

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

CLAIM CHART FOR U.S. PATENT NO. 9,454,748

Uber Technologies Mobile Android App

October 16, 2017

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

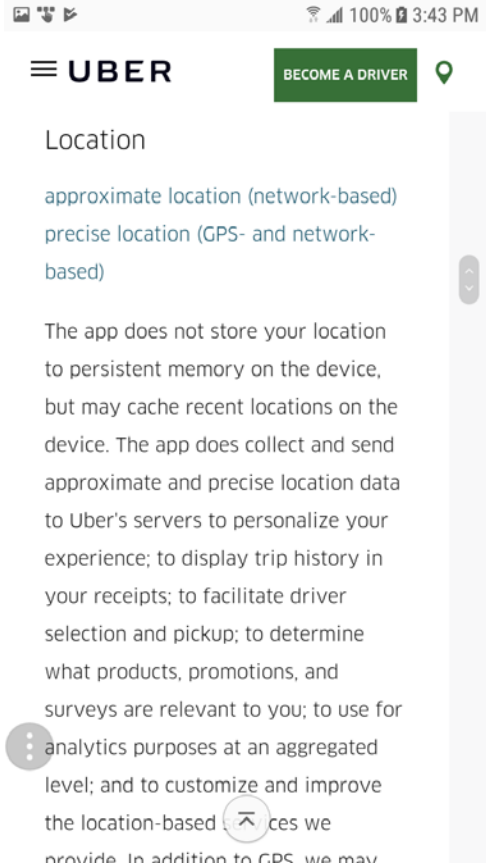
CLAIM 19	Uber Technologies Mobile Android App
A method for managing data comprising the steps of:	To the extent the preamble is limiting, the Uber Technologies mobile Android app ("Uber App") implements a method for managing data. For example, the Uber App manages data, including the user's location:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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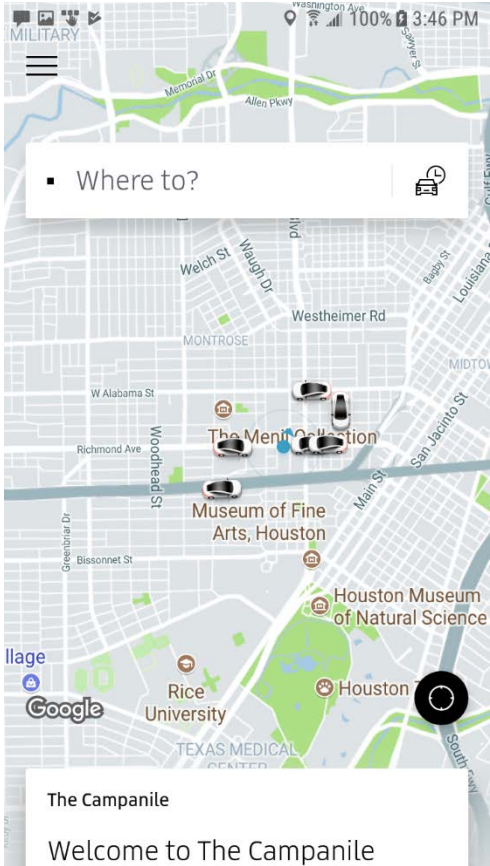
CLAIM 19	Uber Technologies Mobile Android App
	The Uber App manages data, including the user a destination location, and the type of ride (uberX, uberXL, Select, etc), which are based on the user's current location:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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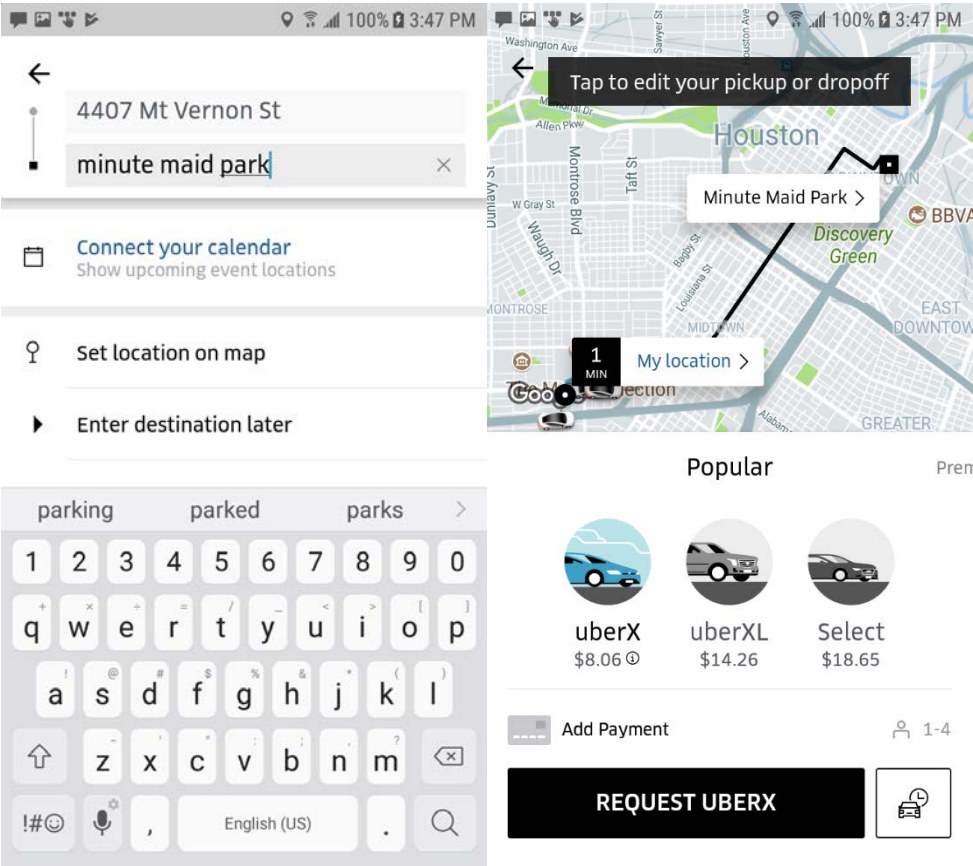
CLAIM 19	Uber Technologies Mobile Android App
	 Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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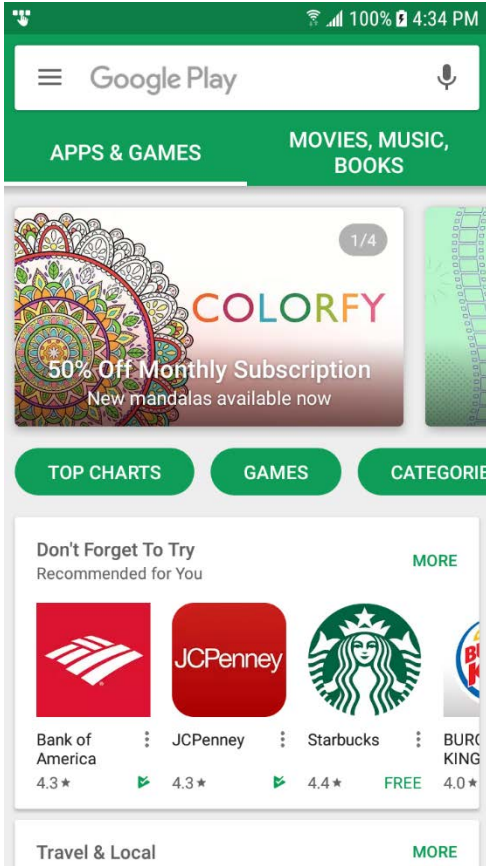
CLAIM 19	Uber Technologies Mobile Android App
(a) establishing communications between a handheld computing device and an originating computer wherein said handheld computing device has a GPS integral thereto;	In order to obtain the benefits received from using the Uber App, the user must establish communications between the handheld computing device, such as the user's smartphone, and an originating computer, such as the server(s) hosting the Google Play Store:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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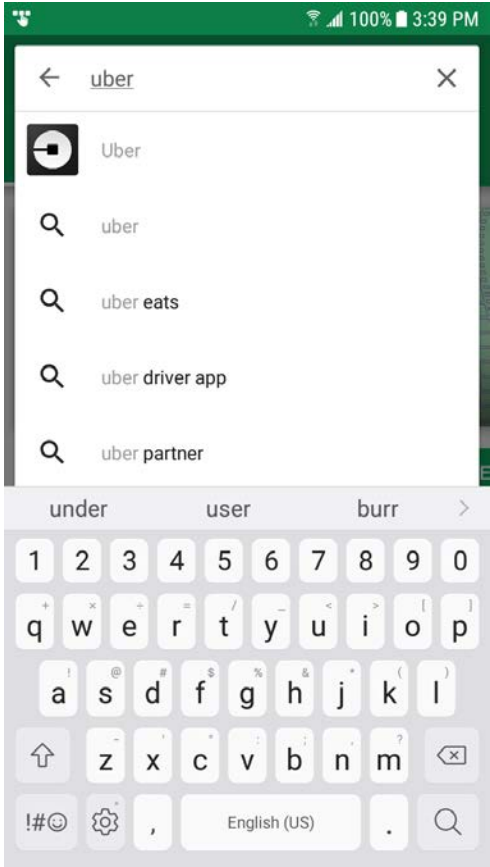
CLAIM 19	Uber Technologies Mobile Android App
	The user is able to search for the Uber App:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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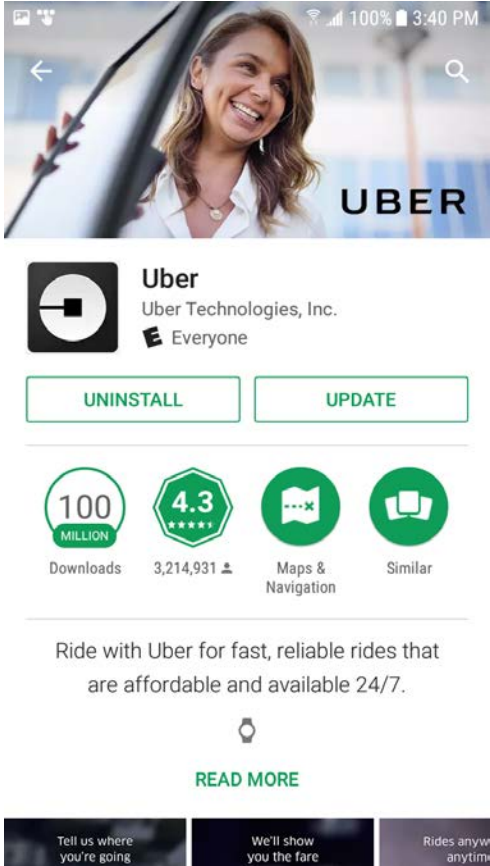
CLAIM 19	Uber Technologies Mobile Android App
	The Uber App came pre-installed on the particular Samsung phone used for testing. The Uber App did, however, require an update, which involves establishing communications with the Google Play Store.  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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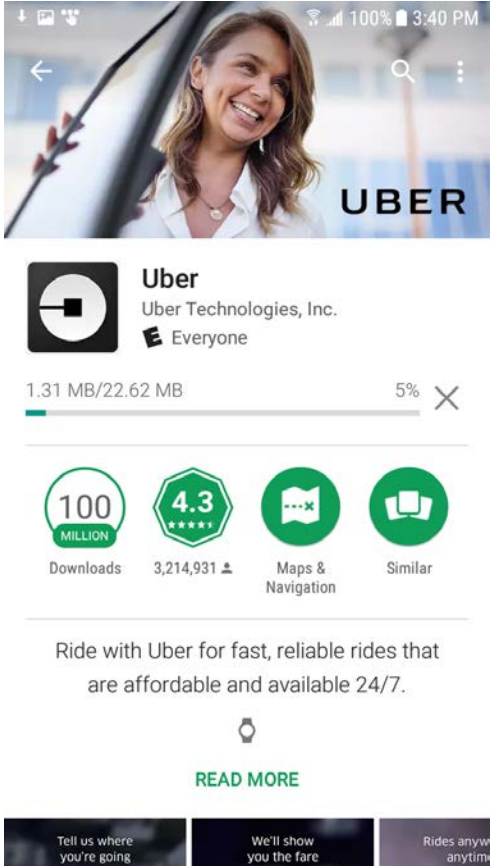
CLAIM 19	Uber Technologies Mobile Android App
	The Uber App is updated  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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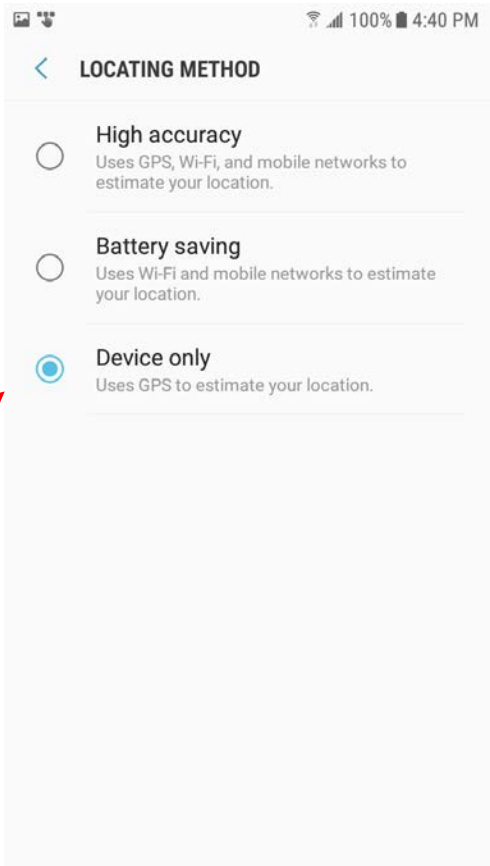
CLAIM 19	Uber Technologies Mobile Android App
	The smartphone contains an internal, integral GPS antenna:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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CLAIM 19	Uber Technologies Mobile Android App
	Smartphones operating Android are able to receive GPS signals: Everyone knows satellite navigation is great for drivers, but the global positioning system (GPS) is even better for the latest generation of smart phone users. With GPS, an Android phone knows where it is, but that's just the beginning. Add a few apps and it'll tell you where to go, how to get there and what to expect when you arrive. Source: https://www.cnet.com/how-to/android-phone-gps-tips/

