

Google Maps and Pixel Phones Featuring Location Sharing Evidence-of-Use

United States Patent No. 7,057,509



GOOGLE EXHIBIT 1017
Google LLC v. Valtrus Innovations Limited
IPR2026-00262

(12) **United States Patent**
Gualdi et al.

(10) **Patent No.:** **US 7,057,509 B2**

(45) **Date of Patent:** **Jun. 6, 2006**

(54) **MONITORING AN OBJECT WITH
IDENTIFICATION DATA AND TRACKING
DATA**

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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 103 days.

(21) Appl. No.: **10/881,975**

(22) Filed: **Jun. 29, 2004**

(65) **Prior Publication Data**
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(51) **Int. Cl.**
G08B 1/08 (2006.01)

(52) **U.S. Cl.** **340/539.13**; 340/572.1;
340/568.1; 340/539.1; 340/5.1; 340/5.2; 340/933;
340/937

(58) **Field of Classification Search** 340/572.1,

(56) **References Cited**

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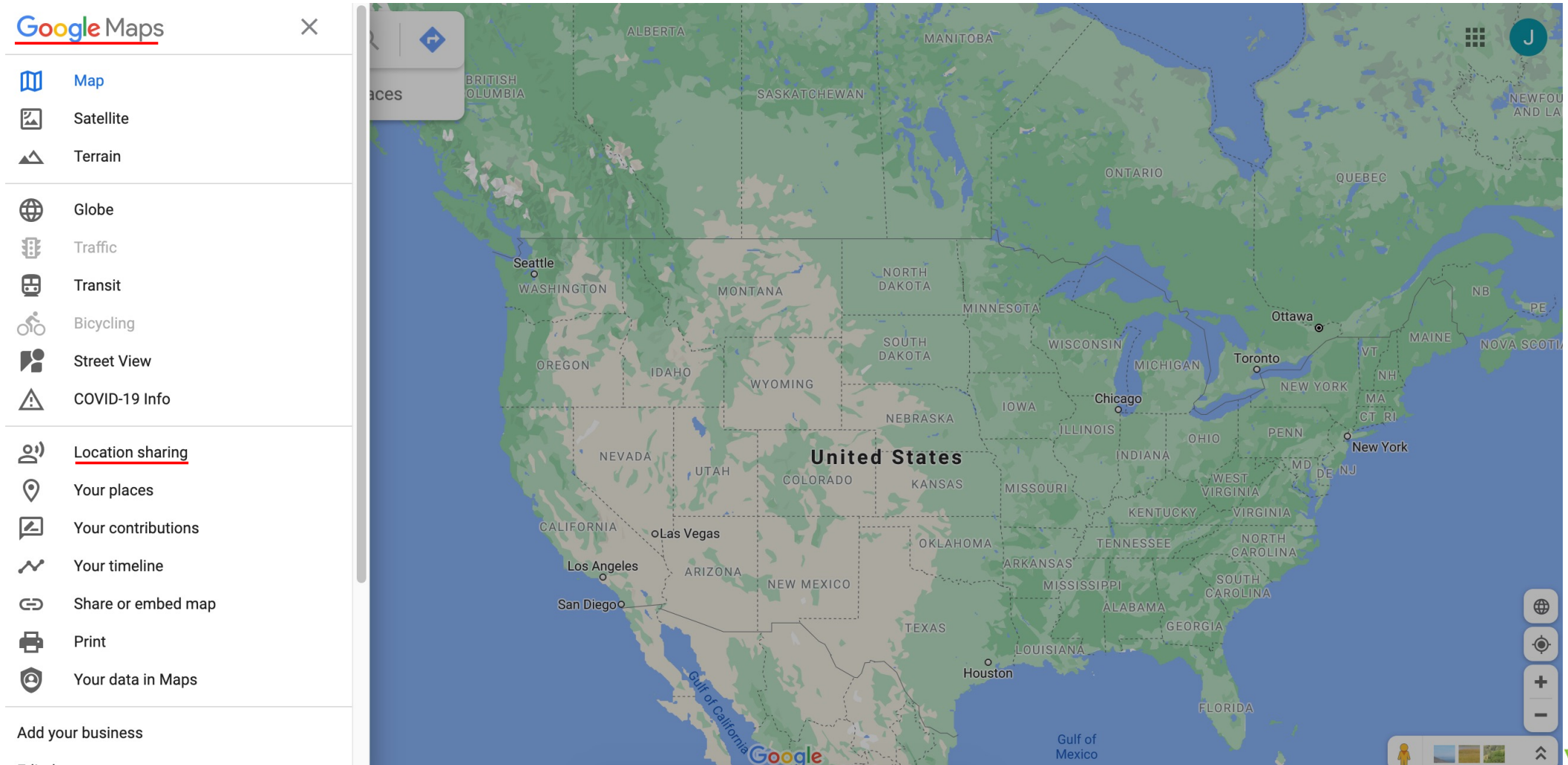
Primary Examiner—Julie Bichngoc Lieu

