COVID-19 AWARENESS WEBSITE

A Report submitted

in partial fulfillment for the Degree of

B. Tech in

COMPUTER SCIENCE ENGINEERING (hons.)

by

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pursued in

To

LOVELY PROFESSIONAL UNIVERSITY

JALANDHAR,PHAGWARA

Wednesday , 12 July 2023

DECLARATION

I Dandamudi PriyaSivani (12015705) declare that this project report titled COVID-19 AWARENESS WEBSITE submitted in partial fulfillment of the degree of **B. Tech in (Computer Science and Engineering)** is a record of original work carried out by me under the supervision of Mr. PURUSHOTTAM JHA, and has not formed the basis for the award of any other degree or diploma, in this or any other Institution or University. In keeping with the ethical practice in reporting scientific information, due acknowledgements have been made wherever the findings of others have been cited.

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Dandamudi PriyaSivani

ABSTRACT

The Coronavirus Data Gateway is designed to be a comprehensive online platform that provides users with up-to-date and reliable information about the COVID-19 pandemic. It serves as a central hub for individuals to access essential data related to the spread of the virus, its causes, precautionary measures, symptoms, available treatments, and the current status of the outbreak.

By leveraging modern technologies such as Java, SQL, HTML, CSS, and JavaScript, the gateway offers a user-friendly interface that allows users to navigate through different sections and access the information they need easily. The use of these technologies ensures a seamless and responsive user experience.

One of the key features of the Coronavirus Data Gateway is its real-time reporting capabilities. It provides users with timely updates on active cases, recoveries, and deaths related to COVID-19. This information is constantly monitored and updated to reflect the most recent data available.

In addition to data and information, the platform also offers a unique feature that enables users to communicate with expert doctors through the website. This allows individuals to seek advice, ask questions, and receive guidance on matters related to COVID-19. The login and signup process ensures that users' identities are authenticated and their interactions with doctors are secure and private.

The data within the Coronavirus Data Gateway is stored and managed using an SQL database. This ensures efficient storage, retrieval, and organization of data, enabling users to access the information they need quickly and accurately.

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INTRODUCTION

1.1. Project Overview

The Coronavirus Data Gateway is a comprehensive online platform designed to provide users with accurate and up-to-date information about the COVID-19 pandemic. It serves as a centralized hub for accessing vital data related to the spread, causes, precautions, symptoms, treatment, and current status of the coronavirus.

Key Features:

User-Friendly Interface: The platform offers an intuitive and easy-to-navigate interface, allowing users to quickly find the information they need.

Real-time Data Updates: The Coronavirus Data Gateway provides real-time updates on active cases, recoveries, and deaths, ensuring that users have access to the latest information.

Expert Consultation: Users have the unique ability to communicate with expert doctors directly through the website, enabling them to seek advice and guidance regarding COVID-19-related concerns.

Secure User Authentication: The platform implements a robust login and signup process to ensure secure user authentication, safeguarding user data and interactions.

Data Management: The platform utilizes an SQL database for efficient storage, retrieval, and organization of data, allowing users to access information quickly and accurately.

1.2 Objectives

- Provide Accurate Information: The primary objective of the Coronavirus Data Gateway is to offer users reliable and up-to-date information about the COVID-19 pandemic, helping them stay informed and make informed decisions.

- Support User Interactions: By enabling users to consult with expert doctors through the platform, the project aims to provide necessary guidance and support during the pandemic.

- User-Friendly Experience: The platform strives to offer a user-friendly and intuitive interface, ensuring that users can easily navigate and access the information they require.

- Data Security: The project focuses on implementing robust security measures to protect user data and ensure secure user authentication.

1.3 Technologies Used

Java: The project utilizes Java as the primary programming language for the backend development.

SQL: An SQL database is employed to store and manage the data related to COVID-19 cases, user information, and expert doctor consultations.

