Agnel Charities'

Fr. C. Rodrigues Institute of Technology, Vashi

Department of Computer Engineering

CCL Mini Project

Subject	**CSL605: Cloud Computing Lab**	
Branch & Semester	**COMP - VI**	
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Title of the Project	COVID – 19 Website using Cloud	
Subject Incharge Signature with Date:	Prof. Bhakti Aher	

Introduction

A web application that works as in information platform to spread awareness about COVID-19

The users have access to a guide

Cloud Service Provided by Application

Platform as a Service

PaaS is a category of cloud computing that provides a platform and environment to allow developers to build applications and services over the internet.

PaaS services are hosted in the cloud and accessed by users simply via their web browser. A PaaS provider hosts the hardware and software on its own infrastructure. As a result, PaaS frees users from having to install in-house hardware and software to develop or run a new application. Thus, the development and deployment of the application take place independent of the hardware. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, or storage, but has control over the deployed applications and possibly configuration settings for the application-hosting environment. To make it simple, take the example of an annual day function, you will have two options either to create a venue or to rent a venue but the function is the same.

Advantages of PaaS:

Easy deployment: PaaS providers typically offer an easy-to-use interface that allows developers to deploy their applications quickly and easily. This reduces the time and effort required to set up and maintain the infrastructure, allowing developers to focus on building and improving their applications.

Scalability: PaaS providers typically offer automatic scaling, which allows applications to scale up or down based on demand. This means that developers do not need to worry about provisioning or managing resources to accommodate changes in traffic or usage.

Cost-effective: PaaS providers typically offer a pay-as-you-go pricing model, which means that developers only pay for the resources they use. This makes PaaS a cost-effective option for small to medium-sized businesses.

Focus on development: PaaS providers handle the infrastructure and other low-level details, allowing developers to focus on building their applications.

Infrastructure as a Service

Infrastructure as a service (IaaS) is a service model that delivers computer infrastructure on an outsourced basis to support various operations.

Typically, IaaS is a service where infrastructure is provided as outsourcing to enterprises such as networking equipment, devices, database, and web servers. It is also known as Hardware as a Service (HaaS). IaaS customers pay on a per-user basis, typically by the hour, week, or month. Some providers also charge customers based on the amount of virtual machine space they use. It simply provides the underlying operating systems, security, networking, and servers for developing such applications, and services, and deploying development tools, databases, etc.

Advantages of IaaS:
Full control: IaaS providers offer complete control over the infrastructure, allowing developers to configure and manage the infrastructure as they see fit.

Scalability: IaaS providers offer automatic scaling, which allows applications to scale up or down based on demand.

Flexibility: IaaS providers offer a wide range of services and tools that can be customized to meet specific requirements.

Security: IaaS providers offer a high level of security, including encryption, firewalls, and other security measures.

Disadvantages of IaaS:
Complexity: IaaS requires a high level of technical expertise to set up and manage the infrastructure.

Cost: IaaS can be more expensive than PaaS, as developers need to pay for the infrastructure and resources they use.

Time-consuming: Setting up and managing the infrastructure can be time-consuming, which can be a challenge for small to medium-sized businesses with limited resources

Cloud Platform Used/ Tools Used

Cloud Platform used here is Google Firebase.

Firebase is a cloud-based platform that provides a range of tools and services for building mobile and web applications. It offers cloud computing and storage services that allow developers to build and run their applications on Google's infrastructure. Firebase's cloud computing services include serverless computing through its Cloud Functions feature. Cloud Functions allow developers to run custom code in response to events triggered by their applications, such as user authentication or database changes. This allows developers to easily implement business logic, process payments, and handle other server-side tasks without worrying about server management.

Firebase provides a number of features for developing applications, including:

Real-time Database: Firebase provides a NoSQL database that allows developers to store and sync data in real-time. The database is designed to work with a wide range of devices and platforms, including iOS, Android, and the web.

Authentication: Firebase provides a robust authentication system that allows developers to easily manage user authentication and authorization. It supports a variety of authentication methods, including email and password, social media, and phone number verification.

Cloud Functions: Firebase provides a serverless backend that allows developers to run custom code in response to events triggered by their applications. This feature is particularly useful for implementing business logic, processing payments, and handling other server-side tasks.

Hosting: Firebase provides a fast and secure hosting solution for web applications. It supports static content hosting, dynamic content hosting, and custom domains.

Analytics: Firebase provides powerful analytics tools that allow developers to measure user engagement and behavior. It provides insights into user retention, demographics, and behavior, among other things.

Cloud Storage: Firebase provides a cloud-based storage solution that allows developers to store and serve user-generated content, such as images, audio, and video.

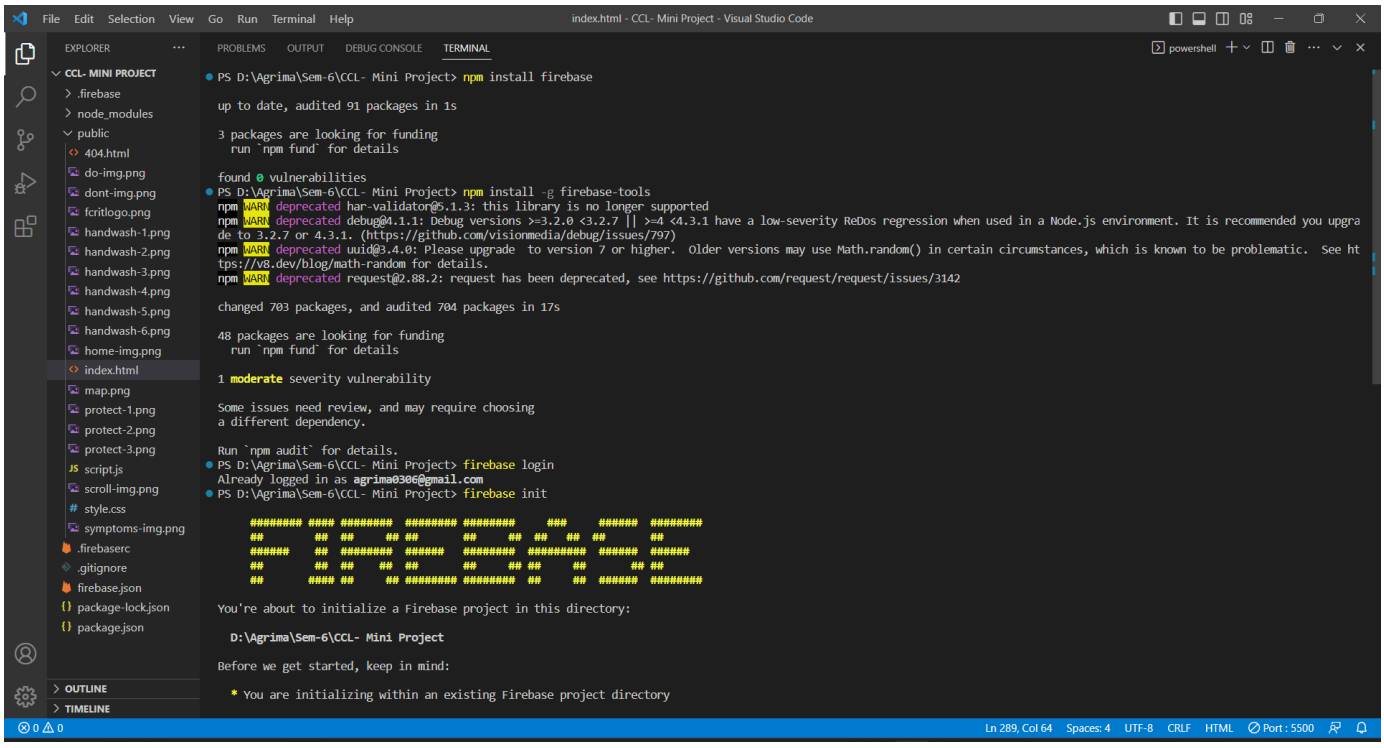
Performance Monitoring: Firebase provides a tool for monitoring application performance, including latency, app load time, and other metrics.

