

# SARS COVID- 19 Detection Through AI

Fall 23 - CS692 - Capstone Project Pace University

*Subject: CS691*

*Prof. Henry Wong*

# Agenda



# Agenda

Team Member Roles and Responsibilities	Improvements made from Professor Feedback	Project Description	Team working agreement	Personas (at least 3)	MVP
Technologies	Algorithms	Diagrams	Sprint 1-4 Recap(CS-691)	Sprint 5-6 Recap(CS-692)	Product Backlog
All the Users Stories or Tasks (Technical Stories)	Sprint 7 Backlog	Stories or Tasks committed for this Sprint ( Stories and Acceptance Criteria)	Test Cases	Stories completed and Stories not completed	Metrics
Retrospective	Project Demo - ( current sprint)	Slides for API	Github link	Live Application Demo	

# Team Member Roles and Responsibilities



Vamshi  
(Product manager)



Alekhya  
(Tester)



Hanith atluri  
(Developer)

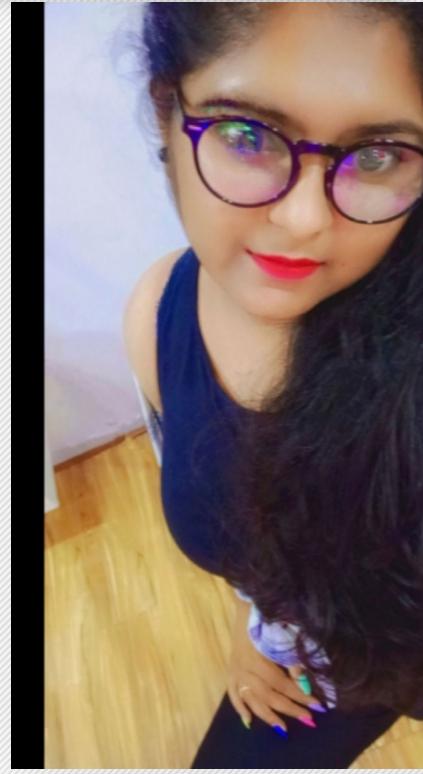
# Team Members Roles and Responsibilities



Anusha Nunna  
(Developer)



Venkatesh  
(Quality Analyst)



Reshma Gonu  
(Developer)



## Improvements made from Professor Feedback from Sprint- 01 to Sprint - 05

- **Rewriting of sprint schedule**
- **Need to correct the role name in team member's slide.**
  - In response to the professor's feedback, we've made the necessary adjustments to the role name this time.
- **Need to provide a verbal explanation while demonstrating the functionality of an MVP application.**
  - During the previous sprint, our MVP demo lacked audio. However, this time, we've rectified this issue by including both audio and a functional video.
- **Need to present good team velocity chart and burndown chart, required to explain about velocity report and burndown chart in the video presentation.**
  - We have addressed the professor's feedback by providing an explanation of the velocity report and burndown chart.
- **It is necessary to include the story point estimate and note that the acceptance criteria is not presented on a separate slide; rather, it's integrated into the user story itself.**
  - This time we have mentioned the story point estimate. Also, we mentioned the acceptance criteria in user story.
- **Require improved diagrams.**
  - We have furnished explicit diagrams.

# Improvements made from professor feedback from Sprint-06

- ❖ **Need to mention the context for API**

As noted by the professor in the feedback for sprint-6, we have provided the context for the API.

- ❖ **Need to change the column name 'place' in user stories slide**

The column name previously labeled as 'place' has now been changed to 'page.'

- ❖ **Need to mention the product backlog slide**

As per the feedback from the professor, we have included the product backlog slide.

- ❖ **In test cases slide need to rename the column name from 'Key' to 'user story id / test id'**

In response to the professor's feedback, the column formerly named 'Key' has been updated to 'user story id / test id'

- ❖ **Need to mention all sprints velocity Average in velocity report, Also need detailed explanation about velocity report and burndown chart**

In accordance with the professor's feedback, we have included the average velocity of all sprints in the velocity report. Additionally, a comprehensive explanation of the velocity report and burn-down chart is required.

- ❖ **Need to summarize about user stories and test cases**

This time, we have provided clear details regarding both the user stories and test cases.

- ❖ **Need to mention Committed ration for all sprints not for single sprint**

In response to the professor's feedback, we have documented the ratio for all sprints.

# Project Description



# Project Description

Project Name:	SARS Covid-19 detection through AI
Team:	Mission Possible
Project description:	<p>For users Who want to know their feedback on covid-19 reports the let it free Is a web app That checks users reports and provides the accurate result Unlike if users not able to go hospitals in the covid-19 situation Our application will help them to submit their reports and they can get their accurate result. Based on their result they can order the medical kit and they can make an appointment to the doctors as well.</p>
Benefits outcomes:	It the users can use our application they can easily get their covid-19 accurate feedback. Based on that they can order the tool kit and they can take the precautions s well.
Github link:	<a href="https://github.com/htmw/2023S-Team4/wiki">https://github.com/htmw/2023S-Team4/wiki</a>

# Team 4 - Mission Possible Team working agreement

## Team Agreement

### Personal Interaction

- There will be several ways for team members to communicate with one another.
- This team will be using the zoom meetings once a week for productive team conversations.
- There will be more partnership and visibility on the team if everyone keeps their straight faces.
- A WhatsApp chat group or zoom meet will be utilized for any last-minute questions or concerns, as well as for any other pressing matters.
- Google Docs, WhatsApp, slack where all members of the team may work together to create a single document, will be used to distribute the final yields, and provide quality control.

### The distribution of the work and levels of participation

- Every member of the team should have about the same amount of responsibility for the project, and the workload should be split proportionally.
- Everyone on the team needs to get their task done on time.
- Their inability to meet deadlines will have a negative impact on the efficiency of the whole group. In the event that a squad member is having difficulty at any moment, they may let their teammates know so that they could still all pitch in to get things done on time.
- It is anticipated that each member of the team would show up to the meetings in a timely manner.
- Activity is split amongst participants in the group on a limited basis; nevertheless, in the event that members fail to participate, the product owner retains the right to delegate appropriate responsibilities to absentee individuals.
- In the event that they are unable to attend meetings, members have agreed to support any decision that is reached and unanimously agreed upon during such sessions.

### Managing conflicts

- Each member of the group would be in charge of coordinating the meeting's logistics and presiding over the gathering.
- Each person in the group is responsible for contributing ideas, engaging in conversation, and reporting on the status of their assigned tasks.
- Virtual weekly team meetings will take place on Zoom between Mondays and Wednesdays. Except perhaps in emergencies, engagement at team meetings is required of all personal.

### Others

- Maintaining an open forum where everyone on the team may voice their thoughts at all times.
- It is understood that no one will disturb another team member in the wee hours unless absolutely necessary for the occurrence of a specified event.

### Team members-

Hanith atluri – [ha71689n@pace.edu](mailto:ha71689n@pace.edu)  
 Reshma reddy gonnu - Rg95745m@pace.edu  
 alekhyu boddu- ab81963n@pace.edu  
 Anusha Nunna - an21822n@pace.edu  
 Venkatesh Kaniganti - vk91272n@pace.edu  
 Vamshi krishna Aavula - va40414n@pace.edu

Personas (at least 3)





# Persona-1

12

- **Name:** SWATHI
- **AGE:** 38 YEARS
- **GENDER:** FEMALE
- Swathi is a 38-year-old professional in the healthcare field. She is passionate about public health and keeps up to date on global health concerns. She has been actively seeking correct and up-to-date information to keep informed and make informed judgments since the COVID-19 pandemic began.
- Swathi begins her day by reviewing the COVID-19 data in real time. She launches the app and sees a world map with color-coded sections reflecting the intensity of the pandemic on the dashboard. She moves through other areas to see specific statistics, trends, and immunization rates. Swathi can understand the facts at a glance thanks to the application's graphical representations.



## Persona-2

- **Name:** ASHER
- **AGE:** 35 YEARS
- **GENDER:** MALE
- Asher is a 35-year-old man who works a difficult job and lives a hectic lifestyle. Alex is driven to take control of their health and well-being after recently being diagnosed with a chronic medical condition. They have a great desire to better understand their medical condition and make informed self-care decisions.
- Asher enters into the health education platform after obtaining their diagnosis. The system prompts customers to enter their medical condition and interests, and then tailors the content to them. Asher gets a tailored feed of articles, videos, and infographics pertaining to their illness on the platform's homepage. The articles cover a wide range of issues, from symptom recognition to disease management through lifestyle changes.



## Persona-3

- **Name:** CHARLES
- **AGE:** 30 YEARS
- **GENDER:** FEMALE
- CHARLES is a 30-year-old professional who manages a demanding job schedule as well as a personal life. Charles, who is concerned about maintaining a healthy lifestyle, conducts self-assessments on a regular basis to evaluate several areas of well-being, including physical and mental health.
- Charles checks into the self-assessment site after a long workweek. Any active checkboxes are highlighted by the Boolean check system, suggesting specific areas that may require attention. If an active checkbox is found, a pop-up notification appears with a brief summary and recommendations for further steps. Charles likes the quick-response, which allows for timely responses to health-related concerns.

# MVP

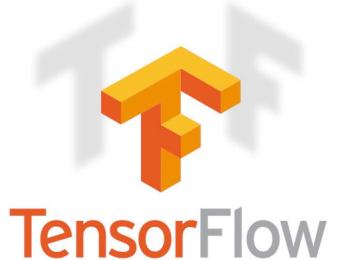
15

- Home Page
- Prediction
- History of Prediction
- Personal data - of a user
- Book a doctor appointment - User
- Active cases in a specified region
- Self check assessment - user

# Algorithms & Technologies

16

16

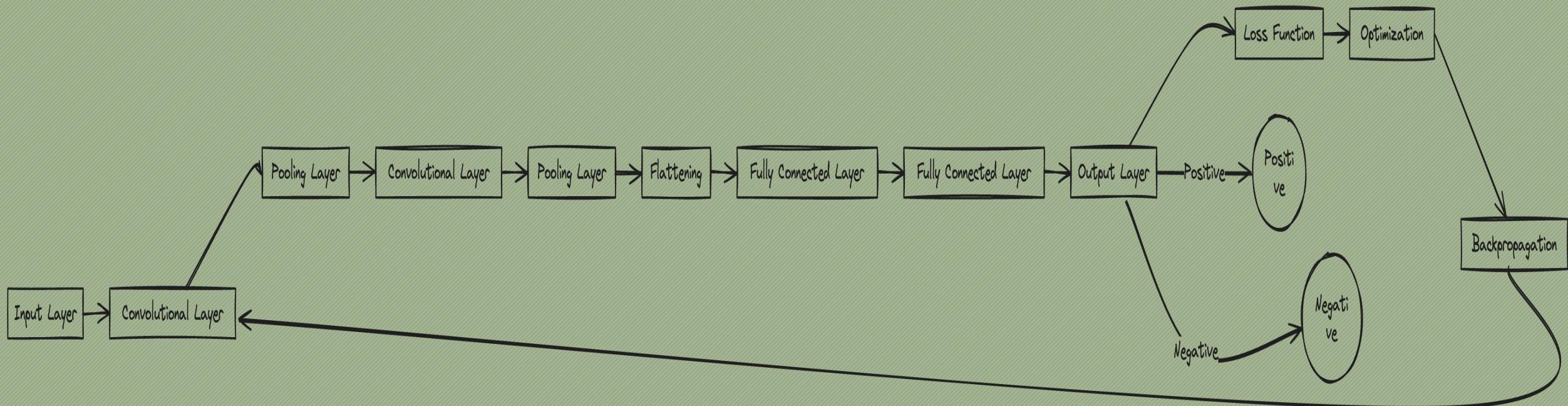


# Algorithm

- This is a real-time object detection algorithm that identifies specific objects in images. This machine learning algorithm uses features learned by a deep convolutional neural network to detect an object. Object classification systems are used by Artificial Intelligence (AI) programs to perceive specific objects in a class as subjects of interest. The systems sort objects in images into groups where objects with similar characteristics are placed together, while others are neglected unless programmed to do otherwise. This is a Convolutional Neural Network (CNN) for performing object detection in real-time. CNNs are classifier-based systems that can process input images as structured arrays of data and recognize patterns between them. This has the advantage of being much faster than other networks and still maintains accuracy. It allows the model to look at the whole image at test time, so its predictions are informed by the global context in the image. All other convolutional neural network algorithms “score” regions based on their similarities to predefined classes. High-scoring regions are noted as positive detections of whatever class they most closely identify with.

