in a series of position coordinates at designated times indicates a user's activity during the activity time period, and then generates information on the predefined activity. A PIM client gathers and presents PIM information, such as calendaring and scheduling information, in accordance with the described implementations. A PIM refers to a program designed to allow users to organize random bits of information in a useful format (col. 4, lines 27–33). In the present complaint, Defendant's ride-hailing system and method infringe on these inventive aspects of the '085 patent. Defendant's use of position and time information and acceleration data to determine a driver's activity during a ride is an example of using position and time coordinates to determine whether a driver is engaged in particular activities during a particular time period.

25.   The '085 patent overcomes shortcoming in the prior art, which provided users of wireless computing (such as personal information managers) or handheld computers (such as cellular phones) significantly limited versions of programs and functions normally available on desktop computers (col. 1, lines 56–61). Certain of the inventive aspects of the '085 patent addressed the need for an application that could more fully exploit wireless computing technology and extend the utility beyond that of a portable telephone and limited personal information. manager (col. 2, lines 5–10). These aspects were not well-understood, routine, or conventional at the time of the invention.

United States Patent No. 9,460,616

26.   In one embodiment, the '616 patent discloses and claims a system comprising a mobile object server that receives information from a plurality of mobile objects within a geographic space and performs a process associated with each mobile object. A notification is provided if one mobile object has become distanced from a predetermined location or region. The mobile objects may be manned/unmanned automobiles, motorbikes, bicycles, humans having a digital device, airplanes, vessels, drones, or the like (col. 2, lines 41–43). In the present complaint, Defendant's ride-hailing system and method infringe on these inventive aspects of the '616 patent. For example, Defendant monitors its drivers' devices (mobile objects) via its central servers (mobile object server), with each of the plurality of drivers in a geographic area providing information which is received at the Defendant's servers. Defendant's servers monitor the progress/location of the driver, and perform a process of updating the navigation information provided to the driver via the Lyft Navigation, Google Maps, or Waze navigation applications, with updated estimated times of arrival based on the speed, current traffic, and other considerations encountered by the driver. Defendant's servers also function to provide notifications to the Driver

and Rider applications running on the respective devices of the driver and passenger in the event that the driver becomes distanced by a threshold amount from a predetermined location or region.

27.   The '616 patent overcomes shortcomings in the prior art, which failed to account for the inherent problem that as the geographic space being handled expands, the number of automobiles and the number of roads increases, thereby increasing the amount of information being sent and received to a level that surpasses the processing capabilities of the server, nor allows different information and services to be provided to each automobile and driver in real time (col. 1, lines 17–25). Certain of the inventive aspects of the '616 patent addressed the need for improvements in managing the geographic space and mobile objects within the geographic space (col. 27, lines 49–52). These aspects were not well-understood, routine, or conventional at the time of the invention.

<div align="center"><u>DEFENDANT'S INFRINGING METHODS, SYSTEMS, AND PRODUCTS</u></div>

28.   Defendant has represented that it has developed and implements "one of the largest transportation networks in the United States," operating in hundreds of unique markets. Through its technology platform, referred to herein as the "Lyft Platform," Defendant offers, coordinates, and controls, among other things, ride-hailing services. On information and belief, Lyft employs hundreds of thousands of drivers in connection with its ride-hailing services.

29.   On information and belief, Defendant uses the Lyft network/servers in combination with the Lyft Rider/passenger application and the Lyft Driver application to operate, direct, and control ride-hailing services. For the purposes of this complaint, the term "Lyft Platform" encompasses all such hardware, applications, and functionalities and any related Lyft technologies that interface with the Lyft Driver and Rider apps and server systems to provide ride-hailing services.

<div align="center">13</div>

A.   On information and belief, Defendant operates a network/server infrastructure with its riders/passengers and drivers.

B.   On information and belief, Defendant operates, controls, and provides a "Rider" application that, among other things, allows Lyft passengers/customers to request a ride. For the purposes of this complaint, passenger application/app and Rider application/app, as well as any different, unambiguous iterations, are used interchangeably.

C.   On information and belief, Defendant operates, controls, and provides a "Driver" application that, among other things, allows Lyft drivers to accept ride requests and perform related activities. For the purposes of this complaint, Driver application/app and any different, unambiguous iterations, are used interchangeably.

30.   Plaintiff alleges that Lyft drivers are employees of Defendant for purposes of the acts of infringement alleged herein, for at least the reasons that: (i) Defendant is a transportation company whose ride-hailing business is that of transporting passengers for compensation, and drivers perform work that is central, not tangential, to the usual course of Defendant's entire ride-hailing business, which would not be a viable business without its drivers; (ii) the performance of that work is not free from the control and direction of Defendant; (iii) Defendant sets drivers' qualification standards, solicits applications, conducts background checks on applicants, engages certain applicants as drivers while rejecting others, and enters into standard form contracts with drivers; (iv) drivers cannot build own their own passenger client base—they must take rides provided by Defendant via the Driver app; (v) drivers cannot fix prices and Defendant sets all prices; (vi) Defendant prescribes rules regarding car maintenance and manners that must be followed; (vii) Defendant handles all payment processing; and (viii) Defendant approves driver

applications and can cancel use of the platform by particular drivers and/or impose sanctions on drivers.

COUNT I
INFRINGEMENT OF THE '004 PATENT

31.   Plaintiff Quartz Auto repeats and realleges the above paragraphs, which are incorporated by reference as if fully restated herein.

32.   Plaintiff Quartz Auto is the owner of all rights, title, and interest in the '004 patent and, at a minimum, of all substantial rights in the '004 patent, including the exclusive right to enforce the patent and all rights to pursue damages, injunctive relief, and all other available remedies for past, current, and future infringement thereof.

33.   Plaintiff Quartz Auto and its predecessors in interest have never licensed Defendant under the '004 patent, nor has Plaintiff Quartz Auto otherwise authorized Defendant to practice any part of the '004 patent.

34.   The '004 patent is presumed valid under 35 U.S.C. § 282.

35.   The '004 patent relates to, among other things, a system and method for implementing proximity or location driven activities.

36.   On information and belief, Defendant operates, provides, and controls systems and methods that coordinate ride-hailing services using Rider and Driver applications that collect current location and destination locations used by Lyft's servers to execute functions in support of a proximity-driven activity.

37.   **Direct Infringement**: On information and belief, Defendant, alone and/or in conjunction with agents or parties under its control, has directly infringed and continues to directly infringe the '004 patent pursuant to 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, by making, having made, and using systems, methods, and computer program products

and related services for coordinating, controlling, and providing ride-hailing services that are covered by one or more claims of the '004 patent, in particular, method claims 1, 2 and 5–8 and system claims 12, 13 and 16–18 of the '004 patent without license or authority. The infringing activities utilize applications operated or licensed by Lyft that can be used on a variety of mobile computing devices and gather and transmit location-specific information. On information and belief, infringement of the '004 patent by these Lyft ride-hailing products and applications is demonstrated below.

38.   Method claim 1 of the asserted claims recites:

1. A method of implementing a proximity driven activity, comprising:

specifying an activity to be executed at an indeterminate destination location;

storing an executable software code corresponding to the activity;

determining a current location of a mobile computing device;

determining whether the destination location is within a predefined proximity range from the current location of the mobile computing device;

executing the executable software code at a time when the destination location is within the proximity range of the mobile computing device; and

transmitting an address of the destination location to the mobile computing device.

39.   On information and belief, the Lyft Platform performs a method of implementing a proximity driven activity, which includes methods for arranging and scheduling transportation. Lyft controls this implementation for its benefit and such implementation benefits the riders and the drivers. As the below screenshots reflect, in order to perform their duties, Lyft drivers must download the Driver application to their mobile devices and enter a "driver mode" by toggling the steering wheel icon in the top center of the application. Once in driver mode, Lyft is able to match

riders to the driver, who can then "accept" ride requests and receive directions for picking up the

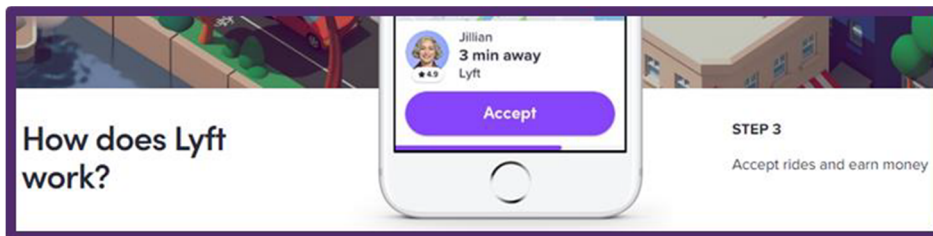requesting rider, services for which the Drivers are paid through the Driver app.

https://www.youtube.com/watch?v=a8n2--HlzDU

https://help.lyft.com/hc/en-us/articles/115012926847-How-drivers-and-passengers-are-paired

https://www.lyft.com/driver

40.   On information and belief, the Lyft Driver app specifies an activity to be executed

at an indeterminate destination location. As the below screenshot of the Driver application user

interface reflects, Lyft drivers must enter a "driver mode" in the Lyft Driver application on their

mobile devices by toggling the steering wheel icon in the top center of the interface in order to

receive and accept ride requests.

https://www.youtube.com/watch?v=a8n2--HlzDU
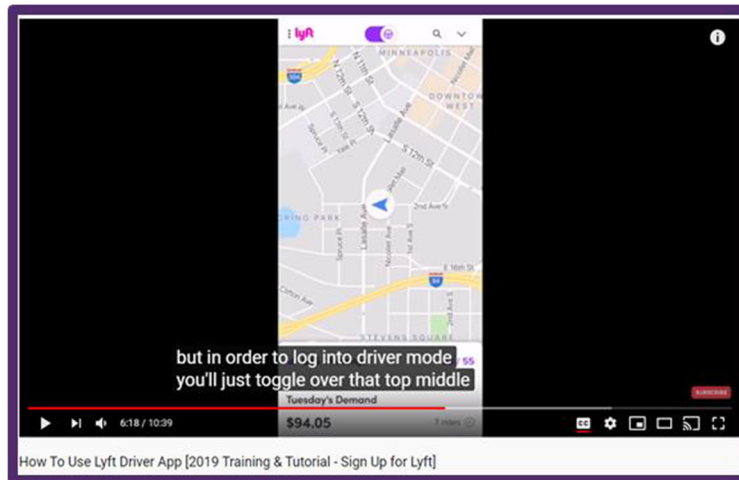
By entering "driver mode" in the Lyft Driver application, the driver specifies that s/he wants to be matched with and pick up riders (e.g., "an activity to be executed") but does not know the specific location of any potential riders (e.g., "indeterminate destination location"). The location of a potential rider is not presented to the driver until they receive the ride request, as reflected in Lyft's explanation of the Lyft Driver application below.

> *The Lyft Driver App.* We have separated the driver and rider experiences into two separate mobile apps—the Lyft Driver app for drivers and the Lyft app for riders. Drivers only have to tap 'Go Online' in the Lyft Driver app to begin receiving ride requests. Once matched, drivers will get a notification to accept the ride and receive the rider's pickup spot. On-screen instructions and directions make it easy to pick up riders, navigate to destinations and drop off riders. Drivers and riders then rate each other at the end of the ride.

https://www.sec.gov/Archives/edgar/data/1759509/000119312519059849/d633517ds1.htm

41.   On information and belief, one or more servers of the Lyft Platform stores an executable software code corresponding to the activity of matching drivers to riders and coordinating the picking up of riders. The screenshot below depicts an example portion of code believed to be needed to determine the locations of drivers around a specific location for rider/driver matching purposes. Discovery will confirm the exact relevant executable software code that is used and stored on Lyft's servers.

```
Nearby Drivers

Get the locations of drivers around a specific location. The drivers are grouped by ride type. See
the corresponding endpoint for more information.

Swift

let location = CLLocationCoordinate2D(latitude: 37.7833, longitude: -122.4167)

LyftAPI.drivers(near: location) { result in
  print("Lyft Plus drivers most recent positions:")
  let nearbyDrivers = result.value?[RideKind.Plus]
  nearbyDrivers?.forEach { driver in
    print("Lat: \(driver.position!.latitude)")
    print("Lng: \(driver.position!.longitude)")
  }
}
```

https://developer.lyft.com/docs/ios-api-wrappers

The Driver app necessarily includes code for executing functions allowing a driver to enter driver

mode and accept a ride, as illustrated by the screenshot below.

*https://www.youtube.com/watch?v=a8n2--HlzDU*
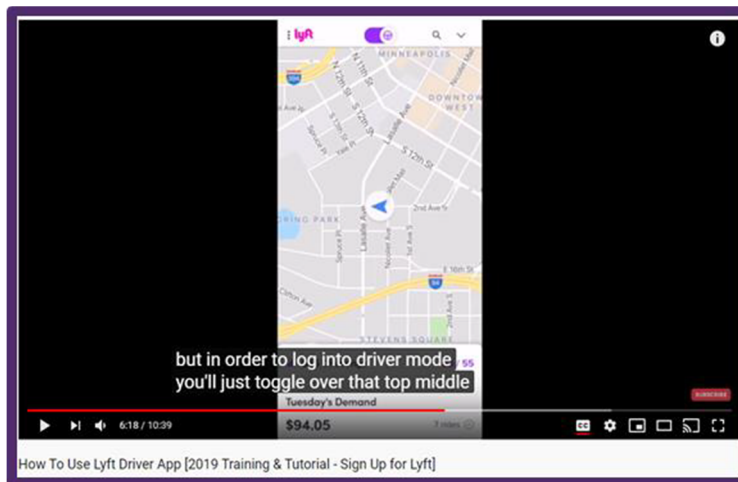
As the below description of the functionality of the Driver app demonstrates, the Driver app code

and code stored on Lyft's servers are necessarily integrated in order to execute functions related

to coordinating transportation services for matching drivers and riders and for drivers to perform

pick-ups.

