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# CHAPTER 1

## INTRODUCTION

A containment zone alerting application 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 setup alerts for specific containment zones.

### 1.1 PROJECT OVERVIEW:

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 hotspot, 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.

### 1.2 PURPOSE:

Provide information about containment zones in a particular region by alerting people, through continuous monitoring of an individual's location. 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

acontainment zone and uploads the user's info to the online database. Therefore, this application can be used as a tool for creating further socialawareness about the arising need of precautionary measures to be taken by the people of India.

## **CHAPTER 2**

### **LITERATURE SURVEY**

#### **Introduction:**

cloud application is software that runs its processing logic and data storage between 2 different systems: client-side and server-side.

The cloud also processing to create a containment zone alerting application to preventive the people from COVID -19 cases.

To informing people about the location of the containment zones can help them bypass and avoid these zones and thereby reduce the chance of spreading. The application also provides daily Covid-19 case statistics to the users to keep them updated.

#### **Problem Statement:**

Containment Zone Alerting Application is the process that alert a people of the Covid19 containment zones and prevent trespassing into these zones. This application updates the locations of the areas in a Google map which are identified to be the containment zones. Recently, several containment zones had been identified throughout the country and divided into red, orange and green zones. The red zones indicate the infection hotspots, orange zones denote some infection and green zones indicate an area with no infection. The application also notifies the

users if they have entered a containment zone and uploads the user's IMEI number to the online database. So, people can get awareness about a current containment zone throughout the notification.

S.NO	PROJECT TITLE	ADVANTAGE	DISADVANTAGE	TECHNOLOGY USED
1.	COVID-19 Lifeguard: A Compact Wearable-IoT (W-IoT) System for Health Safety and Protection of Outgoers in the Post- Lockdown World	To help people maintain social distancing which detects motion in 360° up to 1.5m. The device can adapt to various surroundings by adjusting the sensitivity of the PIR sensor.	It is limited to specific areas such as detection, tracing, or prevention. The issue of safety, sanitization, health monitoring, and alerting the doctors is not resolved by a single integrated system. Mobile applications have been proposed for storing individual's data and alerting but informing the individual of any physical touch or contact with an infected person is not mentioned.	IOT

2.	Development of An Android Application for Viewing Covid-19 Containment Zones and Monitoring Violators Who are Trespassing into It Using Firebase and Geofencing	It is used as a tool for creating further social awareness about the arising need of precautionary measures to be taken by the people of India. It can inform people of the Covid19 containment zones and prevent trespassing into these zones.	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 and it makes tough to use frequently.	Geofencing API Firebase cloud firestore
3.	Internet of Things (IoT) Enabled Architecture for Social Distancing During Pandemic	Digital technologies play a crucial role to support the social, professional and economic activities when people are forced to stay lockeddown in their homes.	A common problem with most IoT devices is their limitation due to restricted battery life which inhibits their capability to operate for long duration and long distances in case of drones, robots etc. The lack of proper measures and guidelines in handling patient's confidential data, algorithms for ensuring security and privacy increases vulnerabilities associated with the use of many technologies like drones, robots, autonomous vehicles etc. which are crucial supplements to the IoT platform.	Proposed IoT architecture

4.	Community alert project	Improved awareness in pilot communities to natural hazards through enhanced public education and awareness building initiatives.	The main risk is suspension of activity can be considered by the contracting authority in case of a major event. Backstopping and quality assurance measures to ensure the resilience of the contract outputs should be undertaken by the consultant	API CAP server Android
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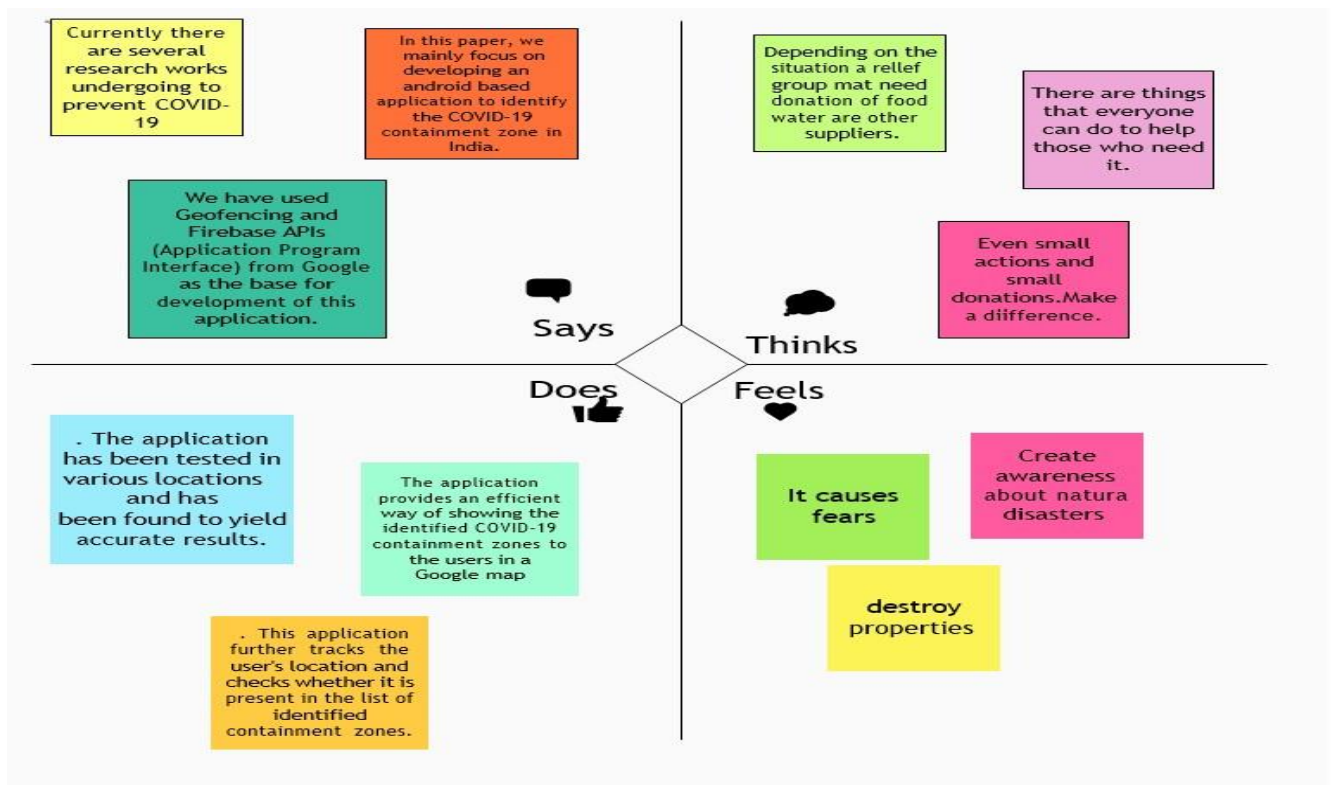
## CHAPTER 3 IDEATION & PROPOSED SOLUTION

### 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 help 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

### CONTAINMENT ZONE ALERTING APPLICATION





Reference: <https://www.mural.co/templates/empathy-map-canvas>

### 3.2 IDEATION & BRAINSTORMING:

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions. Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room

#### Step-1: Team Gathering, Collaboration and Select the Problem Statement



## Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

- 🕒 10 minutes to prepare
- 🕒 1 hour to collaborate
- 👤 2-8 people recommended



### Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

🕒 10 minutes



#### Team gathering

Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.



