Online Doctor Appointment System

A project report submitted to

IIDT

In partial fulfillment of the requirements for the awarded of the degree of

Bachelor of Technology
IN
COMPUTER SCIENCE AND ENGINEERING

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(2020-2024)

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CERTIFICATE

This is to certificated by the project work entitled **"ONLINE DOCTOR APPOINMENT SYSTEM"** is the bonafied work done by **B. Chaitanya Kumar, D. Bhanu Prakash, J. Aravind, S. Anitha, V. Gowtham, R. Mani Kantha Sai** in the department of **COMPUTER SCIENCE AND ENGINEERING** during the academic year **2020-2024.** This work has been carried out under my guidance and super vision the result embodied in this project report have not been submitted in any university of organization for the award of any degree (or) diploma.

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ACKNOWLEDGEMENT

We take this occasion to thank God, almighty for blessing us with his grace and taking our endeavor to a successful culmination. We extend our sincere and heartfelt thanks to our esteemed guide, CHIRANJEEVI SWAMY, for providing us with the right guidance and advice at the crucial junctures and for showing me the right way. We also take this opportunity to express a deep sense of gratitude to CHIRANJEEVI SWAMI & U.S.V. Vinod. We would like to thank our friends and family for the support and encouragement they have given us during the course of our work.

TABLEOFCONTENTS

Abstract:

The Online Doctor Appointment System simplifies the process of scheduling medical consultations, offering a user-friendly platform for individuals to book appointments with healthcare professionals conveniently through the internet. By digitizing appointment management, it reduces administrative burdens, eliminates physical queues, and optimizes resource allocation, enhancing the overall efficiency of healthcare delivery. Designed for simplicity, the system requires minimal technical expertise to book appointments, ensuring accessibility for users of all levels. Without complex navigations, individuals can quickly select available appointment slots and reserve their preferred timings. By facilitating seamless access to healthcare services without, the Online Doctor Appointment System prioritizes efficiency and enhances the overall patient experience, ultimately promoting better health outcomes.

CHAPTER 1

INTRODUCTION

This chapter gives an overview about the aim, objectives, background and operation environment of the system.

PROJECT AIMS AND OBJECTIVES

The project aims and objectives that will be achieved after completion of this project are discussed in this subchapter. The aims and objectives are as follows:

- Appointment Booking
- Appoinment Status: user can see her booked appoinment status whenever he login her account.

- Admin panel: admin can handle the all the details of the user and doctors . He can apprrove the new doctors her website.
- Doctor Profiles: Provide detailed profiles for each doctor, including their qualifications, specialties, experience, and patient reviews, to help patients make informed decisions.
- Patient Records: Implement a secure system for storing and accessing patient medical records, ensuring compliance with privacy regulations such as HIPAA.
- User Profile Update: user can update her Profile can easily your details.

BACKGROUND OF PROJECT

The Online Doctor Appointment System is an innovative application designed to streamline the process of scheduling and managing appointments between patients and healthcare providers. It serves as a digital platform for both doctors and patients, offering convenience and efficiency in the healthcare sector.

The Online Doctor Appointment System prioritizes the security and privacy of patient information, adhering to strict data protection regulations. Measures such as access controls, and regular security audits are implemented to safeguard sensitive data against unauthorized access or breaches.

By leveraging technology and automation, the Online Doctor Appointment System revolutionizes the way appointments are scheduled and managed in the healthcare industry. It empowers patients with greater control over their healthcare journey while optimizing the workflow for healthcare providers, ultimately leading to improved patient outcomes and satisfaction.

PROCESSOR	INTEL CORE PROCESSOR OR BETTER PERFORMANCE
OPERATING SYSTEM	WINDOWS10
MEMORY	1GB RAM OR MORE
HARDDISK SPACE	MINIMUM 400Mb FOR DATABASE USAGE FOR FUTURE
DATABASE	MONGODB

CHAPTER 2

SYSTEM ANALYSIS

In this chapter, we will discuss and analyze about the developing process of Online Doctor Appointment System including software requirement specification (SRS) and comparison between existing and proposed system . The functional and non functional requirements are included in SRS part to provide complete description and overview of system requirement before the developing process is carried out. Besides that, existing vs proposed provides a view of how the proposed system will be more efficient than the existing one.

SOFTWARE REQUIREMENT SPECIFICATION

GENERAL DESCRIPTION

PRODUCT DESCRIPTION:
The Online Doctor Appointment System is a sophisticated digital solution aimed at revolutionizing the way patients interact with healthcare providers. With its intuitive interface and advanced features, it facilitates seamless appointment scheduling and management, enhancing both patient experience and operational efficiency.

PROBLEM STATEMENT:

The problem occurred before having computerized system includes:

- File lost

  When computerized system is not implemented file is always lost because of human environment. Sometimes due to some human error there may be a loss of records.

- File damaged When a computerized system is not there file is always lost due to some accident like spilling of water by some member on file accidentally.
  Besides some natural disaster like floods or fires may also damage the files.

- Difficult to search record

  When there is no computerized system there is always a difficulty in searching of records if the records are large in number.

- Space consuming

  Afterthenumberofrecordsbecomelargethespaceforphysicalstorageoffileand records also increases if no computerized system is implemented.

- Cost consuming

  As there is no computerized system the to add each record paper will be needed which will increase the cost for the management of library.

SYSTEM OBJECTIVES

- Improvement in control and performance

  The system is developed to cope up with the current issues and problems.
  The system can add user, validate user and is also bug free.

- Save cost

  After computerized system is implemented less human force will be required to maintain the hospital thus reducing the overall cost.

- Save time

  Doctor is able to search record by using few clicks of mouse and few search keywords thus saving his valuable time.

- Option of online Notice board

  Doctor will be able to provide a detailed description of workshops going in the college as well as in nearby colleges

SYSTEM REQUIREMENTS

NON-FUNCTIONAL REQUIREMENTS:

Product Requirements

EFFICIENCY REQUIREMENTS:

When a online doctor appointment system will be implemented doctor and user will easily search and transaction will be very faster.

RELIABILITY REQUIREMENT:

The system should accurately performs member registration, member validation, report generation, transaction and search.

USABILITY REQUIREMENT:

The Online Doctor Appointment System is meticulously crafted to provide a seamless and intuitive user experience for both patients and healthcare providers. With a focus on usability, the system ensures that users can navigate through its functionalities effortlessly, enhancing productivity and satisfaction.

ORGANIZATIONAL REQUIREMENT:

Customizable Workflow: The system offers customizable workflows that align with the customizable workflows that align with the organizational processes and procedures of healthcare providers. From appointment scheduling to patient registration and follow-up care, the system can be configured to accommodate specific workflows and

preferences, optimizing operational efficiency.

IMPLEMETATION REQUIREMNTS:

In implementing whole system it uses html in front end with php as server side scripting language which will be used for database connectivity and the backend i.e, the database part is developed using mysql.

DELIVERY REQUIREMENTS:

The whole system is expected to be delivered in six months of time with a weekly evaluation by the project guide.

FUNCTIONAL REQUIREMENTS:

1. NORMAL USER:

USER LOGIN:

Description of feature:

This feature used by the user to login into system. They are required to enter user id and password before they are allowed to enter the system. The user id and password will be verified and if invalid id is there user is allowed to not enter the system.

FUNCTIONAL REQUIREMENTS:

-user id is provided when they register.

-The system must only allow user with valid id and password to enter the system

-The system performs authorization process which decides what user level can access to.

-The user must be able to logout after they finished using system.

REGISTER NEW USER:

Description of feature:

This feature can be performed by all users to register new user to create account.

Functional requirements:

-System must be able to verify information.

-System must be able to delete information if information is wrong.

Functional requirements

- System must be able to search the database based on select search type.
- The system must be able to filter doctors based on keywords entered.
- The system must be able to display the filtered doctors in a table view.

Functional requirements

-System should be able to add detailed information about events.