19

How to give a ride

At the top of the screen, slide the steering wheel icon to the right to go online. This lets you receive ride requests. To see what different requests looks like in the app, skip to How rides appear in the app.

https://help.lyft.com/hc/en-us/articles/115013080028#app

42.   On information and belief, the Driver app periodically determines a current location of a mobile computing device of the driver, utilizing GPS or other sensor data generated by the mobile device. On information and belief, the determined location data may, at least in some instances, be further processed on a Lyft server for more accurate location determination and/or for determining the location in a coordinate system used by the server software. The determined location of the mobile device of the driver may then be used for driver/rider matching and display in the Rider and Driver applications. For example, the screenshot reproduced below from the Driver application shows a driver's determined location (the blue arrow).

https://www.youtube.com/watch?v=a8n2--HlzDU
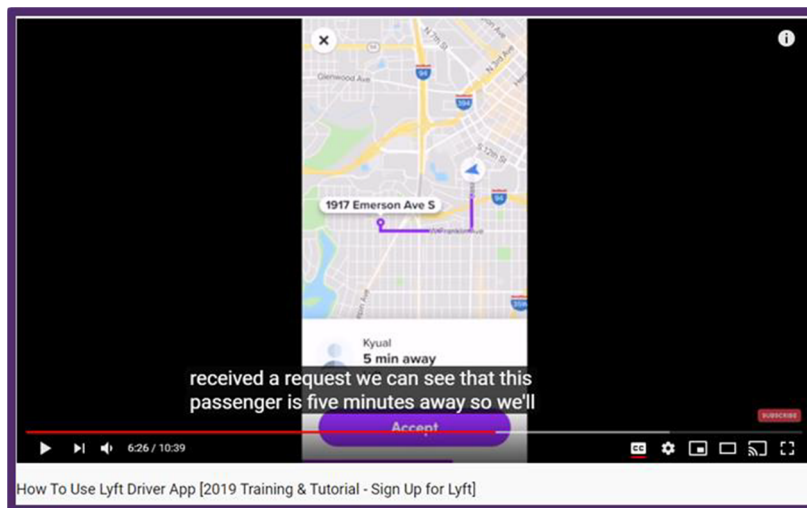
43.   On information and belief, software running on one or more servers of the Lyft Platform determines whether the destination location, i.e., the location of the passenger requesting a ride, is within a predefined proximity range from the current location of a driver's mobile

computing device. As Lyft explains, its matching process generally matches a driver (at a current location) with passengers (at a destination location) that are close by (within a predetermined proximity range):

How drivers and passengers are paired
To keep drivers as busy as possible while also keeping ETAs low for passengers, we generally match passengers with drivers who will arrive soonest. When you drop off a passenger, it's likely that your next request will be close by.

*https://help.lyft.com/hc/en-us/articles/115012926847-How-drivers-and-passengers-are-paired*

The screenshot below shows a driver that has been matched with a rider within a predefined proximity range from the driver's mobile computing device:

*https://www.youtube.com/watch?v=a8n2--HlzDU*
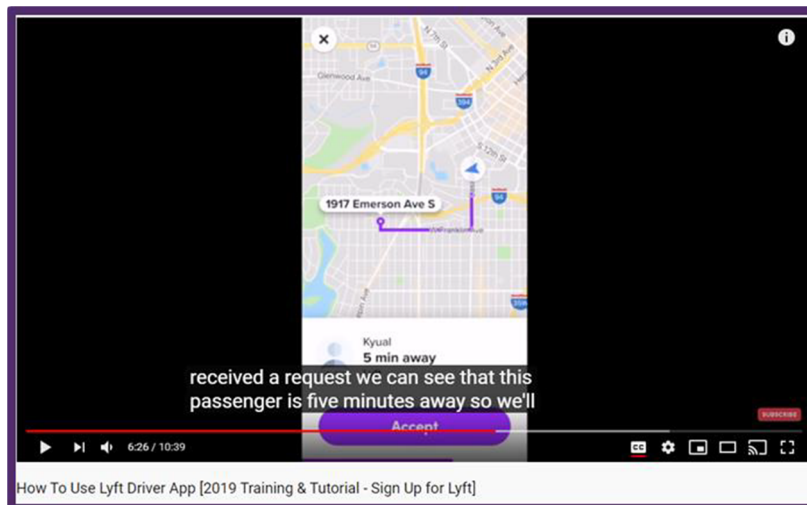
44.   On information and belief, one or more servers of the Lyft Platform executes the executable software code at a time when the destination location is within the proximity range of the mobile computing device. The code is executed to match drivers (with the driver's mobile phone running the Driver application serving as the "mobile computing device") to riders (located at a "destination location") and to provide information to direct the driver to the rider. To be paired, the driver and the rider must be within a proximity range determined and controlled by one or more

servers of the Lyft Platform. The screenshots below illustrate, respectively, the Driver application showing a passenger with whom the driver has been matched and the Rider application showing vehicle icons representing available driver vehicles in range of the rider in the moments before the rider requests a ride:


https://www.youtube.com/watch?v=a8n2--HlzDU
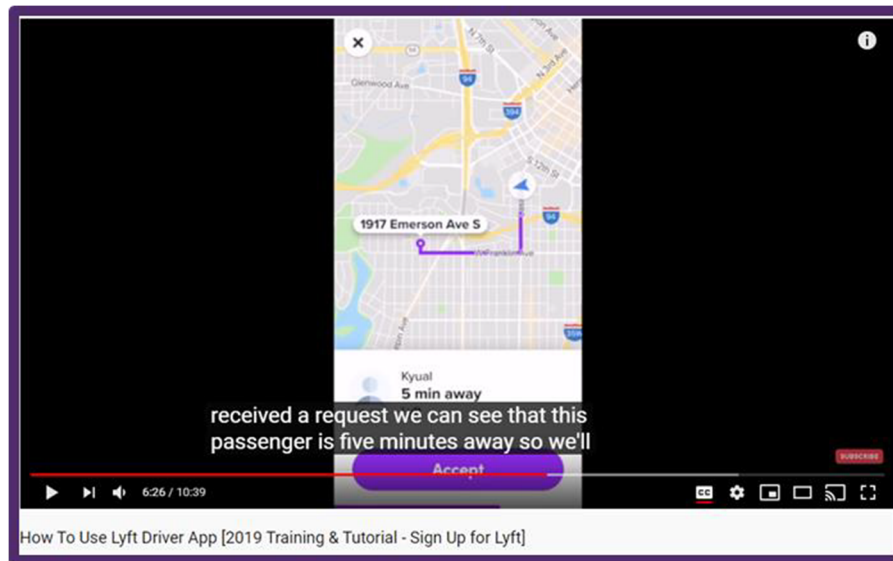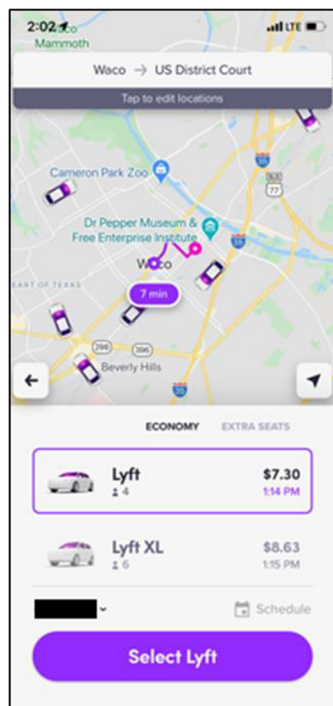
Lyft Rider Application Screenshot February 25, 2020

45.   On information and belief, a server of the Lyft Platform transmits an address of the destination location to the mobile computing device of the driver once the driver is notified by Lyft of a match. By this step, Lyft has already executed the relevant executable software code. The notification provides the driver with a pick-up address (i.e., the address of the "destination location") where the requesting rider is located. The driver may then choose to accept the ride request by tapping the "Accept" button in the Driver application.

https://www.youtube.com/watch?v=a8n2--HlzDU
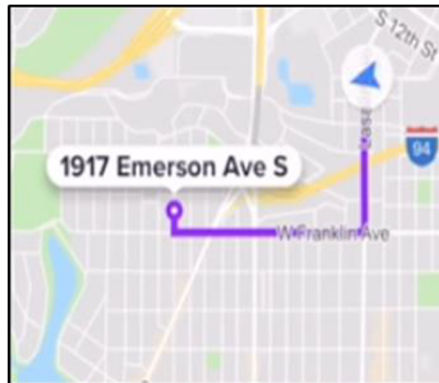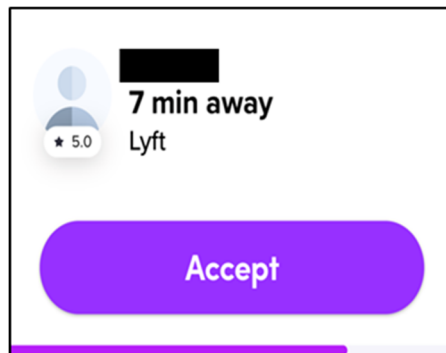
Lyft Driver Application Screenshot February 25, 2020

46.   With respect to dependent claim 2, on information and belief, Lyft's accused ride matching method involves the driver's mobile computing device periodically transmitting its current location via the Driver application over a network to a Lyft server (an event proximity server).

47.   With respect to dependent claims 5 and 6, on information and belief, software code is downloaded from a server of the Lyft Platform to the driver's mobile computing device to enable

the functionality required to perform the accused ride matching methods. The downloaded code includes at least the code for the Driver application, which is executed on the driver's mobile computing device.

48.   With respect to dependent claim 7, as alleged above, the accused method involves executing the executable software code on a server of the Lyft Platform to match a rider with a qualified driver and provide location and address information to direct the driver to the pick-up destination location.

49.   With respect to dependent claim 8, on information and belief, the accused method further embodies anti-hysteresis software code running on a server of the Lyft Platform to prevent duplication of the activity, as demonstrated, for example, by the fact that multiple drivers do not get assigned to the same rider, or vice versa, and the fact that, once a driver and rider are paired, a driver will typically not receive another ride request while heading to pick-up the initial rider.

50.   System claim 12 of the asserted claims is provided below:

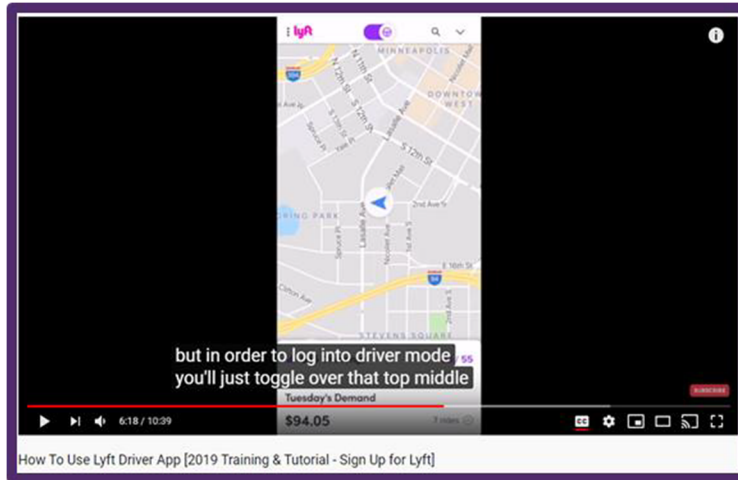*12. A system for implementing a proximity driven activity, comprising:*

a calendar module for specifying an activity to be executed at an indeterminate destination location;

a server for storing an executable software code corresponding to the activity and for determining a current location of a mobile computing device; and

the server determining whether the destination location is within a predefined proximity range from the current location of the mobile computing device, and, when the server determines that the destination location is within the proximity range of the mobile computing device, the server executes the executable software code, and transmits an address of the destination location to the mobile computing device.

51.   On information and belief, the Lyft Platform is a system for implementing a proximity driven activity, which provides functions for arranging and scheduling transportation. Lyft controls this implementation for its benefit and the system also benefits the riders and the

drivers. As the below screenshots reflect, in order to perform their duties, Lyft drivers must download the Driver application to their mobile devices and enter a "driver mode" by toggling the steering wheel icon in the top center of the application which enables them to accept ride requests and receive directions for picking up the requesting rider, services for which the Drivers are paid through the Driver application.
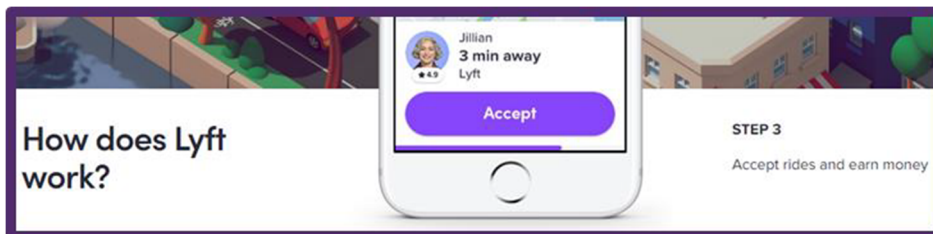

https://www.youtube.com/watch?v=a8n2--HlzDU

https://help.lyft.com/hc/en-us/articles/115012926847-How-drivers-and-passengers-are-paired


https://www.lyft.com/driver

52.   On information and belief, the Driver application of the Lyft Platform uses a calendar module for specifying an activity to be executed at an indeterminate destination location. The screenshots below demonstrate that the Driver app includes calendar features. For instance, the

Driver application catalogues past sessions online and can also schedule/aid in the scheduling of future sessions online (e.g. "a calendar module"). As shown in the screenshots below, the Driver application stores a driver's past sessions by year, month, week, and day, which allows the drivers to track previous activity by earnings, distance, and time.
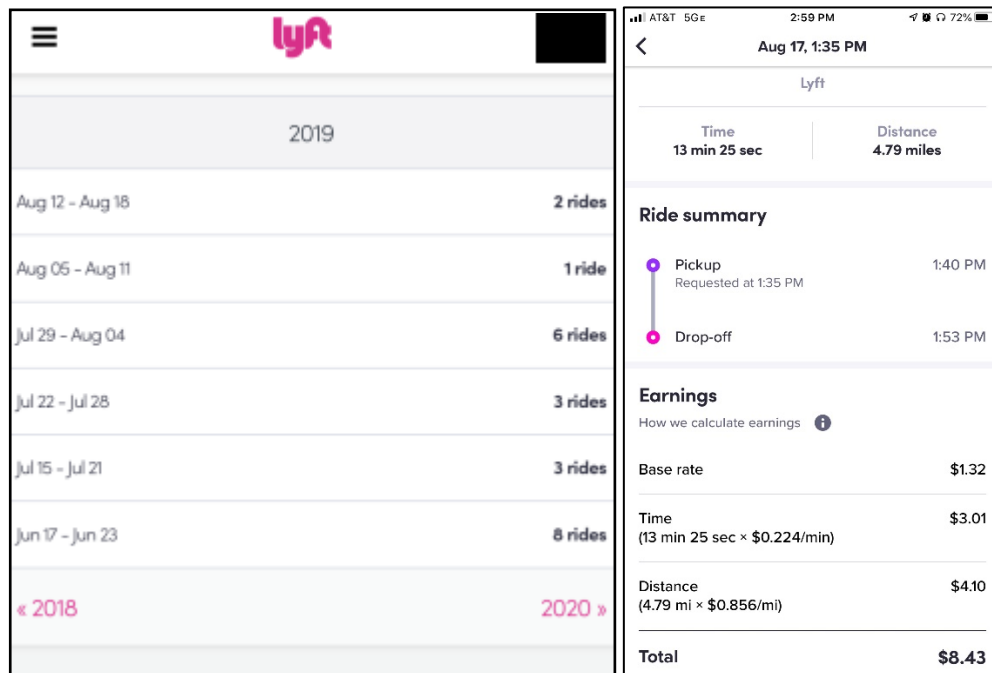
Lyft Driver Application Screenshots February 25, 2020

Additionally, Lyft provides a "Best Times to Earn More" scheduler within the Driver app that provides location-specific trends to help drivers schedule their daily activities. Such scheduling is location-specific, but only refers to a general location (e.g. an entire region, such as Western Maryland) and the locations of specific future riders remain indeterminate. The "Best Times to Earn More" scheduler is reflected in the screenshot below.
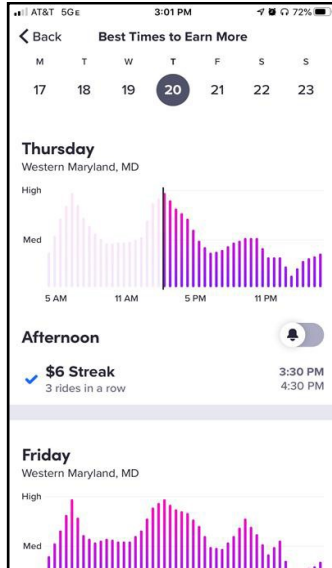
Lyft Driver Application Screenshot February 25, 2020

The Driver app also provides a driver with options to schedule future pickups. However, the exact locations of future riders remain indeterminate (e.g., "Near K St. NW" as opposed to a specific location).
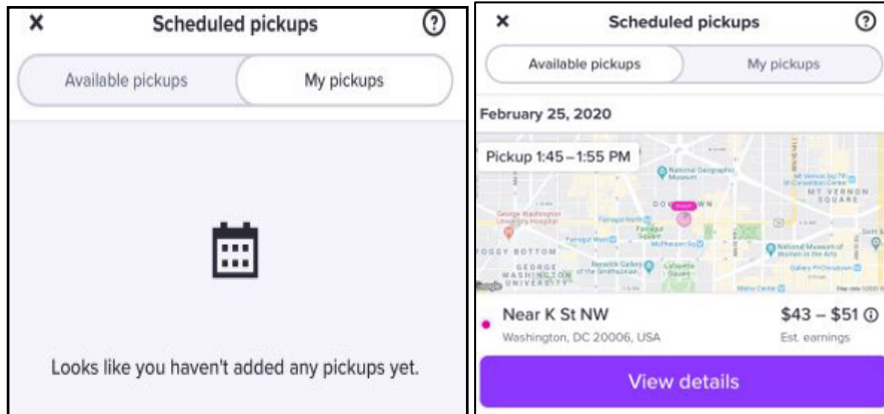
Lyft Driver Application Screenshot February 25, 2020

As alleged above with respect to method claim 1, the Driver app allows a driver to go online and specify that s/he wants to pick up riders ("an activity to be executed") at the location of potential riders (an "indeterminate destination location").