HTML/CSS: HTML and CSS are used for the front-end development, ensuring a visually appealing and user-friendly interface.

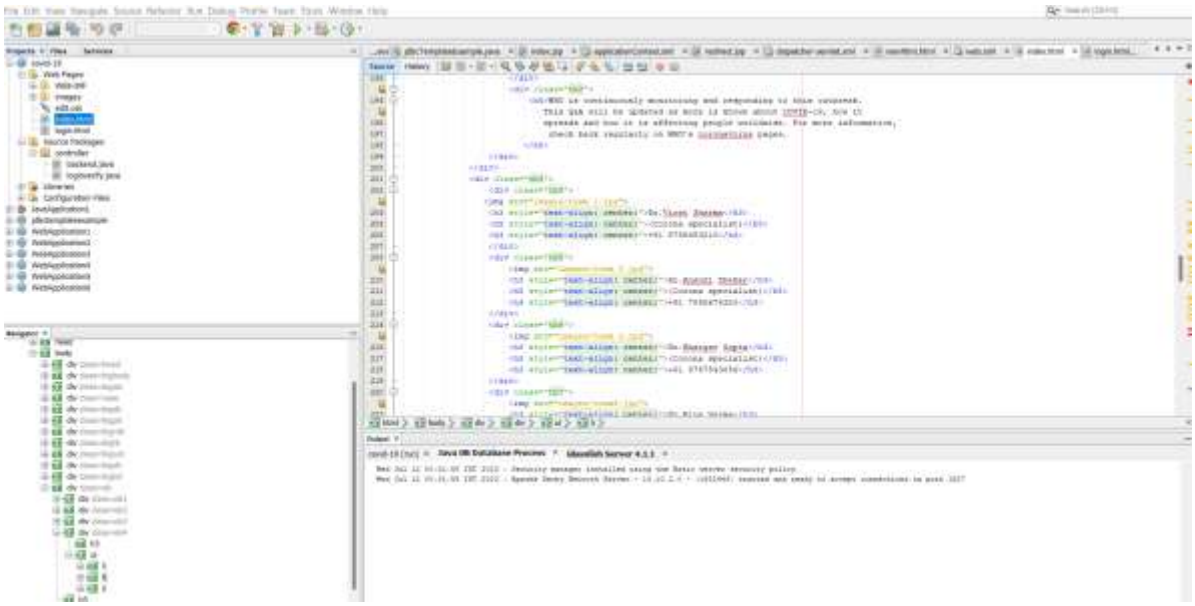
JavaScript: JavaScript is used to enhance the user experience and add interactivity to the website.

