PROJECT REPORT

CONTAINMENT ZONE ALERTING

APPLICATION

Team ID: PNT2022TMID22791

Submitted by

S.GOKULAVARSHINI (732919ECR038)

A.ABINAYA (732919ECR003)

G.AASIKA (732919ECR002)

S.JAGHAN (732919ECR049)

BACHELOR OF ENGINEERING

in

Electronics and Communication Engineering

CHAPTER 1

1. INTRODUCTION

The World Health Organization has classified the Covid-19 coronavirus outbreak as a global pandemic. Lockdown and awareness (social distance, wearing of masks, etc.) among individuals are found to be the only ways to stop the community spread of this disease given the worrisome increase in affected cases around the world. Without widespread public awareness and proactive actions taken by the populace, it is exceedingly challenging to stop the communal transmission even during a lockdown in a highly populated nation like India. Recently, red, orange, and green zones were established for a number of containment zones spread out around the nation. The red zones represent infection hotspots, the orange zones represent some infection, and the green zones represent an infection-free environment.

1.1 Project Overview

Coronaviruses are large group of viruses that cause illness in humans and animals. Rarely, animal coronaviruses can evolve and infect people and then spread between people such as has been seen with MERS and SARS. Although most human coronavirus infections are mild, the epidemics of the severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome coronavirus (MERS-CoV), have caused more than 10,000 cumulative cases in the past two decades, with mortality rates of 10% for SARS-CoV and 37% for MERS-CoV. The outbreak of Novel coronavirus disease (COVID-19) was initially noticed in a seafood market in

Wuhan city in Hubei Province of China in mid-December, 2019, has now spread to 214 countries/territories/areas worldwide.

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. 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.

1.2 Purpose

This app is designed to help organisations (including the Government of Meghalaya) to maintain accountability and responsibility towards members and society. The app accomplishes this by monitoring the geographical movements of members and ensuring they are following proper work from home protocol and social distancing policies set by the organisation. Data will not be used for any purpose other than the safety of the members. Members have the right to activate/inactivate location as per their discretion. This app sends coordinates to the server if the user activates location. Users can check in at their home location and will be alerted if they leave the region around home location. Administrator/support cell will also get the list of users who are within the circle or outside the circle. Only authorized admin can access the backend services for the purpose of safety of registered users. App provides an option for the user to recheck in at a new location with the approval from administrator/Unit manager via OTP. App provides more information like emergency contact.

CHAPTER 2

2. LITERATURE SURVEY

S.NO	TITLE	PROPOSED WORK	TOOLS USED/ALGORITHM	TECHNOLOGY	ADVANYAGES/ DISADVANTAGES
	Application for Covid-19	In this project they made an app to show			Even though it gives us more awareness about

1	Real Time Counter (2022)	the real time count of the covid 19 cases and spread awareness to the people about the outworld pandemic	Java	Android Studio	the pandemic outside it makes people more panic on deaths they listed
2	S-Nav: Safety-Aware IoT Navigation Tool for Avoiding COVID-19 Hotspots (2021)	In this project they made an app to show the real time count of the covid 19 cases and spread awareness to the people about the outworld pandemic	Q-learning model, reinforcement learning (RL), shortest path.	Internet Of Things (IoT)	It is a navigation based projects that's works on showing the safe route to travel and it for only the COVID virus analysis
3	Tracking the Covid zones through geofencing technique (2020)	In this paper they developed an algorithm to track people from entering into containment zone and alerting before they getting into risk	RSA algorithm	Data Science	It this paper it if typical to handle the data of covid in and out cases
4	Privacy-aware energy-efficient framework Using the internet of medical things for covi d-19 (2020)	In this paper they developed a prototype that can analyse blood preasure, oxygen level,heart rate and temperature	CR-IoMT , CR-IoT	Cloud computing, Bigdata & IoT	Not all peoples can afford to buy it