#### Set the goal

Think about the problem you'll be focusing on solving in the brainstorming session.



#### Learn how to use the facilitation tools

Use the Facilitation Superpowers to run a happy and productive session.

[Open article](#) →



### Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

🕒 5 minutes



#### Key rules of brainstorming

To run an smooth and productive session



Stay in topic.



Encourage wild ideas.



Defer judgment.



Listen to others.



Go for volume.



If possible, be visual.

## Step-2: Brainstorm, Idea Listing and Grouping

2

## Brainstorm

Write down any ideas that come to mind that address your problem statement.

⌚ 10 minutes

### TIP

You can select a sticky note and hit the pencil [switch to sketch] icon to start drawing!

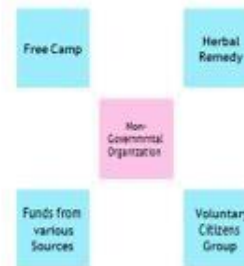
### PRIYADHARSHINI M



### SWETHA M



### SWETHA P



### VIJAYALAKSHMI R



### SANDHIYA S



3

## Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. In the last 10 minutes, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

🕒 20 minutes

### TIP

Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.

## Application

Alerting  
Notification

Containment  
zone - Alerting  
Application

Keep User  
Updated

## Organization

Free  
Treatment

Fund from  
various  
source

Herbal  
Remedy

## Containment zone

24/7  
Monitoring  
affected  
zone

Import  
medicine

Safety  
Precaution  
to be  
followed

## Step-3: Idea Prioritization

4

### Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

🕒 20 minutes



### **3.3 PROPOSED SOLUTION:**

#### **Proposed Solution Template:**

Project team shall fill the following information in proposed solution template.

#### **Problem Statement:**

Create an Application to indicate Containment Zone Alert.

#### **Problem Statement Description:**

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.

#### **Requirement Specification:**

To be used efficiently, all computer software needs certain hardware components or other software resources to be present on a computer. These prerequisites are known as (computer) system requirements and are often used as a guideline as opposed to an absolute rule. Most software defines two sets of system requirements: minimum and recommended. With the increasing demand for higher processing power and resources in newer versions of software, system requirements tend to increase over time. Industry analysts suggest that this trend plays a bigger part in driving upgrades to exist computer systems than technological advancements.

#### **Hardware Requirements:**

The most common set of requirements defined by any operating system or software application is the physical computer resources, also known as hardware. A hardware requirements list is often accompanied by a hardware compatibility list (HCL), especially in the case of operating systems. An HCL lists tested compatible, and sometimes incompatible hardware devices for a particular operating system or application.

The following subsections discuss the various aspects of hardware requirements.

#### **Hardware Requirements for Present Project:**

PC/COMPUTER:

PROCESSOR : Intel dual Core, i3

RAM : 8 GB HARD DISK : 80 GB

#### **Software Requirements:**

Software Requirements deal with defining software resource requirements and prerequisites that need to be installed on a computer to provide optimal functioning of an application. These requirements or prerequisites are generally not included in the software installation package and need to be installed separately before the software is installed.

#### **Software Requirements for Present Project:**

OPERATING SYSTEM : Windows or Linux

FRONT END : Html, CSS, JavaScript.

SERVER SIDE : Python, Flask, Docker

## **DATABASE : IBM Database Existing System:**

The Existing Containment Zone Alerting system detects the Containment Zone using Bluetooth Technology and It does not alert for Particular Street it shows a particular Region.

And it can't be used without turning ON Bluetooth Feature. Proposed System: Containment Zone Alerting Application is designed to send the accurate street location of the Containment Zone using location Feature and it sends the alert through notification of our Application.

## **Software Specification:**

### **HTML:**

HTML or Hypertext Markup Language is the standard markup language used to create web pages. HTML is written in the form of HTML elements consisting of tags enclosed in angle brackets. HTML tags most commonly come in pairs like and, although some tags represent empty elements and so are unpaired, for example, Error! Filename not specified... The first tag in a pair is the start tag, and the second tag is the end tag (they are also called opening tags and closing tags). HTML elements form the building blocks of all websites. HTML allows images and objects to be embedded and can be used to create interactive forms. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes, and other items. It can embed scripts written in languages such as JavaScript which affect the behavior of HTML web pages.

### **Cascading Style Sheets (CSS):**

It is a style sheet language used for describing the look and formatting of a document written in markup language. While most often used to style web pages and interfaces written in HTML and XHTML, the language can be applied to any kind of XML document, including plain XML, SVG, and XUL. CSS is a cornerstone specification of the web and almost all web pages use CSS style sheets to describe their presentation. CSS is designed primarily to enable the separation of document content from document presentation, including elements such as layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple pages to share formatting, and reduce complexity and repetition in the structural content. CSS can also allow the same markup page to be presented in different styles for different rendering methods, such as on-screen, in print, by voice (when read out by a speech based browser or screen reader), and on Braille-based, tactile devices. It can also be used to allow the web page to display differently depending on the screen size or device on which it is being viewed. While the author of a document typically links that document to a CSS file, readers can use a different style sheet, perhaps one on their computer, to override the one the author has specified. However, if the author or the reader did not link the document to a specific style sheet the default style of the browser will be applied.

### **JavaScript:**

JavaScript is the scripting language of the Web. All modern HTML pages are using JavaScript. A scripting language is a lightweight programming language. JavaScript code can be inserted into any HTML page, and it can be executed by all types of web browsers. JavaScript is easy to learn.

### **Python:**

Python is a high-level, general-purpose programming language. Its design philosophy emphasizes code readability with the use of significant indentation. Python is dynamically-typed and garbage-collected. It supports multiple programming paradigms, including structured, object-oriented, and functional programming. Flask: Flask is a small and lightweight Python web framework that provides useful tools and features that make creating web applications in Python easier. It gives developers flexibility and is a more accessible framework for new developers since you can build a web application quickly using only a single Python file.