(57) **ABSTRACT**

An object is monitored with identification data and tracking data. In an embodiment, a monitoring apparatus is utilized to monitor the object. The monitoring apparatus has a first interface for receiving identification data from an identification system. Moreover, the monitoring apparatus includes a second interface for receiving tracking data from a tracking system. Additionally, the monitoring apparatus further includes a merging unit for merging and storing the identification data and the tracking data of each monitored object to form monitoring data for each monitored object.

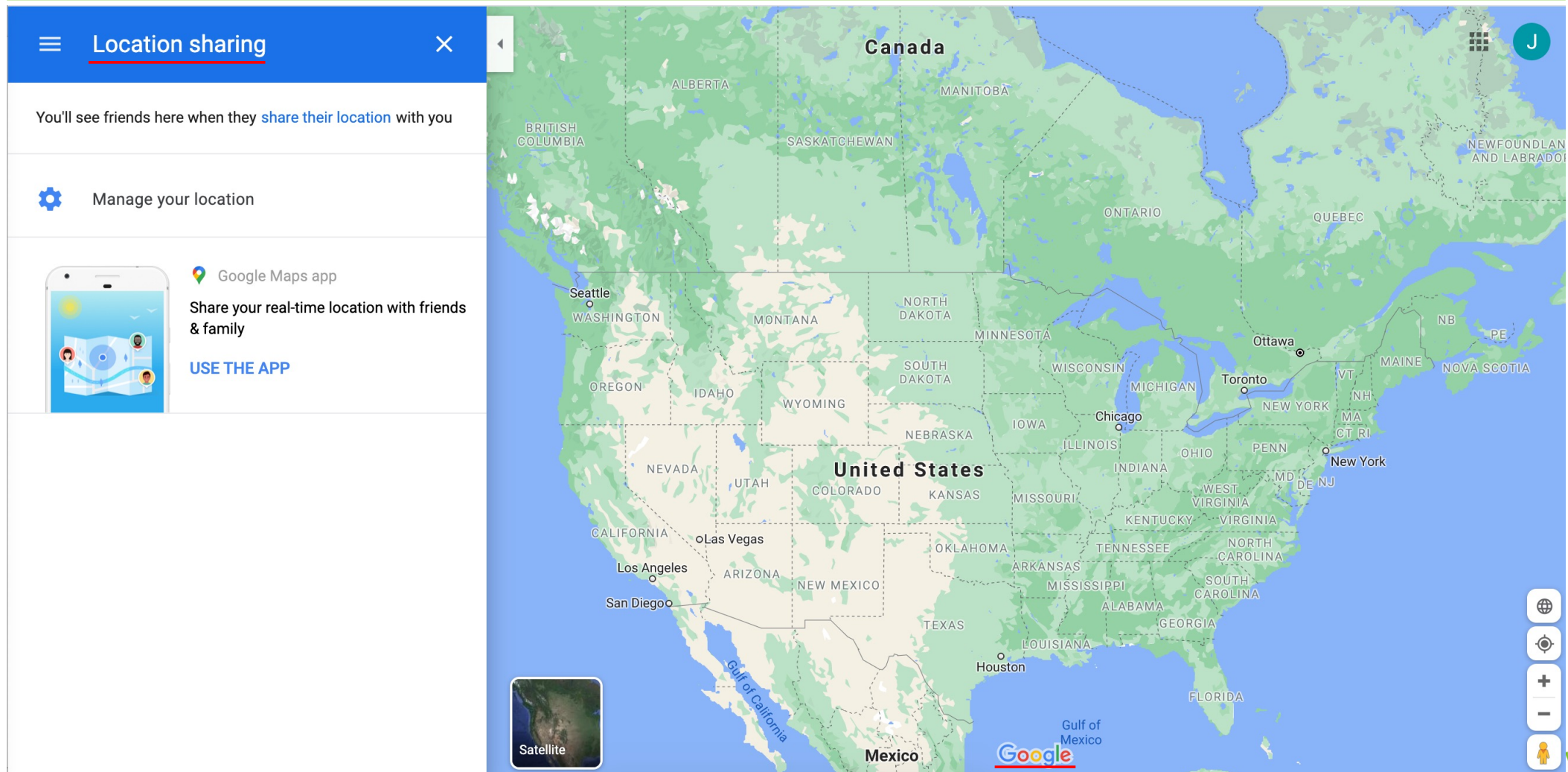
Exemplary Claim(s): 17 & 18
Exemplary Product: Google
Maps and Pixel Phones
Featuring Location Sharing
– Google Maps
– Pixel Phones