System Architecture

2.1 Front-End Architecture

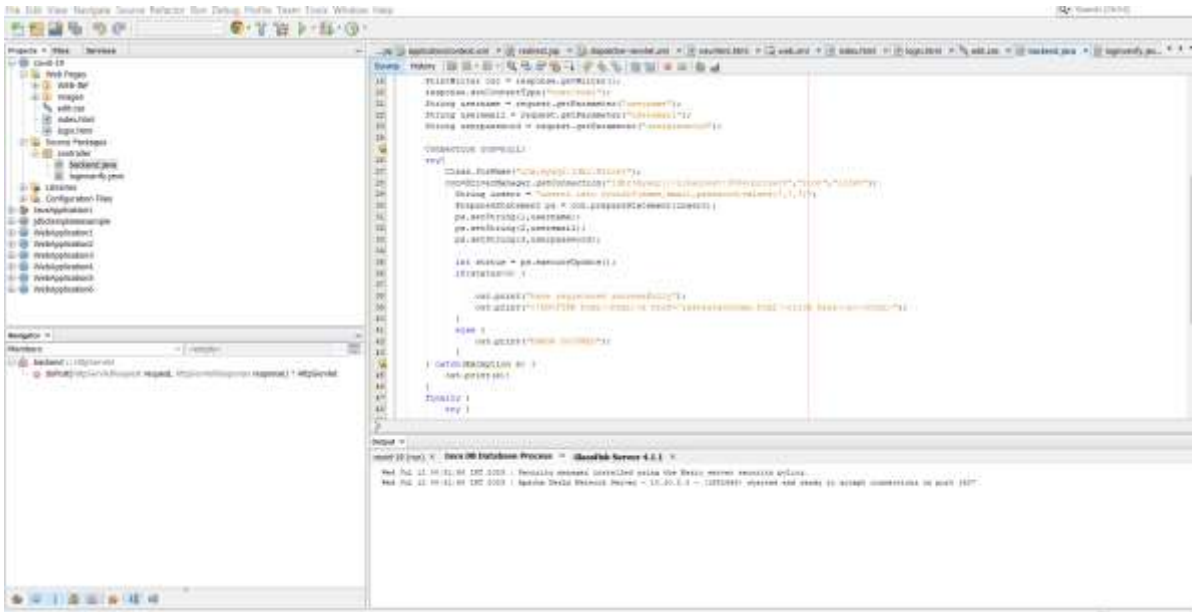
The front-end architecture of the Coronavirus Data Gateway is built using HTML, CSS, and JavaScript (JS) with a database connection to SQLyog Community. HTML is used for structuring the web pages, CSS for styling and layout, and JavaScript for interactivity and dynamic behavior. Java is employed on the back-end for server-side logic and database

connectivity. The connection to the SQLyog Community database allows for efficient data storage, retrieval, and management. By utilizing these technologies, the front-end architecture provides a responsive and interactive user interface while seamlessly interacting with the SQL database.



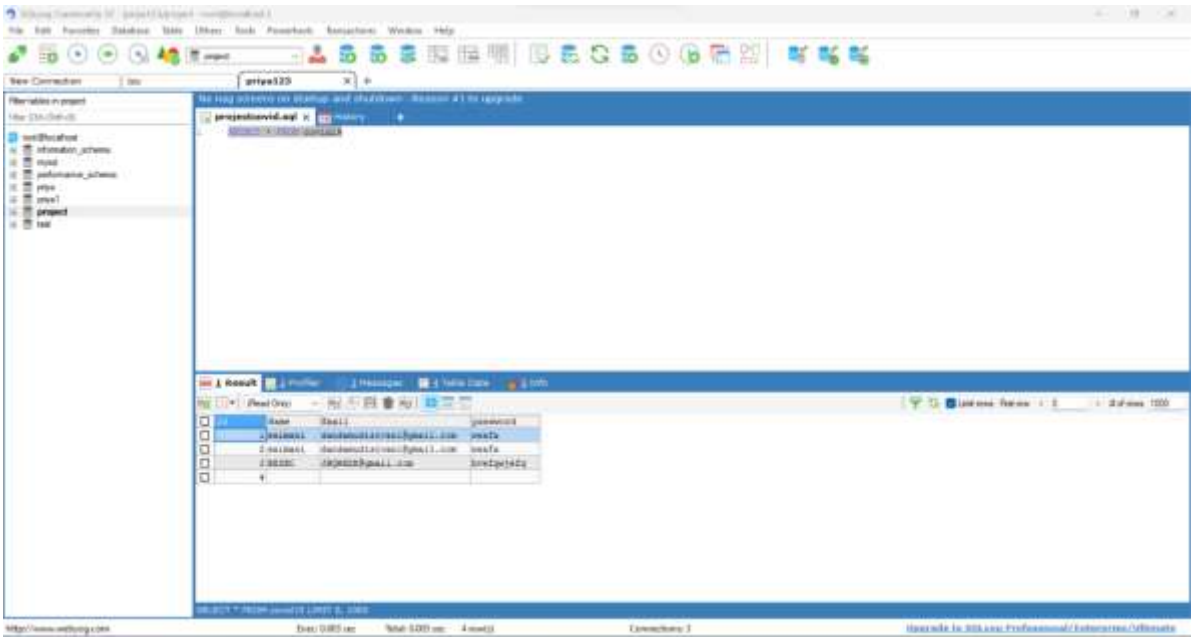
2.2 Back-End Architecture

The backend architecture of the project revolves around Java. Java is a widely used programming language known for its robustness and scalability. It handles the logic and functionality of the application, including user authentication, storing and retrieving data from the database, and processing user requests. Java enables the application to handle the business logic and interact with the frontend to provide a seamless experience for users.



