LITERATURE SURVEY

College Name : Government College of Engineering, Salem-11

Department : Computer Science and Engineering

Project name : Containment Zone Alerting Application

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INTRODUCTION

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 application is intended to provide information about containment zones in a particular region by alerting people, through continuous monitoring of an individual's location. Key benefits of the application are monitoring people's activity and alerting them to their safety movements.

USE CASE

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.

After more than 2 months of the lockdown, the government has relaxed some of the lockdown rules and has permitted reopening of government offices, bus and other road transportation facilities and shopping markets. People can move inside the city for work and other purposes. But the containment zones are still being kept isolated, and new containment zones are being formed wherever Covid-19 cases have been reported. These zones are highly contagious as droplets with virus coughed out from an unscreened asymptomatic patient can travel up to 8 m (Bahl et al. 2020). Though these containment zones are guarded by policemen, still there remains a chance that people might unknowingly step into them. In this situation where people can move in the city, these containment zones pose a risk of infection to these city dwellers. Therefore, informing people about the location

of the containment zones can help them bypass and avoid these zones and thereby reduce the chance of community transmission.

EXISTING SOLUTIONS

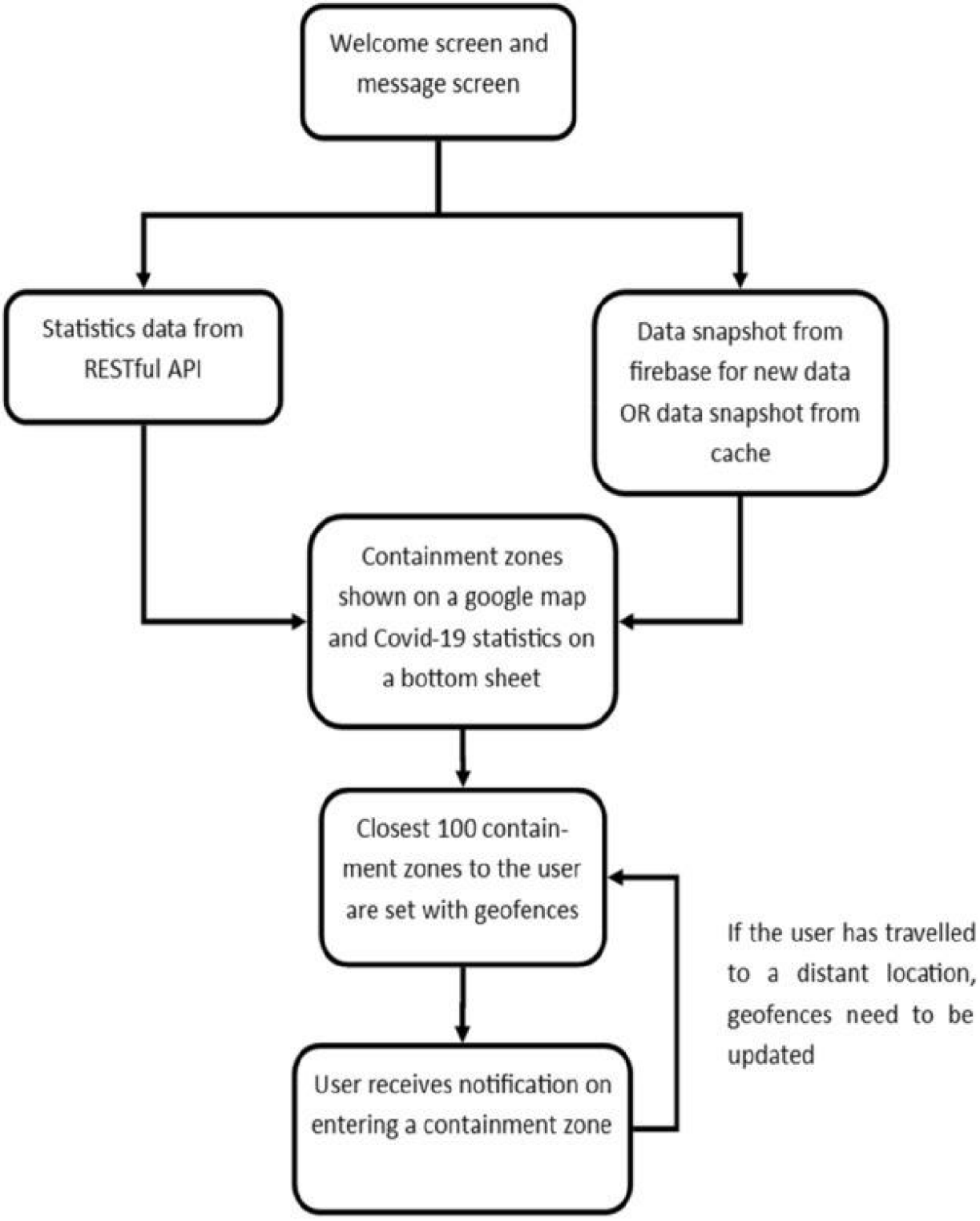
The project aims at building an application that provides information about the containment zones of a particular region by continuously monitoring an individual's location. The location of the individual must be stored in the Database. Alerts are sent using the notification service.

Features of the Application Admin App
(portal):
They should have a login to app and update the containment zones locations in the portal. Based on the location a Geo fence will be created within a 100 meters radius. They should be able to see how many people are visiting that zone.

User App (Mobile App):

The app should have user registration and login. After the user logged into the app it will track the user location and update the database with the current location. If the user is visiting the containment zone he will get an alert notification.

STUDY DESIGN



CONCLUSIONS

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.

REFERENCES

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