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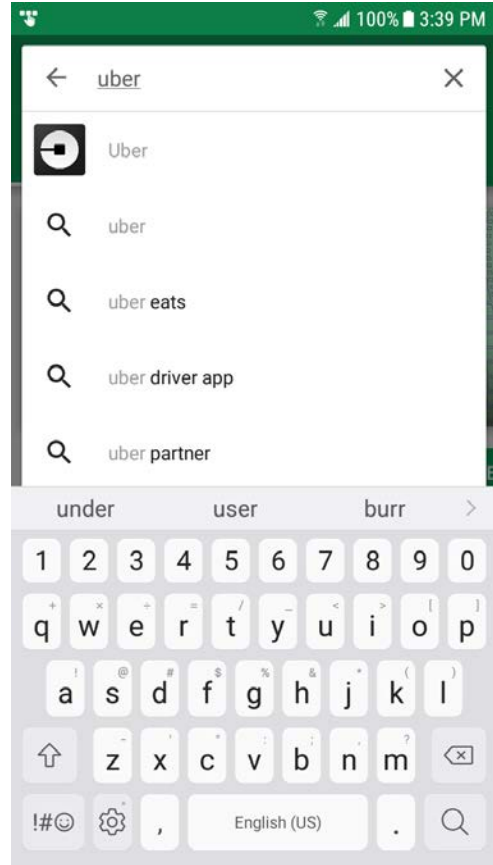
CLAIM 19	Uber Technologies Mobile Android App
(b) receiving within said handheld computing device a transmission of a tokenized questionnaire from said originating computer, said tokenized questionnaire including at least one question requesting location identifying information, said tokenized questionnaire comprising a plurality of device independent tokens;	In order to obtain the benefits received from using the Uber App, the handheld computing device (smartphone) must receive the transmission (download) of a tokenized questionnaire onto the smartphone, which is the Uber App. A search is performed for the Uber App:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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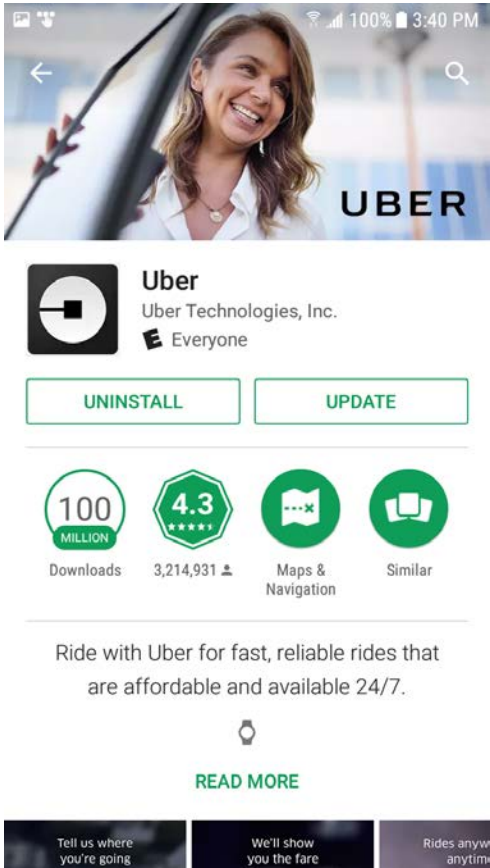
CLAIM 19	Uber Technologies Mobile Android App
	The app is selected, which gives the user the option to install and/or update:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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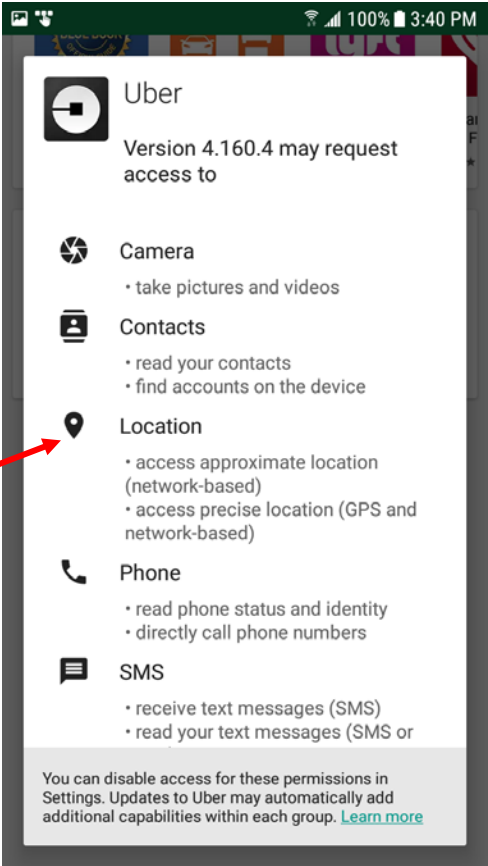
CLAIM 19	Uber Technologies Mobile Android App
	The Uber App's Permission Details inform the user that the app requires access to the user's location.  The screenshot shows the Uber app's permission screen. At the top, it says 'Uber Version 4.160.4 may request access to'. Below this, there are five permission categories: Camera (take pictures and videos), Contacts (read your contacts, find accounts on the device), Location (access approximate location (network-based), access precise location (GPS and network-based)), Phone (read phone status and identity, directly call phone numbers), and SMS (receive text messages (SMS), read your text messages (SMS or...)). A red arrow points to the 'Location' section. At the bottom, there is a note: 'You can disable access for these permissions in Settings. Updates to Uber may automatically add additional capabilities within each group. Learn more'. Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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CLAIM 19	Uber Technologies Mobile Android App
	The Uber App is a tokenized questionnaire comprising a plurality of device independent tokens, and is downloaded as bytecode, typically a type of Java, such as “.dex.” With the latest I/O conference, Google has finally publicly announced its plans for its new runtime on Android. The Android RunTime, ART, is the successor and replacement for Dalvik, the virtual machine on which Android Java code is executed on. We've had traces and previews of it available with KitKat devices since last fall, but there wasn't much information in terms of technical details and the direction Google was heading with it. Contrary to other mobile platforms such as iOS, Windows or Tizen, which run software compiled natively to their specific hardware architecture, <u>the majority of Android software is based around a generic code language which is transformed from “byte-code” into native instructions for the hardware on the device itself.</u> First, ART is designed to be fully compatible with Dalvik's existing byte-code format, “dex” (Dalvik executable). As such, from a developer's perspective, there are no changes at all in terms of having to write applications for one or the other runtime and no need to worry about compatibilities. Source: http://www.anandtech.com/show/8231/a-closer-look-at-android-runtime-art-in-android-l/

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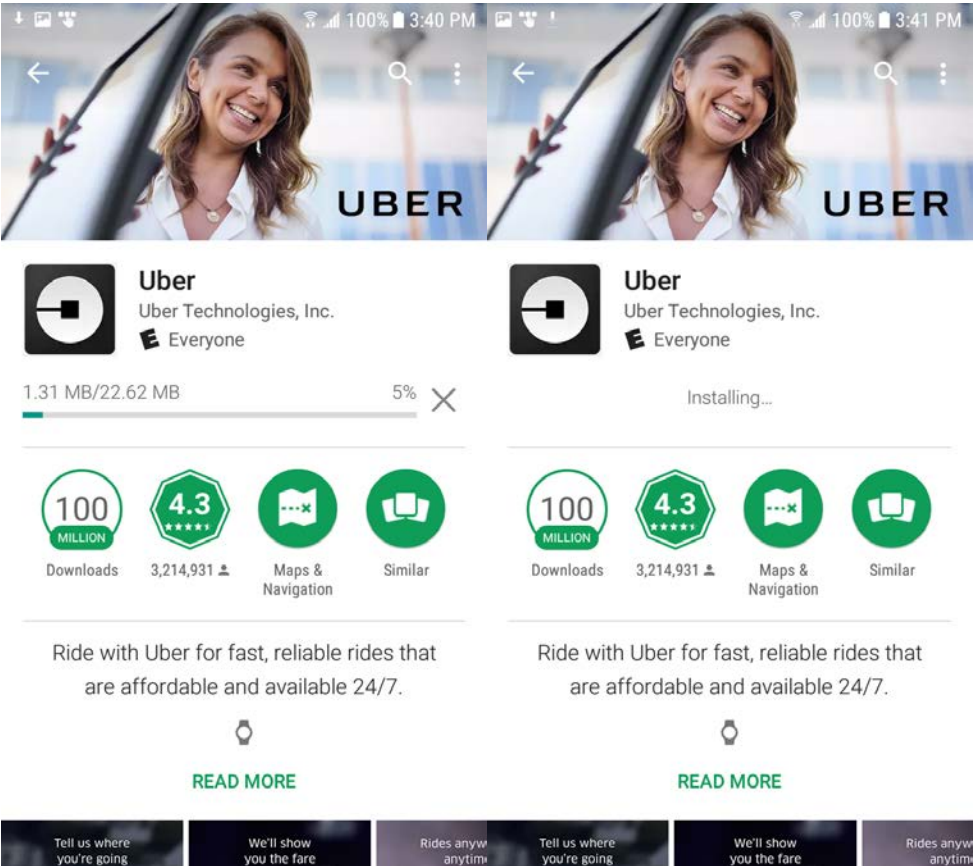
CLAIM 19	Uber Technologies Mobile Android App
	The tokenized questionnaire (Uber App) is downloaded:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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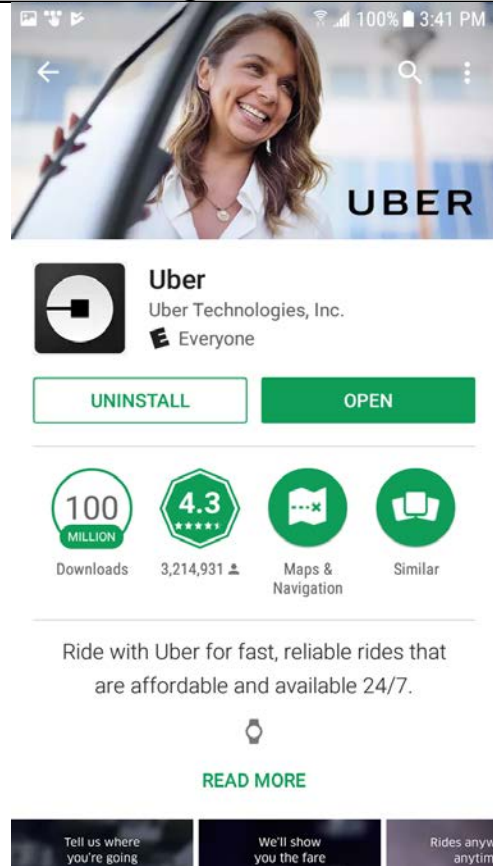
CLAIM 19	Uber Technologies Mobile Android App
	 Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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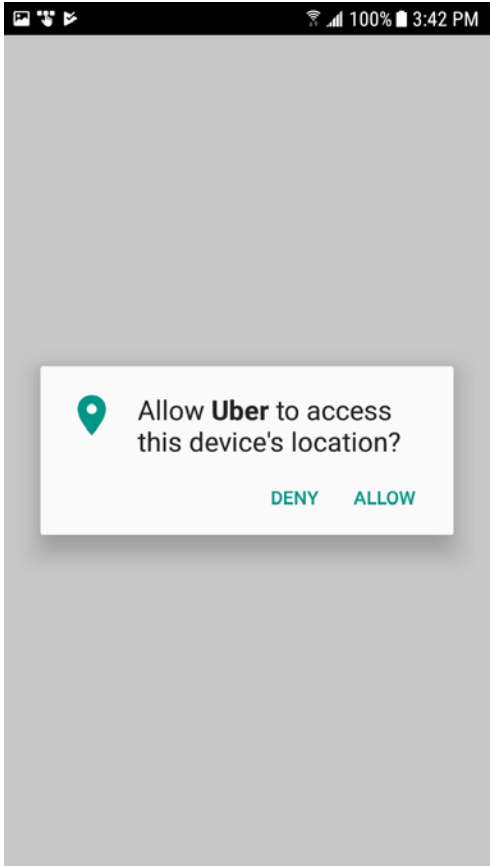
CLAIM 19	Uber Technologies Mobile Android App
	In order to obtain the benefits received from using the Uber App, and begin using the app, the user must allow the Uber App to access the device's location:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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CLAIM 19	Uber Technologies Mobile Android App
	When the user first opens the Uber App (the tokenized questionnaire), the internal Android Runtime (previously Dalvik) application compiles and executes the bytecode (tokens) into the native operating system code for operation by the user's smartphone (handheld computing device). Thus, the app is device independent. Contrary to other mobile platforms such as iOS, Windows or Tizen, which run software compiled natively to their specific hardware architecture, <u>the majority of Android software is based around a generic code language which is transformed from "byte-code" into native instructions for the hardware on the device itself.</u> Source: http://www.anandtech.com/show/8231/a-closer-look-at-android-runtime-art-in-android-l/ ART and Dalvik Android runtime (ART) is the managed runtime used by applications and some system services on Android. ART and its predecessor Dalvik were originally created specifically for the Android project. ART as the runtime executes the Dalvik Executable format and Dex bytecode specification. <u>ART and Dalvik are compatible runtimes running Dex bytecode</u>, so apps developed for Dalvik should work when running with ART. However, some techniques that work on Dalvik do not work on ART. For information about the most important issues, see Verifying App Behavior on the Android Runtime (ART). Source: https://source.android.com/devices/tech/dalvik/