53.   On information and belief, the Lyft Platform includes a server for storing an executable software code corresponding to the activity of matching drivers to riders and

27

coordinating the picking up of riders, and for determining a current location of a mobile computing

device. The screenshot reproduced below depicts an example portion of code believed to be needed

to determine the locations of drivers around a specific location for rider/driver matching purposes.

https://developer.lyft.com/docs/ios-api-wrappers

Discovery will confirm the exact relevant executable software code that is used and stored on

Lyft's servers. The Driver app necessarily includes code for executing functions allowing a driver

to enter driver mode and accept a ride, as illustrated by the screenshot below.

https://www.youtube.com/watch?v=a8n2--HlzDU

As the below description of the functionality of the Driver app demonstrates, the Driver app code

and code stored on Lyft's servers are necessarily integrated in order to execute functions related

28

to coordinating transportation services for matching drivers and riders and for drivers to perform

pick-ups.

```
How to give a ride
At the top of the screen, slide the steering wheel icon to
the right to go online. This lets you receive ride requests.
To see what different requests looks like in the app, skip
to How rides appear in the app.
```

https://help.lyft.com/hc/en-us/articles/115013080028#app

54.   On information and belief, the Driver app periodically provides a current location

of a mobile computing device of the driver to one or more servers of the Lyft Platform, utilizing

GPS or other sensor data generated by the mobile device. On information and belief, the

determined location data may, at least in some instances, be further processed on the server for

more accurate location determination and/or for determining the location in a coordinate system

used by the server software. The determined location of the mobile device of the driver may then

be used for driver/rider matching and display in the Rider and Driver applications. As alleged

above with respect to claim 1, on information and belief, the server determines whether the rider's

location, which is the destination location, is within a predefined proximity range from the current

location of the driver's mobile computing device. When the server determines that the destination

location is within the proximity range of the driver's mobile computing device, the server executes

the executable software code, and transmits an address of the destination location to the driver's

mobile computing device.

https://www.youtube.com/watch?v=a8n2--HlzDU

The below statement attributable to Lyft reflects that the Lyft Platform attempts to optimize dispatch distances for pairing a passenger with a driver.

https://help.lyft.com/hc/en-us/articles/115012926847-How-drivers-and-passengers-are-paired

The driver is notified by Lyft in the Driver application when there is a match. By this step, on information and belief, one or more Lyft servers has already executed the relevant executable software code. As reflected in the image reproduced below, the driver receives a pick-up address and may the accept the trip by tapping "Accept."

30

https://www.youtube.com/watch?v=a8n2--HlzDU
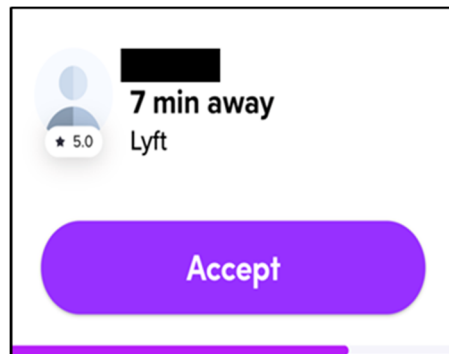
Lyft Driver Application Screenshot February 25, 2020

55.   With respect to dependent claim 13, on information and belief, Lyft's Platform embodies a server(s) that calculates the current location of the mobile computing device (e.g., the current location of a driver's smartphone with Driver app installed). For example, plotting the progression of drivers on a map displayed within the Rider app demonstrates that Lyft server(s) are calculating the location of the driver's smartphone. The Lyft server software also necessarily calculates the current location of drivers in a coordinate system used by the software to match them to requesting riders.

56.   With respect to dependent claims 16 and 17, on information and belief, a server of the Lyft Platform downloads software code to the driver's mobile computing device to enable the

31

functionality required to perform the accused ride matching methodology. The downloaded code includes at least the code for the Driver application, which is executed on the driver's mobile computing device.

57.   With respect to dependent claim 18, as alleged above, the accused system further embodies anti-hysteresis software code running on a server of the Lyft Platform to prevent duplication of the activity, as demonstrated, for example, by the fact that multiple drivers do not get assigned to the same rider, or vice versa, and the fact that, once a driver and rider are paired, a driver will typically not receive another ride request while heading to pick-up the initial rider.

58.   With respect to the asserted method claims 1, 2 and 5–8 of the '004 patent, and to the extent that any of the asserted system claims or computer program product claims are treated as method claims for the purpose of assessing the alleged acts of infringement, Plaintiff alleges that Defendant has been and is engaged in direct infringing activities because all steps of the claimed methods are performed by Defendant as a single entity. In particular, Plaintiff alleges that the steps of the accused ride-hailing methods performed by the Driver application of the Lyft Platform are performed by the mobile computing devices of Lyft drivers, and that such drivers are Lyft employees, such that their actions constitute acts performed by Defendant. The steps of the asserted claims performed by the server-side software and/or network of the Lyft Platform are also performed Defendant as the entity that owns or controls and operates such servers and network. On information and belief, Plaintiff further alleges that other Lyft employees, such as product development and testing engineers or driver support personnel, have and continue to use the accused methods for development, testing, and/or demonstration purposes.

59.   Plaintiff pleads in the alternative that, to the extent that Lyft drivers are independent contractors or agents rather than employees, Defendant is responsible as a direct infringer because

Defendant has and continues to perform the server-side steps and Defendant has and continues to direct and control the steps performed on the driver's mobile device such that those steps are also attributable to Defendant under principles of joint infringement. Defendant is liable as a direct infringer of the asserted method claims by at least one or more of: (i) acting through drivers who are agents of Defendant with respect to the transportation services provided to riders; (ii) contracting with its drivers to perform ride-hailing services that require performance of one or more steps of the claimed methods; and (iii) conditioning the drivers' participation in Defendant's transportation services and receipt of payment upon the performance of one or more steps of the claimed methods and establishing the manner or timing of that performance.

60.   Defendant has and continues to practice infringing methods by at least providing, operating, and controlling the accused methods via the Lyft Platform computer systems and software developed, owned, and provided by Defendant, which Defendant designed to perform the methods covered by the asserted patent claims. Defendant directs and controls the method steps performed by drivers by (i) prescreening and authorizing select individuals to serve as drivers in its transportation network on behalf of Defendant; (ii) supplying the Driver app for accessing and controlling the Lyft Platform, which must be used by drivers to initiate and control the Lyft Platform throughout the entire lifecycle of each ride; (iii) dictating, via software supplied to the driver's mobile device and instructions to the drivers, the manner in which the Driver app operates and must be used such that when the accused method is initiated on a driver's mobile device each step of the asserted method claims is performed in a manner dictated by the accused Lyft Platform; (iv) dictating the terms and conditions upon which drivers are paid for their services and retaining the ability to terminate a driver's access to and use of the Lyft Platform if not used in accordance with Defendant's required terms; (v) advertising the Lyft Platform and its transportation

33

arrangement services and providing instructions and directions to drivers regarding the use of the accused Driver app; and (vi) updating and providing ongoing support and maintenance for the accused Lyft Platform and its methodologies.

61.   Defendant conditions its drivers' use of its transportation services network upon the performance of the steps performed by the Driver app, and Defendant establishes the manner or timing of its drivers' performance. Defendant requires its drivers to contractually agree to terms and conditions that provide the drivers a limited license to use the Driver app only in conjunction with Defendant's ride-hailing network. Drivers must download the Driver app to their mobile devices and utilize the Driver app, including performing the specific claim steps executed by the Driver app identified above, in order to participate in Defendant's ride-hailing transportation network and services. Defendant provides step-by-step instructions and support to its drivers telling them how to utilize the Driver app if the driver wants to pick up and transport passengers in Defendant's transportation network. Those instructions, and the integrated sequence of events that must be performed for a driver to invoke use of the Lyft Platform and be matched with riders and directed to the rider's pick-up and destination locations, establishes the manner or timing of the drivers' performance of the claimed method steps. If drivers do not follow these precise steps, Defendant's services of matching drivers to passengers and coordinating the lifecycle of rides requests are not available.

62.   Defendant benefits by providing the Lyft Platform to attract and retain riders and drivers to increase its revenue and valuation. Drivers also receive a benefit of receiving payment from Defendant from using the Driver app and transporting passengers to their destinations.

63.   To the extent that the asserted system claims 12, 13 and 16–18 are treated as system claims for the purpose of assessing the alleged acts of infringement, Plaintiff alleges that Defendant

has been and is engaged in direct infringing activities by making and having made such systems. The making of the claimed systems is completed when a driver performs the final assembly step of downloading the Driver app to the driver's mobile device. Plaintiff alleges that such drivers are Lyft employees, such that their acts of making the claimed systems constitutes infringement by Defendant. On information and belief, Plaintiff further alleges that other Lyft employees, such as product development and testing engineers or driver support personnel, have and continue to make the accused Lyft Platform by downloading the Driver app to their mobile devices for development, testing, and/or demonstration purposes.

64.   Plaintiff further alleges that Lyft drivers have and continue to use the subject matter of asserted system claims 12, 13, and 16–18 by placing the Lyft Platform into action or service and exercising control over the Lyft Platform as a whole and obtaining beneficial use of each element of the claimed system or product. The drivers control each use of the Lyft Platform by using the Driver app to go online, which notifies the Lyft Platform of the drivers' availability to pick up riders and provides the drivers' location data used by the Lyft Platform to match riders and drivers, and by accepting particular ride requests triggering the Lyft Platform to provide an address of the rider pick-up location to the Driver app for display on the driver's mobile device. The drivers benefit from each component of the claimed systems and computer program products, which function to perform an integrated process of matching drivers and riders and providing the driver the address information that the driver requires to pick-up the rider as a necessary part of transporting the rider to the rider's destination and resulting in the driver receiving payment from Defendant. Plaintiff alleges that such drivers are Lyft employees, such that their use constitutes use by Lyft. On information and belief, Plaintiff further alleges that other Lyft employees, such as

product development and testing engineers or driver support personnel, have and continue to use the accused Lyft Platform for development, testing, and/or demonstration purposes.

65.   **Induced Infringement**: Plaintiff further pleads that, to the extent that Lyft drivers are independent contractors or agents rather than employees, Defendant is also responsible as an indirect infringer of asserted system claims 12, 13, and 16–18 pursuant to 35 U.S.C. § 271(b) because Defendant has and continues to induce drivers' direct infringing use of such system claims. Defendant has induced such acts of direct infringement by at least one or more of: (i) providing the accused Lyft Platform systems that were designed and intended to enable and control Defendant's transportation arrangement services; (ii) dictating, via the Driver app software supplied to the drivers and instructions to users thereof, the manner in which the accused Lyft Platform systems are used such that, when use of the Lyft Platform is initiated and controlled by a driver's mobile device, each component of the claimed systems is used and steps performed in a manner dictated by the accused Lyft Platform, including steps performed on the driver's mobile device; (iii) providing instructions and directions to drivers regarding the use of the accused Lyft Platform systems; and (iv) updating and providing ongoing support and maintenance for the accused Lyft Platform systems.

66.   On information and belief, Defendant has and continues to promote, advertise, and instruct current drivers and riders and potential drivers and riders about Lyft services and products through resources such as:

   (i)   Defendant's downloadable applications including the Rider application (https://www.lyft.com/rider) and Driver application (https://www.lyft.com/driver);

   (ii)   providing an overview of how to use Lyft's branded products (https://www.lyftbusiness.com), including instructions for riders to use the services (https://help.lyft.com/hc/en-us/categories/115002006488-Riding-with-Lyft); and

   (iii)   providing requirements to drivers to sign-up for the service

(https://help.lyft.com/hc/en-us/categories/115002009967-Driving-with-Lyft).

67.   Defendant's promotion, advertising, and instruction efforts include, at a minimum, maintenance of its own website, http://www.lyft.com/, the production and distribution of additional driver application requirements and Frequently Asked Questions (FAQs) on its website (https://www.lyft.com/driver-application-requirements   and   https://www.lyft.com/drive-with-lyft), and other indicia of Lyft-branded products (e.g., https://www.lyft.com/rider).

68.   Defendant's   Terms   &   Conditions   for   Drivers   are   provided   at (1) https://www.lyft.com/terms;   and   (2)   https://www.lyft.com/terms/driver-addendum.   In addition, Defendant provides extensive instructions to drivers on how to use the Driver app, including   online   instructions   for   "How   to   give   a   Lyft   ride"   (https://help.lyft.com/hc/en-us/articles/115013080028-How-to-give-a-Lyft-ride) (e.g., how to give a ride, how rides appear in the app, important information about giving rides, etc.) Defendant also provides online instructions for "How to apply to become a driver" (https://help.lyft.com/hc/en-us/articles/115013081188-How-to-apply-to-become-a-driver-) (e.g., how to start an application, see application status, applicant checks and issues, etc.).

69.   Defendant requires drivers to download its software applications to their mobile computing devices, such as smartphones and tablets, which enables Defendant to completely control the actions of the drivers to use the infringing features of the systems.

70.   The '004 patent is well-known in the industry, having been cited in at least 159 cited patents since its filing date.