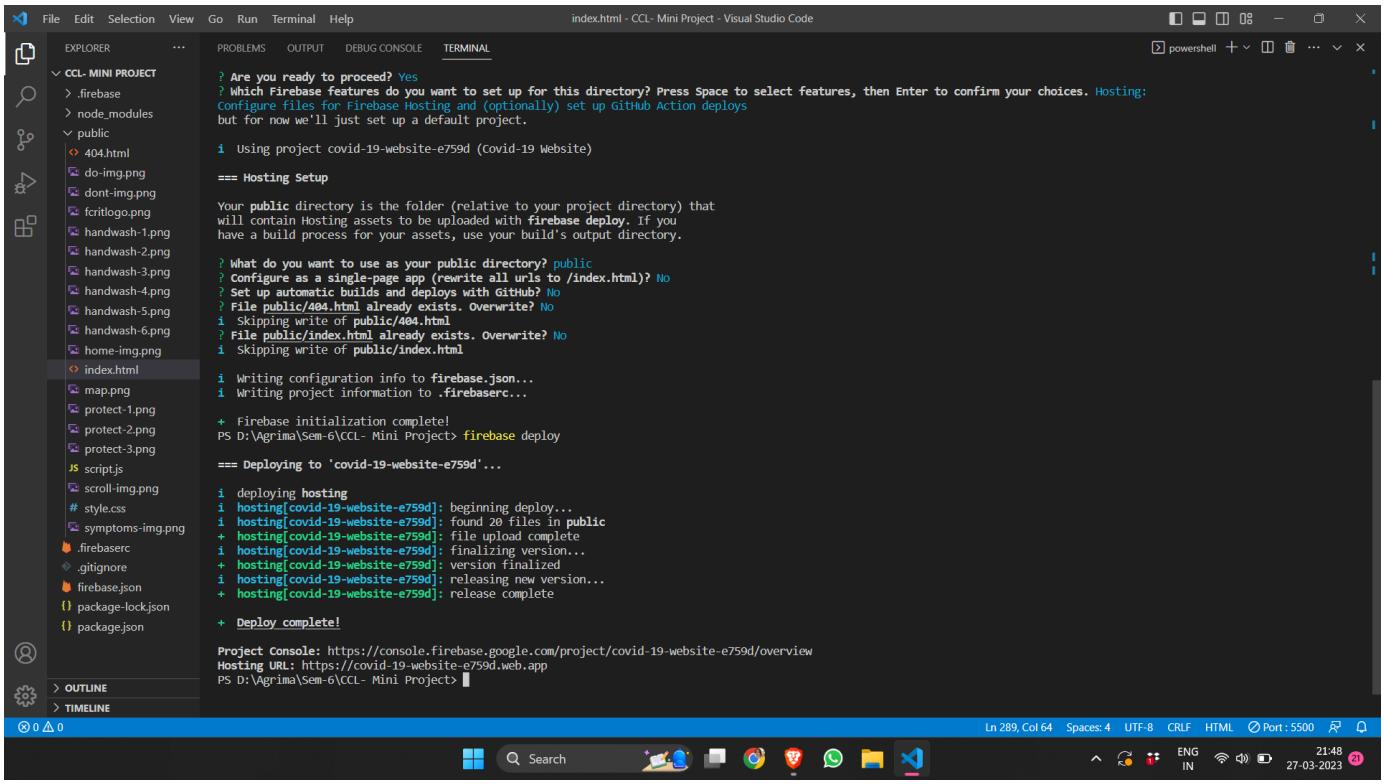
Crashlytics: Firebase provides a powerful crash reporting tool that allows developers to track and diagnose application crashes in real-time.

Firebase's cloud computing and storage services are highly scalable and flexible. Developers can easily scale their applications up or down based on demand, without having to worry about managing servers or infrastructure. Firebase also offers a pay-as-you-go pricing model, which means developers only pay for the resources they use

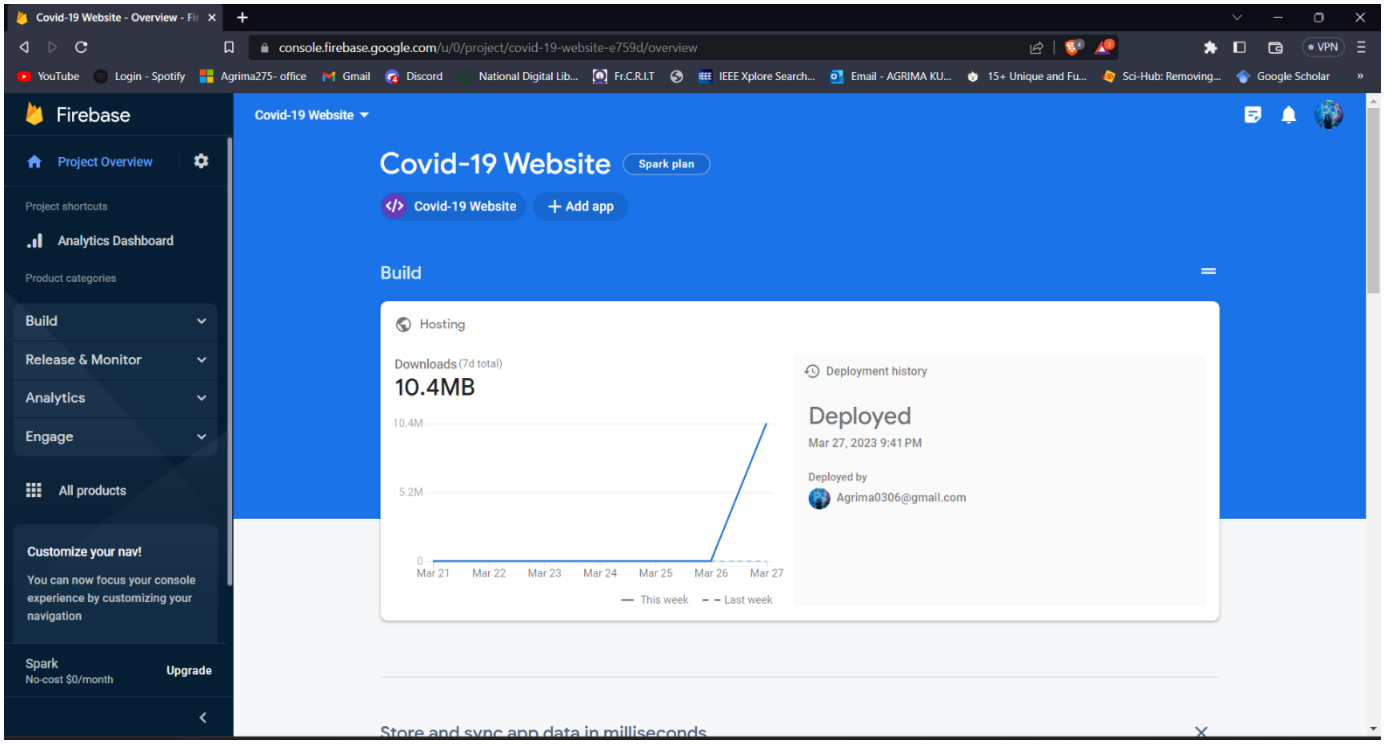
Deployment on Firebase:

