CONTAINMENT ZONE ALERTING APP

Using python flask

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1. INTRODUCTION

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. This project 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. With this IMEI number, the police can keep an eye on the people who are frequently violating the lockdown rules. To achieve all these functionalities, many tools and APIs from Google are used in this app. 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.

1.1 Overview

Pandemics have threatened human race many a times. One of the most important tasks during a pandemic is to bring awareness among people. Bringing awareness contributes a lot in controlling any pandemic. Covid-19 has been causing severe loss to the human race. Considering the mode of spread and the level of severity of this disease, it is extremely important to make people aware of various safety precautions such as using sanitizers and masks and maintaining social distancing, that are to be followed to prevent the disease and break the chain of spread. 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.

1.2 Purpose

Coronavirus Pandemic has been impacting our lives since it first surfaced. There have been over 1 lakh cases in India. While people are trying to stay at home as a nationwide lockdown has been imposed, a lot of things are dependent on travel such as the delivery of goods, e-commerce giants and more. However, in order to travel between separate areas, people will need to make sure they are not in the containment zone. The website basically allows users to check which location is currently impacted the most. This can also let you know whether you are a part of an area that comes under the containment zone or not. While people can check this to ensure their travel is safe, this will also help them to better understand if courier services or e-commerce giants can make delivers or not.

2. LITERATURE SURVEY

One of the most important tasks during a pandemic is to bring awareness among people. Bringing awareness contributes a lot in controlling any pandemic.

Aarogya Setu App

Regarding Aarogya Setu, it is an official mobile application launched by the government of India for tracking the COVID-19 outbreak, and restricting the spread of COVID-19. The application uses both GPS and Bluetooth technologies for tracking

TraceTogether App

TraceTogether is a contact-tracing mobile application launched by the Singapore government. Similar to the Aarogya Setu application, this app uses Bluetooth technology to identify when a user is in close proximity to an infected person, and it accordingly alerts the user.

COVID Safe App

About the COVID Safe application, it is a contact-tracing mobile application launched by the Australian Department of Health. It is the only contact app approved by the Australian government. The purpose of the application is to track the movement of people and to identify whether they have come into close contact with infected people. If they do, the app alerts them. The results of this study related to the applications that were launched and

updated during the COVID-19 outbreak for the management of COVID-19 in several countries show that 12 free applications available in the App and Google play stores were launched and supported by the governments and health institutions in addition , all of the applications provided a data visualisation feature with the use of graphics to present health-related information and COVID infections. Although applications for managing COVID-19 are being launched and used, issues such as privacy, safety, security and data protection remain one of the major concerns. In view of rising concerns, applications such as TraceTogether, Immuni, COVID Watch, PathCheck, etc. have updated their privacy policy so that they collect no personal information that can reveal identity and they employ clear policies on data usage and destruction.

2.1 Existing problem

We have conducted a brief survey on the existing apps published which are related to Covid-19. Efforts have been made to include most of the apps in the survey. The description of theapps given in Google Playstore by their developers and our comments on the apps after usingthem. The survey shows that there are several apps developed in the country to fight and contain COVID-19. Most of the states of our country have their own apps with specific features and functionality to help their citizens to stop COVID19 spread, get medical assistance during a crisis, create awareness, and understand safety precautions. The study also shows that there are a limited number of apps which show the COVID-19 containment zones in the country or state and out of these none has the functionality of notifying and alerting the user when they have entered a containment zone. Therefore, no app in the Google Playstore is comparable with our proposed application because the idea behind the development of the proposed app is different. This highlights the novelty of the proposed app.

2.2 Proposed solution

The project aims at building an application that provides information about the containment zones of a particular region by continuously monitoring an individuals location. The application also notifies the users if they have entered a containment zone.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.With the help of this application,

users will be able to see what locations are identified as containment zones across India. This is also important because of lockdown restrictions many people will begin to travel for work, it is important to know the coronavirus hotspots that are in your path or near you.

