LITERATURE SURVEY

TITLE: Development of An Android Application for Viewing Covid-19 Containment Zones Alerting.

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DESCRIPTION:

The World Health Organization has declared the outbreak of the novel coronavirus, Covid-19 as pandemic across the world. With its alarming surge of affected cases throughout the world, lockdown, and awareness (social distancing, use of masks etc.) among people are found to be the only means for restricting the community transmission. In a densely populated country like India, it is very difficult to prevent the community transmission even during lockdown without social awareness and precautionary measures taken by the people. Recently, several containment zones had been identified throughout the country and divided into red, orange and green zones, respectively. The red zones indicate the infection hotspots, orange zones denote some infection and green zones indicate an area with no infection. This paper mainly focuses on development of an Android application which can inform people of the Covid-19 containment zones and prevent trespassing into these zones. This Android application updates the locations of the areas in a Google map which are identified to be the containment zones. The application also notifies the users if they have entered a containment zone and uploads the user's IMEI number to the online database. To achieve all these functionalities, many tools, and APIs from Google like Firebase and Geofencing API are used in this application. Therefore, this application can be used as a tool for creating further social awareness about the arising need of precautionary measures to be taken by the people of India.

TITLE: Aarogya Setu

National Informatics Centre, Ministry of Electronics & Information Technology, Government of India.

DESCRIPTION:

The most popular containment zone alert application among the options currently in use in India is called Aarogya Setu. The Indian government created a mobile application to link the public with crucial health services. Its primary features include geo-location-based COVID-19 data, user risk status, automatic contact tracing using Bluetooth, and much more. The movement of an infected individual is tracked using Bluetooth and GPS technology, and the system notifies the public of the locations the infected person has visited while designating those locations as vulnerable ones. It employs cellular triangulation to determine a person's location in the absence of GPS technology. While Aarogya Setu can track down contacts and

notify those who have come into touch with someone who has COVID-19, it also actively keeps track of quarantine or containment zones and alerts users who enter them.

The Terms of Use and Privacy Policy must be accepted at the time of registration when installing the application on any Android or iOS mobile device, and ongoing use of the application denotes continued acceptance. Name, age, sex, occupation, phone number, overseas travel within the previous 28–45 days, and whether the user is a smoker are all pieces of information that the app gathers.

This data is kept on a server that is under the jurisdiction of the Indian government. It is hashed and sent to the user's mobile application along with a special digital ID (DID). The user is recognised using the DID. In order for the user's mobile phone to exchange information with another device that has the app when it gets within range, the Bluetooth and GPS services must be turned on.

Their individual IDs, along with the time and GPS location, are kept on the two phones when two users come into close proximity. The format in which this data is kept is encrypted. Only after a person tests positive is it posted to the government-controlled servers of the app.

TITLE: Containment Zones and Monitoring Violators Who are Trespassing into It Using Firebase and Geofencing

AUTHOR: Ranajoy Mallik , Amlan Protim Hazarika ,Sudarshana Gosh Dastidar,Dilip Singh and Rajib Bandyopandhyay

YEAR: July 2020

DESCRIPTION:

This Android application updates the locations of the areas in a Google map which are identified to be the containment zones and notifies the users if they have entered a containment zone and uploads the user’s IMEI number to the online database .Many tools and APIs from Google like Firebase and Geofencing API are used in this application.

MERIT:

The application has been tested in various locations and has been found to yield accurate results.

DEMERIT:

In first reading the application was initiated several times without destroying the application process in the background. In the second reading, the application process was destroyed before taking each reading

TITLE: Covid-19 Lifeguard: A Compact Wearable IoT system for healthy safety and protection of outgoers in the post-lockdown world.

AUTHOR: Gowri Shashank Deo, Chaitanya VijayKumar Mahamuni , Ayushi Mishra

YEAR: DECEMBER 2021

DESCRIPTION:

Developing a wearable *IoT* device for health safety, protection, and riskmanagement system. It includes an electronic face mask, automatic sanitizer dispenser, wearable for health monitoring, and alert on coming in touch with any surface.

MERIT:

This system is beneficial in monitoring the necessary health parametersof the user along with provision for disinfection and touch alert.

DEMERIT:

In Future the are going to implement the system in hardware.

DESCRIPTION:

Following the tracking of a suspicious person, the geo-fenced layer is mapped out in the vicinity, and the virtual perimeter is then employed for the subsequent trapping procedure. As soon as the Covid monitoring team updates this geo-fenced layer, the public can view it. The idea of creating a virtual perimeter region is known as geo-fencing. Effective containment zone monitoring is made possible by this virtual perimeter monitoring technology. By utilising an automated system based on wireless infrastructure, it lowers operational costs. Additionally, it promptly alerts the law enforcement to find the offenders. As a result, it facilitates the inspection of containment areas and the monitoring of those who disobey governmental regulations.

Users can receive updates from the Covid team on the alert zone. The Covid team has a number of modules for suspect tracking, hotspot fencing, etc. The Covid team must seek a service from the service network provider in the case of suspect tracking, and following authorization, they will offer the coordinates. According to our telecommunication legislation, it is illegal to share data; nonetheless, exchanging personal information without the individual's knowledge via any means is occasionally allowed with governmental approval for investigative purposes.

TITLE: Geofencing 2.0: Taking Location-based Notifications to the Next Level

AUTHOR: Sandro Rodriguez Garzon Bersant Deva

DESCRIPTION:

The basic Android application that served as the prototype Geofencing client was used. This client is primarily responsible for carrying out the geofencing server's ongoing location update strategy. This must be accomplished with little energy consumption because the Geofencing client is located on a mobile device. We made the decision to employ the low energy Geofencing features of the Android operating system to keep an eye on the safety zone. As a result, a safety zone is considered as a single circular geofence with a required exit on the mobile device. However, they discovered that there was occasionally a significant lag time between leaving the safety zone and receiving a notification from the system about the leave.

In order to address this issue, a specific amount of the safety zone's radius is decreased. While the safety zone and how it is implemented have a significant impact on overall energy consumption, it is also important to make the right choice when it comes to a placement mechanism. In order to reduce power consumption without compromising the necessary position precision, they used a device-based smart combination of various positioning mechanisms introduced by. By temporarily deactivating placement when a device is not in motion, the Geofencing client also makes use of cutting-edge mobile sensing capabilities integrated into the Android operating system's activity recognition unit. Mobile users who live close to a geo-border fence's will find this to be of particular utility. If the Geofencing server notifies the Geofencing client about a geo-notice, the notification will appear right away.

TITLE:

Comprehensive Identification and Isolation policies have effectively suppressed the spread of COVID-19.

AUTHOR: Yubo Huang , Yan Wu , Weidong Zhang

YEAR: OCTOBER 2020

DESCRIPTION:

Constructed a fine-grained transmission dynamics model to forecast the crucial information of public concern,therein using dynamical coefficients to quantify the impact of the implement schedule and intensity of the containment policies on the spread of epidemic.

MERIT:

This model could deduce other significant pandemic indexes such that cumulative infected cases, cumulative confirmed cases, new suspected cases etc..

DEMERIT:

They used data from the university not from the common people, it willbe accurate only we directly take data of patience