- Deployment Steps:





- Firebase Console:

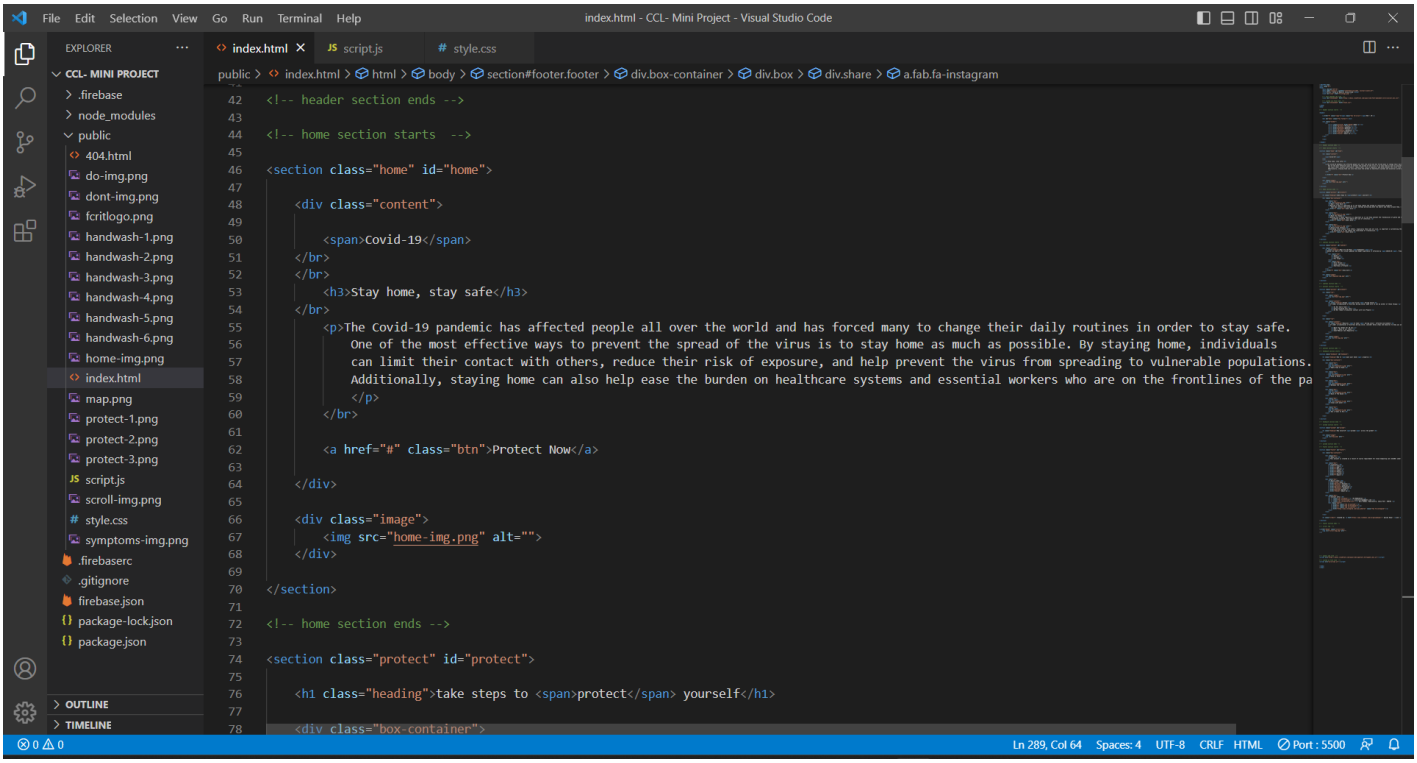


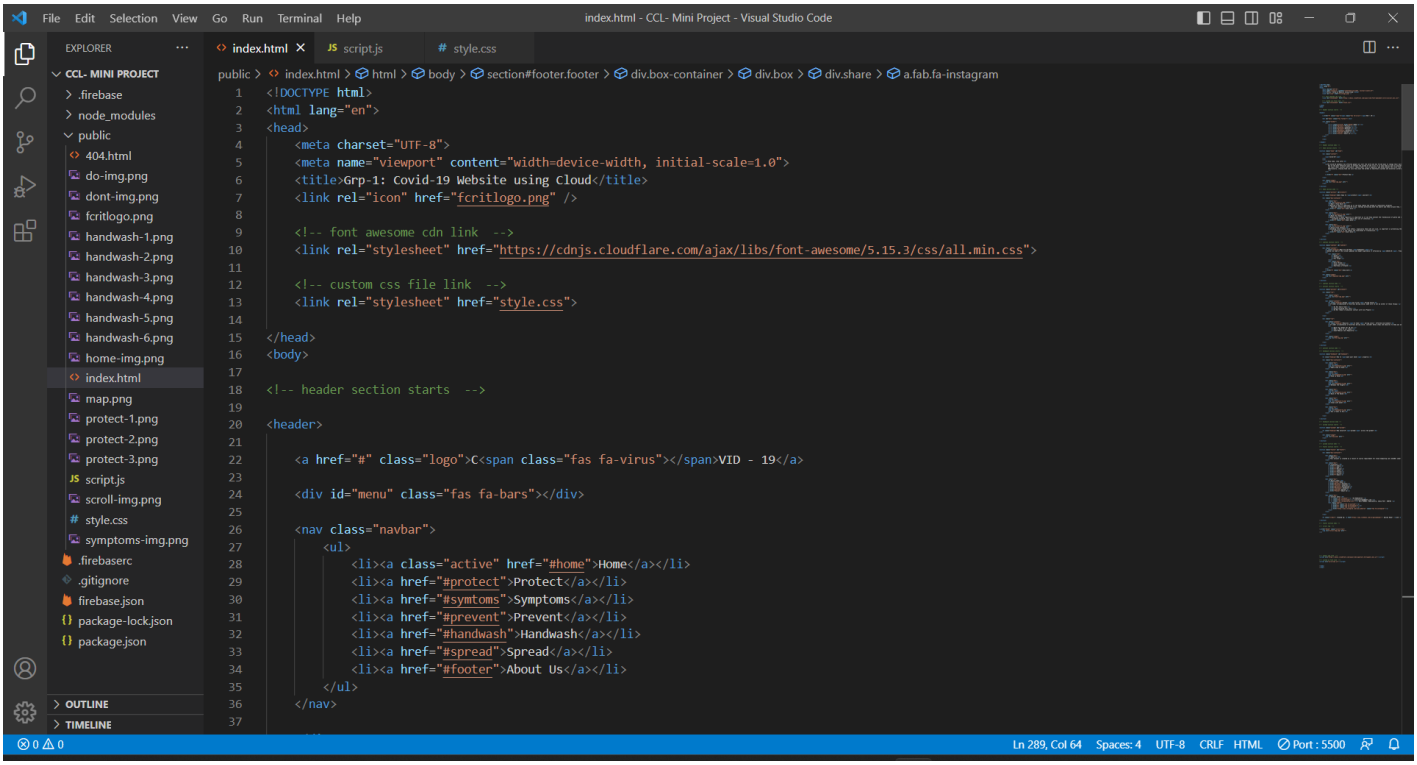
Website Link: https://covid-19-website-e759d.web.app/