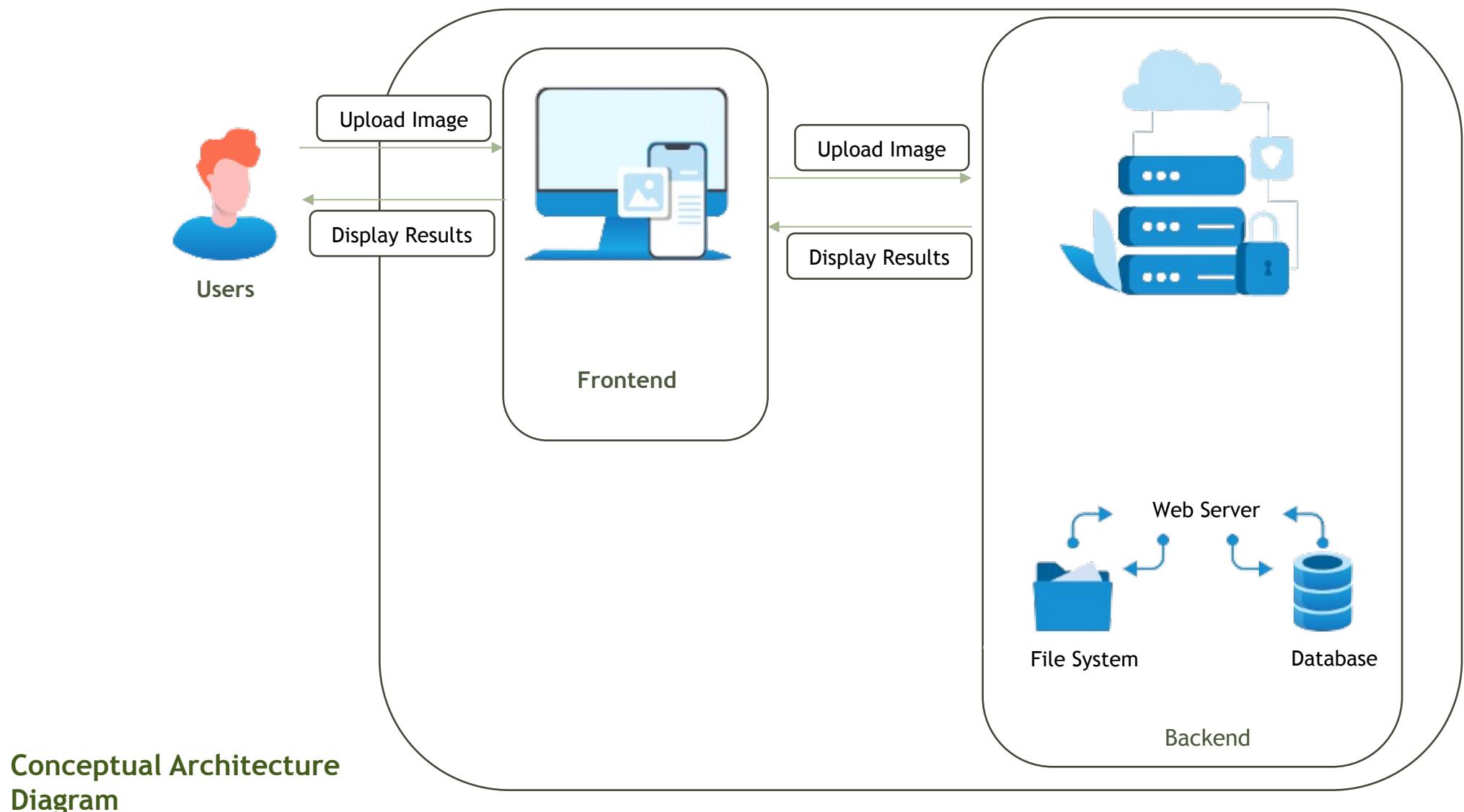
# CNN - Algorithm

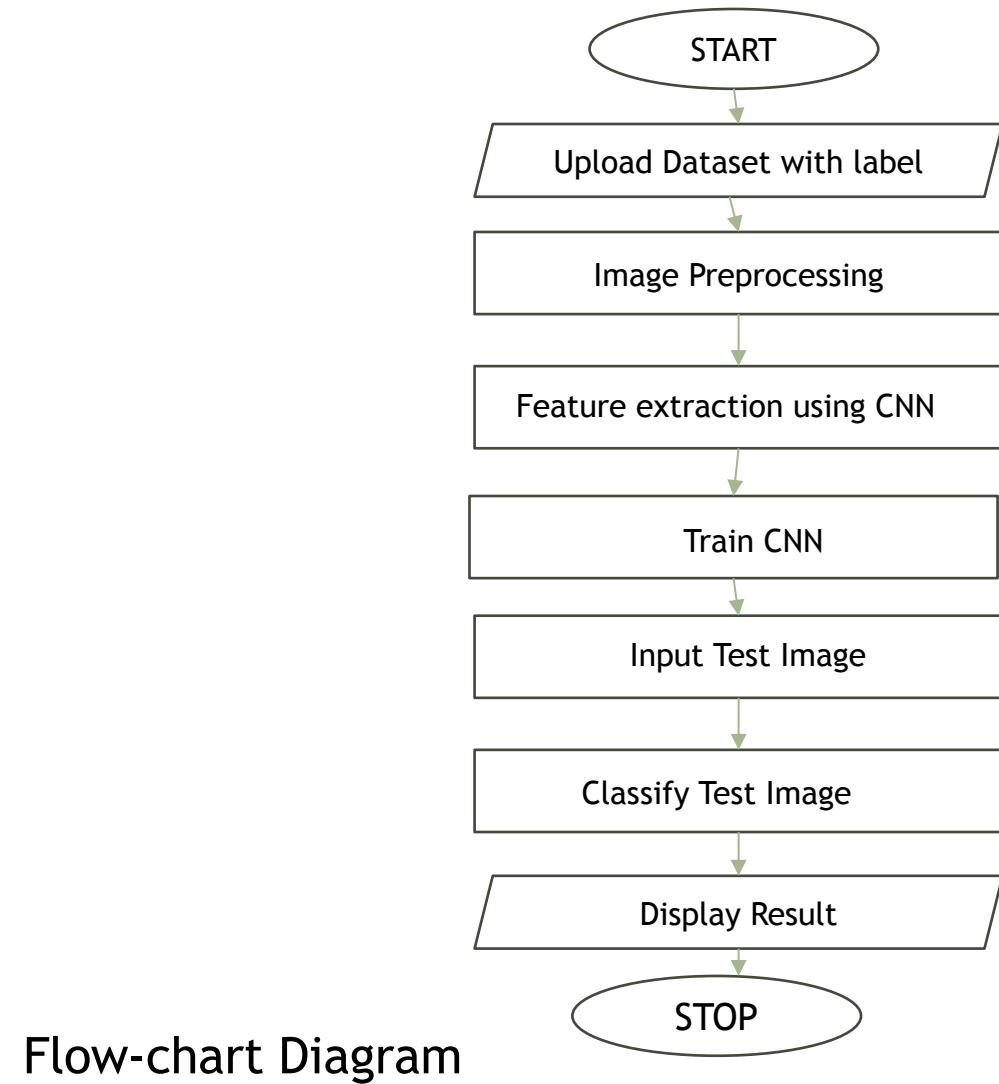
18

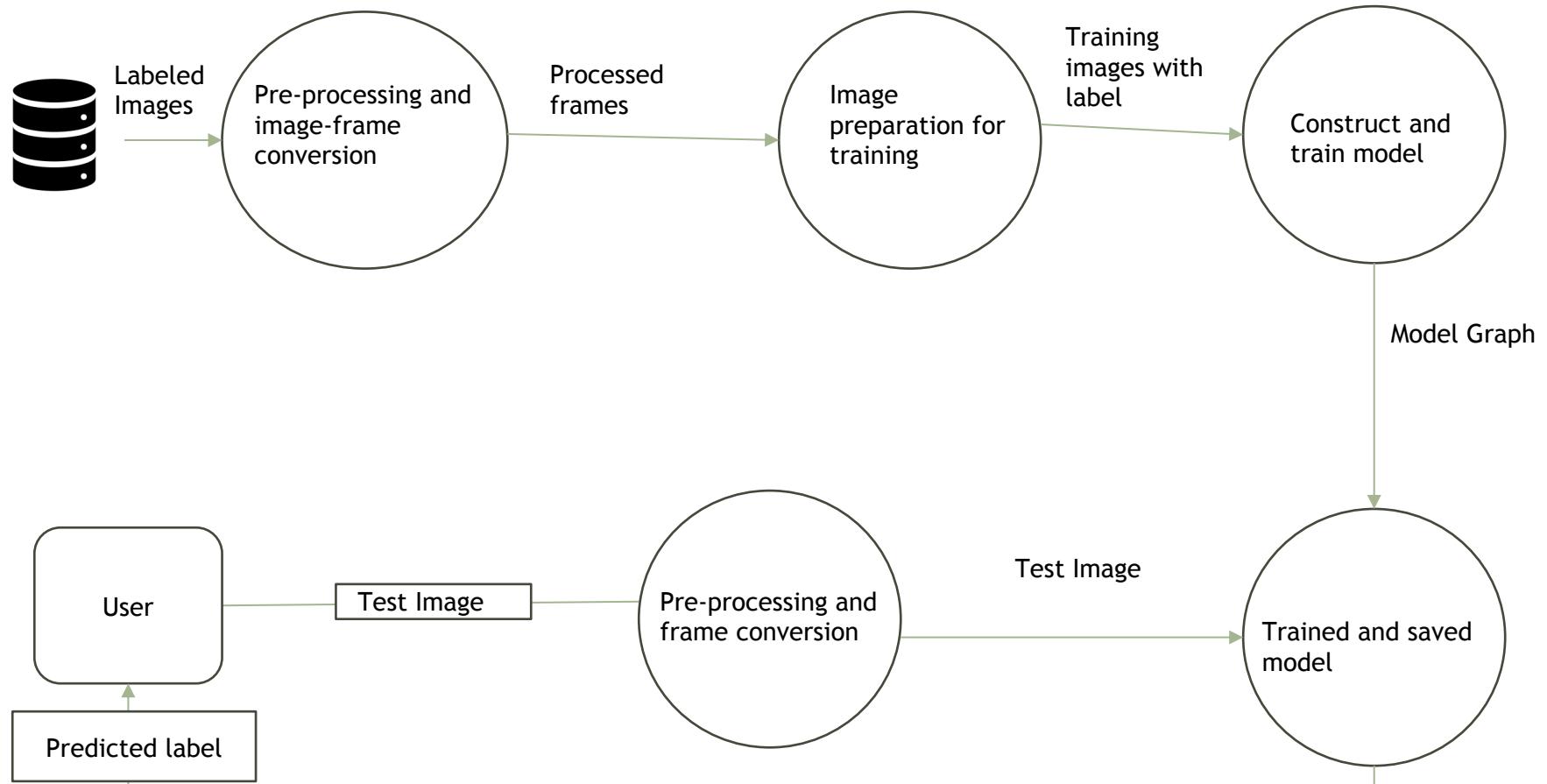




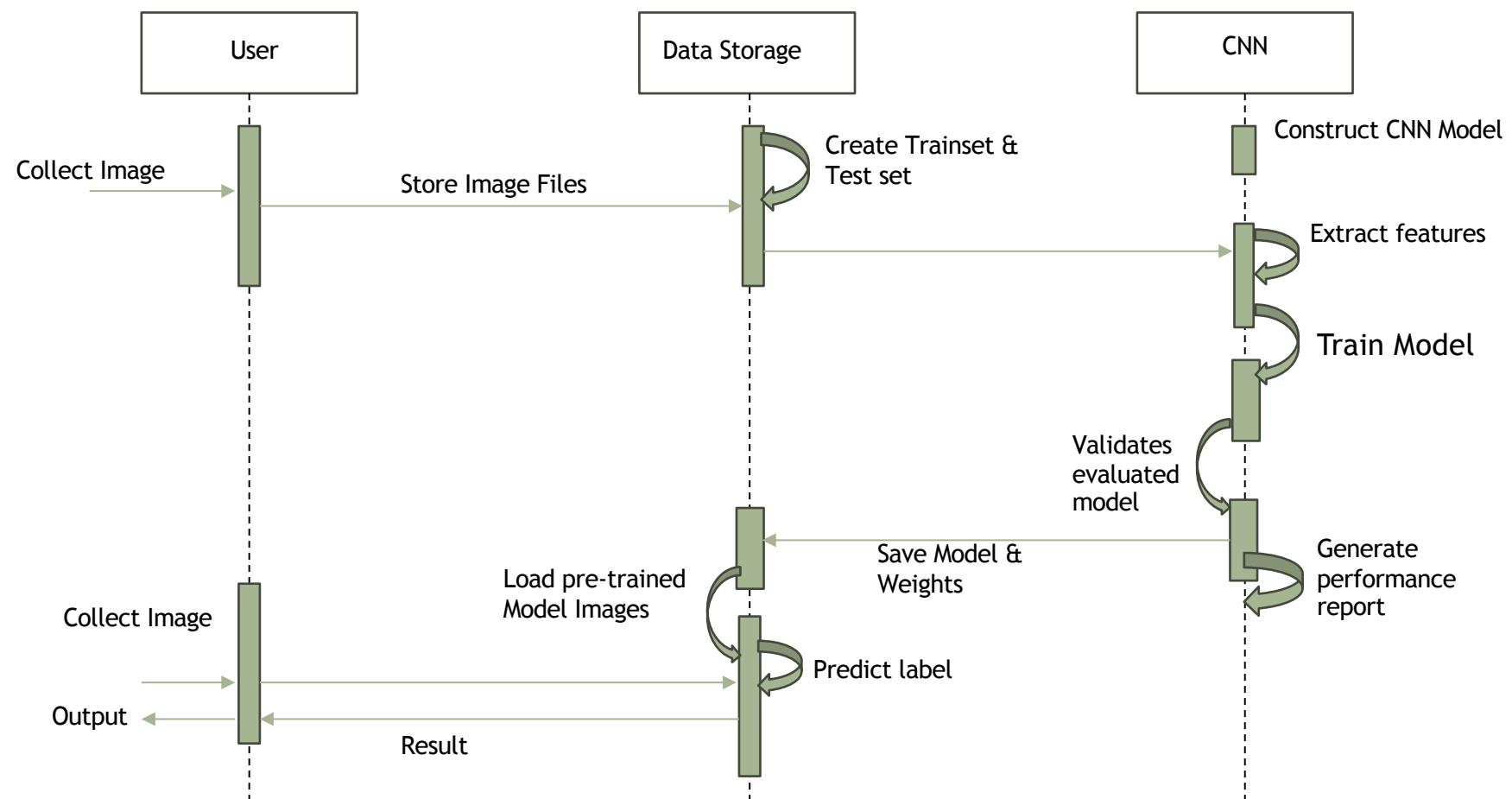
diagrams



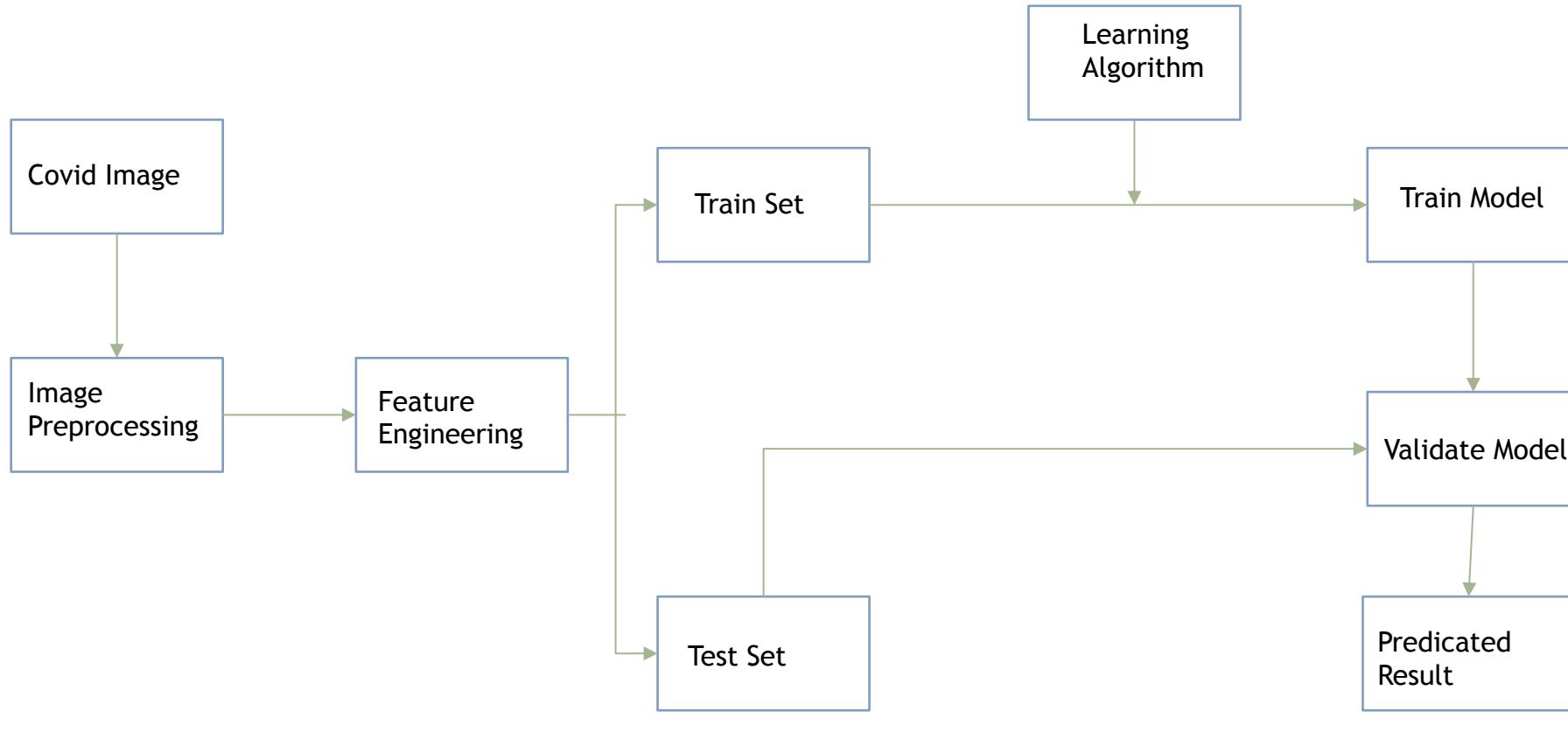




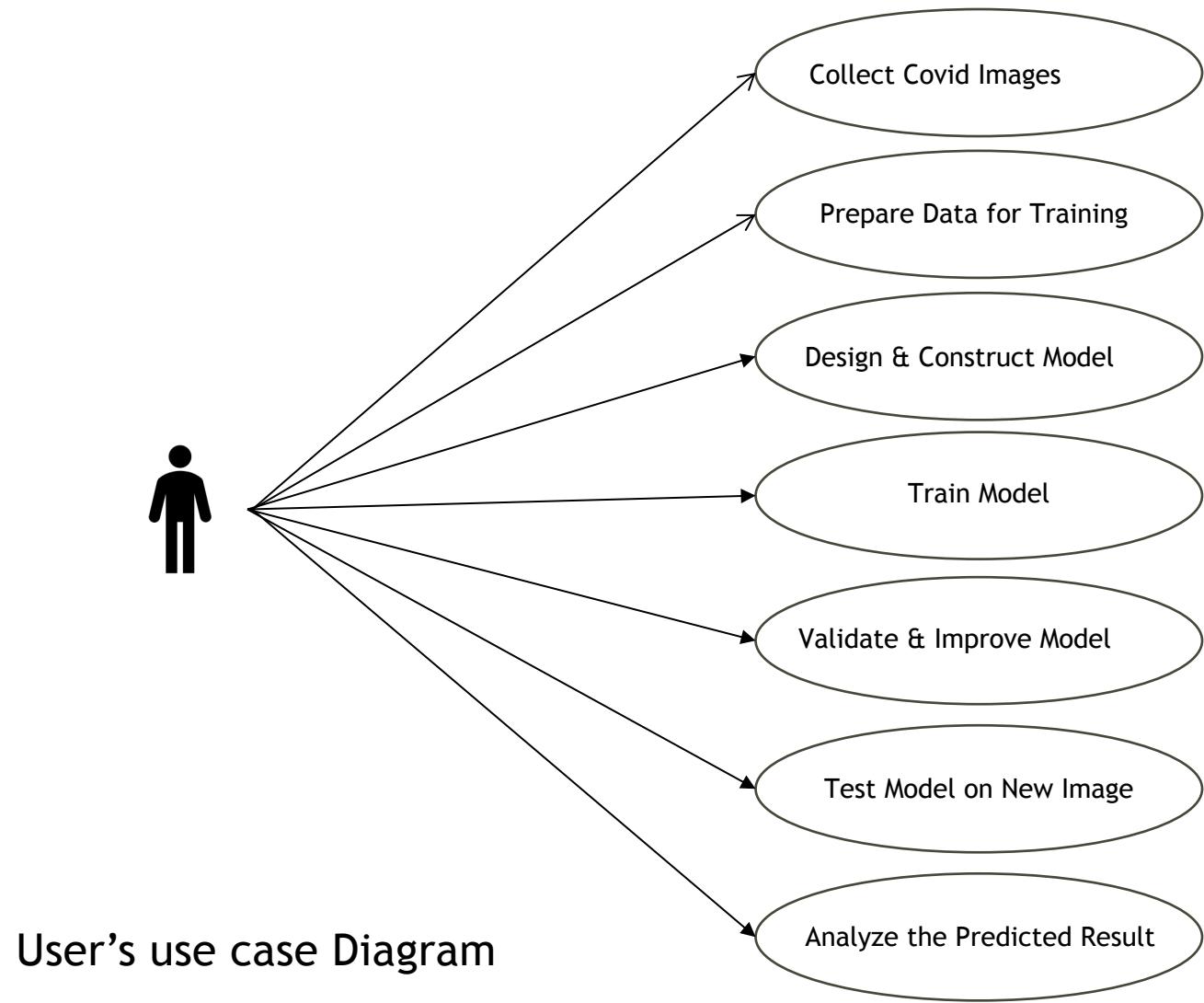
Dataflow Diagram



Sequence Diagram



System Architecture



# Sprint 1-4 Recap(CS-691)

26



## Sprint-1

- Initially we divided into the groups and initiated an project idea
- Secondly, we started working on our Team working agreement and initiated the tools like slack etc.
- In addition, we established our development tools, which we used for seven sprints to build, maintain, and upgrade our communication and web application.

Issue Type	User Story id/Task id	Name	Story Point Estimate
TASK	SC1DTA-1	Prepare the presentation for deliverable 1	2
TASK	SC1DTA-2	Formation of team	2
TASK	SC1DTA-3	Set up regular weekly meetings	2
TASK	SC1DTA-4	Developing a unique project idea and approval from professor	5
TASK	SC1DTA-5	Setup development tools (GitHub and Jira)	5

## Sprint-2

- Initially we build an application in Django and when we built the login and signup pages
- Connection of data base to the local sever
- Prototype of our working application in figma

Issue Type	User Story id/Task id	Name	Story Point Estimate
STORY	SC1DTA-6	I want to log out as a customer who has logged	2
STORY	SC1DTA-7	As a client, I would like to register for the application in order to maintain the uniqueness of my account and to log in using a password, phone number, and email address	5
STORY	SC1DTA-8	I want to connect to the app as a customer so that I may use it to keep all my personal data in the local database	2
