IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

SURGETECH, LLC,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. 22-882 (GBW)
	)	
UBER TECHNOLOGIES, INC. d/b/a UBER,	)	
	)	
Defendant.	)	

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff, SurgeTech, LLC ("SurgeTech" or "Plaintiff"), by and through its undersigned counsel, complains and alleges against Defendant Uber Technologies Inc., d/b/a Uber ("Uber" or "Defendant") as follows:

NATURE OF THE ACTION

1. This is a civil action for infringement of U.S. Patent Nos. 11,334,598 (the "'598 patent"), 11,360,999 (the "'999 patent") and 11,475,047 (the "'047 patent") (referred to collectively as the "Patents-in-Suit") arising under the patent laws of the United States, 35 U.S.C. §§ 1 *et seq*.

THE PARTIES

2. Plaintiff SurgeTech is a limited liability company organized under the laws of the State of Delaware.

3. On information and belief, defendant Uber Technologies, Inc. is a corporation organized under the laws of the State of Delaware having its principal place of business at 1455 Market St #400, San Francisco, CA 94103.

JURISDICTION AND VENUE

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

5. This Court has personal jurisdiction over Uber because Uber is a Delaware corporation. Uber also has, on information and belief, committed and continues to commit acts of patent infringement, directly and/or through intermediaries, including acts giving rise to this action, within the State of Delaware. This Court's exercise of jurisdiction over Uber would not offend traditional notions of fair play and substantial justice because Uber has established minimum contacts with the forum.

6. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391 and 1400. Uber is a Delaware corporation and, upon information and belief, Uber has transacted business in this District and has committed acts of infringement in this District.

THE PATENTS IN SUIT

7. On May 17, 2022, the United States Patent & Trademark Office ("USPTO") issued the '598 patent, titled "Computer-implemented Management of Bookings For Transportation Services." The '598 patent identifies Andrew Loch, Helen Johnson, Geoffrey Toogood, and Daniel Paul Ruul as the inventors. A true and correct copy of the '598 patent is attached hereto as Exhibit A.

8. On August 23, 2022 USPTO duly and legally issued a Certificate of Correction for the '598 patent, correcting an error on the title page of the '598 patent made by the USPTO. The Certificate of Correction issued on July 19, 2022 and is attached hereto as Exhibit M

9. The '598 patent is directed to methods and systems for managing online bookings for the transportation services industry. In particular, the methods and systems provide novel ways of efficiently allocating and pricing transportation inventory among distribution channels. The

'598 patent discloses, *inter alia*, receiving sale data pertaining to online bookings for transportation services inventory from distribution channels, and calculating a performance rating for each of the respective distribution channels. The '598 patent further discloses adjusting the price for inventory allocated to particular distribution channels to help supply meet shifting demand and reallocating inventory among distribution channels based on the calculated performance rating.

10. SurgeTech is the owner of all right, title, and interest in and to the '598 patent with full and exclusive right to bring suit to enforce the '598 patent, including the right to recover for damages for infringement.

11. The '598 Patent is valid and enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

12. On June 14, 2022, the USPTO issued the '999 patent, titled "Computer-implemented Method For Managing Inventory Allocations." The '999 patent identifies Andrew Loch, Helen Johnson, Geoffrey Toogood, and Daniel Paul Ruul as the inventors. A true and correct copy of the '999 patent is attached hereto as Exhibit B.

13. On July 19, 2022, the USPTO duly and legally issued a Certificate of Correction for the '999 patent, correcting an error on the title page of the '999 patent made by the USPTO. The Certificate of Correction issued on July 19, 2022 and is attached hereto as Exhibit N.

14. The '999 patent is directed to methods and systems for managing inventory allocations for the transportation services industry. In particular, the methods and systems provide novel ways of adjusting pricing and inventory allocation in response to performance of various distribution channels. The '999 patent discloses, *inter alia*, a query-based system that sets pricing and allocation of inventory in response to the relative performance of the distribution channels based on sales data received from the distribution channels.

15. SurgeTech is the owner of all right, title, and interest in and to the '999 patent with full and exclusive right to bring suit to enforce the '999 patent, including the right to recover for damages for infringement.

16. The '999 Patent is valid and enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

17. On October 18, 2022, the USPTO issued the '047 patent, titled "Computer-Implemented Interface For Bookings For Transportation Services." The '047 patent identifies Andrew Loch, Helen Johnson, Geoffrey Toogood, and Daniel Paul Ruul as the inventors. A true and correct copy of the '047 patent is attached hereto as Exhibit L.

18. The '047 patent is directed to methods and systems for managing online bookings for the transportation services industry. In particular, the methods and systems provide novel ways of efficiently pricing transportation inventory among participant channels. The '047 patent discloses, *inter alia*, a system that establishes participant channels and sets pricing in response to the performance of the participant channels based on sales data received for the participant channels.