Or simply scan the QR to visit the website!

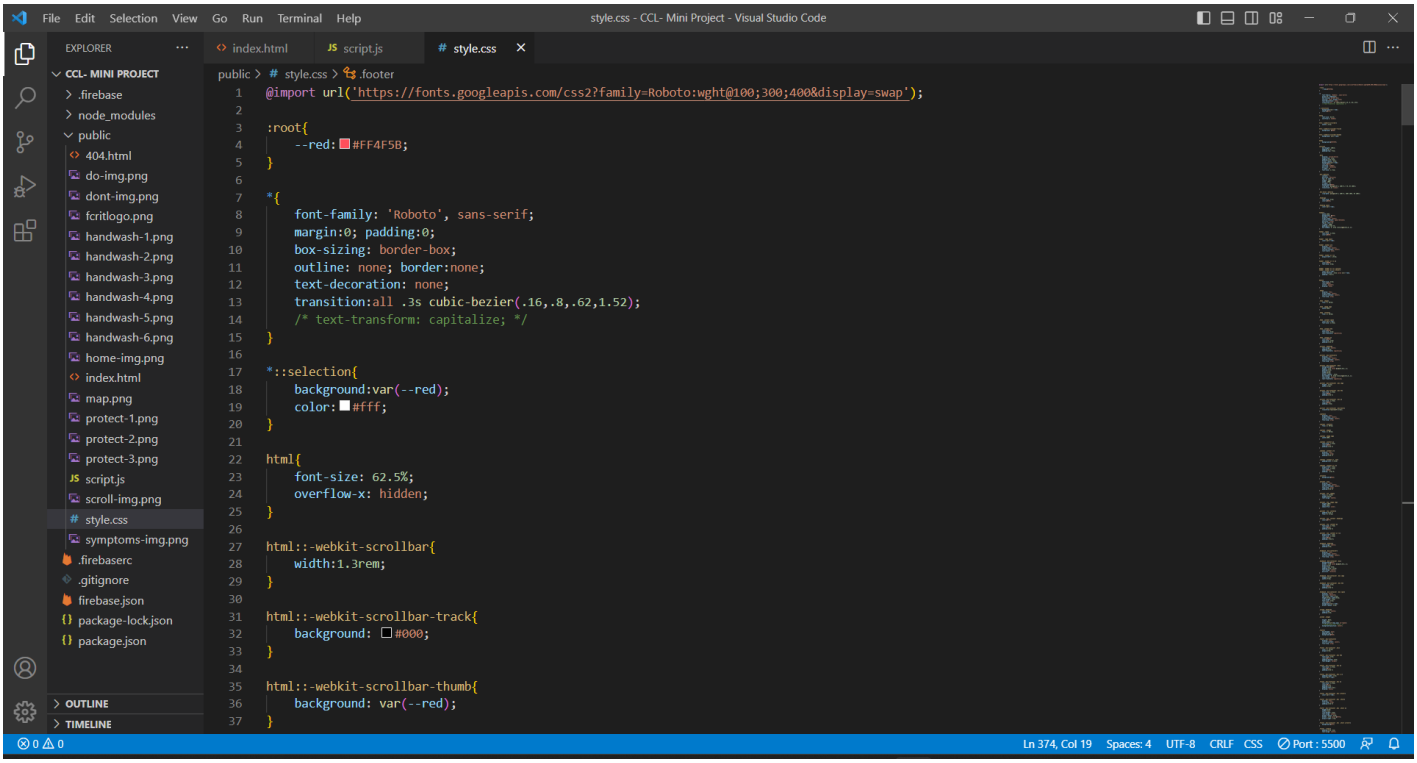
Code Snippets:

- Index.html

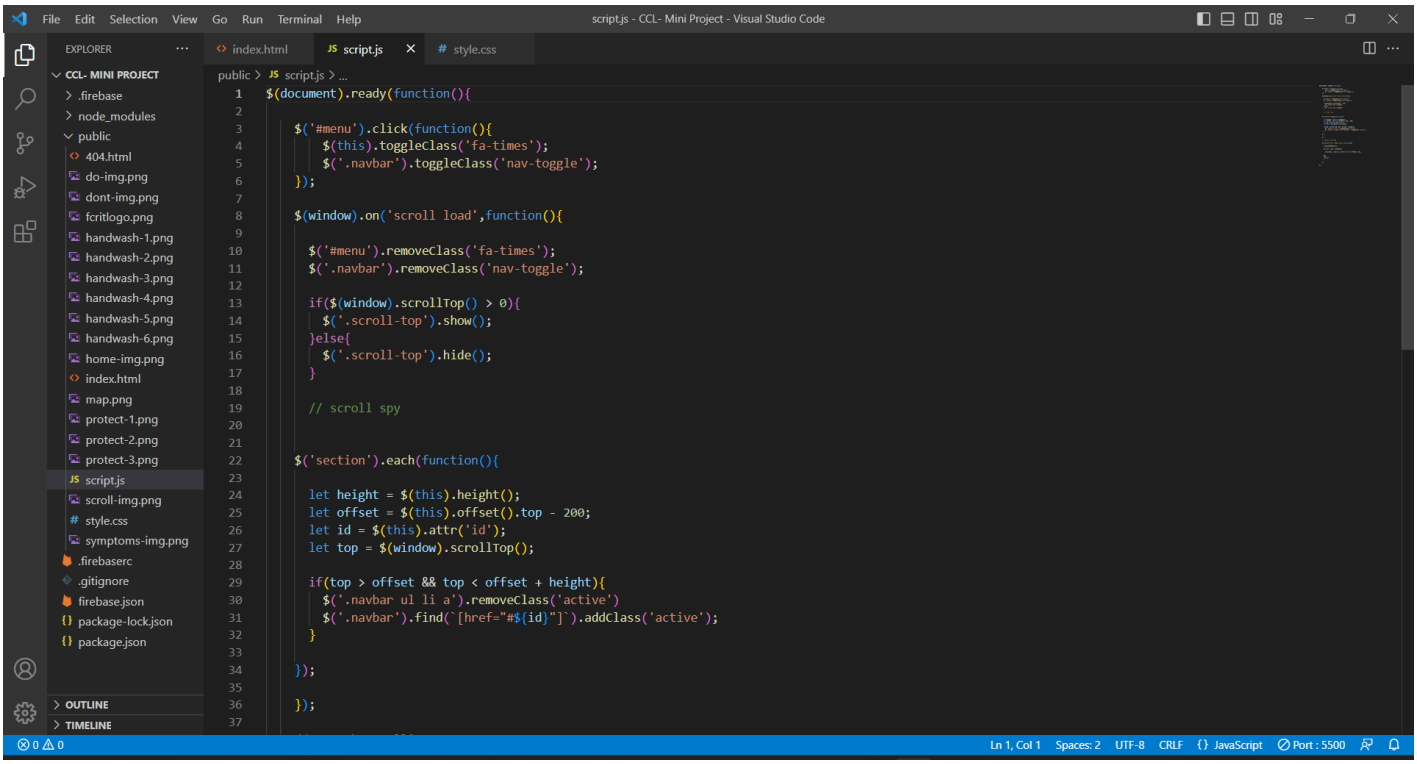




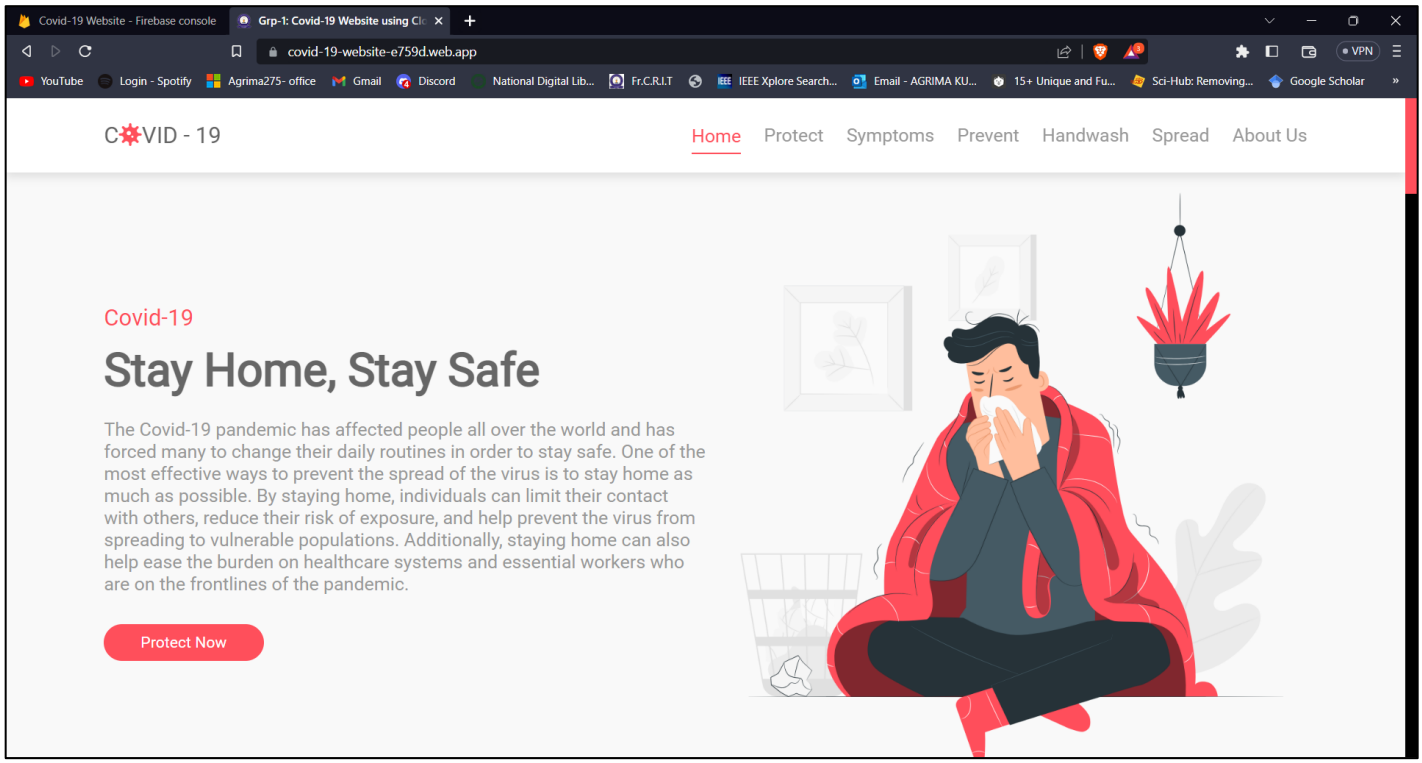