TASK	SC1DTA-9	Create MVP Prototype - Figma (login and signup pages)	8

User's interface of the creation of account based the restrictions and minimum character requirement for password and email id

login instead.'"/>

Register

Username\*

Email\*

Password\*

• Your password can't be too similar to your other personal information.  
 • Your password must contain at least 8 characters.  
 • Your password can't be a commonly used password.  
 • Your password can't be entirely numeric.

Password confirmation\*

Enter the same password as before, for verification.

[Register](#)

If you already have an account, [login](#) instead.

User's first display of the Login page to log-in into their personal account

Login

Username\*

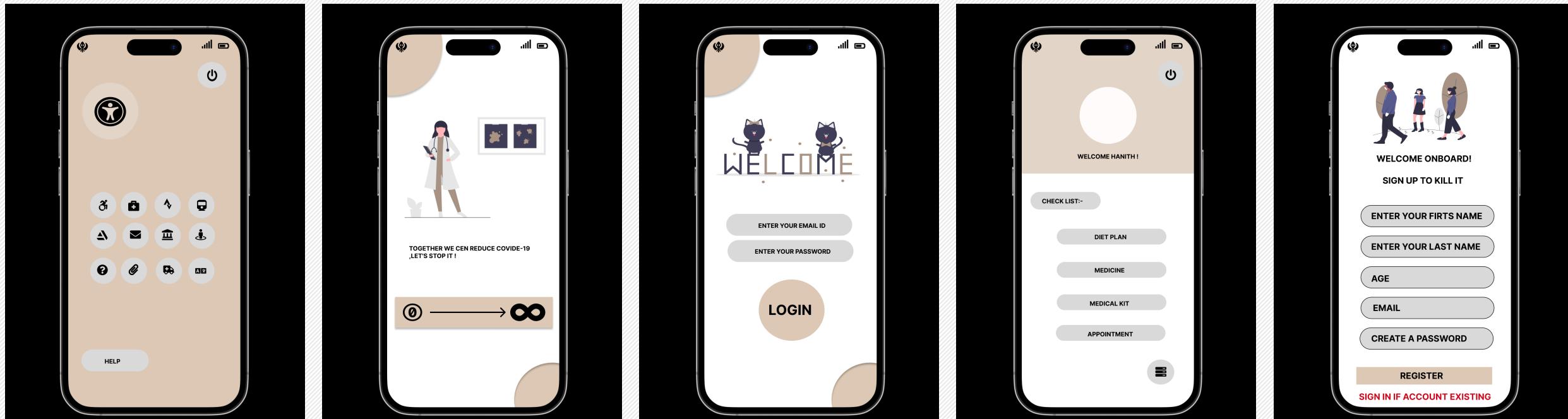
Password\*

[Login](#)

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

# Login and sign-up pages

# Figma Prototype



## Sprint-3

- In this sprint we have build the core MVP of our project to build an application to predict the covid
- Secondary web-page in order to see the uploaded files by the user
- Thirdly, communication with the bot so, user can chat with the chat bot
- Draft of the technical paper by overlooking into the references and other resources

31

Issue Type	User Story id/Task id	Name	Story Point Estimate
STORY	SC1DTA-10	I want to know as a user whether my X-ray result will be positive or unfavorable	5
STORY	SC1DTA-11	I would like to see the history of uploaded files as a customer	5
STORY	SC1DTA-12	I must communicate with a chatbot as a user	5
TASK	SC1DTA-13	Technical Paper	3

# Home page

Home of page of our web application where we can see the additional features included to the application like upload, history, chatbot.