-System should be able to display information on notice board available in the homepage of site

SOFTWARE AND HARDWARE REQUIREMENTS

This section describes the software and hardware requirements of the system

SOFTWARE REQUIREMENTS

- Operating system-Windows10 is used as the operating system as it is stable and supports more features and is more user friendly
- Database MYSQL-MYSQL is used as database as it easy to maintain and retrieve records by simple queries which are in English language which are easy to understand and easy to write.
- Development tools and Programming language-HTML is used to write the whole code and develop web pages with css, javascript for styling work and php for sever side scripting.

HARDWARE REQUIREMENTS

Intelcorei5 is used as a processor because it is fast than other Processors and provide reliable and stable and we can run our pc for longtime. By using this processor we can keep on developing our project without any worries.

- Ram1gb is used as it will provide fastreading and writing capabilities and will in turn support in processing.

Existing System:

- In the early days, managing doctor appointments relied heavily on manual processes. This manual approach often consumed a significant amount of time to record and retrieve appointment details. Employees tasked with managing these details had to exercise extreme caution as even a small mistake could lead to significant problems. Additionally, the security of appointment information was limited, and generating reports for various appointment-related data was a cumbersome task.
- The maintenance of doctor appointment schedules and the arrangement of appointments within the schedule proved to be a complex task. This complexity extended to managing patient details, appointment dates, and follow-up requirements manually, adding layers of difficulty to the process.
- The successful operation of the appointment scheduling system required meticulous attention to detail to prevent any errors or oversights. Any degradation in the maintenance of appointment schedules could potentially lead to the failure of the entire appointment management system in offline.

Proposed System:

To solve the inconveniences as mentioned in the existing system, an Online Doctor Appointment System is proposed. The proposed system contains the following features:

- The user will register them through Online
- Individually each member will have his account through which he can access the information he needs.
- Comprehensive details about doctors, including their specialties, availability, and patient reviews, will be readily available within the system.
- Patients can schedule appointments with doctors based on their availability,

preferences, and medical needs. Patients can schedule appointments with doctors based on their availability, preferences, and medical needs.

- Patients can schedule appointments with doctors based on their availability, preferences, and medical needs.
- Time consuming is low, gives accurate results, reliability can be improved with the help of security.

SOFTWARE TOOLS USED

The whole Project is divided into two parts the frontend and the backend.

Frontend:

The frontend is designed using of html, Php, css, Javascript

- HTML- **HTML** or **Hyper Text Markup Language** is the main markup language for creating web pages and other information that can be displayed in a web browser.HTML is written in the form of HTML elements consisting of tags enclosed in angle brackets (like <html>), within the web page content. HTML tags most commonly come in pairs like <h1> and </h1>, although some tags represent empty elements and so are unpaired, for example <img>. The first tag in a pair is the start *tag*, and the second tag is the *end tag* (they are also called opening tags and closing tags). In between these tags web designers can add text, further tags, comments and other types of text-based content. The purpose of a web browser is to read HTML documents and compose them into visible or audible web pages. The browser does not display the HTML tags, but uses the tags to interpret the content of the page.HTML elements form the building blocks of all websites. HTML allows images and objects to be embedded and can be used to create interactive forms. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. It can embed scripts written in languages such as JavaScript which affect the behavior of HTML web pages.

- CSS- **Cascading Style Sheets**(**CSS**) is a style sheet language used for describing the look and formatting of a document written in a markup language. While most

often used to style web pages and interfaces written in HTML and XHTML, the language can be applied to any kind of XML document, including plain XML, SVG and XUL. CSS is a cornerstone specification of the web and almost all web pages use CSS style sheets to describe their presentation.CSS is designed primarily to enable the separation of document content from document presentation, including elements such as the layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple pages to share formatting, and reduce complexity and repetition in the structural content (such as by allowing for table less web design).CSS can also allow the same markup page to be presented in different styles for different rendering methods, such as on-screen, in print, by voice (when read out by a speech-based browser or screen reader) and on Braille-based, tactile devices. It can also be used to allow the web page to display differently depending on the screen size or device on which it is being viewed. While the author of a document typically links that document to a CSS file, readers can use a different style sheet, perhaps one on their own computer, to override the one the author has specified.Howeveriftheauthororthereaderdidnotlinkthedocumenttoaspecific style sheet the default style of the browser will be applied.CSS specifies a priority scheme to determine which style rules apply if more than one rule matches against a particular element. In this so-called *cascade*, priorities or *weights* are calculated and assigned to rules, so that the results are predictable.

- REACT-JAVA SCRIPT:ReactJS, also known as React, is an open-source JavaScript library developed by Facebook for building user interfaces, particularly for single-page applications (SPAs) and complex web interfaces. React has gained immense popularity due to its declarative and component-based approach to building UIs.

  React allows developers to describe how the UI should look based on the current application state. This declarative style simplifies the process of creating interactive and dynamic user interfaces. Developers can focus on designing the UI and React takes care of updating the DOM efficiently.

  A core concept in React is the component. A React application is essentially a collection of reusable components that manage their state and properties. Components can be simple, representing a button or an input field, or complex, representing an entire section of the application.

MIDDLE-WARE: Express.js is a popular, fast, and minimalist web framework for Node.js. It provides a robust set of features for building web applications and APIs with Node.js, making it one of the most widely used frameworks in the Node.js ecosystem. Express.js is known for its simplicity, flexibility, and extensibility, allowing developers to create powerful and scalable server-side applications.

Express.js simplifies the process of building web applications by providing a rangeof features and utilities. It offers a simple, yet powerful, API for handling HTTP requests, routing, middleware integration, and more. Developers can quickly create server-side logic for handling various HTTP methods (GET, POST, PUT, DELETE), defining routes, and responding to client requests.

BACKEND:

MONGODB- MongoDB is a widely-used, open-source, NoSQL database system designed for modern applications. Unlike traditional relational databases, MongoDB uses a flexible, document-oriented data model, making it particularly well-suited for handling large volumes of unstructured or semi-structured data.

In MongoDB, data is stored in flexible, JSON-like documents. These documents can vary in structure, allowing for a more natural representation of complex data. This flexibility means that fields can vary from document to document, without needing a predefined schema, providing agility in development.

MongoDB is built to be horizontally scalable, enabling seamless distribution of data across multiple servers. This architecture allows for high availability and scalability to meet the demands of modern, high-traffic applications. Additionally, MongoDB's memory-mapped storage engine, WiredTiger, provides efficient storage and retrieval of data, enhancing performance.