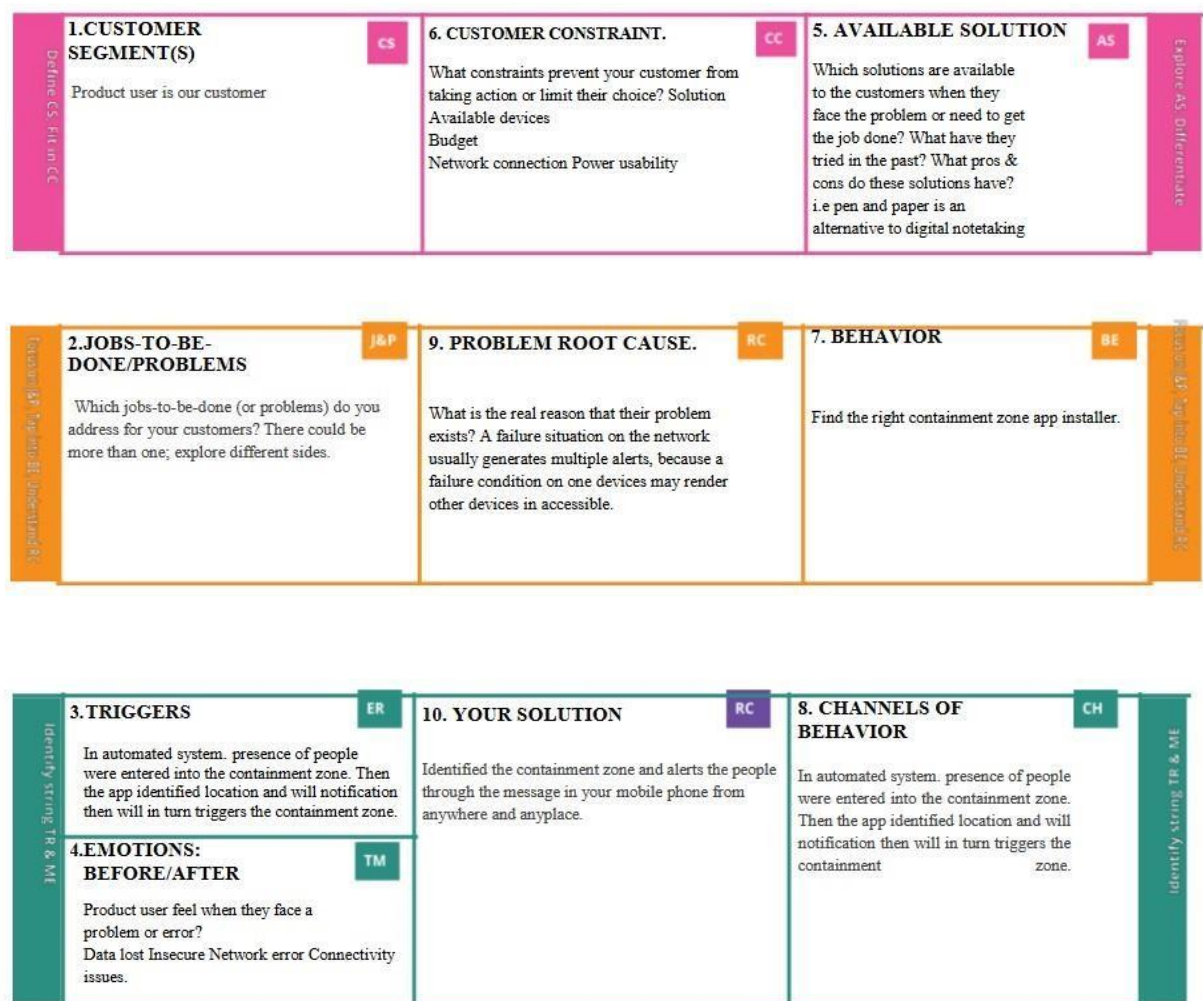
### **Docker:**

Docker is an open-source containerization platform. It enables developers to package applications into containers—standardized executable components combining application source code with the operating system (OS) libraries and dependencies required to run that code in any environment.

### IBM Database:

The IBM database enables you to access and manage server data through an application or a user interface. As well as providing access to and protection for your data, DB2 for IBM provides advanced functions, such as referential integrity and parallel database processing.

## 3.4 PROBLEM SOLUTION FIT:





## CHAPTER 4

### REQUIREMENT ANALYSIS

#### Project Description:

#### Project Idea:

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.

#### Solution Requirements:

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.

#### 4.1 FUNCTIONAL REQUIREMENTS:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement(Epic)	SubRequirement(Story/Sub-Task)
FR-1	UserRegistration	Registration through Mobile number.RegistrationthroughGmail.
FR-2	UserConfirmation	Confirmation via Email.Confirmationvia OTP.
FR-3	AppPermissions	EnablinglocationAccess(Mandatory) Permission to Media AccessPermissionto Camera.
FR-4	Connectivity	The user and server were connected through theInternet.
FR-5	Datafetching	The Users Personal data and a result of self analysisupdatedwithappserver.
FR-6	Supportfunctions	The Users gets teleconsultation using helpline andsupportbychatbot.

FR-7	End user benefits	To protect the people from the diseases spread by knowing containment zones using contact tracing.
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## 4.2 NON-FUNCTIONAL REQUIREMENT:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	<b>Usability</b>	It is an effective way to find a containment zone. It can be easily accessed by everyone.
NFR-2	<b>Security</b>	It is secured because confirmation through User own Email or OTP and also the data were stored in encrypted format to maintain anonymity.
NFR-3	<b>Reliability</b>	It is a high reliability based on development and deployment.
NFR-4	<b>Performance</b>	High efficiency outcomes with respect to simple user interface.
NFR-5	<b>Availability</b>	Anyone from anywhere can access it through internet.
NFR-6	<b>Scalability</b>	It has ability to handle a growing user base without affecting the user experience and app performance.