32

The screenshot shows a web browser window with the following details:

- Header:** The title bar says "Home". The address bar shows the URL "127.0.0.1:8080/predictor/". The toolbar includes standard browser icons like back, forward, search, and refresh, along with a "Relaunch to update" button and a "All Bookmarks" link.
- Content Area:**
  - Covid Predictor:** The main heading on the left.
  - Upload Xray to Predict:** A large heading below it.
  - Name\***: A text input field with a placeholder.
  - Image\***: A file input field with a "Choose File" button and a message "No file chosen".
- Right Sidebar:** A sidebar titled "Support Bot" containing a text input field, a blue "Send" button, and a red "Clear" button.
- User Information:** At the top right, it says "Welcome, hanith2646" followed by links for "Upload", "History", and "Logout".

# History page

Xray history is an additional web-page where we can see the history of our uploaded Xray's/Ct scans with the user name.

33

The screenshot shows a web browser window with the following details:

- Address Bar:** 127.0.0.1:8080/predictor/history/
- Header:** Home, Relaunch to update, All Bookmarks
- Left Side:** Covid Predictor
- Right Side:** Welcome, hanith2646, Upload, History, Logout
- Central Content:**

## Xray History

#	Name	Created on	Image URL	Result
1	user	Dec. 4, 2023, 11:26 a.m.	<a href="#">images/IM-0009-0001.jpeg</a>	NEGATIVE
- Right Sidebar:** Support Bot input field, Send button, Clear button

# Prediction

To find out whether the Covid analysis of our X-ray picture is positive or negative, we may use the prediction or upload tab.

Covid Predictor

Welcome, hanith2646 Upload History Logout

**Upload Xray to Predict**

Name\*

user

Image\*

Choose File No file chosen

Upload

The prediction test for user results NEGATIVE

**Support Bot**

Send Clear

127.0.0.1:8080/predictor/

## Sprint-4

- Implementation of additional web pages
- Creation of API documentation for the better store in cloud
- An step-by step instruction manual how to run the developed application in the local machine
- Complete Technical paper with the additional acknowledgement by seeking into the references and additional sources.

35

Issue Type	User Story id/Task id	Name	Story Point Estimate
STORY	SC1DTA-14	As a user, I would like to switch between the tabs available in the web application	2
TASK	SC1DTA-15	API Documentation	5
TASK	SC1DTA-16	Deployment Manual	5
TASK	SC1DTA-17	Complete Technical Paper with references and proper format	8

# API implementation

36

- API implementation for the User's login credentials for the login history which is linked to the firebase database for the cloud and avoid the repetitions.

The screenshot shows a code editor interface with a sidebar containing a project tree. The project structure includes folders for chatbot, covid19predictor, media, node\_modules, predictor, static, and templates. Within the templates folder, there are accounts, analysis.html, app.css, case.html, fire.js (which is selected), login.html, personal.html, precautions.html, register.html, and style.css. Below the project tree is a terminal window displaying a log of HTTP requests. The code editor has tabs for requirements.txt, case.html, fire.js (highlighted in blue), analysis.html, app.css, predictor.py, and modeltes. The fire.js tab contains the following code:

```
1 </script>
2
3 <script type="module">
4 // Import the functions you need from the SDKs you need
5 import { initializeApp } from "https://www.gstatic.com/firebasejs/9.19.1/firebase-app.js";
6 import { getDatabase, ref, set, get, child } from "https://www.gstatic.com/firebasejs/9.19.1/fir
7
8 // Your web app's Firebase configuration
9 const firebaseConfig = {
10   apiKey: "AIzaSyBzyC0fZSTBoTbzsZw8eIqMduGes7_yVF4",
11   authDomain: "project-62832.firebaseioapp.com",
12   databaseURL: "https://project-62832-default-rtdb.firebaseio.com",
13   projectId: "project-62832",
14   storageBucket: "project-62832.appspot.com",
15   messagingSenderId: "669080652409",
16   appId: "1:669080652409:web:e5c7476b70da7e59f2e2a8"
17 };
18
19 // Initialize Firebase
20 const app = initializeApp(firebaseConfig);
```

The terminal window shows the following log output:

```
[02/Dec/2023 21:43:12] "GET /accounts/case/ HTTP/1.1" 200 5235
[02/Dec/2023 21:44:04] "GET /accounts/case/ HTTP/1.1" 200 5217
[02/Dec/2023 21:44:05] "GET /accounts/case/ HTTP/1.1" 200 5217
[02/Dec/2023 21:44:13] "GET /accounts/case/ HTTP/1.1" 200 5271
[02/Dec/2023 21:44:24] "GET /accounts/case/ HTTP/1.1" 200 5270
[02/Dec/2023 21:45:05] "GET /accounts/precautions HTTP/1.1" 301 0
[02/Dec/2023 21:45:05] "GET /accounts/precautions/ HTTP/1.1" 200 11813
[02/Dec/2023 22:07:45] "GET /predictor HTTP/1.1" 301 0
[02/Dec/2023 22:07:45] "GET /predictor/ HTTP/1.1" 200 9498
```

# Sprint 5-6 Recap(CS-692)

37



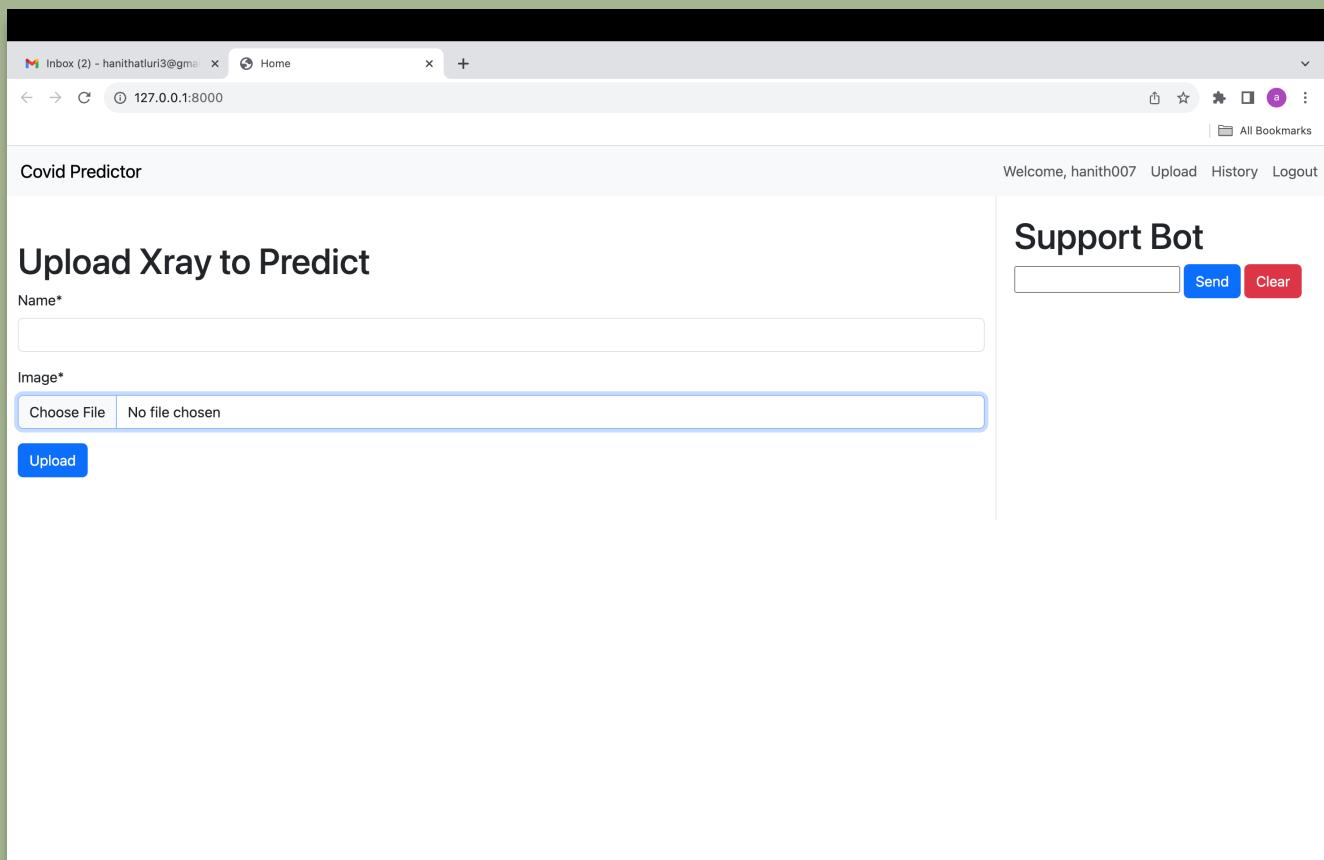
## Sprint-5

- Train of chat bot for better presence of the user performance
- Primary information for the doctor from the user side so, to know the pre-information about the user medical history
- Accurate prediction of X-ray
- API documentation of the Additional API's which were used in the application

Issue Type	User Story id/Task id	Name	Story Point Estimate
STORY	SC1DTA-18	As a user, I can chat with the chatbot in order to get some random information	2
STORY	SC1DTA-19	As a user , I want to get facilities for that are equipped with the necessary medical supplies and equipment to manage patients with COVID-19	2
STORY	SC1DTA-20	As a user, I want to receive a report indicating whether they have tested positive or negative	2
TASK	SC1DTA-21	Transitioning from a Figma features to a web-based application	5
TASK	SC1DTA-22	API Documentation	1

# Sprint-05 Updates

- During this sprint, we improved the login screen that appears after creating an account, as well as the history, upload, and logout pages, as well as the website's core raw files.



## Sprint-6

- Connection of user data to API
- Schedule of doctor appointment by the API and earlier confirmation and reminder before 30 mins
- Random selection of unique specialized doctor
- Deployment manual with how to install the Requirements of the project packages
- Revision of technical paper and present the upated version

Issue Type	User Story id/Task id	Name	Story Point Estimate
STORY	SC1DTA-23	As a user , I want to enter my current medications and dosage, So my medication list is up to date	2
STORY	SC1DTA-24	As a user, I want to add my medical history so potential risk factors are documented	3
STORY	SC1DTA-25	As a user, I need to schedule an appointment with doctor	2
STORY	SC1DTA-51	As a user, I want to receive email reminders 30-mins before my schedule appointments	3
TASK	SC1DTA-75	As a user, I need to select the required doctor so, I can get to know the doctor who is specialized in certain organ	3
TASK	SC1DTA-76	Deployment Manual	2
TASK	SC1DTA-202	Updated version of Technical Paper	2

# Sprint-06 Updates

- By examining the side screenshot, one can see the process of the navigation bar, which incorporates the header along with the other elements shown.

The screenshot shows a web browser window with the URL `127.0.0.1:8000`. The page title is "Covid Predictor". On the left, there is a form titled "Upload Xray to Predict" with fields for "Name\*" and "Image\*". The "Image\*" field contains a "Choose File" button and a message "No file chosen". Below the form is a blue "Upload" button. On the right, there is a sidebar titled "Support Bot" containing a text input field, a blue "Send" button, and a red "Clear" button. At the top right of the page, there is a navigation bar with links: "Welcome, hanith9695", "Upload", "History", "Personal data", "Analysis Page", and "Logout".

# Sprint-06 Updates

- As part of this upgrade, we made sure that physicians could get the COVID-19 information form they needed for their exams in an organized and contact-less manner.

The screenshot shows a web browser window with the title "Personal Details and COVID-19 Form". The URL in the address bar is "127.0.0.1:8000/accounts/personal/". The page content is as follows:

**Personal Details and COVID-19 Form**

**Personal Information**

First Name:

Last Name:

Date of Birth:  mm/dd/yyyy

Phone Number:  Please fill out this field.

Email:

**COVID-19 Questions**

Have you traveled recently?

Do you have COVID-19 symptoms?

