PNT2022TMID45989

CONTAINMENT ZONE ALERTING APPLICATION

COMPUTER SCIENCE AND ENGINEERING

In partial fulfillment of the requirement for the award of the Degree of

BACHELOR OF ENGINEERING

Submitted by

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PROJECT REPORT

Team ID	PNT2022TMID45989
Project Name	CONTAINMENT ZONE ALERTING APPLICATION

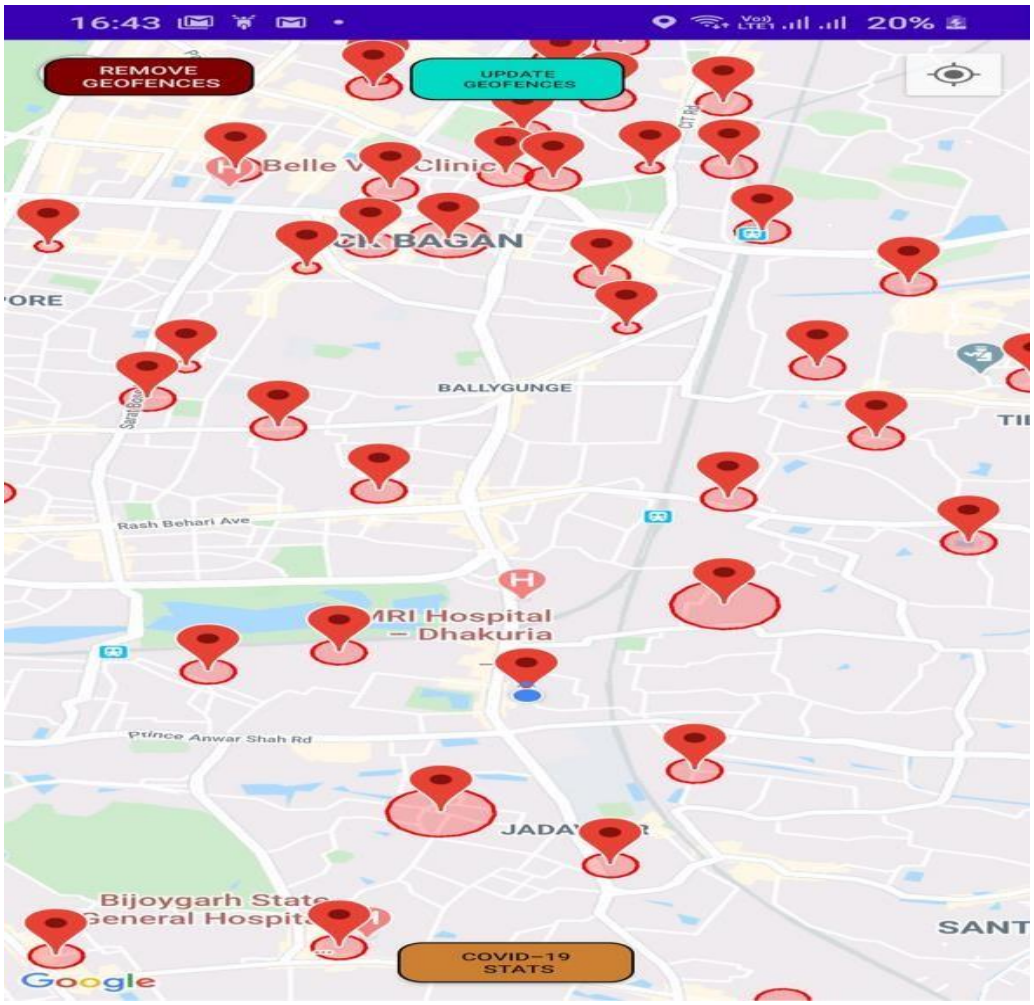
1. INTRODUCTION

1.1 Project Overview:

In a thickly populated nations it is extremely hard to forestall the public transmission in an any event, during pandemic without social mindfulness and present steps occupied by individuals. 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 5 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. In this paper, we focus on developing a mobile based application to provide information regarding the Covid-19 containment zones. This also application helps not only in covid situations but also in other threats and destructions for identifying the confined areas. The application further tracks the user's location and provides notification alert if the user has entered a containment zone. The application also provides daily Covid-19 case statistics to the users to keep them updated. The application is developed on Android SDK and uses Firebase Cloud Fire store to store the location data. Android's geofencing client is used to create geofences around the containment zones and notification manager is used to provide notifications. The application also uses restful web services to show the Covid-19 cases in West Bengal. We have tested our application with different users in different locations across West Bengal and it works efficiently and is able to attain our target.

1.2 Purpose:

The Android application shows the location of the containment zones to the users. It also notifies the user when he or she trespasses the boundary of a containment zone or stays in the containment zones



2.LITERATURE SURVEY:

2.1 Existing problem:

People were not aware of containment zones and there is no proper alert services during pandemic. People don't have proper knowledge about containment zones since they change daily and hard to keep updated and if they are not updated properly, this will lead to wide spread of diseases.

2.2 Reference:

Axel Kupper, Ulrich Bareth and Behrend Freese

First Generation[1] The success of the Mobile Internet in the recent years has created a huge market for new applications in the area of information relevance. The most innovative of these applications belong to the category of Location- based Services (LBSs), which generate, com-pile, select, or filter information or perform other actions by taking into consideration the current location of the user [Kü05]. Prominent examples are so-called finder or points-of-interest (PoI) services, which deliver lists of nearby points-of-interest to the user, for example, restaurants, filling stations, or ATMs. Recently, the idea of LBSs has also been adopted by social people

Second Generation[2] 2001-2007 The first LBSs were released around the turn of the millennium and were restricted to the area of PoI services. The preferred application was the delivery of nearby restaurants and bars. At that time, mobile network operators had just started to introduce packet-switched capabilities into their networks and hence access to LBSs was primarily accomplished by using SMS or the then less developed Wireless Application Protocol (WAP). In addition, receiver technology for the Global Positioning System (GPS) was less advanced at that time, and therefore GPS was not available as a built-in positioning technology for mobile device.

Third Generation[3] 2007-Today In the recent years, the technological pre- conditions for LBSs essentially changed, which resulted in a broad range of new and sophisticated applications. The range of functions of these LBSs is much broader than in the first generation and comprises advanced PoI services, navigation applications, mobile marketing, and social communities. Analysts predict that especially the area of mobile marketing is the next big thing in the Mobile Internet. One of the favorite applications is couponing, where mobile users can receive beneficiaries of nearby shops and malls on their mobile devices

Mouna Berquedich, Amine Berquedich and Oulaid Kamach (March,2020)

In the case of Morocco, the Ministry of Health declared 1113 confirmed cases in Morocco having COVID-19. Given the increase in infection, a new approach has been proposed, which consists of reducing congestion at the level of emergency services by offering remote monitoring via a mobile application connected with the hospital. In this article, we discuss our approach, present the architecture of our mobile application, and illustrate the connection of our application to the electronic health record (EHR) of the patient.

Ranajoy Malik, Amlan Protim Hazarika, Sudarshana Ghosh and Dilip Sing (May 2020)

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 like Firebase and Geofence 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.

M.V. Ramana Rao, Thondepu Adilakshmi, M.Gokul Venkatesh and R.Jothikumar(2021)

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.

Dipali Koshti, Supriya Kamoji, Kevin Cheruthuruthy and Surya Pratap Shahi(May 2021)

This app is a three fold app. The first fold is a Detection System for a user to undergo a Symptomatic Quiz based on a Risk Assessment ML Model to detect the presence of Covid in the user's body. The second fold is an efficient Tracking system that uses Geofencing technology to keep track of all the people who come into contact with the user. The third fold is an Alerting system that sends the alert message to all those people who came into contact with the user.

2.3 Problem Statement Definition:

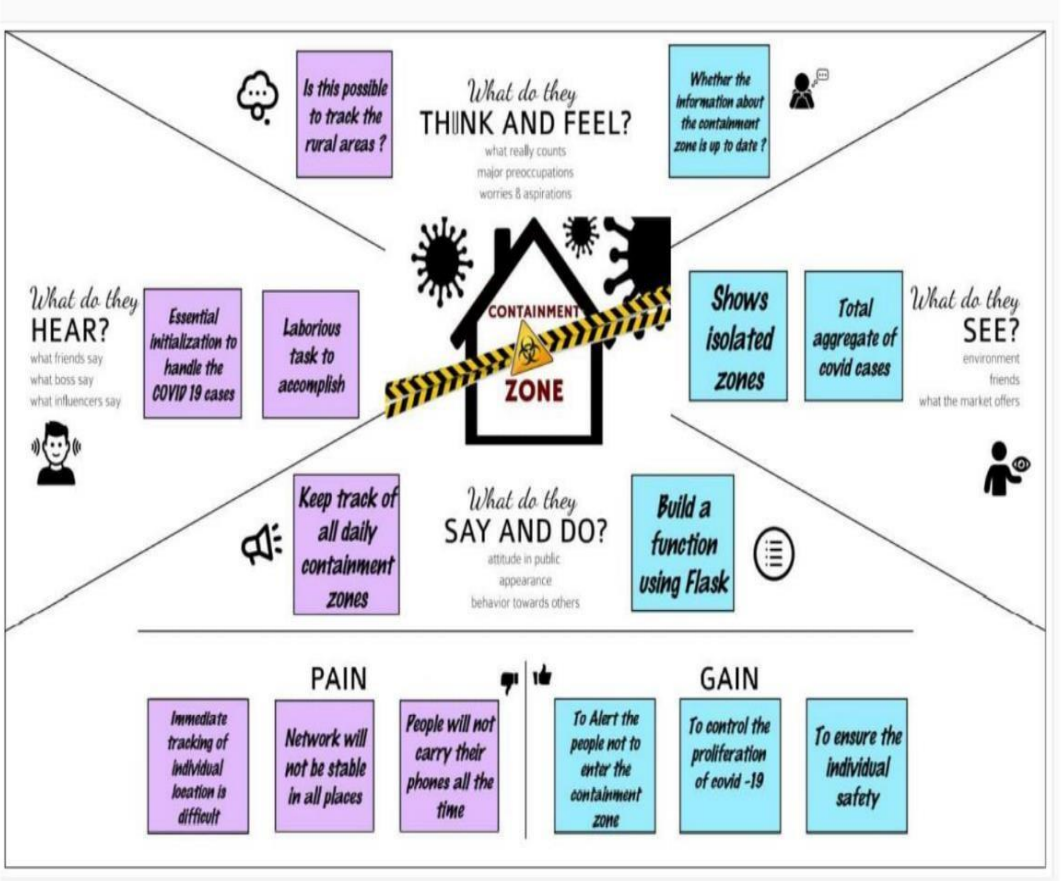
To identify Containment zones and to check Containment activities are undertaken in a confined area to prevent infection from getting established in the community and prevent its spread outside the said area.