Exemplary Product



Source: <https://www.google.com/maps/@42.3890135,-107.3411421,4.32z>

Exemplary Product



Source: <https://www.google.com/maps/@43.2123214,-108.7872329,4.19z/data=!4m2!7m1!2e1>

Confidential

Subject to U.S. Federal Rules of Evidence 408

Exemplary Product

How to track someone on Google Maps

1. Start Google Maps on your iPhone or Android.
2. Tap your account avatar at the top right of the screen. In the pop-up menu, tap "Location sharing."
3. You'll see a list of everyone who is currently sharing their location with you at the bottom of the screen. To see someone's precise location, tap the entry and the map will zoom into their position.



Source: <https://www.businessinsider.com/how-to-track-someone-on-google-maps#:~:text=You%20can%20track%20someone%20on,location%20tracking%20for%20you%20specifically>.

How to share your location on Google Maps

The person you want to track on Google Maps must enable location sharing before you can follow them. You don't need to share your own location to track someone else, but you might need to help the other person turn on their location sharing.

1. Using the Google Maps app on Android or iPhone, tap your account avatar at the top right of the screen. In the pop-up menu, tap "Location sharing."
2. If this is the first time you're sharing your location, you'll need to tap "Share location" on the Stay connected screen. Otherwise, tap "New share."
3. Choose the contact you want to share your location with and select how long to share —or until you manually turn off location sharing.
4. Tap "Share."

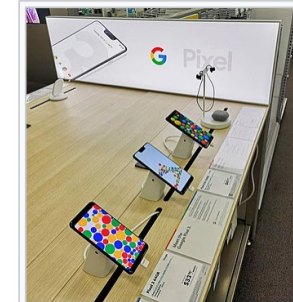
Exemplary Product

Pixel 3 & 3 XL [edit]

Main article: [Pixel 3](#)

Google announced the **Pixel 3** and **Pixel 3 XL** at an event on October 9, 2018, alongside several other products.

- Display: Pixel 3 5.5" OLED, 2160×1080 {18:9} pixel resolution; Pixel 3 XL 6.3" OLED, 2960×1440 {18.5:9} pixel resolution; both displays have Corning Gorilla Glass 5.
- Processor: Qualcomm Snapdragon 845
- Storage: 64 GB or 128 GB
- RAM: 4 GB [LPDDR4X](#)
- Cameras: 12.2 [MP](#) rear camera with f/1.8 lens, IR laser-assisted autofocus, optical and electronic image stabilization; 8 MP front camera with f/1.8 lens and 75° lens, second front camera with 8 MP, f/2.2, fixed focus and 97° lens
- Battery: 2915 mAh (Pixel 3); 3430 mAh (Pixel 3 XL); both are non-removable and have fast charging and wireless charging
- Materials: Aluminum frame, matte glass back, IP68 water and dust resistance
- Colors: Just Black, Clearly White, and Not Pink
- Operating system: Android 9 Pie; upgradable to [Android 11](#)



Pixel 3 and Pixel 3 XL on retail display with [Pixel Buds](#) and wireless charging accessories

Pixel 3a & 3a XL [edit]

Main article: [Pixel 3a](#)

On May 7, at [I/O 2019](#), Google announced the **Pixel 3a** and **Pixel 3a XL**, budget alternatives to the original two Pixel 3 devices.^[10]