Have you been in close contact with a COVID-19 positive person?

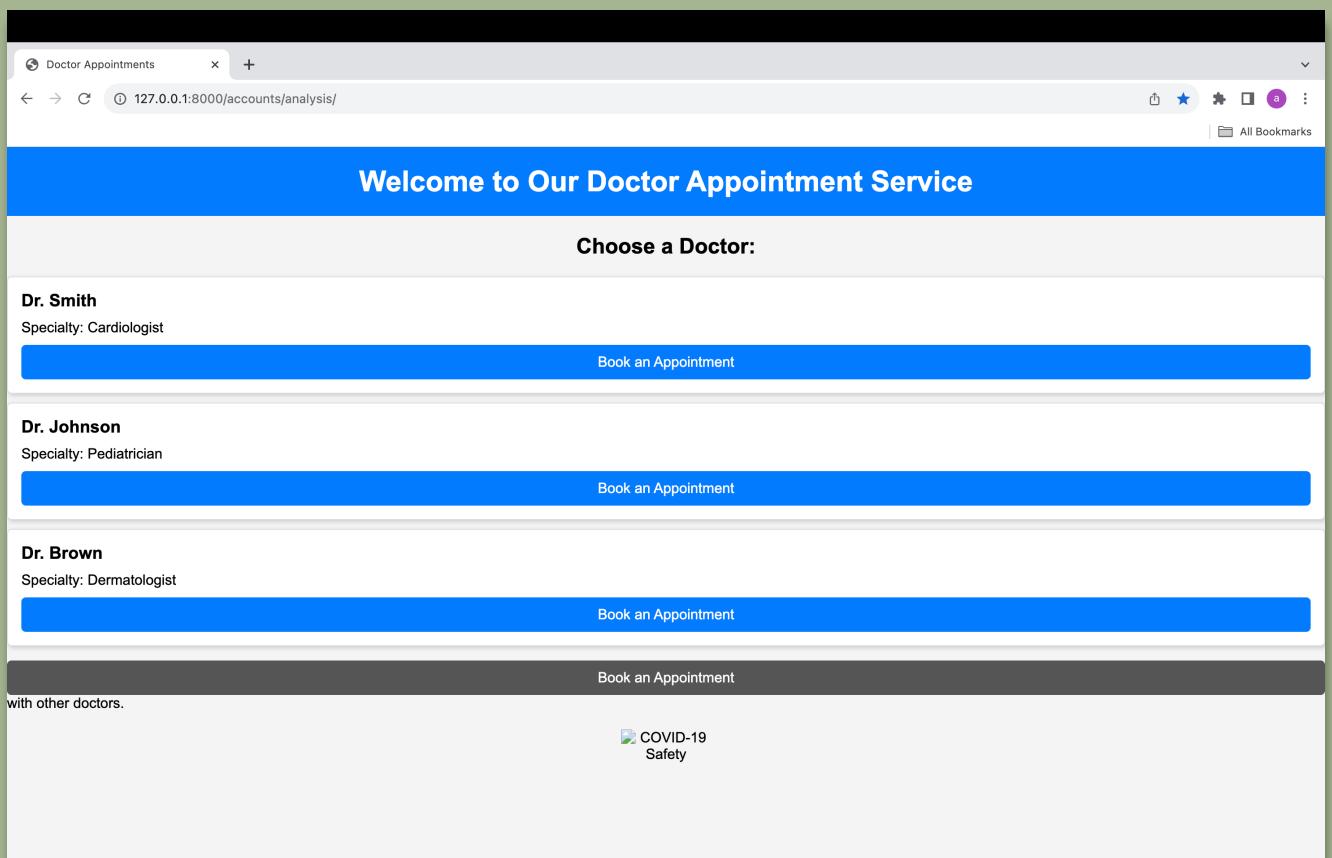
Are you vaccinated for COVID-19?

**Additional Information**

If you've traveled, please provide details:

# Sprint-06 Updates

- In order to have a solid idea of the main details, including the appointment time and planned time, at least 30 minutes in advance, we use this form, which is our doctor's appointment form.



# Product backlog

Issue Type	User Story id/ Task id	Name	Story Point Estimate
TASK	SC1DTA-1	Prepare the presentation for deliverable 1	2
TASK	SC1DTA-2	Formation of team	2
TASK	SC1DTA-3	Set up regular weekly meetings	2
TASK	SC1DTA-4	Developing a unique project idea and approval from professor	5
TASK	SC1DTA-5	Setup development tools (GitHub and Jira)	5
STORY	SC1DTA-6	I want to log out as a customer who has logged	2
STORY	SC1DTA-7	As a client, I would like to register for the application in order to maintain the uniqueness of my account and to log in using a password, phone number, and email address	5
STORY	SC1DTA-8	I want to connect to the app as a customer so that I may use it to keep all my personal data in the local database	2
TASK	SC1DTA-9	Create MVP Prototype - Figma ( login and signup pages)	8
STORY	SC1DTA-10	I want to know as a user whether my X-ray result will be positive or unfavorable	5
STORY	SC1DTA-11	I would like to see the history of uploaded files as a customer	5
STORY	SC1DTA-12	I must communicate with a chatbot as a user	5
TASK	SC1DTA-13	Technical Paper	3
STORY	SC1DTA-14	As a user, I would like to switch between the tabs available in the web application	2
TASK	SC1DTA-15	API Documentation	5
TASK	SC1DTA-16	Deployment Manual	5
TASK	SC1DTA-17	Complete Technical Paper with references and proper format	8
STORY	SC1DTA-18	As a user, I can chat with the chatbot in order to get some random information	2
STORY	SC1DTA-19	As a user , I want to get facilities for that are equipped with the necessary medical supplies and equipment to manage patients with COVID-19	2
STORY	SC1DTA-20	As a user, I want to receive a report indicating whether they have tested positive or negative	5
TASK	SC1DTA-21	Transitioning from a mobile application to a web-based application	2
TASK	SC1DTA-22	API Documentation	2
STORY	SC1DTA-23	As a user , I want to enter my current medications and dosage, So my medication list is up to date	3
STORY	SC1DTA-24	As a user, I want to add my medical history so potential risk factors are documented	2
STORY	SC1DTA-25	As a user, I need to schedule an appointment with doctor	3

# Product backlog

Issue Type	User Story id/ Task id	Name	Story Point Estimate
STORY	SC1DTA-51	As a user, I want to receive email reminders 30-mins before my schedule appointments	3
TASK	SC1DTA-75	As a user, I need to select the required doctor so, I can get to know the doctor who is specialized in certain organ	3
TASK	SC1DTA-76	Deployment Manual	2
TASK	SC1DTA-202	Updated version of Technical Paper	2
STORY	SC1DTA-203	As a user, I wish to review my self-assessments through a Boolean check. If any checkbox is marked active, I expect a pop-up to appear, prompting me to take the necessary actions	3
STORY	SC1DTA-206	As a user, I want to know my Real time covid report of data analysis of a particular region	5
STORY	SC1DTA-207	As a user, I want to select a personal required doctor and need to schedule an appointment with selected doctor	2
TASK	SC1DTA-214	Updating API Documentation	2
TASK	SC1DTA-298	Improvement of frontend visualization	5
TASK	SC1DTA-306	Keeping Wiki page updated	2

## Sprint-7 Backlog

- 1. Self assessment for the user in order to take necessary precautions.
- 2. Real time covid report based upon the region get to know about the active cases, deaths, recovered etc.
- 3. Improvised CSS for the better visualization of the application.

Issue Type	User Story id/Task id	Name	Story Point Estimate
STORY	SC1DTA-203	As a user, I wish to review my self-assessments through a Boolean check. If any checkbox is marked active, I expect a pop-up to appear, prompting me to take the necessary actions	3
STORY	SC1DTA-206	As a user, I want to know my Real time covid report of data analysis of a particular region	5
STORY	SC1DTA-207	As a user, I want to select a personal required doctor and need to schedule an appointment with selected doctor	2
TASK	SC1DTA-214	Updating API Documentation	2
TASK	SC1DTA-298	Improvement of frontend visualization	5
TASK	SC1DTA-306	Keeping Wiki page updated	2

# STORIES AND ACCEPTANCE CRITERIA

User Story id/Task id	Acceptance criteria	User story	Status
SC1DTA- 206	<p>User updates profile details with self-evaluation verification</p> <p><b>Given,</b> I am in the role of a customer When I open the profile screen</p> <p><b>And,</b> I click the Submit button</p> <p><b>And,</b> I see checkboxes for self-evaluation activities</p> <p><b>And,</b> I mark one or more checkboxes as active</p> <p><b>And,</b> I submit the update</p> <p><b>Then,</b> the user can update the details <b>And</b>, a pop-up window should display to verify self-evaluations</p>	<p><b>As a user, I should get an pop-up alert so, based on my responses I should get necessary precautions.</b></p>	Done
SCIDTA- 203	<p>User checks real-time COVID-19 data for a specific region.</p> <p><b>Given,</b> I am a concerned user.</p> <p><b>When,</b> I access the COVID-19 data analysis platform.</p> <p><b>And,</b> I navigate to the region-specific section.</p> <p><b>And,</b> I choose a specific region for analysis.</p> <p><b>And,</b> I request real-time data updates.</p> <p><b>Then,</b> the platform should provide me with the latest COVID-19 statistics for the selected region.</p> <p><b>And,</b> the results should include information such as total cases, recovered, and active cases</p>	<p><b>As a user, I would need to get notified by the actual number of current deaths, recovered cases, active cases etc. Of an specific region.</b></p>	Done
SC1DTA-207	<p>User selects a personal doctor and schedules an appointment</p> <p><b>Given,</b> I am a user seeking medical care</p> <p><b>When,</b> I log in to the healthcare platform</p> <p><b>And,</b> I navigate to the "Find a Doctor" section</p> <p><b>And,</b> I search for a specific doctor based on my requirements</p> <p><b>And,</b> I select a preferred doctor from the search results</p> <p><b>And,</b> I choose a suitable time slot for an appointment</p> <p><b>And,</b> I confirm the appointment scheduling</p> <p><b>Then,</b> the system should acknowledge the appointment confirmation</p> <p><b>And</b> I should receive a confirmation email with appointment details</p>	<p><b>As a user, I need to select the specific doctor and meanwhile I need to get an appointment confirmation through mail and remainder before 30 mins to the scheduled time.</b></p>	Done

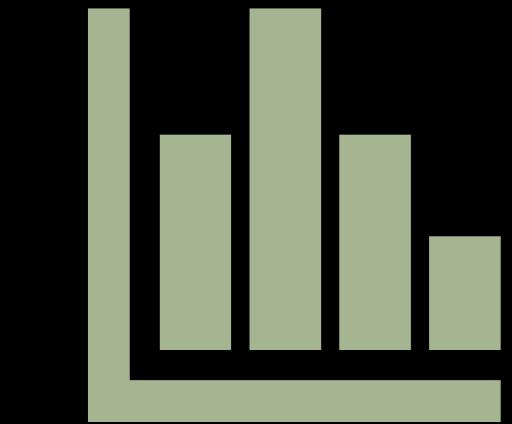
# Test cases

Test case for	Test case id	Test data	Expected results	Assumptions	Process to be carried out	Pass/fail
Self-Assessment portal	SC1DTA-203	Email -Hanith2646@gmail.com, Password - test123 Username- hanith2646	The user's necessary safety measures should display as a warning pop-up alert	An alert window should appear, prompting the user to take the required safety precautions.	Homepage-> Self-Check-> submit	P
Active-cases portal	SC1DTA-206	Email -user46@gmail.com, Password - test123 Username-user46	There has to be a numerical tally of actual fatalities, recovered cases, and current COVID-19 cases broken down by area..	After we choose the area and hit "get data," the data from each input will be shown.	Homepage-> Active-cases -> Get Data	P
Doctor appointment portal	SC1DTA-207	Email -Anusha26@gmail.com, Password - test123 Username-Anusha26	It would be great if the doctor you choose could check in and set up an appointment time window.	To arrange an appointment with the doctor, click the "Book an appointment" button. The page will then display the doctor's availability and planned appointments.	Homepage-> Doctor appointment -> Selection of doctor -> Book appointment	P
Doctor appointment portal	SC1DTA-207	Email –Vicky2346@gmail.com, Password - test123 Username- Vicky2346	It is recommended that an appointment reminder be sent to the user together with all relevant facts.	On the day of booking, the user will get an alert with a 30-minute reminder.	Homepage-> Doctor appointment -> Selection of doctor -> Book appointment->Time slot-> book	P
Self-Assessment portal	SC1DTA-203	Email -reshma85994@gmail.com, Password - test123 Username- reshma85994	When a user reviews the self-assessment, the data will persist until they refresh the page.	The data associated with the self-assessment will remain visible or accessible to the user on the page even if they navigate away or interact with other elements on the page.	Homepage-> Self-Check-> submit	P

