MINI PROJECT (2020-21)

Worldwide COVID-19 (Health and Wellness)

MID-TERM REPORT

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ABSTRACT

The main idea of the project is to build an application that will help the users to get familiar with all the necessary information regarding pandemic coronavirus. For viewing all the information users have to sign up/register on our application. Some important information which this application is going to provide is listed below: -

- What is Coronavirus, from where it starts spreading, and history of coronavirus?
- How it affects our health, what are the symptoms of corona positive?
- Government Norms about corona virus protection, safety measures.
- Health and Wellness tips which include herbal medical details, about yoga, etc.

With the help of his application users will also be able to see all the live information about Covid cases country wise and state wise (India). Users can also fill a suggestion form privately if they want to give us some more tips about covid-19 or any other update related to our web application.

In this project, we have used front-end technologies for user interface and back-end technologies for storing user data and running our application on the server. For Front-end, we have used **HTML-5** to provide the basic structure of all our pages in our application**, CSS-3** (Cascading Style Sheets) for describing the presentation of Web pages, including colors, layout, and many more. Bootstrap for designing purposes because **Bootstrap** is a potent front-end framework used to create modern websites and web apps and last but not least JavaScript to provide functioning to our web application. For Back-end, we have used NodeJS as a server runtime environment, ExpressJs as a framework to support back end server, MongoDB as a database to store user data in json (document-oriented format), EJS Templating to render our web application pages and also enhance the reusability of our code and Robo3T to visualize the MongoDB database.

By using both these types of technologies, we have made a web application which is user friendly and creates awareness about COVID-19 among people. With this application, we have tried to give as much information as possible to our users that will help them to stay fit and healthy in this pandemic situation.

INTRODUCTION

1.1 General Introduction to the topic

We are going to build a web application pertaining to pandemic COVID-19. The COVID-19 pandemic has resulted in over 4.3 million confirmed cases and over 290,000 deaths globally. It has also sparked fears of an impending economic crisis and recession. Social distancing, self-isolation and travel restrictions have led to a reduced workforce across all economic sectors and caused many jobs to be lost. Schools have closed down, and the need for commodities and manufactured products has decreased. In contrast, the need for medical supplies has significantly increased. The food sector is also facing increased demand due to panic-buying and stockpiling of food products.

Our Web Application will be built using web languages and web frameworks. In this application, first we are creating a signup/register page through which a user can register on our website. The user can register them by their mail id. After login, users get to know all the information about coronavirus, its effects and remedies. Users can also get the live status of the covid-19 cases. We are also including an update section where users can give their views/suggestions about covid19.

Some main topics we are covering:

1. What is Coronavirus, from where it starts spreading, and history of coronavirus?
2. How it affects our health, what are the symptoms of corona positive?
3. Government Norms about corona virus protection, safety measures.
4. Health and Wellness tips which includes herbal medical details, about yoga, etc.
5. Live Status of Coronavirus
6. Suggestions message bar
7. Contact Information

When the user login to our website then they can see some sections which contain the glimpse of some topic discussed above and by clicking on the links the user can go to the real page which will get all the information about that topic.
We will use Front-end as well as Back-end technologies for making our web application. By using HTML, CSS, JavaScript and Bootstrap we will create our UI (user interface) section. We will work on NodeJS and ExpressJs to fetch out live data from API. We will also use EJS Templating for reusability and simplicity of our code. We will use MongoDB for storing our data.

Tools required:

1. Hardware Requirements:

- Personal Computer with minimum of 4GB RAM and core i3Processor.

2. Software Requirements:

- Windows Operating System.
- Integrated Development Environment (IDE) -Visual Studio Code 1.47 / Atom Editor
- GitHUB Desktop 2.5.3
- Robo3T

3. Language and Framework Requirements:

- HTML 5
- CSS 3
- Bootstrap 4 / 5
- JavaScript
- NodeJS 12.18.3
- ExpressJs 4.17.1
- MongoDB 4.2.8
- EJS Templating

PROBLEM DEFINITON

The COVID-19 pandemic has resulted in over 4.3 million confirmed cases and over 290,000 deaths globally. It has also sparked fears of an impending economic crisis and recession. Social distancing, self-isolation and travel restrictions have led to a reduced workforce across all economic sectors and caused many jobs to be lost. Schools have closed down, and the need for commodities and manufactured products has decreased. In contrast, the need for medical supplies has significantly increased. The food sector is also facing increased demand due to panic-buying and stockpiling of food products. So, we want to build a web application that will provide users all the necessary information about COVID-19. This will help the users to get to know about covid-19 and its effects, safety measures, government issued rules and regulations for this pandemic, how to stay fit and healthy, etc. We have tried our best to cover as much information as possible about COVID-19 to create awareness among the people through this application.

OBJECTIVE

The main aim of our project is to target thousands of users to use and engage with our app. Our main agenda for creating this web app is to develop awareness among people about covid-19 and its effects. We also want users to get live status of coronavirus whenever they want. We also take care that we provide them with the best Health and wellness tips, so they remain healthy and fit. We will provide a platform where users can write their suggestions pertaining to coronavirus after signup/login. We will provide most of the information in one place so that the users need not to go elsewhere to collect information for COVID-19.

IMPLEMENTATIONS DETATILS

We have divided our project into four modules:

a. Front-end (User Interface)
b. Back-end (Server-Side)
c. Database (No-SQL Database)
d. Deploying our application

Part (i):

We have started our project with first part i.e. **Front-end.** In this part, we have used HTML-5 (Hypertext Markup Language) to provide structure to our web pages, CSS-3 (Cascading Style Sheets) for describing the presentation of Web pages, including colors, layout, and many more. We have also used bootstrap for designing purposes because **Bootstrap** is a potent front-end framework used to create modern websites and web apps. It's open-source and free to use, yet features numerous HTML and CSS templates for UI interface elements such as buttons and forms. Bootstrap also supports JavaScript extensions. With the help of bootstrap we can easily make our website that adjusts on mobile devices, tablets and desktops.

We have used EJS (Embedded JavaScript Templating) that improves our code reusability and it helps to create an HTML page with minimal code just by saving some reusable text in separate file and import that file content whenever we need.

In the beginning, we have designed our registration page with the help of HTML EJS, CSS and Bootstrap. In this page, users can easily register themselves by simply filling the required details. We have also made a sign in page that will help users to log in if they are already registered to our web application.

Now, our homepage that will help users to interact with our web application in a very easy and efficient manner. We have provided a lot of information about our project topic on our home page, but if they want the detailed information users have to click on that particular instance that will navigate them to their required information part.

Home page consists of so many sections like Awareness, Covid live, Contact, Suggestion. In Awareness section, we have provided about the safety measures, Health related issues, etc. regarding covid-19. In Covid live section, users can see live updates of covid-19 in country wise and for all states in India they will navigate to another separate page. In contact section, this section is going to contain the developer’s information and the suggestion section will be going to contain all the suggestion which users want to give regarding Covid or for our web application.

Part (ii)

Now coming to second part i.e. **Back-end**. In this part we have used JavaScript, Node JS, and ExpressJs as a framework for Node JS (It is used for easier creation of web applications and services) and EJS which is a Templating engine used by Node.js.