2.3 Database Architecture

The database architecture of the COVID-19 Information Portal project is based on SQL (Structured Query Language). SQL is utilized for managing and organizing various data aspects of the project, including user login details, COVID-19 statistics, and other related information. It facilitates the creation of tables, storing and retrieving data, and establishing relationships between different data entities. By leveraging SQL databases, the project ensures the structured and efficient storage of COVID-19 data, guaranteeing the security and integrity of user information and other critical data.



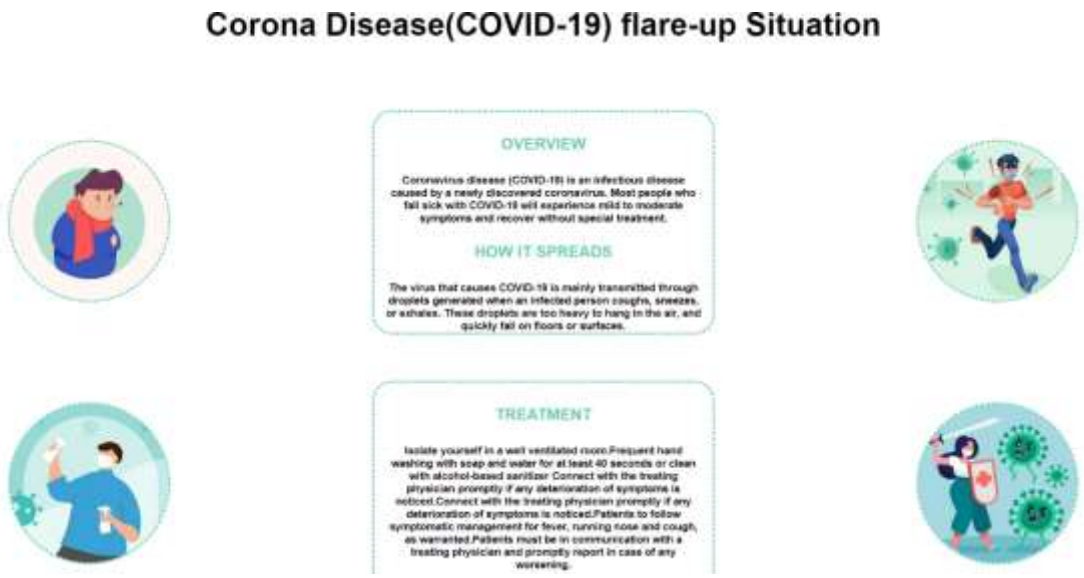
Features

3.1 User Registration and Login

The application allows users to register with their email and password. After registration, users can log in to their accounts using their credentials. User authentication is implemented to ensure secure access to the application.

3.2 COVID-19 Spread: Insights and Precautions

The project presents the spread of COVID-19 in a user-friendly and intuitive manner, allowing users to access information about the current status of the virus in different regions and countries. It may provide visualizations such as graphs, charts, or maps to help users understand and analyse the spread of the virus.



Additionally, the COVID-19 Information Portal may also provide insights into the factors contributing to the spread of the virus, such as transmission methods, common places of exposure, and precautionary measures to prevent further transmission.

