

LITERATURE SURVEY

CONTAINMENT ZONE ALERTING APPLICATION

Author name: Ranajoy Mallik, Amlan Protim Hazarika, Sudarshana Ghosh Dastidar,

Year of publishing: 2020

Description:

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.

Author name: Ajay Singh, Vaibhav Jindal, Rajinder Sandhu, Victor Chang

Year of publishing: 2021

Description:

A smart and scalable system is required to schedule various machine learning applications to control pandemics like COVID-19 using computing infrastructure provided by cloud and fog computing. This paper proposes a

framework that considers the use case of smart office surveillance to monitor workplaces for detecting possible violations of COVID effectively. The proposed framework uses deep neural networks, fog computing and cloud computing to develop a scalable and time-sensitive infrastructure that can detect two major violations: wearing a mask and maintaining a minimum distance of 6 feet between employees in the office environment. The proposed framework is developed with the vision to integrate multiple machine learning applications and handle the computing infrastructures for pandemic applications. The proposed framework can be used by application developers for the rapid development of new applications based on the requirements and do not worry about scheduling. The proposed framework is tested for two independent applications and performed better than the traditional cloud environment in terms of latency and response time. The work done in this paper tries to bridge the gap between machine learning applications and their computing infrastructure for COVID-19.

Author name:Sera whitelaw,BSC,Prof Mamas A Mamas, DPhil

Year of publishing: 2022

Description:

With high transmissibility and no effective vaccine or therapy, COVID-19 is now a global pandemic. Government-coordinated efforts across the globe have focused on containment and mitigation, with varying degrees of success. Countries that have maintained low COVID-19 per-capita mortality rates appear to share strategies that include early surveillance, testing, contact tracing, and strict quarantine. The scale of coordination and data management required for effective implementation of these strategies has—in most successful countries—relied on adopting digital technology and integrating it into policy and health care. This Viewpoint provides a framework for the application of digital technologies in pandemic management and response, highlighting ways in which successful countries have adopted these technologies for pandemic planning, surveillance, testing, contact tracing, quarantine, and health care. Digital health technology can facilitate pandemic strategy and response in ways that are difficult to achieve manually . Countries such as South Korea have integrated digital technology into government-coordinated containment and mitigation processes—including surveillance, testing, contact tracing, and strict quarantine—which could be associated with the early flattening of their incidence curves.

Although South Korea has incurred only 0.5 COVID-19 deaths per 100 000 people, the USA, with three times as many intensive care unit beds per 100 000 people and ranked number one in pandemic preparedness before the COVID-19 pandemic, has sustained ten times as many deaths per capita.

Author name: David E. Y. Sarna

Year of publishing: 2010

Description:

From small start-ups to major corporations, companies of all sizes have embraced cloud computing for the scalability, reliability, and cost benefits it can provide. It has even been said that cloud computing may have a greater effect on our lives than the PC and dot-com revolutions combined.

Filled with comparative charts and decision trees, *Implementing and Developing Cloud Computing Applications* explains exactly what it takes to build robust and highly scalable cloud computing applications in any organization. Covering the major commercial offerings available, it provides authoritative guidance through the implementation process. It puts cloud computing into historical context and considers how cloud computing affects project management, budgeting, and lifecycle management in your organization. It also explains how to:

Choose the best combination of platforms, tools, and services
Develop new cloud applications from scratch
Migrate legacy software
Prevent lock-in to a single vendor
Estimate costs and benefits
Address reliability, availability, and security concerns
Use interclouding, Cloud Brokers, and other techniques for safe deployment in public, private, and hybrid clouds
Take advantage of the latest developments, including OpenStack.

From software and testing tools to best practices and service providers, this book considers the entire cloud application environment. It details the platforms available, tools that facilitate development, as well as the costs involved. Designed for software developers and their managers, this complete resource includes case studies that illustrate the latest cloud computing technologies, implementation issues, and solutions. It also provides access to a blog to keep you current on the latest developments.

Authorname: M. V. Ramana Rao, Adilakshmi, M. Gokul Venkatesh and Jothikumar R

Year of publishing: 2021

Description:

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.

Authorname: Dilip Singh, Rajib Bandyopadhyay.

Year of publishing: 2020

Description:

The application provides an efficient way of showing the identified COVID-19 containment zones to the users in a Google map. With the alarming increase of COVID-19 affected cases throughout the world, this developed application can be employed as a tool for creating further social awareness among the people. This application further tracks the user's location and checks whether it is present in the list of identified containment zones. It sends separate notification alerts to the user on entering and exiting the containment areas. The developed android application further extracts the IMEI Number of the trespasser in the containment zones which can be useful to the local police to track and identify people who are frequently trespassing the containment zones. Thereby this application identifies the containment zones and highlights the need for taking further precautionary measures for combating COVID-19. The application has been tested in various locations and has been found to yield accurate results. The application can be further used for many purposes like maritime and forest safety to prevent users from entering restricted areas.

Authorname: Sudarshana Ghosh Dastidar .

Year of publishing: 2020

Description:

A real-time database is created in Google Cloud Firestore which contains all the data related to the containment zones like latitudes, longitude, radius and zone names. Cloud Firestore features a NoSQL, document-oriented database (Firebase Cloud Firestore). There are no tables or rows. Instead, the location data are stored in documents, which are organized into collections. All the containment zones are stored in a collection in which each containment zone is represented as an individual document. Each document has four fields namely “Lat”, “Long”, “locationName” and “radius” for storing latitudes, longitudes, location names and radius, respectively. Fig.2 shows the document-oriented Cloud Firestore database with data of few containment zones. The “radius” field in each document is used to indicate the radius of the containment zone. The names of the fields must match the Page 3/8 JAVA objects created in the Android application in order to properly extract each data from the database correctly. The Cloud firestore is connected to the android application by registering the SHA-1 (Secure Hash Algorithm 1) certificate fingerprint of the application in the Firebase project settings. After the database is connected, the location data of the containment zones can be retrieved by the Android application and can be shown in Google map.