

LITERATURE SURVEY

CONTAINMENT ZONE ALERTING APPLICATION CLOUD APPLICATION DEVELOPMENT

TEAM NAME: TROUBLESHOOTERS

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1) PAPER TITLE: Development of An Android Application for Viewing Covid-19 Containment Zones and Monitoring Violators Who are Trespassing into It Using Firebase and Geofencing.

AUTHOR:

- RanajoyMallik, AmlanProtimHazarika, SudarshanaGhoshDastidar, Dilip Sing, and RajibBandyopadhyay , Department of Instrumentation and Electronics Engineering, Jadavpur University, Salt Lake Campus, Kolkata, 700 098 India.

ABSTRACT:

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.

DRAWBACKS:

- i) This Android application updates the locations of the areas in a Google map which are identified to be the containment zones.

2) PAPER TITLE: Mobile Geo-Fencing Triggers for Alerting Entries Into COVID-19 Containment Zones Using IoT.

AUTHOR:

- M. V. RamanaRao (Osmania University, India), ThondepuAdilakshmi (Vasavi College of Engineering, India), M. GokulVenkatesh (Sidhartha Medical College, India) and Jothikumar R (Department of Computer Science and Engineering, Shadan College of Engineering and Technology, India).

ABSTRACT:

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. 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.

DRAWBACKS:

- i) 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.

3) PAPER TITLE: Use the COVID-19 Exposure Notifications System on your Android phone.

AUTHOR:

- DilipSing, and RajibBandyopadhyay

ABSTRACT:

To help understand whether you've been exposed to someone who reports having COVID-19, you can turn on Exposure Notifications. If you change your mind, you can turn it off.

To use the system, you need to either download an official app from your region's government public health authority or, if supported in your region, enable it directly in your device Settings.

- If you have COVID-19, you may share that info in Exposure Notifications to help alert the people you've been in contact with.
- If you've been exposed to someone who has shared they have COVID-19, you may be notified and provided with further instructions.

DRAWBACKS:

- i) Fragmented information and lack of communication can have a major impact on the application. This is because there are various parties involved in the chain which have little to no knowledge of one another's actions.
- ii) Poor communication causes errors, inefficiency and can lead to mistrust among their customers.

4) PAPER TITLE:Implement a COVID-19 exposure notification system that protects user privacy.

AUTHOR:

- JaraneeMonchan,Department of Agro-Industrial Technology, Kasetsart University, Bangkok, Thailand.
- PornthipaOngkunaruk,Department of Agro-Industrial Technology, Kasetsart University, Bangkok, Thailand.

ABSTRACT:

Use the Exposure Notification framework to inform people of potential exposure to COVID-19, the disease caused by the SARS-CoV-2 virus. You can build a notification system that employs random, rotating keys and identifiers to convey positive diagnoses in addition to data such as associated symptoms, proximity, and duration.

DRAWBACKS:

- i) If you have COVID-19, you may share that info in Exposure Notifications to help alert the people you've been in contact with.
- ii) If you've been exposed to someone who has shared they have COVID-19, you may be notified and provided with further instructions.

5) PAPER TITLE: Analysis of COVID-19 Tracking Tool in India.

AUTHOR:

RAJAN GUPTA, Deen Dayal Upadhyaya College, University of Delhi, India
MANAN BEDI,
PRASHI GOYAL,
SRISHTI WADHERA, and
VAISHNAVI VERMA, Shaheed Sukhdev College of Business Studies, University of Delhi, India

ABSTRACT:

COVID-19 tracking tools or contact-tracing apps are getting developed at a rapid pace by different governments in their respective countries. This study explores one such tool called *Aarogya Setu*, developed by the Government of India. It is a mobile application developed under the Health Ministry, as a part of the E-Governance initiative, to track and sensitize the citizens of India in a joint battle against COVID-19 spread. The study aims to understand various useful features of this tool and to present different concepts of data science applied within the application along with its importance in managing the ongoing pandemic. The App uses Bluetooth and GPS technologies to alert a user when they are nearby a COVID-19 infected person. The application uses various Data Science concepts such as Classification, Association Rule Mining, and Clustering to analyze COVID-19 spread in India. The study also shows potential upgradations in the application, which includes usage of Artificial Intelligence and Computer Vision to detect COVID-19 patients. The study would be useful for mobile technology professionals, data science professionals, medical practitioners, health-related frontline workers, public administrators, and government officials.

DRAWBACKS:

- i) GPS trails are not at all reliable in indoor settings or mass transit situations. Such devices are prone to hacking.
- ii) It has data privacy issues.