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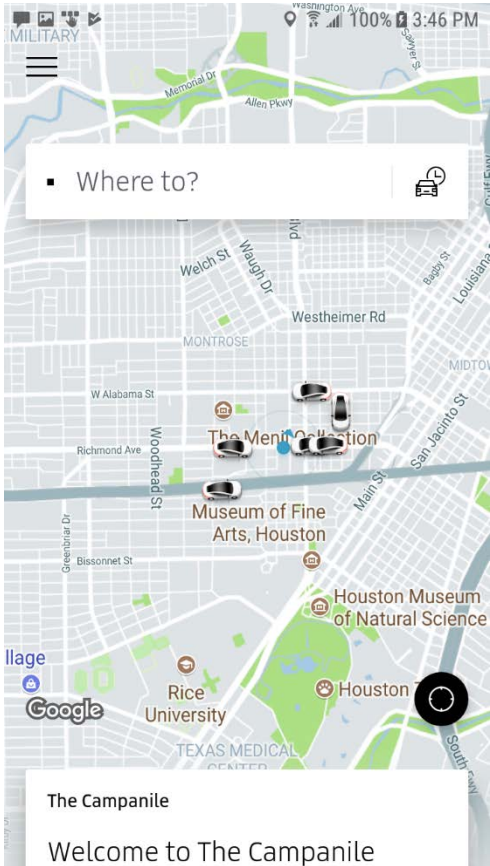
CLAIM 19	Uber Technologies Mobile Android App
	For example, when the Uber App is opened, the device's current location is determined from its GPS coordinates and displayed on a map:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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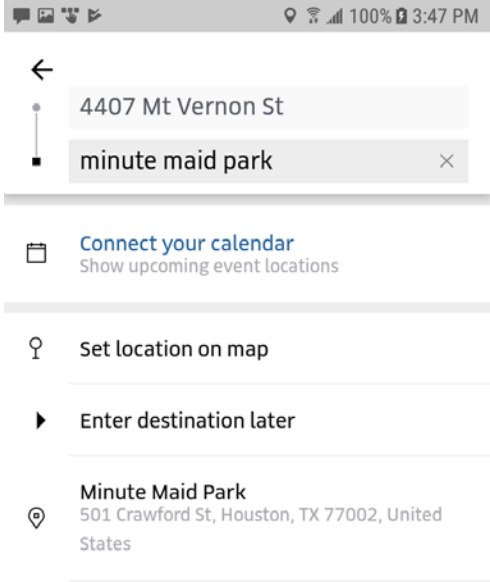
CLAIM 19	Uber Technologies Mobile Android App
	The user then enters a destination address or name:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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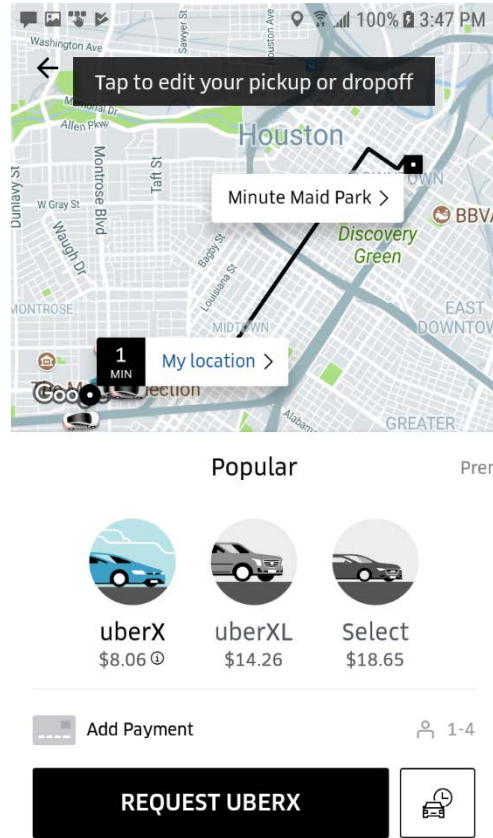
CLAIM 19	Uber Technologies Mobile Android App
	Next, The user is presented with the route, as well as options for different vehicle types, fare estimates, and the estimated pickup time:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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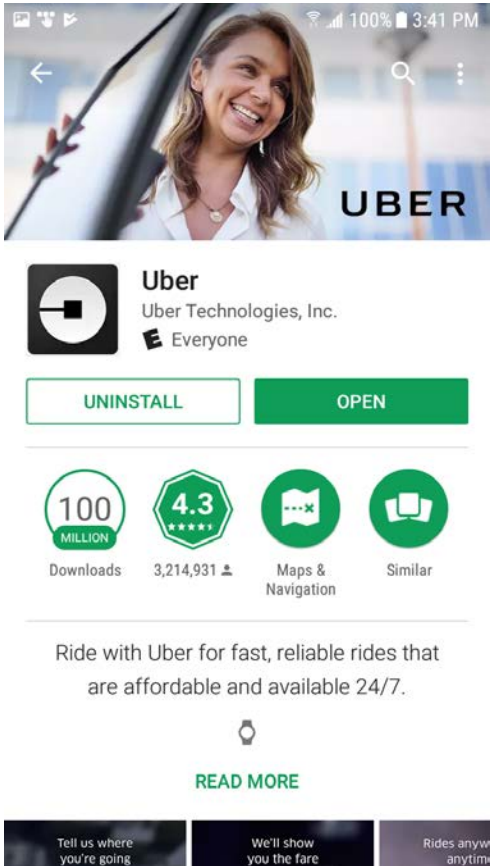
CLAIM 19	Uber Technologies Mobile Android App
(c) ending said communications between said handheld computing device and said originating computer;	After the Uber app is downloaded, communication between the user's phone and the originating computer, such as the Google Play Store, ends:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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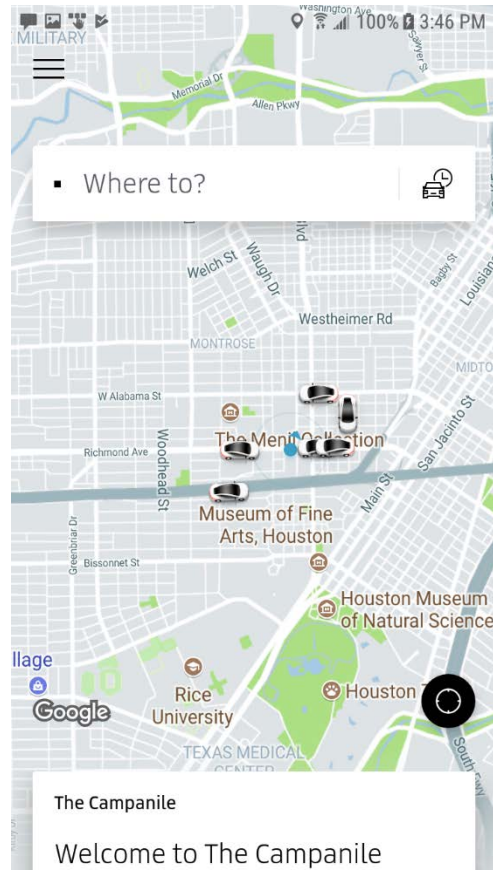
CLAIM 19	Uber Technologies Mobile Android App
(d) after said communications has been ended,	Communications between the smartphone and the originating computer (e.g., Google Play Store server) are ended.
(d1) executing at least a portion of said plurality of tokens comprising said questionnaire on said handheld computing device to collect at least one response from a first user, and,	The user executes at least a portion of the plurality of tokens comprising the questionnaire when, for example, the user's smartphone determines its current GPS coordinates, which then is used to determine Uber drivers near the user's current location. The questionnaire also requires the user to choose a destination, and the type of ride (uberX, uberXL, Select, etc):  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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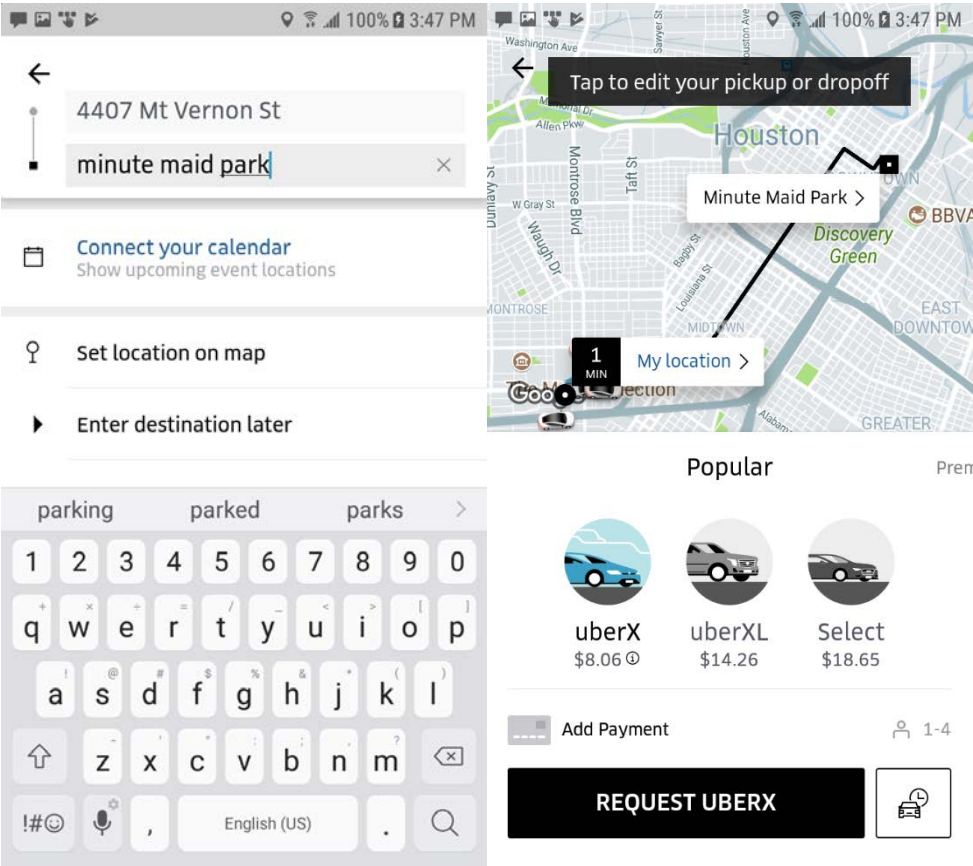
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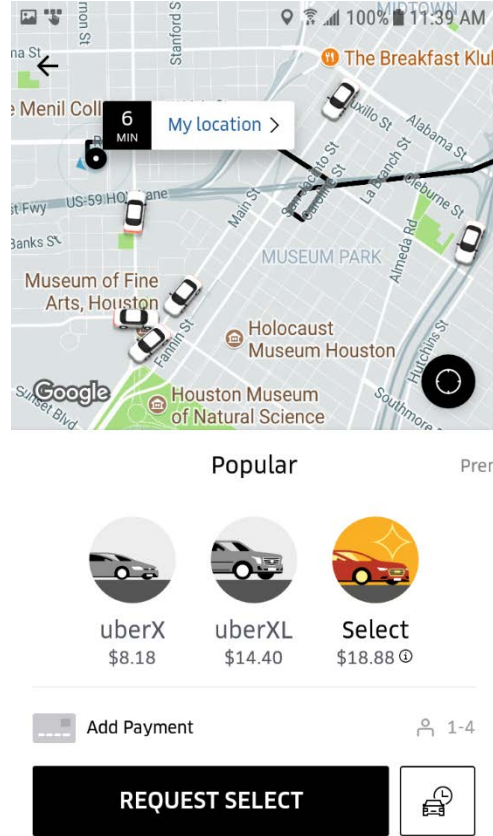
CLAIM 19	Uber Technologies Mobile Android App
	The responses collected by the Uber App include, for example, the user's location, the destination, and the choice of ride type. Different icons are used to indicate the different types of available rides, such as "Select"  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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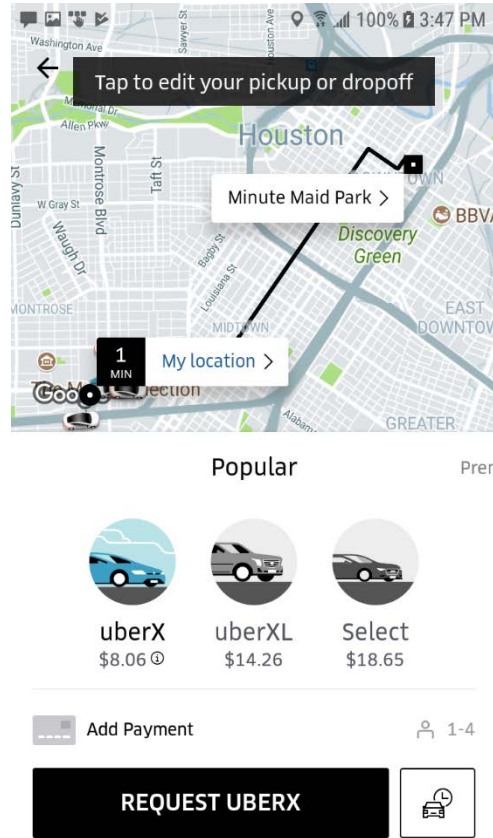
CLAIM 19	Uber Technologies Mobile Android App
	Another response that is collected is when the user selects “Request,” which it done after selecting the pickup location, the destination, and the type of ride:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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CLAIM 19	Uber Technologies Mobile Android App
	The request is sent to the driver, who is also provided the user's pickup and destination locations. 4 fast facts The driver app... • Is available 24/7 • Automatically sends you rider requests • Can guide you to every pickup location and destination • Lets you call or text riders directly Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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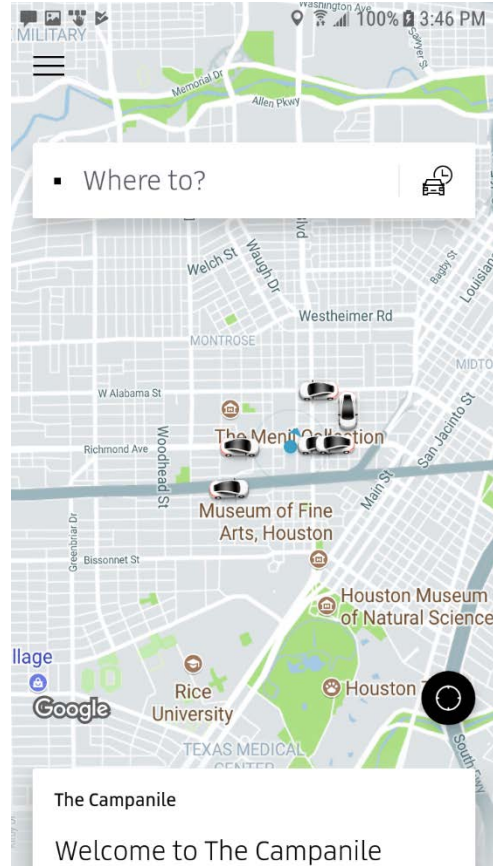
CLAIM 19	Uber Technologies Mobile Android App
(d2) storing within said computing device said at least one response from the first user;	The user responses, which include current location, selected destination, and type of ride, are stored on the smartphone:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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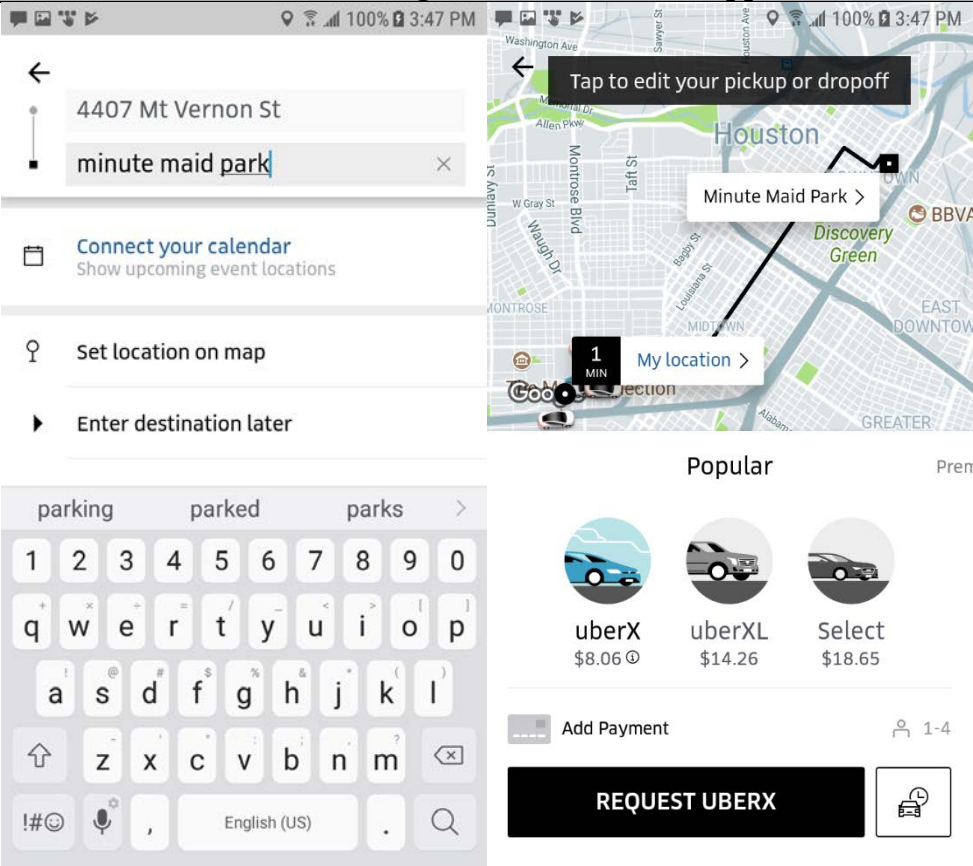
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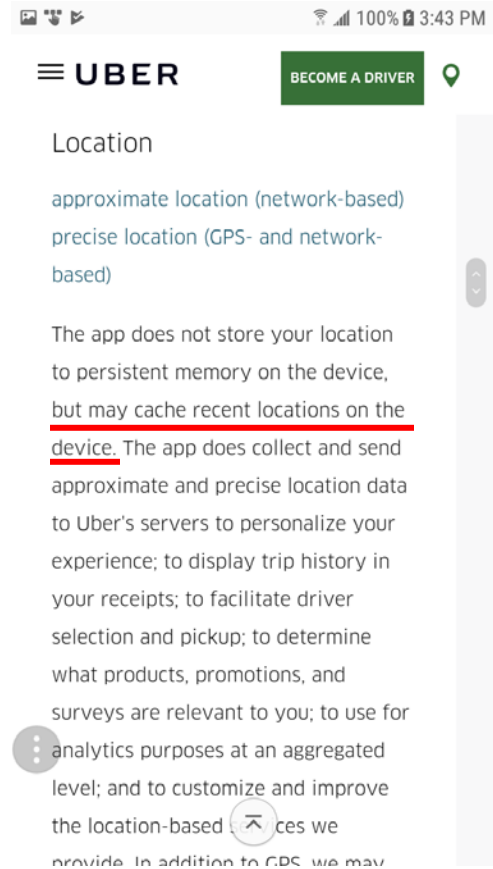
CLAIM 19	Uber Technologies Mobile Android App
	A screenshot of the Uber mobile app interface on an Android device. At the top, the status bar shows signal strength, Wi-Fi, 100% battery, and the time 3:43 PM. The app header features the Uber logo on the left, a green 'BECOME A DRIVER' button in the center, and a location pin icon on the right. Below the header, the 'Location' settings are displayed. It lists two options: 'approximate location (network-based)' and 'precise location (GPS- and network-based)'. A paragraph of text follows, stating: 'The app does not store your location to persistent memory on the device, but may cache recent locations on the device.' The phrase 'but may cache recent locations on the device' is underlined in red. The text continues: 'The app does collect and send approximate and precise location data to Uber's servers to personalize your experience; to display trip history in your receipts; to facilitate driver selection and pickup; to determine what products, promotions, and surveys are relevant to you; to use for analytics purposes at an aggregated level; and to customize and improve the location-based services we provide. In addition to GPS, we may...'. A vertical scrollbar is visible on the right side of the text area. Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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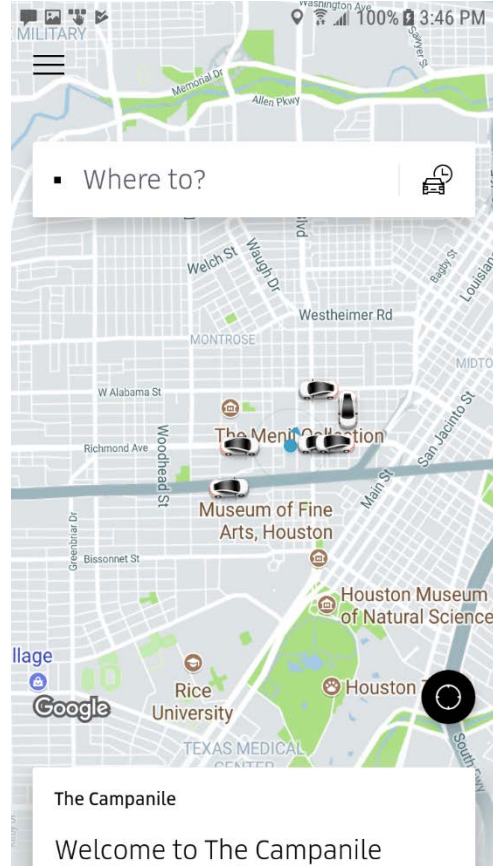
CLAIM 19	Uber Technologies Mobile Android App
(d3) using said GPS to automatically obtain said location identifying information in response to said at least one question that requests location identifying information;	When the Uber App is opened, it automatically determines the smartphone's (ie, user's) current location, which is automatically determined from the phone's current GPS coordinates:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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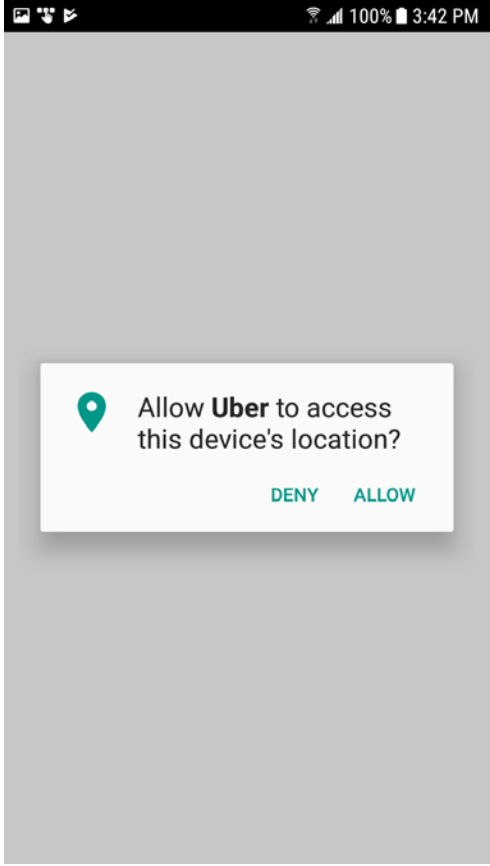
CLAIM 19	Uber Technologies Mobile Android App
	The user must permit the Uber App to access the device's location:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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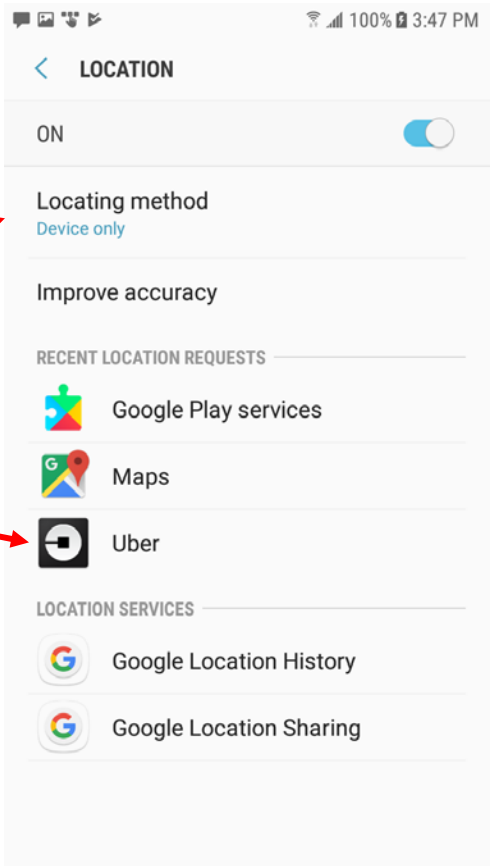
CLAIM 19	Uber Technologies Mobile Android App
	The Uber app uses the phone's internal GPS receiver:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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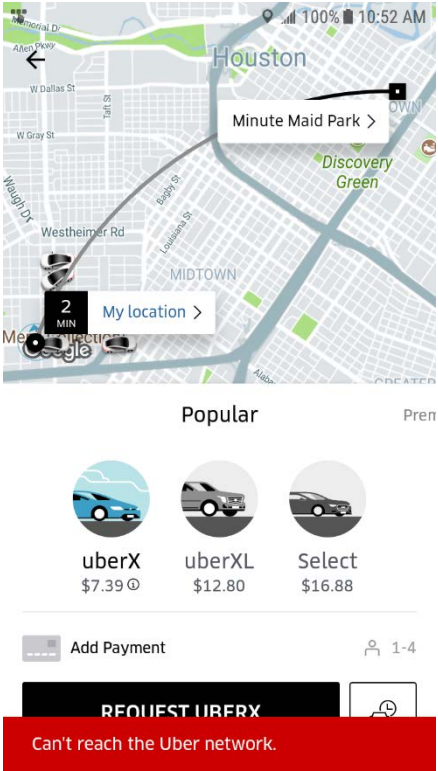
CLAIM 19	Uber Technologies Mobile Android App
(e) establishing communications between said handheld computing device and a recipient computer;	There must be communications between the user's phone (handheld computing device) and a recipient computer, the Uber servers. If the communications network, such as wifi or cellular internet access is disabled, the Uber App provides an error message:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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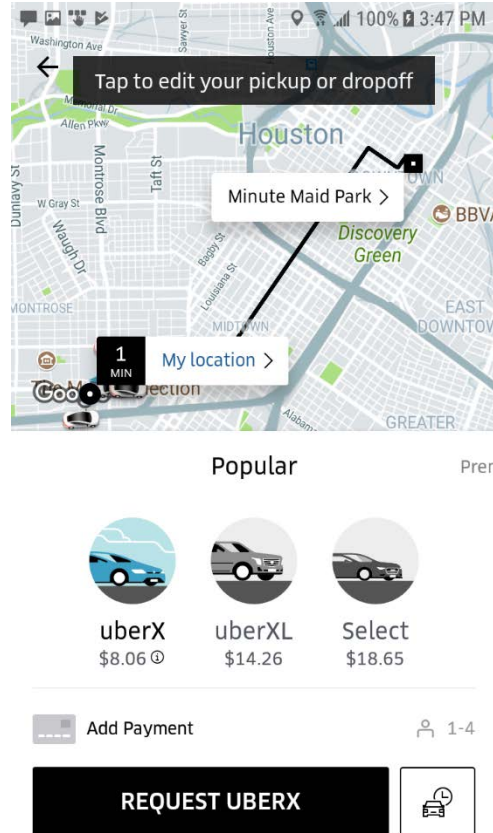
CLAIM 19	Uber Technologies Mobile Android App
(f) transmitting a value representative of each of said at least one response stored within said handheld computing device to said recipient computer; and,	At least one value representing at least one stored response, such as the user's location (used to determine the nearby Uber drivers), the selected destination, and/or the selected type of ride, is transmitted to the Uber server:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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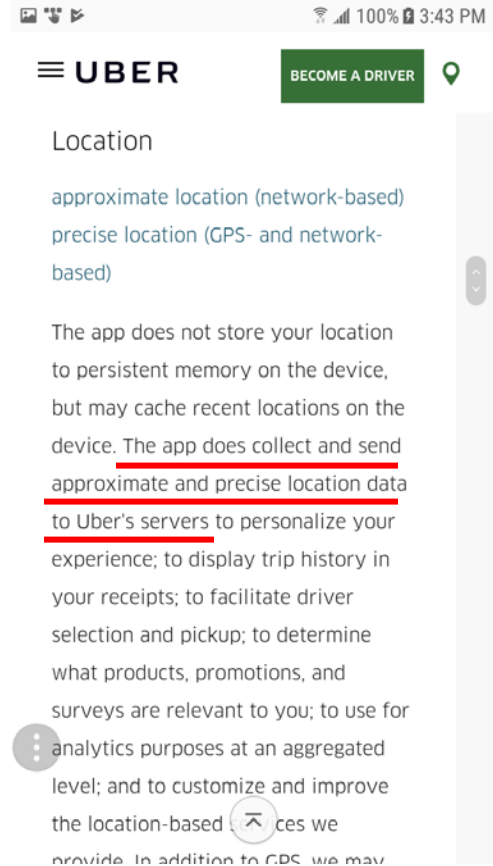
CLAIM 19	Uber Technologies Mobile Android App
	 The screenshot shows the Uber app interface on an Android device. At the top, the status bar displays signal strength, Wi-Fi, 100% battery, and the time 3:43 PM. The Uber logo is on the left, and a green 'BECOME A DRIVER' button is on the right. Below the logo, the word 'Location' is followed by two lines of text: 'approximate location (network-based)' and 'precise location (GPS- and network-based)'. A paragraph of text follows, with the sentence 'The app does collect and send approximate and precise location data to Uber's servers to personalize your experience;' underlined in red. The text continues with 'to display trip history in your receipts; to facilitate driver selection and pickup; to determine what products, promotions, and surveys are relevant to you; to use for analytics purposes at an aggregated level; and to customize and improve the location-based services we provide. In addition to GPS, we may'. A vertical scrollbar is visible on the right side of the text area. Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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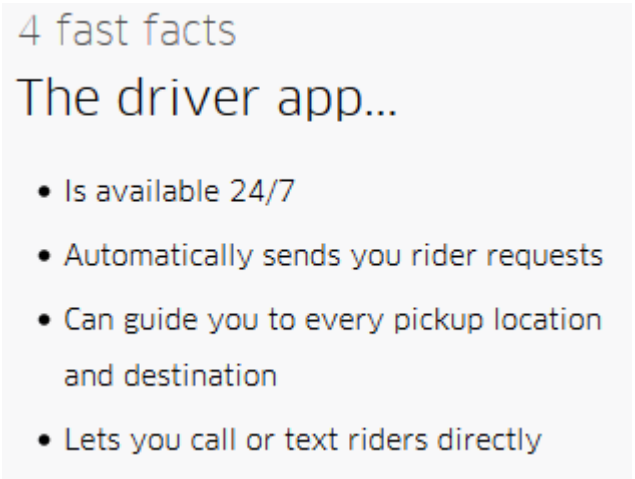
CLAIM 19	Uber Technologies Mobile Android App
(g) after receipt of said transmission of step (f), transmitting a notice of said received value representative of each of said at least one response to a second user.	Notice of the received values, such as the user's location, the destination, and the type of ride are sent to the Uber driver, a second user.  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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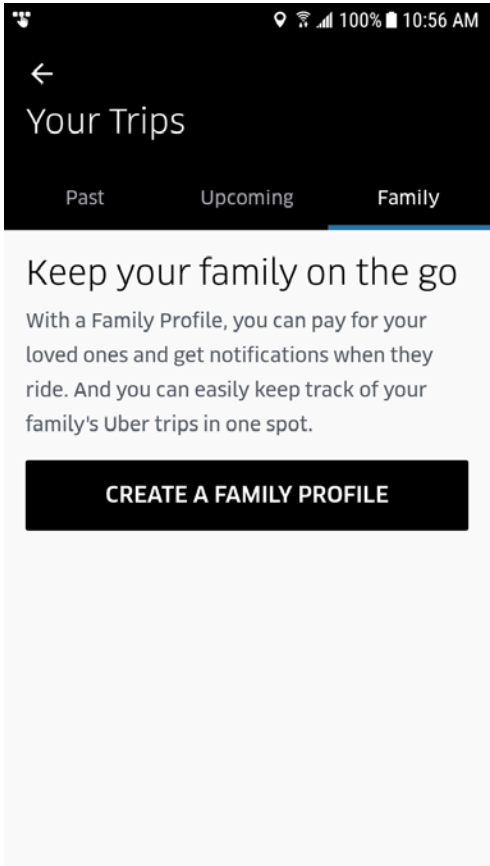
CLAIM 19	Uber Technologies Mobile Android App
	In addition, notice of the received values such as the user's location, the destination, and the type of ride can be shared with others (second users) using the Family Profile feature:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