19. SurgeTech is the owner of all right, title, and interest in and to the '047 patent with full and exclusive right to bring suit to enforce the '047 patent, including the right to recover for damages for infringement.

20. The '047 Patent is valid and enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

THE ACCUSED UBER SYSTEM

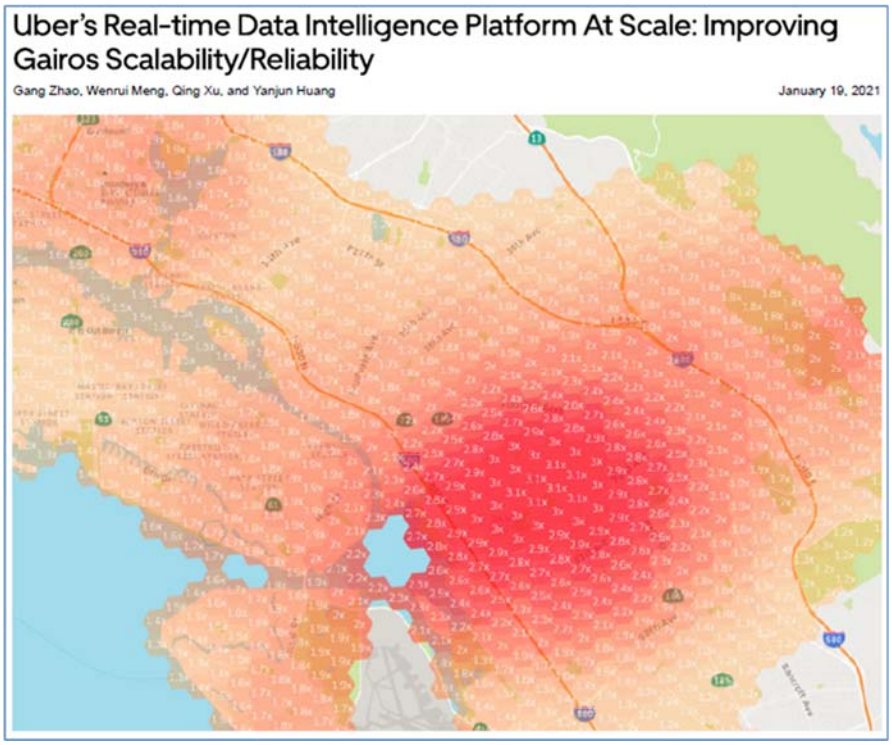
21. On information and belief, Uber operates a system that manages online bookings for services, including transportation services, specifically "connecting drivers and riders on demand." https://www.uber.com/us/en/about/how-does-uber-work/. Uber's system includes a

Rider App that is used by riders on their personal mobile devices to check pricing and availability of rides and drivers, book a ride, monitor progress, manage payment and leave comments and ratings for drivers. *Id.* Uber's system also includes a Driver App that is used by drivers to view available ride requests, prices and communicate with Uber and its system. Uber's system also includes backend computer servers and systems that communicate with and collect data from riders using the Rider App and drivers using the Driver App to help manage online bookings for rides and other services offered by Uber. The accused Uber system including mobile applications and backend systems will be referred to collectively as the Uber System.

For drivers, it's an incentive

Drivers are notified in the Uber app when demand increases through a map which shows the busiest areas and information about surge prices. The influx of drivers should mean there are more rides to go around.

22. The Uber System includes a "surge pricing" feature that increases the cost of trips in areas and times of high demand for rides. Uber uses the surge pricing feature, in part, to incentivize drivers to travel to particular geographical locations. *See* Exhibit C at 1, Gang Zhao, Wenrui Meng, Qing Xu, & Yanjun Huang, "Uber's Real-time Data Intelligence Platform At Scale: Improving Gairos Scalability/Reliability" *available at* https://eng.uber.com/gairos-scalability/ *accessed* Jun. 28, 2022.



23. The Uber System manages online bookings of rides via the different colored visual indicators, which indicate surge opportunities for drivers in different geographic zones – thereby incentivizing a re-allocation of drivers from geographic zones of relative supply/demand balance to geographic zones of relative supply/demand imbalance. An example of the Uber map viewed by a driver in the Uber app is described, and illustrated below, as follows: "If surge pricing applies in your city when demand increases in a specific area, that neighborhood will change color. The colored area of the map will range from light orange to dark red. Light orange areas represent smaller earning opportunities from surge, while dark red areas indicate larger ones." Exhibit D at 2, 4, Uber, "Surge Pricing" *available at* https://marketplace.uber.com/pricing/surge-pricing *accessed* Jun. 28, 2022; Exhibit E at 2, Uber, "How Surge Pricing Works" *available at* https://www.uber.com/us/en/drive/driver-app/how-surge-works/ *accessed* Jun. 28, 2022; Exhibit F at 6, Anubhav Paattnaik, "How Does Uber Do Surge Pricing Using Location Data?" (Nov. 26, 2019) *available at* https://medium.com/locale-ai/how-does-uber-do-price-surge-using-location-

data-cfee03415022 *accessed* Jun. 27, 2022 ("It might be noted that although it is thought that surge pricing motivates drivers to come on roads but ***in reality what actually happens is a re-allocation of available drivers in surrounding areas/streets***." (emphasis added)).