5	Aarogya Setu	The most popular containment zone alert application among the options currently in usein India is called Aarogya Setu.	GPS based System	Android Studio	Monitoring is easy,but a person location is monitored without his permission
	Trespassing into It Using Firebase and Geofencing	Following the tracking of a suspicious person, the geo-fenced layer is mapped out in thevicinity, and the	Mapping technology	Android Studio	geo-fencing technology, but the privacy of a person is disturbed.
		virtual perimeter is then employed for the subsequent trapping procedure			

2.1 **Existing System**

Aarogya Setu:

Aarogya Setu is a mobile application developed by the Government of India to connect essential health services with the people of India in our combined fight against COVID-19. The app is aimed at augmenting the initiatives of the Government of India, particularly the Department of Health, in proactively reaching out to and informing the users of the app regarding risks, best practices and relevant advisories pertaining to the containment of COVID-19 (Aarogya Setu 2020)

CoBuddy-Covid19 tool:

CoBuddy-Covid 19 Coronavirus Help Tool-to help stop the spread of Covid 19, get info and help from the Government. The app makes sure that the people quarantined are within their location, communicate directly with them, provide information, and receive

alerts if the quarantined are in need of any help. Location tracking and user verification with heat-maps, communication management, notifications and alerts, health tracking and feedback, essential operations management (CoBuddy-Covid19 tool 2020).

CORONTINE:

This app is designed to help organizations (including the Government of Meghalaya) to maintain accountability and responsibility towards members and society. The app accomplishes this by monitoring the geographical movements of members and ensuring they are following proper work from home protocol and social distancing policies set by the organization. Data will not be used for any purpose other than the safety of the members. Members have the right to activate/inactivate location as per their discretion. This app sends coordinates to the server if the user activates location. Users can check in at their home location and will be alerted if they leave the region around home location. Administrator/support cell will also get the list of users who are within the circle or outside the circle. Only authorized admin can access the backend services for the purpose of safety of registered users. App provides an option for the user to recheck in at a new location with the approval from administrator/Unit manager via OTP. App provides more information like emergency contact numbers and similar important information for the users to access in a short time at the hour of need (CORONTINE 2020)

2.2 **References**

1. Gkelios,S., Sophokleous (2022) Application for Covid-19 Real Time Counter.
2. Clemencia Siro (2021) S-Nav: Safety Aware IoT Navigation Tool for Avoiding COVID-19 Hotspots.
3. Oishik Chatterjee (2020) Tracking the Covid zones through geofencing technique.
4. Le Wu, Xiangnan (2020) Learning fashion compatibility across categories with deep multimodal neural networks