## Completed stories and not completed stories

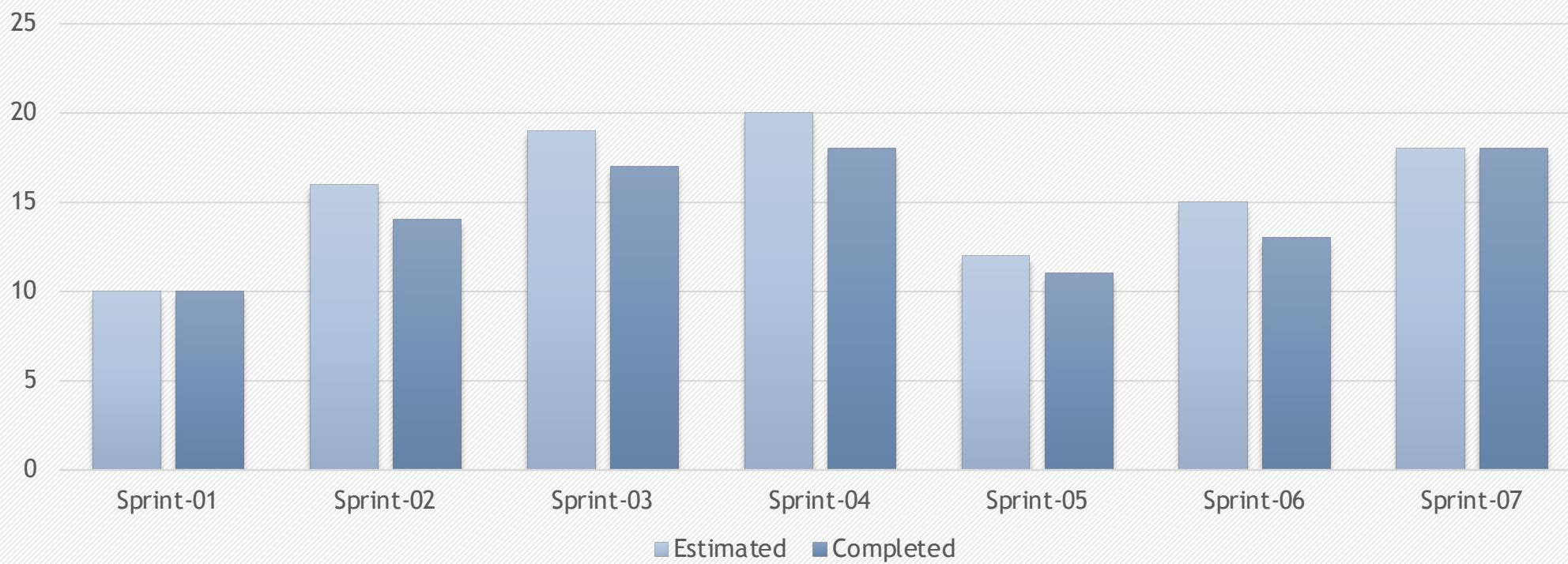
Issue Type	User Story id/Task id	Name	Status
STORY	SC1DTA-203	As a user, I wish to review my self-assessments through a Boolean check. If any checkbox is marked active, I expect a pop-up to appear, prompting me to take the necessary actions	Done
STORY	SC1DTA-206	As a user, I want to know my Real time covid report of data analysis of a particular region	Done
STORY	SC1DTA-207	As a user, I want to select a personal required doctor and need to schedule an appointment with selected doctor	Done
TASK	SC1DTA-214	Updating API Documentation	Done
TASK	SC1DTA-298	Improvement of frontend visualization	Done
TASK	SC1DTA-306	Keeping Wiki page updated	Done

# Metrics



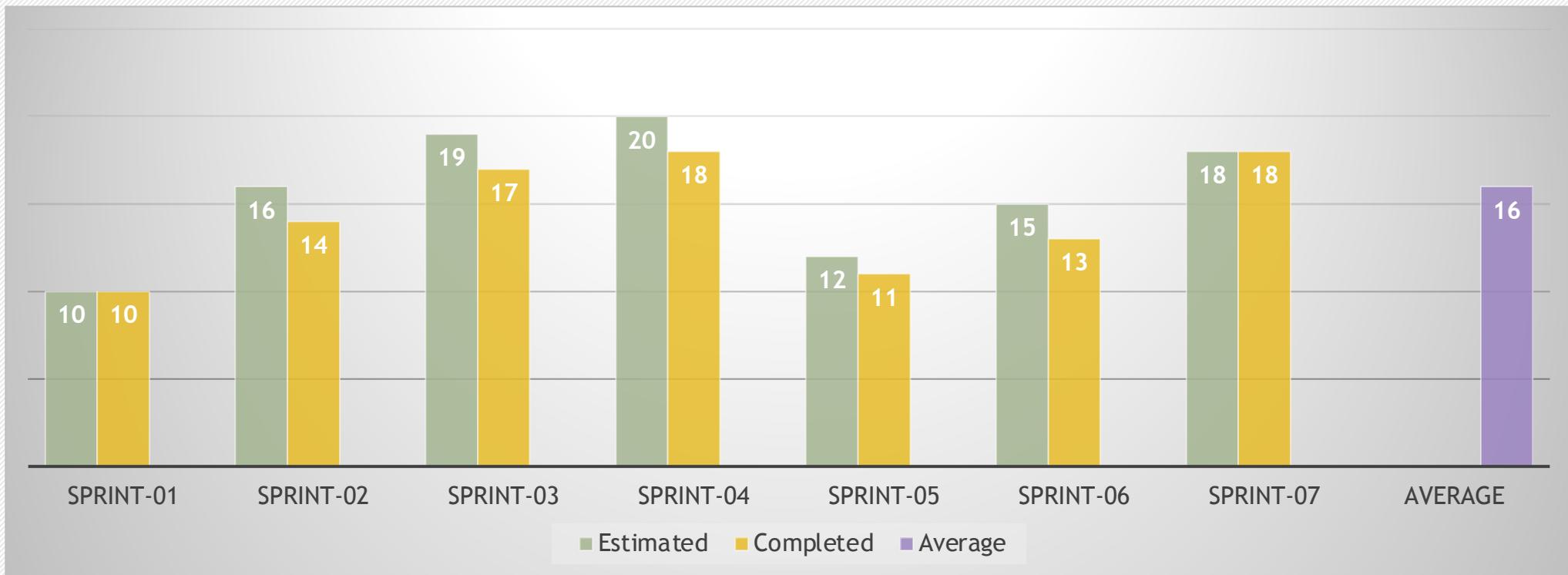
50

# Team Velocity Chart

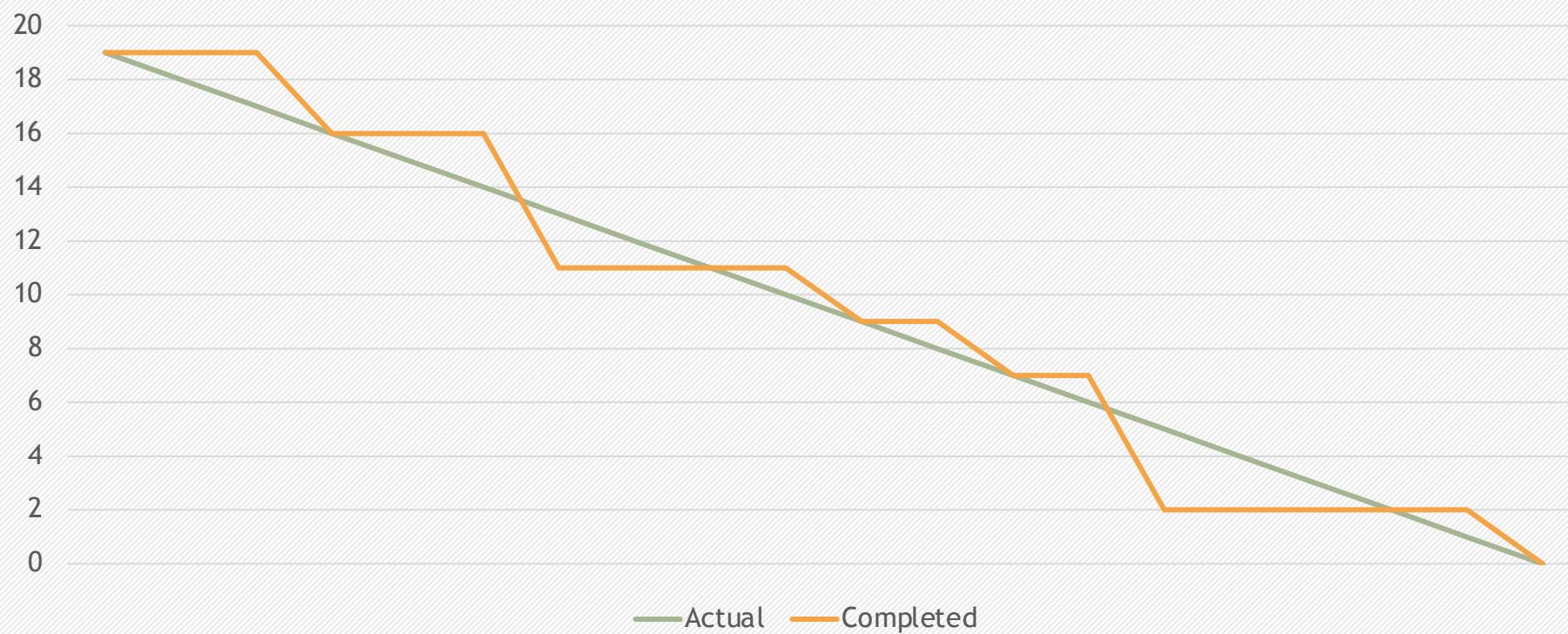


52

## Team history velocity chart (Average)



# Sprint-07 burndown chart



# Completed VS Committed ratio



## HOW TO CALCULATE THE RATIO

Ratio= We were committed to 21 story points but only managed to finish 18, for a completed/committed ratio of 18/21 or 85.71%.

Ratio= here we, committed 19 story points and successfully completed the all 19 story points

$$\text{Ratio} = (19/19) * 100 = 100\%$$

# Retrospective

55

# What went well



We were able to concentrate our efforts and keep on track since we knew what we were working for when we started the project.



You were able to divide the job into more manageable chunks and establish more reasonable deadlines because of the thorough preparation we completed before beginning the project.



The project continued to go without a hitch since we were able to creatively address any issues that emerged.



We stayed in charge and managed to complete the great deal of work that was assigned to us in the little time that was available. We accomplished a lot by making user story meetings a top priority.

# Improvements Needed

57



We needed an extended amount of time to examine various items since the feedback process amongst everybody had problems.

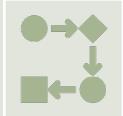


making of temporary graphics and test scenarios



collective bargaining each person should participate in their own way at work

# What Action we take to improve?



In order to boost participation, we made sure that everyone was on the same schedule.



Each Member was given a deadline to meet so that everything could be done on time and progress could be shown.



Reviewing the tasks that were given to each individual

# Application Demo

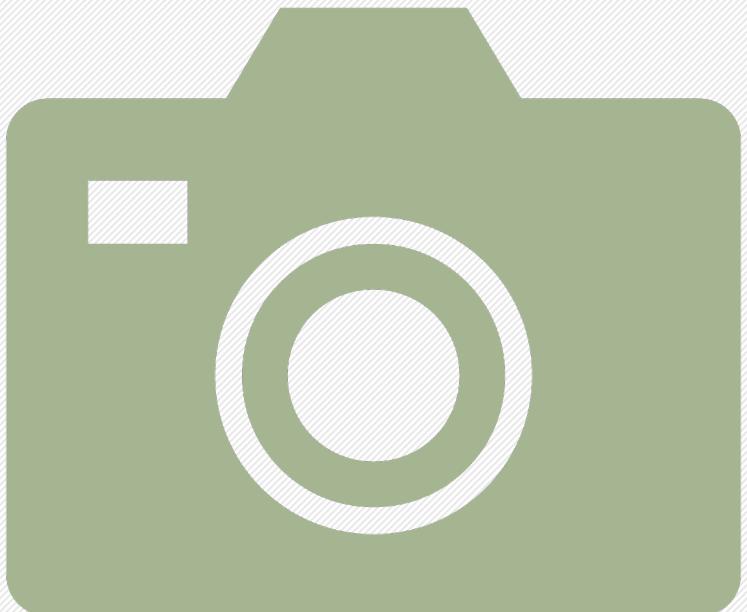
## Main implementations-

1. Made some changes to the front end so that the user experience is top-notch while using the app.
2. To allow users to choose their chosen doctor, increase the quantity of physicians with certain specializations.
3. The implementation of self-assessment has been done so that users may recognize their actions based on the symptoms.
4. Cases in progress tab, where users may see current cases, fatalities, and other relevant data for a certain area

[YOUTUBE LINK](#)

# Application screenshots

60



# Home page

- Features – A navigation header of some type is there on this homepage, and it provides supplementary links that will take us to the many locations where we are arranged. And uploading of the X-ray is included by default of the starting page of the X-ray.