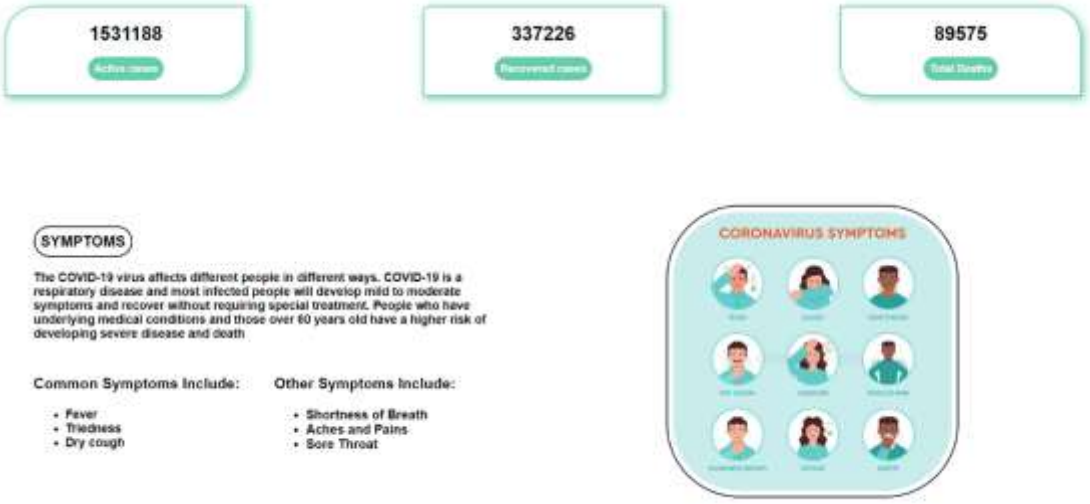
3.3 COVID-19 Metrics

Active cases, deaths, and recoveries are important indicators used to track the impact of the COVID-19 pandemic.

Active cases represent individuals currently infected with the virus and experiencing symptoms or receiving medical care. This metric provides insight into the ongoing burden of the disease and the potential for further transmission. Monitoring active cases helps identify areas with high transmission rates and enables resource allocation to control the spread.

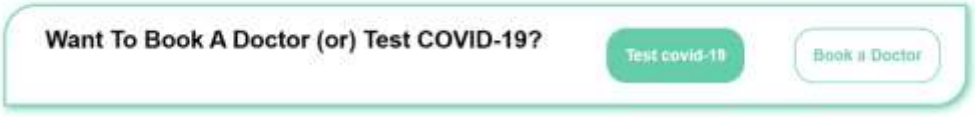
Deaths signify the unfortunate loss of lives due to COVID-19. Tracking this metric helps assess the severity and fatality rate of the disease, as well as the effectiveness of healthcare systems in managing cases. It aids in understanding the impact on populations and informs public health interventions.

Recovered cases reflect individuals who have overcome the infection and are no longer contagious. Monitoring recoveries provides hope and demonstrates the effectiveness of medical interventions. It also highlights the resilience of individuals and helps inform strategies to manage the pandemic.