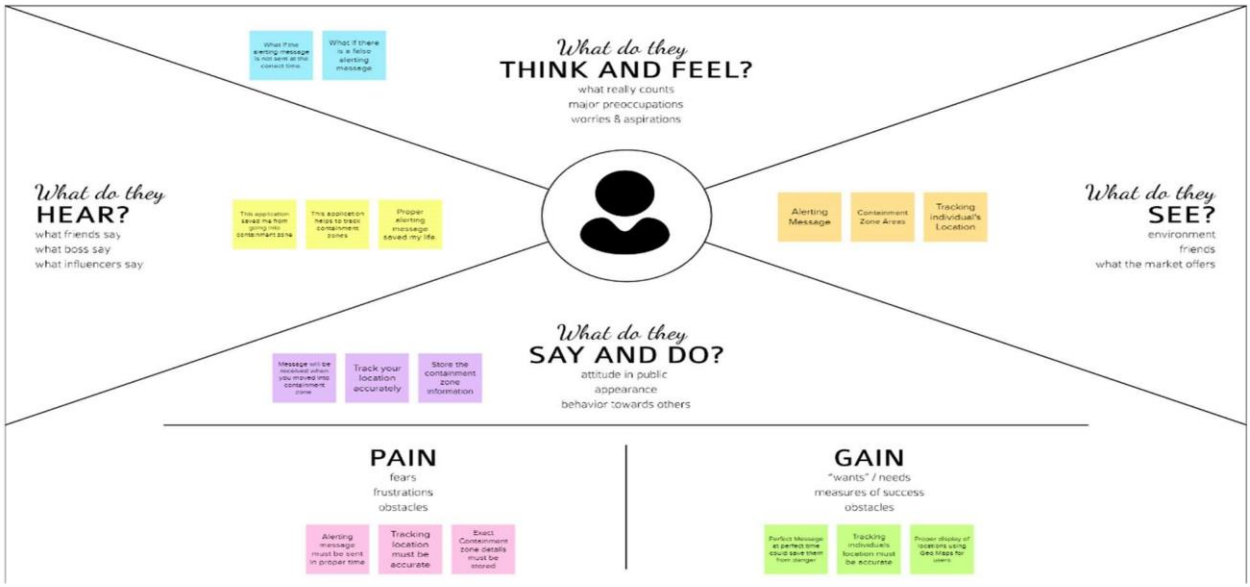
2.3 **Problem Statement Definition:**

Problem Statement(PS)	I am	I'm trying to	But	Because	Which makes me feel
PS-1	user	Know the highly infected zone on COVID-19	The searching technique and platform Is not good	Off the app didn't use the efficient technique	Irritating
PS-2	user	Explore the application	The UI is not good when I trying to access through mobile	The design of UI is not reliable and difficult to understand. The backend is also bad	Frustrated

CHAPTER 3

3 IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas:



3.2 Ideation & Brainstorming:

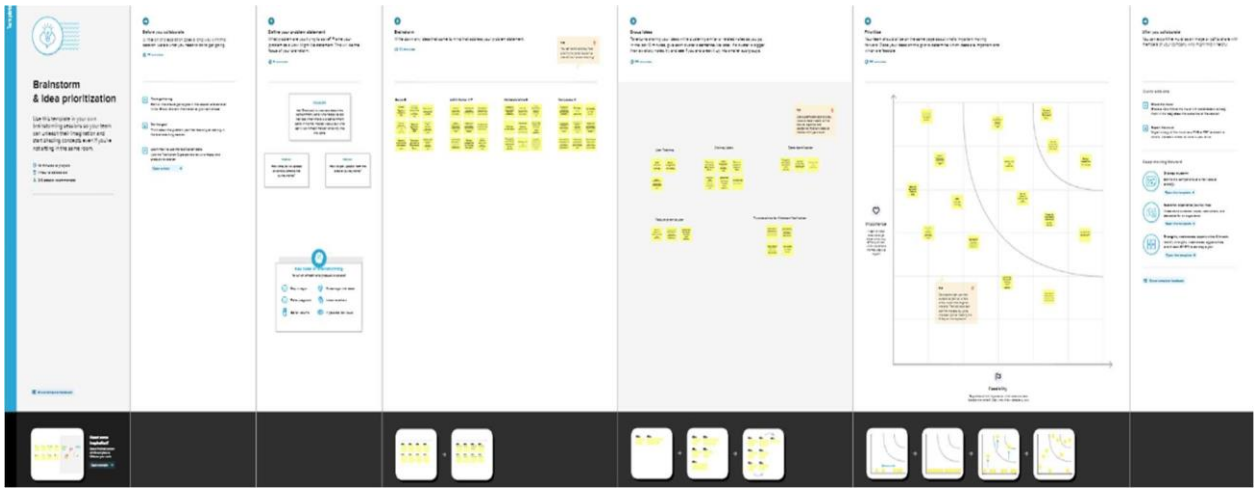
Ideation:

Ideation is often closely related to the practice of brainstorming, a specific technique that is utilized to generate new ideas. A principal difference between ideation and brainstorming is that ideation is commonly more thought of as being an individual pursuit, while brainstorming is almost always a group activity.