24. According to its website, Uber uses a "real-time data intelligence platform" called Gairos. Exhibit C, at 1:

> Real-time data (# of ride requests, # of drivers available, weather, game) enables operations teams to make informed decisions like surge pricing, maximum dispatch ETA calculating, and demand/supply forecasting about our services that improve user experiences on the Uber platform. While batched data can provide powerful insights by identifying medium-term and long-term trends, Uber services can combine streaming data with real-time processing to create actionable insights on a minute-by-minute basis.
>
> We built Gairos, Uber's real-time data processing, storage, and querying platform to facilitate streamlined and efficient data exploration at scale. It empowers teams to better understand and improve the efficiency of the Uber Marketplace through data intelligence. Use cases include surge pricing, maximum dispatch ETA calculating, and demand/supply forecasting.

25. This mechanism of using price to perform inventory management is so core to the Uber app that it has been described by the founder of Uber as the method behind the Uber app. *See* Exhibit F, at 2 (quoting Travis Kalanick, founder of Uber: "You want supply to always be full, and you use price to basically bring more supply on or get more supply off, or get more demand in the system or get some demand out.").

26. The Uber System includes products and/or services marketed as the Uber app, the Uber Driver app, the Uber Eats app, the Uber Freight app, the Uber Fleet app, the Uber Eats Manager app, the Uber Eats Orders app, the Postmates app, Uber Ride services (including, but not limited to, Comfort Electric, UberX, Comfort, UberXL, Uber Green, Uber Pet, Black Hourly, Black, Black SUV, and WAV), Uber Pool, Uber Eats, Uber Freight, Same Day Delivery, Uber for Business, Uber Connect, Uber Marketplace, Uber Health, Uber Transit, services relating to Uber

initiative for "Helping businesses move ahead," Surge, Boost, Quests, Route-based Pricing, and Gairos.

27. On information and belief, the Uber System is used to provide at least Uber ride hailing services in this District, enabling riders to be connected with drivers within Wilmington, Dover and Rehoboth Beach and using surge pricing to manage inventory as described above. *See* Exhibit G, https://www.uber.com/global/en/cities/wilmington-de/ *accessed* Jun. 28, 2022; Exhibit H, https://www.uber.com/global/en/price-estimate/ *accessed* Jun. 27, 2022 (showing trip from Hotel Dupont to Wilmington Amtrak Station).

COUNT I

Infringement of the '598 Patent

28. SurgeTech re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

29. Uber has infringed and continues to infringe at least claim 1 of the '598 patent by, without authority, making, using, selling, offering for sale, and/or importing into the United States, including in Delaware, products, services, and/or methods covered by one or more claims of the '598 patent including, but not limited to, development, control, use, provision, and sale of the Uber System with the surge pricing feature to provide products and/or services marketed as the Uber app, the Uber Driver app, the Uber Eats app, the Uber Freight app, the Uber Fleet app, the Uber Eats Manager app, the Uber Eats Orders app, the Postmates app, Uber Ride services (including, but not limited to, Comfort Electric, UberX, Comfort, UberXL, Uber Green, Uber Pet, Black Hourly, Black, Black SUV, and WAV), Uber Pool, Uber Eats, Uber Freight, Same Day Delivery, Uber for Business, Uber Connect, Uber Marketplace, Uber Health, Uber Transit, services relating to Uber initiative "Helping businesses move ahead," Surge, Boost, Quests, Route-based Pricing,

and Gairos (collectively, the "Accused Uber System"). Uber has infringed the '598 patent literally and/or under the doctrine of equivalents.

30. Each and every claim of the '598 patent enjoys a statutory presumption of validity under 35 U.S.C. § 282.

31. Claim 1 of the '598 patent recites:

> A computer-implemented method of managing online bookings for transportation services inventory, the computer-implemented method comprising:
>
> linking, via a computerized network, each item in the transportation services inventory with one of a plurality of online distributions channels by allocating the item to the respective online distribution channel;
>
> receiving, from each of the plurality of online distribution channels in real time via the computerized network, sale data pertaining to the online bookings for the items in the transportation services inventory allocated to the respective online distribution channel;
>
> processing the sale data by carrying out calculations to obtain a performance rating for each of the respective online distribution channels;
>
> querying whether the performance rating of each of the respective online distribution channels is greater than a performance rating of other online distribution channels; and
>
> based on the query being answered in the affirmative, carrying out at least one of the following:
>
> > adjusting, via the computerized network, a price of the items in the transportation services inventory allocated to each of the linked online distribution channels; and
> >
> > modifying, via the computerized network, the linkage of the items in the transportation services inventory to the respective online distribution channels by re-allocating the items in the transportation services inventory to or from said each of the online respective distribution channels from or to the other online distribution channels.