3.4 Doctor Booking Feature

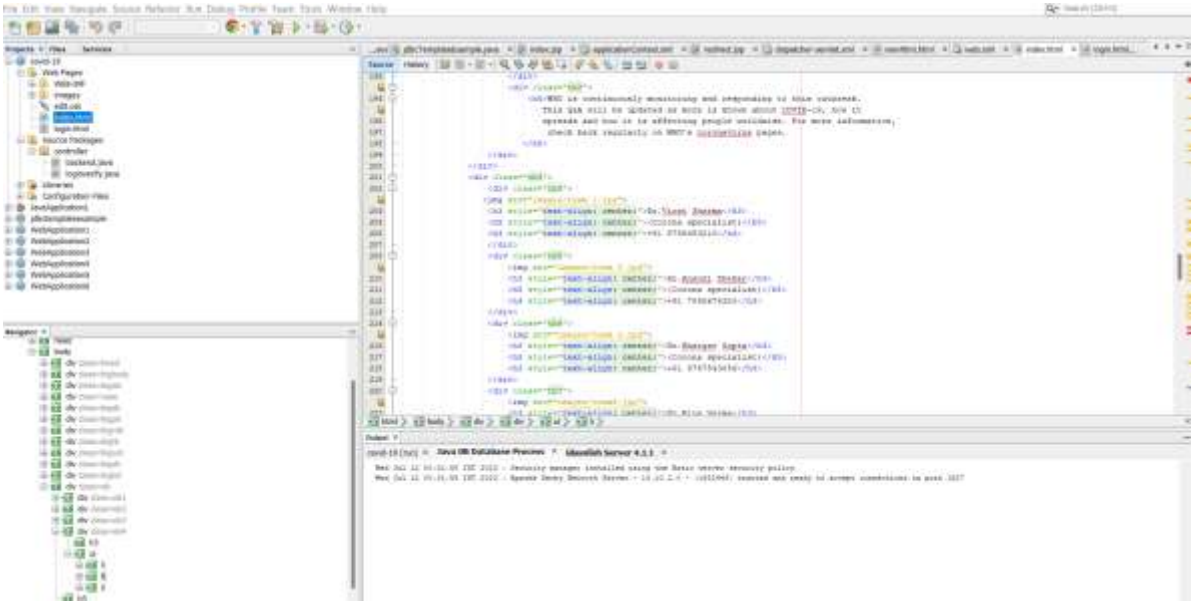
The Doctor Booking feature enables users to schedule appointments with healthcare professionals through the COVID-19 Information Portal. Users can select their preferred doctor, choose an available time slot, and book the appointment. This feature streamlines the process of seeking medical assistance and ensures timely access to healthcare services. It provides convenience and flexibility to users, allowing them to manage their healthcare needs efficiently. By incorporating the Doctor Booking feature, the COVID-19 Information Portal aims to facilitate seamless communication between users and doctors, promoting better healthcare outcomes during the pandemic.



Implementation

4.1 Front-End Development

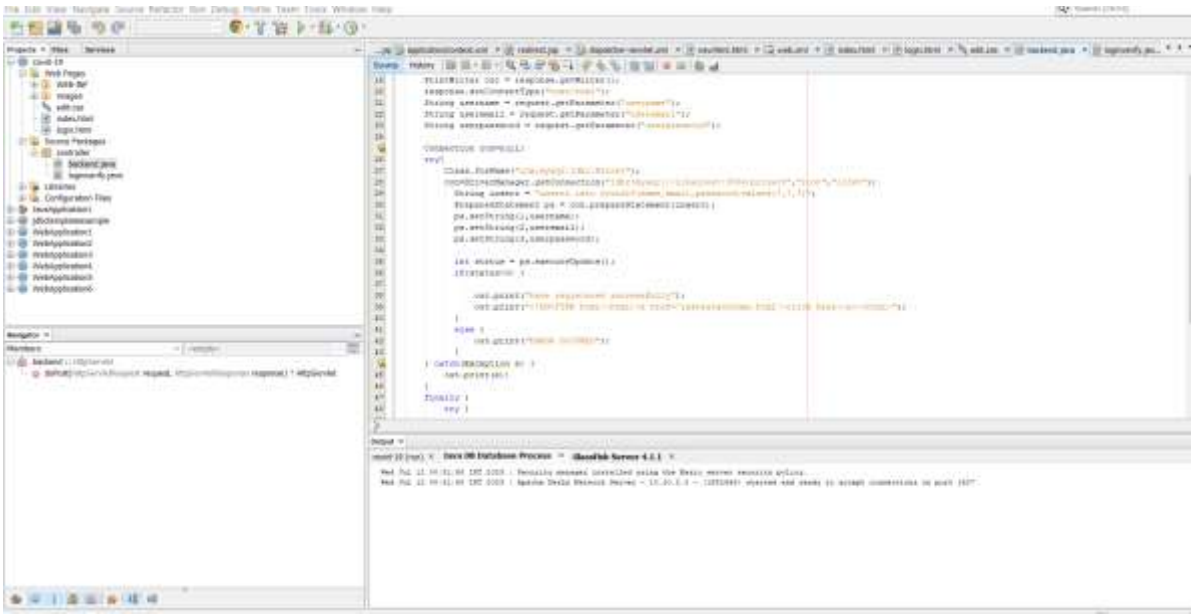
The frontend of the COVID-19 Information Portal is developed using HTML, CSS, JavaScript, and Bootstrap. HTML is used to create the structure and layout of the web pages, defining elements such as forms, buttons, and text boxes. CSS is responsible for styling and visual presentation, ensuring a visually appealing and consistent design throughout the portal. Bootstrap is utilized to enhance responsiveness and ensure mobile-friendly user experience, offering pre-built components and layouts. JavaScript is employed for client-side interactivity, form validation, and handling user events. It enables dynamic behaviour and enhances the overall user experience of the COVID-19 Information Portal.



