

# The Employee App, Legislation & Location Services

## YOUR GUIDE FROM TEAM SOFTWARE

This guide is for those organisations and their employees wishing to understand more about the technology and legalities around mobile apps that use Location Services (such as Timegate's Employee App). Within the guide you will find information such as The Information Commissioners Offices legal viewpoint around the use of such technologies. Additionally, an overview of how the technology works is included



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# LOCATION FINDING LEGISLATION



## THE LAW, LOCATION DATA AND LOCATION-BASED TECHNOLOGY

As of 5th February 2021, The Information Commissioners Office (ICO) in their **Guide to Privacy and Electronic Communications Regulations**<sup>1</sup> define location data as “any data processed in an electronic communications network or by an electronic communications service indicating the geographical position of the terminal equipment of a user of a public electronic communications service, including data relating to – (f) the latitude, longitude or altitude of the terminal equipment; (g) the direction of travel of the user; or (h) the time the location information was recorded”. They continue, “In other words, it is information collected by a network or service about where the user’s phone or other device is or was located – for example, tracing the location of a mobile phone from data collected by base stations on a mobile phone network. In our view, this does not generally include GPS-based location information from smartphones, tablets, sat-navs or other devices, as this data is created and collected independently of the network or service provider. Neither does it include location information collected at a purely local level (eg by wi-fi equipment installed by businesses offering wi-fi on their premises). However, organisations using such data still need to comply with the Data Protection Act.”

The ICO provide their best practice advice in **The Employment Practices Code**<sup>2</sup>, however, companies or their employees should seek good legal advice for further clarification.

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<sup>1</sup> Ico.org.uk. Undated. *Location Data* | ICO. [online] Available at: <<https://ico.org.uk/for-organisations/guide-to-pecr/communications-networks-and-services/location-data/> [Accessed 05 February 2021].

<sup>2</sup> Ico.org.uk. Undated. *The Employment Practices Code* | ICO. [online] Available at: <[https://ico.org.uk/media/for-organisations/documents/1064/the\\_employment\\_practices\\_code.pdf](https://ico.org.uk/media/for-organisations/documents/1064/the_employment_practices_code.pdf)> [Accessed 05 February 2021].



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## PURPOSE OF LOCATION MONITORING IN THE EMPLOYEE APP

Using the Timegate Employee App with Location Services enabled, employers are able to exercise their duty of care, whilst ensuring that working hours are recorded effectively. In the case of lone-workers, this is particularly important as no one else may be on site. This provides information to employers enabling them to see if everyone has gotten to work on time, with insight into where and what employees are working on, along with when they leave at the end of duty. With the GPS built-in to a smartphone/tablet, employees don't need additional devices to review their routes or build efficiency into their day - they can simply clock in and out making check calls where needed.

## THE LAW AND USAGE OF THE EMPLOYEE APP

TEAM Software take great care to ensure that the solutions it provides can help our Customers be compliant with the legislative demands placed upon them. When considering Data Privacy laws care has been taken in the design of the Timegate Employee app to ensure that data is only collected legitimately i.e. in the needs of the business and the employee. In addition to being limited to information during the User/employee's working hours, the app also seeks consent to share data.

When installing the Timegate Employee app the user is required to enable Location Services and agree to data sharing. The precise process is controlled by the device manufacturer and/or the Operating System provider. It is distinct from any process inside Timegate. As previously stated, the Timegate Employee app constrains information to working times, and data will not be shared unnecessarily.

This information is used only when an employee says they are commencing work for the day, using the Employee App to book on, then throughout the day and will cease at the end of the day when they confirm the end of their working day by using the Employee App to book off.

**PLEASE NOTE:** If an employee books-on/makes a check call/books-off, but are not where they are meant to be, clearly the transaction will show their employer their location, and not where they are meant to be.

# CHAPTER 02

## THE TIMEGATE EMPLOYEE APP



### HOW THE EMPLOYEE APP GETS ITS DATA

The location information is not directly accessible through the app. Instead, it is obtained from the Location Services installed on the mobile device. The Employee app never talks to the hardware that accesses the Location Services directly. Instead, it requests the coordinates from the Location Services on the device. It is Location Services that talks directly to the hardware. On registering the app, the employee is asked whether the app can use Location Services. The employee needs to ensure Location Services are selected for the app to work correctly. Through this acknowledgement, the employee is giving consent for the app to obtain their location information from the phone's Location Services. The app only requests the location from Location Services when an employee clocks-on/makes a check call/clocks-off. Upon request, the phone then gets that last known location of the device using one or more of several technologies explained in section three of this guide.