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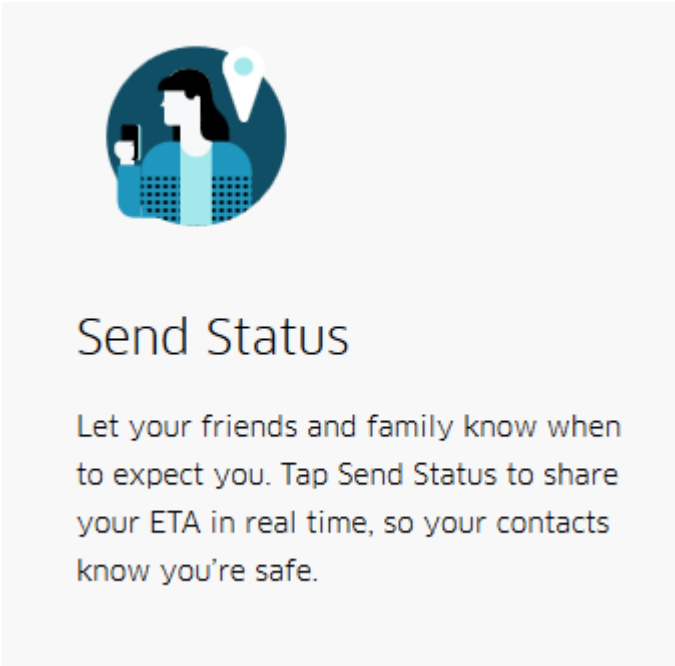
CLAIM 19	Uber Technologies Mobile Android App
	In addition, the user's status can be shared with family and friends (second users): A screenshot of the Uber mobile app interface. At the top, there is a circular icon with a blue background, a white location pin, and a white smartphone. Below the icon, the text "Send Status" is displayed in a large, dark font. Underneath, a paragraph of text reads: "Let your friends and family know when to expect you. Tap Send Status to share your ETA in real time, so your contacts know you're safe." The entire screenshot is set against a light gray background. Send Status Let your friends and family know when to expect you. Tap Send Status to share your ETA in real time, so your contacts know you're safe. https://www.uber.com/ride/how-uber-works/

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CLAIM 20	Uber Technologies Mobile Android App
The method for managing data according to claim 19, wherein the first user and the second user are a same user.	Notice of the received values, such as the pickup address, destination address, and fare total can be sent to the user (first user) in the form of a receipt: Getting a trip receipt When a trip ends, we automatically send a receipt to the email address on your Uber account. If you aren't receiving receipts, check the spam or junk folder of this email address. You can review your email address by selecting "Settings" from your app menu. Tap your email address to update it. Your Uber account includes a trip history of every ride you've taken. To review: 1. Select "Your Trips" from the app menu. 2. Select a past trip. 3. You can review the trip's route, pickup location and final destination. 4 For a full breakdown of your fare, tap Receipt. To resend a receipt email for trips with an economy vehicle option, sign in to riders.uber.com and select "My Trips" from the menu. Select the trip and click the Resend button. Source: https://help.uber.com/h/846f6cad-6f27-492a-9e0b-d2f056e1298e