- Display: Pixel 3a 5.6" OLED, 2220×1080 {18.5:9} pixel resolution; Pixel 3a XL 6" OLED, 2160×1080 {18:9} pixel resolution; both displays have Asahi [Dragontrail](#) Glass
- Processor: Qualcomm [Snapdragon 670](#)
- Storage: 64 GB
- RAM: 4 GB [LPDDR4X](#)
- Cameras: 12.2 [MP](#) rear camera with f/1.8 lens, IR laser-assisted autofocus, optical and electronic image stabilization; 8 MP front camera with f/2.0 lens and 84° lens
- Battery: 3000 mAh (Pixel 3a); 3700 mAh (Pixel 3a XL); both are non-removable and have fast charging, but no wireless charging
- Materials: Polycarbonate body
- Colors: Just Black, Clearly White, Purple-ish
- Operating system: Android 9 Pie, upgradable to [Android 11](#)

Source: https://en.wikipedia.org/wiki/Google_Pixel

Exemplary Product

Pixel 4 & 4 XL [[edit](#)]

Main article: [Pixel 4](#)

Google announced the **Pixel 4** and **Pixel 4 XL** at an event on October 15, 2019, alongside several other products.^[11]

- Display: Pixel 4 5.7" OLED, 2280×1080 {19:9} pixel resolution; Pixel 4 XL 6.3" OLED, 3040×1440 {19:9} pixel resolution; both displays have Corning Gorilla Glass 5.
- Processor: Qualcomm Snapdragon 855
- Storage: 64 GB or 128 GB
- RAM: 6 GB [LPDDR4X](#)
- Cameras: 12.2 [MP](#) sensor with f/1.8 lens & 16 MP telephoto sensor with f/2.4 lens, IR laser-assisted autofocus, optical and electronic image stabilization; 8 MP front camera with f/2.0 lens and 90° lens
- Battery: 2800 mAh (Pixel 4); 3700 mAh (Pixel 4 XL); both are non-removable and have fast charging and wireless charging
- Materials: Aluminum frame, matte or glossy glass back, IP68 water and dust resistance
- Colors: Just Black, Clearly White, and Oh So Orange
- Operating system: [Android 10](#), upgradable to [Android 11](#)