LET IT FREE

Welcome, hanith2646 Upload History Personal data Doctor Appointment Active cases Self-check Logout

### Upload Xray to Predict

Name\*

Image\*

Choose File No file chosen

Upload



Support Bot

Send Clear

# History page

- Features- This page serves as a record of the uploaded x-ray, which will be preserved in the machine's local storage along with the user's name, the image's name, the result that was redacted while uploading, and the time of upload..

LET IT FREE

Welcome, hanith2646 Upload History Personal data Doctor Appointment Active cases Self-check Logout

### Xray History

#	Name	Created on	Image URL	Result
1	user	Nov. 26, 2023, 7:13 a.m.	<a href="#">images/cnn.png</a>	POSITIVE
2	user	Nov. 26, 2023, 7:14 a.m.	<a href="#">images/cnn_m4auZfc.png</a>	POSITIVE
3	user	Nov. 26, 2023, 7:16 a.m.	<a href="#">images/cnn_l7Dcg7j.png</a>	POSITIVE
4	user	Nov. 26, 2023, 7:16 a.m.	<a href="#">images/Screenshot_2023-11-26_at_2.12.00AM.png</a>	POSITIVE
5	user	Nov. 26, 2023, 7:16 a.m.	<a href="#">images/Screenshot_2023-11-26_at_2.12.00AM_mUK9izz.png</a>	POSITIVE
6	user	Nov. 26, 2023, 7:17 a.m.	<a href="#">images/Screenshot_2023-11-26_at_2.12.00AM_upg4uxw.png</a>	POSITIVE
7	user	Nov. 26, 2023, 7:17 a.m.	<a href="#">images/Screenshot_2023-11-26_at_2.12.00AM_BmfPAg3.png</a>	POSITIVE
8	user	Nov. 26, 2023, 7:18 a.m.	<a href="#">images/Screenshot_2023-11-26_at_2.12.00AM_7ivBOM4.png</a>	POSITIVE
9	user	Nov. 26, 2023, 7:20 a.m.	<a href="#">images/Screenshot_2023-11-26_at_2.12.00AM_nvtD1KX.png</a>	POSITIVE
10	user	Nov. 26, 2023, 7:20 a.m.	<a href="#">images/Screenshot_2023-11-26_at_2.12.00AM_wtrFr18.png</a>	POSITIVE
11	user	Nov. 26, 2023, 7:20 a.m.	<a href="#">images/Screenshot_2023-11-26_at_2.12.00AM_mL9610E.png</a>	POSITIVE
12	user	Nov. 26, 2023, 7:20 a.m.	<a href="#">images/Screenshot_2023-11-26_at_2.12.00AM_eAgkKcC.png</a>	POSITIVE
13	user	Nov. 26, 2023, 7:21 a.m.	<a href="#">images/Screenshot_2023-11-26_at_2.12.00AM_JwjICcO.png</a>	POSITIVE
14	user	Nov. 26, 2023, 7:21 a.m.	<a href="#">images/Screenshot_2023-11-26_at_2.12.00AM_G9NLmib.png</a>	POSITIVE

Support Bot

Send Clear

# Personal information page

63

- In this section of the site, users may enter their fundamental information (such as pre history of patient like heart problem, diabetes etc) and have it recorded in a firebase. Anyone interested in the user can see their profile history without ever having to touch them, thanks to this contact-free approach.

**Personal Details and COVID-19 Form**

**Personal Information**

First Name:

Last Name:

Date of Birth:  mm/dd/yyyy

Phone Number:

Email:

**COVID-19 Questions**

Have you traveled recently?

Do you have COVID-19 symptoms?

Have you been in close contact with a COVID-19 positive person?

Are you vaccinated for COVID-19?

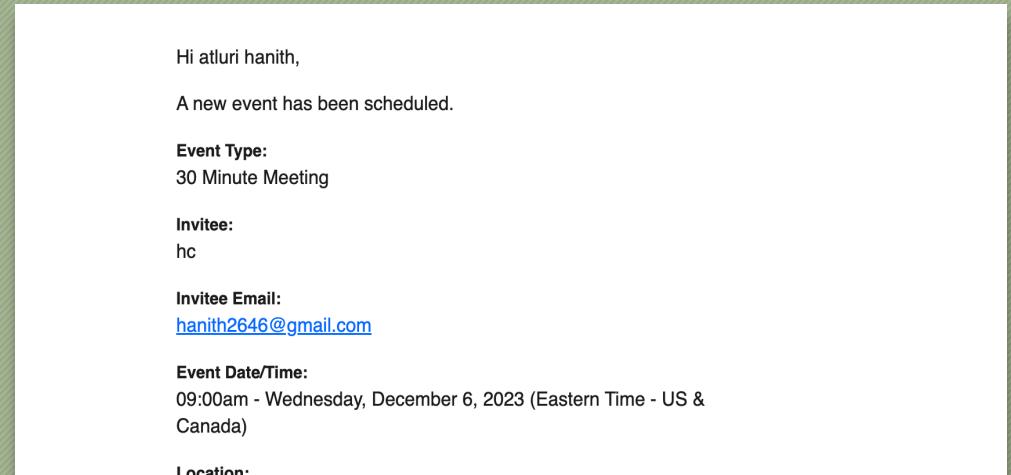
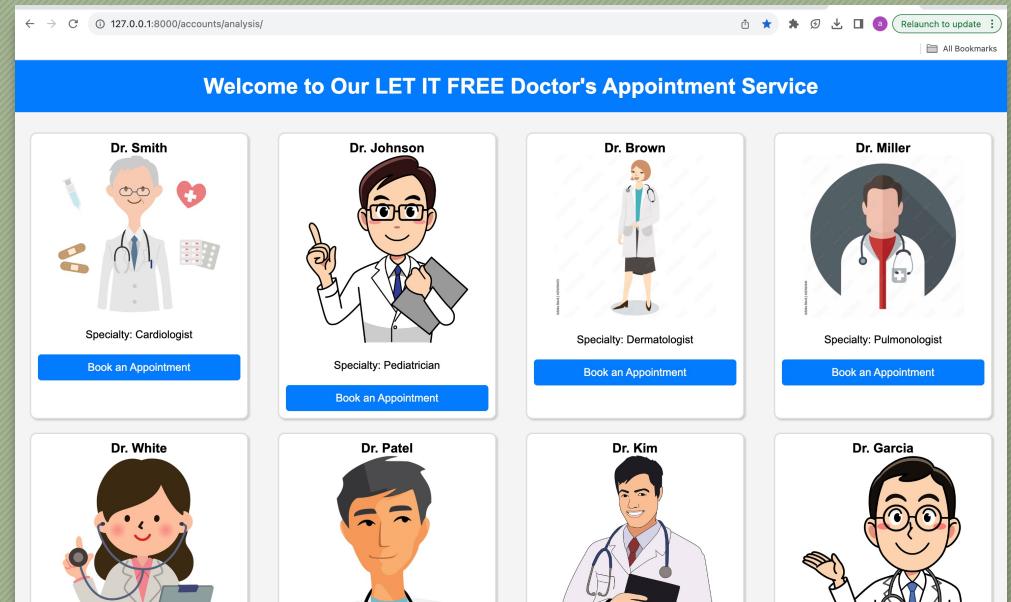
**Additional Information**

If you've traveled, please provide details:

If you have symptoms, please describe them:

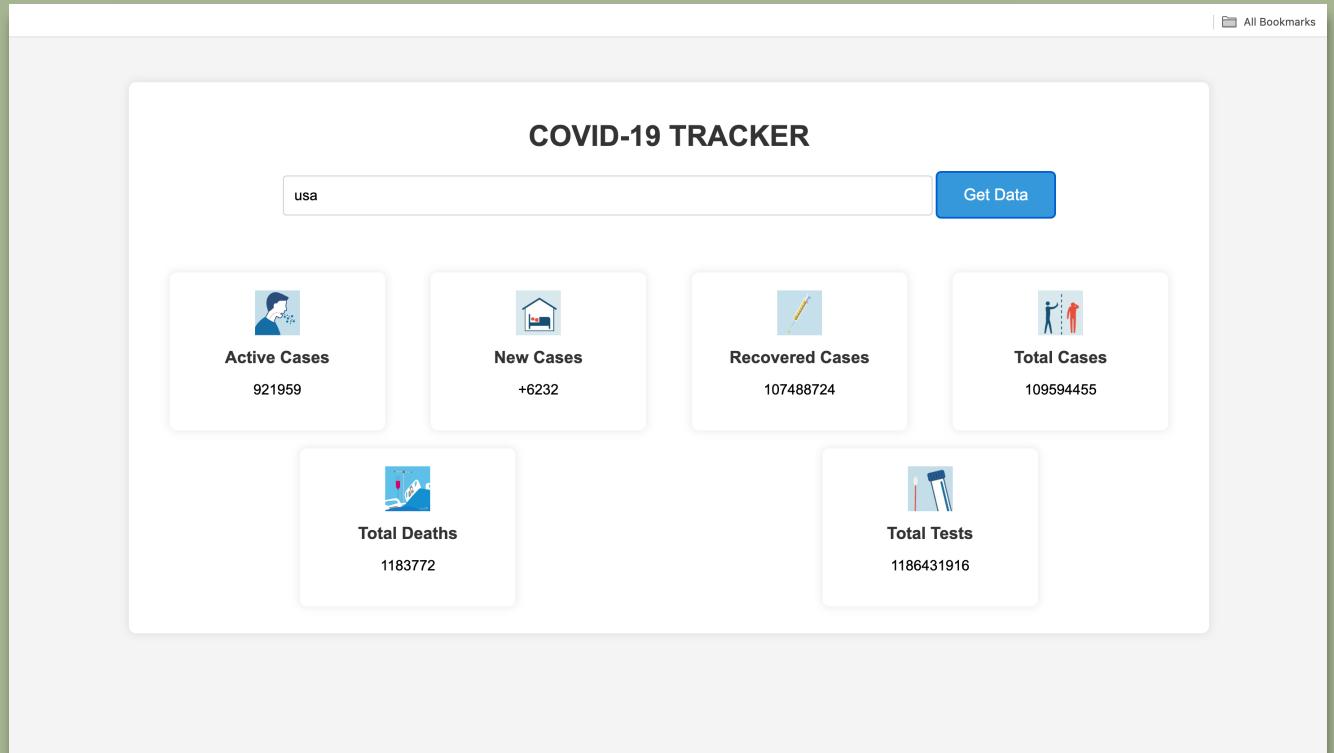
# Doctor's appointment page

- Here in picture-01, we can see how to set up an appointment, and in the meanwhile, we can choose a certain doctor to execute a process, and in picture-02, we can see how to send the appointment information to our Gmail, so we can effortlessly relax.



# Real-time analysis of covid cases based on reagion

- Here on the active cases page, we've integrated the rapid API to retrieve real-time data according to our queries. When we click on the get data tab, a variety of metrics are shown, including the number of active cases, new cases, recovered cases, total cases, total deaths, and total tests for the selected region. All of this data is available in the Rapid API.



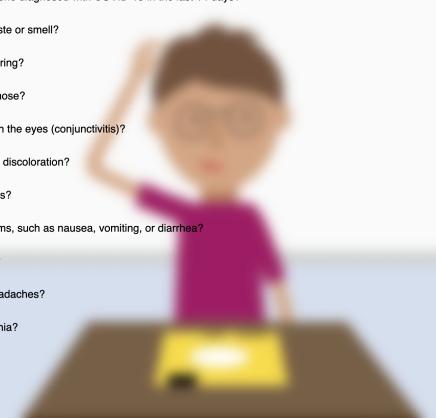
# Self assessment page

- The self-assessment page is where you'll see the warning that appears when the WHO's critical situation is stated. The results of the self-assessment will vary depending on what the user enters.

**COVID-19 Self-Assessment**

Do you have any symptoms of COVID-19? (Fever, Cough, Shortness of breath, etc.)  
 Have you been in close contact with someone diagnosed with COVID-19 in the last 14 days?  
 Have you experienced a sudden loss of taste or smell?  
 Are you having chills or experiencing shivering?  
 Do you have nasal congestion or a runny nose?  
 Are you experiencing redness or irritation in the eyes (conjunctivitis)?  
 Have you noticed any unusual skin rash or discoloration?  
 Are you experiencing muscle or body aches?  
 Have you had any gastrointestinal symptoms, such as nausea, vomiting, or diarrhea?  
 Are you feeling unusually tired or fatigued?  
 Have you been experiencing persistent headaches?  
 Are you having difficulty sleeping or insomnia?