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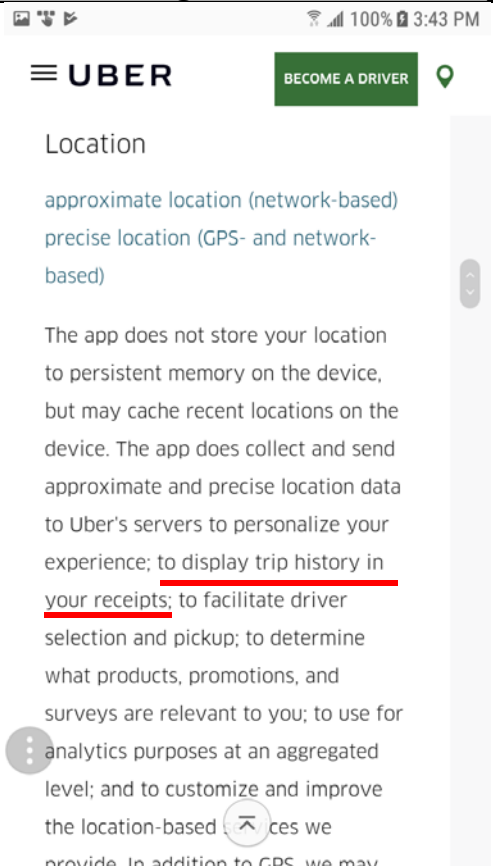
CLAIM 20	Uber Technologies Mobile Android App
	 The screenshot shows the Uber app interface on an Android device. At the top, the status bar displays signal strength, Wi-Fi, 100% battery, and the time 3:43 PM. The app header includes the Uber logo, a 'BECOME A DRIVER' button, and a location pin icon. Below the header, the 'Location' section is visible, with options for 'approximate location (network-based)' and 'precise location (GPS- and network-based)'. A scrollable list of app purposes follows, including: 'The app does not store your location to persistent memory on the device, but may cache recent locations on the device. The app does collect and send approximate and precise location data to Uber's servers to personalize your experience; to display trip history in your receipts; to facilitate driver selection and pickup; to determine what products, promotions, and surveys are relevant to you; to use for analytics purposes at an aggregated level; and to customize and improve the location-based services we provide. In addition to GPS, we may...'. The text 'to display trip history in your receipts' is underlined in red. A vertical scrollbar is on the right side of the text area. Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

CLAIM 21	INFIRNGEMENT
A method for managing data comprising the steps of:	To the extent the preamble is limiting, the Uber Technologies mobile Android app (“Uber App”) implements a method for managing data. For example, the Uber App manages data, including the user’s location: The screenshot shows the Uber app interface on a Samsung Galaxy J3 smartphone. At the top, the status bar displays signal strength, Wi-Fi, 100% battery, and the time 3:43 PM. The Uber logo is in the top left, and a green 'BECOME A DRIVER' button with a location pin icon is in the top right. The main heading is 'Location'. Below it, two links are listed: 'approximate location (network-based)' and 'precise location (GPS- and network-based)'. A scrollable list of purposes follows: 'The app does not store your location to persistent memory on the device, but may cache recent locations on the device. The app does collect and send approximate and precise location data to Uber's servers to personalize your experience; to display trip history in your receipts; to facilitate driver selection and pickup; to determine what products, promotions, and surveys are relevant to you; to use for analytics purposes at an aggregated level; and to customize and improve the location-based services we provide. In addition to GPS, we may...'. A vertical scrollbar is on the right side of the text. Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

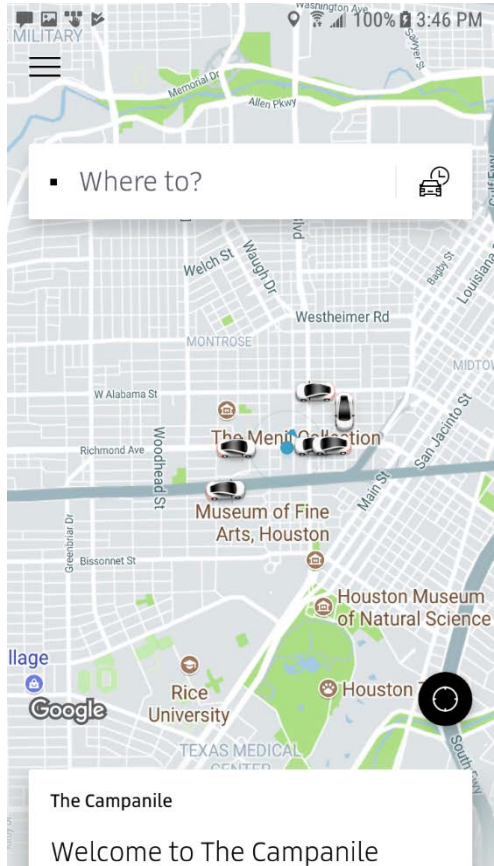
CLAIM 21	INFIRNGEMENT
	The Uber App manages data, including the user a destination location, and the type of ride (uberX, uberXL, Select, etc), which are based on the user's current location:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

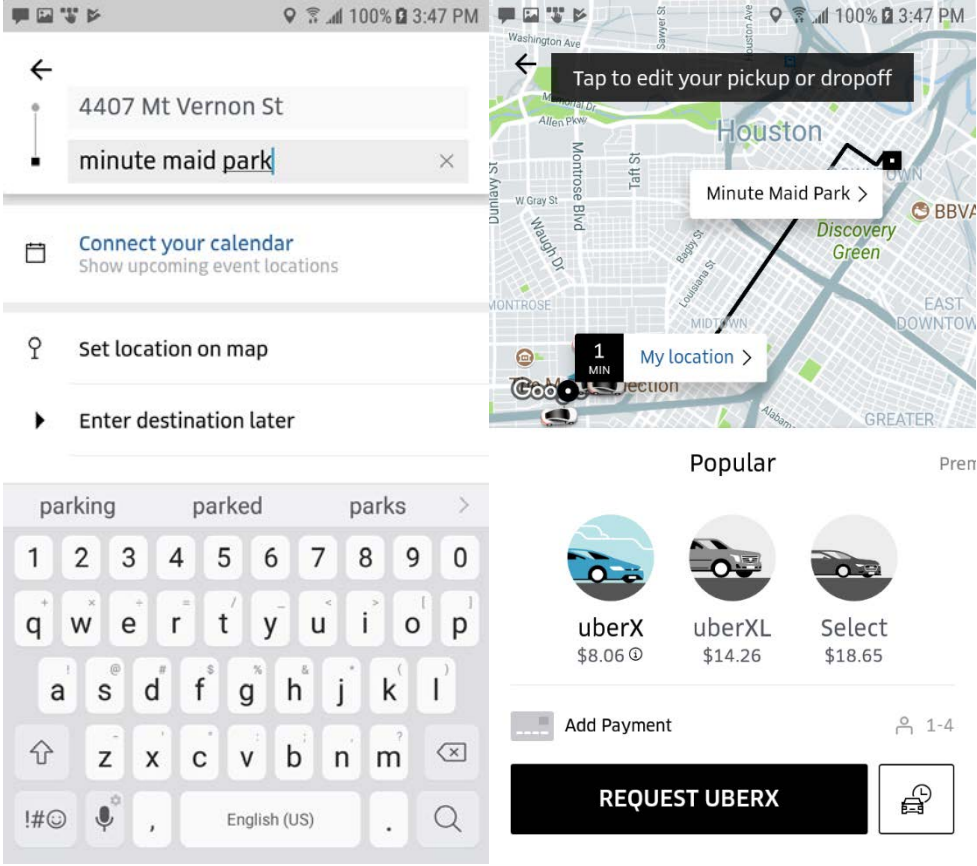
CLAIM 21	INFIRNGEMENT
	 Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

CLAIM 21	INFIRNGEMENT
(a) within a central computer, accessing at least one user data item stored in a recipient computer, wherein said at least one data item is obtained via the steps of:	The Uber App allows the user to view trip rates and available drivers for trips to destinations near the user's current location. The information is provided to the Uber App via a central computer (the Uber server) only after the user has provided the user's current location, desired ride type, and desired destination (each of which is at least one data item) to the recipient computer (another Uber server)

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

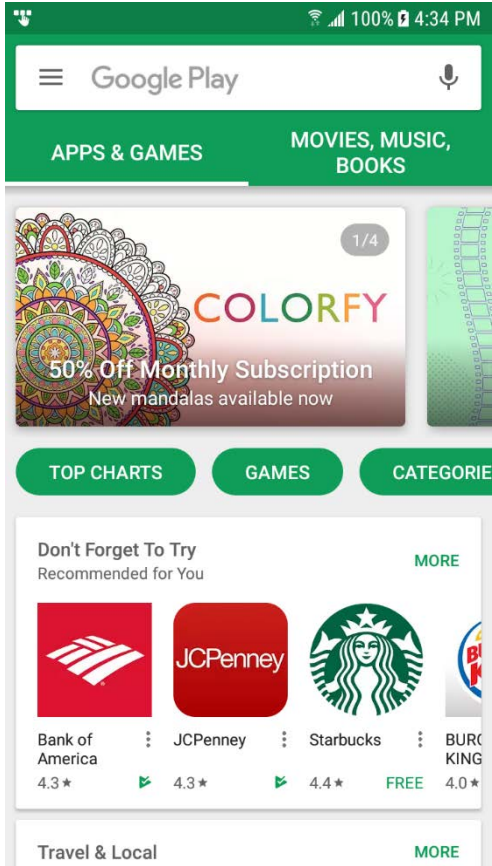
CLAIM 21	INFIRNGEMENT
(1) establishing communications between a handheld computing device and an originating computer wherein said handheld computing device has a GPS integral thereto;	In order to obtain the benefits received from using the Uber App, the user must establish communications between the handheld computing device, such as the user's smartphone, and an originating computer, such as the server(s) hosting the Google Play Store:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

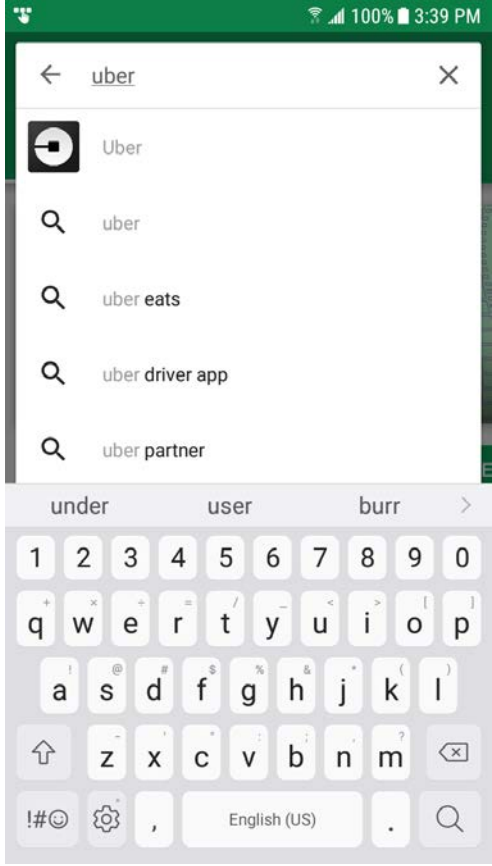
CLAIM 21	INFIRNGEMENT
	The user is able to search for the Uber App:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

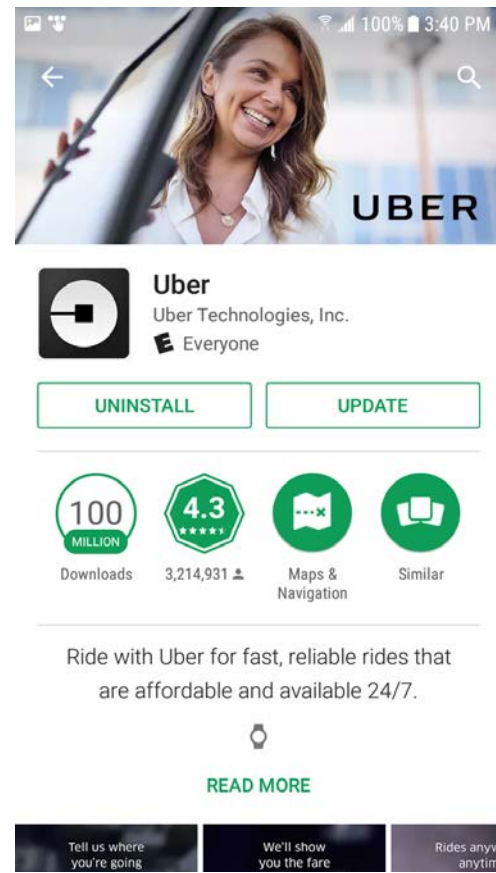
CLAIM 21	INFIRNGEMENT
	The Uber App came pre-installed on the particular Samsung phone used for testing. The Uber App did, however, require an update, which involves establishing communications with the Google Play Store.  The screenshot displays the Uber app's main interface. At the top, there's a header with a back arrow, a search icon, and the Uber logo. Below this is a large image of a smiling woman. Underneath the image, the Uber logo is shown again, followed by the text 'Uber Technologies, Inc.' and 'Everyone'. There are two buttons: 'UNINSTALL' and 'UPDATE'. Below these are four circular icons: '100 MILLION Downloads', '4.3' rating with 3,214,931 reviews, 'Maps & Navigation', and 'Similar'. A text block reads 'Ride with Uber for fast, reliable rides that are affordable and available 24/7.' Below this is a 'READ MORE' link. At the bottom, there are three dark rectangular buttons with white text: 'Tell us where you're going', 'We'll show you the fare', and 'Rides anyw... anytime'. Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

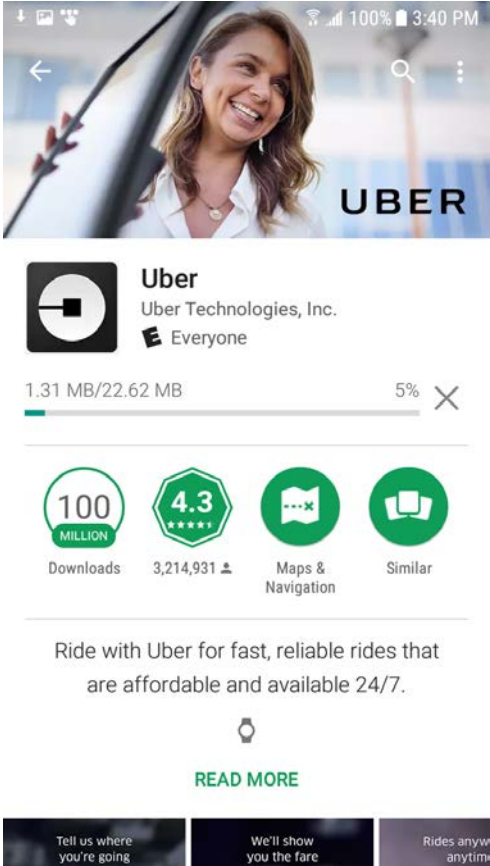
CLAIM 21	INFIRNGEMENT
	The Uber App is updated  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

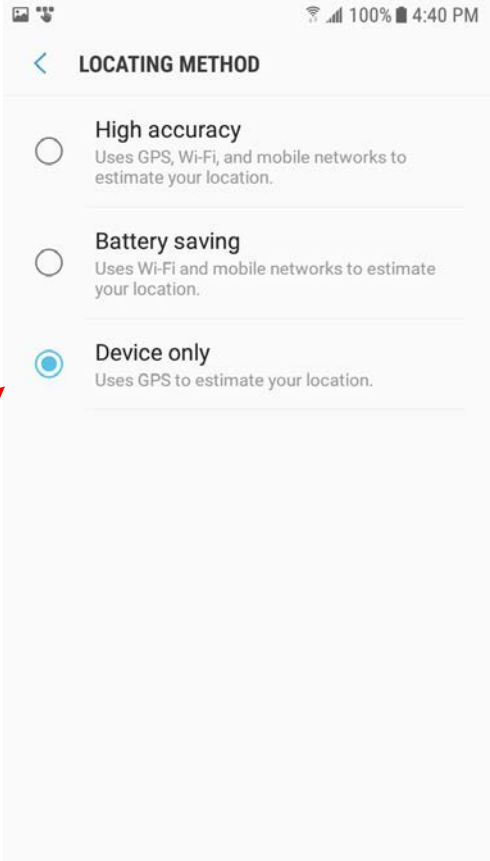
CLAIM 21	INFIRNGEMENT
	The smartphone contains an internal, integral GPS antenna:  The screenshot shows the 'LOCATING METHOD' settings in the Uber app. It lists three options: 'High accuracy' (uses GPS, Wi-Fi, and mobile networks), 'Battery saving' (uses Wi-Fi and mobile networks), and 'Device only' (uses GPS). The 'Device only' option is selected, and a red arrow points to its selection circle. Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