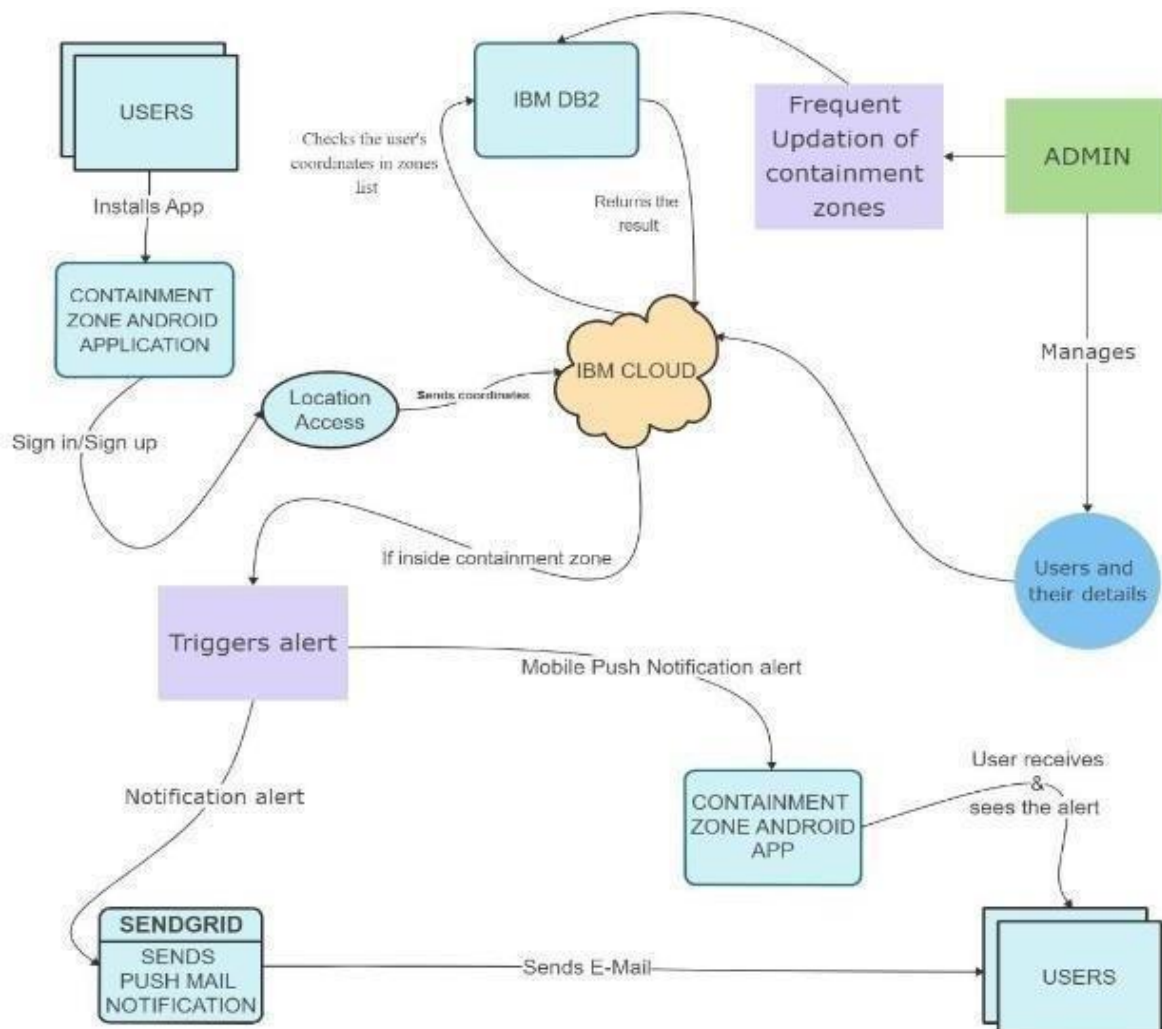
## CHAPTER 5

### PROJECT DESIGN

#### 5.1 DATA FLOW DIAGRAMS:

##### DataFlowDiagrams:

A DataFlow Diagram(DFD)is a traditional visual representation of the information flows with in 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.

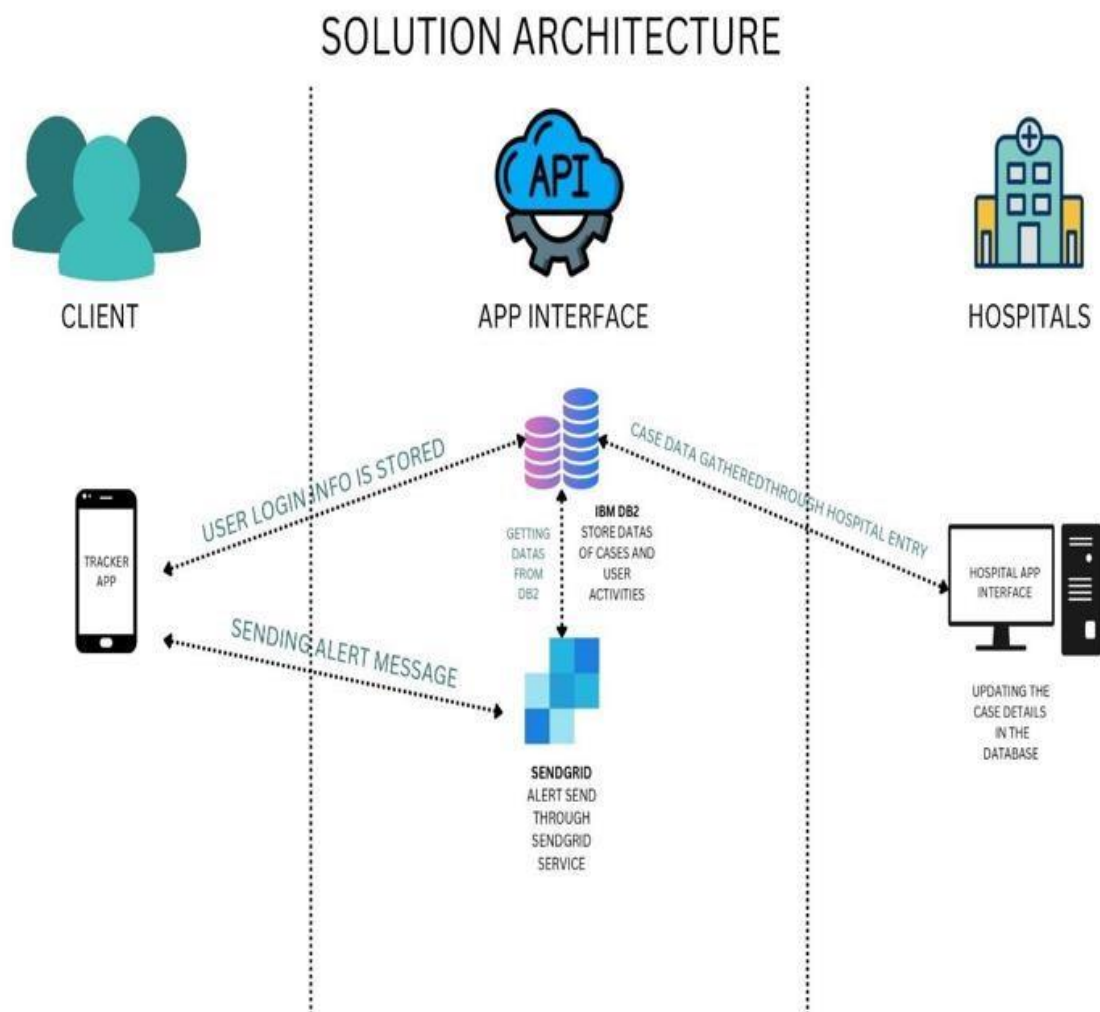


## 5.2 SOLUTION & TECHNICAL ARCHITECTURE

### Solution Architecture:

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

They should login to the app and update the containment zones locations in the portal. Based on the location a Geofence will be created within a 100 meters radius. They should be able to see how many people are visiting that zone.