- Monitor the containment zones and take effective measures to the confined areas
- Ability for medical management to update the data about patients in the confined areas
- Provision of realible service to people in confined area through application and also alert the people coming from outside areas.

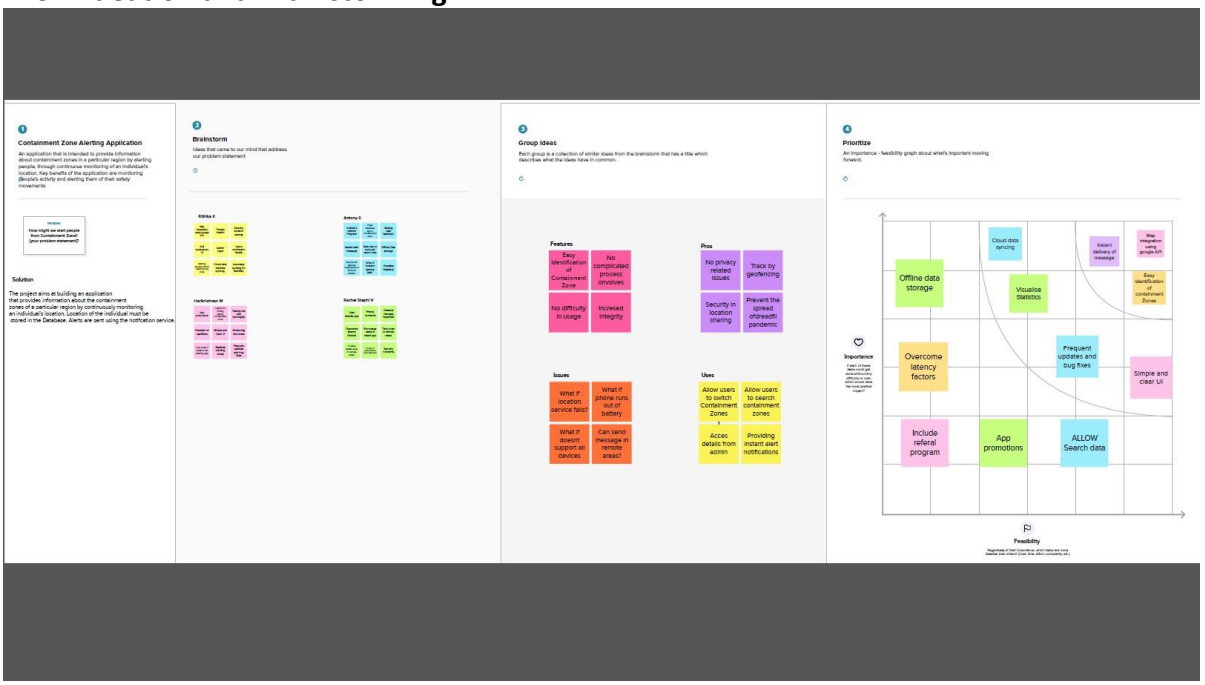
3. IDEATION & PROPOSED SOLUTION:

3.1 Empathy map canvas:

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes. It is a useful tool to helps teams better understand their users. Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.



3.2 Ideation and Brainstorming:



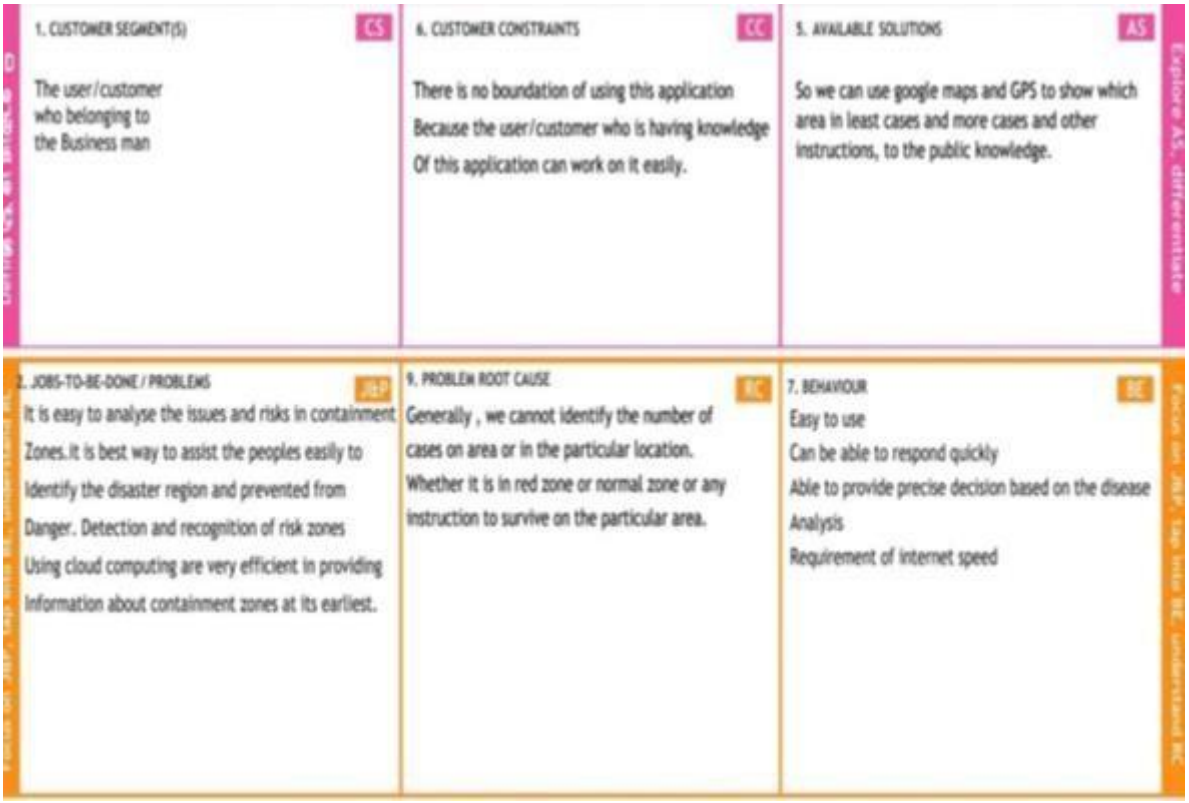
3.3 Proposed Solution:

S.No	Parameter	Description

1.	Problem Statement (Problem to be solved)	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 of their safety movements.
2.	Idea / Solution description	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. Location of the individual must be stored in the Database. Alerts are sent using the notification service.
3.	Novelty / Uniqueness	The uniqueness of containment zone alerting app is it shows the particular area of the district before the 100m,and the user's location history is stored in database and this app provides the precautions measurements ,list of immunity boosters, location of the vaccination providing places . it also gives the list of the affected and admitted patients and discharchged patients ,percentage ofaffecting by covid19
4.	Social Impact / Customer Satisfaction	Social Stigma is discrimination against a particular group of people, a place, or a nation in the form of a negative attitude. Public health emergencies (such as COVID-19 pandemic) are stressful situations for people and communities.
		Fear and anxiety with a lack of knowledge about the disease can lead to social stigma CUSTOMER SATISFACTION : The containment zone alerting app users are 100% satisfied because of its immediate notification of a particular area and it provides the precautions, it gives the awarness about the covid 19 seriousness
5.	Business Model (Revenue Model)	We are going to add personal health tracker in subscription basis .so they can manage their health efficiently.

6.	Scalability of the Solution	In this modern world eventhough the covid pandemic threat is about to end there are high chance of pandemic or endemic .so this application is very useful in that situation and we can use this application in seasonal diseases

3.4 Problem Solution fit:



4. REQUIREMENT ANALYSIS:

4.1Functional Requirement:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	User can register through Email id or current phone number.
FR-2	User Confirmation	Confirmation can be done by verification code through mail or OTP.
FR-3	Track the location	Trace the trespassers by using Google map API and updates the locations of the area in the Google map which are identified as containment zones.
FR-4	Affected areas are shown	Containment zones were marked using zone colors and trespassers are indicated by geo fencing.
FR-5	Alert notification	By tracking their location using GPS system, notification or message will be send if the user enters the containment zone.