- Style.css

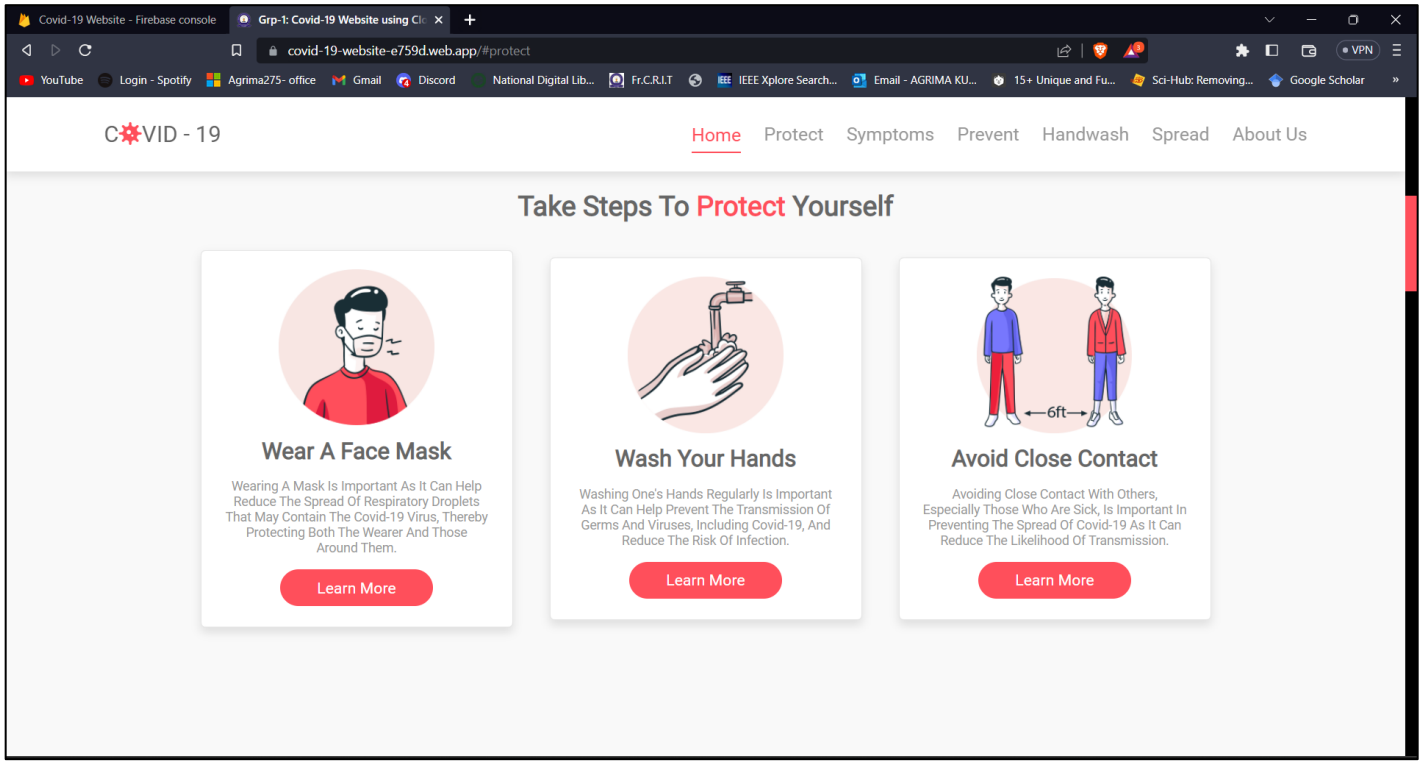


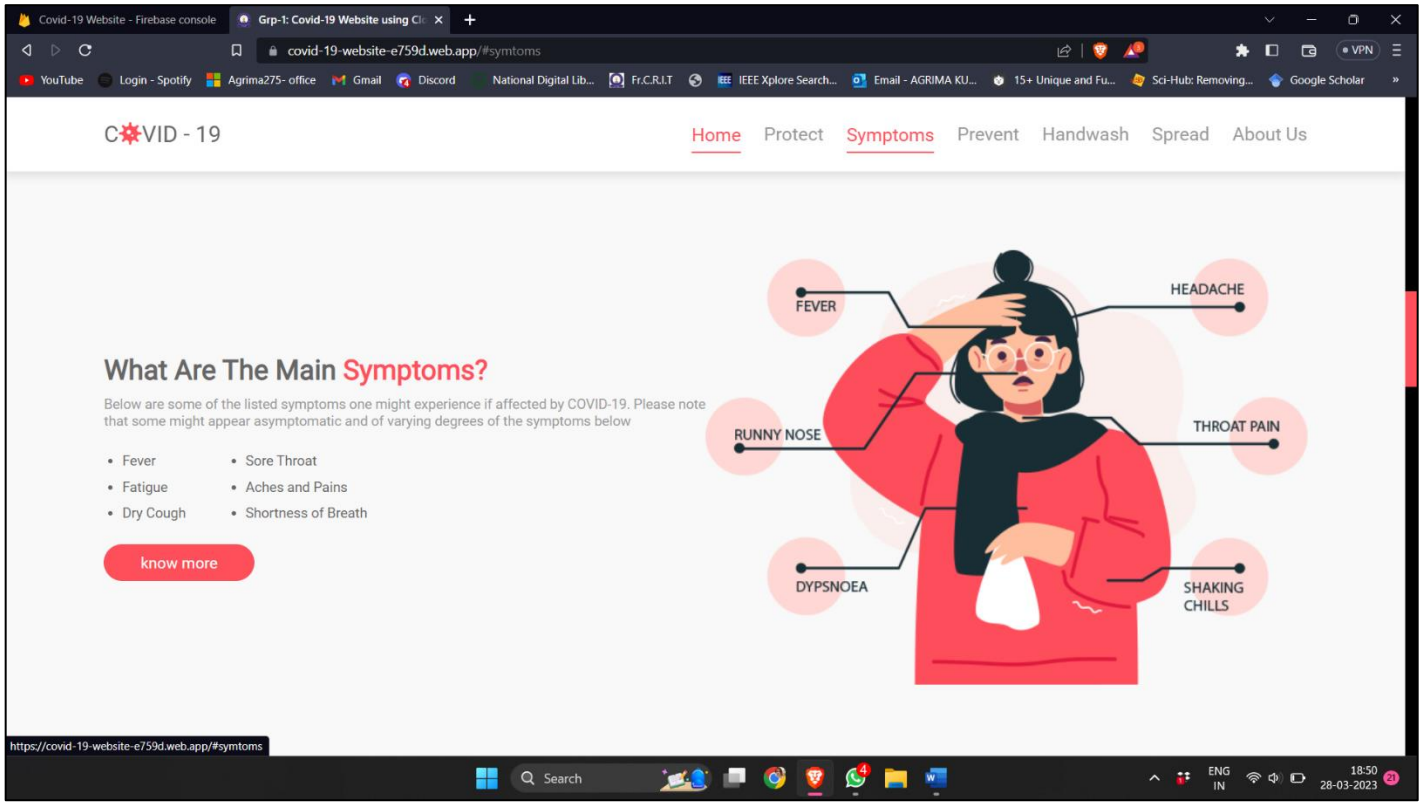
- Script.js