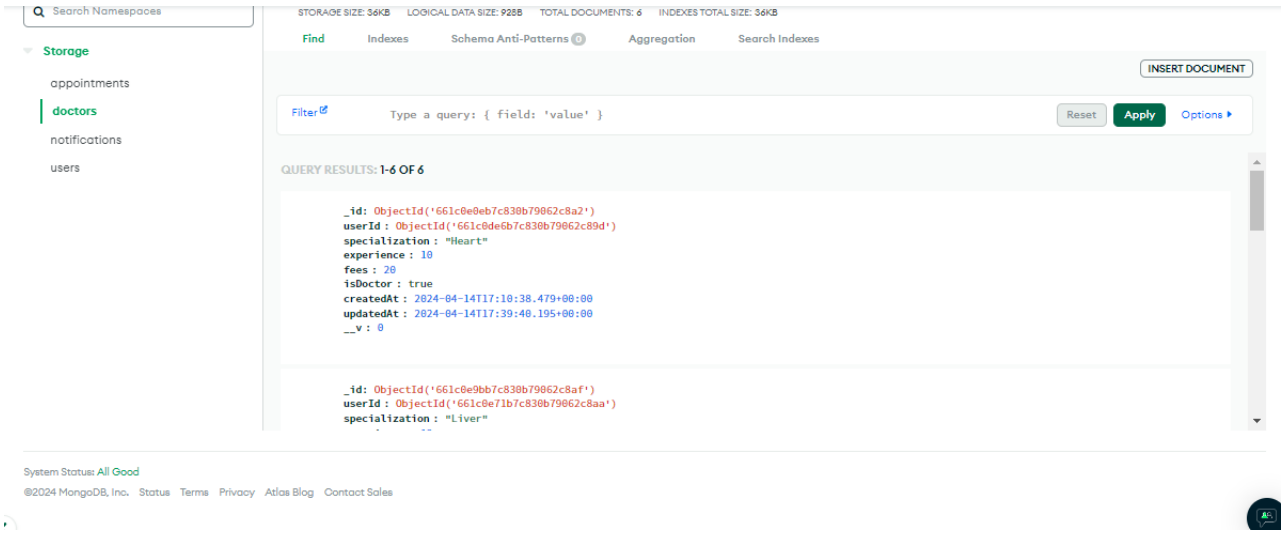
CHAPTER 3

SYSTEMDESIGN

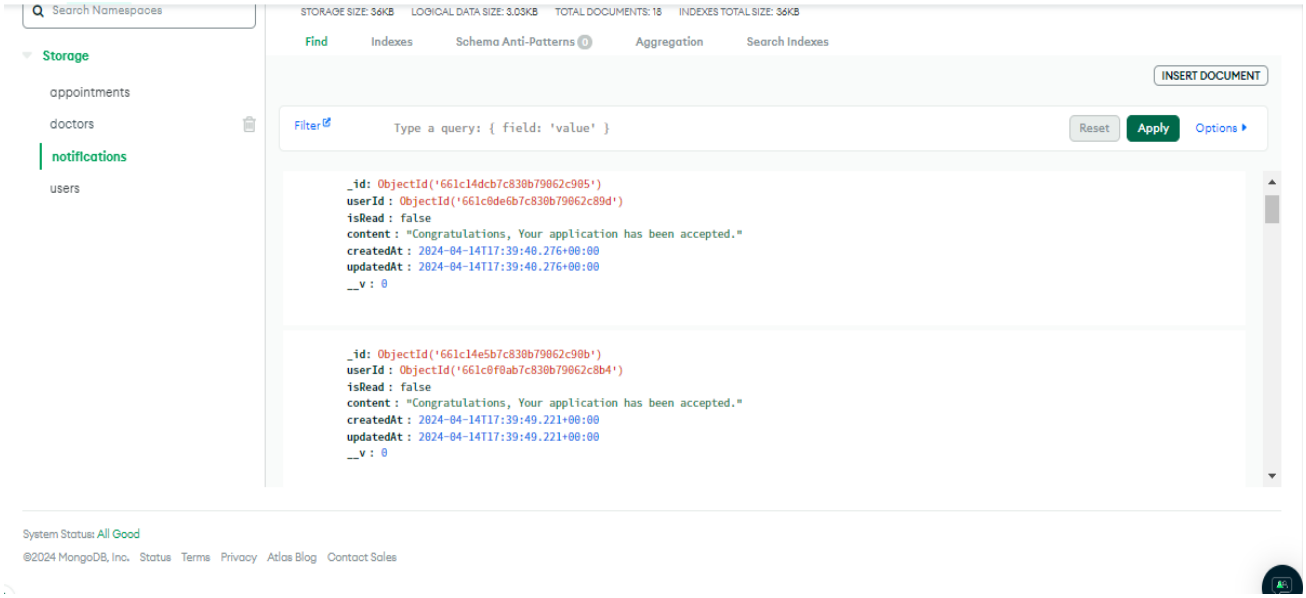
TABLE DESIGN

VARIOUS TABELS TO MAINTAIN INFORMATION

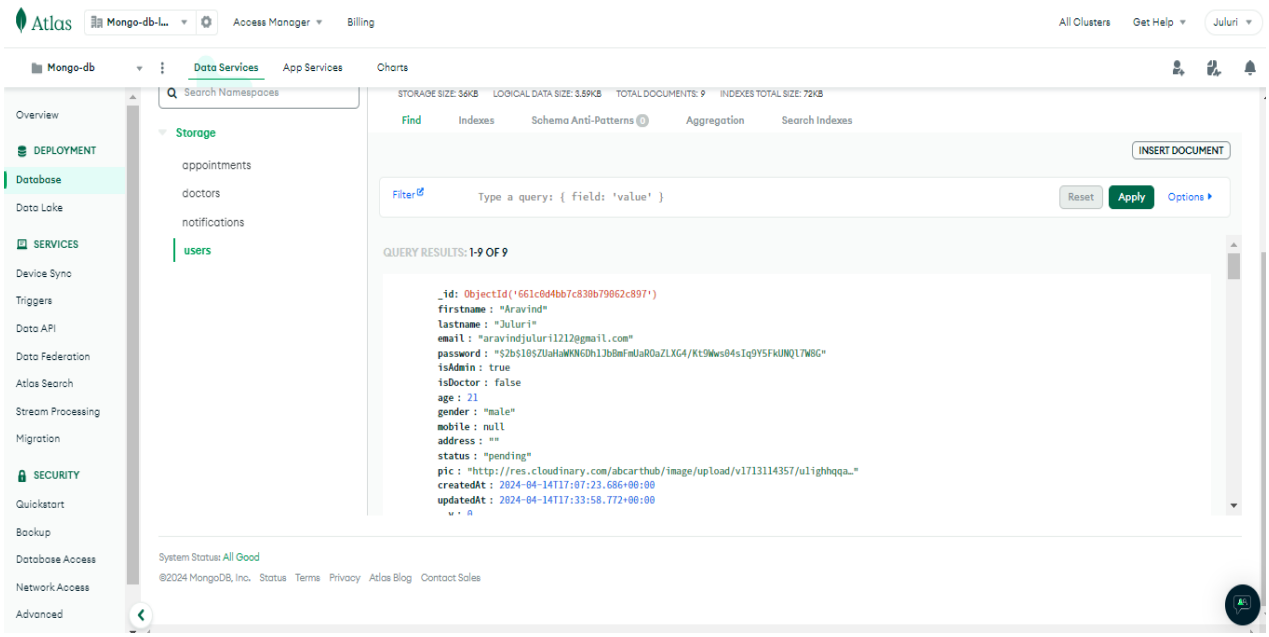
Doctor Collection From Storage Database:



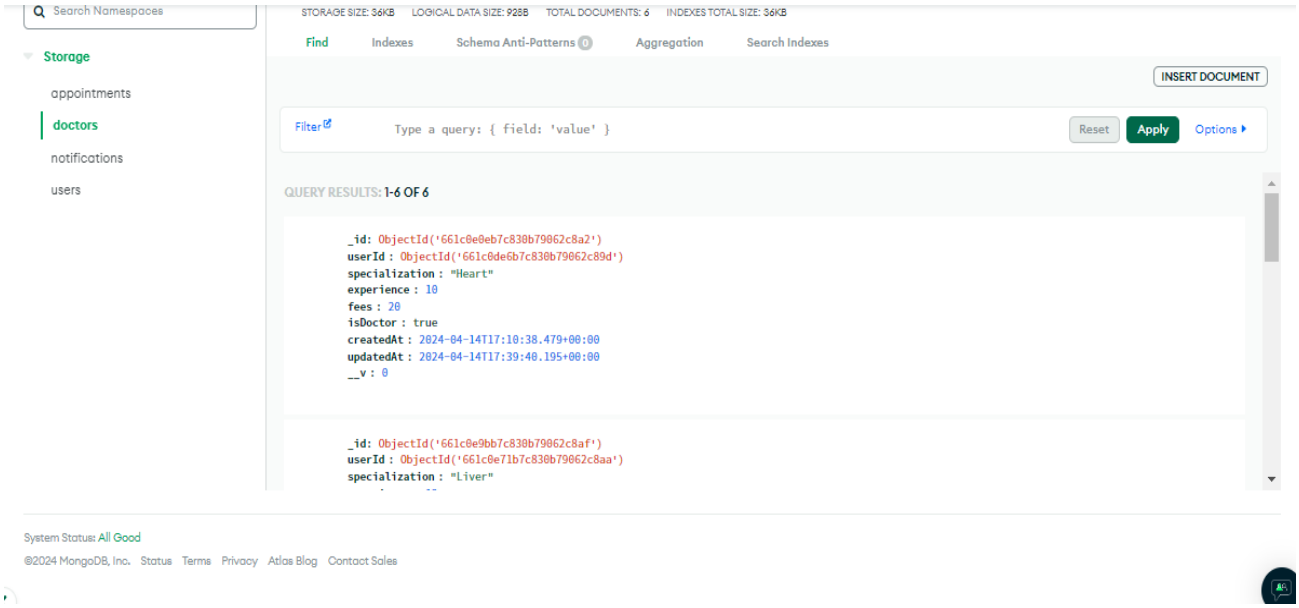
Notification Collection from Database:



Users Collection from Database:

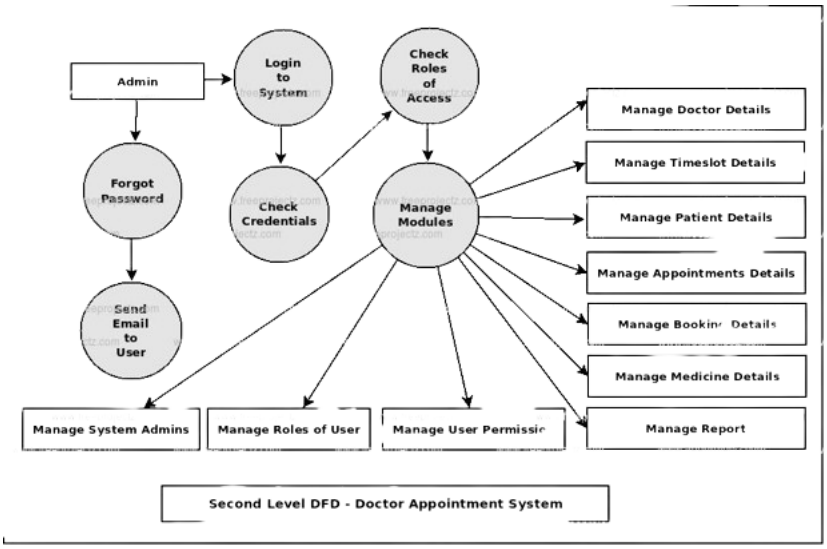


Doctor Schedule Table from Database



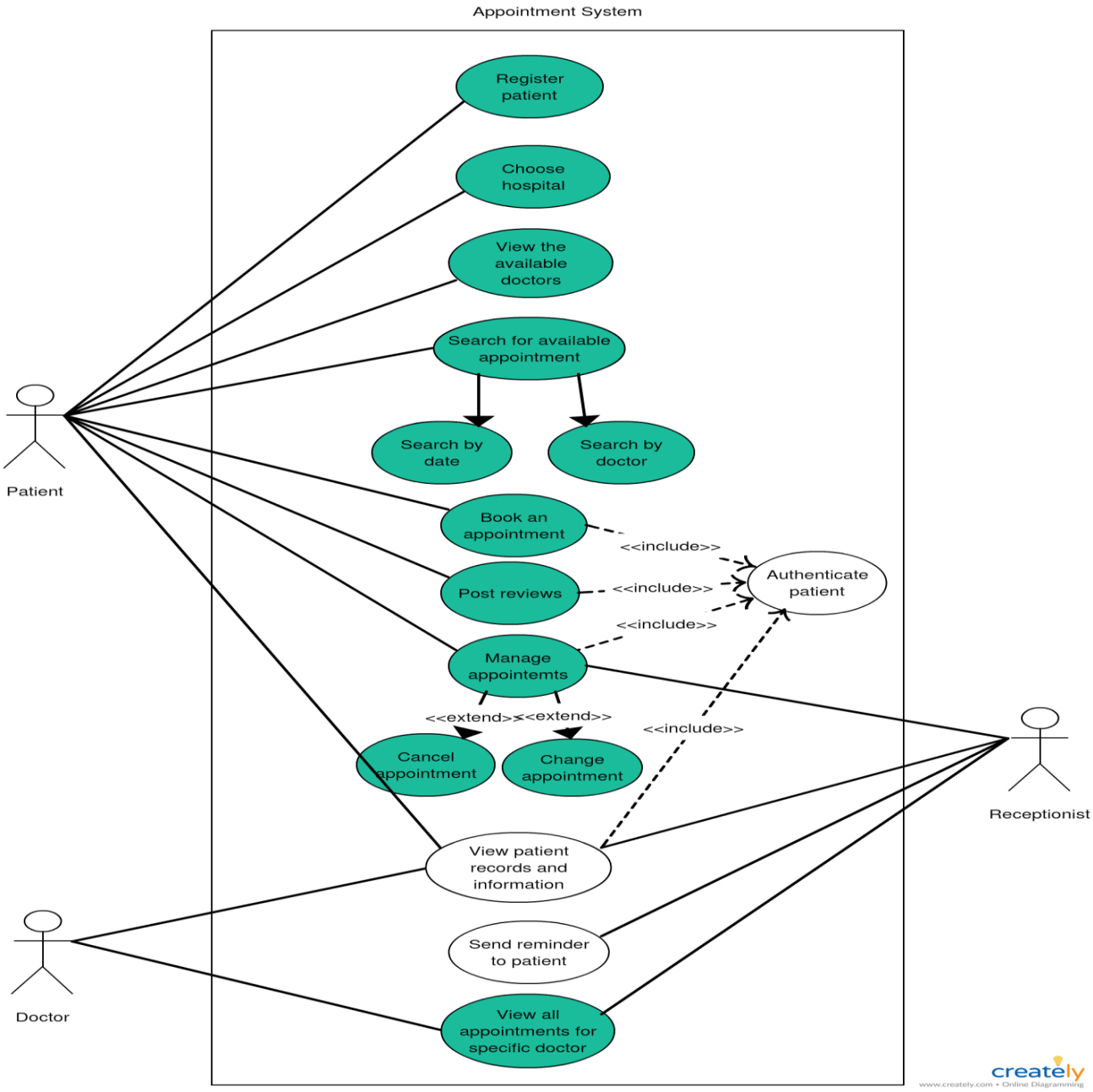
3.2 DATA FLOW DIAGRAMS

DATA FLOW DIAGRAM FOR ADMIN LOGIN



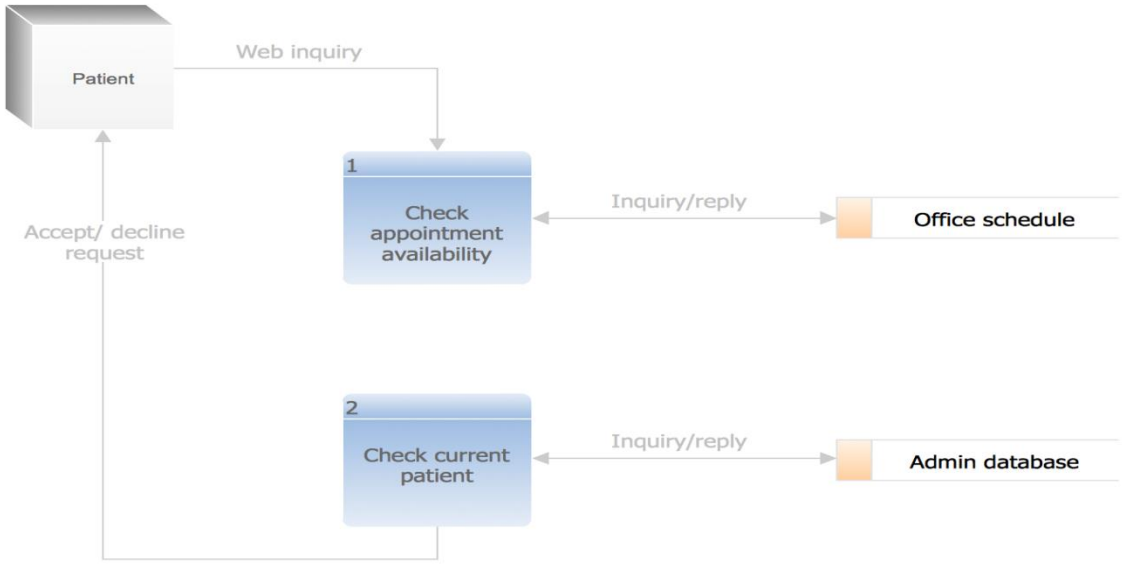
After entering to the home page of the website, Admin can choose the Admin Login option where they are asked to enter username &password , and if he/she is a valid user then at each user login page will be displayed.

