***COVID-19 PATIENT TRACKER***

**Project Requirements**

# Introduction

Covid-19 Patient tracker is an android application that uses data stored on the cloud from the hospital staff and helps to keeps track of Covid-19 infected person. Once the person is reported that he is covid positive. Then this application is to be downloaded in his mobile phone which is followed by a little survey that indicates he is covid positive or not and his residential details are also stored so that nearby people can be informed. The application tracks details about the date at which he was infected and also tell about the recovery of patient. For example; As it indicates 1 infected person is in locality of 3 Miles, 4 have recovered from Covid -19 in 3 Miles range like wise.

# Functional Requirements

The Covid 19 patient tracker is tracking the number of patients in a particular area by connecting their mobile Bluetooth with the server. Cloud server tracks the number of active cases in the area, no of recovered patients, also provides a brief about the covid 19 cases in various cities and countries.

The major functional requirement of the project are as follows:

1. **Create entry of new patient: -** This feature works for the hospital staff whenever a new case is reported, the details are entered into the Covid-19 database. The information includes Patients name, Address details, Mobile number, date from which he is having symptoms, Covid-19 report, recovery details, Medicines given etc.
2. **Login to Covid-19 application: -** This feature works for the patient as he has to install the application in his phone, take a quick survey, if the survey says he is

having any symptoms then emergency service is notified for that. Then the person is tracked by the government official for Covid-19 testing.

1. **Check details of Covid patients: -** This feature works for doctors, they can check details of patient by entering patients name and ID.
2. **Check the medication given: -** This feature helps doctors to keep track of patient’s details.
3. **Status of patients: -** once the patient is recovered from Covid-19, the application will make the status recovered, so that people around can be notified about active cases, recovered cases, and death cases in their locality.
4. **Area wise tracking: -** The application will keep track of the covid-19 cases area wise. Once the user login to the application and completes survey. The application will notify that user is safe, infected, or recovered and gives details about the area wise number of cases.
5. **Notification: -** This feature works when the user keeps Bluetooth of his phone on, as whenever any infected person comes in that Bluetooth range the person is notified that you have come in contact with this many Covid-19 positive patients*.*

**Use cases: -**

The following use cases describes a minimum set of tasks that Covid-19 application tracker will support

1. **Checking Login details: -**

Use case goal - User registers to the application using login id and password. The login id is users email address and password can be anything.

Other resources needed- The login details are stored on the server database in the cloud.

User actions: - The user enters login detail, takes a survey and creates account.

Product action: -The user account is maintained by the app like, date at which the user login, details of the survey, symptoms, status etc.

1. **Checking Hospital staff Login details: -**

Use case goal - Staff registers to the application using login id and password. The login id is provided to the staff and password as well.

Other resources needed- The Patients details are stored on the server database in the cloud.

User actions: - The staff enters login detail, creates patients account and stores all the details of the patient as name, address, mobile no, status details etc.

Product action: -The staff account manages patient’s data and keeps the data up to date.

## 3. Checking Patients details: -

Use case goal – Doctors and hospital staff can check patients details by entering patients ID and name in the application.

Other resources needed- Doctors and staff login credentials are required to access Patients details or database.

User actions: - The doctor or staff enters login detail, check patient’s details.

Product action: -The patients account is maintained by the app like name, address, data of admission, status of patient etc.

## 4. Send notification

Use case goal - User makes entry to the application and whenever any Covid-19 patient comes in contact the application will notify about the no of covid patients in that locality.

Other resources needed- The notification details are updated whenever any user changes its location.

User actions: - The user enters login details and checks the status of the place that shows number of people infected (Active cases, Recovered, death cases)

Product action: -As soon as user starts using application the screen displays updated list of people in 1Mile range, 3 Miles range, 6 Miles range and also the city as well as country update on number of Covid-19 cases.

## 5. Status of Patient

Use case goal – Doctors and staff login to the application to check the status of patient

Other resources needed- The patient’s details are updated whenever any new medication is given, or symptom change is encountered.

User actions: - The staff enters patients details in his account and sends details to the doctors.

Product action: -As soon as patient starts recovering the status update will work and change the status of patient in the total number of active states to recovered state.

Likewise, if the patient dies the status updated from Active case to death case.

# Non-Functional Requirements

The non-functional requirement of the project are as follows: -

## Platform

This application is a website that keeps track of the patients. It usually needs only a browser to access the database stored on the cloud. As well as it requires an Android mobile to access the mobile application of Covid-patient tracker

## Performance

The app will be connected to internet throughout as well as Bluetooth of the mobiles are kept ON throughout. And for website version only internet is required.

## Security

It will carry lot of sensitive information’s like phone number and location, so we will ensure extra safety of the user data set. We will have to encrypt the user data as it should be only received through secure channel to ensure the data is not accessed by any third party. To save the data we use google cloud platform console where there exists an API key that is used to store the data with encryption.

## User Characteristics

Users don’t require to be technically sound, only they need to know how to use any application by simply following the steps. For website version the user should have knowledge about data entry level.

## Scale

The system must support a large number of users, as very large population needs to install it and keep track of their location details. So, a large number of file support should be there.

## Documentation

1. *Design Documentation*. This document shall be a detailed design that tells us as how user and hospital staff interact with the application as well as website data. It tells us about the features like application login, entering details, checking status, notification etc. The application developer designs this document for better understanding of the application
2. *User Documentation*. This document provides details about you installing application from play store then taking a quick survey, checking status of people around.
3. *Web Site*. A web site shall be produced that maintains the system. The audience of this site is Hospital staff users considering the system and updates the system whenever new entry of patient comes and updating existing patients, this site can be hosted anywhere where it’s convenient.

## Data Formats

The input /output format is simple, the patient’s data have their particular format. For ex- Name should be string, Mobile number using number format etc.

### Internationalization

The project now supports only English language, in future prospect it can support many languages.

***Environment***

No there is no specific physical environment requirement, It can work in any condition.

### Expected Enhancements

As the system right now is only working for one language as English, in future it will support many languages.

### Date

The final presentation will be on or about the last day of classes of the Spring 2021 semester. The final demonstration (if needed) and the documentation will be due at the end of finals week.