71.   Defendant has induced and continues to induce the infringing acts of the drivers by engaging in these activities and continuing to encourage and instruct the drivers to use the accused Lyft Platform, with knowledge of the '004 patent by at least around the time when Plaintiff served

the original complaint in this action on March 5, 2020, and with the actual intent to cause the acts that it knew or should have known would induce direct infringement and/or willful blindness of a high probability of infringement.

72.   As a result of Defendant's infringement of at least method claims 1, 2, and 5–8, and system claims 12, 13, and 16–18 of the '004 patent, Plaintiff Quartz Auto has suffered monetary damages in an amount yet to be determined, and will continue to suffer damages in the future. Defendant is liable to Plaintiff in an amount that adequately compensates for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

73.   Defendant's wrongful acts have damaged and will continue to damage Plaintiff Quartz Auto irreparably, and Plaintiff has no adequate remedy at law for those wrongs and injuries. In addition to its actual damages, Plaintiff Quartz Auto is entitled to a permanent injunction restraining and enjoining Defendant and its agents, servants, and employees, and all persons acting thereunder, in concert with, or on its behalf, from infringing at least method claims 1, 2, and 5–8, and system claims 12, 13, and 16–18 of the '004 patent without additional compensation to Plaintiff in an amount to be determined by the Court.

<div align="center">

COUNT II
INFRINGEMENT OF THE '464 PATENT

</div>

74.   Plaintiff Quartz Auto repeats and realleges the above paragraphs, which are incorporated by reference as if fully restated herein.

75.   Plaintiff Quartz Auto is the owner of all rights, title, and interest in the '464 patent and, at a minimum, of all substantial rights in the '464 patent, including the exclusive right to enforce the patent and all rights to pursue damages, injunctive relief, and all other available remedies for past, current, and future infringement thereof.

76.   Plaintiff Quartz Auto and its predecessors in interest have never licensed Defendant under the '464 patent, nor has Plaintiff Quartz Auto otherwise authorized Defendant to practice any part of the '464 patent.

77.   The '464 patent is presumed valid under 35 U.S.C. § 282.

78.   The '464 patent relates to, among other things, systems, and methods for distributing information to the operator of a vehicle.

79.   On information and belief, Defendant operates, provides, and controls systems and methods that coordinate ride-hailing services using passenger and driver applications that distribute information via Defendant's servers to the operator of a vehicle.

80.   **Direct Infringement**: On information and belief, Defendant, alone and/or in conjunction with agents or other parties under its control, has directly infringed and continues to directly infringe the '464 patent pursuant to 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, by making, having made, and using systems and methods and related services for coordinating, controlling, and providing ride-hailing services that are covered by one or more claims of the '464 patent, in particular method claims 1–6 and 12–14, and system claim 20 of the '464 patent without license or authority. The infringing activities utilize applications operated or licensed by Defendant that can be used on a variety of remote computing devices and gather and transmit location-specific information. This is without Plaintiff Quartz Auto's authorization, in violation of 35 U.S.C. § 271(a). On information and belief, infringement of the '464 patent by these Lyft ride-hailing products and applications is demonstrated below.

81.   Method claim 1 of the asserted claims recites:

1. A method of distributing vehicle control information, comprising:

determining at a controller located at a location vehicle control information associated with the location and with an operator of a vehicle;

transmitting the vehicle control information to a vehicle device; receiving the vehicle control information at the vehicle device; and

arranging at the vehicle device for an indication to be provided to the operator in accordance with the vehicle control information.

82.   On information and belief, the Lyft Platform performs a method of distributing vehicle control information. Defendant controls this implementation for its benefit and such implementation benefits the drivers and riders. As the below statement attributable to Lyft reflects, passengers can use the Rider app on their mobile devices to request a ride from a nearby qualified Lyft driver.

"**The Lyft app**
To request a Lyft ride, download the Lyft app and create an account. Then:
1. In your app, tap 'Search destination' and enter your destination
2. Tap the correct address from the list provided
3. Choose your ride type. You can view additional ride types, such as Shared, Lux, or XL.
4. Tap 'Select Lyft'
5. Confirm or change your pickup spot and tap 'Confirm and request'
The pickup location will automatically set to your current GPS location."

https://help.lyft.com/hc/en-us/articles/115013079988-How-to-request-a-ride

83.   On information and belief, the Rider app installed on the passenger's mobile device determines vehicle control information associated with a location and with an operator of a vehicle. The Rider app determines a current location using GPS or other sensor data generated on the mobile device, which is a controller located at a location (i.e., the pick-up location) and constitutes vehicle control information associated with the location. The below statement attributable to Lyft

reflects that the Rider app integrates with location services of the passenger's mobile device to determine the passenger's current location.

> **"The Lyft app**
> To request a Lyft ride, download the Lyft app and create an account. Then:
> 1. In your app, tap 'Search destination' and enter your destination
> 2. Tap the correct address from the list provided
> 3. Choose your ride type. You can view additional ride types, such as Shared, Lux, or XL.
> 4. Tap 'Select Lyft'
> 5. Confirm or change your pickup spot and tap 'Confirm and request'
> The pickup location will automatically set to your current GPS location. To change the pickup location:
> 1. Tap 'Current location' at the top of the screen
> 2. Enter an address or drag the location pin to the right spot
> 3. Tap 'Set pickup.' That's it!"

https://help.lyft.com/hc/en-us/articles/115013079988-How-to-request-a-ride

The vehicle control information may also include vehicle control information associated with an operator of a vehicle, for example, a selected Lyft product class (e.g., Lyft, Lyft XL, Lux, etc.) and ride preferences associated with particular categories of drivers and vehicles, all of which is provided via the Rider app at the pick-up location.

84.   On information and belief, a server of the Lyft platform transmits the vehicle control information to the mobile computing device of a selected driver, which is a vehicle device. For example, the vehicle control information is sent from the Rider app, through the Lyft server, to a nearby Driver app (and associated driver) upon receiving a ride request as indicated by the following screenshots.

> "When you get a ride request, you'll see a notification with the passenger's name, pickup ETA, and ride type. Tap anywhere to accept."

https://help.lyft.com/hc/en-us/articles/115013080028-How-to-give-a-Lyft-ride

"On-demand technology stack of Uber, Lyft, Ola sends notifications to the driver and customers through Push Notification Services, SMS, and Email... There are two apps that operate together, One app is for driver and another app is for the passenger... The instantaneous location of the driver is shared with the passenger in real-time so a driver needs to be online all the time."

https://www.appsrhino.com/lyft-tech-stack-uber/

85.   On information and belief, the Driver app running on a driver's mobile device receives the vehicle control information at the vehicle device. The following statements describe this aspect of the accused method.

"When you get a ride request, you'll see a notification with the passenger's name, pickup ETA, and ride type. Tap anywhere to accept."

https://help.lyft.com/hc/en-us/articles/115013080028-How-to-give-a-Lyft-ride

"On-demand technology stack of Uber, Lyft, Ola sends notifications to the driver and customers through Push Notification Services, SMS, and Email... There are two apps that operate together, One app is for driver and another app is for the passenger... The instantaneous location of the driver is shared with the passenger in real-time so a driver needs to be online all the time."

https://www.appsrhino.com/lyft-tech-stack-uber/

86.   On information and belief, the Driver app arranges at the vehicle device for an indication to be provided to the operator (i.e., the driver) in accordance with the vehicle control information. The below statements demonstrate that notifications in accordance with the vehicle control information are provided to the driver via the Driver app.

"On-demand technology stack of Uber, Lyft, Ola sends notifications to the driver and customers through Push Notification Services, SMS, and Email…

Send/accept the booking request
Current location detection
Direction tracking
Ride/Fare calculations
Chat and messaging
Ride rating and review
Cancel request – both ways"

https://www.appsrhino.com/lyft-tech-stack-uber/

"**How rides appear in the app**
When you get a ride request, you'll see a notification with the passenger's name, pickup ETA, and ride type (Shared, Lyft Lux, etc). The Lyft Driver app may display ride request alerts in the following colors:

- Standard Lyft: Pink
- Shared: Purple
- Lyft XL: Bright blue
- Lyft Lux: Blue-gray
- Lux Black and Lux Black XL: Black"

https://help.lyft.com/hc/en-us/articles/115013080028-How-to-give-a-Lyft-ride#app

The screenshot below from the Driver app illustrates a received ride request including the location of the passenger displayed on a driver's mobile device, as well as the ability of the Driver app to accept that ride request.

https://www.youtube.com/watch?v=a8n2--HlzDU&t=10s
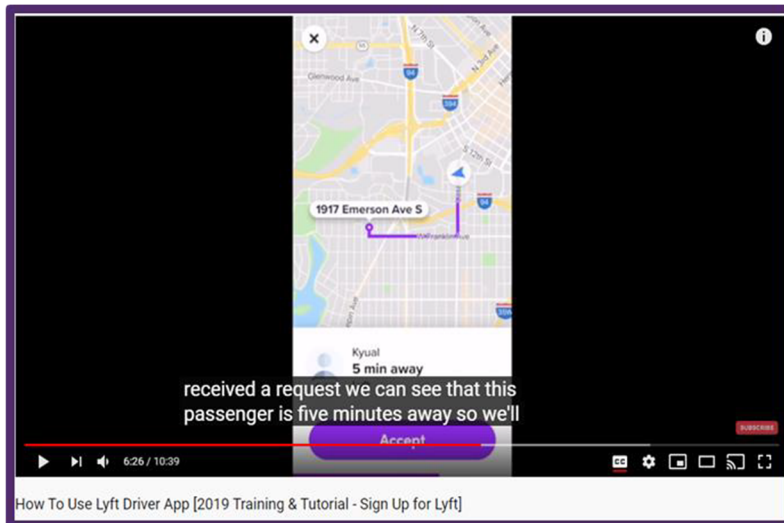
87.   With respect to dependent claim 2, on information and belief, the accused ride matching method utilizes vehicle control information that is further associated with at least a direction of travel, location information, an allowable vehicle action, and a prohibited vehicle action. The vehicle control information transmitted to the driver includes the pick-up location, with the pick-up location inherently indicating to the driver a direction of travel. The Lyft Platform also prohibits (and allows) certain vehicle actions based upon the Lyft product class that a rider selects (e.g., standard Lyft and Shared).

88.   With respect to dependent claim 3, the Lyft Platform allows a rider to schedule a pick-up in advance, such that the vehicle control information is associated with the scheduled time and day of pick-up.

89.   With respect to dependent claim 4, the vehicle control information may be associated with at least an operator identifier or category, for example a product class such as Lyft, Lyft XL, Lux, etc., which must be selected by a passenger when placing a ride request.

90.   With respect to dependent claim 5, the Driver app provides customization controlling how ride requests are indicated to the driver (e.g., operator preference).

91.   With respect to dependent claim 6, the vehicle control information may be further associated with a vehicle category, such as vehicles that qualify for Lyft XL, Lux, Lux Black, Lux Black XL, or Lyft Car Seat categories.

92.   With respect to dependent claim 12, the accused method embodies the vehicle control information being transmitted to another vehicle device. For example, if a ride request (with corresponding vehicle control information related to the request, as described in relation to claim 1) is declined or not accepted within a certain time window, the vehicle control information is sent to another driver's Driver app (e.g., another vehicle device).

93.   With respect to dependent claim 13, the accused method embodies at least receiving a confirmation from the vehicle device, as a driver must tap "Accept" on their device in order to transmit acceptance (e.g., confirmation) of the ride request.

94.   With respect to dependent claim 14, the accused method comprises the driver's mobile device receiving the vehicle control information from a server of the Lyft Platform, which functions as a central controller.

95.   System claim 20 of the asserted claims recites:

20. A system, comprising:

a controller located at a location, wherein the controller is adapted to (i) determine vehicle control information associated with the location and with an operator of a vehicle and (ii) transmit the vehicle control information; and

a vehicle device adapted to (i) receive the vehicle control information and (ii) arrange for an indication to be provided to the operator in accordance with the vehicle control information.

96.   On information and belief, the Lyft Platform is a system comprising a controller located at a location, wherein the controller is adapted to (i) determine vehicle control information associated with the location and with an operator of a vehicle and (ii) transmit the vehicle control information. Defendant controls this implementation for its benefit and such implementation benefits the drivers and riders. As the below statement attributable to Lyft reflects, passengers can use the Rider app on their mobile devices to request a ride from a nearby qualified Lyft driver.

"**The Lyft app**
To request a Lyft ride, download the Lyft app and create an account. Then:
1.In your app, tap 'Search destination' and enter your destination
2.Tap the correct address from the list provided
3.Choose your ride type. You can view additional ride types, such as Shared, Lux, or XL.
4.Tap 'Select Lyft'
5.Confirm or change your pickup spot and tap 'Confirm and request'
The pickup location will automatically set to your current GPS location."

https://help.lyft.com/hc/en-us/articles/115013079988-How-to-request-a-ride

97.   As alleged above, the Rider app determines a current location of the passenger's mobile computing device utilizing GPS or other sensor data generated on the mobile device, which is a controller located at a location (i.e., the pick-up location) and constitutes vehicle control information associated with the location.

98.   As alleged above, the vehicle control information may also include, for example, destination location/address, and Lyft product class and ride preferences associated with particular categories of drivers and vehicles, all of which is provided via the Rider app at the pick-up location.

99.   The passenger's mobile device and servers and network infrastructure of the Lyft Platform transmit the vehicle control information to the mobile device of a selected driver.

100.   On information and belief, the Lyft Platform is a system comprising a vehicle device adapted to (i) receive the vehicle control information and (ii) arrange for an indication to be provided to the operator in accordance with the vehicle control information. As alleged above, a server of the Lyft platform transmits the vehicle control information to the mobile computing device of a selected driver, which is a vehicle device. The following information and screenshot

confirm exemplary types of vehicle control information (e.g., pick-up location) transmitted to a driver's mobile device.

> "On-demand technology stack of Uber, Lyft, Ola sends notifications to the driver and customers through Push Notification Services, SMS, and Email... There are two apps that operate together, One app is for driver and another app is for the passenger... The instantaneous location of the driver is shared with the passenger in real-time so a driver needs to be online all the time."

https://www.appsrhino.com/lyft-tech-stack-uber/

https://www.youtube.com/watch?v=a8n2--HlzDU&t=10s
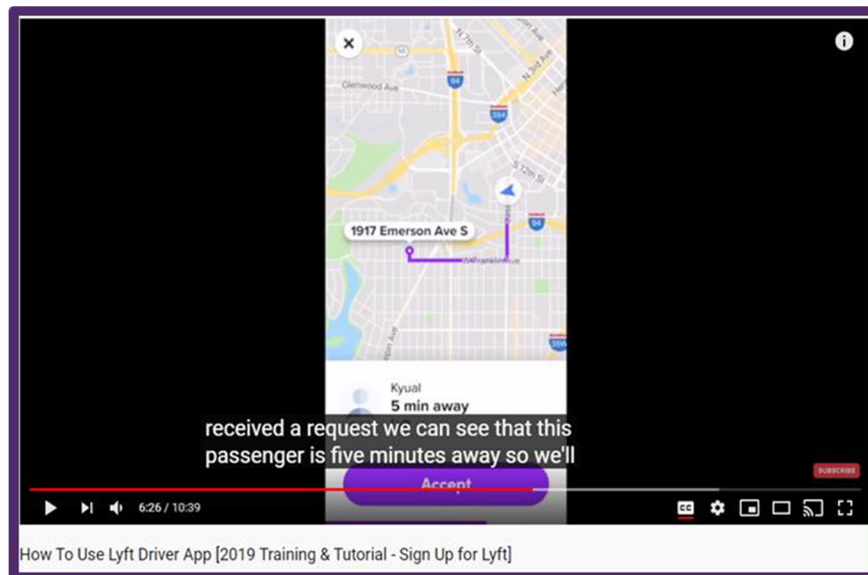
101.   The system includes a Driver app running on a driver's mobile device, which receives the vehicle control information at the vehicle device and arranges for an indication to be provided to the operator (i.e., the driver) in accordance with the vehicle control information.