32. The Uber System implements a method of managing online bookings for transportation services inventory (i.e. rides or drivers associated with particular services). That method is performed by the Uber System with the surge pricing feature, including the backend

computer systems that receive ride requests, driver availability, and other data from mobile devices with the Rider App or Driver App from particular geographic locations defined by the Uber App.

33. On information and belief, the Uber System links each item in its transportation services inventory (e.g., available drivers) with one of a plurality of online distribution channels (e.g., geographic areas defined by Uber) by allocating each item to a respective online distribution channel via a computerized network. On information and belief, each item in the transportation services inventory corresponds to an Uber driver and the Uber driver's vehicle, and Uber uses geofencing to allocate drivers to different distribution channels. For example, Uber uses "hyperlocal zones" as channels for online distribution of its inventory. *See* Exhibit D at 4 ("Hyper-local zones … To optimize reliability, the surge algorithm reacts to driver availability and rider demand at a hyper-local level in real-time."); Exhibit E at 2 ; *see also* Exhibit F at 4-5 ("Uber maps every city into granular hyperlocal zones which are basically small hexagonal blocks"); Exhibit I at 3, Agira Technologies, How Uber Used Golang To Build The Highest Query Per Second Service?" *available at* https://www.agiratech.com/how-uber-used-go-to-build-the-highest-query-per-second-service *accessed* Jun. 27, 2022 ("... Geofence helps users by showing the cabs available at a particular location. This function defines specific areas (like airports) and implements dynamic prices in the areas where the demand is high").

34. On information and belief, the Uber System receives, from each of the plurality of online distribution channels in real-time via a computerized network, sale data pertaining to the online bookings (e.g., driver information, vehicle information, location, ratings, and availability based on information provided by Driver Apps) for the items in the transportation services inventory (e.g., available rides or drivers) allocated to the respective online distribution channel (e.g., a geographic area). *See* Exhibit C at 6 ("let's see how surge pricing works with data from

Gairos. There are times when so many people are requesting rides that there aren't enough cars on the road to help take them all. Bad weather, rush hour, and special events, for instance, may cause unusually large numbers of people to want to ride Uber all at the same time. In these cases of very high demand, fares may increase to help ensure those who need a ride can get one. This system is called surge pricing. To calculate the surge multiplier for a hexagon defined by H3, the number of requests (demand) and the number of available drivers (supply) will be queried from Gairos to get the latest data. These data will be input to the pricing model and the pricing model will generate a surge multiplier for that location.").

35. On information and belief, the Uber System processes the sale data by carrying out calculations to obtain a performance rating (e.g., relative level of surge for the particular geographic area) for each of the respective online distribution channels. Specifically, the Uber System surge pricing feature has been described as follows: "When demand increases the block will start changing color. The colored areas of the map range from light orange to dark red. Light orange denotes a low surge while dark red suggests an area of high surge. Quantitatively, the surge is denoted by multipliers of X.X. A rider in a surged area may accept a surged price for a ride if he/she wants a cab immediately." *See* Exhibit F at 4. On information and belief, the level of surge, reflected by the color of specific areas, is calculated as a performance rating for that area.

36. On information and belief, the Uber System queries whether the performance rating of each of the respective online distribution channels (e.g., the geographic area being queried) is greater than a performance rating of other online distribution channels (e.g., other geographic areas). For example, when a rider searches for a ride in their area, Uber queries the performance rating of the distribution channel using a unique identifier representing the rider's location and desired ride. *See* Exhibit J at 1,

https://developer.uber.com/docs/riders/references/api/v1.2/products-product_id-get *accessed* Jun. 28, 2022 ("Unique identifier representing a specific product for a given latitude & longitude. For example, uberX in San Francisco will have a different product_id than uberX in Los Angeles.").