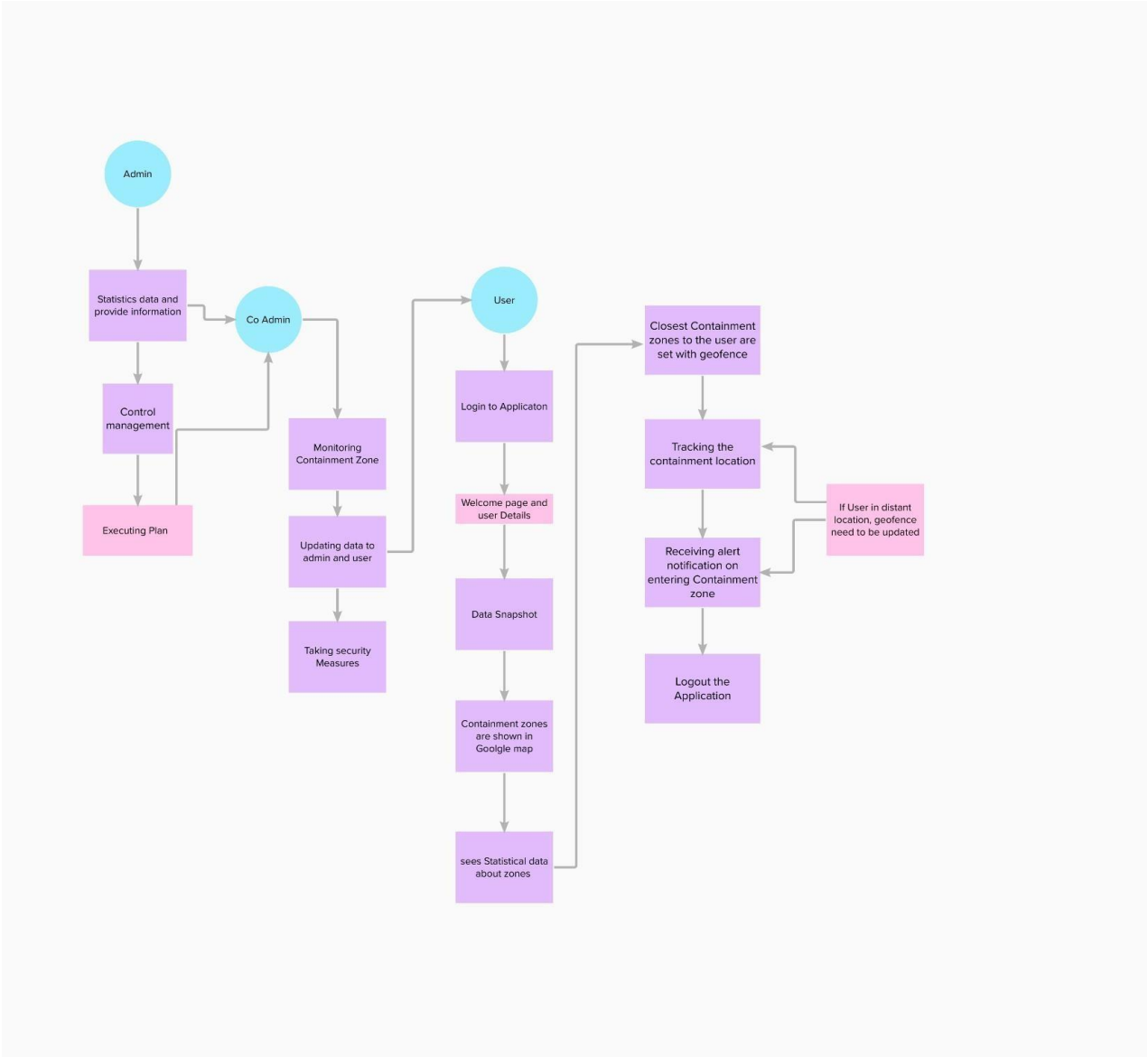
4.2 Non Functional Requirement:

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	User interface is very effective to use when compared with other and improves the efficiency and completeness of the investigation process for COVID-19 cases
NFR-2	**Security**	Data from the user will be secured.
NFR-3	**Reliability**	User can trust the details given by the application and can travel safely.
NFR-4	**Performance**	Most appropriate results can be achieved by using the Geofencing and GPS.
NFR-5	**Scalability**	This application can be accessed from anyplace and information about the zones are up to date.

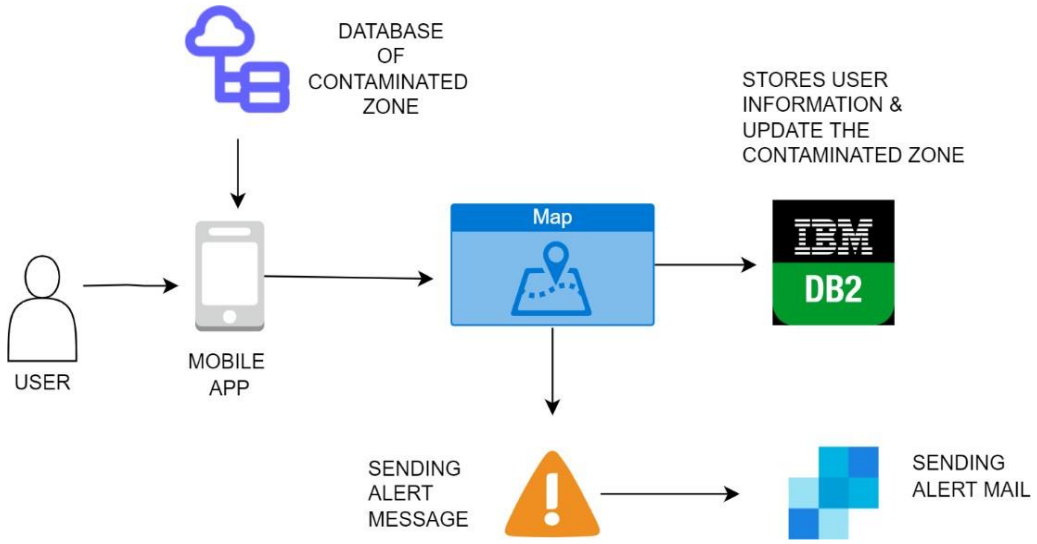
5. PROJECT DESIGN:

5.1 Data Flow Diagram:

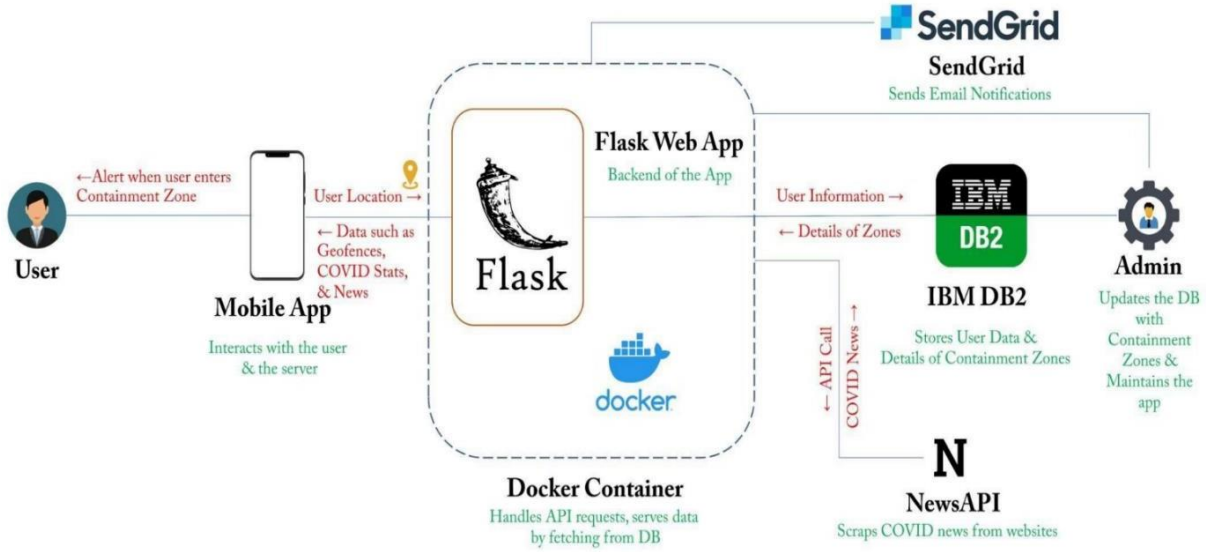
A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.