4.2 Back-End Development

The backend of the COVID-19 Information Portal is implemented using Java, a reliable and scalable programming language. Java handles the core logic and functionality of the web application, including user authentication, request handling, and database interactions. The backend code securely stores user login details, manages COVID-19 data,

and processes user actions. Java's extensive toolset and libraries enable the creation of a secure and efficient backend system that ensures the smooth operation of the COVID-19 Information Portal.



4.3 Database Design and Integration

The database implementation of the COVID-19 Information Portal relies on SQL (Structured Query Language). SQL is utilized to create and manage the database structure, tables, and relationships. It offers a structured and efficient method for storing and retrieving data. The database securely stores user login details, employing encryption techniques to safeguard sensitive information. Additionally, it stores COVID-19 data and other relevant information, associating them with the respective user accounts. SQL queries are used to insert, update, and retrieve data, ensuring the integrity and security of user information within the COVID-19 Information Portal.

4.4 User Authentication and Authorization

User authentication in the COVID-19 Information Portal involves secure verification of credentials stored in the database. Passwords are hashed and encrypted for protection. Successful authentication generates a session token or JWT for subsequent requests. User authorization is implemented based on roles and permissions, granting appropriate access levels. Backend code verifies permissions and denies unauthorized requests

Conclusion

7.1 Summary of Achievements

The COVID-19 Information Portal has achieved significant milestones, including providing comprehensive and up-to-date information about the pandemic. The user-friendly interface ensures a seamless experience, while secure user authentication and authorization protect sensitive data. Efficient database management enables data integrity and security. The integration of technologies such as Java, HTML, CSS, JavaScript, and Bootstrap enhances functionality. The addition of the Doctor Booking feature streamlines access to healthcare services. Overall, the project successfully delivers a comprehensive and user-friendly platform for users to stay informed and make informed decisions during the COVID-19 pandemic.

7.2 Future Enhancements

In the future, the COVID-19 Information Portal has the potential for several enhancements to further improve its functionality and user experience. These enhancements may include real-time data updates, providing users with the most up-to-date information on active cases, recoveries, and deaths. Interactive data visualization features could be implemented to help users better understand COVID-19 data through charts, graphs, and maps. Personalized user profiles may be introduced, allowing users to save preferences, track their own COVID-19-related information, and receive customized notifications. The portal could also incorporate community engagement features, such as discussion forums or user-generated content, fostering collaboration and information sharing. Expanding the doctor consultation feature to include virtual appointments or telemedicine options would offer users more convenient access to healthcare professionals. Additionally, the development of a mobile application version of the portal would enhance accessibility and allow

users to access information on-the-go. These future enhancements would further empower users in navigating the pandemic and provide a more dynamic and personalized experience within the COVID-19 Information Portal.