



LITERATURE SURVEY OF CONTAINEMENT ZONE APPLICATION

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PAPER 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

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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.

PAPER TITLE:

Covid-19 Dashboard: Supervised learning ML model based Covid-19 prediction analysis and identifying early-stage symptoms

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PUBLISHED: 2019

ABSTRACT:

Following Standard Operating Procedures and being Social distanced is now the new norm for most of the people worldwide, amidst this pandemic. At this crucial time, people must be updated regarding, virus hotspots, containment zones and more associated information. The recent outbreak has taken the world by surprise, forcing lockdowns in most of the countries and affecting the public health systems. In response to the outbreak, Governments of many countries have shown interest in contact tracing applications. The main goal of

developing the application is to provide all the information related to COVID-19 or any pandemic situation to the citizen of the country. The project holds plenty of relevance in today's time when people are finding solutions to protect themselves from the pandemic. Our project is an proposal to confirm the utmost safety for the citizens of our country from the deadly coronavirus disease. In quintessence, it connects the health services of the country to its citizens at this unstable time. It can assist a person to follow adequate measures to avoid infection. Application users are also able to understand if they are currently being exploited to covid-19 related symptoms. The responsiveness of the mobile platform makes it easy for the users to perform self-diagnosis and inform whether there is a need to consult a doctor.

PAPER TITLE:

Socialization between Quarantine Vehicle and Road Side Unit for Handling COVID-19: A Concept

AUTHORS:

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PUBLISHED:

Published in: 2021 9th International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions) (ICRITO)

Abstract:

The large-scale outbreak of pandemic COVID 19 has escalated the number of calls made to the Emergency Medical Services (EMS). EMS consists of the list of isolation centres and quarantine vehicles that are supposed to shift patients to isolation centres. The prime motive of the EMS is to provide quick and reliable assistance to the victims so that their exposure to other public is as low as possible. In this paper,

we propose a novel concept of Socially Connected Quarantine Vehicle (SCQV) a subset of Social Internet of Vehicles (SIoV). The SCQV is a social network established among the quarantine vehicles and roadside units. It can be used for shifting the patients to isolation centres or hospitals and circulating messages regarding emergency help and formation of containment zone among people. The concept is new in its context where the socially and mutually connected entities will be capable of interacting with each other and make the handling of patients efficient.

PAPER TITLE:

Optimization of the Containment Levels for the Reopening of Mexico City due to COVID-19

AUTHORS:

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Published in:

IEEE Latin America Transactions (Volume: 19, Issue: 6, June 2021)

ABSTRACT:

One of the main problems that governments face in a pandemic is preserving the public health of the country whilst reducing the negative effects on the economy. In tackling the COVID-19 pandemic, there is an implicit trade-off between the economy and the reduction in the number of cases and deaths by the virus. If governmental restrictions to combat the pandemic are very strong, the economy could be seriously damaged. Conversely, if restrictions are very mild to

minimize economic losses, it would be very difficult to stop the spread of the virus. It is necessary to find an optimization model to support government decisions balancing the impacts of COVID-19 in health and economic aspects. In this paper, we propose a methodology to find out the optimal number of days per contingency phase, in such a way that public health is prioritized and the damage to the economic impact is reduced. Then, our methodology is applied to one of the most densely populated areas in the world, Mexico City. Our methodology uses an SEIR (Susceptible-Exposed-Infected-Removed) model to simulate the evolution of the pandemic, and it can be implemented utilizing either a genetic algorithm or a Deep Q-Learning algorithm. For the experiments, we propose two scenarios in which the number of days for each phase is predicted within a 120-day period. The first experiment guarantees that the number of beds is not exceeded, considering the economic impact less relevant. By contrast, the second experiment reduces the number of days in which beds are exceeded as long as the economic losses are not higher than 20%, prioritizing the economy. According to the experiments, the implementation based on genetic algorithms has a higher performance.