

Containment zone Alerting Application

Literature survey

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Paper-1: Ranajoy Mallik, Department of Instrumentation and Electronics Engineering, Jadavpur University, Salt Lake Campus, Kolkata, 700 098 India

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.

Paper-2: Dr. Satish Chinchorkar, : September 25th, 2020, Research square, Defining Covid 19 containment zones using Kmeans dynamically

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.

As stated in old article of Teena (2020), the Government of India had given a broad guidelines to classify the containment zones in three types as Green-Zone (if there are no confirmed cases or no report of cases since last 21 days), Orange-Zone (where zonal retractions can be relaxed based on situation) and RedZone (containment zone where strict lock-down can be imposed). As per Teena (2020), 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. Which support the need to micro-level defining and updating the containment zones.

Paper-3: : Ms. Vaishali Rane, 23-05-2022, Application for Covid-19 Real Time Counter, International Journal of Research in Engineering and Science (IJRES) ISSN (Online): 2320-9364, ISSN (Print): 2320-9356.

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.

Paper-4:Alanzi T,12 January 2020, Health Information Management and Technology Department, College of Public Health, Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia.

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. 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.