**Submit**



**COVID-19 Self-Assessment**

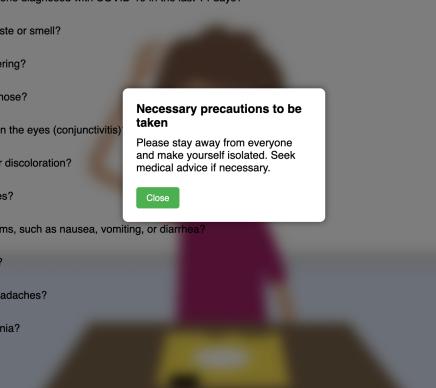
Do you have any symptoms of COVID-19? (Fever, Cough, Shortness of breath, etc.)  
 Have you been in close contact with someone diagnosed with COVID-19 in the last 14 days?  
 Have you experienced a sudden loss of taste or smell?  
 Are you having chills or experiencing shivering?  
 Do you have nasal congestion or a runny nose?  
 Are you experiencing redness or irritation in the eyes (conjunctivitis)?  
 Have you noticed any unusual skin rash or discoloration?  
 Are you experiencing muscle or body aches?  
 Have you had any gastrointestinal symptoms, such as nausea, vomiting, or diarrhea?  
 Are you feeling unusually tired or fatigued?  
 Have you been experiencing persistent headaches?  
 Are you having difficulty sleeping or insomnia?

**Necessary precautions to be taken**

Please stay away from everyone and make yourself isolated. Seek medical advice if necessary.

**Close**

**Submit**



# API SLIDES



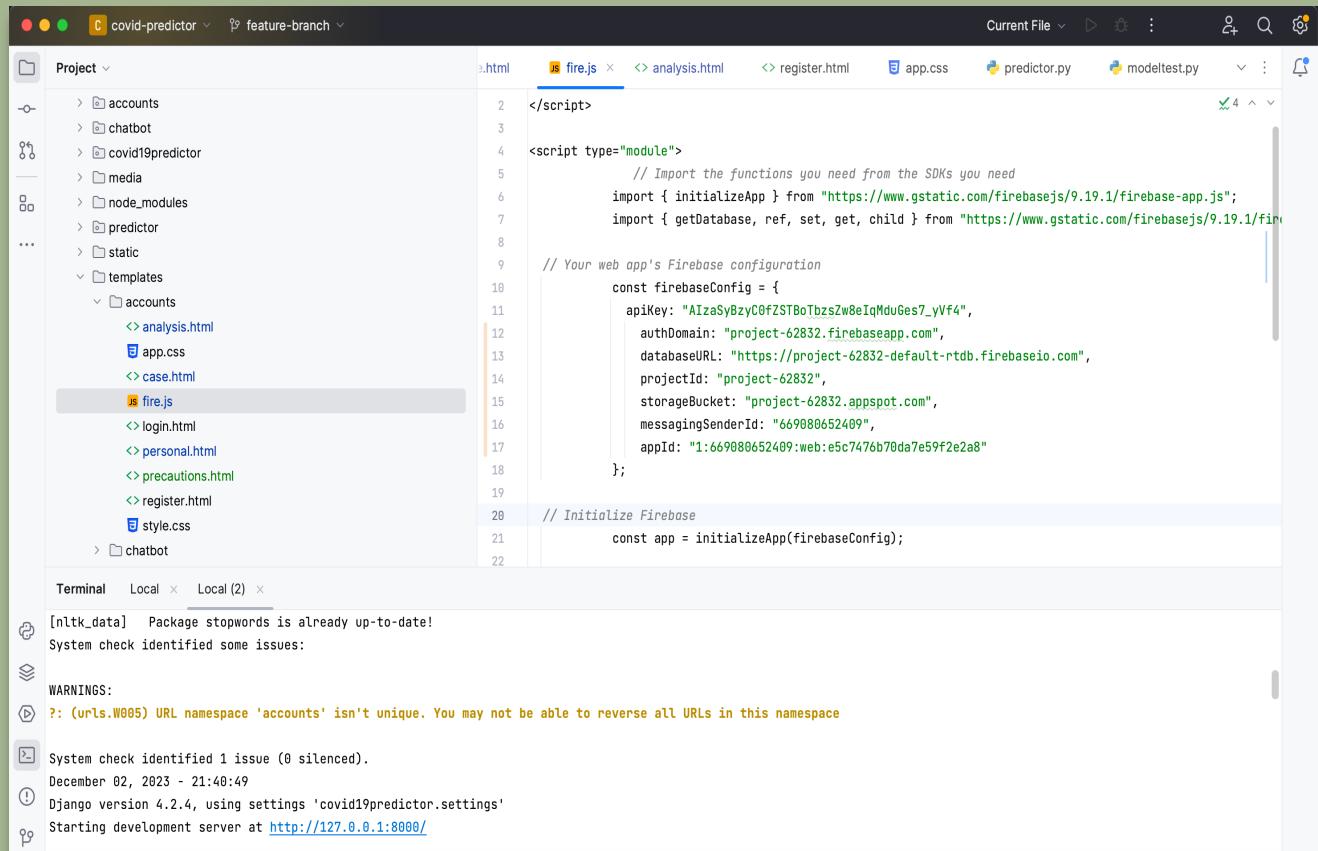
Rapid API



Firebase API

# Firebase API

- Firebase Realtime Database API to interact with a Firebase database. It initializes the Firebase app with a specific configuration, connects to the database, and sets up an event listener for a submit button. When the button is clicked, it collects user input (username, email, and phone) and stores it in the Firebase database under the 'user' node. The code demonstrates a basic utilization of Firebase for real-time data storage, commonly used for user authentication and dynamic content in web applications.



The screenshot shows a code editor interface with a project structure on the left and a code editor window on the right. The project structure includes files like accounts, chatbot, covid19predictor, media, node\_modules, predictor, static, templates, and a sub-template folder accounts containing analysis.html, app.css, case.html, and fire.js. The code editor window displays the contents of fire.js:

```
// Import the functions you need from the SDKs you need
import { initializeApp } from "https://www.gstatic.com/firebasejs/9.19.1/firebase-app.js";
import { getDatabase, ref, set, get, child } from "https://www.gstatic.com/firebasejs/9.19.1.firebaseio.js";

// Your web app's Firebase configuration
const firebaseConfig = {
  apiKey: "AIzaSyBzyC0fZSTBoTbz8eIqMduGes7_yVf4",
  authDomain: "project-62832.firebaseio.com",
  databaseURL: "https://project-62832-default-rtbd.firebaseio.com",
  projectId: "project-62832",
  storageBucket: "project-62832.appspot.com",
  messagingSenderId: "669080652409",
  appId: "1:669080652409:web:e5c7476b70da7e59f2e2a8"
};

// Initialize Firebase
const app = initializeApp(firebaseConfig);
```

The terminal at the bottom shows the following output:

```
[nltk_data] Package stopwords is already up-to-date!
System check identified some issues:
WARNINGS:
?: (urls.W005) URL namespace 'accounts' isn't unique. You may not be able to reverse all URLs in this namespace

System check identified 1 issue (0 silenced).
December 02, 2023 - 21:40:49
Django version 4.2.4, using settings 'covid19predictor.settings'
Starting development server at http://127.0.0.1:8000/
```

# Firebase API

- The data structure is to represent a user's COVID-19-related information. The API handles user details such as contact with a positive case, symptoms, travel history, and vaccination status. Utilizations include tracking and managing user health data, facilitating contact tracing, and supporting health-related decision-making based on the provided information. The structured data can be used in applications for monitoring and responding to individuals' COVID-19-related conditions. The data will be stored after the Submission from the user side only

A screenshot of a web browser showing a form for submitting COVID-19 related information. The form includes fields for Date of Birth (12/06/2023), Phone Number (55199482345), Email (hanith2646@gmail.com), and a section for COVID-19 Questions with checkboxes for traveling recently, having symptoms, being in close contact with a positive person, and being vaccinated. Below this is an Additional Information section with fields for travel details, symptom descriptions, and close contact details, all currently set to 'no'. A success message 'Data submitted successfully!' is displayed in a modal window.

A screenshot of the Firebase Realtime Database console. The database structure is as follows:

```
https://project-62832-default-rtbd.firebaseio.com/
  covid_data
    contact_positive: true
    contact_positive_details: "no"
    date_of_birth: "2023-12-06"
    email: "hanith2646@gmail.com"
    first_name: "hc"
    last_name: "a"
    phone_number: "55199482345"
    symptoms: true
    symptoms_details: "no"
    travel_history: true
    travel_history_details: "no"
    vaccinated: true
```

# Rapid Api

- JavaScript code utilizes the COVID-19 API to fetch and display statistics for a specified country. The API, hosted on RapidAPI, provides real-time data on active cases, new cases, recovered cases, total cases, total deaths, and total tests. The code employs the Fetch API to make an HTTP request to the COVID-19 API, and it dynamically updates HTML elements with the retrieved data, enabling users to track and visualize COVID-19 statistics for a specific country in a web application.

The screenshot shows a code editor interface with a project structure on the left and a code editor on the right. The project structure includes accounts, chatbot, covid19predictor, media, node\_modules, predictor, static, and templates. The templates folder contains analysis.html, app.css, case.html, fire.js, login.html, personal.html, precautions.html, register.html, and style.css. The code editor displays a script file with the following content:

```
const btn = document.querySelector(".btn");
const inputElement = document.querySelector(".inputElement");
btn.addEventListener("click", getData);

function getData() {
  let country = inputElement.value;
  fetch(`https://covid-193.p.rapidapi.com/statistics?country=${country}`, {
    method: "GET",
    headers: {
      "x-rapidapi-host": "covid-193.p.rapidapi.com",
      "x-rapidapi-key": "40ab946a38msh09949d6efa9210dp175c83jsn725e7fc83691",
    },
  })
    .then((response) => response.json())
    .then((json) => {
      let data = json.response[0];
      document.querySelector(".activeCases").innerText = data.cases.active;
      document.querySelector(".newCases").innerText = data.cases.new;
      document.querySelector(".recoveredCases").innerText =
        data.cases.recovered;
    });
}

</script>
```

The code uses the Fetch API to make a GET request to the COVID-19 API endpoint. It extracts the country name from the user input and sends the request. The response is parsed as JSON, and the active, new, and recovered case counts are updated in the corresponding HTML elements.

Below the code editor, there is a terminal window showing the following output:

```
[nltk_data] Package stopwords is already up-to-date!
System check identified some issues:
WARNING:
?: (urls.W005) URL namespace 'accounts' isn't unique. You may not be able to reverse all URLs in this namespace

System check identified 1 issue (0 silenced).
December 02, 2023 - 21:40:49
① Django version 4.2.4, using settings 'covid19predictor.settings'
Starting development server at http://127.0.0.1:8000/
```

# Rapid API

- Node.js code utilizes the COVID-19 API to fetch a list of countries and their corresponding statistics. The API, hosted on RapidAPI, provides global COVID-19 data. The Axios library is employed to make an HTTP GET request, and the response is logged to the console. This code is useful for retrieving and displaying a comprehensive list of COVID-19 statistics for various countries in a Node.js environment, allowing developers to integrate this data into applications or analytics

The screenshot shows the COVID-19 API endpoint on RapidAPI. The endpoint is labeled 'GET Countries' and describes 'Get all available countries'. It includes fields for 'Personal Account' (set to 'atulraranth'), 'RapidAPI App' (set to 'default-application\_8421993'), and 'Request URL' (set to 'rapidapi.com'). On the right, there are sections for 'Code Snippets' (Node.js Axios code) and 'Example Responses'.

```
(Node.js Axios) const axios = require('axios');
const options = {
  method: "GET",
  url: "https://covid-193.p.rapidapi.com/countries",
  headers: {
    "X-RapidAPI-Key": "40ab946a38ns09940dcefa9210dp175c83jsn725e7fc83691",
    "X-RapidAPI-Host": "covid-193.p.rapidapi.com"
  }
};

try {
  const response = await axios.request(options);
  console.log(response.data);
} catch (error) {
```

This screenshot shows the same COVID-19 API endpoint on RapidAPI, but with a different code snippet section. The 'Code Snippets' section now lists multiple programming languages: C, Clojure, C#, Go, HTTP, Java, JavaScript, Kotlin, Node.js, Objective-C, OCaml, PHP, and Powershell. The Node.js code snippet remains the same as in the previous screenshot.

```
C >
Clojure >
C# >
Go >
HTTP >
Java >
JavaScript >
Kotlin >
Node.js >
Objective-C >
OCaml >
PHP >
Powershell >
```

# Future scope



The medical field stands to benefit greatly from this software, which will allow for private use by physicians and provide quicker findings than manual verification.



In the event that another global infections were to strike, we may progressively enhance the use of no touch by using these applications.



Also, getting in touch with a doctor is simple, and there's no cost for a general exam, so doctors may see as many people as they need to.



In addition, there are a plethora of other services that may be integrated for the benefit of users and patients, such as self-assessment tools, among many others.

# Live application Demo

73





GITHUB LINK



TECHNICAL  
PAPER



DEPLOYMENT  
MANUAL



API  
DOCUMENTATION

# THANK YOU!

