

# **IBM NALAIYA THIRAN**

## **CONTAINMENT ZONE ALERTING APPLICATION**

**TEAM ID:** PNT2022TMID35229

**DOMAIN:** CLOUD APPLICATION DEVELOPMENT

**BATCH:** B11-5A1E

### **TEAM MEMBERS:**

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### **LITERATURE SURVEY:**

- i) **Development of an android application for viewing Covid-19 Containment Zones and monitoring violators who are trespassing into it using Firebase and Geo fencing**

**Source:** Trans Indian Natl Academy

**Authors:** Ranajoy Mallik, Dilip\_Singh Sudarshana, Ghosh Dastidar

**Website:** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7328652/>

#### **About the Paper:**

This paper focuses on developing a mobile based application to provide information regarding the Covid-19 containment zones in West Bengal. The application further tracks the user's location and provides notification alert if the user has entered a containment zone. The application also provides daily Covid-19 case statistics to the users to keep them updated. The application is developed on Android SDK and uses Firebase Cloud Firestore to store the location data. Android's geofencing client is used to create geofences around the containment zones and notification manager is used to provide notifications. The application also uses RESTful web services to show the Covid-19 cases in West Bengal.

## ii) Mobile Geo-Fencing Triggers for Alerting Entries Into COVID-19 Containment Zones Using IoT

**Source:** Handbook of Research on Innovations and Applications of AI, IoT, and Cognitive Technologies.

**Authors:** M. V. Ramana Rao (Osmania University, India), Thondepu Adilakshmi (Vasavi College of Engineering, India), M. Gokul Venkatesh (Sidhartha Medical College, India) and Jothikumar R (Department of Computer Science and Engineering, Shadan College of Engineering and Technology, India)

**Website:** <https://www.igi-global.com/chapter/mobile-geo-fencing-triggers-for-alerting--entries-into-covid-19- containment-zones-using-iot/285679>

### About the Paper:

This paper focuses on informing the public about the containment zone when they are in travel and also sends an alert to the police when a person enters the containment zone without permission using the containment zone alert system. This paper suggests a containment zone alert system by means of geo-fencing technology to identify the movement of public, deliver information about the danger to the public in travel and also send an alert to the police when there is an entry or exit detected in the containment zone by the use of location-based services (LBS). By creating a fence virtually called geo-fence at the containment zones established based on the government information, this system monitors public movements like entry and exit to fence.

## iii) MoveInSync's Containment Zone Tracker

**Source:** Express Computer

**Author:** Radhika Udas

**Website:** <https://www.expresscomputer.in/interviews/moveinsyncs- containment-zone-tracker-aims-at-democratising-information-flow/55826/>

### About the Paper:

This Covid-19 containment zone tracker is a quick and easy way to find out if a particular locality, home or office, lies in a containment zone. The tracker constitutes a dashboard which shows areas on the map that are currently containment zones. This is based on data gathered from public bulletins, and information from municipal governments, which is updated every hour. It also gathers and validates containment zone information from common citizens – thereby democratizing the information flow.

#### iv) COVID-19 India Tracker Application using Flutter.

**Authors:** Sanju Kumar Sahu, M.L. Sharma, Krishna Chandra Tripathi

**Source:** International Journal for Modern Trends in Science and Technology.

**Website:** <https://www.ijmtst.com/volume7/issue01/3.IJMTST0612227.pdf>

##### **About the Paper:**

This paper had used all the promising technologies to build a mobile application as well as a web application. The dashboard of the application is capable to report cases at the state level, city level and at the country level in India. The COVID-19 related data published on the dashboard aligns with the WHO situation reports and the Ministry of Health and Family Welfare, Govt. of India for within and outside of INDIA, particularly. This dashboard is featured with all the real-time attributes about the novel coronavirus disease and its measures and controls. The system purposely aims to maintain the digital protection of the society, create public awareness, and not create any agitation situation among the individuals of the society. The speed and security of the app are also enhanced by using decoupled cloud architecture for the entire system (i.e., separating the client-side cloud and the server-side cloud).

#### v) Kovai Care app to alert public on containment zones

**Source:** DTNext

**Website:** <https://www.dtnext.in/tamilnadu/2020/07/16/kov-a-i-care-app-to-alert-public-on-containment-zones>

##### **About the Paper:**

This application enables the public to know if they are in a safe zone or in a containment area. All details of the containment areas have been fed into the app to alert the public and ensure their safety. The app also has a facility to track people going out of containment zones in violation. If someone leaves the containment zone, an alert will be generated informing the person of his violation. Also, a message will be sent to the team involved in monitoring work. So immediately, the person would be called and ensured that they do not cause a potential risk to others.

**vi) Tracking the Covid zones through geo-fencing technique**

**Source:** International Journal of Pervasive Computing and Communications

**Website:** <https://www.emerald.com/insight/content/doi/10.1108/IJPCC-06-2020-0057/full/html>

**About the paper:**

The purpose of this paper is to propose a methodology to track the Covid zones, to enhance and tighten the security measures. A geofence is created for the containment zone. The person who enters or exits out of that particular zone will be monitored and alert message will be sent to that person's mobile. Using modern technology, it is so easy to crack the individual gadgets and with Bluetooth enabling it makes things even worse. Thus, it is important to maintain the tracking a safer and secure one, and another issue with those Bluetooth-based applications is that tracking can be done only if the user enabled the Bluetooth option, if not the entire functioning would become a mess. The proposed methodology of tracking without Bluetooth will ensure data security also.