102.   With respect to asserted method claims 1–6 and 12–14 of the '464 patent, and to the extent that system claim 20 is treated as method claim for the purpose of assessing the alleged acts of infringement, Plaintiff alleges that Defendant has been and is engaged in direct infringing activities because all steps of the claimed methods are performed by or attributable to Defendant

as a single entity. In particular, Plaintiff alleges that the steps of the accused ride-hailing methods performed by the Driver application of the Lyft Platform are performed by the mobile devices of Lyft drivers, and that such drivers are Lyft employees such that their actions constitute acts performed by Defendant. The steps of the asserted claims performed by the server-side software and/or network of the Lyft Platform are also performed by Defendant as the entity that owns or controls and operates such servers and network. On information and belief, Plaintiff further alleges that other Lyft employees, such as product development and testing engineers or driver support personnel, have and continue to use the accused methods for development, testing, and/or demonstration purposes.

103.   Plaintiff pleads in the alternative that, to the extent that Lyft drivers are independent contractors or agents rather than employees, Defendant is responsible as a direct infringer because Defendant has and continues to perform the server-side steps and Defendant has and continues to direct and control the steps performed on the drivers' mobile devices such that those steps are also attributable to Defendant under principles of joint infringement. Defendant is liable as a direct infringer of the asserted method claims by at least one or more of: (i) acting through drivers who are agents of Defendant with respect to the transportation services provided to riders; (ii) contracting with its drivers to perform ride-hailing services that require performance of one or more steps of the claimed methods; and (iii) conditioning the drivers' participation in Defendant's transportation services and receipt of payment upon the performance of one or more steps of the claimed methods and establishing the manner or timing of that performance.

104.   Defendant has and continues to practice infringing methods by at least providing, operating, and controlling the accused methods via the Lyft Platform computer systems and software developed, owned, and provided by Defendant, which Defendant designed to perform the

48

methods covered by the asserted patent claims. Defendant directs and controls the method steps

performed by drivers by (i) prescreening and authorizing select individuals to serve as drivers in

its transportation network on behalf of Defendant; (ii) supplying the Driver app for accessing and

controlling the Lyft Platform, which must be used by drivers to initiate and control the Lyft

Platform throughout the entire lifecycle of each ride; (iii) dictating via software supplied to the

drivers' mobile devices and instructions to the drivers the manner in which the Driver app operates

and must be used such that when the accused method is initiated on a driver's mobile device each

step of the asserted method claims is performed in a manner dictated by the accused Lyft Platform;

(iv) dictating the terms and conditions upon which drivers are paid for their services and retaining

the ability to terminate a driver's access to and use of the Lyft Platform if not used in accordance

with Defendant's required terms; (v) advertising the Lyft Platform and its transportation

arrangement services and providing instructions and directions to drivers regarding the use of the

Driver app; and (vi) updating and providing ongoing support and maintenance for the accused Lyft

Platform and its methodologies.

105.   Defendant conditions its drivers' use of its transportation services network upon the

performance of the steps performed by the Driver app, and Defendant establishes the manner or

timing of its drivers' performance. Defendant requires its drivers to contractually agree to terms

and conditions that provide the drivers a limited license to use the Driver app only in conjunction

with Defendant's ride-hailing network. Drivers must download the Driver app to their mobile

devices and utilize the Driver app, including performing the specific claim steps executed by the

Driver app identified above, if they wish to participate in Defendant's ride-hailing transportation

network and services. Defendant provides step-by-step instructions and support to its drivers

telling them how to utilize the Driver app if the driver wants to pick up and transport passengers

in Defendant's transportation network. Those instructions, and the integrated sequence of events that must be performed for a driver to invoke use of the Lyft Platform and be matched with riders and directed to the rider's pick-up and destination locations, establishes the manner or timing of the drivers' performance of the claimed method steps. If drivers do not follow these precise steps, Defendant's services of matching drivers to passengers and coordinating the lifecycle of rides requests are not available.

106.   Defendant also directs and controls the method steps performed by passengers using the Rider app by at least (i) supplying the Rider app for accessing and controlling the Lyft Platform, which must be used by passengers to initiate a ride request and control the Lyft Platform throughout the entire lifecycle of each ride; (ii) dictating via software supplied to the passengers' mobile devices and instructions to the passengers the manner in which the Rider app operates and must be used such that, when the accused method is initiated on a passenger's mobile device each step of the asserted method claims is performed in a manner dictated by the accused Lyft Platform; (iii) advertising the Lyft Platform and its transportation arrangement services and providing instructions and directions to passengers regarding the use of the Rider app; and (iv) updating and providing ongoing support and maintenance for the accused Lyft Platform and its methodologies.

107.   Defendant conditions passengers' use of its transportation services network upon the performance of the steps performed by Rider app, and Defendant establishes the manner or timing of the passengers' performance. Defendant requires its passengers to contractually agree to terms and conditions that provide the passengers a limited license to use the Rider app only in conjunction with Defendant's ride-hailing network. Passengers must download the Rider app to their mobile devices and utilize the Rider app, including performing the specific claim steps executed by the Rider app identified above, if they wish to use Defendant's ride-hailing

transportation network and services. Defendant provides step-by-step instructions and support to its passengers telling them how to utilize the Rider app to secure a ride in Defendant's transportation network. Those instructions, and the integrated sequence of events that must be performed for a passenger to invoke use of the Lyft Platform and be matched with and picked-up by the selected driver, establishes the manner or timing of the passenger's performance of the claimed method steps. If passengers do not follow these precise steps, Defendant's services of matching drivers to passengers and coordinating the lifecycle of rides requests are not available.

108.   Defendant benefits by providing the Lyft Platform to attract and retain riders and drivers to increase its revenue and valuation. The drivers also receive a benefit of receiving payment from Defendant from using the Driver app and transporting passengers to their destinations, and passengers receive the benefit of convenient transportation.

109.   Plaintiff alleges that passengers have and continue to use the subject matter of system claim 20 by placing the Lyft Platform into action or service and exercising control over the Lyft Platform as a whole and obtaining beneficial use of each element of the claimed system. The passengers control each use of the Lyft Platform in relation to claim 20 by using the Rider app to request a ride, which notifies the Lyft Platform of the passenger's pick-up location, ride preferences, and other vehicle control information used by the Lyft Platform to match riders and drivers. The passengers benefit from each component of the claimed system, which function to perform an integrated process of matching drivers and riders and providing the driver the vehicle control information that the driver requires to pick-up the passenger as a necessary part of transporting the rider to the rider's destination. On information and belief, Plaintiff further alleges that other Lyft employees, such as product development and testing engineers or driver support

personnel, have and continue to use the accused Lyft Platform to infringe claim 20 for development, testing, and/or demonstration purposes.

110.   **Induced Infringement**: Plaintiff alleges that Defendant is responsible as an indirect infringer of asserted system claim 20 pursuant to 35 U.S.C. § 271(b) because Defendant has and continues to induce passengers' direct infringing use of such system. Defendant has induced such acts of direct infringement by the at least by one or more of: (i) providing the accused Lyft Platform systems that were designed and intended to enable and control Defendant's transportation arrangement services; (ii) dictating the Driver app and Rider app software supplied to the drivers and passengers and instructions to users thereof the manner in which the accused Lyft Platform systems are used such that when use of the Lyft Platform is initiated and controlled by a passenger's mobile device, each component of the claimed system is used in a manner dictated by the accused Lyft Platform; (iii) providing instructions and directions to passengers and drivers regarding the use of the accused Lyft Platform; and (iv) updating and providing ongoing support and maintenance for the accused Lyft Platform.

111.   On information and belief, Defendant has and continues to promote, advertise, and instruct current drivers and riders and potential drivers and riders about Lyft services and products through resources such as:

(i)   Defendant's downloadable applications including the Rider application (https://www.lyft.com/rider) and Driver application (https://www.lyft.com/driver);

(ii)   providing an overview of how to use Lyft's branded products (https://www.lyftbusiness.com), including instructions for riders to use the services (https://help.lyft.com/hc/en-us/categories/115002006488-Riding-with-Lyft); and

(iii)   providing requirements to drivers to sign-up for the service (https://help.lyft.com/hc/en-us/categories/115002009967-Driving-with-Lyft).

112.   Defendant's promotion, advertising, and instruction efforts include, at a minimum, maintenance of its own website, http://www.lyft.com/, the production and distribution of additional driver application requirements and Frequently Asked Questions (FAQs) on its website (https://www.lyft.com/driver-application-requirements   and   https://www.lyft.com/drive-with-lyft), and other indicia of Lyft-branded products (https://www.lyft.com/rider).

113.   Defendant's   Terms   &   Conditions   for   Drivers   are   provided   at (1) https://www.lyft.com/terms;   and   (2)   https://www.lyft.com/terms/driver-addendum.   In addition, Defendant provides extensive instructions to driver on how to use the Driver app, including online instructions for "How to give a Lyft ride" (https://help.lyft.com/hc/en-us/articles/115013080028-How-to-give-a-Lyft-ride) (e.g., how to give a ride, how rides appear in the app, important information about giving rides, etc.) Defendant also provides online instructions for "How to apply to become a driver" (https://help.lyft.com/hc/en-us/articles/115013081188-How-to-apply-to-become-a-driver-) (e.g., how to start an application, see application status, applicant checks and issues, etc.).

114.   Defendant requires both riders and drivers to download its software applications to their mobile computing devices, such as smartphones and tablets, which enables Defendant to completely control the actions of both the riders and the drivers to use the infringing features of the systems.

115.   The '464 patent is well known in this industry—having been cited in at least 64 cited patents since its filing date.

116.   Defendant has induced and continues to induce the infringing acts of the drivers and riders by engaging in these activities and continuing to encourage and instruct the drivers and riders to use the accused Lyft Platform, with knowledge of the '464 patent by at least around the

time when Plaintiff served the original complaint in this action on March 5, 2020, and with the actual intent to cause the acts that it knew or should have known would induce direct infringement and/or willful blindness of a high probability of infringement.

117.   As a result of Defendant's infringement of at least method claims 1–6 and 12–14 and system claim 20 of the '464 patent, Plaintiff Quartz Auto has suffered monetary damages in an amount yet to be determined, and will continue to suffer damages in the future. Defendant is liable to Plaintiff in an amount that adequately compensates for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

118.   Defendant's wrongful acts have damaged and will continue to damage Plaintiff Quartz Auto irreparably, and Plaintiff has no adequate remedy at law for those wrongs and injuries. In addition to its actual damages, Plaintiff Quartz Auto is entitled to a permanent injunction restraining and enjoining Defendant and its agents, servants, and employees, and all persons acting thereunder, in concert with, or on its behalf, from infringing at least method claims 1–6 and 12–14 and system claim 20 of the '464 patent without additional compensation to Plaintiff in an amount to be determined by the Court.

<div align="center">

COUNT III
<u>INFRINGEMENT OF THE '085 PATENT</u>

</div>

119.   Plaintiff Quartz Auto repeats and realleges the above paragraphs, which are incorporated by reference as if fully restated herein.

120.   Plaintiff Quartz Auto is the owner of all rights, title, and interest in the '085 patent and, at a minimum, of all substantial rights in the '085 patent, including the exclusive right to enforce the patent and all rights to pursue damages, injunctive relief, and all other available remedies for past, current, and future infringement thereof.

121.   Plaintiff Quartz Auto and its predecessors in interest have never licensed Defendant under the '085 patent, nor has Plaintiff Quartz Auto otherwise authorized Defendant to practice any part of the '085 patent.

122.   The '085 patent is presumed valid under 35 U.S.C. § 282.

123.   The '085 patent relates to, among other things, a method, system, and program for providing user location information with a personal information management program. A personal information management program gathers and presents personal information manager information, such as calendaring and scheduling information, allowing users to organize random bits of information in a useful format, including a person's geographic location.

124.   On information and belief, Defendant operates, provides, and controls systems and methods that coordinate a ride-hailing service that uses passenger and driver applications that interact with a personal information management program, using geographical reference data used by Defendant's servers to track and depict the various drivers in the vicinity of a potential passenger.

125.   **Direct Infringement**: On information and belief, Defendant, alone and/or in conjunction with agents or parties under its control, has directly infringed and continues to directly infringe the '085 patent pursuant to 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, by using computerized methods for coordinating, controlling, and providing ride-hailing services that are covered by one or more claims of the '085 patent, in particular, method claims 1–4, 7, 9–12, 15, and 16 of the '085 patent, without license or authority. The infringing activities utilize applications operated or licensed by Defendant that can be used on a variety of remote computing devices and gather and transmit location-specific information. Within the Lyft Platform, the Rider and Driver applications generate position coordinates corresponding to the

time the app is opened. This is without Plaintiff Quartz Auto's authorization, in violation of 35

U.S.C. § 271(a). On information and belief, infringement of the '085 patent by these Lyft ride-

hailing products and applications is demonstrated below.

126.   Claim 1 of the asserted claims recites:

1. A method for providing user location information for a personal information management program, comprising:

generating position coordinates of a wireless device and time information indicating times when the position coordinates were generated, wherein a user is associated with the wireless device;

processing the position coordinates and time information to determine whether a rate of change in distance per unit of time in a series of position coordinates at times indicates a predefined activity of the user occurring during an activity time period during which the position coordinates and the time information were generated; and

generating information on the determined predefined activity for the activity time period.

127.   On information and belief, the Lyft Platform performs a method for providing user

location information for a personal information management program. Defendant controls this

implementation for its benefit and such implementation benefits the drivers and riders. Lyft

passengers and drivers must download the Rider and Driver applications, respectively, to their

mobile devices, which enables them to input and to accept ride requests. As the below screenshots

reflect, the apps enable the mobile devices to periodically send GPS position, timestamp, and

acceleration data to one or more servers of the Lyft Platform, which data is processed to support

various functions including the monitoring and reporting of ride incidents and location specific

trends, and to improve the product experience for riders.

"**Location Information.** Great rides start with an easy and accurate pickup. The Lyft Platform collects location information (including GPS and WiFi data) differently depending on your Lyft app settings and device permissions as well as whether you are using the platform as a Rider or Driver:

- Riders: We collect your device's precise location when you open and use the Lyft app, including while the app is running in the background from the time you request a ride until it ends. Lyft also tracks the precise location of scooters and e-bikes at all times.
- Drivers: We collect your device's precise location when you open and use the app, including while the app is running in the background when it is in driver mode. We also collect precise location for a limited time after you exit driver mode in order to detect ride incidents, and continue collecting it until a reported or detected incident is no longer active.

