CONTAINMENT ZONE ALERTING APPLICATION

**Mr.J.Umamageshwaran, Kodignanasundari N, Keerthana J, Lavanyaa K R, Akshaya S**

*AssociateProfessor,DepartmentofInformationTechnology,R.M.K.EngineeringCollege*

*FinalYearB.TechInformationTechnology,R.M.KEngineeringCollege*

# Introduction:

This application is intended to provide information about containment zones in a particular region by alerting people, through continuous monitoring of an individual's location. Key benefits of the application are monitoring people's activity and alerting them to their safety movements. The project aims at building an application that provides information about the containment zones of a particular region by continuously monitoring an individual's location. The location of the individual must be stored in the Database. Alerts are sent using the notification service. They should have a login to the app and update the containment zone locations in the portal. Based on the location a geo-fence will be created within a 100 meters radius. They should be able to see how many people are visiting that zone.

The app should have user registration and login. After the user logged into the app it will track the user’s location and update the database with the current location. If the user is visiting the containment zone he will get an alert notification.

***Problem Statement:***

* The World Health Organization has declared the outbreak of the novel coronavirus, Covid-19 a pandemic across the world.
* In a densely populated country like India, it is very difficult to prevent community transmission even during lockdown without social awareness and precautionary measures taken by the people
* This application is intended to provide information about containment zones in a particular region by alerting people, through continuous monitoring of an individual's location.

## Social Impact :

* It will alert the people on containment zones.

## Business model/Impact :

* Government can utilize the application and alert the people when they are entering

a containment zone.

# Literature Survey:

Existing System focuses on the Following Points: Area of jurisdiction, roles and responsibilities .Education of the surveillance teams about COVID and its mode of spread on their roles and responsibilities .Planning for field visits for supervising of the surveillance teams. Logistics arrangements for surveillance teams to carry out their activities. Data collection and collation from the field staff .Monitoring of surveillance teams and perimeter control

# References:

* 1. **Title:** 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 **Author:** Ranajoy Mallik, Dilip Singh Sudarshana Ghosh Dastidar **Date**:July 2020.**Website**:[**https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7328652/**](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7328652/)

***About the Paper:*** In this paper, we focus 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..

* 1. **Title:** 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](https://www.igi-global.com/book/handbook-research-innovations-applications-iot/258349). Author’s: 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**). Date:** December, 2021. **Website:** [**https://www.igi- global.com/chapter/mobile-geo-fencing-triggers-for-alerting--entries-into-covid-19- containment-zones-using-iot/285679**](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 chapter 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 chapter suggests a containment zone alert system by means of geo-fencing technology to identify the movement of public, deliver info 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 info, this system monitors public movements like entry and exit to fence.

* 1. **Title**: itleMoveInSync’s Containment Zone Tracker Aims At Democratising Information Flow **Source:**Express Computer**. Author’s:**Radhika Udas**. Date:**May 15, 2020. **Website:** [**https://www.expresscomputer.in/interviews/moveinsyncs- containment-zone-tracker-aims-at-democratising-information-flow/55826/**](https://www.expresscomputer.in/interviews/moveinsyncs-containment-zone-tracker-aims-at-democratising-information-flow/55826/)

***About the Paper:*** The 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. We are also gathering and validating containment zone information from common citizens – thereby democratizing the information flow. .

* 1. **Title:** COVID-19 India Tracker Application using Flutter. **Author’s:** Sanju Kumar Sahu1 | M.L. Sharma1 | Krishna Chandra Tripathi1 **Source:** International Journal for Modern Trends in Science and Technology. **Date:** 28 December 2020. **Website: https**[**://www.ijm**](http://www.ijmtst.com/volume7/issue01/3.IJMTST0612227.pdf)**tst**[**.com/volume7/issue01/3.IJMTST0612227.pdf**](http://www.ijmtst.com/volume7/issue01/3.IJMTST0612227.pdf)

***About the Paper:*** Nowadays, wireless communication in terms of mobile technology is an essential part of our life. This technology is now the guiding force for human life to perform any activities. Again, in this pandemic situation, fake news prevention and distribution of genuine information, i.e., information regarding public awareness, test centers, geo-tracking, etc. to everyone at every time with minimum expense, it is perhaps the biggest challenge to any administration all over the world. Mobile technology is the only one-stop solution for everything above mentioned problem

* 1. **Title:** Covid Live Tracker Android App Development with Flutter. **Author:** Aman Rathore1, Divyank Singh Rajput2, Yogesh Kumar Kashyap3, Utkarsha Mishra4, Savita Sahu5. **Source:** International Journal of Advanced Research in Computer and Communication Engineering **Date:** 4 April 2021. **Website:** [**https://ijarcce.com/wp-content/uploads/2021/05/IJARCCE.2021.10467.pdf**](https://ijarcce.com/wp-content/uploads/2021/05/IJARCCE.2021.10467.pdf)

