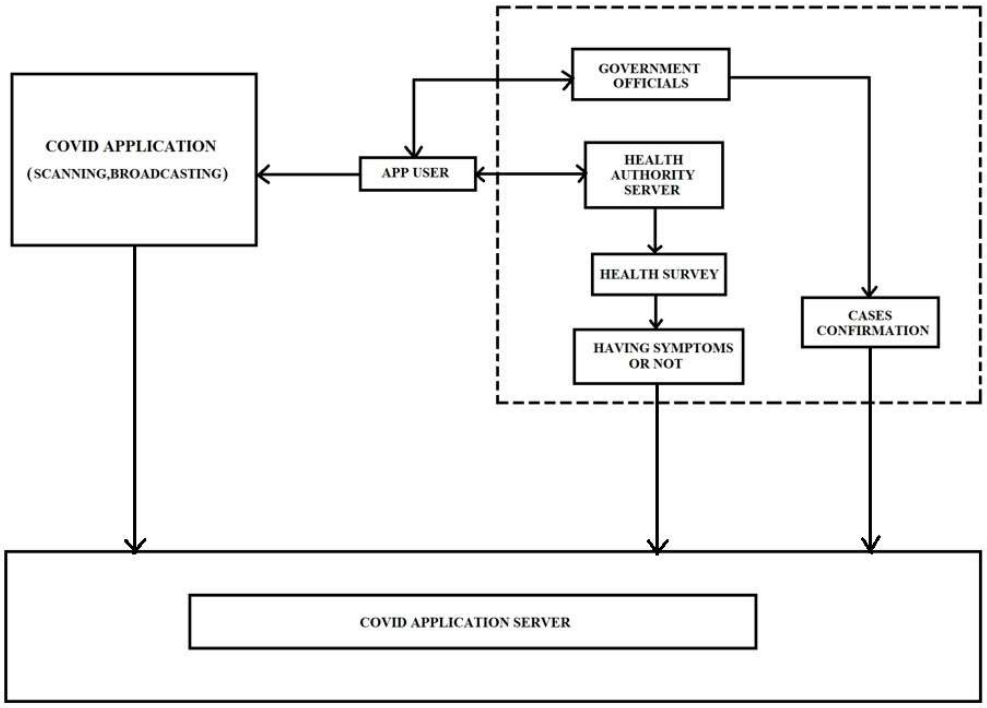
CSCE 5430 SOFTWARE ENGINEERING
PROJECT DELIVERABLE 2

GROUP: BRAINSTORMERS

1. SYSTEM ARCHITECTURE AND DESCRIPTION:



Global epidemic known as COVID-19 that affected individuals all over the world. Due to the pandemic, this has turned into an outbreak, and a significant number of people were affected. The only means of overcoming it are the development of vaccines, preventive measures, and awareness. In some ways, the software we create will serve to educate others. In India, we also have a highly sophisticated software called Arogya Setu, if users submit their information after testing positive, alerts neighbors to exercise caution and isolate themselves, which is really helpful. To some extent, the corona virus can be stopped from spreading.

WORKFLOW:

- It also inquires as to who might qualify as a volunteer.
- It alerts the users if there are any updates.
- From the above diagram, the app user communicates with health care authorities and doctors to get the required information about the recent coronavirus health information.
- The admin verifies the information.
- The admin also collects the world data by using the statistics.
- The information will be gathered from Governments official website which will be updated continuously.
- Every Covid test center will have the most up-to-date information on daily positive test cases so the test center updates its database daily that will be updated in the app database.
- By contact with doctors and other healthcare professionals, the administrator also gathers preventative measures and the procedures to take when tested positive in order to put that information in the app.
- The Covid application server will hold all of the data. The Covid application server is where the content for the app is posted.

- **App user:**

  He is the administrator who gathers every piece of data and uploads it to the Covid application server.

- **Health authority server:**

  This provides guarantee that all Sooner Care members continue to have access to necessary services throughout the COVID-19 epidemic, the Authority will take the necessary precautions. The safety of our employees and members is our top priority.

- **Health survey:**

  They aid in providing news about the everyday accessibility of information about fatalities, successfully treated patients, etc. Information is also provided to us by the government's official website.

2. REQUIREMENT SPECIFICATIONS:

All Functional requirements:

1. Firstly, User must be registered for the app. For that name, gender, age is required and a signup module is required.

2. It allows you to see COVID detected cases in all over world and state wise cases in real-time.

3. A health survey for the users is conducted in the app.

4. If any of the user is tested positive, it will update the positive result in the Covid app.

5. If any of the user is tested positive, it will give precautions accordingly.

6. In user and volunteer forums, we will give links where user or volunteer can donate or contribute goods like food, clothing and medicines.