Brainstorming:

Brainstorming is a group problem-solving method that involves the spontaneous contribution of creative ideas and solutions. This technique requires intensive, freewheeling discussion in which every

member of the group is encouraged to think aloud and suggest as many ideas as possible based on their diverse knowledge.



3.3 Proposed Solution:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	People are not have a proper awareness about the containment zones in a particular region during a pandemic situation.
2.	Idea / Solution description	The focuses on development of an android application which can inform people of the covid-19 containment zone and prevent trespassing into the zone
3.	Novelty / Uniqueness	1. It shows the location of the containment zones to the users. 2. It also notifies the user when trespasses the boundary of a containment zones or stays in the containment zones.
4.	Social Impact / Customer Satisfaction	It will give a type of alert message or notification when a user's location enters into a containmented area
5.	Business Model (Revenue Model)	Government can utilise the application and alert the people when they are entering to a containment zone.
6.	Scalability of the Solution	User's way of interaction with the application gets increased.

3.4 Problem Solution fit:

CHAPTER 4

4 REQUIREMENT ANALYSIS

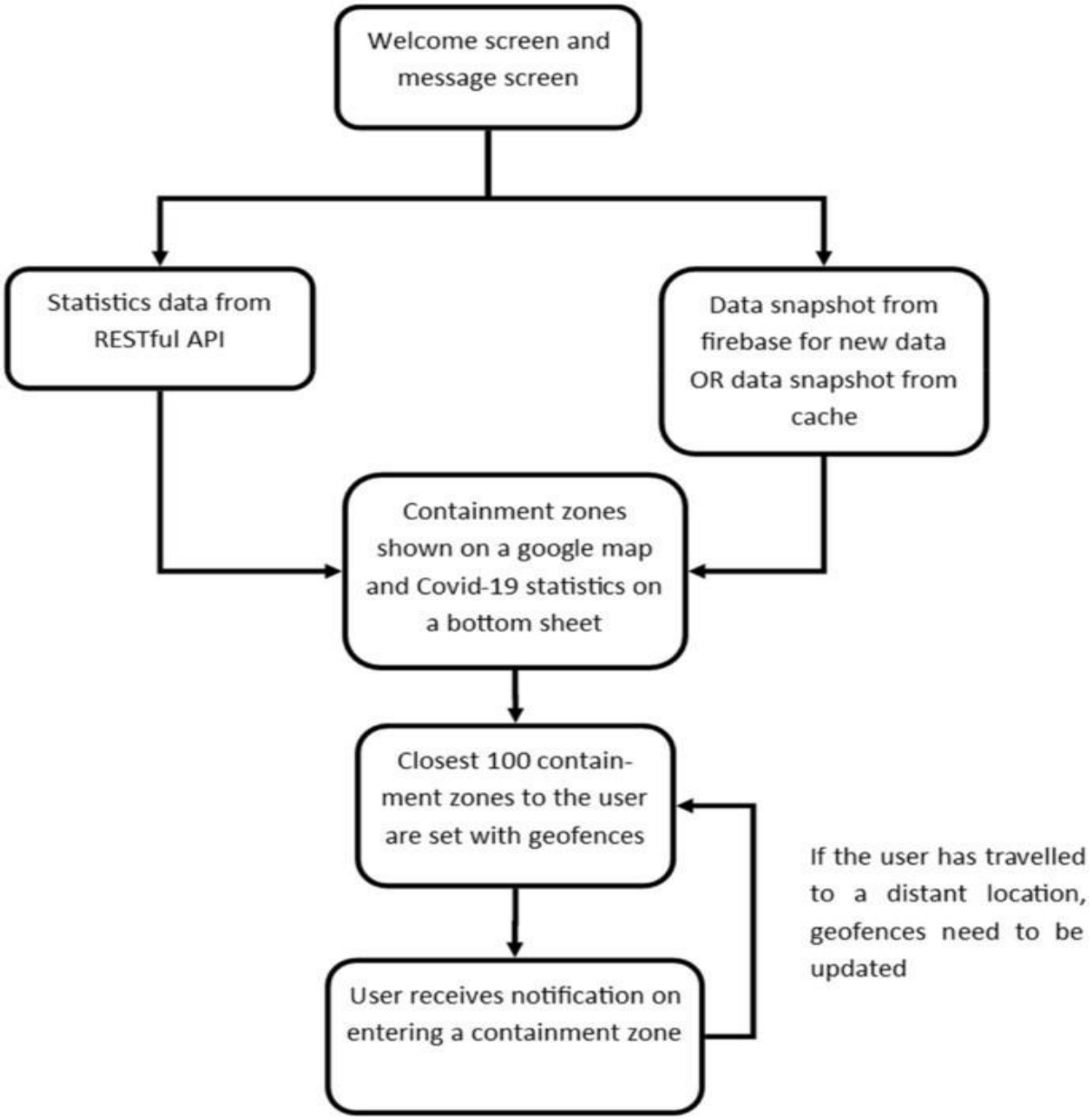
4.1 Functional requirement

4.2 Non-Functional requirements

CHAPTER 5

5 PROJECT DESIGN

5.1 Data Flow Diagrams



CHAPTER 6

6 PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation:

- Sprint planning is an event in scrum that kicks off the sprint. The purpose of sprint planning is to define what can be delivered in the sprint and how that work will

be achieved. Sprint planning is done in collaboration with the whole scrum team.

- In scrum, the sprint is a set period of time where all the work is done. However, before you can leap into action you have to set up the sprint. You need to decide on how long the time box is going to be, the sprint goal, and where you're going to start. The sprint planning session kicks off the sprint by setting the agenda and focus. If done correctly, it also creates an environment where the team is motivated, challenged, and can be successful. Bad sprint plans can derail the team by setting unrealistic expectations.