USECAESE DIAGRAM FOR USER

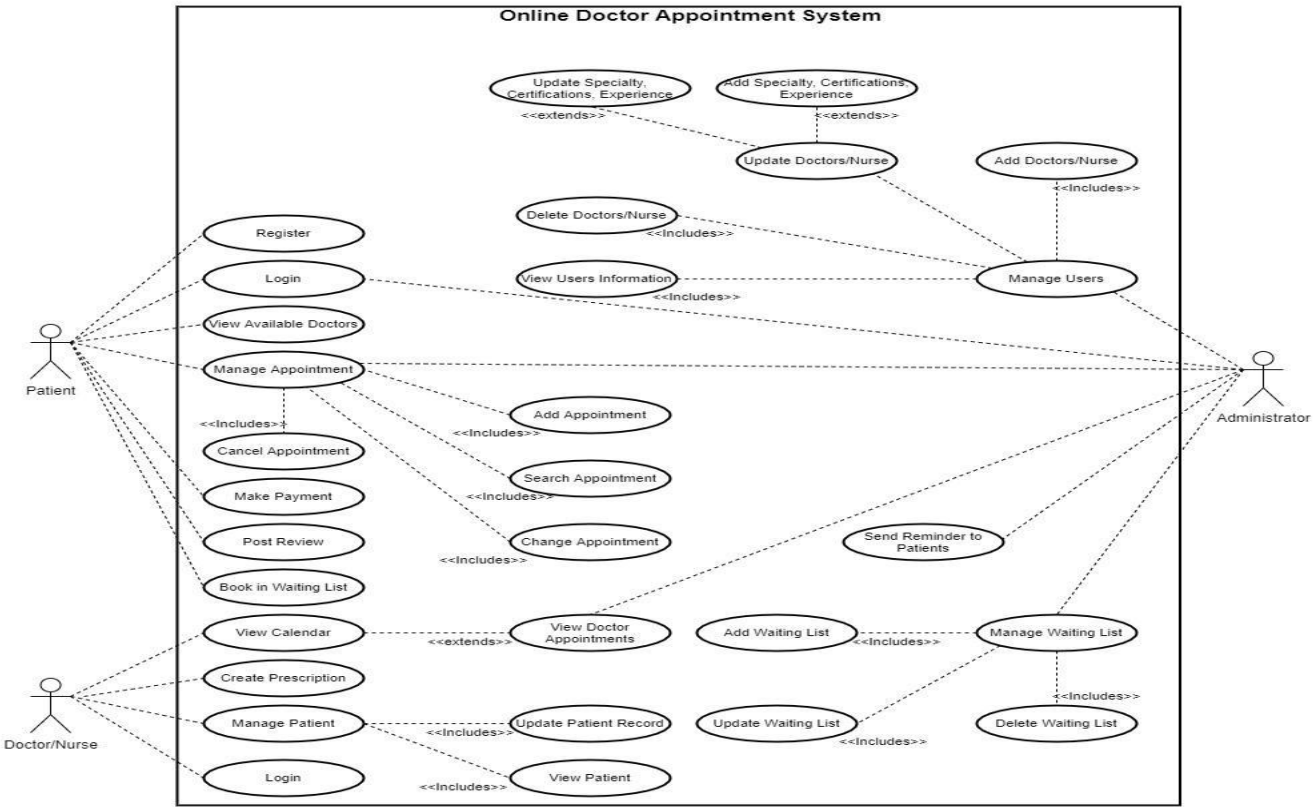


After entering to the homepage of the website, user can choose the USER LOGIN option where they are asked to enter username & password, and if he/she is a valid user then a student login page will be displayed.