**Guidelines:**

Include all the processes (As an application logic/Technology Block)

1. Provide infrastructural demarcation (Local/Cloud)

2. Indicate external interfaces (third party API's etc.)

3. Indicate Data Storage components/services

4. Indicate interface to machine learning models (if applicable)

**Table-1: Components & Technologies:**

S.No	Component	Description	Technology
1.	User Interface	The user can interact with our application with the help of Chatbot, etc.	HTML, CSS, JavaScript
2.	Application Logic	The user can login with application, by previously registered in our web app.	Java/Python
3.	Cloud Database	The user data will be stored and retrieved with the help of this database.	IBM DB2
4.	File Storage	The user documents like personal details, tracking documents and much more will be stored in cloud bucket etc.,	IBM Block Storage or Other Storage Service or Local File system
5.	External API	With the help of API, the user can track the location	IBM API, etc.
6.	Infrastructure (Server/Cloud)	Application Deployment on Local System/Cloud	Local, Cloud Foundry, Kubernetes, etc.

## UserStories:

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN - 1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint – 1
		USN - 2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint – 1
		USN – 3	As a user, I can register for the application through Gmail.	I can register & access the dashboard with Google	Medium	Sprint – 1
	Login	USN – 4	As a user, I can log into the application by entering email & password.	I can see the homepage	High	Sprint – 1
	Dashboard	USN – 5	As a user, I can see the options available for User account.	I can see the dashboard	Medium	Sprint – 2
	Background running	USN – 6	As a user, I allow the app to run in background.	I should change the app settings to run app in background	High	Sprint - 2
	GPS	USN – 7	As a user, I allow the app to access my location.	I should accept the permission to access my location.	High	Sprint - 2
	Google Maps	USN – 8	As a user, I can see the containment zones using the maps via Google Maps.	I should accept location permission	High	Sprint – 3
	Notification	USN – 9	As a user, I allow notification access for the application.	I should allow notification access	High	Sprint – 3
Administrator	Login	USN - 1	As admin, I log into the administrator portal.	I can access the admin account.	High	Sprint – 1
	Cloud	USN – 2	As admin, I use the cloud services to maintain users and the contaminated zones data.	I work with cloud services	High	Sprint – 2
	Cloud Database	USN – 3	As admin, I store the user details in the cloud database.	I get the details of the user and store in the cloud database.	High	Sprint – 2
	Maps	USN – 4	As admin, I will enter the containment zone's location.	I should enter correct co-ordinates of containment zones	High	Sprint – 3
	Mail	USN – 5	As admin, I set up a mail system to alert users when they enter a containment zone.	I use online mail system to send mail to users	High	Sprint – 3
	Updating	USN – 6	As admin, I should frequently update the details and the location of the containment zones.	I fetch data from internet and update the zones and the relevant details.	High	Sprint – 4

## **CHAPTER 6**

### **PROJECT PLANNING**

### **SCHEDULING**

#### **6.1 SPRINT PLANNING & ESTIMATION:**

##### **Product Backlog, SprintSchedule,andEstimation**

Use the below template to create product back logand sprint schedule

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	user: I can register by entering my email,password and verifying password	3	High	Priyadharshini.M, Swetha.P, Vijivalakshmi.R, Sandhya.S, Swetha.M
Sprint-1	Registration	USN-2	As a user, I will receive confirmation email once I have registered for the application	2	High	Priyadharshini.M, Swetha.P, Vijivalakshmi.R, Sandhya.S, Swetha.M
Sprint-1	Registration	USN-3	As a user, I can register for the application through Facebook	3	Medium	Priyadharshini.M, Swetha.P, Vijivalakshmi.R, Sandhya.S, Swetha.M
Sprint-1	Registration	USN-4	As a user, I can register for the application through Gmail	2	Medium	Priyadharshini.M, Swetha.P, Vijivalakshmi.R, Sandhya.S, Swetha.M
Sprint-1	Login	USN-5	As a user, I can log into the application by entering email & password	3	High	Priyadharshini.M, Swetha.P, Vijivalakshmi.R, Sandhya.S, Swetha.M

Sprint-1	Login	USN-6	Management: i need to login into my dashboard with my given hospital id	5	Medium	Priyadharshini.M, Swetha.P, Vijivalakshmi.R, Sandhya.S, Swetha.M
Sprint-2	dashboard	USN-7	User: I need to give permission to access my contact,Location, and storage	5	High	Priyadharshini.M, Swetha.P, Vijivalakshmi.R, Sandhya.S, Swetha.M
Sprint-2	dashboard	USN-8	User: i get access to the dashboard which shows a map with containment zones	5	High	Priyadharshini.M, Swetha.P, Vijivalakshmi.R, Sandhya.S, Swetha.M
Sprint-2	dashboard	USN-9	Management: i need to enter the case information of the patient that visits our hospital	5	Low	Priyadharshini.M, Swetha.P, Vijivalakshmi.R, Sandhya.S, Swetha.M
Sprint-2	services	USN-10	Admin: i need to provide valid information about the pandemic out there	5	High	Priyadharshini.M, Swetha.P, Vijivalakshmi.R, Sandhya.S, Swetha.M



Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-3	Dashboard	USN-11	Management: I need to store all the patient information on the cloud.	5	High	Priyadharshini.M. Swetha.P. Vijiyalakshmi.R. Sandhiya.S. Swetha.M.
Sprint-3	services	USN-12	Admin: I need to provide medical advice through a chatbot.	5	Medium	Priyadharshini.M. Swetha.P. Vijiyalakshmi.R. Sandhiya.S. Swetha.M.
Sprint-3	services	USN-13	Admin: I need to provide medical recommendations by collaborating with top hospitals.	5	High	Priyadharshini.M. Swetha.P. Vijiyalakshmi.R. Sandhiya.S. Swetha.M.
Sprint-3	services	USN-14	Admin: I need to provide preventive measures when they travel through it.	5	Medium	Priyadharshini.M. Swetha.P. Vijiyalakshmi.R. Sandhiya.S. Swetha.M.
Sprint-4	Registration	USN-15	User: I can register for the application through Facebook.	2	Low	Priyadharshini.M. Swetha.P. Vijiyalakshmi.R. Sandhiya.S. Swetha.M.
Sprint-4	Registration	USN-16	User: I can register for the application through Twitter.	2	Low	Priyadharshini.M. Swetha.P. Vijiyalakshmi.R. Sandhiya.S. Swetha.M.
Sprint-4	services	USN-17	Admin: I need to alert the user when they enter pandemic zones.	3	Medium	Priyadharshini.M. Swetha.P. Vijiyalakshmi.R. Sandhiya.S. Swetha.M.
Sprint-4	services	USN-18	Admin: I Need to provide special services for premium users by giving services like monitoring health by their smart bands.	3	Low	Priyadharshini.M. Swetha.P. Vijiyalakshmi.R. Sandhiya.S. Swetha.M.
Sprint-4	Data collection	USN-19	Admin: I need to store all the user information on the cloud	5	High	Priyadharshini.M. Swetha.P. Vijiyalakshmi.R. Sandhiya.S. Swetha.M.
Sprint-4	Data collection	USN-20	Admin: I need to collect the recent list of affected people	5	Medium	Priyadharshini.M. Swetha.P. Vijiyalakshmi.R. Sandhiya.S. Swetha.M.