37. Based on the query being answered with a greater performance rating, on information and belief, the Uber System will respond by adjusting, via a computerized network, the price of the items in its transportation services inventory allocated to each of the linked online distribution channels (e.g., the level of surge multiplier for the area from which price is calculated), and/or by modifying, via a computerized network, the linkage of the items in the transportation services inventory to its distribution channels by re-allocating the items in the transportation services inventory to or from said each of the online respective distribution channels from or to the other online distribution channels (e.g., taking steps to incentivize drivers outside a geographic area to take rides in the area reflecting high surge). For example, when a rider attempts to hail a ride in an area of high demand, Uber will show the rider an increased price with a surge pricing modifier. *See* Exhibit F at 4 ("Uber maps every city into granular hyperlocal zones which are basically small hexagonal blocks. When demand increases the block will start changing color. The colored areas of the map range from light orange to dark red. Light orange denotes a low surge while dark red suggests an area of high surge. Quantitatively, the surge is denoted by multipliers of X.X. A rider in a surged area may accept a surged price for a ride if he/she wants a cab immediately."). When a driver uses the app in an area adjacent to an area of high demand, Uber will encourage the driver to migrate to the high-demand area. *See* Exhibit K at 4, Sherice Jacob, "How Uber Uses Data to Improve Their Service and Create the New Wave of Mobility" *available at* https://neilpatel.com/blog/how-uber-uses-data/ *accessed* Jun. 28, 2022 ("All of this data is collected, crunched, analyzed and used to predict everything from the customer's wait time, to

recommending where drivers should place themselves via heatmap in order to take advantage of the best fares and most passengers.").

38. On information and belief, Uber knows of the '598 patent at least through the filing and service of this Complaint.

39. Uber is not licensed or otherwise authorized to practice the claims of the '598 patent.

40. By reason of Uber's infringement, SurgeTech has suffered substantial damages.

41. SurgeTech is entitled to recover the damages sustained as a result of Uber's wrongful acts in an amount subject to proof at trial.

COUNT II

Infringement of the '999 Patent

42. SurgeTech re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

43. Uber has infringed and continues to infringe at least claim 1 of the '999 patent in violation of 35 U.S.C. § 271(a) by, without authority, making, using, selling, offering for sale, and/or importing into the United States, including in Delaware, products, services, and/or methods covered by one or more claims of the '999 patent including, but not limited to, the development, control, use, provision, and sale of the Accused Uber System. Uber has infringed the '999 patent literally and/or under the doctrine of equivalents.

44. Each and every claim of the '999 patent is valid and enforceable, and each enjoys a statutory presumption of validity under 35 U.S.C. § 282.

45. Claim 1 of the '999 patent recites:

> A computer-implemented method of managing inventory allocations, the computer-implemented method comprising the steps of:

> receiving sale data cyclically, in near real time, from respective distribution channels and relating to sale of inventory items allocated to the respective distribution channels;
>
> processing the sale data cyclically, the processing of the sale data including carrying out calculations to obtain a performance rating for each of the respective distribution channels;
>
> querying whether the performance rating of each of the respective distribution channels is greater than a performance rating of other distribution channels; and
>
> based on the query, carrying out at least one of the following steps:
>
> > adjusting a price of inventory items allocated to each of the respective distribution channels; and
> >
> > re-allocating inventory items to or from said each of the respective distribution channels from or to the other distribution channels.

46. As described in the above paragraphs, on information and belief, through its app, the Uber System practices a computer-implemented method of managing inventory allocations. By using surge pricing to, in near real-time, adjust the price of trips and allocation of drivers to distribution channels, Uber infringes claim 1 of the ’999 patent.

47. On information and belief, the Uber System receives sale data (e.g., driver information, vehicle information, location, ratings, and availability based on information provided by Driver Apps) cyclically, in near real time, from its respective distribution channels (e.g., a geographic area) relating to sale of inventory items (e.g., available rides or drivers) allocated to the respective distribution channels. For example, Uber uses its app to track every ride booked by a user. *See* Exhibit C at 4 (“A typical trip lifecycle like this might span across six distinct event streams, with events generated by the rider app, and Uber’s back-end dispatch server. These distinct event streams thread into a single Uber trip.”); Exhibit C at 6 (“let’s see how surge pricing works with data from Gairos. There are times when so many people are requesting rides that there aren’t enough cars on the road to help take them all. Bad weather, rush hour, and special events,

for instance, may cause unusually large numbers of people to want to ride Uber all at the same time. In these cases of very high demand, fares may increase to help ensure those who need a ride can get one. This system is called surge pricing. To calculate the surge multiplier for a hexagon defined by H3, the number of requests (demand) and the number of available drivers (supply) will be queried from Gairos to get the latest data. These data will be input to the pricing model and the pricing model will generate a surge multiplier for that location.").

48. On information and belief, the Uber System processes the received sale data cyclically, including carrying out calculations to obtain a performance rating (e.g., relative level of surge for the particular geographic area) for each of the respective distribution channels. For example, the Uber System surge pricing feature processes ride hail data cyclically to determine the demand for rides in a given area so that it may apply surge pricing or reallocate drivers from nearby areas when demand is high. *See* Exhibit C at 3 ("We use Gairos for a wide variety of insights-collecting use cases at Uber, including Dynamic pricing: Surge pricing service is reading demand and supply data based on hexagon to calculate surge multiplier at specific location and time."). Specifically, the Uber System surge pricing feature has been described as follows: "When demand increases the block will start changing color. The colored areas of the map range from light orange to dark red. Light orange denotes a low surge while dark red suggests an area of high surge. Quantitatively, the surge is denoted by multipliers of X.X. A rider in a surged area may accept a surged price for a ride if he/she wants a cab immediately." *See* Exhibit F at 4. On information and belief, the level of surge, reflected by the color of specific areas, is calculated as a performance rating for that area.