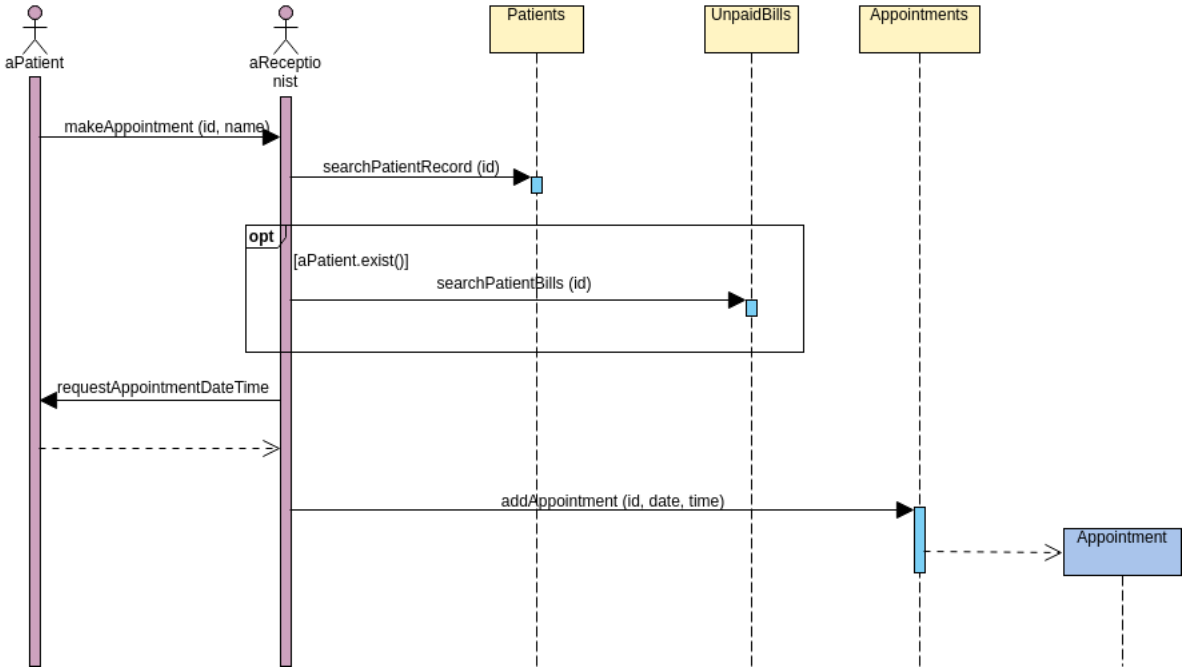
DATAFLOW DIAGRAM FOR USER



USE CASE DIAGRAM FOR ADMIN

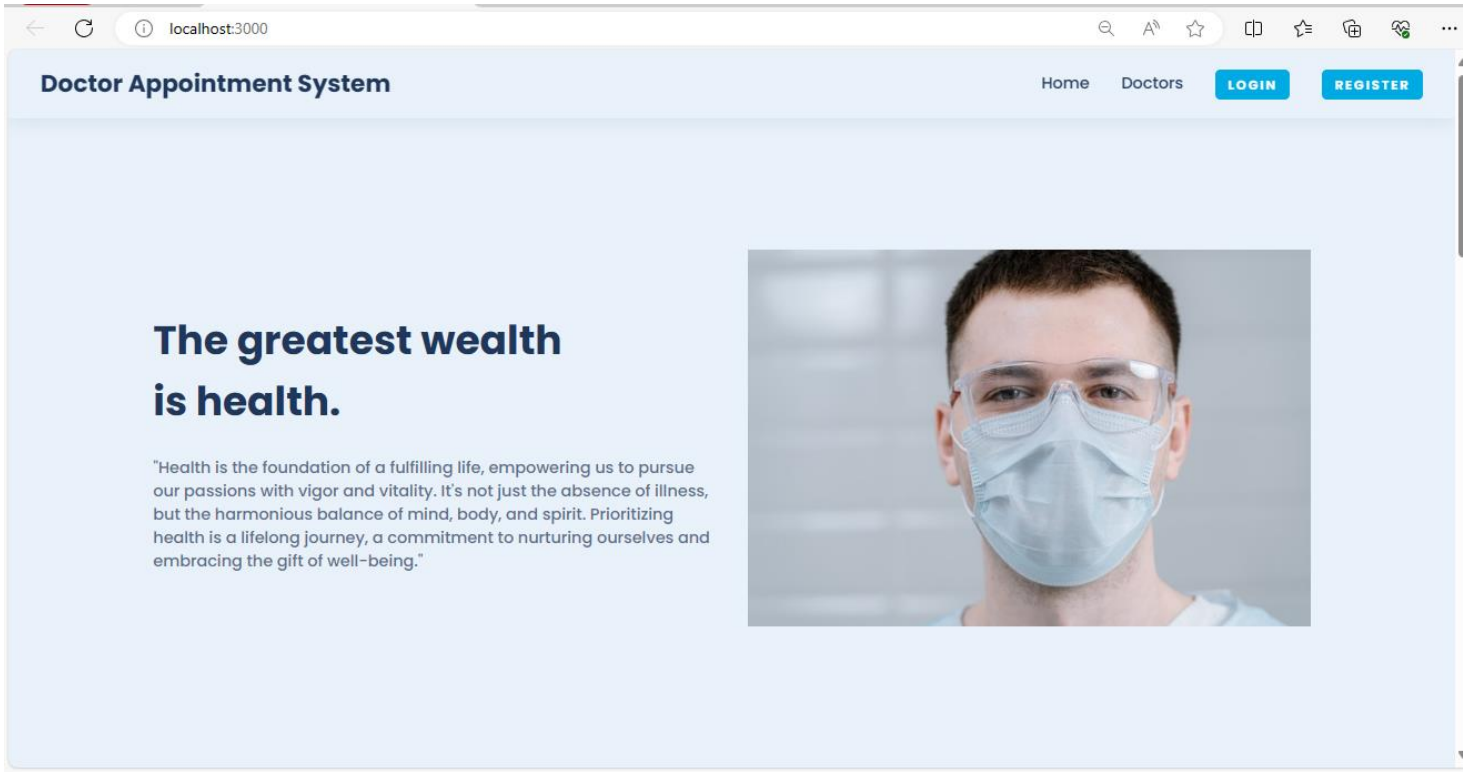


SEQUENCE DIAGRAM

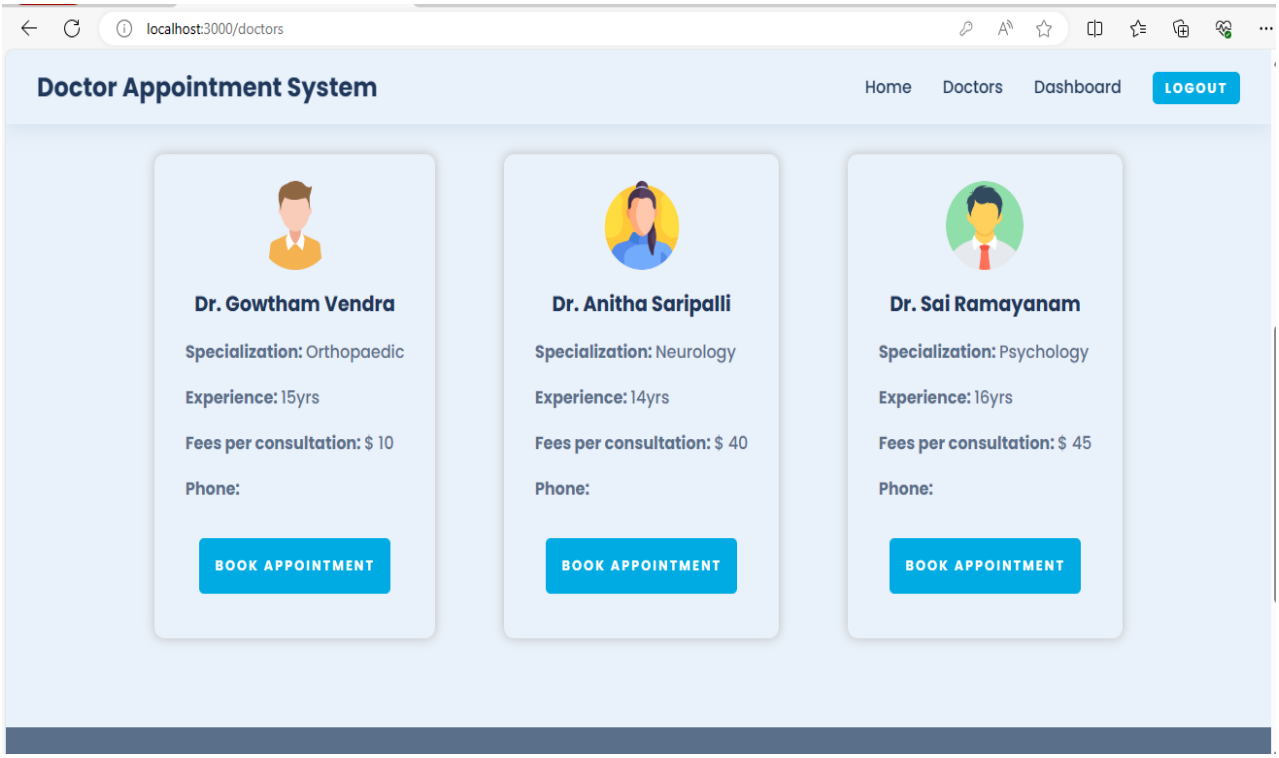


CHAPTER 4
SYSTEM IMPLEMENTATION