CLAIM 21	INFIRNGEMENT
	Smartphones operating Android are able to receive GPS signals: Everyone knows satellite navigation is great for drivers, but the global positioning system (GPS) is even better for the latest generation of smart phone users. With GPS, an Android phone knows where it is, but that's just the beginning. Add a few apps and it'll tell you where to go, how to get there and what to expect when you arrive. Source: https://www.cnet.com/how-to/android-phone-gps-tips/

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

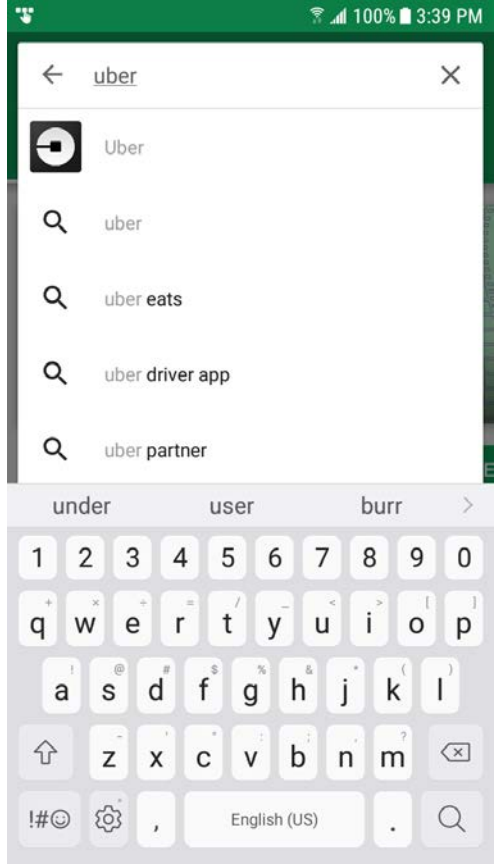
CLAIM 21	INFIRNGEMENT
(2) receiving within said handheld computing device a transmission of a tokenized questionnaire, including at least one question requesting GPS coordinates and at least one additional question, said tokenized questionnaire comprising a plurality of device independent tokens;	In order to obtain the benefits received from using the Uber App, the handheld computing device (smartphone) must receive the transmission (download) of a tokenized questionnaire onto the smartphone, which is the Uber App. A search is performed for the Uber App:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

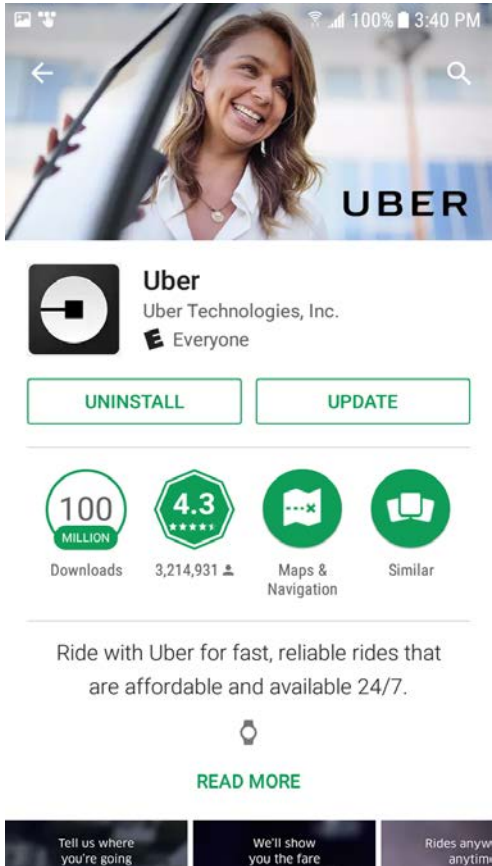
CLAIM 21	INFIRNGEMENT
	The app is selected, which gives the user the option to install and/or update:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

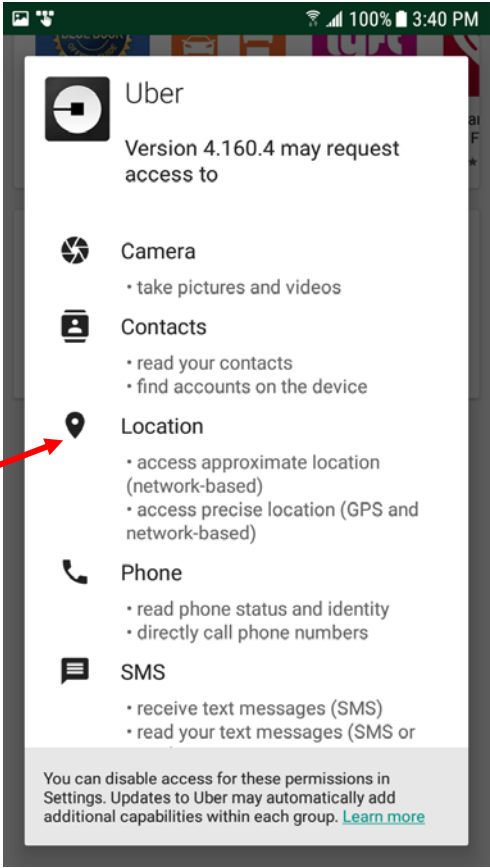
CLAIM 21	INFIRNGEMENT
	The Uber App's Permission Details inform the user that the app requires access to the user's location.  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

CLAIM 21	INFIRNGEMENT
	The Uber App is a tokenized questionnaire comprising a plurality of device independent tokens, and is downloaded as bytecode, typically a type of Java, such as “.dex.” With the latest I/O conference, Google has finally publicly announced its plans for its new runtime on Android. The Android RunTime, ART, is the successor and replacement for Dalvik, the virtual machine on which Android Java code is executed on. We've had traces and previews of it available with KitKat devices since last fall, but there wasn't much information in terms of technical details and the direction Google was heading with it. Contrary to other mobile platforms such as iOS, Windows or Tizen, which run software compiled natively to their specific hardware architecture, the majority of Android software is based around a generic code language which is transformed from “byte-code” into native instructions for the hardware on the device itself. First, ART is designed to be fully compatible with Dalvik's existing byte-code format, “dex” (Dalvik executable). As such, from a developer's perspective, there are no changes at all in terms of having to write applications for one or the other runtime and no need to worry about compatibilities. Source: http://www.anandtech.com/show/8231/a-closer-look-at-android-runtime-art-in-android-l/

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

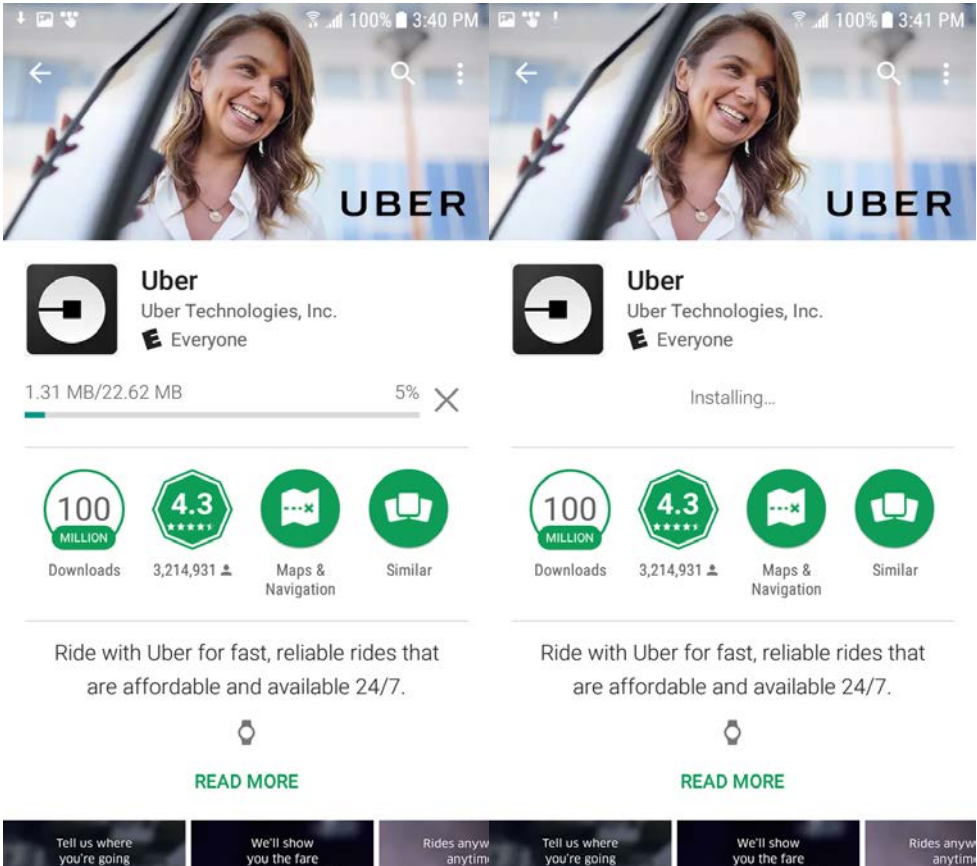
CLAIM 21	INFIRNGEMENT
	The tokenized questionnaire (Uber App) is downloaded:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

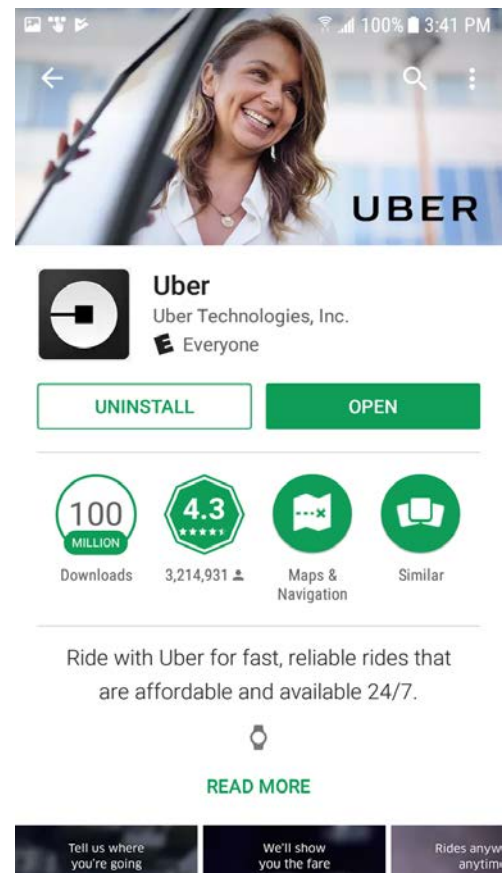
CLAIM 21	INFIRNGEMENT
	 Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

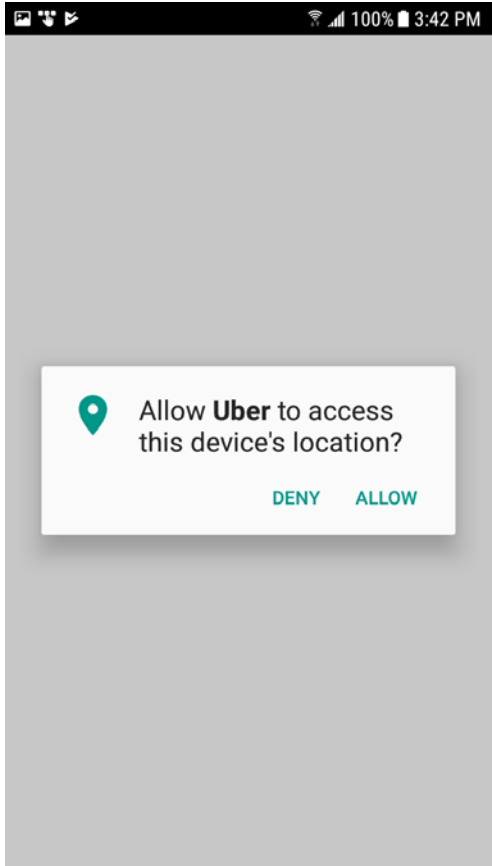
CLAIM 21	INFIRNGEMENT
	In order to obtain the benefits received from using the Uber App, and begin using the app, the user must allow the Uber App to access the device's location:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

CLAIM 21	INFIRNGEMENT
	When the user first opens the Uber App (the tokenized questionnaire), the internal Android Runtime (previously Dalvik) application compiles and executes the bytecode (tokens) into the native operating system code for operation by the user's smartphone (handled computing device). Thus, the app is device independent. Contrary to other mobile platforms such as iOS, Windows or Tizen, which run software compiled natively to their specific hardware architecture, <u>the majority of Android software is based around a generic code language which is transformed from "byte-code" into native instructions for the hardware on the device itself.</u> Source: http://www.anandtech.com/show/8231/a-closer-look-at-android-runtime-art-in-android-l/ ART and Dalvik Android runtime (ART) is the managed runtime used by applications and some system services on Android. ART and its predecessor Dalvik were originally created specifically for the Android project. ART as the runtime executes the Dalvik Executable format and Dex bytecode specification. <u>ART and Dalvik are compatible runtimes running Dex bytecode</u>, so apps developed for Dalvik should work when running with ART. However, some techniques that work on Dalvik do not work on ART. For information about the most important issues, see Verifying App Behavior on the Android Runtime (ART). Source: https://source.android.com/devices/tech/dalvik/

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

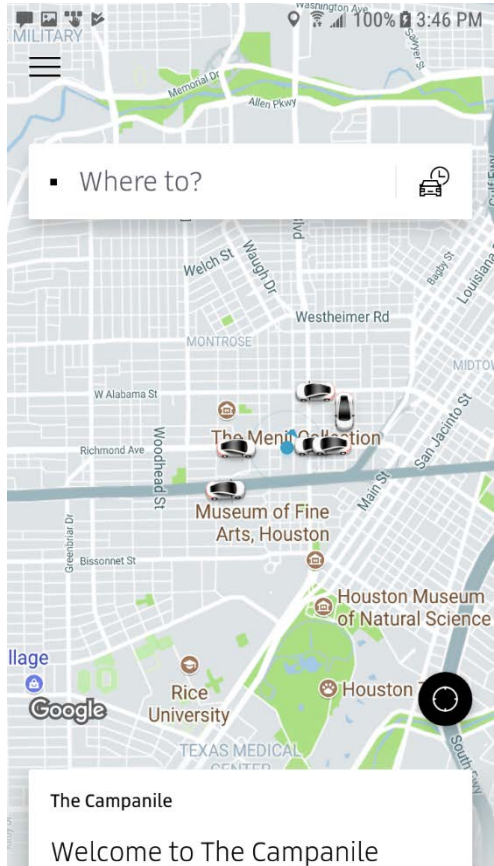
CLAIM 21	INFIRNGEMENT
	For example, when the Uber App is opened, the device's current location is determined from its GPS coordinates and displayed on a map:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

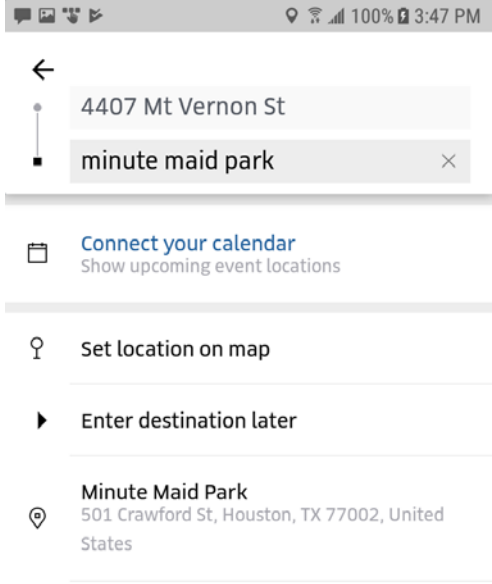
CLAIM 21	INFIRNGEMENT
	The user then enters a destination address or name:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