Usage Information. We collect information about your use of the Lyft Platform, including ride information like the date, time, destination, distance, route, payment, and whether you used a promotional or referral code. We also collect information about your interactions with the Lyft Platform like our apps and websites, including the pages and content you view and the dates and times of your use.

Device Information. We collect information about the devices you use to access the Lyft Platform, including device model, IP address, type of browser, version of operating system, identity of carrier and manufacturer, radio type (such as 4G), preferences and settings (such as preferred language), application installations, device identifiers, advertising identifiers, and push notification tokens. If you are a Driver, we also collect mobile sensor data from your device (such as speed, direction, height, acceleration, deceleration, and other technical data)."

https://www.lyft.com/privacy#privacy-the-information-we-collect

"We leverage Lyft vehicle telemetry data collected for forty days in the summer of 2018 in San Francisco and Palo Alto, collected from smartphones. Each data point contains the *latitude, longitude, accuracy, speed* and *bearing*. A future iteration of this work could make use of more features like *acceleration, gyroscope,* and *timestamp*."

http://urban.cs.wpi.edu/urbcomp2019/file/Urbcomp_2019_paper_12.pdf

"***Personalized, Data-Driven Insights.*** We have collected data from over one billion rides and over ten billion miles driven to inform our machine learning algorithms and data science engines. We leverage insights from this data to improve the product experience for riders by presenting them with personalized transportation options. Our data insights also allow us to anticipate market-specific demand, enabling us to create customized incentives for drivers in local markets. We enable riders to optimize routes across multiple modes of transportation which we believe provides us with a significant advantage over single modality providers."

https://www.sec.gov/Archives/edgar/data/1759509/000119312519059849/d633517ds1.htm

128.   On information and belief, the Rider and Driver apps each generate position coordinates of a respective wireless device and time information indicating times when the position coordinates were generated, wherein a user is associated with the wireless device. On information

and belief, the generated coordinates may, at least in some instances, be further processed on the server for more accurate position determination and/or for determining the position in a coordinate system used by the server software. Defendant's servers use this data for various purposes, including to determine passenger pick-up locations and preferred routes for drivers to access the pick-up locations. As reflected in the statements attributable to Lyft below, both the Rider app and the Driver app generate position coordinates representing the rider's and driver's respective wireless devices by tracking each device's location, including latitude and longitude, when the apps are running. The apps also generate timestamps (time information) indicating times when the coordinates were generated.

"**Location Information.** Great rides start with an easy and accurate pickup. The Lyft Platform collects location information (including GPS and WiFi data) differently depending on your Lyft app settings and device permissions as well as whether you are using the platform as a Rider or Driver:

- Riders: We collect your device's precise location when you open and use the Lyft app, including while the app is running in the background from the time you request a ride until it ends. Lyft also tracks the precise location of scooters and e-bikes at all times.
- Drivers: We collect your device's precise location when you open and use the app, including while the app is running in the background when it is in driver mode. We also collect precise location for a limited time after you exit driver mode in order to detect ride incidents, and continue collecting it until a reported or detected incident is no longer active.

Usage Information. We collect information about your use of the Lyft Platform, including ride information like the date, time, destination, distance, route, payment, and whether you used a promotional or referral code. We also collect information about your interactions with the Lyft Platform like our apps and websites, including the pages and content you view and the dates and times of your use.

Device Information. We collect information about the devices you use to access the Lyft Platform, including device model, IP address, type of browser, version of operating system, identity of carrier and manufacturer, radio type (such as 4G), preferences and settings (such as preferred language), application installations, device identifiers, advertising identifiers, and push notification tokens. If you are a Driver, we also collect mobile sensor data from your device (such as speed, direction, height, acceleration, deceleration, and other technical data)."

https://www.lyft.com/privacy#privacy-the-information-we-collect

"We leverage Lyft vehicle telemetry data collected for forty days in the summer of 2018 in San Francisco and Palo Alto, collected from smartphones. Each data point contains the *latitude, longitude, accuracy, speed* and *bearing*. A future iteration of this work could make use of more features like *acceleration, gyroscope*, and *timestamp*."
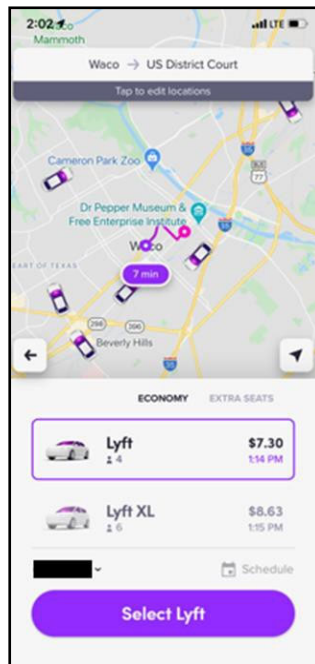
http://urban.cs.wpi.edu/urbcomp2019/file/Urbcomp_2019_paper_12.pdf

"As a driver, you need turn-by-turn directions, and your passengers need to know where you are. The app regularly sends location info to our servers, which also lets us measure the distance and time you've driven and calculate ride costs and earnings.

To track rides accurately, we need the best location updates from your GPS while you're driving."

https://help.lyft.com/hc/en-us/articles/115013081228-How-to-prevent-poor-location-tracking

The screenshot below shows a passenger's determined location as displayed on the Rider app.

Lyft Rider Application Screenshot February 9, 2020

The screenshot below shows a driver's determined location on the Driver app.

59
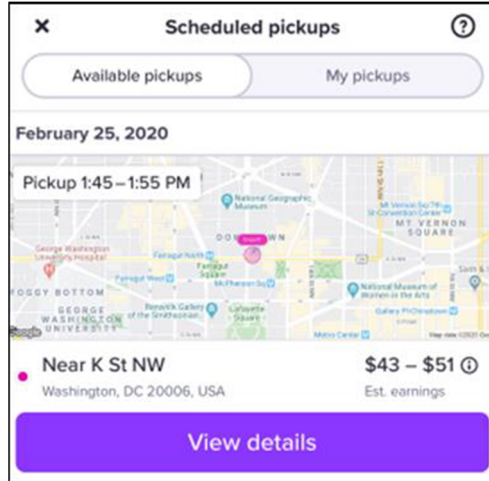
Lyft Driver Application Screenshot February 25, 2020

The position and time data is also used to record historical information about each ride, including the pick-up and destination locations, ride duration, and distance traveled, which the driver can review on the Driver app, as shown in the screenshot below.

Lyft Driver Application Screenshot February 25, 2020

Similar information is available to the passenger on the Rider app.

129.   On information and belief, a server of the Lyft platform processes the position coordinates and time information provided by the Driver app and/or Rider app to determine
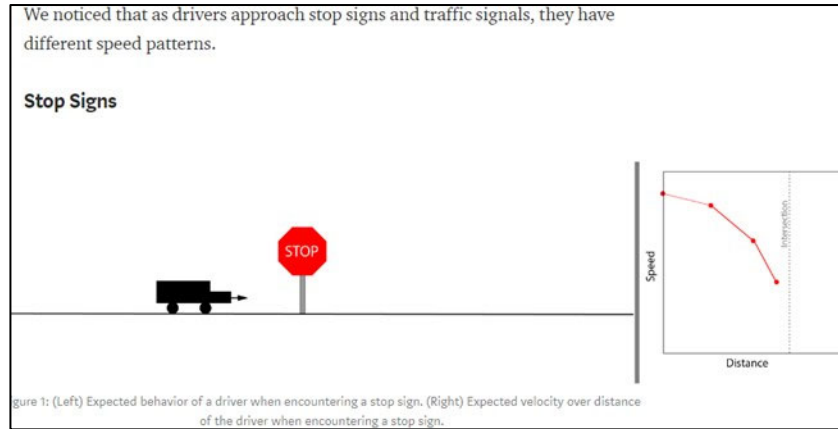
whether a rate of change in distance per unit of time in a series of position coordinates at times indicates a predefined activity of the driver, such as a Lyft ride, occurring during an activity time period during which the position coordinates and the time information were generated. As described above, a server of the Lyft platform collects position coordinates and time information of both passengers and drivers. By tracking the "speed, direction, height, acceleration, deceleration, and other technical data" as noted above, the Lyft platform can determine when a driver is approaching a rider's pick-up location, can provide more accurate ETAs, and can improve mapping and internal operations on the back end. One exemplary "activity time period" is the period from the ride request/rider pick-up until rider drop-off, and may include a period of time before and after a request when a driver is online (e.g., the lifecycle of a ride). As reflected in the screenshots from a study conducted by Lyft below, the Lyft Platform is able to process position coordinates and time information to determine whether a rate of change indicates that a predefined activity (e.g., a Lyft ride at each stage, including stopping and slowing down at signs and traffic lights and other related vehicle movements) is occurring during an activity time period (e.g., the lifecycle of a ride) during which the position coordinates and time information were generated.

Why does Lyft care about Traffic Control Elements?
For Lyft, having high accuracy and coverage of traffic control elements in our internal map is valuable for multiple reasons:
a) **More accurate route ETAs**: We can **add a time penalty** to go from one road segment to the next if there is a traffic control element.
b) **Dispatch**: We can improve driver position prediction, which can help improve market decisions.
c) **Autonomous vehicles**: With more TCEs, our autonomous driving team, L5, can plan the behavior of vehicles on the road more efficiently and reliably.

https://eng.lyft.com/detecting-stop-signs-and-traffic-signals-deep-learning-at-lyft-mapping-75bac609c231/

We noticed that as drivers approach stop signs and traffic signals, they have different speed patterns.

Stop Signs

Figure 1: (Left) Expected behavior of a driver when encountering a stop sign. (Right) Expected velocity over distance of the driver when encountering a stop sign.

https://eng.lyft.com/detecting-stop-signs-and-traffic-signals-deep-learning-at-lyft-mapping75bac609c231/

Traffic Signals

Figure 3— (Left) Expected behavior of a driver when encountering traffic lights, when it is red, and when it is green. (Right) Expected velocity over distance of the driver when encountering a red light or a green light.

https://eng.lyft.com/detecting-stop-signs-and-traffic-signals-deep-learning-at-lyft- mapping-75bac609c231/

"We found two main driver patterns for traffic signals:
When a driver first sees a red light, they slow down and stop in front of the traffic light. When the green light is activated, the driver accelerates again. This behavior is very similar to the stop sign case, as shown by the red stroke in the diagram on the right of Fig. 3. We may nevertheless expect that the stopping time in front of the traffic signal may be longer than the stop sign case.
When the driver only sees a green light, the driver usually keeps near constant speed, as shown by the green stroke in the diagram on the right of Fig. 3."

https://eng.lyft.com/detecting-stop-signs-and-traffic-signals-deep-learning-at-lyft- mapping-75bac609c231/

130.   On information and belief, one or more servers of the Lyft Platform generates information on the determined predefined activity for the activity time period. The servers of the Lyft Platform generate information (e.g., position coordinates or time information) for the activity

time period (e.g., the lifecycle of the ride). Some of this information may be presented to the driver

and rider, respectively, in an organized format.
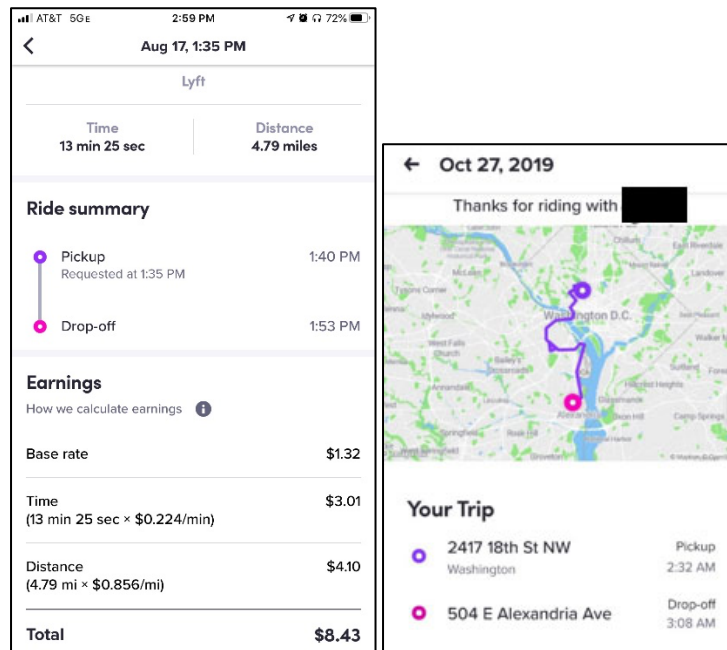
Lyft Driver and Rider Application Screenshots

On information and belief, one or more servers access map data to enable features such as

navigating drivers to passengers for pick-up and showing and optimizing estimated times of arrival

of drivers to passengers, among other things.

"What is the role of the mapping team?
These technical challenges require a team with a strong geospatial expertise.
Lyft's mapping team provides a rich, fresh, and accurate model of the physical
world, and how our users move around within it. We enable:
•Generating optimal and infer probable routes of drivers to passengers
•Making accurate time and distance prediction
•Localizing drivers, passengers and vehicles
•Building a knowledge base of physical places
•Inferring map features"

https://eng.lyft.com/how-lyft-creates-hyper-accurate-maps-from-open-source-maps-and- real-time-data-8dcf9abdd46a

The position and time data received from a driver's mobile device and/or passenger's mobile

device enables the Lyft Platform to track a vehicle's movement, indicating the different stages of

a ride, and the generated speed and acceleration data enables more accurate ETAs. On information

and belief, the server also uses position, time, speed, and acceleration data to detect potential safety

issues, such as a vehicle crash, which, upon detecting, the Lyft server performs a "Trip check-in"

to verify whether a problem has occurred. On information and belief, Lyft has offered the "Trip

check-in" feature since in or around the fourth quarter of 2019.

Predicting when someone needs help

Coming soon: In some cases, if we notice your ride has stopped too soon or for an unusual amount of time, drivers and riders will hear from Lyft. We'll ask if you need support, and if necessary, we'll give you the option to request emergency assistance.

https://www.lyft.com/safety/rider
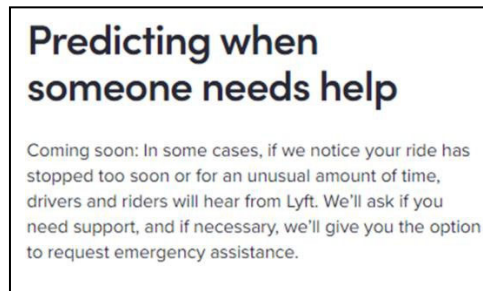
131.   With respect to dependent claim 2, on information and belief, the Driver app and

Rider app, in coordination with the user's mobile computing device periodically generates position

coordinates and associated time information and transmits the information over a network to a Lyft

server, which receives and stores the information in a database and processes the position

coordinates and time information to determine the predefined activity (e.g. a Lyft ride) during the

activity time period (e.g., the lifecycle of a ride request from initiation through drop off at the

destination), subevents and irregularities during the ride, and locations and associated time periods

where the user (e.g. driver or rider) was present.

