USE CASE

Location Tracking and Contact Tracing During the Spread of COVID-19

AT A GLANCE

- beacon-based location tracking
- contact and path tracing
- monitoring and curtailment of local COVID-19 spread

PROBLEM DEFINITION

Experts have identified contact tracing and keeping safe distances as crucial steps in containing the spread of the coronavirus. However, manual contact tracing methods are slow and laborious and typically rely on the memory or assumptions of individuals. Also, distances are often misjudged – especially by employees in their day-to-day work.

SOLUTION

A smart tracking solution enables businesses to identify how people moved within the facility and who they came in contact with. The system does not rely on smartphones, but instead equips individuals with Bluetooth wearables that are capable of indoor location tracking and contact tracing. Should someone present with symptoms or test positive for the coronavirus, the system helps review the individual's location history on-site, see where he or she may have had contact to others and who those individuals are. This can enable companies to identify candidates for testing and to selectively isolate any employees with exposure to COVID-19, allowing the rest of the staff to keep working.

The location tracking system also helps to generate reports on company-wide movement and to identify areas where interactions are occurring in an aggregated way. This enables the management to figure out a way to adjust peoples' jobs so that they can reduce close contact to other people.

The system can be used in a wide variety of sectors (e.g. industry, healthcare, tourism, retail). The beacons can not only be given to employees, but also to customers or visitors, for example.

TECHNICAL IMPLEMENTATION

infsoft Locator Beacons and infsoft Locator Nodes are installed throughout the building. Workforces are equipped with Bluetooth Low Energy (BLE) beacons that are running the firmware of infsoft Locator Beacons. These beacons can come in a variety of different forms (wristband, card format etc.). The mobile beacons carried by the employees detect Bluetooth signals of the fixed Locator Beacons and transmit the data to an infsoft Locator Node. From there, the data is sent to the infsoft LocAware platform® for positioning.

Moreover, the mobile beacons detect Bluetooth signals of other mobile beacons in proximity, enabling to establish the distance from each other.

The infsoft LocAware platform® can be used to generate dashboards that provide detailed reports on movement patterns and possible contacts. For example, hotspots of interactions can be displayed in the form of a heat map.

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