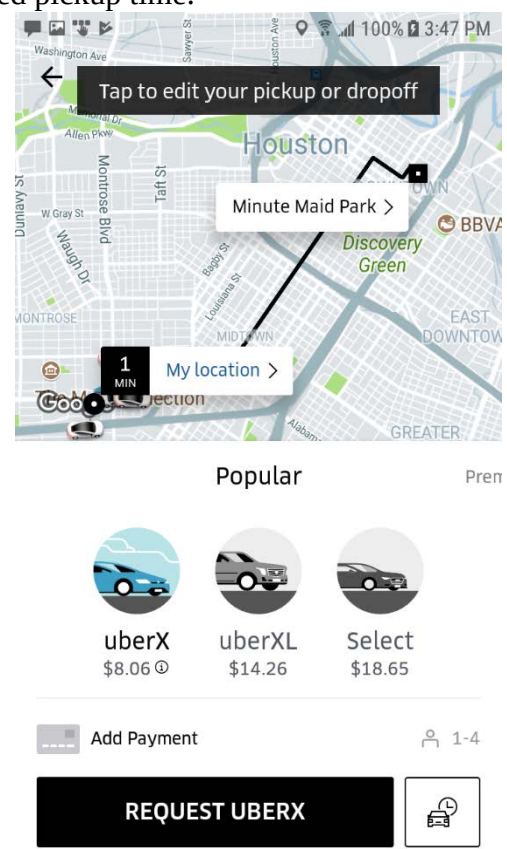
CLAIM 21	INFIRNGEMENT
	Next, the user is presented with the route, as well as options for different ride types, fare estimates, and the estimated pickup time:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

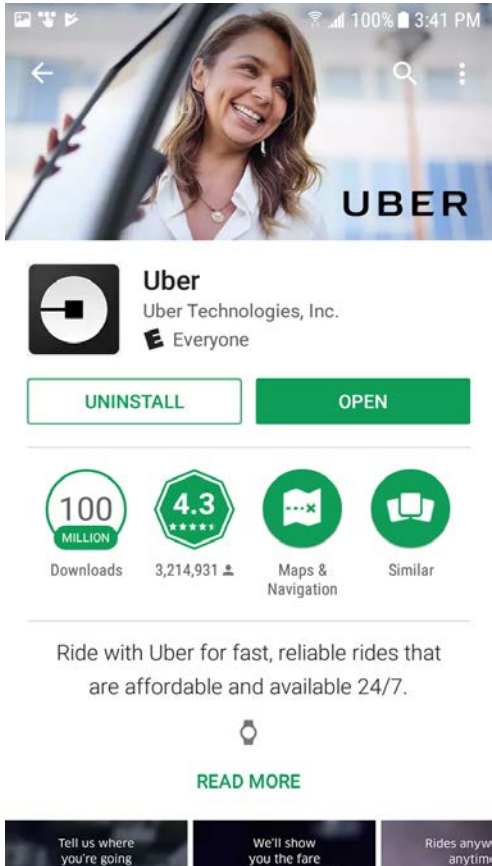
CLAIM 21	INFIRNGEMENT
(3) ending said communications between said handheld computing device and said originating computer;	After the Uber app is downloaded, communication between the user's phone and the originating computer, such as the Google Play Store, ends:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone
(4) after said communications has been ended,	Communications between the smartphone and the originating computer (e.g., Google Play Store server) are ended.

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

CLAIM 21	INFRINGEMENT
(i) executing at least a portion of said plurality of tokens comprising said questionnaire on said handheld computing device,	The user executes at least a portion of the plurality of tokens comprising the questionnaire when, for example, the user's smartphone determines its current GPS coordinates, which then is used to determine Uber drivers near the user's current location. The questionnaire also requires the user to choose a destination, and the type of ride (uberX, uberXL, Select, etc): Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

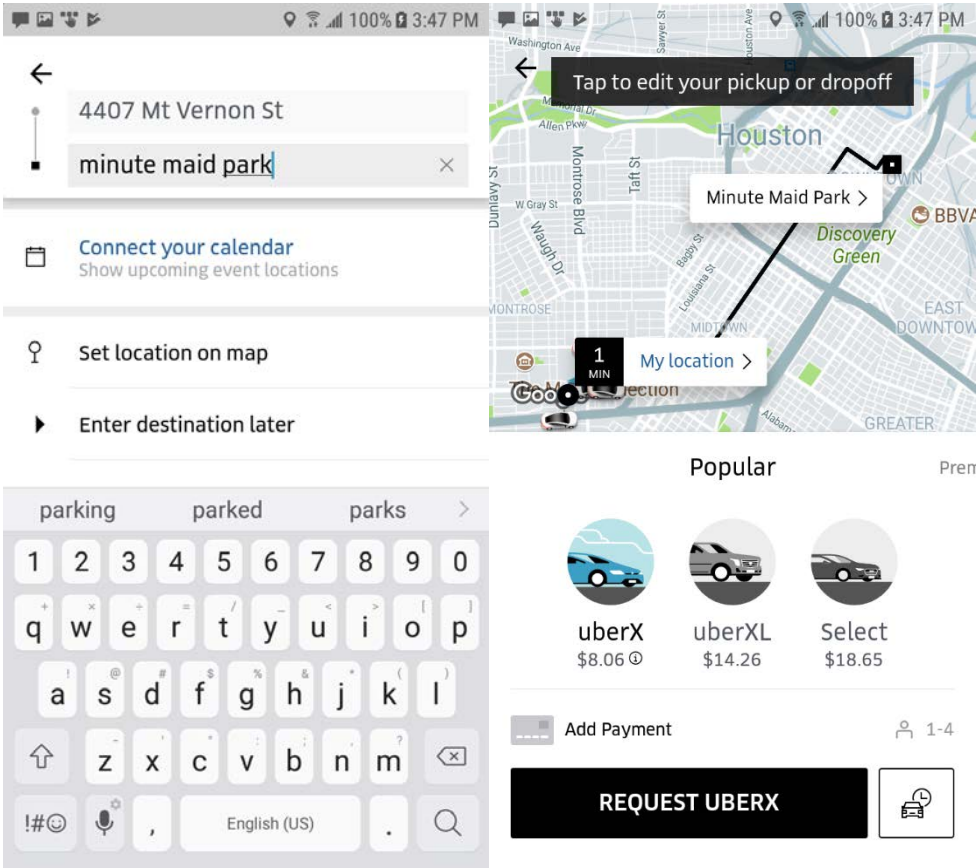
CLAIM 21	INFIRNGEMENT
	 The screenshot shows the Uber app interface on an Android device. The top status bar indicates 100% battery and 3:47 PM. The app's header shows a back arrow, the pickup location '4407 Mt Vernon St', and the destination 'minute maid park'. Below the header, there are options to 'Connect your calendar', 'Set location on map', and 'Enter destination later'. A map view on the right shows the location in Houston, with a 'Tap to edit your pickup or dropoff' prompt. Below the map, a 'Popular' section lists three vehicle options: 'uberX' for \$8.06, 'uberXL' for \$14.26, and 'Select' for \$18.65. At the bottom, there is an 'Add Payment' button and a large black 'REQUEST UBERX' button. A keyboard is visible at the bottom of the screen. Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

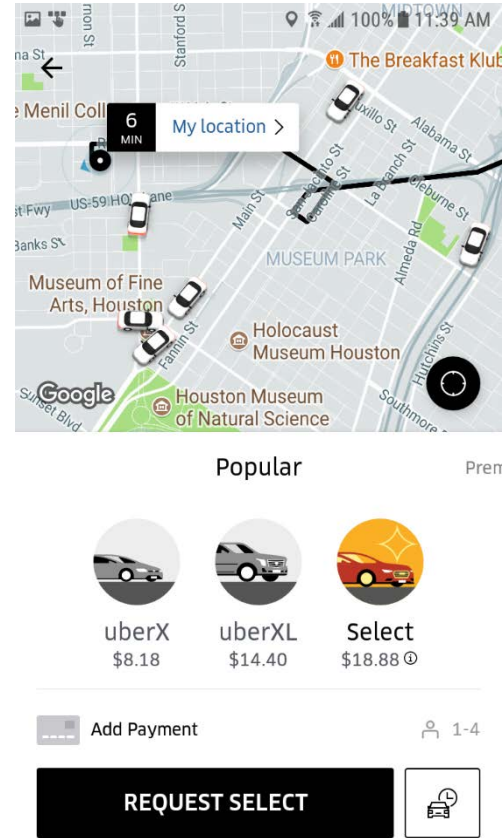
CLAIM 21	INFRINGEMENT
	The responses collected by the Uber App include, for example, the user's location, the destination, and the choice of ride type. Different icons are used to indicate the different types of available rides, such as "Select"  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

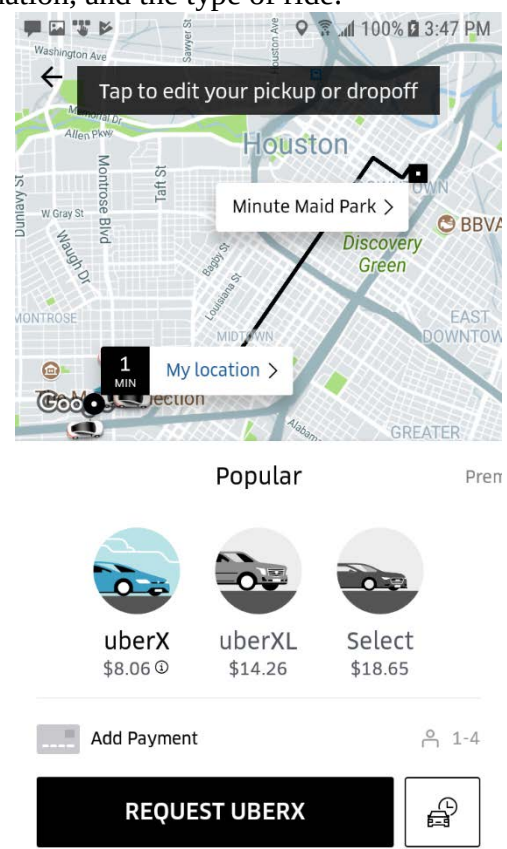
CLAIM 21	INFIRNGEMENT
	Another response that is collected is when the user selects “Request,” after selecting the pickup location, the destination, and the type of ride:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

CLAIM 21	INFIRNGEMENT
	The request is sent to the driver, who is also provided the user's pickup and destination locations. 4 fast facts The driver app... • Is available 24/7 • Automatically sends you rider requests • Can guide you to every pickup location and destination • Lets you call or text riders directly Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

CLAIM 21	INFIRNGEMENT
(ii) automatically entering the GPS coordinates into said questionnaire:	When the Uber App is opened, it automatically determines the smartphone's (ie, user's) current location, which is automatically determined from the phone's current GPS coordinates: Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

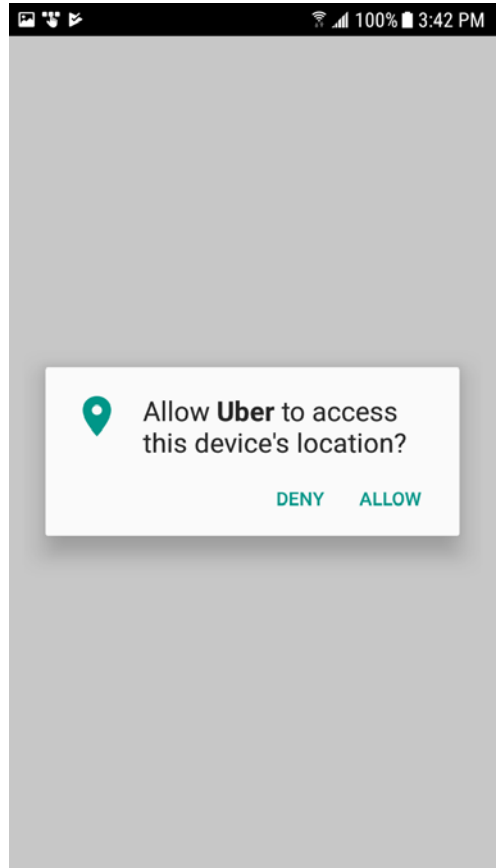
CLAIM 21	INFIRNGEMENT
	 Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

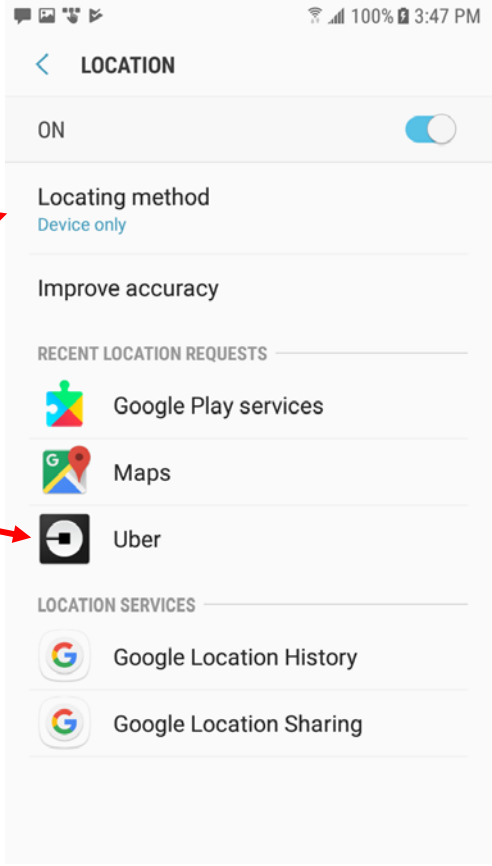
CLAIM 21	INFIRNGEMENT
	The Uber app uses the phone's internal GPS receiver: A screenshot of an Android phone's 'LOCATION' settings page. At the top, the status bar shows signal, Wi-Fi, 100% battery, and the time 3:47 PM. The 'LOCATION' title is at the top left. Below it, a toggle switch is turned 'ON'. Under 'Locating method', 'Device only' is selected. Below that is 'Improve accuracy'. A section titled 'RECENT LOCATION REQUESTS' lists three apps: Google Play services, Maps, and Uber. The Uber app is highlighted with a red arrow. Below this is a section titled 'LOCATION SERVICES' which lists 'Google Location History' and 'Google Location Sharing'. Another red arrow points to the Uber app icon in the 'RECENT LOCATION REQUESTS' list. Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

CLAIM 21	INFRINGEMENT
(iii) presenting said at least one additional question to a user;	After determining the user's location and automatically using that information to determine a starting pickup location, the user is also presented with questions regarding the desired destination(s) and the type of ride (UberX, UberXL, Select, etc). Once that is done, the user must also Request the ride. Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

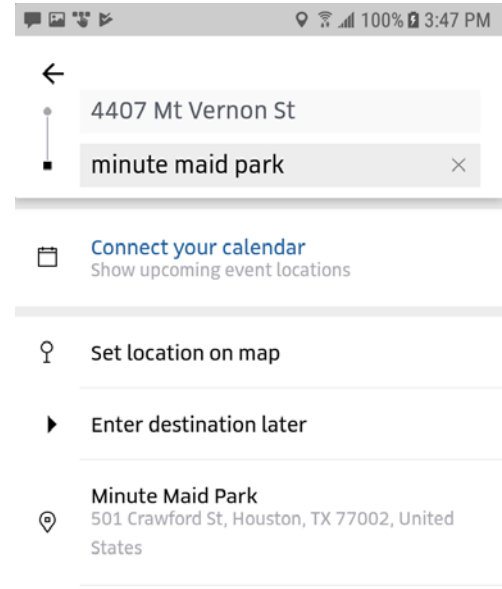
CLAIM 21	INFIRNGEMENT
	The user then enters a destination address or name:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

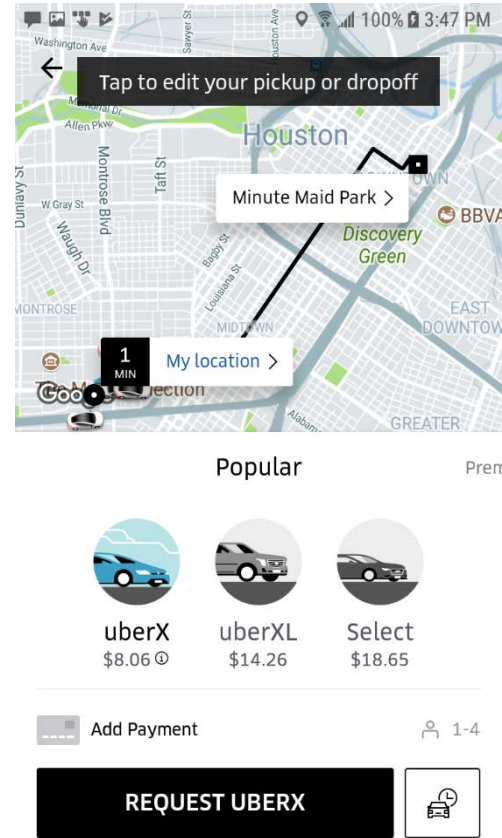
CLAIM 21	INFIRNGEMENT
	The user is then presented with the route, as well as fare estimates and the estimated pickup time:  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

CLAIM 21	INFIRNGEMENT
(iv) receiving at least one response from the user to each of said presented at least one additional question,	The user must provide the pickup address, destination address, and the desired type of ride, which are all responses to the at least one additional question that are received : Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone The user is then able to request a ride.