## ProjectTracker, Velocity&Burndown Chart:

Sprint	Total Story Points	Duration	Sprint StartDate	Sprint End Date(Planned)	Story Points Completed (as onPlannedEndDate)	Sprint Release Date(Actual)
Sprint-1	20	6 Days	24Oct2022	29Oct2022	20	29OCT2022
Sprint-2	20	6 Days	31Oct2022	05Nov2022	20	05NOV2022
Sprint-3	20	6 Days	07Nov2022	12Nov2022	20	12NOV2022
Sprint-4	20	6 Days	14Nov2022	19Nov2022	20	10NOV2022

### Velocity:

Imagine we have a 10-days 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).

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

### Burndown Chart:

A burn down chart is a graphical representation of work left to do versus time. It is often used in agile software development methodologies such as Scrum. However, burndown charts can be applied to any project containing measurable progress over time.

<https://www.visual-paradigm.com/scrum/scrum-burndownchart/>

<https://www.atlassian.com/agile/tutorials/burndowncharts>

### Reference:

<https://www.atlassian.com/agile/projectmanagementhttps://www.atlassian.com/agile/tutorials/how-to-do-scrum-with-jirasoftwarehttps://www.atlassian.com/agile/tutorials/epicshttps://www.atlassian.com/agile/tutorials/sprintshttps://www.atlassian.com/agile/project-management/estimationhttps://www.atlassian.com/agile/tutorials/burndown-charts>

## CHAPTER 7

### CODING & SOLUTIONING

#### 7.1 FEATURE-1

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

#### CODING:

```
<!DOCTYPEhtml>
<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'); back
ground-repeat: no-repeat; background-size:
cover; background-position: top; z-index: -2;
}

#display { color:
white; font-size:
2.9em; top: 10px; border-
bottom: 1px solid;
padding-bottom:
20px; opacity: 0.80;
filter: alpha(opacity=80); /*For IE8 and earlier*/
}
```

```
#date
{
  color:
  white;
  font-size:
  1.3em;
  font-family:Georgia,"TimesNewRoman",Times,serif;fontweight:normal; letter-spacing:
  0.2em;opacity:0.6;
  filter:alpha(opacity=60);/*ForIE8andearlier*/
}
```

```
#footer{ width:
  100%;height: 40px; position:
  fixed;bottom:1px; background-color:
  white;text-align:center;opacity:0.5;
  filter:alpha(opacity=50);/*ForIE8andearlier*/
}
```

```
#line{
  width:
  h:
  100%;bottom:
  4em;positio
  n:fixed;
  border-bottom:solidwhite;
```

padding:

```
15px;opacity:    0.5; filter:alpha(opacity=50);/*ForIE8andearlier*/
}
```

```
.navbar{position
:
fixed;width :10 0%; opacity:0.6;
filter:alpha(opacity=60);/*ForIE8andearlier*/
/
}
```

```
.wrapper{  backgroundcolor:red;
}
```

```
span{
border-radius:    100px;opacity:0.75;
filter:alpha(opacity=75);/*ForIE8andearlier*/
}
```

```
#content{height:
45em;
}p{
maxwidth
th:
30em;color:
white;
fontfam
ily:"Ad
obeCasl
```

```
onPro",
"Hoefle
rText",
Georgia
,Garam
ond,Ti
mes,
serif;let
terspaci
ng:0.1e
m;
textalig
n:center
;margi
n:40pxa
uto;

text-transform:
lowercase;lineheight:
145%; font-size:2em;
font-variant:smallcaps;
}
```

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

```
.container{paddi
ng -top:
6em;textalign:c
enter;
}
```

```
#b-nav{
paddingbottom:
5em;position:fix
ed; 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-navullia{
textdecoration:
none;padding: .2em
1em;backgroundcolor:
black;opacity:0.4;
filter:alpha(opacity=40);/*ForIE8andearlier*/
}
```

```
.hold{
width
h:
```

```
100
%;te
xt-align:left;
}

#gen{
outline:none;paddi
ng-top:
5px;textdecoration
: none;opacity:0.6;
background-color:
black;color:white;
border:thin solid wh
ite;h
eight:40px;
width:
100px;borderradiu
s:
2px;transition
: 0.5s;
paddingbottom:5px;
}
```

```
#gen:hover{

background-color:
white;color:black;
border: thin solid
black;opacity:0.8;
}
```

```
#gena{ textdecoration:none;
```



```
}
```

```
#date{ color:white;
```

```
}
```

```
@mediascreen          and(max-  
devicewidth:800px)and    (max-device-  
height: 640px)and (webkit-device-pixel-  
ratio:
```

```
2)and
```

```
(orientation:p
```

```
ortrait){ p{
```

```
fontsize:1em;
```

```
}
```

```
}
```

```
.fa-twitter{ font-size:
```

```
30px !important;
```

```
marginleft:2
```

```
0px;
```

```
}
```

```
</style>
```

```
<linkrel="stylesheet"type="text/css"href="https://cdnjs.cloudflare.com/ajax/libs/font-
```

```
awesome/4.7.0/css/font-awesome.min.css">
```

```
<bodyonload="startTime();startDate()">
```

```
<divclass="container">
```

```
<divid="date"></div>
```

```
<divid="display"></div>
```

```
<divid="content">
```

```

        <divclass="logged"></div></p>
        <pid="quote">"SUCCESSFUL!"</p>
        <a href="\table"><button type="button">ZONELIST</button></a>
<a href="\addzone"><button type="button">ADDZONE</button></a>
        <a href="\removezone"><button type="button">REMOVEZONE</button></a>
    >
</div>
</div>
</body>
</html>

```

## 7.1 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>
```

```
<style>html
```

```
{
```

```
body
```

```
{
```

```
background
```

```
:
```

```
#333;
```

```
height:100%;overflow: hidden;text-align: center;
}
```

```
.svg-wrapper {height:60px;
margin: 0 auto;position: relative ; transform: translateY(-50%);width:320px;
}
```

```
.shape{
fill:transparent;
stroke-dasharray:140540;
stroke-dashoffset: 474;strokewidth: 8px;stroke:#19f6e8;
}
```

```
.text{
color:#fff00;
```

```
fontfamily:'RobotoCondensed';font-size:22px; letter-spacing:8px;line-height:32px;position: relative;top:300px;}
```

```
@keyframes draw
```

```
{0% {stroke-dasharray:140540;stroke-dashoffset: 474;stroke-width:8px;}100% {stroke-dasharray:760;stroke-dashoffset:0;stroke-width:2px;}}
```