49. On information and belief, the Uber System queries whether the performance rating of each of the respective distribution channels is greater than a performance rating of other

distribution channels. For example, when a user hails a ride, Uber queries the relative demand in particular areas to determine whether to apply surge pricing. *See* Exhibit I at 4 ("Every request from Uber's mobile apps needs Geofence lookups and quick responses … the system must respond in less than 100 milliseconds to hundreds and thousands of queries each second."). Uber queries the performance rating of the distribution channel using a unique identifier representing the rider's location and desired ride. *See* Exhibit J at 1, ("Unique identifier representing a specific product for a given latitude & longitude. For example, uberX in San Francisco will have a different product_id than uberX in Los Angeles.").

50. Based on the query, on information and belief, the Uber System will respond by adjusting the price of inventory items allocated to each of the respective distribution channels (e.g., the level of surge multiplier for the area from which price is calculated) and/or reallocating inventory items to or from each of the respective distribution channels from or to the other distribution channels (e.g., taking steps to incentivize drivers outside a geographic area to take rides in the area reflecting high surge). As discussed above, Uber both adjusts the price of rides in high-demand areas to reflect a surge pricing and recommends to drivers that they move from low-demand areas to high-demand areas. *See* Exhibit F at 4 ("Uber maps every city into granular hyperlocal zones which are basically small hexagonal blocks. When demand increases the block will start changing color. The colored areas of the map range from light orange to dark red. Light orange denotes a low surge while dark red suggests an area of high surge. Quantitatively, the surge is denoted by multipliers of X.X. A rider in a surged area may accept a surged price for a ride if he/she wants a cab immediately."); Exhibit K at 4 ("All of this data is collected, crunched, analyzed and used to predict everything from the customer's wait time, to recommending where drivers should place themselves via heatmap in order to take advantage of the best fares and most

passengers."); Exhibit I at 7 ("To sum up, Uber uses GeoFence lookups to show its vehicle availability and implement dynamic prices according to the distances and demand.").

51. On information and belief, Uber knows of the '999 patent at least through the filing and service of this complaint.

52. Uber is not licensed or otherwise authorized to practice the claims of the '999 patent.

53. By reason of Uber's infringement, SurgeTech has suffered substantial damages.

54. SurgeTech is entitled to recover the damages sustained as a result of Uber's wrongful acts in an amount subject to proof at trial.

COUNT III

Infringement of the '047 Patent

55. SurgeTech re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

56. Uber has infringed and continues to infringe at least claim 1 of the '047 patent in violation of 35 U.S.C. § 271(a) by, without authority, making, using, selling, offering for sale, and/or importing into the United States, including in Delaware, products, services, and/or methods covered by one or more claims of the '047 patent including, but not limited to, the development, control, use, provision, and sale of the Accused Uber System. Uber has infringed the '047 patent literally and/or under the doctrine of equivalents.

57. Each and every claim of the '047 patent is valid and enforceable, and each enjoys a statutory presumption of validity under 35 U.S.C. § 282.

58. Claim 1 of the '047 patent recites:

> A computer-implemented method of managing online bookings for transportation services inventory, the computer-implemented method comprising:

establishing a channel interface that provides bidirectional communication between at least one server computing device and a vendor computing device;

storing, via a channel data structure, a channel record for each of a plurality of distribution channels;

receiving, from the vendor computing device through the channel interface, a selection, from the plurality of distribution channels, of one or more participant channels for a transportation service;

establishing, via the channel data structure, one or more active channel records based upon the one or more participant channels for the transportation service;

establishing, via the channel data structure, one or more inactive channel records based upon one or more non-participant channels for the transportation service;

linking the one or more active channel records to the channel interface;

receiving, in real time for the one or more participant channels corresponding to the one or more active channel records linked to the channel interface, sale data corresponding to at least one or more additional vendor computing devices;

determining a performance indicator in real time, for each of the one or more participant channels corresponding to the one or more active channel records linked to the channel interface, based at least on the sale data corresponding to said at least one or more additional vendor computing devices;

and for each of the one or more participant channels corresponding to the one or more active channel records linked to the channel interface, adjusting, via the channel interface, a price of the transportation service by an adjustment factor if the performance indicator indicates a performance that fails to meet a performance threshold.

59. As described in the above paragraphs, on information and belief, through its app, the Uber System practices a computer-implemented method of managing online bookings for transportation services inventory. By using surge pricing to, in near real-time, to adjust the price of trips and allocation of drivers to participant channels, Uber infringes claim 1 of the ’047 patent.