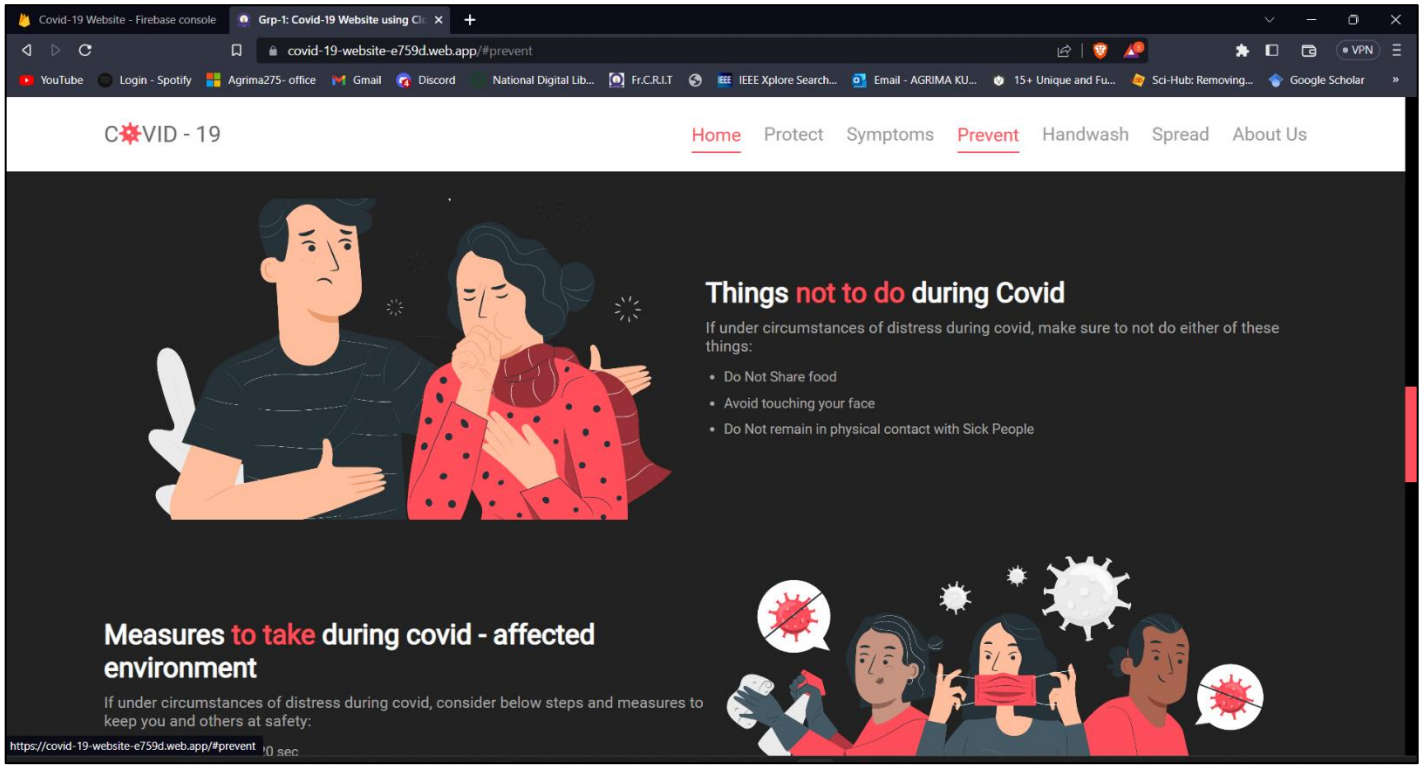


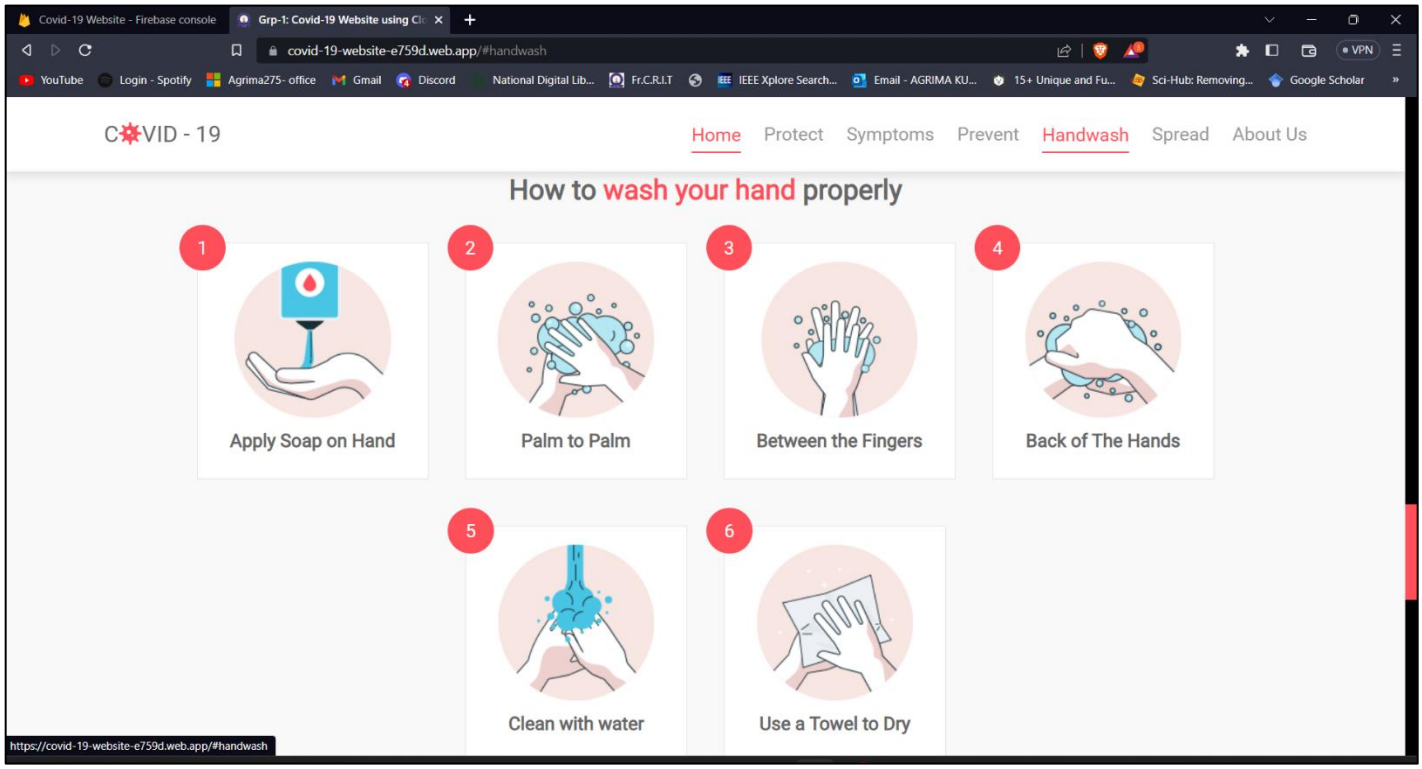
Implementation:

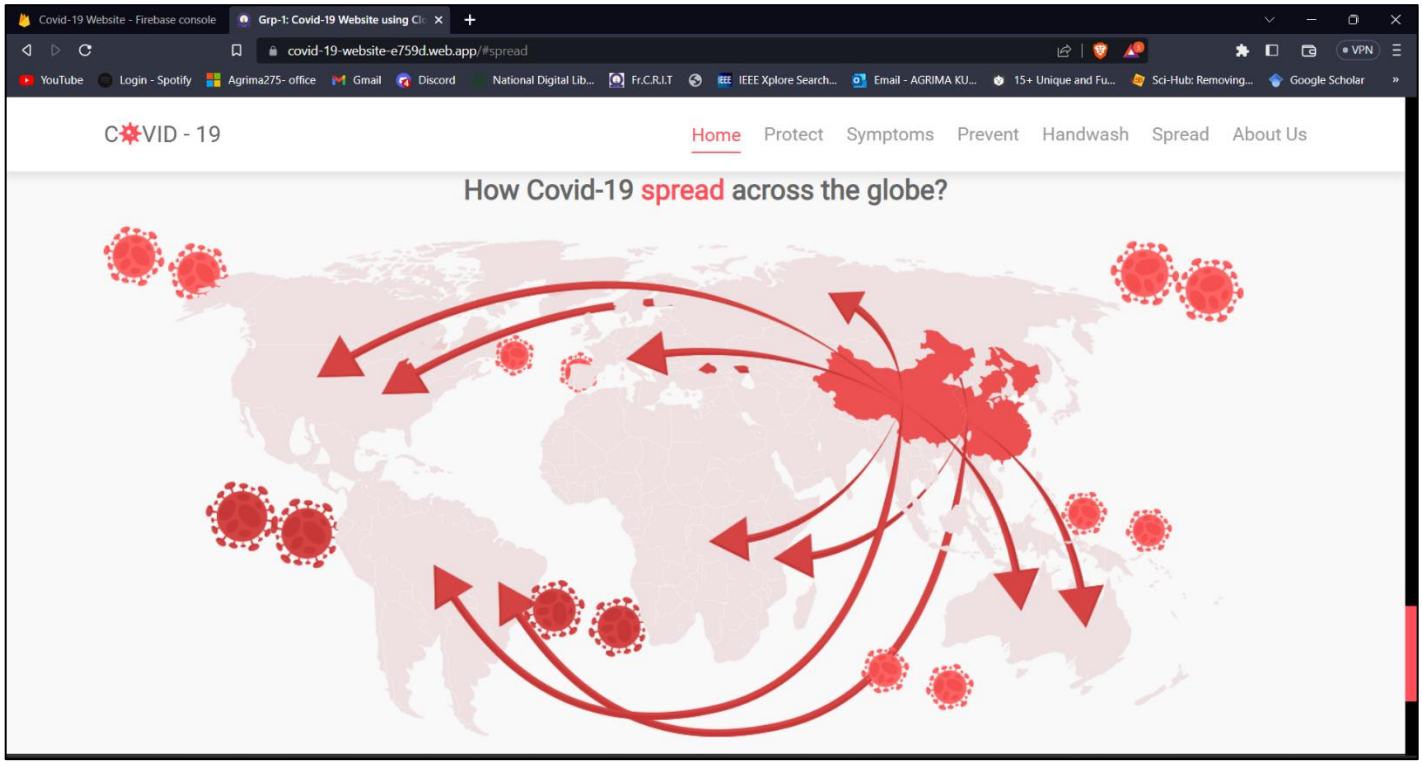





Covid-19 Website - Firebase console
Grp-1: Covid-19 Website using Cl
covid-19-website-e759d.web.app/#symtoms
C VID - 19
Home
Protect
Symptoms
Prevent
Handwash
Spread
About Us
What Are The Main Symptoms?
Below are some of the listed symptoms one might experience if affected by COVID-19. Please note that some might appear asymptomatic and of varying degrees of the symptoms below
Fever
Fatigue
Dry Cough
Sore Throat
Aches and Pains
Shortness of Breath
know more
FEVER
HEADACHE
RUNNY NOSE
THROAT PAIN
DYPSNOEA
SHAKING CHILLS
https://covid-19-website-e759d.web.app/#symtoms


Covid-19 Website - Firebase console
Grp-1: Covid-19 Website using Cl
covid-19-website-e759d.web.app/#prevent
C VID - 19
Home
Protect
Symptoms
Prevent
Handwash
Spread
About Us
Things not to do during Covid
If under circumstances of distress during covid, make sure to not do either of these things:
Do Not Share food
Avoid touching your face
Do Not remain in physical contact with Sick People
Measures to take during covid - affected environment
If under circumstances of distress during covid, consider below steps and measures to keep you and others at safety:
https://covid-19-website-e759d.web.app/#prevent


Covid-19 Website - Firebase console
Grp-1: Covid-19 Website using Cl
covid-19-website-e759d.web.app/#handwash
C VID - 19
Home
Protect
Symptoms
Prevent
Handwash
Spread
About Us
How to wash your hand properly
1
Apply Soap on Hand
2
Palm to Palm
3
Between the Fingers
4
Back of The Hands
5
Clean with water
6
Use a Towel to Dry
https://covid-19-website-e759d.web.app/#handwash


Covid-19 Website - Firebase console
Grp-1: Covid-19 Website using Cl
covid-19-website-e759d.web.app/#spread
C VID - 19
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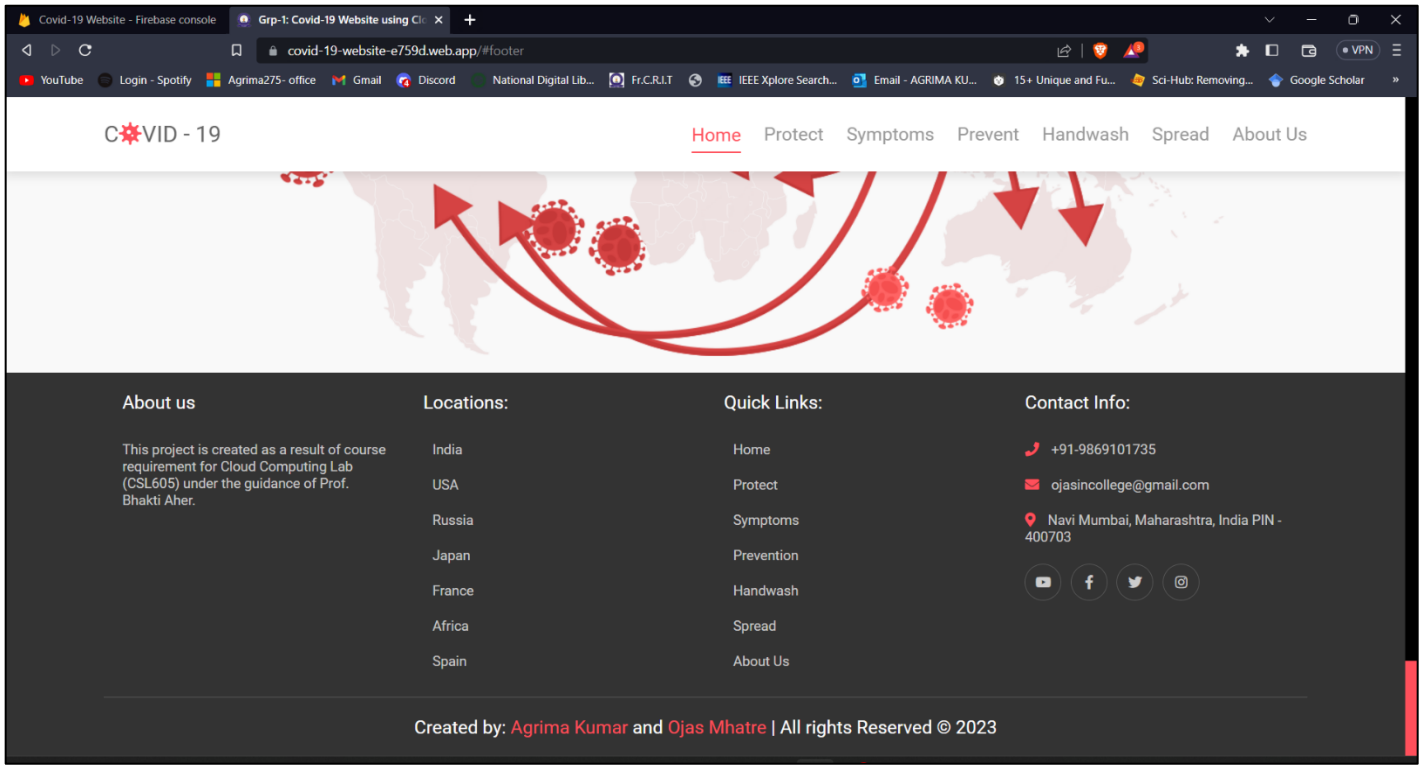
How Covid-19 spread across the globe?



Results and Conclusion

A COVID-19 website was successfully created and deployed on Firebase using cloud features and was configured via:
Configure files for hosting and (optionally) setup Github action deploys