```
.svg-wrapper:hover.shape{-webkit-animation:0.5sdrawlinearforwards;animation:0.5sdrawlinearforwards;}
```

</style>

<formaction="/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 solidblack;top:250px" placeholder="Enteremail-id" required>

<divclass="svg-wrapper">

<div>

<button type="submit" id="button" class="text" style="color:yellow;top:300px;backgroundcolor:#99ffff"><a href="/loc">Notifyme</a></button>

<pstyle="color:yellow;fontsize:18px;top:300px">EnteremailaddresstobenotifiedonandClick onNotifymetogetalertmessageifyou are inContainmentZone</p>

</div>

</form>

</div>

</body>

</html>

## 7.2 DATABASE SCHEMA



## CHAPTER 8 TESTING

### 8.1 TESTCASES

1. Loginbuttonclick withwrong credentialsentered.
2. SignupwithalreadyregisteredmailID.
3. Signupwithwrongformdataentered.
4. Entering homepagewithloggedoutsession.
5. Clickinghomepagebuttonswithloggedoutsession.
6. Invaliddataenteredinchangepasswordpageandrequestedfor changein 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

## CHAPTER 9 RESULTS

### 9.1 PERFORMANCE METRICS

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

## Sign Up to create an account with us

**Signup**

[Already have an account ... Login](#)

**REGISTRATION FORM**

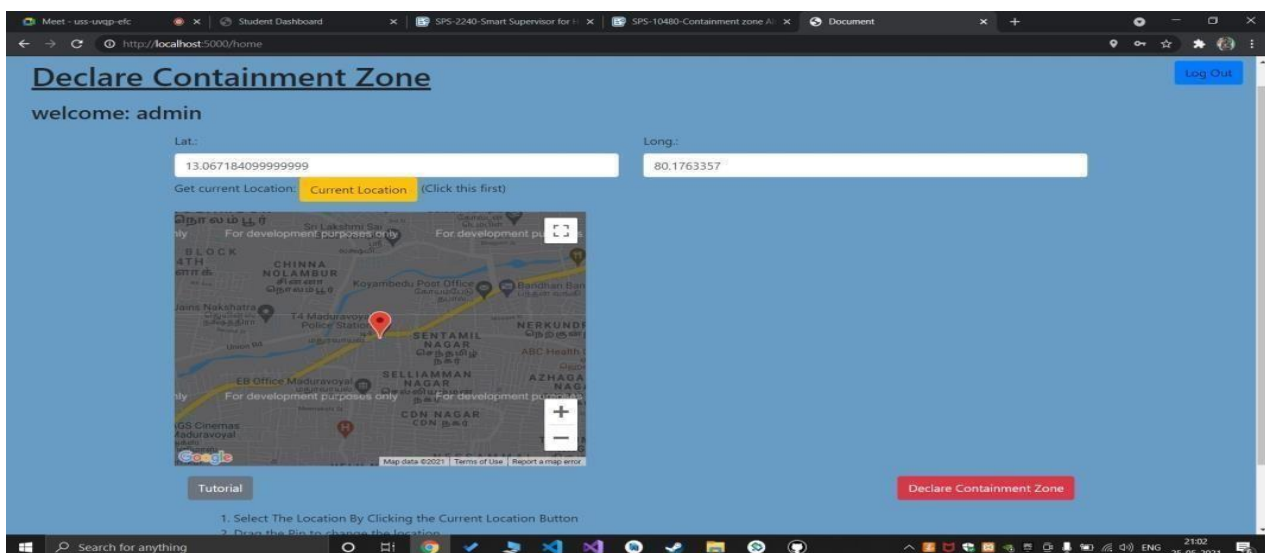


## Log In to add the location of the containment zone

Login

[Don't have an account ... Create One](#)

## LOGIN FORM



## ADD CONTAINMENT ZONE

← → ↻ http://localhost:5000/data ☆ ★ ⓘ

### Location data and Visited People

S.No	Latitude	Longitude	No_Visited
1	13.069148883848849	80.17551259999999	0
2	13.068498821079215	80.1704513893799	0
3	12.979174795975714	77.59973092596437	0
4	14.469858338289407	75.91959519903565	0
5	13.062359612480321	77.5638966135254	0
6	15.840542738858232	76.64209647695924	0
7	15.3172775	75.7138884	0

Go to location update Page

### DISPLAY THE CONTAINMENT ZONE UPDATION DATA

9:06 9:07

Client\_Containment Client\_Containment

Sign Up

Name

Email

Password

SIGN UP

13.06816/80.17039

### USER SIGNUP AND CURRENT LATITUDE IN ANDROID APPLICATION



**NOTIFY THE CONTAINMENT ZONE TO THE USER**

## **CHAPTER 10**

### **ADVANTAGES&DISADVANTAGES**

#### **10.1ADVANTAGES&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.

## **CHAPTER11**

### **CONCLUSION**

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 the 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 application 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.

## **CHAPTER12**

### **FUTURESCOPE**

The application provides an efficient way of showing the identified COVID19 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.

## **CHAPTER 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{
```

```
backgroundi
```

```
mage:
```

```

url('E:/background.jpg');background-
repeat:norepeat;          background-
attachment:
fixed;background-size: cover;
}

a:link{colo
r:gr een;
}

</style>

<head>

<metacharset="UTF-8">

<metahttp-equiv="X-UA-Compatible"content="IE=edge">

<metaname="viewport"content="width=device-width,initial-scale=1.0">

<title>CZAA|HOME</title>
<metacharset="UTF-8">

<!--favicon-->

<!--<linkrel="shortcuticon"href="/assets/img/favicon.ico"type="image/x-icon">-->

<!--<linkrel="icon"href="/assets/img/favicon.ico"type="image/x-icon">-->

<linkrel="icon"type="image/jpg"sizes="16x16"href="E:\nature.jpg">

<!--bootstrapcsscdn-->

<link                                rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css"integrity="
sha384-
JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z"crossor
i gin="anonymous">

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

<!--cssstylesheet-->

```

```

<linkrel="stylesheet"href="css/style.css">

<!--fontstylescdn-->

<linkrel="preconnect"href="https://fonts.gstatic.com">

<link href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap"rel="stylesheet">

<linkhref="https://fonts.googleapis.com/css2?family=Alegreya:wght@600&display=swap"rel="stylesheet"> </head>

<body>

<!-- bootstrapnavbar-->

<navclass="navbarsticky-topnavbar-expand-lgnavbar-dark">

    <divclass="container-fluid">
        <a href="#"><imgsrc="E:/smartintern.jpg"alt="sheep- logo"height="50px"
width="180px">
        <!--<a class="navbar-brand"href="index.html">JobPortal</a-->

    </a>

    <divclass="rowdonate-sponsor">

        <a
            type="button"
            class="btn btn-success mr-1"
            id="donate"href="login.html">LOGIN</a>

        <a type="button"class="btnbtn-successmr-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">CONTACTUS</a>

    </div>

</div>

</nav>

```

```
<!-- navbarends-->
```

```
<!--what wefocuson-->
```

```
<sectionclass="our-focus">
```

```
<divclass="container">
```

```
<h2class="text-centermt-3">Aboutus</h2>
```

```
<divclass="rowml-3mt-3">
```

```
<divclass="col-lg-3mr-5" id="focus-first">
```

```
<divclass="card" style="width:19rem;">
```

```
<divclass="card-body">
```

```
<h5class="card-title">Mission</h5>
```