Source: https://en.wikipedia.org/wiki/Google_Pixel

Exemplary Product



Pixel 5



Pixel 4a with 5G



Pixel 4a

Source: https://store.google.com/us/magazine/compare_pixel

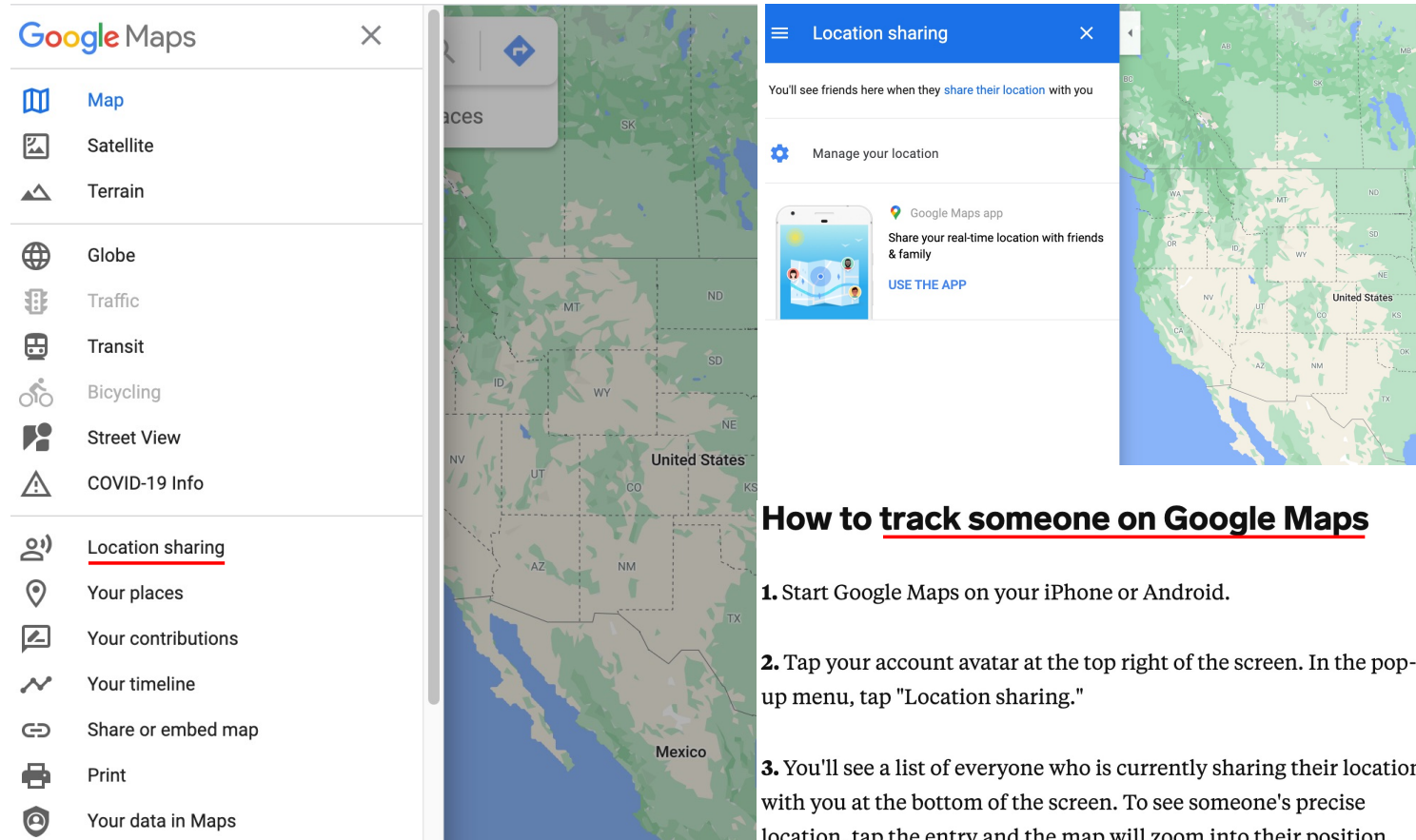
Claim 17

A method of monitoring an object, said method comprising:

generating identification data associated with each monitored object located at an identification gateway of a monitored environment, wherein said generating identification data is performed by an identification system;

generating tracking data associated with each monitored object located within said monitored environment, wherein said generating tracking data is performed by a tracking system;

"A method" is executed by Google Maps running location sharing on a smartphone.



How to track someone on Google Maps

1. Start Google Maps on your iPhone or Android.
2. Tap your account avatar at the top right of the screen. In the pop-up menu, tap "Location sharing."
3. You'll see a list of everyone who is currently sharing their location with you at the bottom of the screen. To see someone's precise location, tap the entry and the map will zoom into their position.

Source: <https://www.google.com/maps/@38.658413,-85.5162084,3.94z>
<https://www.google.com/maps/@38.8725999,-101.6319019,3.94z/data=!4m2!7m1!2e1>

<https://www.businessinsider.com/how-to-track-someone-on-google-maps#:~:text=You%20can%20track%20someone%20on,location%20tracking%20for%20you%20specifically>

Claim 17

A method of monitoring an object, said method comprising:

generating identification data associated with each monitored object located at an identification gateway of a monitored environment, wherein said generating identification data is performed by an identification system;

generating tracking data associated with each monitored object located within said monitored environment, wherein said generating tracking data is performed by a tracking system;

"A method" is executed by Google Pixel phones tracking someone with Google Maps.

How to track someone on Google Maps

- 1. Start Google Maps** on your iPhone or Android.
- 2.** Tap your account avatar at the top right of the screen. In the pop-up menu, tap "Location sharing."
- 3.** You'll see a list of everyone who is currently sharing their location with you at the bottom of the screen. To see someone's precise location, tap the entry and the map will zoom into their position.



The ultimate 5G Google phone.™



Source: https://www.businessinsider.com/how-to-track-someone-on-google-maps#:~:text=You%20can%20track%20someone%20on,location%20tracking%20for%20you%20specificallyhttps://store.google.com/us/magazine/compare_pixel

Claim 17

A method of monitoring an object, said method comprising:

generating identification data associated with each monitored object located at an identification gateway of a monitored environment, wherein said generating identification data is performed by an identification system;

generating tracking data associated with each monitored object located within said monitored environment, wherein said generating tracking data is performed by a tracking system;

Part of the Location Sharing facility of Google Maps generates the name of each person that is sharing location, with each person located at an identification gateway, such as a cellular base station or a Wi-Fi access point, of a monitored environment surrounding the person.