### ACCURACY OF LOCATION SERVICES DATA IN THE EMPLOYEE APP

The accuracy of the location information provided by the Employee App is only as accurate as that of the phone/tablet itself. The phone's location determining services will run at a suitable timeframe, set by the phone/tablet itself. Readings are made at regular intervals, dictated by the device. This may be between 10 and 120 seconds (see Settings | GPS Retrieval Interval within the Employee App settings to set the value.) The more that a device is used to make readings the greater the accuracy is. Generally, there is very little performance difference between Android and iOS smart devices. In the case of the Timegate Employee App, behind the scenes, it has been configured to 100 metres of accuracy.

## LOCATION FINDING TECHNOLOGIES



Different mobile phones have different ways of establishing a location, however, the most commonly used technologies today are Global Positioning System (GPS) and A-GPS (Advanced/ Assisted-GPS). In simple terms, for GPS that means using GPS satellites. For A-GPS that means using GPS satellites, assisted by other technologies such as cell tower triangulation (mobile phone towers), WiFi networks and Bluetooth beacons. The latest Android and iOS-based mobile-phones use all of these technologies to track the location of a phone.

### GPS

GPS, developed by the US Military is the best-known technology for finding outdoor locations. It has been included in consumer goods including mobile phones since the late 1990s. The technology is based around twenty-four satellites orbiting the planet in one of six orbits. The satellites send out a signal comprising their location, status and the precise time. Using three satellites together, a device receiving the signal can calculate its exact distance from each satellite providing location coordinates. If a fourth satellite is visible, the additional signal received enables the device to calculate elevation. If a direct line of vision cannot be made to at least three satellites, no location can be given.

### A-GPS

A-GPS is an enhanced version of GPS. Unlike GPS, it isn't solely dependent upon satellite positioning. This can be incredibly useful when a direct line of vision to three satellites has just been made. A-GPS uses information gained by triangulation of local Cell (mobile phone) towers and Wi-Fi networks to secure a location for the users' device. This saves significant amounts of time – if satellites have just become available GPS start time may be as much as 45 seconds. Using A-GPS, this can be reduced to as little as 15 seconds.



## CELL (MOBILE PHONE) TOWERS / CELL ID

This way of locating a device works on the basis that it is easy to calculate how far a mobile phone is being used from various neighbouring cells in the network. This is powered by a technology Cell ID. The mobile phone carries can link a mobile device's location to a cell tower. In a network where the cells towers are closer together (as little as a few hundred metres apart), such as towns and cities, it is very easy to accurately pinpoint someone. If the cell towers are further apart, such as in the countryside, location accuracy will be significantly reduced.

## WI-FI NETWORKS

Public Wi-Fi networks can be used in a similar way to the Cell ID, but with greater precision as the Wi-Fi access points cover a smaller geographic area. They can determine a location in two ways:

- » Through RSSI (received signal strength indication). This takes the signals the device detects from nearby access points and refers to a database of Wi-Fi networks to search for a location. The strength of the signal being received by the device can be used to measure the distance away from the location.
- » The second approach is wireless fingerprinting. When a device is used in a given location it's wireless fingerprint will be stored the first time the device is used there. These fingerprints can detect an individual device's location down to a couple of metres.

## BLUETOOTH (LOW ENERGY) BEACONS

Bluetooth beacons are small hardware transmitters that can be located anywhere. They are often used in retail locations to target advertising based on location, however, the location can be used for other things using Location Services) When mobile devices are within their proximity, the beacon broadcasts an identification signal to the device. The mobile device is then able to use the identifier to calculate the device's physical location. The proximity to the device, and therefore the location of the device can be categorised into three distance categories – immediate (0.6 metres away), near (1-8 metres) and far (10-40 metres).

# CHAPTER 04

## TROUBLESHOOTING LOCATION SERVICES



### ANDROID DEVICES

If you are struggling to get a location using an Android device, the following URLs provide useful pointers that may help get your location services back up and running:

- » <https://support.google.com/maps/answer/2839911?co=GENIE.Platform%3DAndroid&hl=en>
- » <https://helpdeskgeek.com/help-desk/android-gps-not-working-heres-how-to-fix-it/>

### IOS DEVICES

If you are struggling with getting accurate location information an iOS (Apple) device, try these useful URLs:

- » <https://help.isharingsoft.com/hc/en-us/articles/219025328--iPhone-How-to-improve-a-location-accuracy->
- » <https://www.virtuallocation.com/iphone-location/iphone-gps-accuracy.html>

**PLEASE NOTE:** These links take you to none-TEAM Software resources and are provided for convenience. The links were correct at the time of publication



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