By using these technologies, first we are covering the register and login page. We get all the data entered by the user onto our server and by applying some validations we can process the data for further registration and sign in.

We are using API to get all the live Covid updates state wise as well as country wise. In case of state-wise we are taking data only for India. We will show data in tabular form and the first column consist of country name, second column consist of number of active cases, third column consist of number of recovered cases, fourth column consist of number of deceased cases and last one consist of number of confirmed cases.

For the suggestion form we have taken data onto our server i.e. name, email and their respective suggestions. And process the data to store on our database.

Part (iii)

In the third part, we are considering databases. With the help of MongoDB we are going to store user's data. **MongoDB** is an open-source document-based database management tool that stores data in JSON-like formats. It is a highly scalable, flexible, and distributed NoSQL database. With this database we will define some user schema and apply some validations for the data.

After combining all three modules we will be able to make a responsive web application that will provide users much functionality.

Part (iv)

In the fourth part, we are going to deploy our application over the internet so that user can use this application from anywhere in the world.

PROGRESS TILL DATE AND THE REMAINING:-

Part 1 is completed i.e. all about front-end (user interaction)

It consists of:

- Registration Page
- Sign in Page
- Navigation Bar
- Covid Updates Live Web Page
- Carousel Section
- Meet the team Section
- Cards Section
- What you want to know about COVID (Detailed) Section
- Suggestion Form Section
- Footer

Half of part 2 is completed i.e. Back-end

It consists of:

- Taking live state wise data from covid API on server.
- Show state wise data on web page in tabular form
- Registration Page: users data on server
- Sign In Page users: data on server

Remaining of part 2:

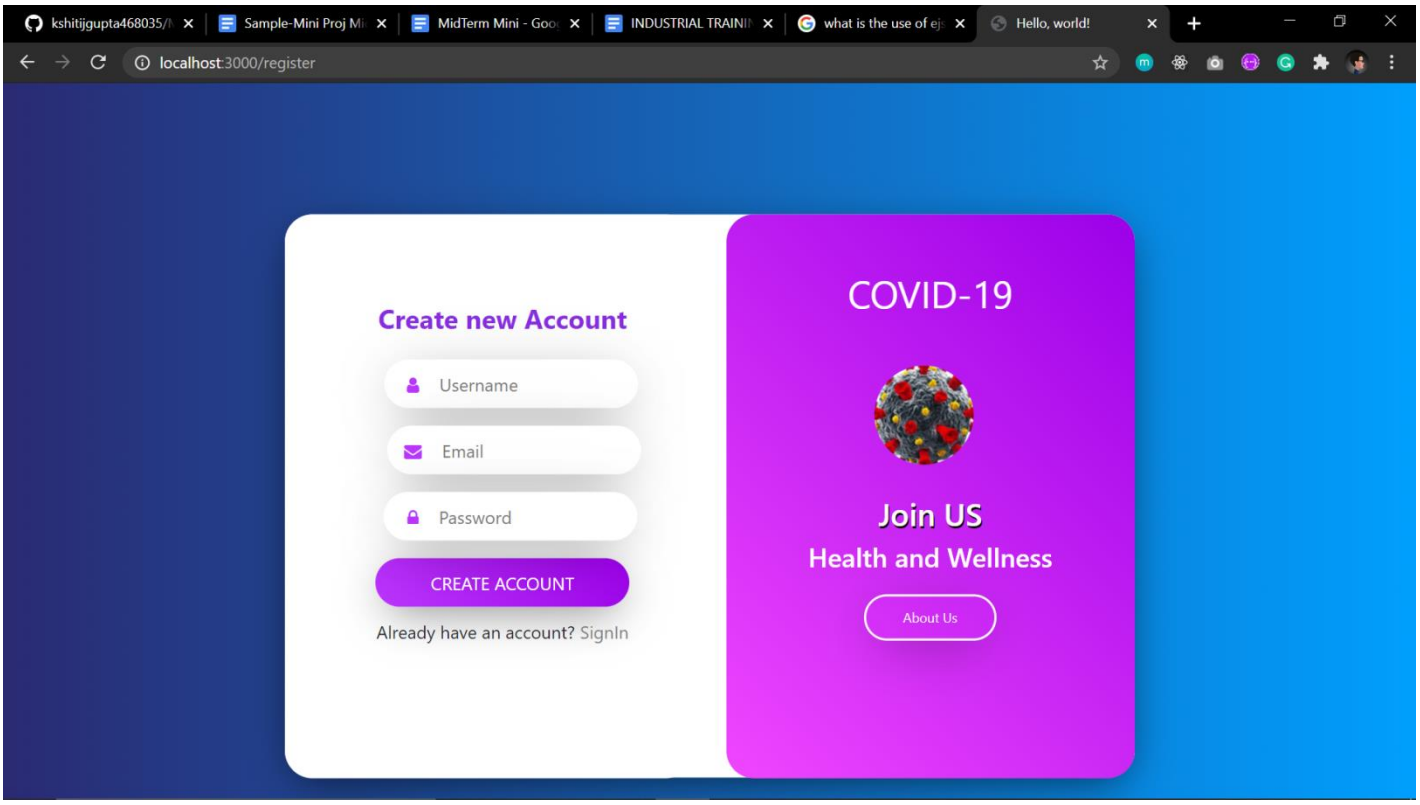
- Take users data from the suggestion form on the server side.
- Show the Covid Live updates country wise.

Part 3 is remaining that consist of:

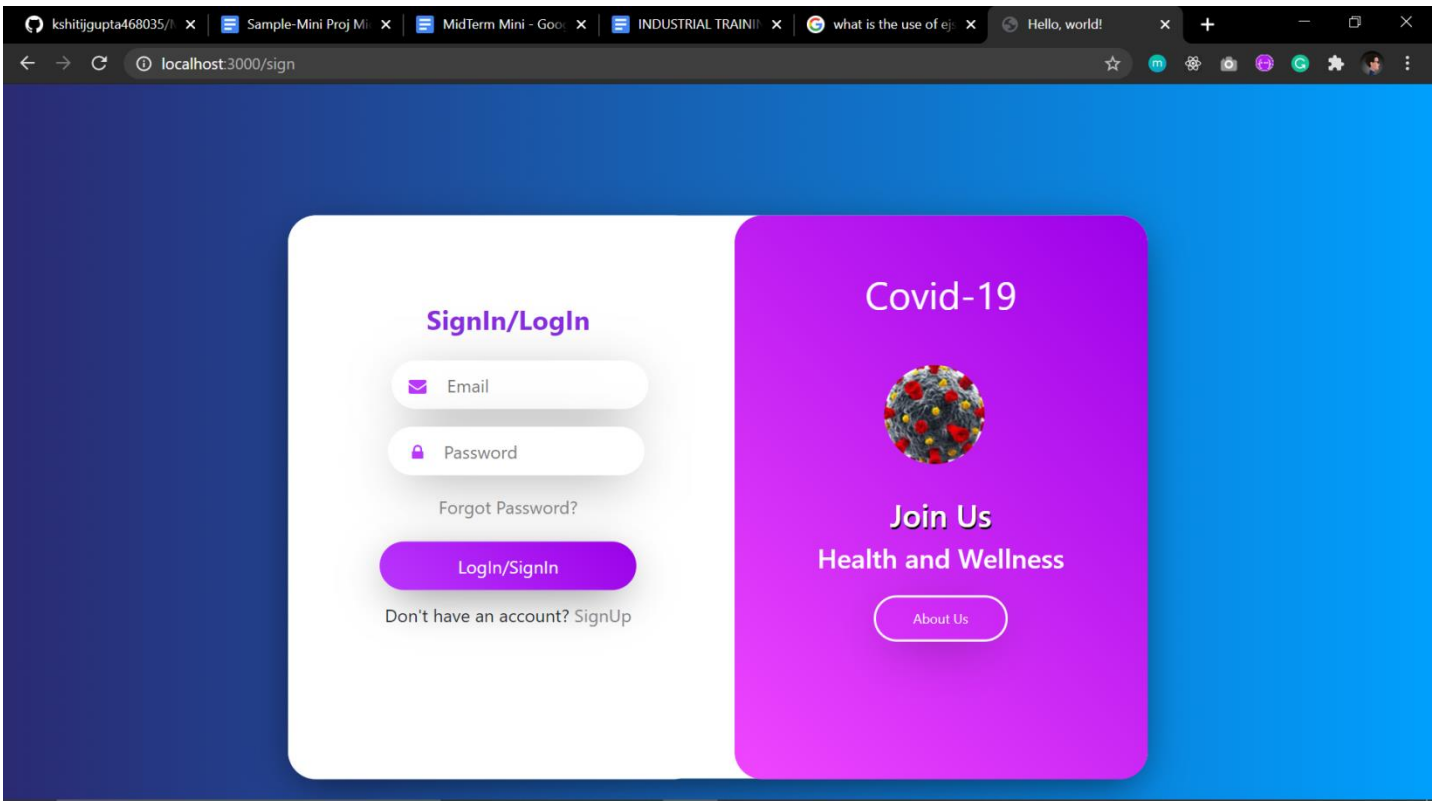
- All about databases.
- Send all the register and sign in page data from server side to mongoDB.
- Store and process users data for register and sign in page.
- Verify the users if they are already registered.
- Send all the data of the suggestion form from server side to database.
- Store and process user’s data of suggestion form.

SOME SCRENSHOTS

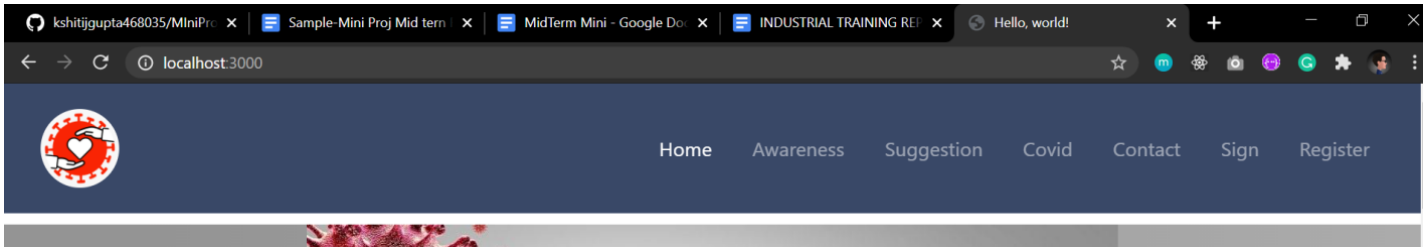
Registration page:



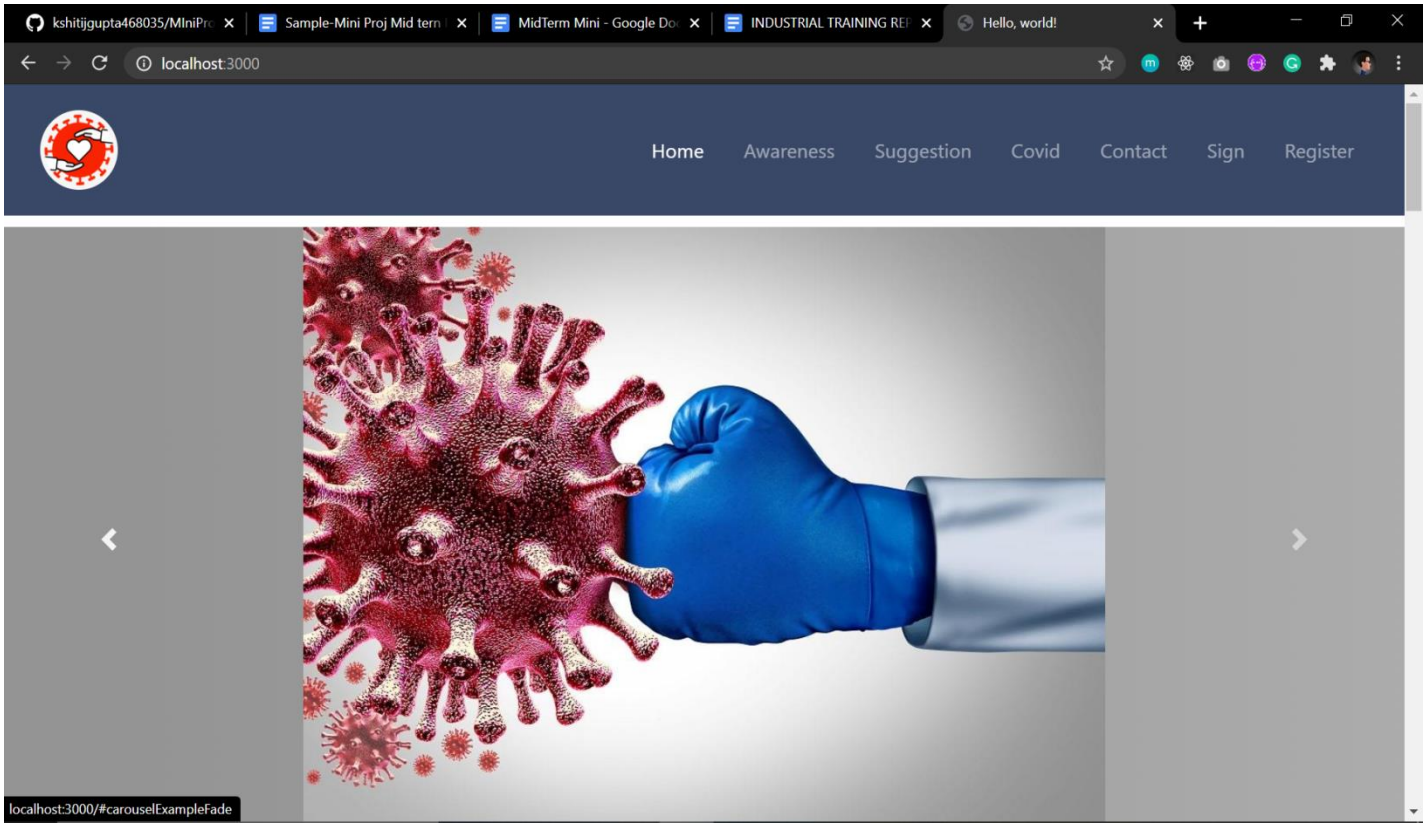
Sign in Page:

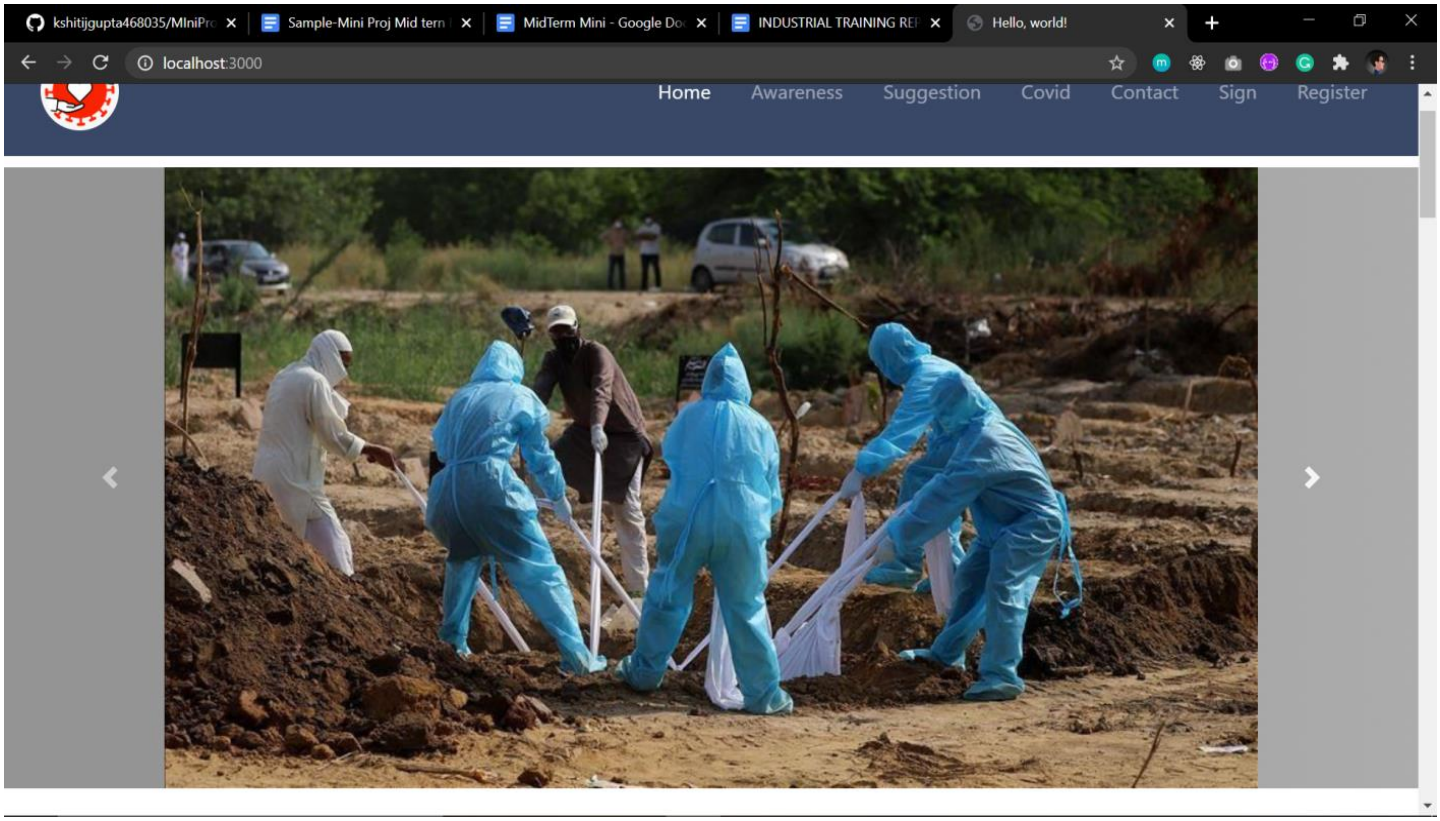


Navigation Bar:



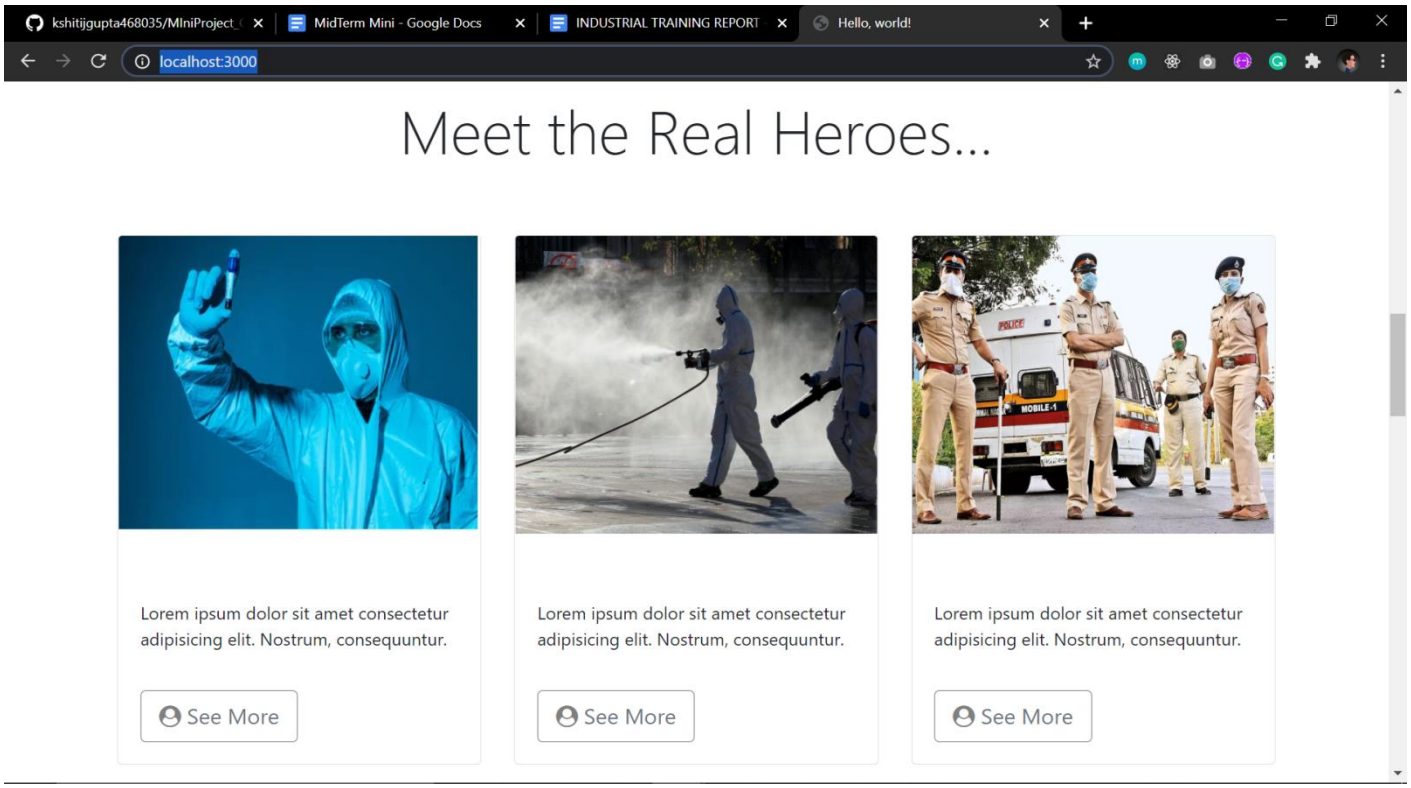
Carousel Section:



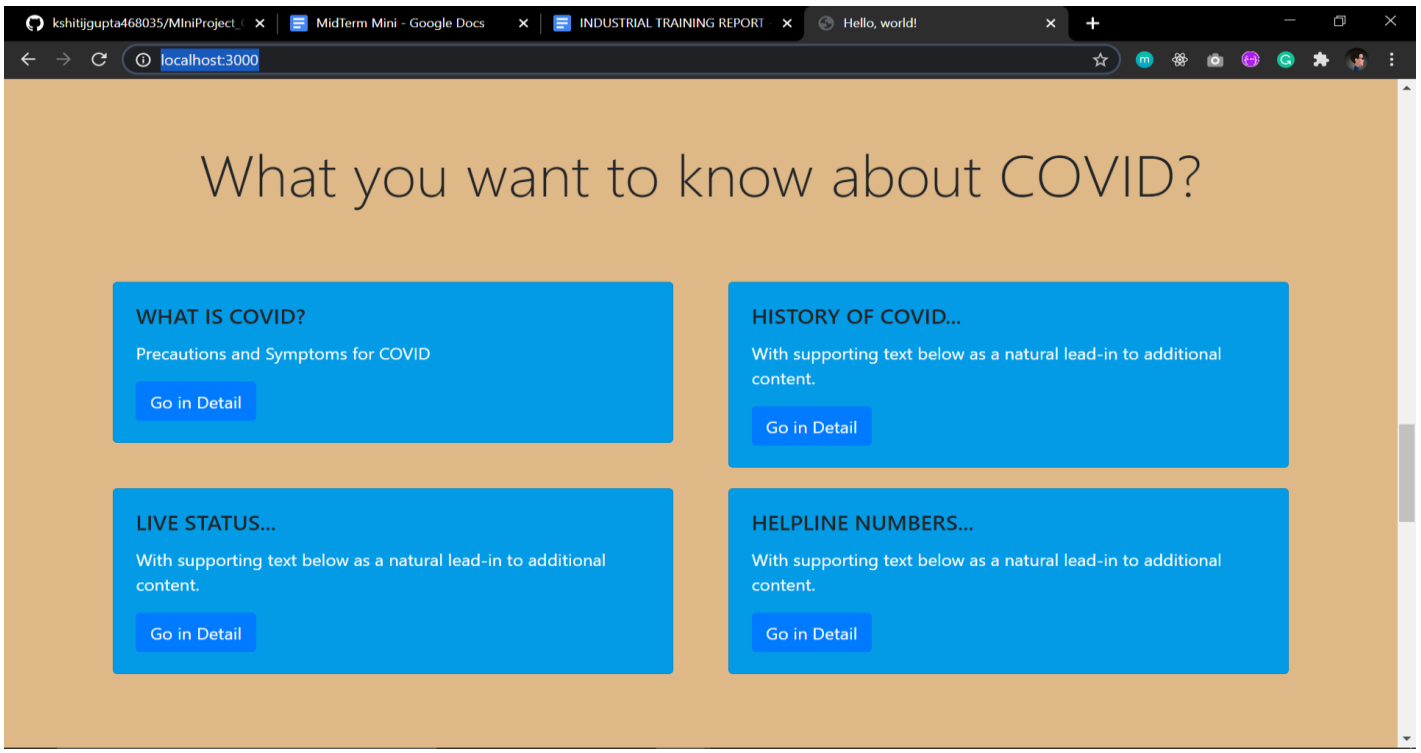


Two-Column Section:

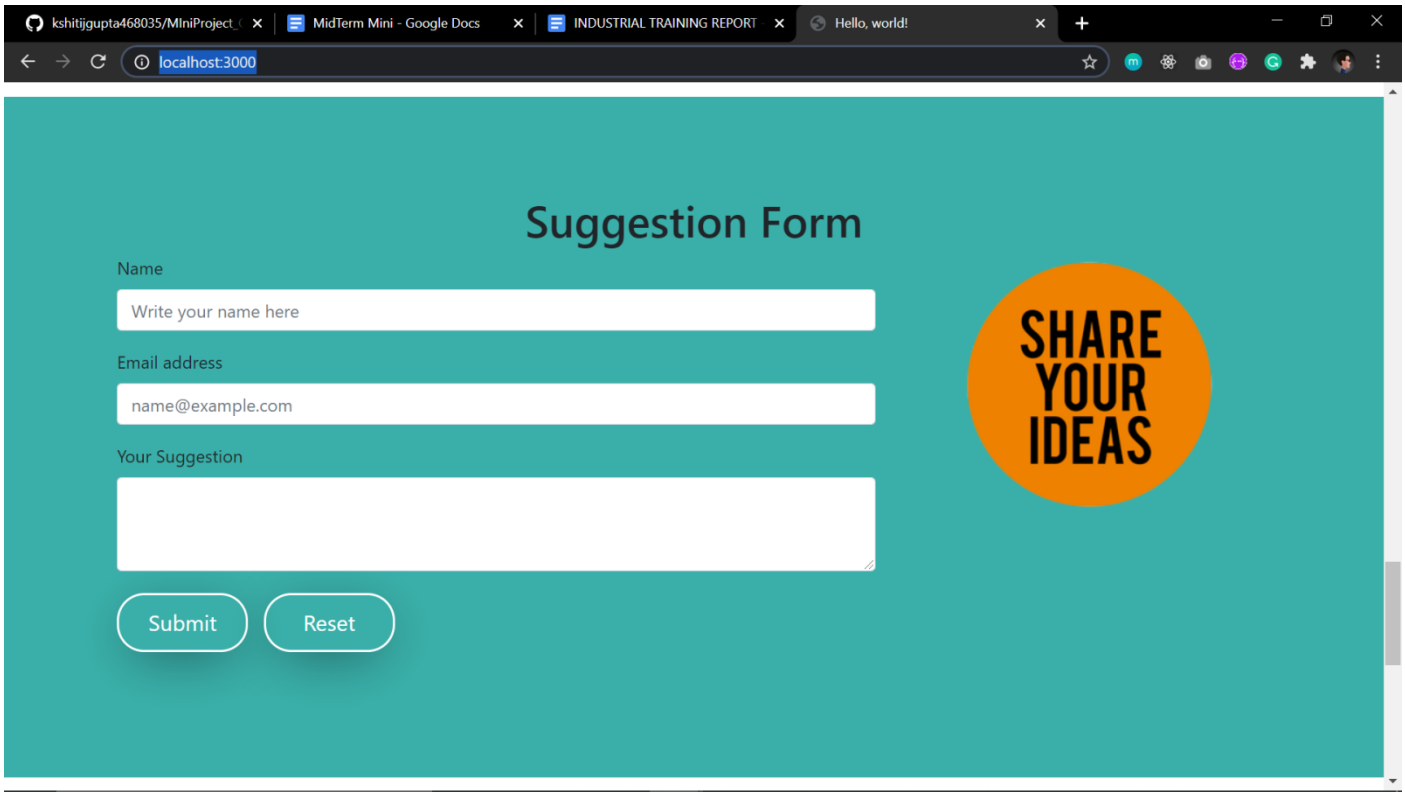
Cards Section:



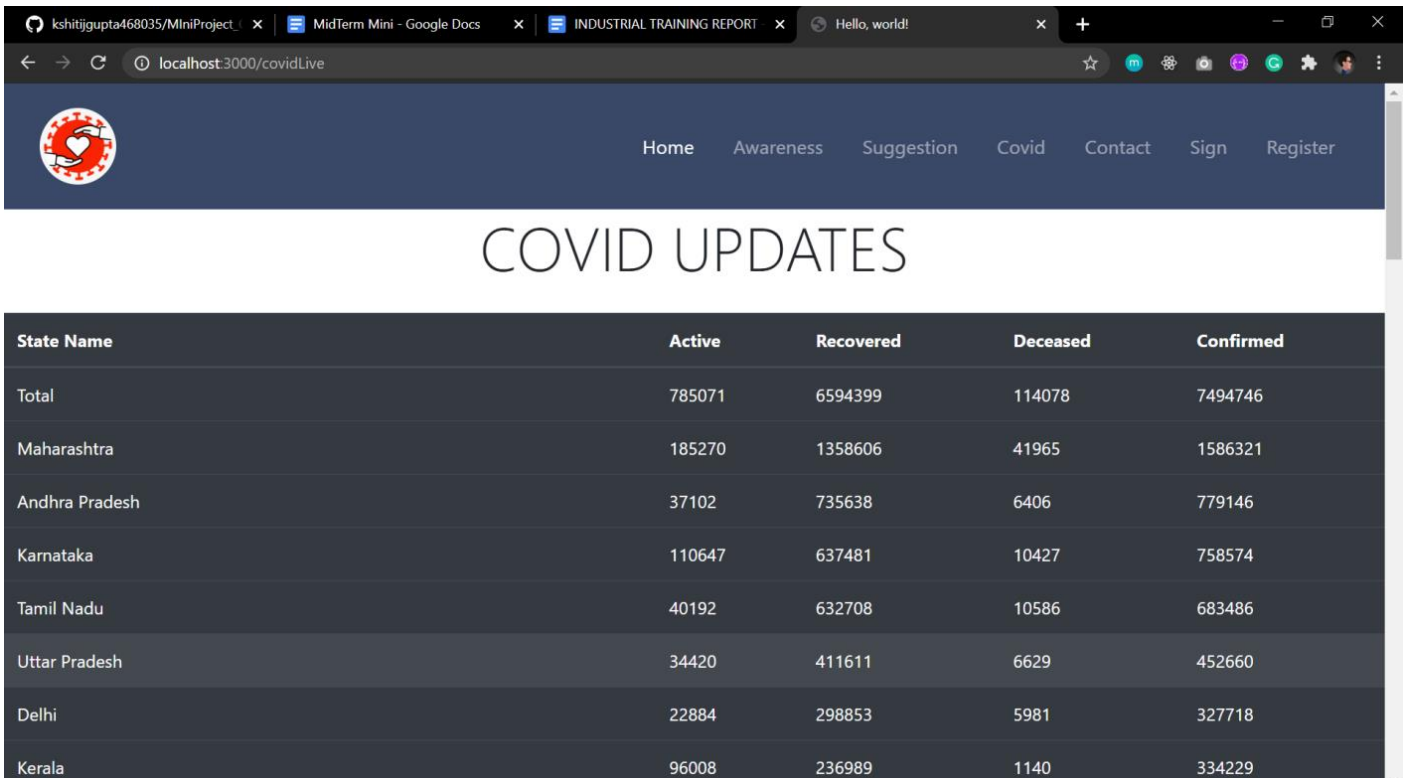
Detailed Section:



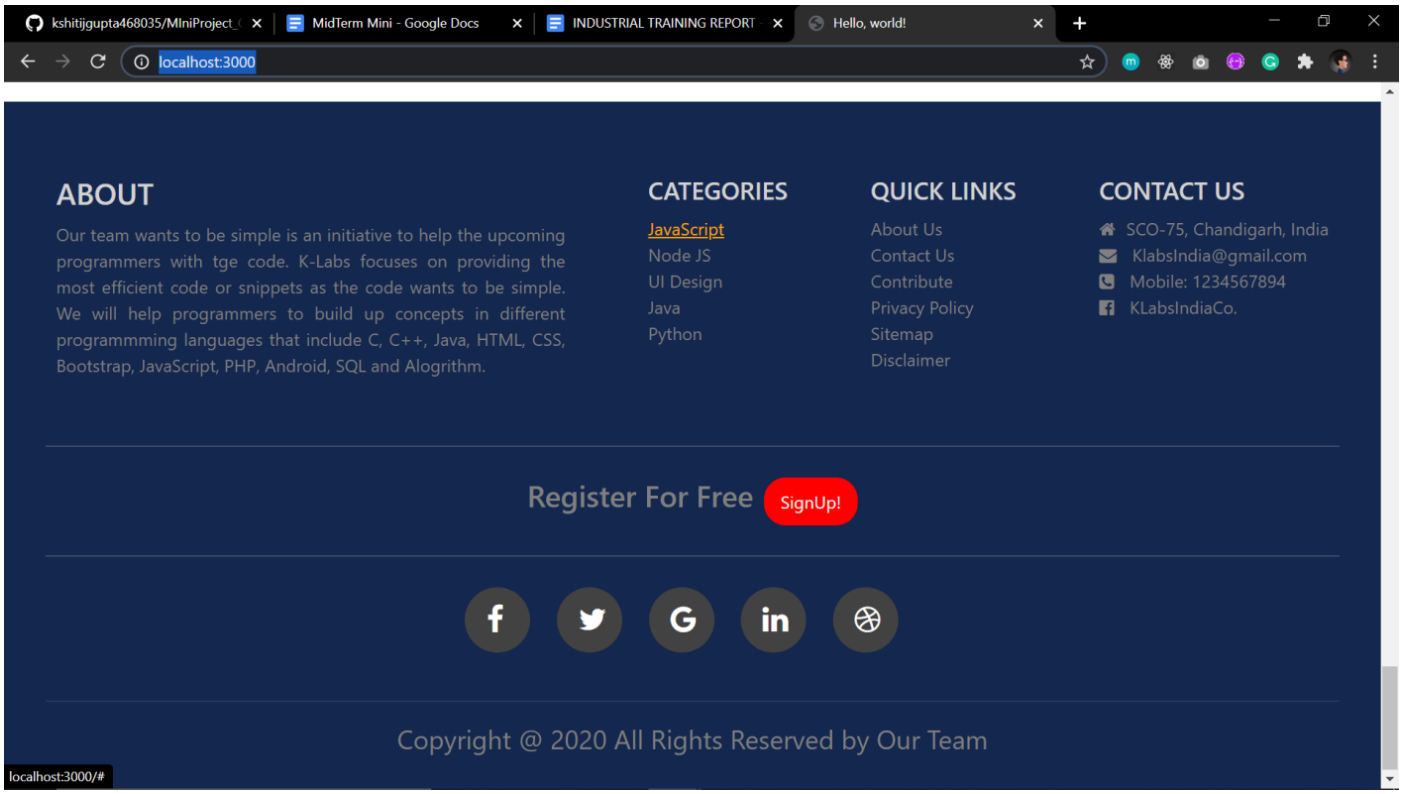
Suggestion Form Section:



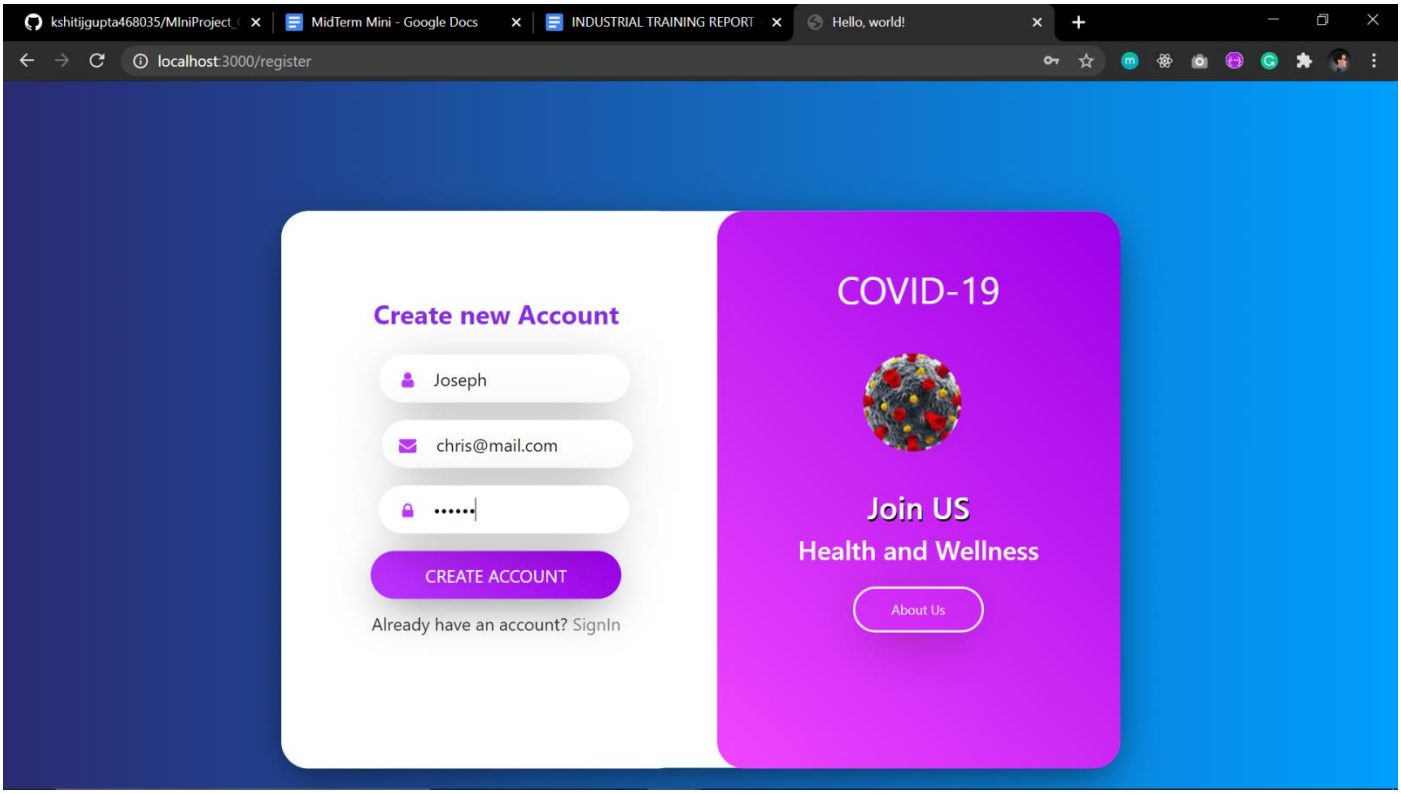
Covid Live Updates:



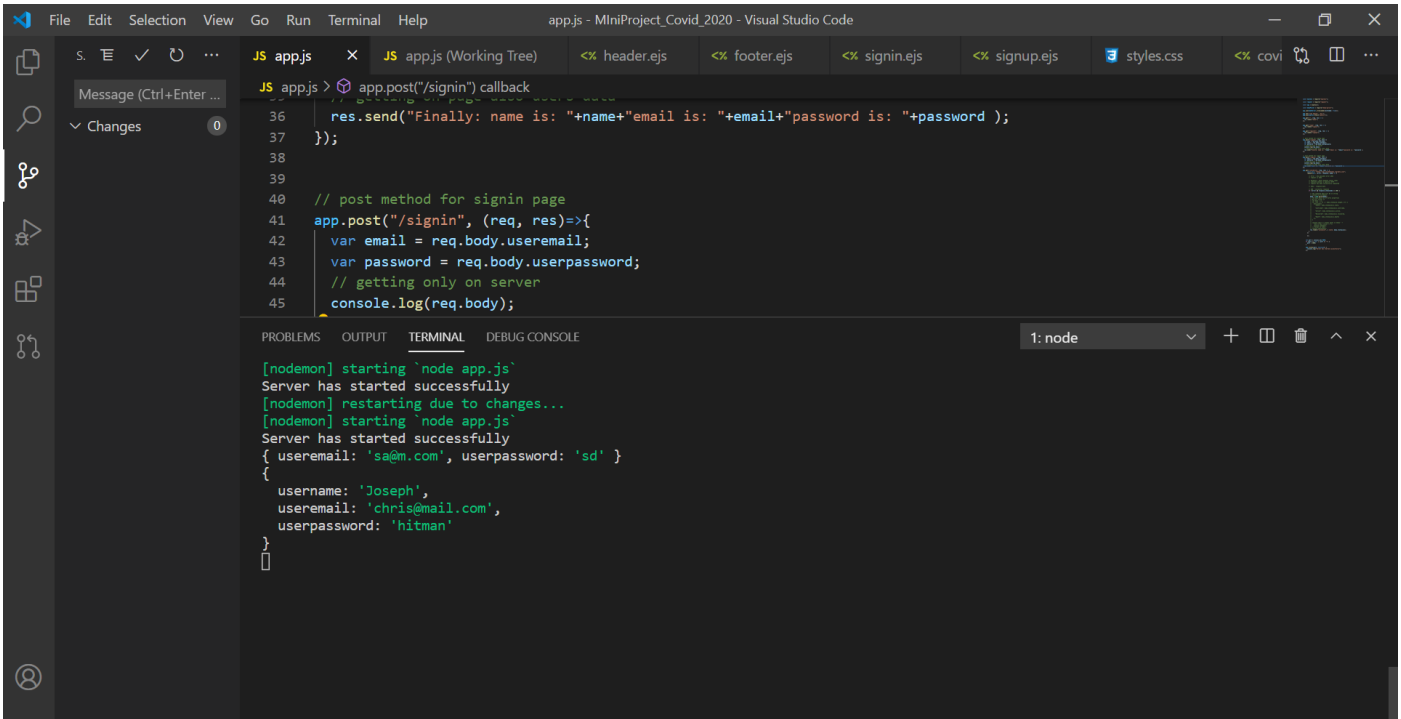
Footer Section:



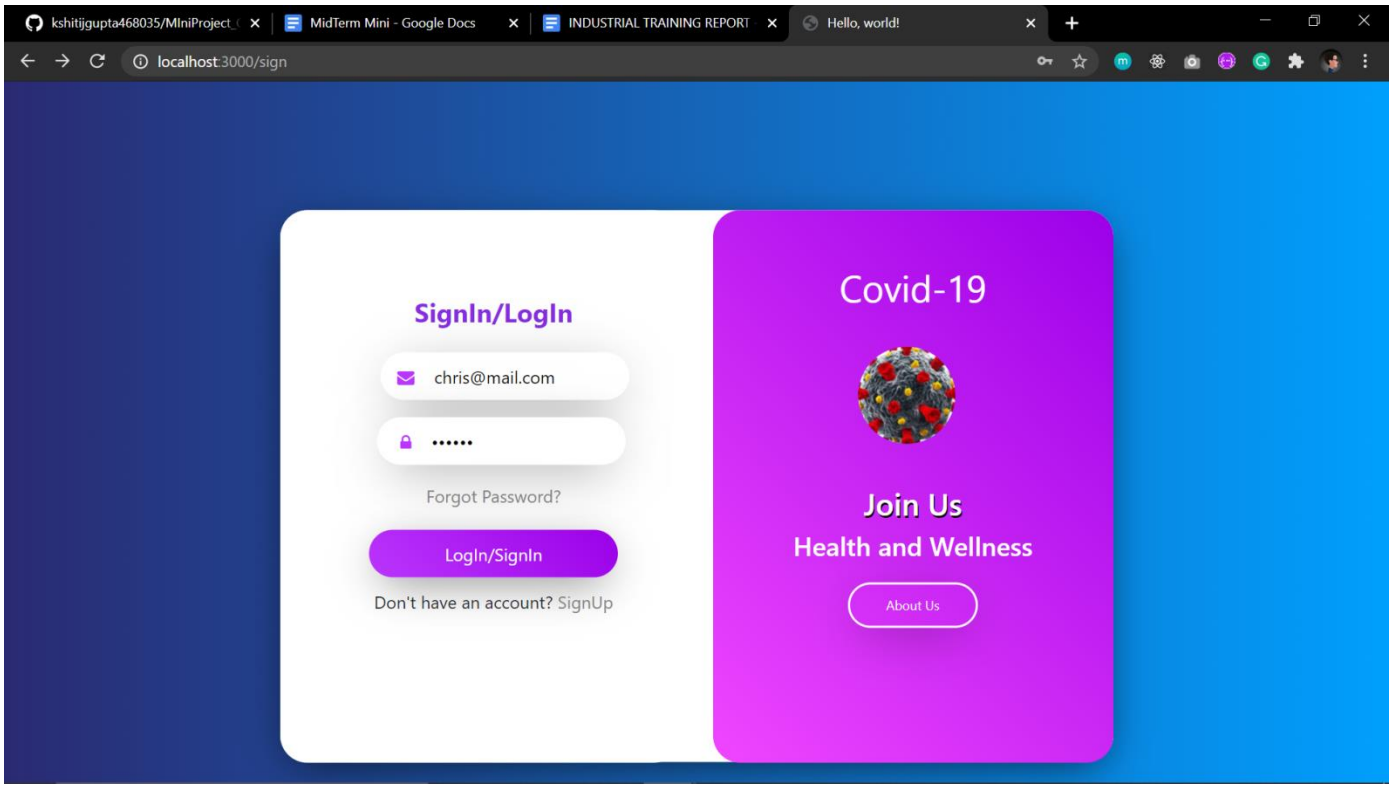
Signup Form Data on Server:



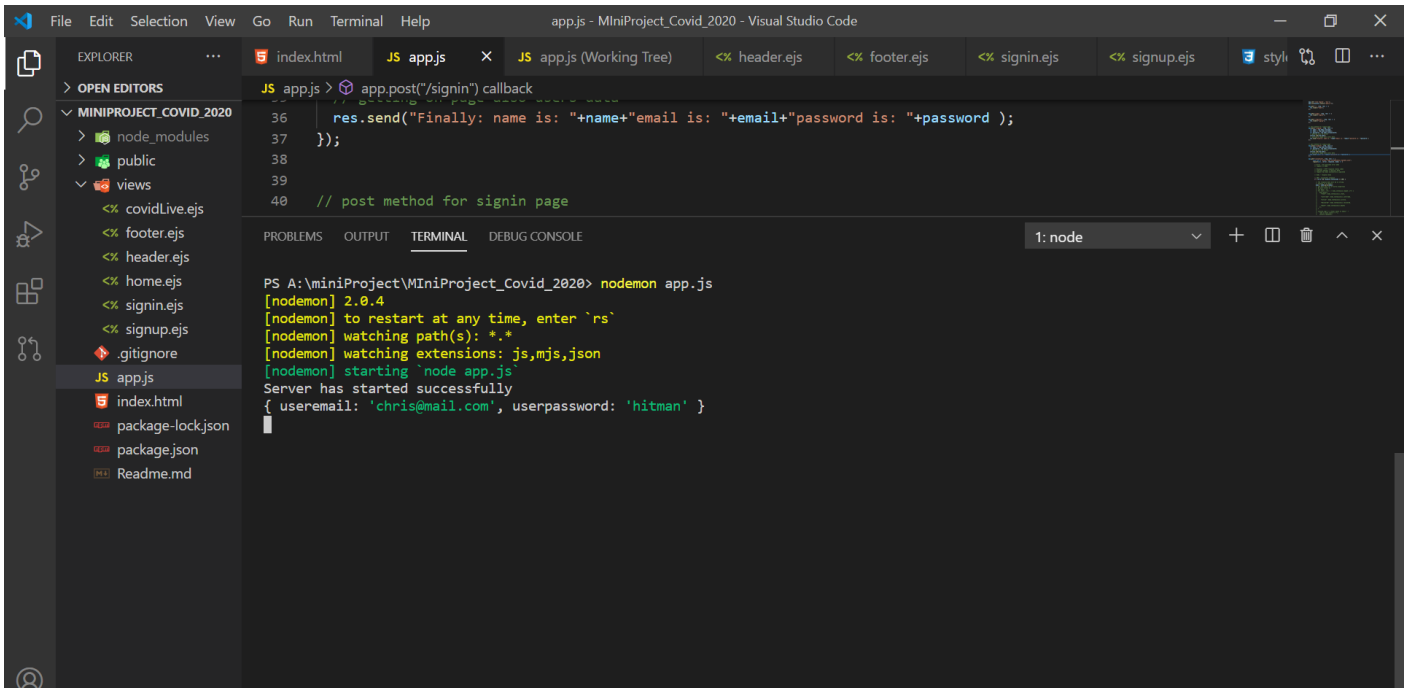
On server side:



Sign In Form data on Server:



On server side:



References

- ✓ Stack Overflow - Where Developers Learn, Share, & Build Careers
- ✓ YouTube
- ✓ W3Schools Online Web Tutorials
- ✓ Udemy: Online Courses - Learn Anything, On Your Schedule
- ✓ DevDocs API Documentation

We are using these resources as a reference to build our project. These all resources are good e-learning platforms and give us a lot of information to resolve troubles and doubts in the making of this project.