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint 1	Registration (web and android)	USN-1	USER: I can register for the application by entering my email and password	3	High	Gokulavarshini Abinaya Aasika Jaghan
		USN-2	USER: I will receive a confirmation email once I have registered for the application	2	High	Gokulavarshini Abinaya Aasika Jaghan
	Login (web and android)	USN-3	USER: I can log into the application by entering my	3	High	Gokulavarshini Abinaya Aasika Jaghan

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-2	Dashboard	USN-4	USER: need to give permission to access my location	5	High	Gokulavarshini Abinaya Aasika Jaghan
		USN-5	As a user, I can log into the application by entering email & password	5	High	Gokulavarshini Abinaya Aasika Jaghan

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint 3	Service	USN 6	ADMIN: I need to update the containment zones.	5	High	Gokulavarshini Abinaya Aasika Jaghan
		USN 7	ADMIN: I need to differentiate the containment zones based on the intensity of infection.	3	Medium	Gokulavarshini Abinaya Aasika Jaghan

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint 4	Service	USN 8	ADMIN: I need to alert the user when they enter the containment zone through the notification	5	Medium	Gokulavarshini Abinaya Aasika Jaghan
	Data collection	USN 9	ADMIN: I need to store user details on the cloud	5	Medium	Gokulavarshini Abinaya Aasika Jaghan
		USN 10	ADMIN: I need to collect details about covid -19 cases from verified sources	5	Medium	Gokulavarshini Abinaya Aasika Jaghan

6.2 Sprint Delivery Schedule:

- The product owner typically determines the duration of the sprint and checks with the team to make sure it aligns with its workloads and resources.

- While there may be multiple project heads collaborating on a sprint, it's ultimately important to have one owner who oversees all aspects of sprint planning. Likewise, there should be one single schedule to avoid confusion and keep projects running according to a set plan.