`<pclass="card-text"><i>Themissionofthecontainmentzonealertingapplication is to provide alerts to users in containment zones in order to prevent the spread ofCOVID-19.</i></p>`

`</div>`

`</div>`

`</div>`

`<divclass="col-lg-3mr-5"id="focus-second">`

`<divclass="card"style="width:20rem;">`

`<divclass="card-body">`

`<h5class="card-title">Vission</h5>`

`<pclass="card-text"><i>TheContainmentZoneAlertingApplicationisdesignedtohelpauthoritiesalertthepublicaboutare asthathavebeendesignatedascontainmentzones.Theappwillallowuserstoseeamapofthecontainment zone andreceivealerts when they are nearone. The app will also provideinformation on how toavoidcontractingandspreadingthedisease.</i></p>`

`</div>`

`</div>`

`</div>`

`<divclass="col-lg-3ml-5"id="focus-third">`

`<divclass="card"style="width:20rem;">`

`<divclass="card-body">`

`<h5class="card-title">Objective</h5>`

`<pclass="card-text"><i>Theobjectiveofthecontainmentzonealertingapplication is to alert the residents of the containment zone about the outbreak of a disease. Itwillhelpthemtotakepreventivemeasurestoavoidthe disease.</i></p>`

`</div>`

`</div>`

`</div>`

</div>

</div>

</section>

<footer>

<center>

<divclass="col-xs-2col-md-4">

<h3><b>GetinTouch<b></h3>

<ulclass="footer-links">

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

<h5>Mobile:<a href="9304050989">+919304050989</a></h5>

</ul>

</div>

</center>

</footer>

</body>

</html>

LOGIN.HTML

<!DOCTYPEhtml>

<html>

<head>

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

<link rel="stylesheet"

href="https://cdnjs.cloudflare.com/ajax/libs/fontawesome/4.7.0/css/fontawesome.min.css">

```

<style
>
body{
    font-family:Arial,Helvetica,sans-serif;
}

*{
    boxsizing:borderb
ox; }
/*stylethecontainer
*/

.container{position:
relative;borderradiu
s:5px; backgroundcolor:
    #f2f2f2;padding:20px030px0
    ;
}
/* style inputs and link buttons
*/input,
.btn{ width:100%;p
adding      :
    12px;border:
    none;borderra
    dius:4px;
    margin:5px0;
    opacity:0.85;
    display:
    inlineblock;fo
    ntsize:
        17px;
    lineheight:20px;
    text-decoration:none;/*removeunderlinefromanchors*/
}

input:hover,
.btn:hover
    { opa

```

```
city:1;
}

/*addappropriatecolorstofb, twitter andgooglebuttons*/
.fb{
  background-color:
    #3B5998;color:white;
}

.twitter{ background-color:
  #55ACEE;color:white;
}

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

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

input[type=submit]:hover
  {background-color:#45a049;
}
/*Two-columnlayout*/
.col{float
:1e      ft;
width:
50%;mar
gin: auto;pad
ding:  0
50px;mar
gintop:6p x;
}

/*Clearfloatsafterthecolumns*/
```

```
.row:after
{
  content:
  "";display:
  table;clear:
  both; }

```

```
/*verticalline*/

```

```
.vl{
  position:absolute;left:
  50%;transform:
  translate(50%);border: 2px
  solid
  #ddd;height:175px;
}

```

```
/*textinsidetheverticalline*/

```

```
.vlinnertext{position:
absolute;top:50%;
transform: translate(50%,
50%);background-color:
#fff;border:1pxsolid
#ccc; border-radius:
50%;padding:8px10px
;
}

```

```
/*hidesometextonmediumandlargescreens*/

```

```
.hide-md-lg
{
  display:none;
}

```

```
/* bottomcontainer*/

```

```
.bottom-container
{
  text-align:center;
  background-color:#666; border-
  radius:
}

```

```
0px0px4px4px;
}
```

```
/*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{ width:100%; margin-top:0;
}
```

```
/*hide the vertical line*/
```

```
.vl{ display:
none;
}
```

```
/*show the hidden text on small screens*/
```

```
.hidemdlg{ display:block
;text-align:center;
}
}
```

```
</style>
```

```
</head>
```

```
<body>
```

```
<h2><b>LoginForm<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="fbbtn"><i class="fafa-facebook fa-fw"></i> Login with Facebook </a>
```

```
<a href="#" class="twitterbtn">
```

```
<i class="fafa-twitter fa-fw"></i> Login with Twitter
```

```
</a>
```

```
<a href="#" class="googlebtn"><i class="fafa-google fa-fw">
```

```

        </i>LoginwithGoogle+
    </a>
>
</div>
>

<divclass="col">
    <divclass="hide-md-lg">
        <p>Orsigninmanually:</p>
    </div>

    <inputtype="text"name="username"placeholder="Username"required>

    <inputtype="password"name="password"placeholder="Password"required>
    <inputtype="submit"value="Login">

</div>

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

```

```

<divclass="bottom-container">
    <divclass="row">
        <divclass="col">
            <a href="#" style="color:white"class="btn">Signup</a>
        </div>

        <divclass="col">
            <a href="#" style="color:white"class="btn">Forgotpassword?</a>
        </div>
    </div>
</div>
</div>

</body>
</html>

```

## REGISTER.HTML

```

<!DOCTYPEhtml>

<html>

<head>

```

```

<metaname="viewport"content="width=device-width, initial-scale=1">
<style
>
body{
    font-family:Arial,Helvetica,sansserif;backgroundcolor:black;
}
*{
    boxsizing:
    borderbox;
}
/*Addpaddingtocontainers*/
.container{ paddin
    g      :16px; background-
    color:white;
}
/*Full-widthinputfields
*/input[type=text],input[type=password]{ width:100%;padding:1
    5
    px;margin:5px022px0;
    d      isplay:
    inlineblock;border:non
    e;back ground:#f1f1f1;
}

input[type=text]:focus,input[type=password]:focus{ backg
    round-
    color:#ddd;
    outline:non
    e; }

/*Overwritedefaultstylesofhr      */hr{
    border:1pxsolid#f1f1f1;mar
    ginbottom:25px;
}

/*Setastyleforthesubmitbutton*/
.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;
    }

    /* Setagreybackground colorand centerthetext ofthe "sign in"section*/
    .signin{
        backgroundcolor:
        #f1f1f1;text-align:center;
    }
</style>
</head>
<body>

<formaction="/action_page.php">
    <divclass="container">
        <h1>Register</h1>
        <p>Pleasefillinthisformtcreateanaccount.</p>
        <hr>

        <labelfor="email"><b>Email</b></label>
        <inputtype="text"placeholder="EnterEmail"name="email"id="email"required>

        <labelfor="psw"><b>Password</b></label>
        <inputtype="password"placeholder="EnterPassword"name="psw"id="psw"required>

```

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

<input type="password" placeholder="Repeat Password" name="pswrepeat"
id="pswrepeat"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-33892-1660228685>