5.2 Solution Architecture:



Technical Architecture:



5.3 User Stories:

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Priority
Admininstrator	Login	USN-1	Get statistical data	I can manage web account/dashboard	High	Sprint-1
		USN-2	Control Management	I can manage the Containment zones	Medium	Sprint-2
		USN-3	Executing plan	I can execute plan and process the	High	Sprint-3
Co Administrator	Login	USN-4	Monitor the zones and updates the data to admin and user	I can manage Containment zone monitoring and updating data	High	Sprint-2

		USN-5	Taking security measures	I can take security measures on requirement	Mediu m	Sprint-3
User	Login	USN-6	Receiving welcome message and data snapshots	I can Get information about zones and analysing	High	Sprint-4
		USN-7	Showing Containmen t zones in map	I can Track the zones and find closest containment zones	High	Sprint-1
		USN-8	Receving alert Notifications	I can receive alert notification while entering conatainment zones	High	Sprint-4

6. PROJECT PLANNING AND SCHEDULING:

6.1 Sprint Planning:

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	User: I can register for the application by entering my email, password and verifying password.	3	High	Rithika Rachel Stephi Harikrishnan Antony
		USN-2	User: I will receive a confirmation email once I have registered for the application.	2	High	Rithika Rachel Stephi Harikrishnan Antony
		USN-3	User: I can register for the application through Gmail.	5	Medium	Rithika Rachel Stephi Harikrishnan Antony
		USN-4	Management: I need to register my hospitals on the site.	2	High	Rithika Rachel Stephi Harikrishnan Antony
		USN-5	User: I can log into the application by entering my email & password	3	High	Rithika Rachel Stephi Harikrishnan Antony
	Login	USN-6	Management: I need to login into my dashboard with	5	Medium	Rithika Rachel Stephi Harikrishnan

			my given hospital id and password.			Antony
	Dashboard	USN-7	User: I need to give permission to access my Contacts, Location, and Storage	5	High	Rithika Rachel Stephi Harikrishnan Antony

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint -2		USN-8	User: I get access to the dashboard which shows a map with containment zones	5	High	Rithika Rachel Stephi HarikrishnanAntony
		USN-9	Management: I need to enter the case information of the patient that visits our hospital.	5	High	Rithika Rachel Stephi HarikrishnanAntony
	Services	USN-10	Admin: I need to provide valid information about the pandemic out there.	5	High	Rithika Rachel Stephi Harikrishnan Antony
Sprint -3	Dashboard	USN-11	Management: I need to store all the patient information on the cloud.	5	High	Rithika Rachel Stephi Harikrishnan Antony
	Services	USN-12	Admin: I need to provide medical advice through a chatbot.	5	Medium	Rithika Rachel Stephi Harikrishnan Antony
		USN-13	Admin: I need to provide medical recommendations by collaborating with top hospitals.	5	Low	Rithika Rachel Stephi HarikrishnanAntony
		USN-14	Admin: I need to provide preventive measures when they travel through it.	5	High	Rithika RachelStephi Harikrishnan Antony
	Registration	USN-15	User: I can register for the application through Facebook.	2	Low	Rithika Rachel Stephi Harikrishnan Antony
Sprint-4		USN-16	User: I can register for the application through Twitter.	2	Low	Rithika RachelStephi Harikrishnan Antony

	Services	USN-17	Admin: I need to alert the user when they enter pandemic zones.	3	Medium	Rithika Rachel Stephi Harikrishnan Antony
		USN-18	Admin: I need to provide special services for premium users by giving services like monitoring health by theirsmart bands.	3	Low	Rithika Rachel Stephi Harikrishnan Antony
	Data Collection	USN-19	Admin: I need to store all the user information on the cloud	5	Medium	Rithika Rachel Stephi Harikrishnan Antony

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
		USN-20	Admin: I need to collect the recent list of diseases in the world.	5	Low	Rithika Rachel Stephi Harikrishnan Antony

Sprint Estimation:

Velocity:

Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

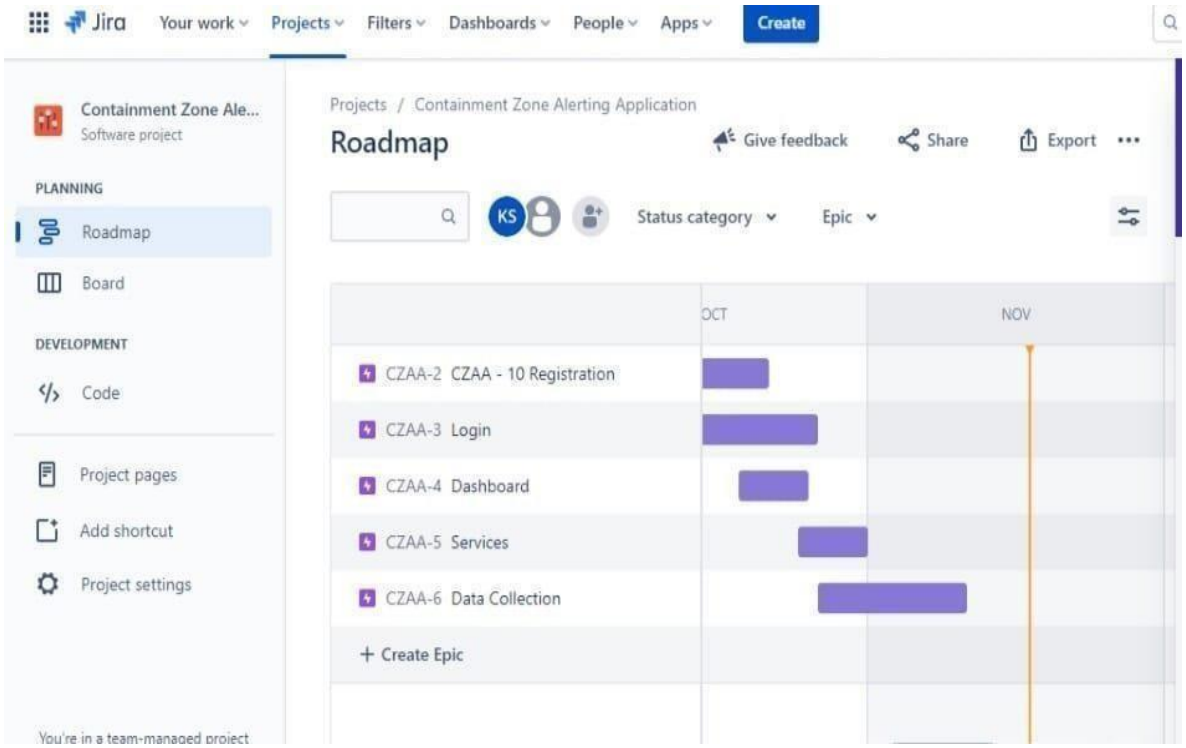
$$AV = \frac{sprint\ duration}{velocity} = \frac{20}{10} = 2$$

6.2 Sprint Delivery Schedule:

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	19 Nov 2022

	Initial Estimate	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	29-Oct
Sprint number	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Sprint-1	20	0	10	5	3	1	1
Sprint-2	20	2	10	4	1	1	2
Sprint-3	20	5	5	5	5	0	0
Sprint-4	20	3	3	3	3	3	5
Remaining effort	80	70	42	25	13	8	0
ideal effort	80	66.66666667	53.33333333	40	26.66666667	13.33333333	0

6.3 Reports from JIRA:



7. CODING AND SOLUTIONING:

7.1 Feature 1:

In this page, the user can add the zone list, remove zone and add zone

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```
<!DOCTYPE html>
<html lang="en">
<head>
</head>
<body>
   <style>
   <html, body
{
overflow-x:   hidden;
overflow-y:   hidden;
height: 100%; width:
100%; position: absolute;
background-color: black;
                background-image:
                url('https://wallpapercave.com/wp/5KLTq1z.jpg'); background-
                repeat: no-repeat; background-size: cover; background-position:
                top; z-index: -2;
              }

              #display { color:
                white; font-size:
                2.9em; top:
                10px; border-
                bottom: thin
                solid; padding-
                bottom: 20px;
                opacity: 0.80;
                filter:
                alpha(opacity=8
                0); /* For IE8
                and earlier */
              }
```

```
#date { color: white; font-size: 1.3em; font-family:
  Georgia, "Times New Roman", Times, serif; font-
  weight: normal; letter-spacing: 0.2em; opacity:
  0.6; filter: alpha(opacity=60); /* For IE8 and earlier
  */
}

#footer { width:
  100%; height:
  40px; position:
  fixed; bottom: -
  1px;
  background-
  color: white;
  text-align:
  center; opacity:
  0.5;
  filter: alpha(opacity=50); /* For IE8 and earlier */
}

#line { width: 100%;
  bottom: 4em;
  position: fixed;
  border-bottom:
  solid white;
  padding: 15px;
  opacity: 0.5; filter:
  alpha(opacity=50);
  /* For IE8 and
  earlier */
}
```

```
.navbar { position: fixed; width: 100%;
  opacity: 0.6; filter: alpha(opacity=60); /*
  For IE8 and earlier */
}

.wrapper {
  background-color:
  red;
}

span
{
  border-radius: 100px;
  opacity: 0.75;
  filter: alpha(opacity=75); /* For IE8 and earlier */
}

#conten
  t {
  height:
  45em;
} p { max-width: 30em; color: white; font-family: "Adobe Caslon Pro", "Hoefler
  Text", Georgia, Garamond, Times, serif; letter-spacing:0.1em; text-align:center;
  margin: 40px auto;
  text-transform:
  lowercase; line-
  height: 145%;
  font-size: 2em;
  font-variant:
  small-caps;
}
```

```
p :hover {
  text-decoration: none;
}

.container
  {
  padding-
  top:
  6em;
  text-
  align:
  center;

}

#b-nav {
  padding-
  bottom:
  5em;
  position:
  fixed; width:
  100%;
  bottom:
  2em;

}

#b-nav ul {
  margin: 0;
  padding:
  0.5em; list-
  style-type:
  none; text-
  align:
  center;

}

#b-nav ul li {
```

```
    display: inline;
        }

        #b-nav ul li a { text-decoration: none;
          padding: .2em 1em; background-color:
          black; opacity: 0.4; filter:
          alpha(opacity=40); /* For IE8 and earlier
          */
        }