- Teams often run into trouble when they create more than one schedule. This can create conflict and derail projects midway through their cycles. To ensure things stay on track, one schedule makes sense. In case you're unfamiliar, a sprint schedule is a document that outlines sprint planning from end to end. It's one of the first steps in the agile sprint planning process—and something that requires adequate research, planning, and communication.

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	7 Days	25 Oct 2022	31 Oct 2022	20	31 Oct 2022
Sprint-2	20	6 Days	01 Nov 2022	06 Nov 2022	20	06 Nov 2022
Sprint-3	20	5 Days	07 Nov 2022	11 Nov 2022	20	11 Nov 2022
Sprint-4	20	6 Days	12 Nov 2022	17 Nov 2022	20	17 Nov 2022

Figure: Sprint Delivery Schedule

- Ideally, you should create a sprint schedule early on in the development process—before you get to the planning stage.

- Of course, sprint schedules should be highly fluid in the beginning. You will almost certainly have to make changes before you wind up with a final plan that everyone agrees on.
- Even so, it's important to at least have an initial plan in place heading into a sprint planning meeting instead of coming to the table with nothing.

CHAPTER 7

7 ADVANTAGES & DISADVANTAGES

7.1 Advantages:

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.

7.2 Disadvantages:

The parameters used are similar, but the exact criteria applied varies, and usually depends on local conditions. These have also evolved with time, and are under constant review. In general, containment zones are getting smaller with time as the number of cases are increasing — from entire localities, to colonies or neighbourhood, to streets and lanes, to particular buildings, and now just particular floors.

CHAPTER 8

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. 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.

CHAPTER 9

FUTURE SCOPE

- 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.

CHAPTER 10

APPENDIX

10.1 Source code

Android Application:

```
Home.java          package
com.example.containmentzonedetect
ion;

import androidx.appcompat.app.AppCompatActivity;

import
android.content.Intent;
import
android.os.Bundle;
import
android.view.View;
import
```

```
android.webkit.WebVie
w; import
android.webkit.WebVie
wClient; import
android.widget.Button;

public class MainActivity3 extends AppCompatActivity {
   Button submit;
   Button call;
   Intent intent, intent1, intent2,
intent3;

   @Override
   protected void onCreate(Bundle
savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main
3);
call=findViewById(R.id.click1);
submit = findViewById(R.id.regiter1);
      call.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View
view) {
            Intent intent = new Intent(MainActivity3.this, MapsActivity.class);
startActivity(intent);
         }
      });
      submit.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View
view) {
            Intent intent = new Intent(MainActivity3.this, MainActivity.class);
startActivity(intent);
         }
```

```
        });
        intent = new Intent(this,
MainActivity3.class);        intent1 = new
Intent(this, MainActivity3.class);
intent2 = new Intent(this,
MainActivity3.class);        intent2 = new
Intent(this, MainActivity3.class);
    }


    public void home1(View
view) {        if (view.getId()
== R.id.imageView8) {
startActivity(intent);
        }
    }

    public void
about1(View view) {
if (view.getId() ==
R.id.about2) {
startActivity(intent1);

        }
    }

    public void
con1(View view) {
if (view.getId() ==
R.id.con2) {
startActivity(intent3);
        }
    }
}
```

Register.java

```
package
com.example.containmentzonedetect
ion;

import
androidx.appcompat.app.AppCompatActivit
y;

import
android.content.Int
ent; import
android.os.Bundle;
import
android.view.View
; import
android.widget.Bu
tton;

public class MainActivity2 extends
AppCompatActivity {
   Button Register;
   Intent
intent;
@Override
   protected void onCreate(Bundle
savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main2);
      Register =
findViewById(R.id.button2);
      Register.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View view) {
            Intent intent = new Intent(MainActivity2.this, MainActivity3.class);
startActivity(intent);
```

```
        }


    });
    intent = new Intent(this,
forgotpassord.class);
  }

  public void
signin1(View view) {
if
(view.getId()==R.id.text
View12)

{
fi
ni
sh
();
    }
  }
  public void ot(View
view) {      if
(view.getId() ==
R.id.textView8) {
startActivity(intent);
    }
  }
}
```