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

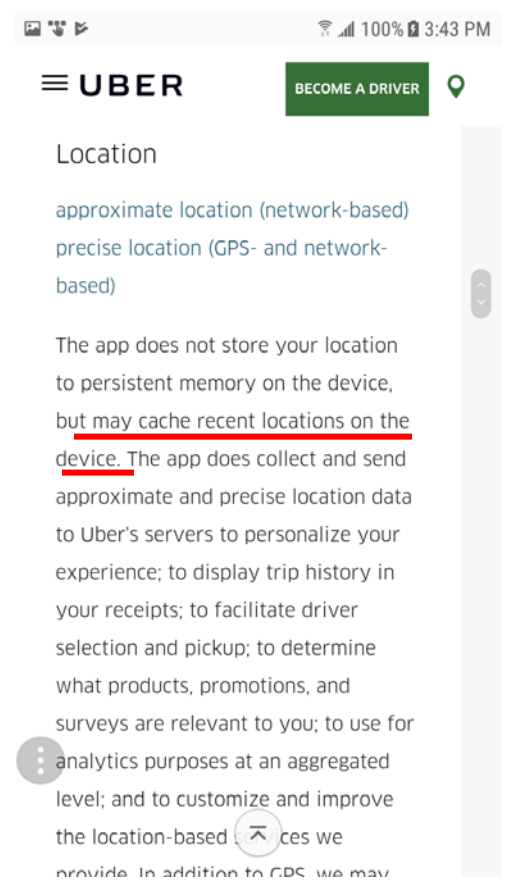
CLAIM 21	INFIRNGEMENT
(v) storing at least one value representative of said GPS coordinates and said at least one response within said handheld computing device;	The GPS coordinates are stored on the phone.  The screenshot shows the Uber app interface on an Android phone. At the top, the status bar shows signal strength, Wi-Fi, 100% battery, and 3:43 PM. The Uber logo is at the top left, and a green 'BECOME A DRIVER' button is at the top right. Below the logo, the word 'Location' is displayed. Under 'Location', there are two options: 'approximate location (network-based)' and 'precise location (GPS- and network-based)'. Below these options, a paragraph of text explains the app's location handling: 'The app does not store your location to persistent memory on the device, but may cache recent locations on the device.' The phrase 'but may cache recent locations on the device' is underlined in red. The text continues: 'The app does collect and send approximate and precise location data to Uber's servers to personalize your experience; to display trip history in your receipts; to facilitate driver selection and pickup; to determine what products, promotions, and surveys are relevant to you; to use for analytics purposes at an aggregated level; and to customize and improve the location-based services we provide. In addition to GPS, we may'. Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

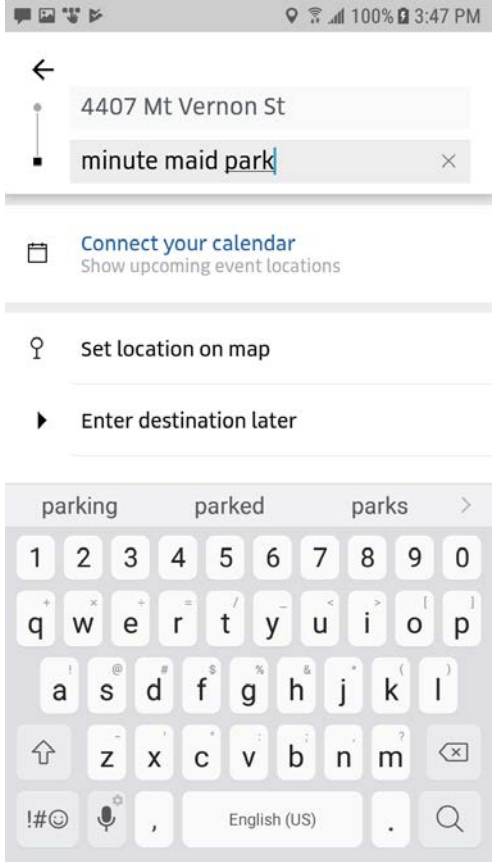
CLAIM 21	INFIRNGEMENT
	The selected destination and preferred type of ride are also stored on the phone.  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

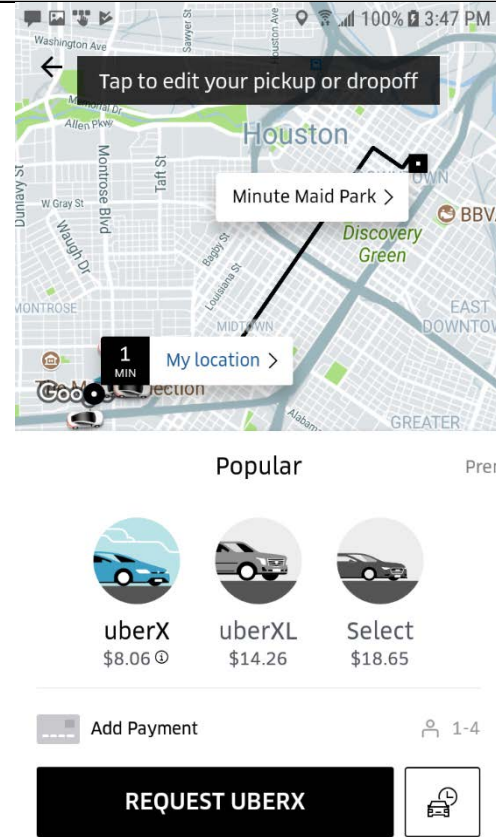
CLAIM 21	INFIRNGEMENT
	 The screenshot displays the Uber app's main interface. At the top, a map of Houston shows the current location and a suggested pickup/dropoff route. Below the map, three ride options are listed: uberX (\$8.06), uberXL (\$14.26), and Select (\$18.65). A 'REQUEST UBERX' button is visible at the bottom. The interface also includes a 'Tap to edit your pickup or dropoff' prompt and a 'My location' button. Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

CLAIM 21	INFIRNGEMENT
(5) establishing a communications link between said handheld computing device and a recipient computer;	There must be communications between the user's phone (handheld computing device) and a recipient computer, the Uber servers. If the communications network, such as wifi or cellular internet access is disabled, the Uber App provides an error message: The screenshot shows the Uber app interface on a smartphone. At the top, there's a map of Houston with a route to Minute Maid Park. Below the map, there are three service options: uberX (\$7.39), uberXL (\$12.80), and Select (\$16.88). At the bottom, there's a red error message that says "Can't reach the Uber network." A red arrow points to this error message. Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

CLAIM 21	INFIRNGEMENT
(6) transmitting said stored at least one value representative of said GPS coordinates and said at least one response stored within said handheld computing device to said recipient computer; and,	At least one value representing at least one stored response, such as the selected pickup address (determined using the user's GPS coordinates), destination address, and preferred type of ride, are transmitted to the Uber server (recipient computer). If the communications link is disabled, the user cannot request a ride. Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

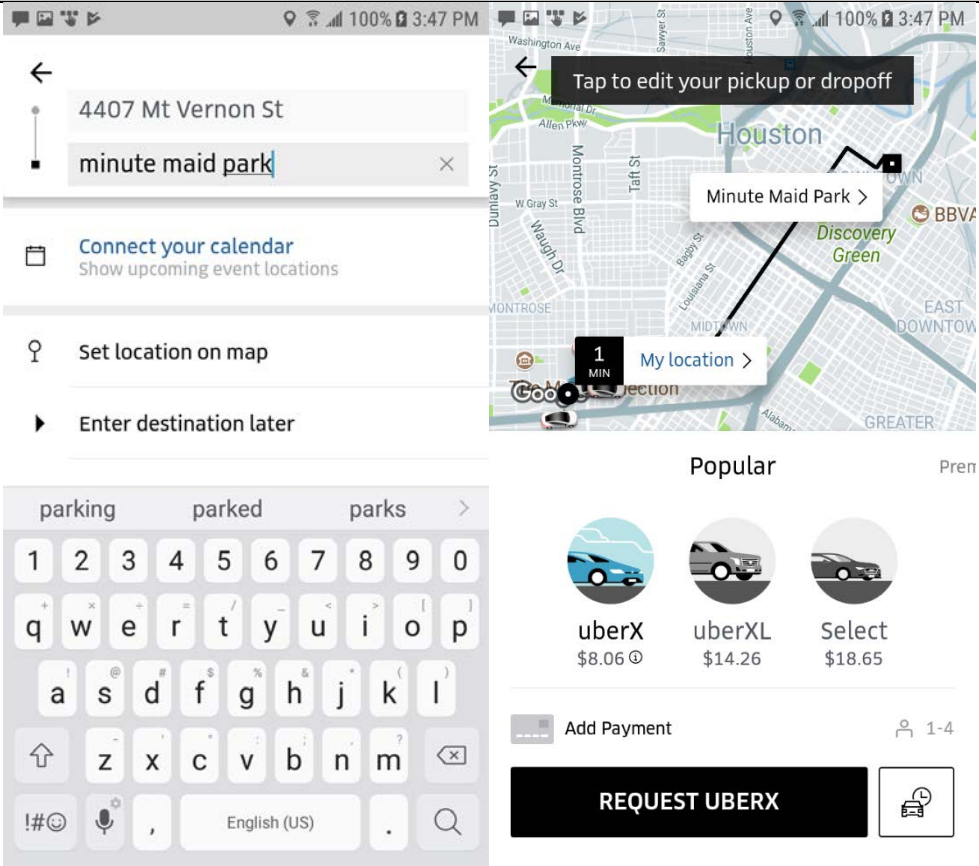
CLAIM 21	INFIRNGEMENT
	 Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

CLAIM 21	INFIRNGEMENT
	Popular uberX \$7.39 uberXL \$12.80 Select \$16.88 REQUEST UBERX Can't reach the Uber network. Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

CLAIM 21	INFIRNGEMENT
(7) storing within said recipient computer any of said transmitted GPS coordinates and said at least one value representative of said at least one response, thereby creating said at least one user data item stored in said recipient computer; and,	The users pickup location (determined using GPS coordinates), as well as other information, such as the destination address, and preferred type of ride, are stored on the Uber server. Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

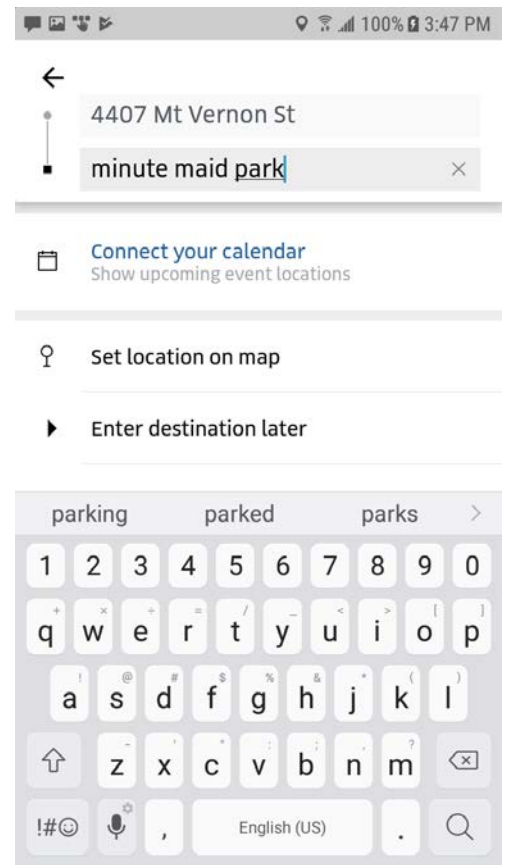
CLAIM 21	INFIRNGEMENT
(b) forming a visually perceptible report from any of said at least one stored user data item.	The Uber App provides a map showing the pickup and destination locations, the nearby Uber drivers, and the likely route between the pickup and destination addresses. This is a visually perceptible report that is formed by the user data items (pickup location, destination address, type of ride):  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

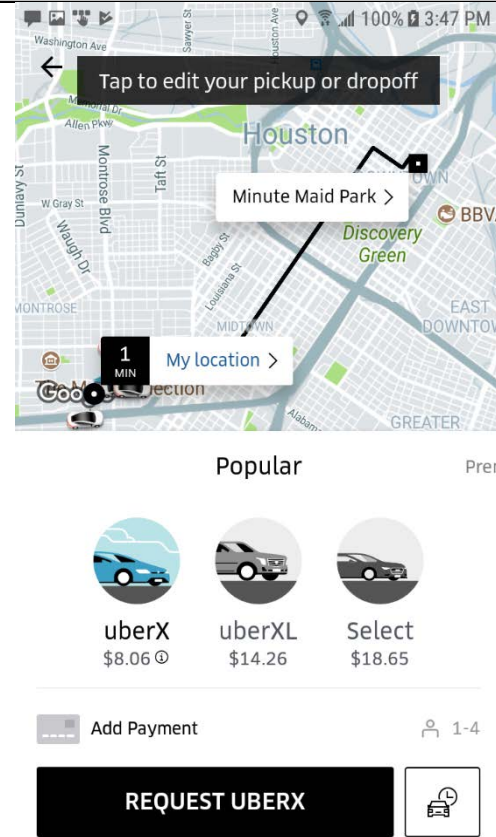
CLAIM 21	INFIRNGEMENT
	 Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

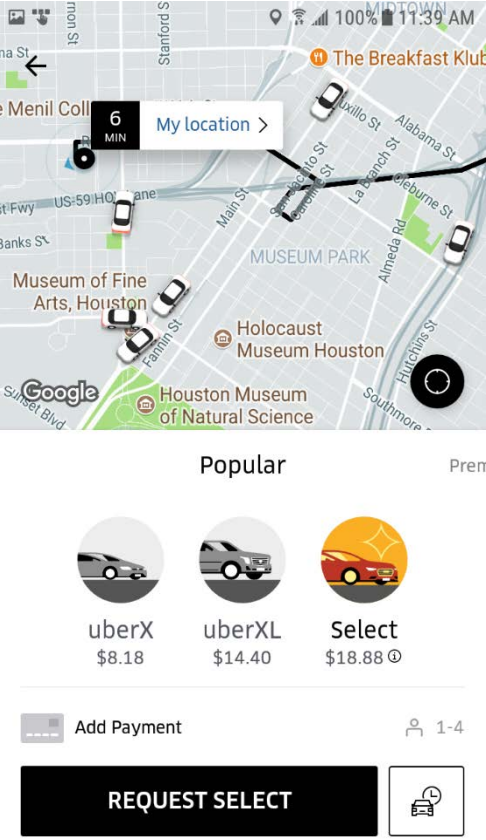
CLAIM 21	INFIRNGEMENT
	Different icons are used to indicate the different types of available rides, such as “Select”  Source: Screenshot of Uber Technologies Android app operating on Samsung Galaxy J3 smartphone

EXHIBIT 2 TO FALL LINE'S PRELIMINARY INFRINGEMENT CONTENTIONS

CLAIM 22	Uber Technologies Mobile Android App
The method according to claim 21, wherein said central computer and said recipient computer are a same computer.	The Uber App enables the user to request a ride from available drivers near the user's current location. The driver information, as well as the fare estimate, are provided to the Uber App via a central computer, which is an Uber server, only after the user has provided its current location, ride type, and destination (each of which are at least one user data item). The location information is sent to the recipient computer, which is the same Uber server.