132.   With respect to dependent claim 3, on information and belief, the mobile computing

device of the driver or rider in some instances may both generate and process position coordinates

and associated time information to determine locations and time periods where the driver or rider,

respectively, was present. On information and belief, a Lyft server receives the determined

locations and time periods from the wireless device, such as when communication between the

device and server is restored. On information and belief, the server then stores the determined

locations and time periods in a database.

133.   With respect to dependent claim 4, on information and belief, the accused method embodies providing a plurality of location boundaries defining multiple location coordinates, such as the boundaries of geofenced regions. A location boundary may be associated with a location description, such as an airport driver staging area, and the server performs processing to determine if position coordinates of the driver's or rider's mobile devices are within one of the location boundaries. On information and belief, the servers of the Lyft Platform are enabled to determine when multiple generated position coordinates of the driver's mobile device are within a defined location boundary, the time period when the devices was within the boundary, and the location description for the predefined location boundary.

134.   With respect to dependent claim 7, on information and belief, a server of the Lyft Platform that processes the position coordinates and associated time periods to determine the predefined activity does so for position coordinates that are not included within one or more predefined location boundaries.

135.   With respect to dependent claims 9 and 10, on information and belief, the accused method embodies a server of the Lyft Platform receiving a request for information about a driver's activities during a selected time interval. The Lyft Platform catalogues past ride information and makes the information accessible on the Driver app, and on information and belief, to backend computers of the Lyft Platform. For example, a driver can request a selected time interval, and the Driver app displays generated information about ride activities occurring during that time interval. The Driver app displays information regarding the time period of each ride and where the driver was located during each ride identified for the time interval.

136.   With respect to dependent claim 11, the Driver app, Rider app, or another requesting application is installed on a computer and the generated information may be transmitted over the Internet to the requesting mobile device or other requesting computer.

137.   With respect to dependent claim 12, the driver's or rider's mobile device that generated the position and time data can also function as the requesting device and display the generated information regarding the predefined activity during the selected time interval.

138.   With respect to dependent claims 15 and 16, on information and belief, one or more servers of the Lyft Platform determine locations of the driver's wireless device or passenger's wireless device during the lifecycle of a ride based on position coordinates of the wireless device during the activity time period, wherein generating information comprises generating information on the predefined activity and the locations where the predefined activity (e.g., a ride) occurred. The server keeps records of trip details associating determined locations with determined predefined activities.

139.   With respect the asserted method claims 1–4, 7, 9–12, 15, and 16 of the '085 patent, Plaintiff alleges that Defendant has been and is engaged in direct infringing activities because all steps of the claimed methods are performed by or attributable to Defendant as a single entity. In particular, Plaintiff alleges that the steps of the accused ride-hailing methods performed by the Driver application of the Lyft Platform are performed by the mobile devices of Lyft drivers, and that such drivers are Lyft employees, such that their actions constitute acts performed by Defendant. The steps of the asserted claims performed by the server-side software and/or network of the Lyft Platform are also performed by Defendant as the entity that owns or controls and operates such servers and network. On information and belief, Plaintiff further alleges that other Lyft employees, such as product development and testing engineers or driver support personnel,

have and continue to use the accused methods for development, testing, and/or demonstration purposes.

140. Plaintiff pleads in the alternative that, to the extent that Lyft drivers are independent contractors or agents rather than employees, Defendant is responsible as a direct infringer because Defendant has and continues to perform the server-side steps and Defendant has and continues to direct and control the steps performed on the drivers' mobile devices such that those steps are also attributable to Defendant under principles of joint infringement. Defendant is liable as a direct infringer of the asserted method claims by at least one or more of: (i) acting through drivers who are agents of Defendant with respect to the transportation services provided to riders; (ii) contracting with its drivers to perform ride-hailing services that require performance of one or more steps of the claimed methods; and (iii) conditioning the drivers' participation in Defendant's transportation services and receipt of payment upon the performance of one or more steps of the claimed methods and establishing the manner or timing of that performance.

141. Defendant has and continues to practice infringing methods by at least providing, operating, and controlling the accused methods via the Lyft Platform computer systems and software developed, owned, and provided by Defendant, which Defendant designed to perform the methods covered by the asserted patent claims. Defendant directs and controls the method steps performed by drivers by (i) prescreening and authorizing select individuals to serve as drivers in its transportation network on behalf of Defendant; (ii) supplying the Driver app for accessing and controlling the Lyft Platform, which must be used by drivers to initiate and control the Lyft Platform throughout the entire lifecycle of each ride; (iii) dictating via software supplied to the drivers' mobile devices and instructions to the drivers the manner in which the Driver app operates and must be used such that, when the accused method is initiated on a driver's mobile device, each

67

step of the asserted method claims is performed in a manner dictated by the accused Lyft Platform; (iv) dictating the terms and conditions upon which drivers are paid for their services and retaining the ability to terminate a driver's access to and use of the Lyft Platform if not used in accordance with Defendant's required terms; (v) advertising the Lyft Platform and its transportation arrangement services and providing instructions and directions to drivers regarding the use of the Driver app; and (vi) updating and providing ongoing support and maintenance for the accused Lyft Platform and its methodologies.

142.   Defendant conditions its drivers' use of its transportation services network upon the performance of the steps performed by the Driver app, and Defendant establishes the manner or timing of its drivers' performance. Defendant requires its drivers to contractually agree to terms and conditions that provide the drivers a limited license to use the Driver app only in conjunction with Defendant's ride-hailing network. Drivers must download the Driver app to their mobile devices and utilize the Driver app, including performing the specific claim steps executed by the Driver app identified above, if they wish to participate in Defendant's ride-hailing transportation network and services. Defendant provides step-by-step instructions and support to its drivers telling them how to utilize the Driver app if the driver wants to pick up and transport passengers in Defendant's transportation network. Those instructions, and the integrated sequence of events that must be performed for a driver to invoke use of the Lyft Platform and be matched with riders and directed to the rider's pick-up and destination locations, establishes the manner or timing of the drivers' performance of the claimed method steps. If drivers do not follow these precise steps, Defendant's services of matching drivers to passengers and coordinating the lifecycle of rides requests are not available.

143.   Defendant also directs and controls the method steps performed by passengers using the Rider app by at least (i) supplying the Rider app for accessing and controlling the Lyft Platform, which must be used by passengers to initiate a ride request and control the Lyft Platform throughout the entire lifecycle of each ride; (ii) dictating via software supplied to the passenger's mobile device and instructions to the passengers the manner in which the Rider app operates and must be used such that when the accused method is initiated on a passenger's mobile device each step of the asserted method claims is performed in a manner dictated by the accused Lyft Platform; (iii) advertising the Lyft Platform and its transportation arrangement services and providing instructions and directions to passengers regarding the use of the accused Rider app; and (iv) updating and providing ongoing support and maintenance for the accused Lyft Platform and its methodologies.

144.   Defendant conditions passengers' use of its transportation services network upon the performance of the steps performed by Rider app, and Defendant establishes the manner or timing of the passengers' performance. Defendant requires its passengers to contractually agree to terms and conditions that provide the passengers a limited license to use the Rider app only in conjunction with Defendant's ride-hailing network. Passengers must download the Rider app to their mobile devices and utilize the Rider app, including performing the specific claim steps executed by the Rider app identified above, if they wish to use Defendant's ride-hailing transportation network and services. Defendant provides step-by-step instructions and support to its passengers telling them how to utilize the Rider app to secure a ride in Defendant's transportation network. Those instructions, and the integrated sequence of events that must be performed for a passenger to invoke use of the Lyft Platform and be matched with and picked up by the selected driver, establishes the manner or timing of the passengers' performance of the

69

claimed method steps. If passengers do not follow these precise steps, Defendant's services of matching drivers to passengers and coordinating the lifecycle of rides requests are not available.

145.   Defendant benefits by providing the Lyft Platform to attract and retain riders and drivers to increase its revenue and valuation. The drivers also receive a benefit of receiving payment from Defendant from using the Driver app and transporting passengers to their destinations, and passengers receive the benefit of convenient transportation.

146.   As a result of Defendant's infringement of at least claims 1–4, 7, 9–12, 15, and 16 of the '085 patent, Plaintiff Quartz Auto has suffered monetary damages in an amount yet to be determined, and will continue to suffer damages in the future. Defendant is liable to Plaintiff in an amount that adequately compensates for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

147.   Defendant's wrongful acts have damaged and will continue to damage Plaintiff Quartz Auto irreparably, and Plaintiff has no adequate remedy at law for those wrongs and injuries. In addition to its actual damages, Plaintiff Quartz Auto is entitled to a permanent injunction restraining and enjoining Defendant and its agents, servants, and employees, and all persons acting thereunder, in concert with, or on its behalf, from infringing at least claims 1–4, 7, 9–12, 15, and 16 of the '085 patent without additional compensation to Plaintiff in an amount to be determined by the Court.

COUNT IV
INFRINGEMENT OF THE '616 PATENT

148.   Plaintiff Quartz Auto repeats and realleges the above paragraphs, which are incorporated by reference as if fully restated herein.

149.   Plaintiff Quartz Auto is the owner of all rights, title, and interest in the '616 patent and, at a minimum, of all substantial rights in the '616 patent, including the exclusive right to

enforce the patent and all rights to pursue damages, injunctive relief, and all other available remedies for past, current, and future infringement thereof.

150.   Plaintiff Quartz Auto and its predecessors in interest have never licensed Defendant under the '616 patent, nor has Plaintiff Quartz Auto otherwise authorized Defendant to practice any part of the '616 patent.

151.   The '616 patent is presumed valid under 35 U.S.C. § 282.

152.   The '616 patent relates to, among other things, the management of mobile objects and a service platform for mobile objects.

153.   On information and belief, Defendant operates, provides, and controls systems and methods that coordinate ride-hailing services using passenger and driver applications to manage mobile objects (drivers' mobile devices).

154.   **Direct Infringement**: On information and belief, Defendant alone and/or in conjunction with agents or parties under its control, has directly infringed and continues to directly infringe the '616 patent pursuant to 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, by making, having made, and using systems, methods, and computer programs and related services for coordinating, controlling, and providing ride-hailing services that are covered by one or more claims of the '616 patent, in particular, system claims 1–5 and method claims 11– 14 of the '616 patent, without license or authority. The infringing activities utilize applications operated or licensed by Defendant that can be used on a variety of mobile computing devices that monitor the locations of mobile objects (drivers' mobile devices) within a geographic area. On information and belief, infringement of the '616 patent by these Lyft ride-hailing products and applications is demonstrated below.
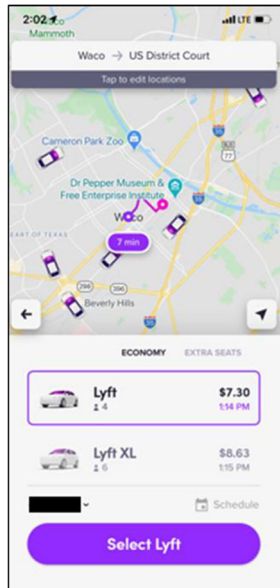
155.   System claim 1 of the asserted claims recites:

1. A system comprising:

a mobile object server operable to receive information from each of a plurality of mobile objects within a geographic space and perform a process associated with each mobile object; and

a registration server operable to register a first additional process that is to be performed in addition to a first basic process common to the plurality of mobile objects, in association with one mobile object among the plurality of mobile objects, wherein the mobile object server is operable to perform, as the first additional process, a process of providing notification that the one mobile object has become distanced from a predetermined location or region.

156.   On information and belief, the Lyft Platform includes a mobile object server operable to receive information from each of a plurality of mobile objects within a geographic space and perform a process associated with each mobile object. Defendant controls this implementation for its benefit and such implementation benefits the drivers and riders. A server of the Lyft Platform gathers information such as vehicle location data from its drivers' mobile devices that are running the Driver app (a plurality of mobile objects) within a geographic space (e.g., predefined regions established by Defendant in which it is operating). The collection of this information is demonstrated by the ability of the Lyft Platform to display such information to its passengers via the Rider app, as shown in the screenshot below.

Lyft Rider Application Screenshot February 9, 2020

Defendant designed its system such that the Driver app running on its drivers' mobile devices collects telemetry data for analysis in a variety of ways, such as measuring distance and time driven and calculating ride costs and earnings, as demonstrated by the below screenshots.

https://help.lyft.com/hc/en-us/articles/115013081228-How-to-prevent-poor-location-tracking

http://urban.cs.wpi.edu/urbcomp2019/file/Urbcomp_2019_paper_12.pdf

As reflected by the statement attributable to Lyft below, Lyft uses the telemetry data in a variety of ways, such as keeping drivers informed of trip delays, and traffic conditions, , each of which are examples of a process associated with each mobile object.

73

"We recommend using Lyft navigation, built with Google Maps, to determine the best routes during rides. You'll be able to navigate without leaving the app, in addition to seeing real-time traffic reports and using night mode."

https://help.lyft.com/hc/en-us/articles/115012926407-How-to-change-navigation-settings

157.   On information and belief, the Lyft Platform includes a registration server operable to register a first additional process that is to be performed in addition to a first basic process common to the plurality of mobile objects, in association with one mobile object among the plurality of mobile objects, wherein the mobile object server is operable to perform, as the first additional process, a process of providing notification that the one mobile object has become distanced from a predetermined location or region. For example, as demonstrated by the below screenshots, Defendant designed its system such that the Driver app running on its drivers' mobile devices collects telemetry data from its drivers (a first basic process common to the plurality of mobile objects).

"We leverage Lyft vehicle telemetry data collected for forty days in the summer of 2018 in San Francisco and Palo Alto, collected from smartphones. Each data point contains the *latitude, longitude, accuracy, speed* and *bearing*. A future iteration of this work could make use of more features like *acceleration*, *gyroscope*, and *timestamp*."

http://urban.cs.wpi.edu/urbcomp2019/file/Urbcomp_2019_paper_12.pdf

Lyft utilizes vehicle data that it collects to register events that it deems abnormal/unsafe. On information and belief, since at least in or around the fourth quarter of 2019, the Lyft Platform has included a "Trip Check-In" safety feature that detects when a mobile device of driver (i.e., a mobile object) becomes distanced from the expected route (a predetermined location or region). The Lyft Platform pushes a notification to check-in on the trip and verify whether anything is wrong, as shown by the screenshots below.