60. On information and belief, the Uber System establishes a channel interface that provides bidirectional communication between at least one server computing device (e.g., Uber-operated servers) and a vendor computing device (e.g., a driver’s smartphone running the Uber

Driver app). On information and belief, the Uber-operated servers communicate bidirectionally with the Uber Driver app. *See* Exhibit C at 4 ("[W]hen a driver opens the Uber app, it fires off an event on the driver event stream. The app displays offered trips (uberPOOL, uberX, UberBLACK, etc.) available in that geographic region along with prices for each, as generated by our surge pricing system, with each price appearing as a discrete event on the impression event stream. When that driver accepts a trip, the request goes to our dispatch system, which matches the rider with a driver-partner and assigns his vehicle to that trip."); Exhibit D at 2 ("Drivers are notified in the Uber app when demand increases through a map which shows the busiest areas and information about surge prices.").

61. On information and belief, the Uber System stores, via a channel data structure, a channel record for each of a plurality of distribution channels (e.g., geographic areas defined by Uber). For example, on information and belief, Uber stores records in the form of data structures relating to geographic areas defined by Uber, such as "hyperlocal zones." *See* Exhibit D at 4 ("Hyper-local zones … To optimize reliability, the surge algorithm reacts to driver availability and rider demand at a hyper-local level in real-time."); Exhibit E at 2 ; *see also* Exhibit F at 4-5 ("Uber maps every city into granular hyperlocal zones which are basically small hexagonal blocks"); Exhibit I at 3, Agira Technologies, How Uber Used Golang To Build The Highest Query Per Second Service?" *available at* https://www.agiratech.com/how-uber-used-go-to-build-the-highest-query-per-second-service *accessed* Jun. 27, 2022 ("... Geofence helps users by showing the cabs available at a particular location. This function defines specific areas (like airports) and implements dynamic prices in the areas where the demand is high").

62. On information and belief, the Uber System receives, from the vendor computing device (e.g., a driver's smartphone using the Uber Driver app) through the channel interface, a

selection, from the plurality of distribution channels, of one or more participant channels for a transportation service (e.g., a geographic area based on a driver's location). On information and belief, a driver selects a geographic area (e.g., one or more hyperlocal zones) by using the Uber Driver app to indicate their availability to provide services and sending the driver's current location to the Uber-operated server. *See* Exhibit C at 4 ("[W]hen a driver opens the Uber app, it fires off an event on the driver event stream. The app displays offered trips (uberPOOL, uberX, UberBLACK, etc.) available in that geographic region along with prices for each, as generated by our surge pricing system, with each price appearing as a discrete event on the impression event stream."); Exhibit D at 2 ("Drivers are notified in the Uber app when demand increases through a map which shows the busiest areas and information about surge prices.").

63. On information and belief, the Uber System establishes, via the channel data structure, one or more active channel records (e.g., records regarding geographic areas a driver is participating in) based upon the one or more participant channels for the transportation service (e.g., geographic areas that were selected). For example, on information and belief, the Uber System modifies the records of channels (e.g., hyperlocal zones) (which are stored in the form of a data structure) to designate the participant channels (e.g., geographic areas a driver is participating in) based on the driver's location. *See* Exhibit C at 4 ("[W]hen a driver opens the Uber app, it fires off an event on the driver event stream. The app displays offered trips (uberPOOL, uberX, UberBLACK, etc.) available in that geographic region along with prices for each, as generated by our surge pricing system, with each price appearing as a discrete event on the impression event stream."); Exhibit D at 2 ("Drivers are notified in the Uber app when demand increases through a map which shows the busiest areas and information about surge prices.").

64. On information and belief, the Uber System establishes, via the channel data structure, one or more inactive channel records (e.g., records regarding geographic areas a driver is not participating in) based upon the one or more non-participant channels for the transportation service (e.g., geographic areas that were not selected). For example, on information and belief, when a driver leaves a geographic area, the Uber System modifies the records of channels (e.g., hyperlocal zones) (which are stored in the form of a data structure) to designate non-participant channels (e.g., geographic areas the driver is not participating in). *See* Exhibit C at 4 ("[W]hen a driver opens the Uber app, it fires off an event on the driver event stream. The app displays offered trips (uberPOOL, uberX, UberBLACK, etc.) available in that geographic region along with prices for each, as generated by our surge pricing system, with each price appearing as a discrete event on the impression event stream."); Exhibit D at 2 ("Drivers are notified in the Uber app when demand increases through a map which shows the busiest areas and information about surge prices.").