7. In case of any emergency or urgency, helplines and government organizations are provided.

All non-functional requirements:

1. The program should be able to manage user data (caches, saved data, etc.) without delay by optimizing how storage is done and accessed.

2. To compare all authentication tokens, they should be saved locally on the device, and access requires user authorization.

3. To avoid further marginalization and prejudice, digital monitoring must address this potential downside.

4. Data sharing with other parties should be regulated by legislation to ensure privacy, prevent misuse, and provide people a voice in cases of misconduct.

5. Using MySQL for Security and privacy of data.

6. The user should be able to review the app and make essential contacts through the app.

Interfaces:

- Android studio is used to build this android application

  The software requirements for android studio:

  Features of android studio:
  1. Android Studio provides fast turnaround on your coding and running workflow.
  2. At every step, Android Studio helps ensure that you're creating the best code possible.
  3. Android Studio's project structure and Gradle-based builds provide the flexibility you need to generate APKs for all device types.
  4. Android Studio knows not all code is written in Java, and not all code runs on the user's device.
  5. Android Studio provides GUI tools that simplify the less interesting parts of app development.

- Java JDK is used to provide tools that are required to write, execute and run the programs in Java.

- Windows i3 500 GB HDD is required to run the project.

- MySQL is used to store the data for this Application.

- We are using Zoom meetings for the meetings and communication.

- We use trello Kanban to have clear view on the project. There we will have all updates, to-dos, ongoing work of the project.

- We also use the GitHub for storing our code of our project.

3. Development Phase:

- Mobile apps allowed for digital contact tracing—the identification of those who may have come into contact with an infected person—during the COVID-19 outbreak.

- Numerous monitoring apps have been developed or are currently being developed with the help of various governments. For a wide range of applications, frameworks are already available that may be used to find missing connections. Users' privacy has come under scrutiny due to technology that could track their activities using a smartphone app.

- Instead than using Bluetooth signals, there are less intrusive alternatives to monitor a user's proximity to other phones. Bluetooth location tracking of mobile devices has been used in the past. On April 10th, 2020, native Bluetooth app compatibility will be made available for Android and iOS. COVID-19 has grown more as a surveillance tool than other application.

- We have three phases in this plan as the parts of the project.

    1. Design Phase – User Interface and User Experience.

    2. Application Development Phase – App Screens and how they connect.

    3. Testing Phase

Design Phase (phase1):

- The design stage will act as a blue print for the project.

- In this phase, we will implement the User Interface and User Experience.

- We will design and develop the User Interface for the android application.

- We use Android studio for the implementation of UI for the Android Application.

- In this Design phase, we will design all the screens that are required for the Android Application.

- We will be creating a Signup module.

Application Development Phase (phase2):

- In the Development Phase, we will develop flow between the screens in the android application and will connect all of them using android studio and Java JDK.

- All the Screens will be developed and required database will be established. For example, if someone is tested positive and their status is updated in the application they need to get the required precautions for the result updated and that will be given through the database based on severity of the user.

- Security is the main important part of this phase.

Testing Phase (phase3):

- Testing Phase is the final Stage of our project.

- The first thing in the testing phase is to identify the errors or bugs in the project.

- After the code is being generated it is tested according to the requirements.

- We should test our app's features thoroughly even if just small part of the source code is altered.

- User interface, visuals, and functionality are things that change once we alter a piece of code.

- After the code is certified with no errors, we are ready maintenance.

4. Member contribution table:

Members	Contribution
Vaishnavi Mandadi	I have organized the team meetings, worked on deliverable 2, worked on functional requirements.
Aishwarya Yadav Jala	I have worked on meeting minutes, note deliverable 2 and discussed few things about development phase. Attended group meetings.
Venkata Sai Reshma Kallepalli	I have worked on deliverable 2 documentation; I have worked on non-functional requirements. Worked on interfaces. Attended group meetings.
Akshaya Sampelli	I have worked on development phase, I worked on structure diagram and attended group meetings.
Kiran Jyothi Bodduluri	I have worked on system structure diagram, and all the modules in it. I have attended all the meetings. Shared few ideas in the meetings.
Sahit reddy Chintakuntla	I have worked on interfaces and contributed some points in development phase. I have also worked on deliverable 2.attended group meetings.
Rajashekhar reddy Moddu	I have worked on system structure description. I have attended the group meetings