***About the Paper:***: In this growing age of Technology, every hand has a smartphone or another device. A study shows that the number of smartphone users in India was estimated to reach over 760 million in 2021, with the number of smartphone users worldwide forecasted to exceed 3.8 billion users in 2021. Many Development processes of software also increased. Due to a lot of

availability of different devices, there is a need to develop a single source code programming language or SDK which covers all aspects of all different devices for application development

* 1. **Title:** Containment and Surveillance Manual for Supervisors in containment **Date:**August,2020.**Website**[**:https://www.mohfw.gov.in/pdf/ContainmentandSurveill anceManualforSupervisorsincontainmentzones.pdf**](https://www.mohfw.gov.in/pdf/ContainmentandSurveillanceManualforSupervisorsincontainmentzones.pdf)

***About the Paper:*** Containment activities are undertaken in a confined area to prevent infection from getting established in the community and prevent its spread outside the said area. It intends to break the cycle of transmission.

* 1. **Title**: Mobile Geo-Fencing Triggers for Alerting Entries Into COVID-19 Zones

Using IoT**. Author’s:** Rama Rao Source**:** Handbook of

[T. Adilakshmi**,**](https://www.semanticscholar.org/author/T.-Adilakshmi/1773155)

Research on Innovations and Applications of AI, IoT, and Cognitive Technologies Date: 2021**. Website:** [**https://www.semanticscholar.org/paper/Mobile-Geo-Fencing-**](https://www.semanticscholar.org/paper/Mobile-Geo-Fencing-Triggers-for-%20%20AlertingEntriesRaoAdilakshmi/c1925d5f9c97a42523e7eaf76a35d2c5eeac4ca1)[**Triggers-for-**](https://www.semanticscholar.org/paper/Mobile-Geo-Fencing-Triggers-for-%20%20AlertingEntriesRaoAdilakshmi/c1925d5f9c97a42523e7eaf76a35d2c5eeac4ca1)[**AlertingEntriesRaoAdilakshmi/c1925d5f9c97a42523e7eaf76a35d2c5eeac4ca1**](https://www.semanticscholar.org/paper/Mobile-Geo-Fencing-Triggers-for-%20%20AlertingEntriesRaoAdilakshmi/c1925d5f9c97a42523e7eaf76a35d2c5eeac4ca1)

***About the Paper:*** In a thickly populated nation like India, it is hard to forecast community transmission of COVID-19. Hence, a number of containment zones had been recognized all over the country separated into red, orange, and green zones, individually. People are restricted to move into these containment zones.

* 1. **Title**: Paper representing the App that warns about COVID-19 containment zones.**Source:**IndianExpress.**Date:**22April,2020.**Website:**[**https://www.newindianexpress.com/n ation/2020/apr/22/app-that-warns-about-covid-19-containment-zones-filters-fake-newsdeveloped-by-iiit-delhi-2133849.html**](https://www.newindianexpress.com/nation/2020/apr/22/app-that-warns-about-covid-19-containment-zones-filters-fake-news%20developed-by-iiit-delhi-2133849.html)

***About the Paper:*** The containment zones are mapped on the app and if you enter the area, it will alert you that you are entering a zone. It also says, in case we get access to database of coronavirus-positive patients, the app can also alert whether someone is close to such a patient.

* 1. **Title:** ‘Kovai Care’ app to alert public on containment zones **Source:**DTNext**Date:**17july2020.**Website:**[**https://www.dtnext.in/tamilnadu/2020/07/16/kov a**](https://www.dtnext.in/tamilnadu/2020/07/16/kov%20a) [**i-care-app-to-alert-public-on-containment-zones**](https://www.dtnext.in/tamilnadu/2020/07/16/kovai-care-app-to-alert-public-on-containment-zones)

***About the Paper:*** By downloading the monitoring app, ‘Kovai Care’, the public can 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. Containment zones are areas where one or more COVID-19 positive cases were reported. These areas were barricaded to prevent people from moving out and also disallow others from entering these areas. 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 ensure that they do not cause a potential risk to others,” said a Corporation official.

* 1. **Title:** Covid-19 Response and Containment Measures. **Author:** Kalpana Devi **Date:** June,2020.**Website:**[**https://www.mohfw.gov.in/pdf/2COVID19PPT\_25MarchPPTWi thAnimation.pdf**](https://www.mohfw.gov.in/pdf/2COVID19PPT_25MarchPPTWithAnimation.pdf)

***About the Paper:*** surveillance done by visiting the local residence of the contact(s) by health personnel telephone may be used in certain circumstances or for follow-up. introduce yourself, explain purpose of surveillance, collect data in prescribed format. contacts of confirmed cases traced and monitored for at least 28 days after the last exposure to the case patient for evidence of covid-19 symptoms as per case definition. information about contacts can be obtained from: patient, his/her family members, persons at patient’s workplace or school associates, or others with knowledge about the patient’s recent activities and travels. ari surveillance in the containment zone