65. On information and belief, the Uber System links the one or more active channel records (e.g., records about geographic areas a driver is participating in) to the channel interface (e.g., the interface between Uber's server and a driver). For example, on information and belief, the Uber System designates the geographic areas in which a driver is participating by linking the records for said geographic areas with the interface between the Uber Driver app and Uber-operated servers. *See* Exhibit C at 4 ("[W]hen a driver opens the Uber app, it fires off an event on the driver event stream. The app displays offered trips (uberPOOL, uberX, UberBLACK, etc.) available in that geographic region along with prices for each, as generated by our surge pricing system, with each price appearing as a discrete event on the impression event stream."); Exhibit D

at 2 ("Drivers are notified in the Uber app when demand increases through a map which shows the busiest areas and information about surge prices.").

66. On information and belief, the Uber System receives, in real time for the one or more participant channels corresponding to the one or more active channel records linked to the channel interface, sale data corresponding to at least one or more additional vendor computing devices (e.g., driver information, vehicle information, location, ratings, and availability based on information provided by a driver's Driver App). *See* Exhibit C at 6 ("let's see how surge pricing works with data from Gairos. There are times when so many people are requesting rides that there aren't enough cars on the road to help take them all. Bad weather, rush hour, and special events, for instance, may cause unusually large numbers of people to want to ride Uber all at the same time. In these cases of very high demand, fares may increase to help ensure those who need a ride can get one. This system is called surge pricing. To calculate the surge multiplier for a hexagon defined by H3, the number of requests (demand) and the number of available drivers (supply) will be queried from Gairos to get the latest data. These data will be input to the pricing model and the pricing model will generate a surge multiplier for that location.").

67. On information and belief, the Uber System determines a performance indicator (e.g., relative level of surge for a particular geographic area) in real time, for each of the one or more participant channels corresponding to the one or more active channel records linked to the channel interface, based at least on the sale data corresponding to said at least one or more additional vendor computing devices. For example, the Uber System surge pricing feature has been described as follows: "When demand increases the block will start changing color. The colored areas of the map range from light orange to dark red. Light orange denotes a low surge while dark red suggests an area of high surge. Quantitatively, the surge is denoted by multipliers

of X.X. A rider in a surged area may accept a surged price for a ride if he/she wants a cab immediately." *See* Exhibit F at 4. On information and belief, the level of surge, reflected by the color of specific areas, is calculated as a performance rating for the participant channels (e.g., geographic areas a driver is participating in).

68. On information and belief, for each of the one or more participant channels (e.g., geographic areas a driver is participating in) corresponding to the one or more active channel records linked to the channel interface, the Uber System adjusts, via the channel interface, a price of the transportation service by an adjustment factor (e.g., the level of surge multiplier for the participant geographic areas from which price is calculated) if the performance indicator indicates a performance that fails to meet a performance threshold. For example, on information and belief, when a rider searches for a ride in their area, Uber queries the performance rating of the distribution channel using a unique identifier representing the rider's location and desired ride, and if the rating fails to meet a threshold, that indicates the area has high demand, and Uber will show the rider an increased price with a surge pricing modifier. *See* Exhibit F at 4 ("Uber maps every city into granular hyperlocal zones which are basically small hexagonal blocks. When demand increases the block will start changing color. The colored areas of the map range from light orange to dark red. Light orange denotes a low surge while dark red suggests an area of high surge. Quantitatively, the surge is denoted by multipliers of X.X. A rider in a surged area may accept a surged price for a ride if he/she wants a cab immediately."). When a driver uses the app in an area adjacent to an area of high demand, Uber will encourage the driver to migrate to the high-demand area by displaying the surge multipliers of participant geographic areas. *See* Exhibit K at 4, Sherice Jacob, "How Uber Uses Data to Improve Their Service and Create the New Wave of Mobility" *available at* https://neilpatel.com/blog/how-uber-uses-data/ *accessed* Jun. 28, 2022 ("All of this data is

collected, crunched, analyzed and used to predict everything from the customer's wait time, to recommending where drivers should place themselves via heatmap in order to take advantage of the best fares and most passengers.").

69. On information and belief, Uber knows of the '047 patent at least through the filing and service of this complaint.

70. Uber is not licensed or otherwise authorized to practice the claims of the '047 patent.

71. By reason of Uber's infringement, SurgeTech has suffered substantial damages.

72. SurgeTech is entitled to recover the damages sustained as a result of Uber's wrongful acts in an amount subject to proof at trial.

PRAYER FOR RELIEF

WHEREFORE, SurgeTech respectfully prays for the following relief:

(a) A judgment that Uber has infringed the '598, '999 and '047 patents;

(b) An award of damages adequate to compensate SurgeTech for Uber's infringement of the '598, '999 and '047 patents pursuant to 35 U.S.C. § 284;

(c) An award of pre-judgment and post-judgment interest;

(d) An award of attorneys' fees pursuant to 35 U.S.C. § 285;

(e) Such other relief as the Court deems just and appropriate.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Plaintiff hereby demands a trial by jury as to all issues so triable.

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November 18, 2022