Login.xml

```
        <?xml version="1.0" encoding="utf-
8"?>
<androidx.constraintlayout.widget.Constrain
tLayout
```

```
xmlns:android="http://schemas.android.com
/apk/res/android"
xmlns:app="http://schemas.android.com/apk
/res-auto"
xmlns:tools="http://schemas.android.com/to
ols"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">

   <TextView
      android:id="@+id/textView3"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="160dp"
android:layout_marginTop="120dp"
android:layout_marginEnd="193dp"
android:layout_marginBottom="32dp"
      android:text="---------------------------------or-----------
---------------------"        android:textSize="20sp"
android:textStyle="italic"
      app:layout_constraintBottom_toTopOf="@+id/textView4"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.445"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />     <TextView
android:id="@+id/textView4"        android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="24dp"        android:layout_marginTop="20dp"
android:layout_marginEnd="214dp"        android:text="Email Address:"
android:textColor="#020202"        android:textSize="24sp"
android:textStyle="italic"        app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView3" />
```

```
   <EditText

android:id="@+id/editTextTextPersonName
"         android:layout_width="350dp"
android:layout_height="40dp"
android:layout_marginStart="50dp"
android:layout_marginTop="12dp"
android:layout_marginEnd="153dp"
android:background="@drawable/edit_text_
border"         android:ems="10"
       android:hint="Enter a valid email
address"
android:inputType="textPersonName"
android:textColor="#0E0E0E"
android:textColorHighlight="#131313"
android:textColorLink="#0E0E0E"
android:textSize="20sp"
android:textStyle="italic"
app:layout_constraintEnd_toEndOf="p
arent"
app:layout_constraintHorizontal_bias=
"0.142"
app:layout_constraintStart_toStartOf="
parent"
app:layout_constraintTop_toBottomOf
="@+id/textView4" />

   <TextView
      android:id="@+id/textView5"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="8dp"
android:layout_marginTop="16dp"
```

```
android:layout_marginEnd="8dp"
android:text="Sign in with"
android:textColor="#111112"
android:textSize="34sp"
android:textStyle="italic"

app:layout_constraintEnd_toEndOf="parent
"
app:layout_constraintStart_toStartOf="paren
t"
app:layout_constraintTop_toTopOf="parent
" />

   <TextView
      android:id="@+id/textView6"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="27dp"
android:layout_marginTop="16dp"
android:layout_marginEnd="250dp"
android:text="Password:"
android:textColor="#121111"
android:textSize="24sp"
android:textStyle="italic"

app:layout_constraintEnd_toEndOf="parent
"
app:layout_constraintHorizontal_bias="0.0"
app:layout_constraintStart_toStartOf="paren
t"
      app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName" />
<EditText

android:id="@+id/editTextTextPersonN
```

```
ame2"
android:layout_width="350dp"
android:layout_height="40dp"
android:layout_marginStart="36dp"
android:layout_marginTop="16dp"
android:layout_marginEnd="150dp"
android:background="@drawable/edit_t
ext_border"        android:ems="10"
android:hint="Enter passord"
android:inputType="textPassword"
android:textColor="#101010"
android:textColorHighlight="#101010"
android:textColorLink="#100F0F"
android:textSize="20sp"
android:textStyle="italic"
      app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.058"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView6" />

   <TextView
      android:id="@+id/textView9"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="60dp"
android:layout_marginTop="24dp"
android:layout_marginEnd="250dp"
android:text="Remember me"
android:textSize="16sp"
android:textStyle="normal"
app:layout_constraintEnd_toEndOf="par
ent"
app:layout_constraintStart_toStartOf="p
arent"
```

```
      app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName2" />
<TextView