3. THEORITICAL ANALYSIS

3.1 Block Diagram

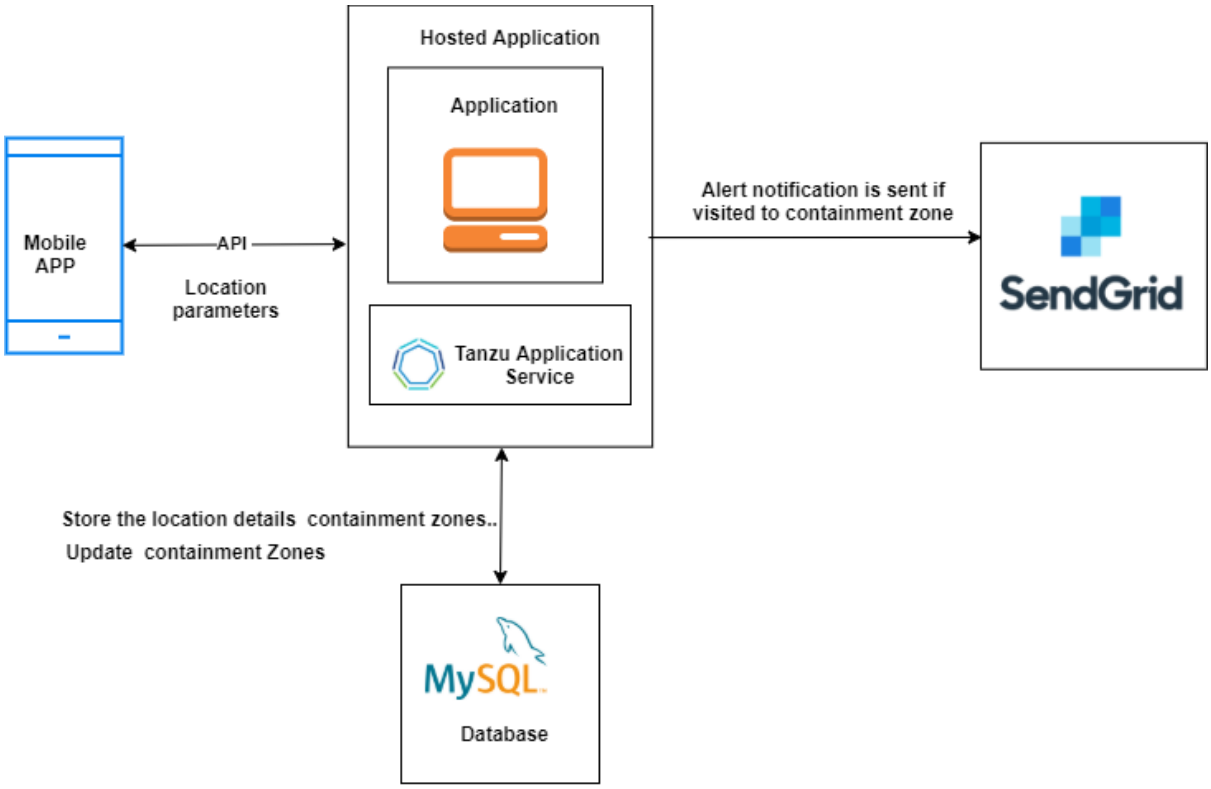


Fig: Block Diagram

3.2 Hardware / Software Designing

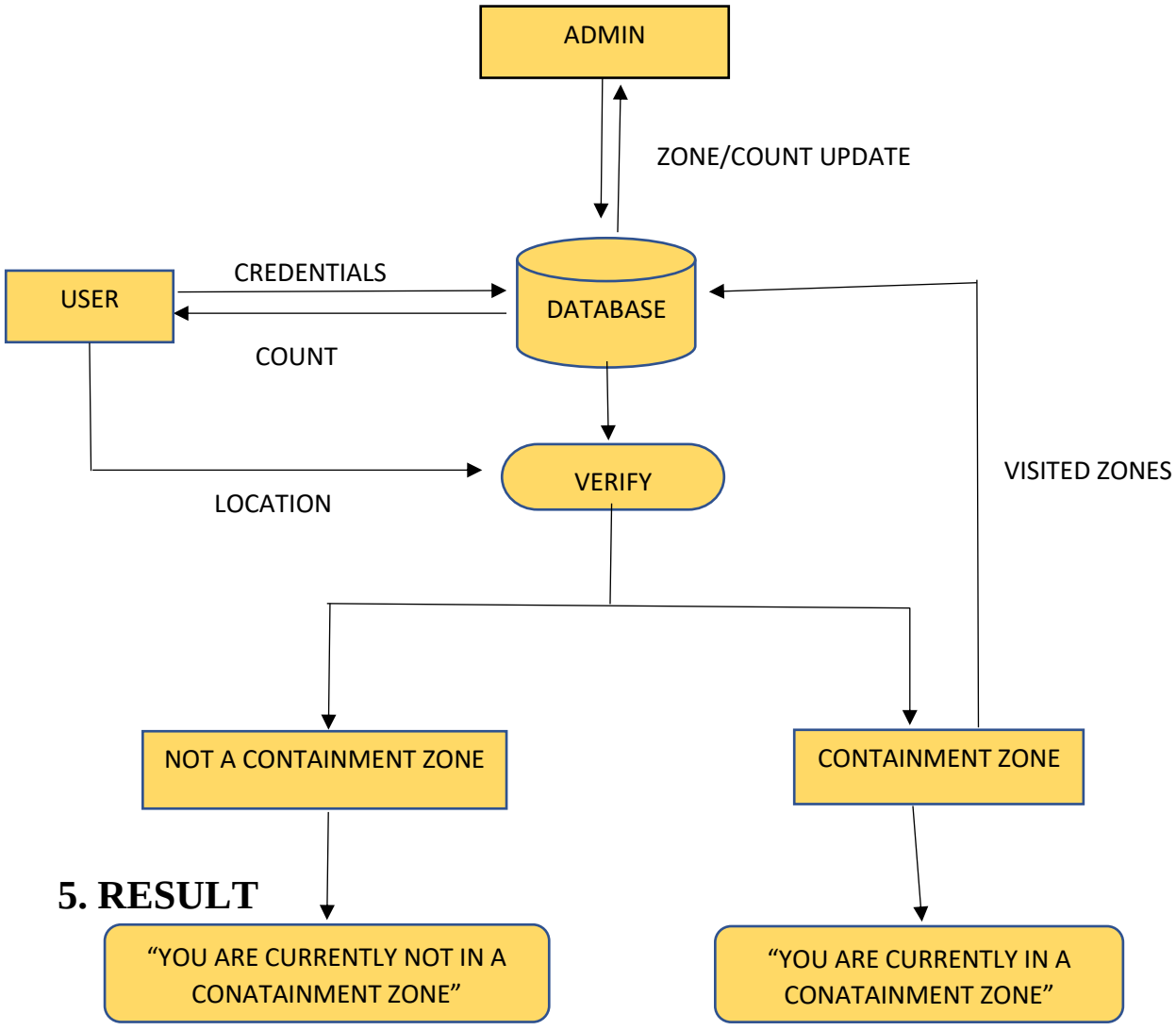
3.2.1 Hardware Requirements

- Processor: Intel® Core™ i3-7020 CPU @ 2.30GHz
- RAM: 4GB
- Hard Disk: 1TB

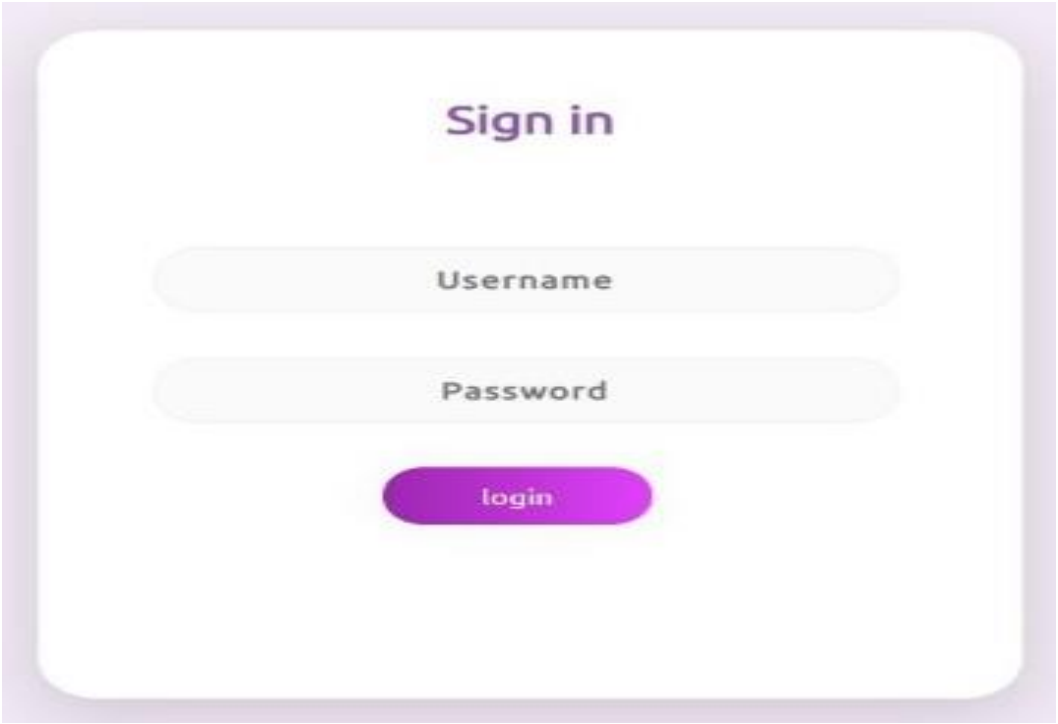
3.2.2 Software Requirements

- Operating System: Windows 10
- Language: Python
- Database: Remote MySQL
- IDE: Spyder
- Browser: Google Chrome

4. FLOWCHART



5. RESULT


Sign in
Username
Password
login


Update
Zone name
latitude
longitude
SET

6. ADVANTAGES AND DISADVANTAGES

You can verify your location with containment zones instantly and also you can view the list of containment zones you have visited. You can also view the counts of covid active cases, new cases, deaths and recovered cases instantly. But the webapp is currently admin entry based and the activity of admin is highly required for this webapp.

7. CONCLUSION

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.

8. FUTURE SCOPE

The application can be further used for many purposes like maritime and forest safety to prevent users from entering restricted areas. In future the webapp can be enhanced by adding features like geofences live location tracking mail alerts and user supports.

9. BIBLIOGRAPHY

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