        .hold
          {
width: 100%;
          text-align: left;
        }

        #gen {
        outline: none;
          padding-
          top:5px;
         textdecoration:
          none;
        opacity: 0.6;
          background-
          color: black;
          color: white;
          border: thin
          solid white;
          height: 40px;
          width: 100px;
          border-radius:
          2px; transition:
          0.5s; padding-
          bottom: 5px;
```

```
}

#gen:hover {
  background-
  color: white;
  color: black;
  border: thin
  solid black;
  opacity: 0.8;
}


#gen a { text-
  decoration:
  none;
}


#da
  te
  {
  col
  or:
  w
  hit
  e;
}


@media screen and
 (max-device-width:
 800px)
  and (max-device-height:
  640px) and (-webkit-device-
  pixel-ratio: 2) and
  (orientation: portrait) {
```

```
        p {
          font-
          size:
          1em;
        }
      }


    .fa-twitter { font-
      size: 30px
      !important;
      margin-left: 20px;
    }


      </style>
<link rel="stylesheet" type="text/css" href="https://cdnjs.cloudflare.com/ajax/libs/font-
                                                    awesome/4.7.0/css/font-awesome.min.css">
    <body onload="startTime(); startDate()">
      <div class="container">
        <div id="date"></div>
        <div id="display"></div>
        <div id="content">


        <div class="logged"> </div></p>
          <p id="quote">"SUCCESSFUL!"</p>
       <a href="\table"><button type="button">ZONE LIST</button></a>
          <a href="\addzone"><button type="button">ADD ZONE</button></a>
      <a href="\removezone"><button type="button">REMOVE ZONE</button></a>
       </div>
      </div>
      </body>
       </html>
```

7.2 Feature 2:

The users get alerted from entering the contaminated zone by geofencing the location and sending it as notification.

CODING:

```
<!DOCTYPE html>

<html lang="en">

<head>



</head>

<body>

<st

yle

>

ht

ml,

bo

dy {

bac

kgr

ou

nd:

#33

3;

  height:

  100%;
```

```
    overflo
    w:
    hidden;
    text-
    align:
    center;
  }

  .svg-wrapper
    { height:
    60px;
    margin: 0
    auto;
    position:
    relative;

    transform: translateY(-
    50%); width: 320px;
  }

  .shape {
    fill: transparent;
    stroke-dasharray: 140 540;
    stroke-
    dashoffset: -474;
```

```
    stroke-width:
    8px; stroke:
    #19f6e8;
  }

  .text {
    color: #fff00;
    font-family: 'Roboto
    Condensed'; font-size:
    22px; letter-spacing:
    8px; line-height: 32px;
    position: relative; top:
    300px;
  }

  @keyframes draw {
    0% {
      stroke-dasharray: 140 540;
      stroke-dashoffset: -474;
      stroke-width: 8px;
    }
    100% {
      stroke-dasharray: 760;
      stroke-dashoffset: 0;
      stroke-width: 2px;
    }
```

```
}

.svg-wrapper:hover .shape {
  -webkit-animation: 0.5s draw linear forwards; animation: 0.5s draw linear forwards;
}

</style>
<form action="/loc" method="POST">
<br>
<br>
 <input type="text" name="mail" class="input" id="mail" style="position: absolute; left: 20%; margin-left: 180px; width: 400px; height: 25px; background:grey ; border: 8px solid black; top:250px" placeholder="Enter email-id" required>

<div class="svg-wrapper">

        <div>
  <button type="submit" id="button" class="text" style="color:yellow; top:300px;background-color:#99ffff"><a href="/loc"> Notify me </a></button>
<p style="color:yellow;font-size:18px;top:300px">Enter email address to be notified on and
Click on Notify me to get alert message if you are in Containment Zone</p>
</div>
```