Predicting when someone needs help

Coming soon: In some cases, if we notice your ride has stopped too soon or for an unusual amount of time, drivers and riders will hear from Lyft. We'll ask if you need support, and if necessary, we'll give you the option to request emergency assistance.

https://www.lyft.com/safety/rider
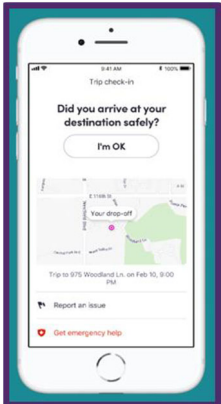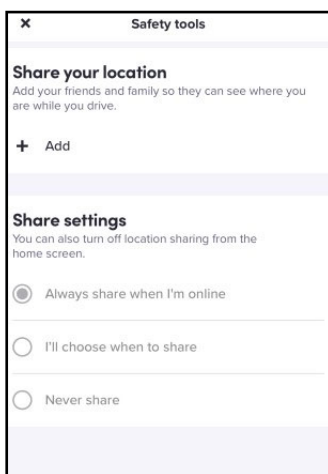
Lyft Driver Application Screenshot February 25, 2020

"Here's what we are delivering next, starting today:

1. Smart Trip Check-In: Predicting when someone needs help. If a ride looks to have unexplained delays, riders and drivers will hear from us asking if they need support from our team — and if necessary, request emergency assistance. This feature was built using data from millions of trips, and will roll out this year."

https://www.lyft.com/blog/posts/reinforcing-lyfts-commitment-to-safety

75
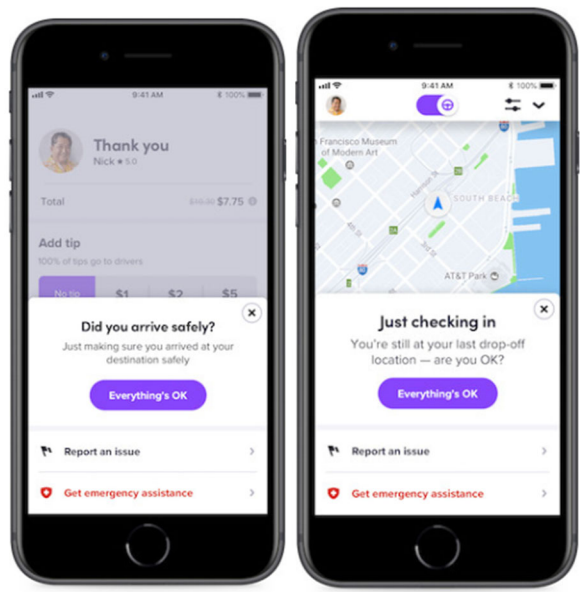
"This feature will help predict if something has gone wrong with your trip. If there's any delays in your arrival time, a deviation from your intended route, or if you're in a certain spot for too long, you'll receive a push notification asking if you're okay, and the same thing will happen for the driver as well"

https://www.youtube.com/watch?v=5tadv56Sar8 (@ 1:29-1:46.)

On information and belief, the Lyft Platform uses a registration server to register the "Smart Trip Check-In" process in association with a mobile object (i.e., a driver's mobile device) that has become unexpectedly distanced from a predetermined location or region, and a mobile object server that is operable to provide the notification.

158.   With respect to dependent claims 2 and 5, on information and belief, Defendant's mobile object server is operable to perform processes set for mobile object agents, such as cookies, that identify and are associated with each driver's smartphone running the Driver app. The mobile object server is operable to track the location of a driver with the mobile object agent functioning as an avatar for the driver on Defendant's server. In association with the mobile object agent, on information and belief, the registration server is operable to perform a second additional process, such as preventing a driver from receiving pick-ups in a region (e.g., a non-approved coverage area) in which the driver is not approved to offer rides. The registration server is also operable to register a call-up condition, such as leaving the region, in which a driver is approved to offer rides or going online to attempt to perform a pick-up in such a region. When a driver leaves an approved region, feature information such as the current location of the driver changes (a necessary condition of the call-up condition), the call-up condition is satisfied and on information and belief the mobile object server is operable to call up the second additional process, i.e., prevents the Driver from receiving pick-up requests.

159.   With respect to dependent claim 3, on information and belief, the Lyft Platform uses multiple mobile object servers. Reasonable discovery will confirm this understanding based

76

on the scale of Defendant's operations as well as documentation evidencing that the identified

processes are performed on multiple servers.

160.   With respect to dependent claim 4, on information and belief, the Lyft Platform

further comprises an event server. Defendant monitors and tracks the location of its drivers

throughout the lifecycle of each ride and provides estimated times of arrival for pick-ups and drop-

offs. On information and belief, the Lyft Platform uses an event server that is operable to process

accidents, construction, and traffic conditions (events that occur in a geographic space), which is

used by the mobile object server in order to provide accurate arrival times for mobile objects and

their agents.

161.   Method claim 11 of the asserted claims recites:

11.   A method comprising:

*receiving information from each of a plurality of mobile objects within a
geographic space;*

performing a process associated with each mobile object; and

*registering a first additional process that is to be performed in addition to a first
basic process common to the plurality of mobile objects, in association with one
mobile object among the plurality of mobile objects, wherein the mobile object is
operable to perform, as the first additional process, a process of providing
notification that the one mobile object has become distanced from a predetermined
location or region.*

162.   On information and belief, the Lyft Platform performs a method of receiving

information from each of a plurality of mobile objects within a geographic space. Defendant

controls this implementation for its benefit and such implementation benefits the drivers and riders.

In order to perform their duties, Lyft drivers must download the Driver app to their mobile devices,

which enables them to accept ride requests and receive directions for picking up the requesting

rider, services for which drivers are paid through the Driver app. As discussed above with respect

to claim 1 of the '616 patent, one or more servers on the Lyft Platform gathers and receives

information such as vehicle location data from its drivers' mobile devices that are running the

Driver app (a plurality of mobile objects) within a geographic space (e.g., predefined regions

established by Defendant in which it is operating).

163.   The Lyft servers are operable to perform many processes that are associated with

each mobile object such as keeping drivers informed of trip delays, traffic, cancelled ride requests,

fare changes, and updating ETAs.

164.   On information and belief, servers on the Lyft Platform register a first additional

process associated with one mobile object when implementing Lyft's "Smart Trip Check-In"

safety feature, which on information and belief has been available at least since in or around the

fourth quarter of 2019. Defendant's "Smart Trip Check-In" is performed in addition to the first

basic processes common to the plurality of mobile objects, such as keeping drivers informed of

traffic.

165.   On information and belief, the driver's mobile device that is running the Driver app

(the mobile object) is operable to perform a process of providing a notification that the mobile

object has gone off-course unexpectedly, becoming distanced from the expected route (a

predetermined location or region). On information and belief, the Driver app provides a

notification to the driver, as suggested by the screenshots below:

"Here's what we are delivering next, starting today:
1. Smart Trip Check-In: Predicting when someone needs help. If a ride looks to have unexplained delays, riders and drivers will hear from us asking if they need support from our team — and if necessary, request emergency assistance. This feature was built using data from millions of trips, and will roll out this year."

https://www.lyft.com/blog/posts/reinforcing-lyfts-commitment-to-safety
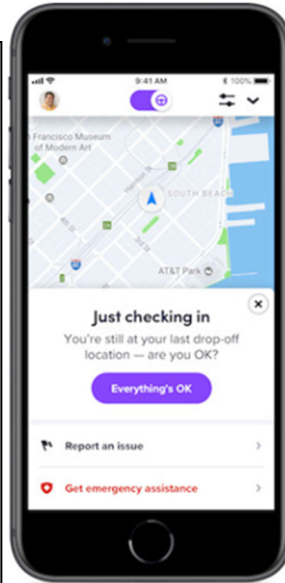
166.   With respect to dependent claims 12 and 14, on information and belief, servers on the Lyft Platform perform processes set for mobile object agents, such as cookies, that identify and are associated with each driver's smartphone running the Driver app. Lyft's servers track the location of a Driver with the mobile object agent functioning as an avatar for the driver on the server. On information and belief, servers on the Lyft Platform also register a second additional process that is associated with one mobile object, such as preventing a driver from receiving pick-ups in a region in which the driver is not approved to offer rides. The server also registers a call-up condition, such as leaving the region in which a Driver is approved to offer rides or going online to attempt to perform a pick-up in such a region. When a Driver leaves an approved region, the call-up condition is satisfied and on information and belief the server calls up the second additional process, i.e., prevents the Driver from receiving pick-up requests.

167.   With respect to dependent claim 13, on information and belief, Defendant monitors and tracks the location of its drivers throughout the lifecycle of each ride and provides estimated times of arrival for pick-ups and drop-offs. On information and belief, the Lyft Platform uses servers that process accidents, construction, and traffic conditions (events that occur in a

geographic space), which is used by the Lyft servers in order to provide accurate arrival times for mobile objects and their agents.

168.   With respect to asserted system claims 1–5, Plaintiff alleges that Defendant has been and is engaged in direct infringing activities by making, having made, and using the server-side software and/or network of the Lyft Platform and Defendant owns or controls and operates such servers and network.

169.   With respect to asserted method claims 11–14 of the '616 patent, and to the extent that any of the asserted system claims are treated as method claims for the purpose of assessing the alleged acts of infringement, Plaintiff alleges that Defendant has been and is engaged in direct infringing activities because all steps of the claimed methods are performed by Defendant as a single entity. In particular, Plaintiff alleges that the steps of the accused ride-hailing methods performed by the Driver application of the Lyft Platform are performed by the mobile computing devices of Lyft drivers, and that such drivers are Lyft employees such that their actions constitute acts performed by Defendant. The steps of the asserted claims performed by the server-side software and/or network of the Lyft Platform are also performed by Defendant as the entity that owns or controls and operates such servers and network. On information and belief, Plaintiff further alleges that other Lyft employees, such as product development and testing engineers or driver support personnel, have and continue to use the accused methods for development, testing, and/or demonstration purposes.

170.   Plaintiff pleads in the alternative that, to the extent that Lyft drivers are independent contractors or agents rather than employees, Defendant is responsible as a direct infringer because Defendant has and continues to perform the server-side steps and Defendant has and continues to direct and control the steps performed on the driver's mobile device such that those steps are also

attributable to Defendant under principles of joint infringement. Defendant is liable as a direct infringer of the asserted method claims by at least one or more of: (i) acting through drivers who are agents of Defendant with respect to the transportation services provided to riders; (ii) contracting with its drivers to perform ride-hailing services that require performance of one or more steps of the claimed methods; and (iii) conditioning the drivers' participation in Defendant's transportation services and receipt of payment upon the performance of one or more steps of the claimed methods and establishing the manner or timing of that performance.

171.   Defendant has and continues to practice infringing methods by at least providing, operating, and controlling the accused methods via the Lyft Platform computer systems and software developed, owned, and provided by Defendant, which Defendant designed to perform the methods covered by the asserted patent claims. Defendant directs and controls the method steps performed by drivers by (i) prescreening and authorizing select individuals to serve as drivers in its transportation network on behalf of Defendant; (ii) supplying the Driver app for accessing and controlling the Lyft Platform, which must be used by drivers to initiate and control the Lyft Platform throughout the entire lifecycle of each ride; (iii) dictating, via software supplied to the drivers' mobile devices and instructions to the drivers, the manner in which the Driver app operates and must be used such that, when the accused method is initiated on a driver's mobile device each step of the asserted method claims is performed in a manner dictated by the accused Lyft Platform; (iv) dictating the terms and conditions upon which drivers are paid for their services and retaining the ability to terminate a driver's access to and use of the Lyft Platform if not used in accordance with Defendant's required terms; (v) advertising the Lyft Platform and its transportation arrangement services and providing instructions and directions to drivers regarding the use of the

Driver app; and (vi) updating and providing ongoing support and maintenance for the accused Lyft Platform and its methodologies.

172.   Defendant conditions its drivers' use of its transportation services network upon the performance of the steps performed by the Driver app and Defendant establishes the manner or timing of its drivers' performance. Defendant requires its drivers to contractually agree to terms and conditions that provide the drivers a limited license to use the Driver app only in conjunction with Defendant's ride-hailing network. Drivers must download the Driver app to their mobile devices and utilize the Driver app, including performing the specific claim steps executed by the Driver app identified above, in order to participate in Defendant's ride-hailing transportation network and services. Defendant provides step-by-step instructions and support to its drivers telling them how to utilize the Driver app if the driver wants to pick-up and transport passengers in Defendant's transportation network. Those instructions, and the integrated sequence of events that must be performed for a driver to invoke use of the Lyft Platform and be matched with riders and directed to the rider's pick-up and destination locations, establishes the manner or timing of the drivers' performance of the claimed method steps. If drivers do not follow these precise steps, Defendant's services of matching drivers to passengers and coordinating the lifecycle of ride requests are not available.

173.   Defendant benefits by providing the Lyft Platform to attract and retain riders and drivers to increase its revenue and valuation. The drivers also receive a benefit of receiving payment from Defendant from using the Driver app and transporting passengers to their destinations.

174.   As a result of Defendant's infringement of at least system claims 1–5 and method claims 11–14 of the '616 patent, Plaintiff Quartz Auto has suffered monetary damages in an

amount yet to be determined, and will continue to suffer damages in the future. Defendant is liable to Plaintiff in an amount that adequately compensates for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

175.   Defendant's wrongful acts have damaged and will continue to damage Plaintiff Quartz Auto irreparably, and Plaintiff has no adequate remedy at law for those wrongs and injuries. In addition to its actual damages, Plaintiff Quartz Auto is entitled to a permanent injunction restraining and enjoining Defendant and its agents, servants, and employees, and all persons acting thereunder, in concert with, or on its behalf, from infringing system claims 1–5 and method claims 11–14 of the '616 patent without additional compensation to Plaintiff in an amount to be determined by the Court.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff Quartz Auto respectfully requests that this Court enter:

A.   A judgment in favor of Plaintiff Quartz Auto that Defendant has been and is infringing at least claims 1, 2, 5–8, 12, 13, and 16–18 of the '004 patent; claims 1–6, 12–14, and 20 of the '464 patent; claims 1–4, 7, 9–12, 15, and 16 of the '085 patent; and claims 1–5, and 11–14 of the '616 patent pursuant to 35 U.S.C. §§ 271(a) and/or 271(b);

B.   A permanent injunction enjoining Defendant and its officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in concert or privity with any of them from infringing or inducing the infringement of any of claims 1, 2, 5–8, 12, 13, and 16–18 of the '004 patent; claims 1–6, 12–14, and 20 of the '464 patent; claims 1–4, 7, 9–12, 15, and 16 of the '085 patent; and claims 1–5, and 11–14 of the '616 patent, without additional compensation to Plaintiff in an amount to be determined by the Court;

C.   A judgment awarding Plaintiff Quartz Auto all damages adequate to compensate it for Defendant's infringement of the Quartz Auto Patents under 35 U.S.C. § 284, and in no event less than a reasonable royalty for Defendant's acts of infringement, including all pre-judgment and post-judgment interest at the maximum rate permitted by law, and also any past damages permitted under 35 U.S.C. § 286, as a result of Defendant's infringement of at least claims 1, 2, 5–8, 12, 13, and 16–18 of the '004 patent; claims 1–6, 12–14, and 20 of the '464 patent; claims 1–4, 7, 9–12, 15, and 16 of the '085 patent; and claims 1–5 and 11–14 of the '616 patent;

D.   An assessment of costs, including reasonable attorney fees pursuant to 35 U.S.C. § 285, and prejudgment interest against Defendant; and

E.   Such other and further relief as this Court may deem just and proper.

JURY TRIAL DEMANDED

Pursuant to FED. R. CIV. P. 38, Plaintiff Quartz Auto hereby demands a trial by jury on all issues so triable.

Dated: April 9, 2021   Respectfully submitted,

                                                 By: /s/ Nicole L. Little

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84

85

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86

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing document has been caused to be served on

April 9, 2021 to all counsel of record via CM/ECF, which will send notification of such filing to

all registered participants.

/s/ Nicole L. Little
Attorney for Plaintiff