6) PAPER TITLE: Development of Seha app

AUTHOR:

- Alanzi T

ABSTRACT:

The Seha mobile application is one of the most innovative mobile health applications being used in Saudi Arabia. The application was developed for providing e-consultations through audio and video modes for users in the comfort of their own homes. The application employs AI technologies, enabling users to receive safe medical information, and enhancing the user's experience during the consultation process. It also features a health assessment tool, where the users need to answer certain questions. Based on the responses, a health score is developed based on a disease or condition and the relevant feedback and precautions are prescribed. The Seha app is similar to the Mawid app in terms of booking appointments, but it differs from Mawid as it facilitates an e-consultation process. Mawid provides consultations at primary care centres. The Seha application was identified as being very useful during the COVID-19 outbreak, as it facilitated restrictions on movement.

DRAWBACKS:

- i) People in areas where the internet access is poor cannot be able to get benefit of the app.

7) PAPER TITLE: Awareness about the virus .

AUTHOR:

- Ranajoy Mallik, Department of Instrumentation and Electronics Engineering, Jadavpur University, Salt Lake Campus, Kolkata, 700 098 India.

ABSTRACT:

Currently there are several research works undergoing in the country to prevent Covid-19 cases from rising. Previously our country was importing medical kits like PPE (Personal Protection Kits), mask from outside, but now it has been successful in developing these kits. Along with taking initiatives to fight this disease, our country has also taken steps to make people aware of the disease. The news and media have a great part in creating this awareness by informing the public about the preventive measures that can keep them away from infection. Awareness among the people to carry out all the preventive measures can immensely help to reduce spread of the virus. The country has created containment zones throughout the cities wherever Covid-19 cases have been reported to prevent further spread of the virus. These containment zones have been kept isolated from the outside public to ensure no contamination occurs outside.

DRAWBACKS:

- i) Awareness among the people to carry out all the preventive measures can immensely help to reduce spread of the virus.
- ii) Spreading negative information can be misleading to the people.

8) PAPER TITLE: Defining Covid 19 containment zones using Kmeans dynamically

AUTHOR:

- Satish Chinchorkar, September 25th, 2020, Research square.

ABSTRACT:

According to (Wollersheim, 2020) during the COVID-19 crisis the field of Data Science is in center. Most of the community is interested, watching and looking forward the statistical analysis and epidemiology graphs and sharing the same in social media on a large scale. The expectation from Data Science is very high. Data Science is emerging field consist of number of applicable and useful tools, techniques and functions, using which taking the fact-based decisions and planning can be possible, which is very essential in current situation.

The cluster containment strategy for Zika virus outbreak (Singh et al., 2019) was found effective in Rajasthan, India. Singh et al (2019) in their paper explained that how surveillance strategies used to control the disease from spreading beyond containment zones of 3 km radius. The article gives emphasis on creating to containments to prevent the outburst of disease, however it does not explain about how to make these zones quickly and accurately. In their paper (Maier & Brockmann, 2020) explained about the effective containment to control specifically COVID-19 cases in China. The model which they explained in their paper captures both quarantine of symptomatic infected individuals and other population isolation practices. The focus of the research is on contagion process and general effects as well as significance of the containment. Their research work implies and supports the need to define the containment zones accurately.

DRAWBACKS:

- i) Government asked district administration to demarcate the containment areas with red and orange zones around connection with the Coronavirus outbreak boundary of containment zones as colony, mohalla, ward and police station area etc.

9) **PAPER TITLE:** Application for Covid-19 Real Time Counter

AUTHOR:

- Ms. Vaishali Rane, 23-05-2022

ABSTRACT:

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.

DRAWBACKS:

- i) To achieve all these functionalities, many tools, and APIs from Google like Firebase and Geofencing API are used in this application.

10) PAPER TITLE: Effect of corona virus in other countries.

AUTHOR: 1. Alanzi T, 12 January 2020, Health Information Management and Technology Department, College of Public Health, Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia.

ABSTRACT:

Since its outbreak in December 2019, the number of COVID-19 cases has been rapidly increasing across the world. As of 21st August 2020, there were more than 226 million of confirmed cases worldwide, including more than 7.9 million deaths.¹ The most affected countries were the USA (55 million cases), Brazil (35 million cases), India (29 million cases), the UK (3 million cases), Saudi Arabia (3 million cases), and Italy (2.5 million cases).¹ However, the recovery rates differ significantly across the countries due to various factors such as health interventions, effective planning and methods for managing the outbreak.² The COVID-19 outbreak has severely impacted various industries, being the healthcare industry one of the most affected. It faces a severe burden with the allocation of resources, delivering services and containing the spread of the COVID-19 virus.^{3–5} In order to minimize the impact of COVID-19 on the healthcare industry, improve the delivery of healthcare services, and facilitate the process of returning to normal life, countries are developing various strategies.

DRAWBACKS:

- i) Adopting health interventions using innovative technologies such as mobile health applications integrated with Bluetooth, global positioning system (GPS), artificial intelligence (AI), and machine learning (ML) techniques can significantly improve the delivery of healthcare services remotely while following preventive measures such as social distancing and home quarantine.