```
</form>
</div>
</body>
</html>
```

7.3 Database Schema:

8. TESTING:

8.1 Test Cases:

1. Login button click with wrong credentials entered
2. Signup with already registered mail ID
3. Signup with wrong form data entered
4. Entering home page with logged out session
5. Clicking home page buttons with logged out session
6. Invalid data entered in change password page and requested for change in password

8.2 User Acceptance Testing:

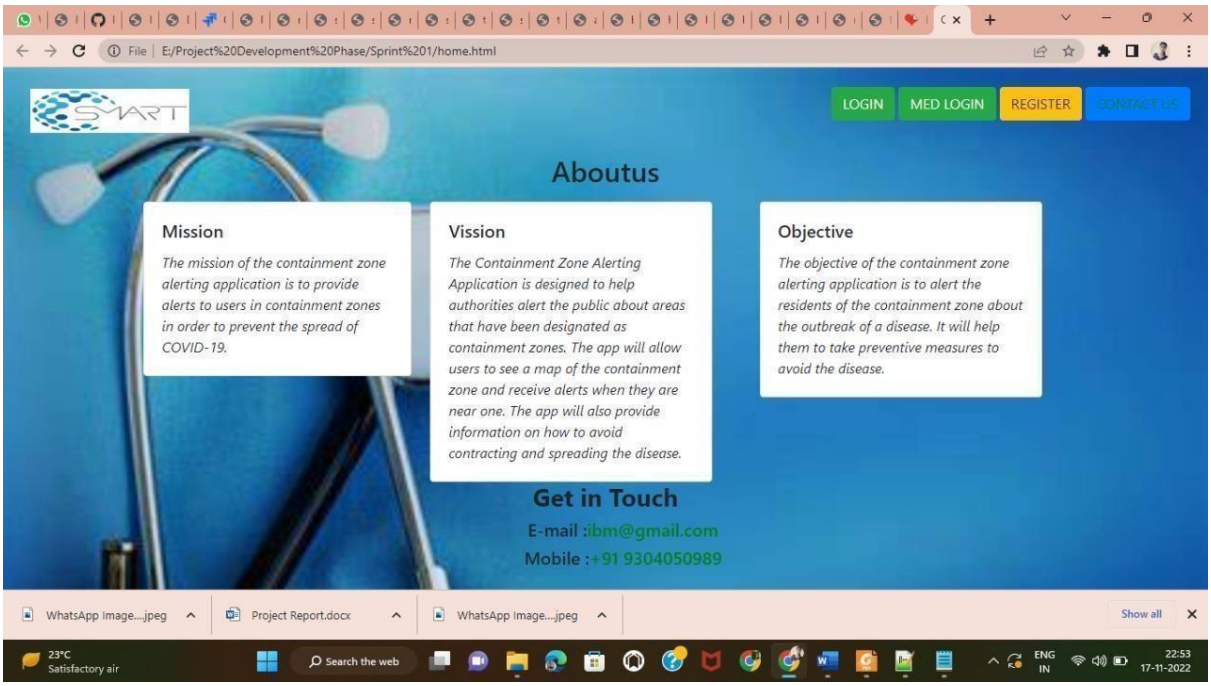
S.NO	TEST CASE	REQUIRED OUTPUT	RESULT OUTPUT	STATUS
1	Login button click with wrong credentials	Wrong credentials entered notification	Wrong credentials entered notification	ACCEPTED
2	Signup with already registered mail ID.	Email already registered notification	Email already registered notification	ACCEPTED
3	Signup with wrong form data entered.	Wrong credentials entered notification	Wrong credentials entered notification	ACCEPTED
4	Entering home page with logged out session.	Take user to login page	Take user to login page	ACCEPTED
5	Clicking home page buttons with logged out session.	Take user to login page	Take user to login page	ACCEPTED
6	Invalid data entered in change password page and requested for change in password.	Wrong form data entered notification	Wrong form data entered notification	ACCEPTED

9. RESULTS:

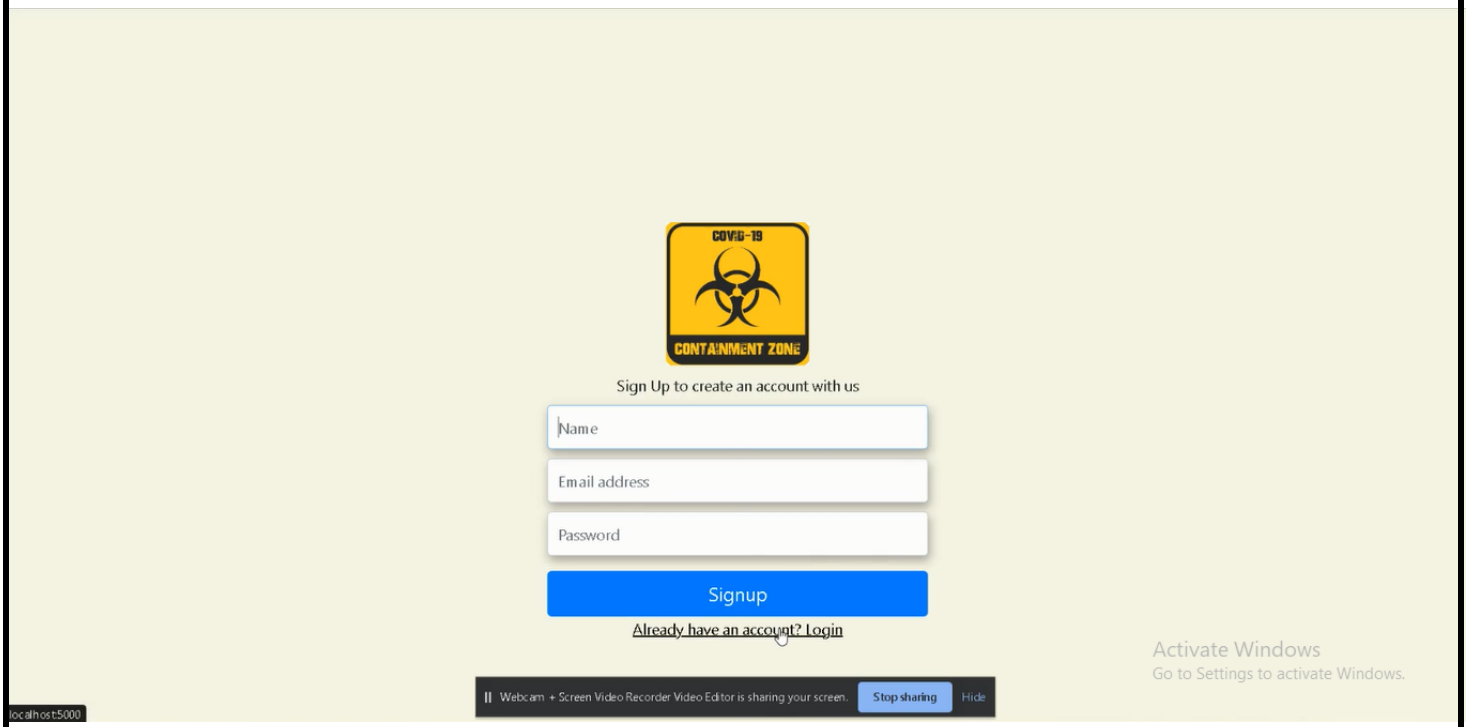
9.1 Performance Metrics:

This app service monitors the location and provide information about the contaminated zones near a particular user and send notification to the user. It displays the contaminated zone area by geofencing the particular location.

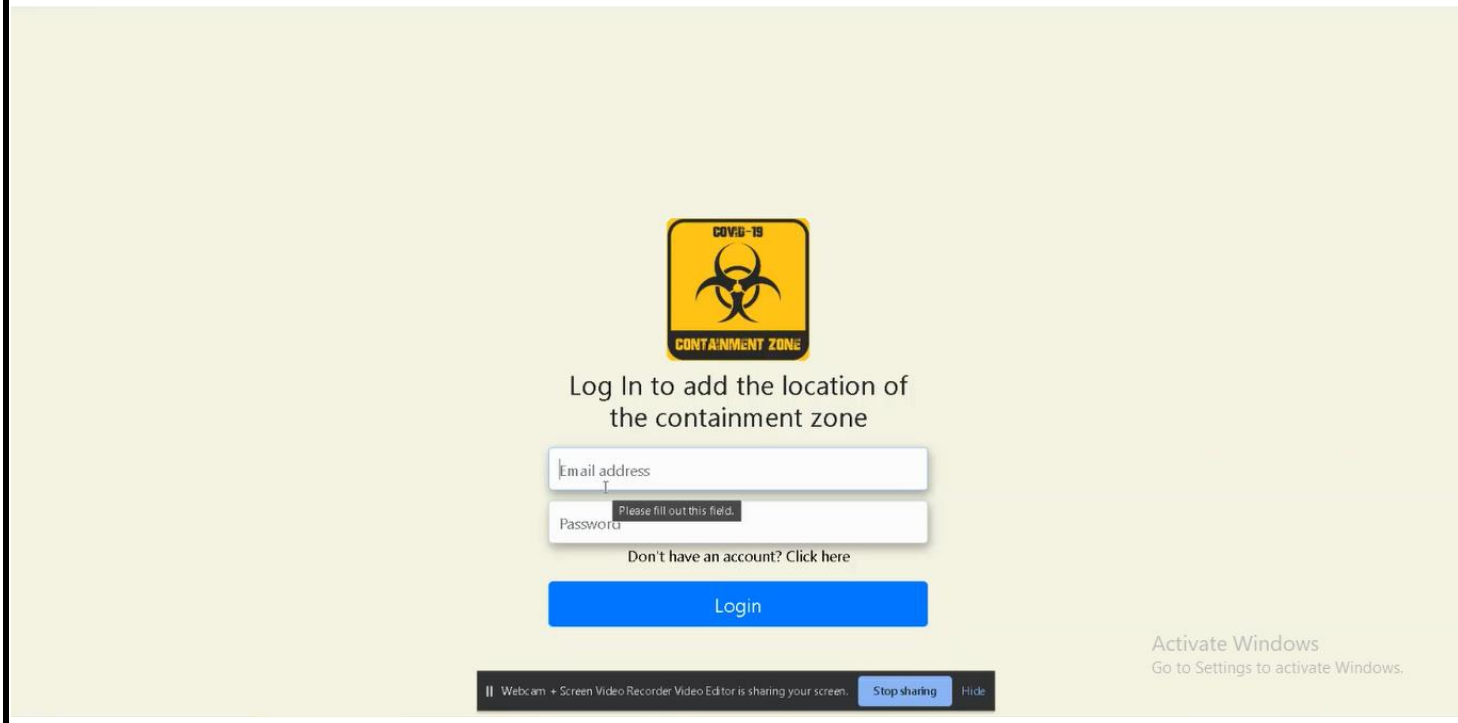
Main Page



Registration Page

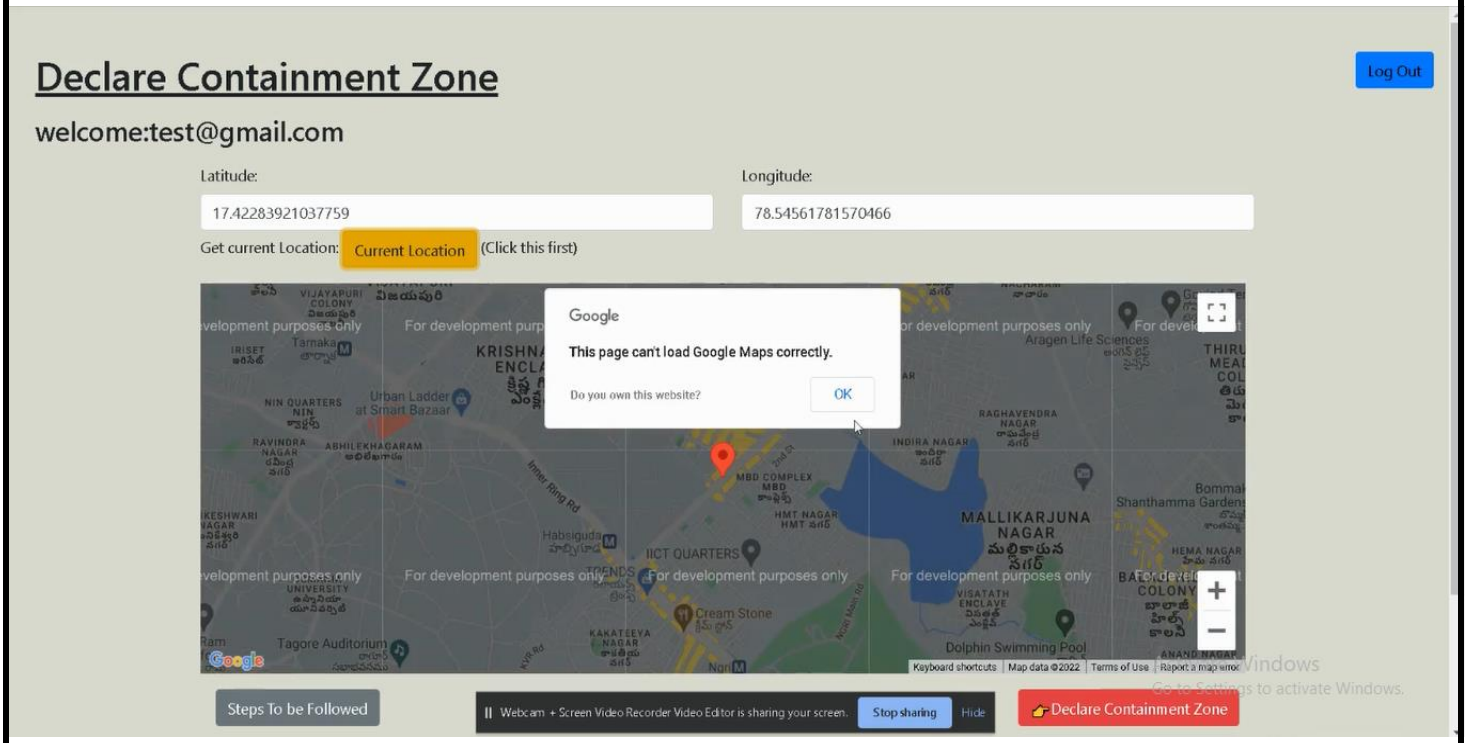


Login Page

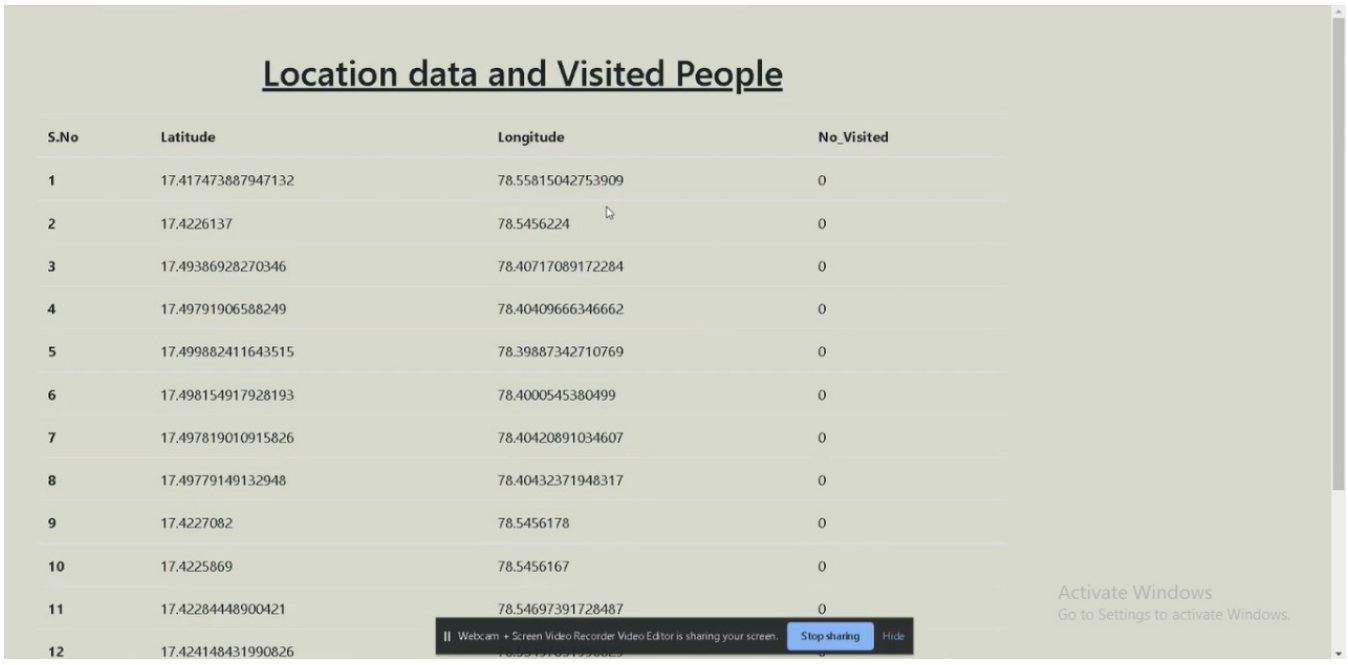

COVID-19
CONTAINMENT ZONE
Log In to add the location of the containment zone
Email address
Please fill out this field.
Password
Don't have an account? Click here
Login
Webcam + Screen Video Recorder Video Editor is sharing your screen.
Stop sharing
Hide
Activate Windows
Go to Settings to activate Windows.

PNT2022TMID45989

Add Zone



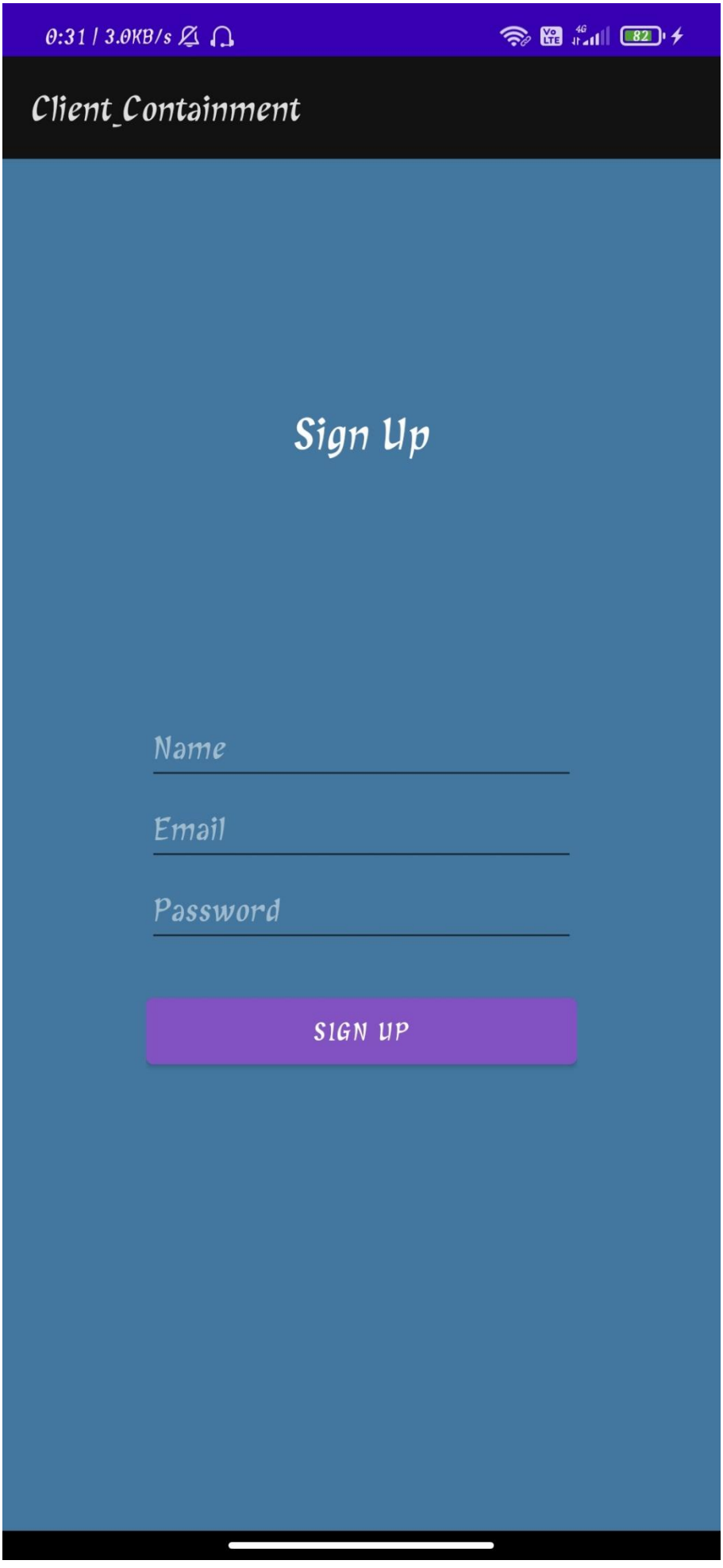
Location Data



Location data and Visited People

S.No	Latitude	Longitude	No_Visited
1	17.417473887947132	78.55815042753909	0
2	17.4226137	78.5456224	0
3	17.49386928270346	78.40717089172284	0
4	17.49791906588249	78.40409666346662	0
5	17.499882411643515	78.39887342710769	0
6	17.498154917928193	78.4000545380499	0
7	17.497819010915826	78.40420891034607	0
8	17.49779149132948	78.40432371948317	0
9	17.4227082	78.5456178	0
10	17.4225869	78.5456167	0
11	17.42284448900421	78.54697391728487	0
12	17.424148431990826		

Admin Login Page



10. ADVANTAGES AND DISADVANTAGES:

10.1 Advantages and Disadvantages :

The main advantage of containment zone alerting applications is that they can help to prevent the spread of diseases by alerting people to areas where there is a risk of infection. However, there are also some disadvantages to these applications, including the potential for false alarms and the possibility that people may ignore the warnings. 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 of their safety movements.

11. CONCLUTION:

We proposed a framework for identifying the contaminated zone areas and store it in database for future use. Then using the database, information is provided to the user about contaminated zone areas and alerting them by sending notification and geofencing the location. From the above information, it can be concluded that the Containment zone Alerting Application, in which we have successfully developed is a mobile application that sends alerts to users when they enter or exit a containment zone. The app uses GPS to track the user's location and sends an alert if the user enters or leaves a containment zone. The app also allows users to set up alerts for specific containment zones. It has successfully demonstrated the application. In this project, we alert users about the containment zone area by that they are aware and realize of high containment zone area.

12. FUTURE SCOPE:

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 COVID19 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.

13. APPENDIX:

The Containment zone alerting application is a mobile application that sends alerts to users when they are in close proximity to a containment zone. The app uses the user's location to determine if they are in close proximity to a containment zone, and if so, sends an alert to the user. The app also allows users to view a map of containment zones in their area, and provides information on how to avoid contracting the virus.

HOME.HTML