How to track someone on Google Maps

1. Start Google Maps on your iPhone or Android.
2. Tap your account avatar at the top right of the screen. In the pop-up menu, tap "Location sharing."
3. You'll see a list of everyone who is currently sharing their location with you at the bottom of the screen. To see someone's precise location, tap the entry and the map will zoom into their position.



Source: <https://www.businessinsider.com/how-to-track-someone-on-google-maps#:~:text=You%20can%20track%20someone%20on,location%20tracking%20for%20you%20specifically.>

Claim 17

A method of monitoring an object, said method comprising:

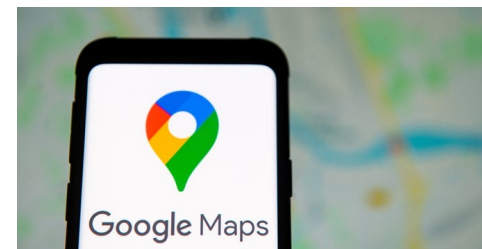
generating identification data associated with each monitored object located at an identification gateway of a monitored environment, wherein said generating identification data is performed by an identification system;

generating tracking data associated with each monitored object located within said monitored environment, wherein said generating tracking data is performed by a tracking system;

Part of the Location Sharing facility of Google Maps generates the location of each person that is sharing location.

How to track someone on Google Maps

1. Start Google Maps on your iPhone or Android.
2. Tap your account avatar at the top right of the screen. In the pop-up menu, tap "Location sharing."
3. You'll see a list of everyone who is currently sharing their location with you at the bottom of the screen. To see someone's precise location, tap the entry and the map will zoom into their position.



Source: <https://www.businessinsider.com/how-to-track-someone-on-google-maps#:~:text=You%20can%20track%20someone%20on,location%20tracking%20for%20you%20specifically.>

Claim 17

A method of monitoring an object, said method comprising:

...

merging and storing said identification data and said tracking data of each monitored object to form monitoring data for each monitored object; and

comparing new content of said monitoring data of a monitored object with prior content of said monitoring data of said monitored object.

Google Maps merges the name and location of each person that is sharing location and stores them in the memory of the device where it is running.

How to track someone on Google Maps

1. Start Google Maps on your iPhone or Android.
2. Tap your account avatar at the top right of the screen. In the pop-up menu, tap "Location sharing."
3. You'll see a list of everyone who is currently sharing their location with you at the bottom of the screen. To see someone's precise location, tap the entry and the map will zoom into their position.



Claim 17

A method of monitoring an object, said method comprising:

...

merging and storing said identification data and said tracking data of each monitored object to form monitoring data for each monitored object; and

comparing new content of said monitoring data of a monitored object with prior content of said monitoring data of said monitored object.

The Location Sharing facility of Google Maps compares the new location data associated with the name of each person that is sharing location with the prior location data associated with the same name, mapping the person to a new location if the location has changed.

Get someone's location

Find someone's location

When someone shares their location with you, you can find them on your map.

1. On your Android phone or tablet, open the Google Maps app .
2. Tap your profile picture or initial  > **Location sharing**.
3. Tap the profile of the person you want to find.
 - To update the person's location: Tap on a friend's icon > More ... > Refresh.

Tip: If you have a Pixel phone, [learn how to find someone with Live View](#).

Source: <https://support.google.com/maps/answer/7326816?co=GENIE.Platform%3DAndroid&hl=en&oco=1#zippy=%2Cfind-someones-location>

Claim 18

The method as recited in claim 17 further comprising:
processing said monitoring data.

The Location Sharing facility of Google Maps processes the new location data associated with the name of each person that is sharing location, mapping the person to a corresponding location.

Get someone's location

Find someone's location

When someone shares their location with you, you can find them on your map.

1. On your Android phone or tablet, open the Google Maps app .
2. Tap your profile picture or initial  > **Location sharing**.
3. Tap the profile of the person you want to find.
 - To update the person's location: Tap on a friend's icon > More ... > Refresh.

Tip: If you have a Pixel phone, [learn how to find someone with Live View](#).

Source: <https://support.google.com/maps/answer/7326816?co=GENIE.Platform%3DAndroid&hl=en&oco=1#zippy=%2Cfind-someones-location>