      android:id="@+id/textView10"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="145dp"
android:layout_marginTop="235dp"
android:layout_marginEnd="83dp"
android:text="Forgot Passord ?"
android:onClick="fort"
android:textSize="16sp"
android:textStyle="normal"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toEndOf="@+id/text
View9"
app:layout_constraintTop_toBottomOf="@+id/te
xtView3" />

   <Button
      android:id="@+id/button2"
android:layout_width="wrap_conte
nt"
android:layout_height="wrap_cont
ent"
android:layout_marginStart="70dp
"
android:layout_marginTop="50dp"
android:layout_marginEnd="300dp
"
android:layout_marginBottom="28
0dp"
android:background="@color/purp
le_700"
android:textColor="@color/white"
```

```
android:text="Login"
android:textSize="22sp"
android:textStyle="italic"
      app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView9" />     <TextView
android:id="@+id/textView11"        android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="100dp"
android:layout_marginTop="32dp"        android:layout_marginEnd="200dp"
android:layout_marginBottom="180dp"        android:text="Dont't have an
account?"        android:textColorHighlight="#121111"
android:textColorLink="#131313"        android:textSize="16sp"
android:textStyle="normal"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.535"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/button2"
app:layout_constraintVertical_bias="0.224" />

   <TextView
android:id="@+id/textView12
"
android:layout_width="wrap_
content"
android:layout_height="wrap_
content"
android:layout_marginStart="
8dp"
android:layout_marginTop="9
5dp"
android:layout_marginEnd="1
```

```
00dp"
android:layout_marginBottom
="150dp"
android:text="Register"
android:onClick="register1"
android:textColor="#EA3E3E
"
android:textSize="16sp"
android:textStyle="italic"

app:layout_constraintBottom_toBottomOf="
parent"
app:layout_constraintEnd_toEndOf="parent
"
app:layout_constraintHorizontal_bias="0.0"
app:layout_constraintStart_toEndOf="@+id/
textView11"
app:layout_constraintTop_toBottomOf="@
+id/textView10"
app:layout_constraintVertical_bias="0.117"
/>
   <LinearLayout
      android:layout_marginTop="650dp"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:orientation="vertical">

      <androidx.cardview.widget.CardView
android:id="@+id/b2"
android:layout_width="536dp"
android:layout_height="100dp"
android:layout_margin="0dp"
app:cardBackgroundColor="#0D42FF"
app:cardCornerRadius="0dp">
```

```
        <LinearLayout

android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:gravity="center"
android:orientation="vertical">

            <TextView

android:layout_width="match_parent"
android:layout_height="match_parent"
android:layout_marginTop="22sp"
android:text="  Containment Zone
Detection"
android:textAlignment="center"
android:textColor="@color/black"
android:textSize="16dp"
android:textStyle="bold|italic" />
</LinearLayout>

        <ImageView
android:id="@+id/imageView2"
android:layout_width="500dp"
android:layout_marginTop="20dp"
android:layout_height="30dp"
app:srcCompat="@drawable/ff" />
        <ImageView
android:id="@+id/imageView7"
android:layout_width="580dp"
android:layout_marginTop="20dp"
android:layout_height="30dp"
app:srcCompat="@drawable/in" />
```

```
        <ImageView
android:id="@+id/imageView9"
android:layout_width="740dp"
android:layout_marginTop="20dp"
android:layout_height="30dp"
app:srcCompat="@drawable/tw" />
   <Button
      android:id="@+id/button"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="136dp"
android:layout_marginTop="25dp"
android:layout_marginEnd="181dp"
android:background="@color/purple_7
00"        android:text="Submit"
android:textColor="@color/white"
android:textSize="20sp"
android:textStyle="italic"

app:layout_constraintEnd_toEndOf="parent
"
app:layout_constraintStart_toStartOf="paren
t"
      app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName" />
</androidx.constraintlayout.widget.Constrai
ntLayout>
```