```
<!DOCTYPE html>

<html lang="en">

<style> body { background-image:

url('E:/background.jpg'); background-

repeat: no-repeat; background-

attachment: fixed; background-size:

cover;
```

```
}

a:link {
  color:gre
  en;
}

</style>

<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>CZAA| HOME</title>
    <meta charset="UTF-8">
        <!-- favicon -->
        <!-- <link rel="shortcut icon" href="/assets/img/favicon.ico" type="image/x-icon"> --
        >
        <!-- <link rel="icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->
        <link rel="icon" type="image/jpg" sizes="16x16" href="E:\nature.jpg">
        <!-- bootstrap css cdn -->
        <link                                                    rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css"
integrity="sha384-
JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z"
crossorigin="anonymous">
```

```
        <link           rel="stylesheet"
  href="https://cdnjs.cloudflare.com/ajax/libs/font- awesome/4.7.0/css/font-
awesome.css">
        <!-- css stylesheet -->
        <link rel="stylesheet" href="css/style.css">
        <!-- font styles cdn -->
        <link rel="preconnect" href="https://fonts.gstatic.com">
        <link href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap"
rel="stylesheet">
        <link
href="https://fonts.googleapis.com/css2?family=Alegreya:wght@600&display=swap"
rel="stylesheet">
</head>
<body>
        <!-- bootstrap navbar -->
        <nav class="navbar sticky-top navbar-expand-lg navbar-dark">
            <div class="container-fluid">
              <a class="main-logo-img mt-3" href="#"><img src="E:/smart intern.jpg"
alt="sheep- logo" height="50px" width="180px">
             <!-- <a class="navbar-brand" href="index.html">JobPortal</a> -->
              </a>
              <div class="row donate-sponsor">
                <a       type="button"   class="btn         btn-success       mr-1" id="donate"
href="login.html">LOGIN</a>
                                    <a type="button" class="btn btn-success mr-1" id="donate"
href="medreg.html">MED LOGIN</a>
```

```
            <a type="button" class="btn btn-warning mr-1" id="sponsor"
href="register.html">REGISTER</a>
            <a type="button" class="btn btn-primary mr-1" id="sponsor"
href="contact.html">CONTACT US</a>
          </div>
        </div>
      </nav>
      <!-- navbar ends -->

    <!-- what we focus on -->
    <section class="our-focus">
      <div class="container">
        <h2 class="text-center mt-3">Aboutus</h2>
        <div class="row ml-3 mt-3">
          <div class="col-lg-3 mr-5" id="focus-first">
            <div class="card" style="width: 19rem;">
              <div class="card-body">
                <h5 class="card-title">Mission</h5>
                <p class="card-text"><i>The mission of the containment zone alerting
application is to provide alerts to users in containment zones in order to prevent the
spread of COVID-19.</i></p>
              </div>
            </div>
          </div>
```

```
                    <div class="col-lg-3 mr-5" id="focus-second">
                <div class="card" style="width: 20rem;">
                  <div class="card-body">
                    <h5 class="card-title">Vission</h5>
                    <p class="card-text"><i>The Containment Zone Alerting Application is designed to help authorities alert the public about areas that have been designated as containment zones. The app will allow users to see a map of the containment zone and receive alerts when they are near one. The app will also provide information on how to avoid contracting and spreading the disease.</i></p>
                  </div>
                </div>
              </div>
              <div class="col-lg-3 ml-5" id="focus-third">
                <div class="card" style="width: 20rem;">
                  <div class="card-body">
                    <h5 class="card-title">Objective</h5>
                    <p class="card-text"><i>The objective of the containment zone alerting application is to alert the residents of the containment zone about the outbreak of a disease. It will help them to take preventive measures to avoid the disease.</i></p>
                  </div>
                </div>
              </div>
            </div>
          </div>
```

```
        </section>


        <footer>

         <center>

            <div class="col-xs-2 col-md-4">

              <h3> <b> Get in Touch <b> </h3>

              <ul class="footer-links">

            <h5> E-mail :<a href="mailto:test@gmail.com">ibm@gmail.com</a></h5>

               <h5> Mobile :<a href="9304050989">+91 9304050989</a></h5>

              </ul>

            </div>

                        </center>

      </footer>




        </body>

</html>
```

LOGIN.HTML

```
<!DOCTYPE html>

<html>

<head>

<meta name="viewport" content="width=device-width, initial-scale=1">

<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/4.7.0/css/font-awesome.min.css">
```

```
<st
yle
>
bo
dy
{
  font-family: Arial, Helvetica, sans-serif;
}

* { box-sizing:
  border-box;
}

/* style the container */
.container {
  position: relative;
  border-radius:
  5px; background-
  color: #f2f2f2;
  padding: 20px 0
  30px 0;
}

/* style inputs and link buttons
*/ input,
.btn {
  width:
  100%;
  padding:
  12px;
  border:
  none;
```

```
        border-
        radius:
        4px;
        margin:
        5px 0;
        opacity:
        0.85;
        display:
        inline-
        block;
        font-size:
        17px;
        line-
        height:
        20px;
    text-decoration: none; /* remove underline from anchors */
    }

    input:hover,
    .btn:hover
     { opacity:
     1;
    }

    /* add appropriate colors to fb, twitter and google buttons */
    .fb {
      background-color:
      #3B5998; color: white;
    }

    .twitter {
```

```
  background-color: #55ACEE;
  color: white;
}

.google {
  background-color:
  #dd4b39; color:
  white;
}

/* style the submit button */
input[type=submit] {
  background-color:
  #04AA6D; color:
  white; cursor:
  pointer;
}

input[type=submit]:hover {
  background-color: #45a049;
}

/* Two-column layout */
.col {
  float: left;
  width:
  50%;
  margin
  : auto;
  paddin
  g: 0
  50px;
  margin
```

```
  -top:
  6px;
}

/* Clear floats after the columns */
.row:after
  { content:
  "";
  display:
  table;
  clear:
  both;
}

/* vertical line */
.vl {
  position:
  absolute
  ; left:
  50%;
  transfor
  m:
  translate
  (-50%);
  border:
  2px solid
  #ddd;
  height:
  175px;
}


/* text inside the vertical line */
.vl-
  innerText
```

```
  {
  position:
  absolute;
  top:
  50%;
  transform: translate(-
  50%, -50%); background-
  color: #f1f1f1; border:
  1px solid #ccc; border-
  radius: 50%; padding: 8px
  10px;
}

/* hide some text on medium and large screens */
.hide-md-lg {
  display:
  none;
}

/* bottom container */
.bottom-container { text-
  align: center;
  background-color:
  #666; border-radius:
  0px 0px 4px 4px;
}

/* Responsive layout - when the screen is less than 650px wide, make the two columns
stack on top of each other instead of next to each other */
@media screen and (max-width: 650px) {
  .col {
    widt
    h:
```

```
    100
    %;
    mar
    gin-
    top:
    0;
  }
  /* hide the vertical line */
  .vl {
    disp
    lay:
    non
    e;
  }
  /* show the hidden text on small screens */
  .hide-
    md-lg {
    display:
    block;
    text-
    align:
    center;
  }
}
</style>
</head>
<body>

<h2><b>Login Form<b></h2

<div class="container">
  <form action="/action_page.php">
    <div class="row">
```

```
<h2 style="text-align:center">Login with Social Media or Manually</h2>
    <div class="vl">
      <span class="vl-innertext">or</span>
    </div>

    <div class="col">
      <a href="#" class="fb btn">
        <i class="fa fa-facebook fa-fw"></i> Login with Facebook
       </a>

      <a href="#" class="twitter btn">
        <i class="fa fa-twitter fa-fw"></i> Login with Twitter
      </a>
      <a href="#" class="google btn"><i class="fa fa-google fa-fw">
        </i> Login with Google+
      </a>
    </div>

    <div class="col">
      <div class="hide-md-lg">
        <p>Or sign in manually:</p>
      </div>

      <input type="text" name="username" placeholder="Username" required>
      <input type="password" name="password" placeholder="Password" required>
      <input type="submit" value="Login">
    </div>

  </div>
 </form>
</div>

<div class="bottom-container">
 <div class="row">
```

```
    <div class="col">
      <a href="#" style="color:white" class="btn">Sign up</a>
    </div>
    <div class="col">
      <a href="#" style="color:white" class="btn">Forgot password?</a>
    </div>

  </div>
</div>


</body>
</html>
```

REGISTER.HTML

```
<!DOCTYPE html>
<html>
<head>
<meta name="viewport" content="width=device-width, initial-scale=1">
<st
yle
>
bo
dy
{
  font-family: Arial, Helvetica, sans-serif; background-
  color: black;
}

* { box-sizing:
  border-box;
}

/* Add padding to containers */
```

```
.container {
  padding: 16px;
  background-
  color: white;
}

/* Full-width input fields */
input[type=text],
input[type=password] { width: 100%;
padding: 15px; margin: 5px 0 22px 0;
display: inline-block; border: none;
background: #f1f1f1;
}

input[type=text]:focus, input[type=password]:focus {
  background-color: #ddd;
  outline: none;
}

/* Overwrite default styles of
hr */ hr {
  border: 1px solid #f1f1f1; margin-
  bottom: 25px;
}

/* Set a style for the submit button */
.registerbtn {
  background-color:
  #04AA6D; color:
  white; padding: 16px
  20px; margin: 8px 0;
  border: none; cursor:
```

```
  pointer; width: 100%;
  opacity: 0.9;
}

.registerbtn:hover {
  opacity: 1;
}

/* Add a blue text color to
links */ a { color:
dodgerblue;
}

/* Set a grey background color and center the text of the "sign in" section */
.signin {
  background-color:
  #f1f1f1; text-align:
  center;
}
</style>
</head>
<body>

<form action="/action_page.php">
  <div class="container">
    <h1>Register</h1>
    <p>Please fill in this form to create an account.</p>
    <hr>

    <label for="email"><b>Email</b></label>
    <input type="text" placeholder="Enter Email" name="email" id="email" required>
```

```
    <label for="psw"><b>Password</b></label>

    <input type="password" placeholder="Enter Password" name="psw" id="psw"
    required>


    <label for="psw-repeat"><b>Repeat Password</b></label>

   <input type="password" placeholder="Repeat Password" name="psw-repeat" id="psw-
repeat" required>

    <hr>

    <p>By creating an account you agree to our <a href="#">Terms & Privacy</a>.</p>


    <button type="submit" class="registerbtn">Register</button>

  </div>


  <div class="container signin">

    <p>Already have an account? <a href="#">Sign in</a>.</p>

  </div>

</form>


</body>

</html>
```

GITHUB ACCOUNT : https://github.com/IBM-EPBL/IBM-Project-47189-1660797124

DEMO VIDEO LINK: https://youtu.be/4ynmeuHSSx8