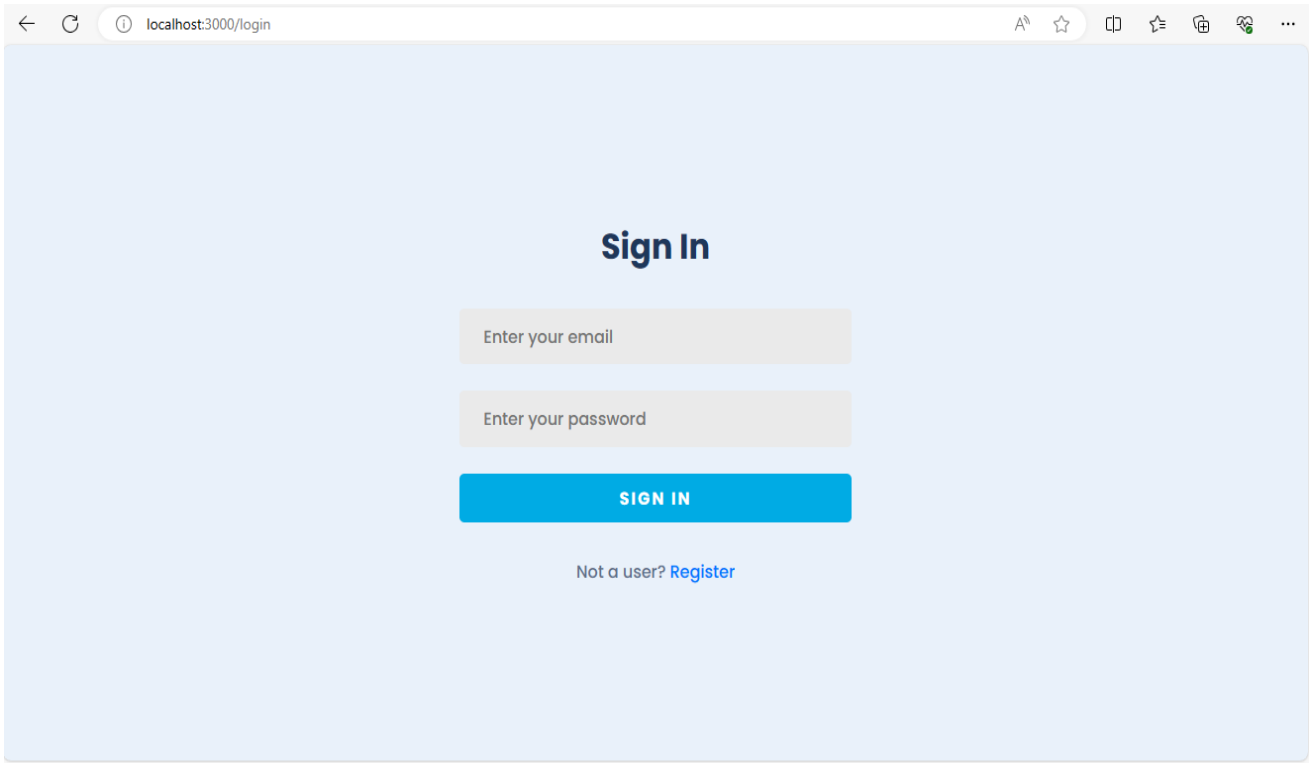
4.1 Screenshot for Home Page:



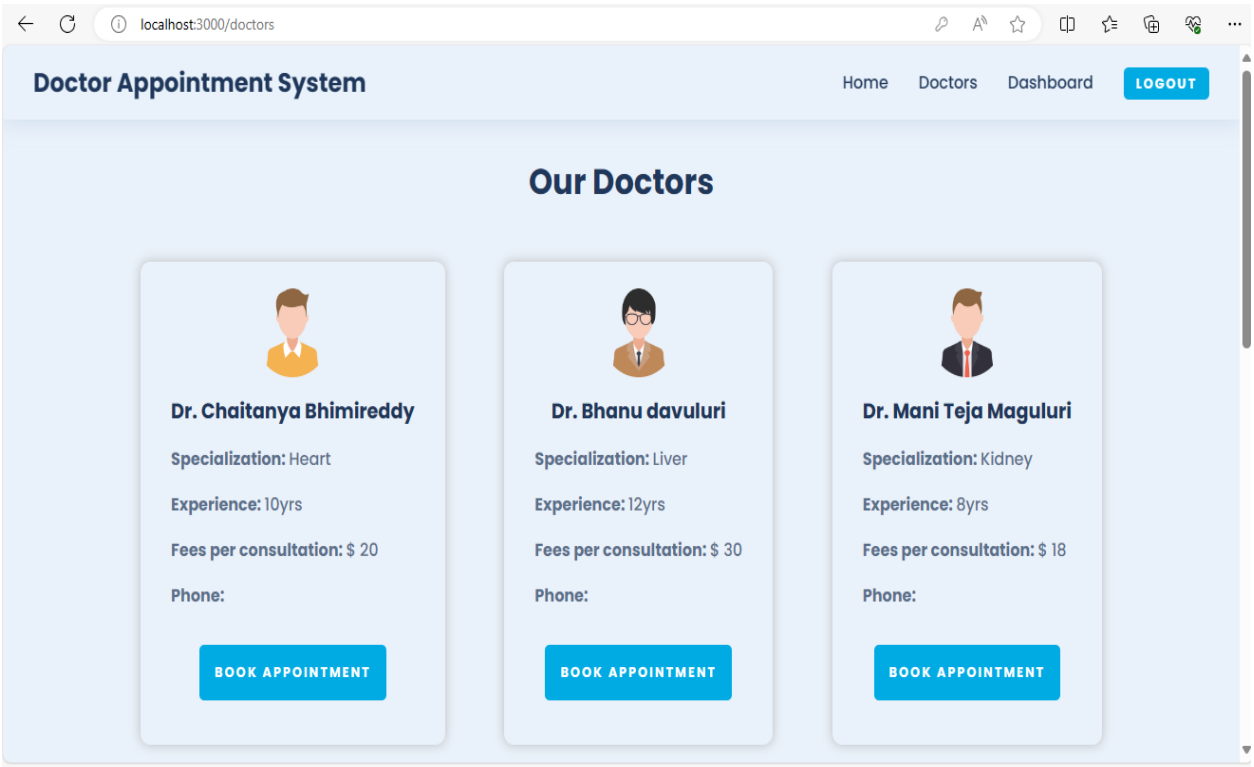
Screenshot of Doctor Profile Images for User Viewing:



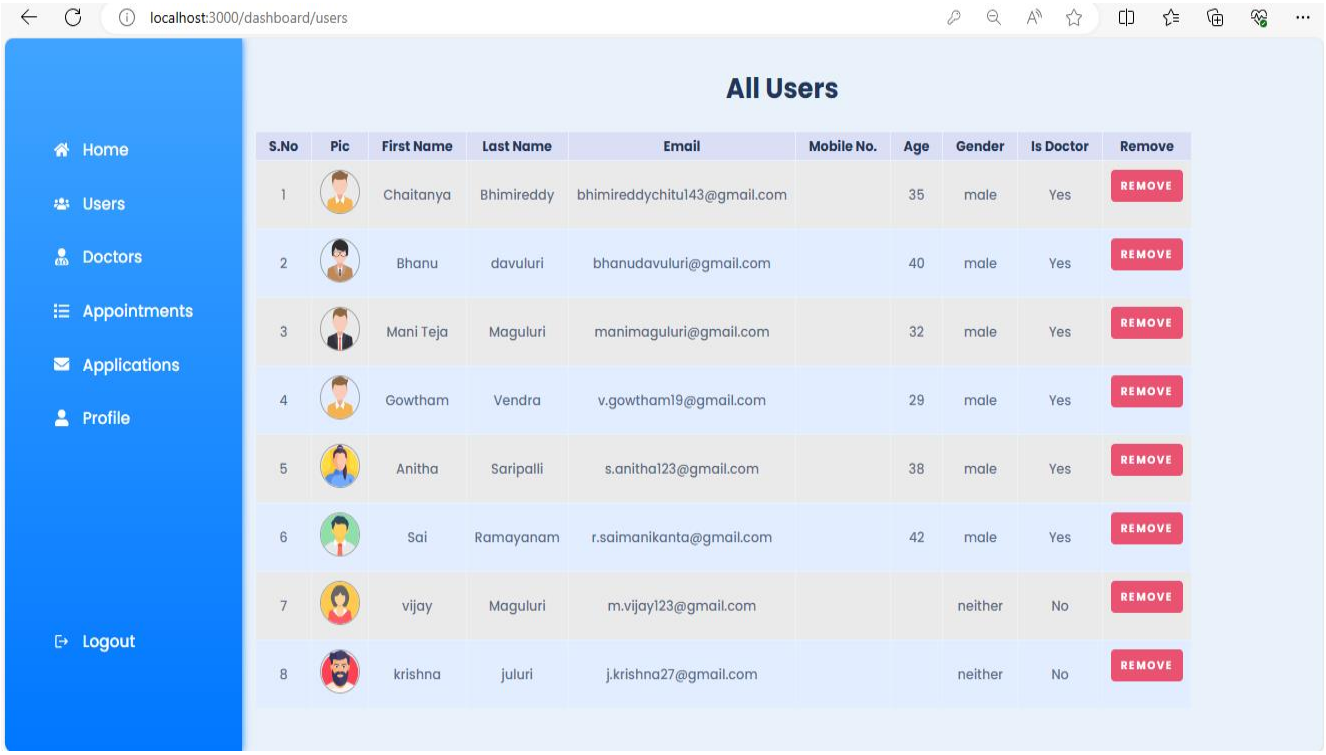
Screenshot of Login from Users/Doctors/Admin:



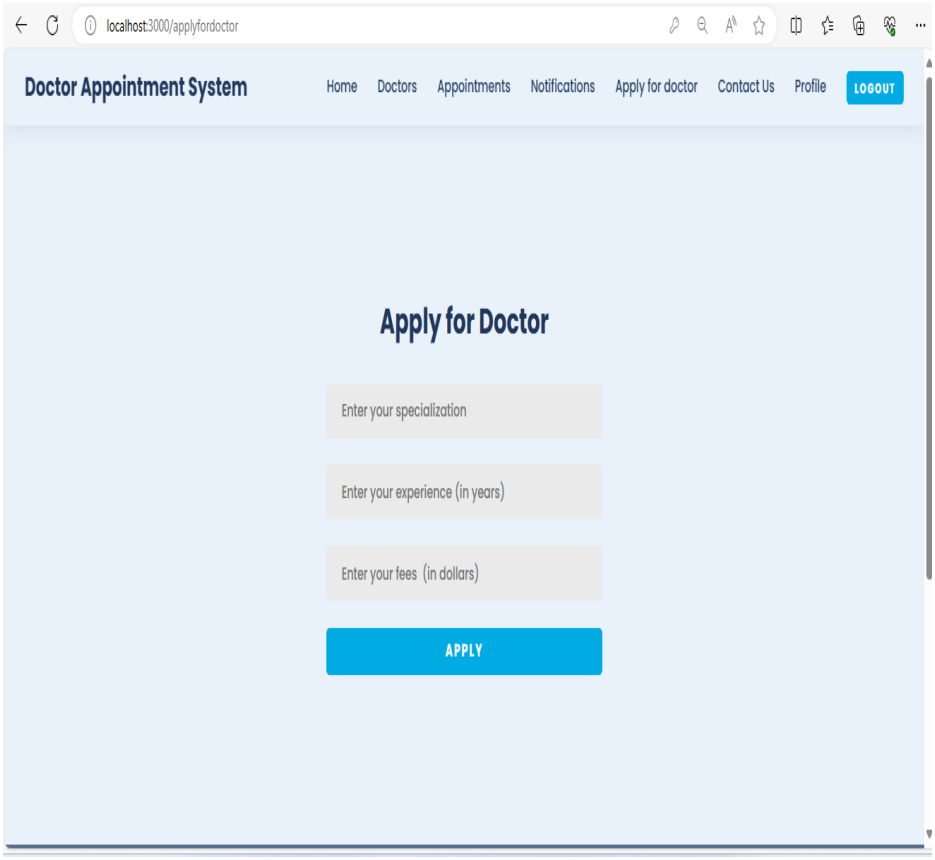
Screenshot of Register from User/Admin/Doctor:



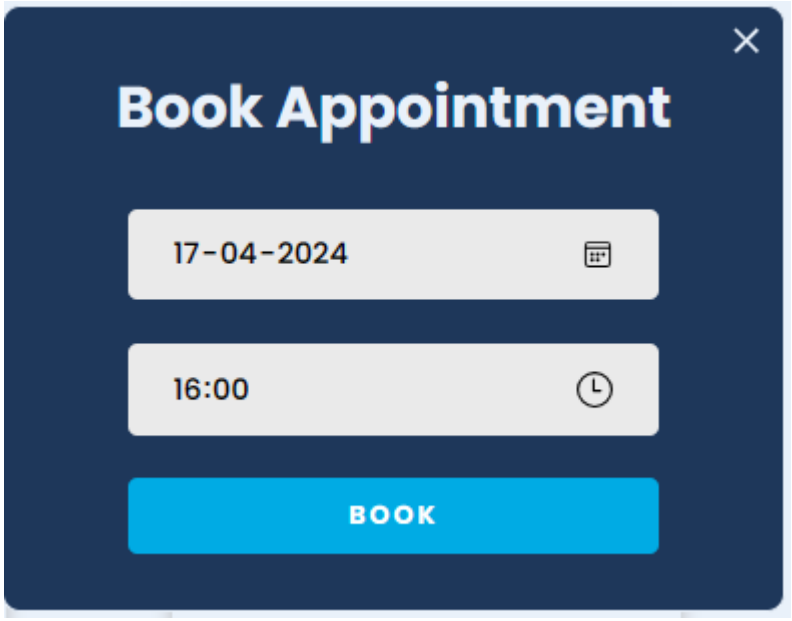
Screenshot for admin panel dashboard:



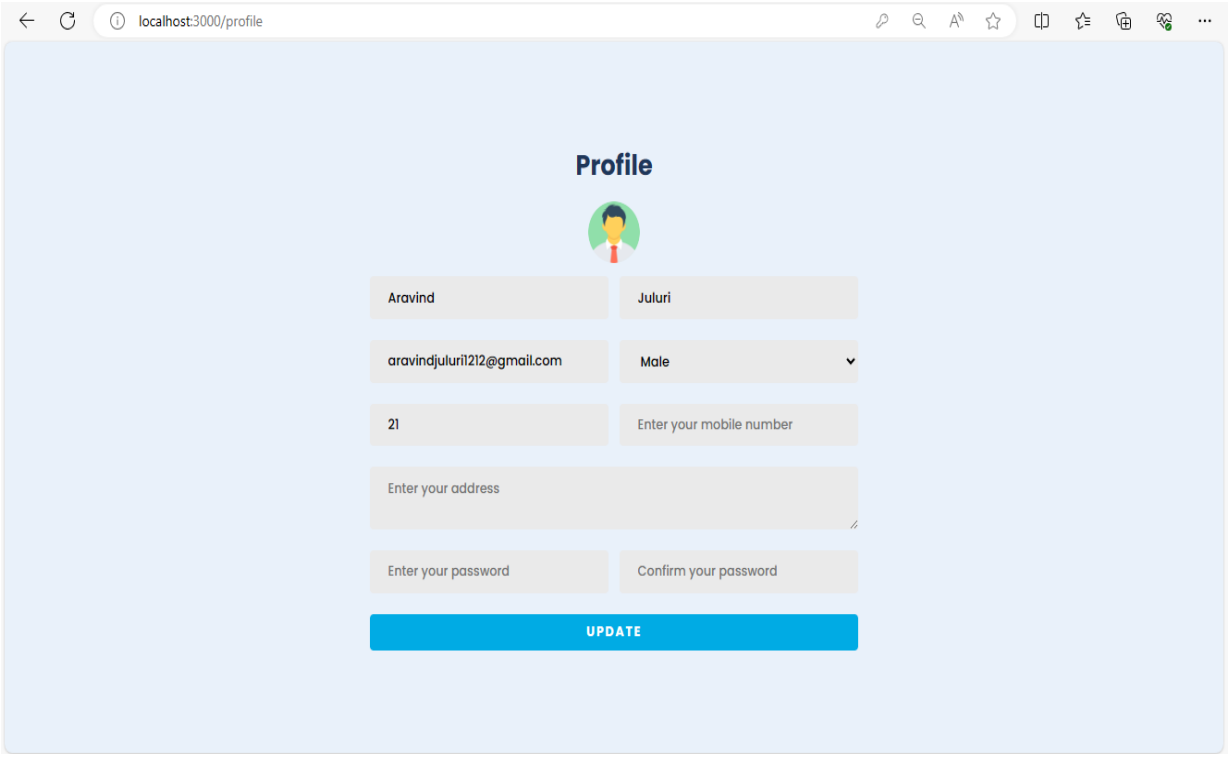
Screenshot of Register as a Doctor



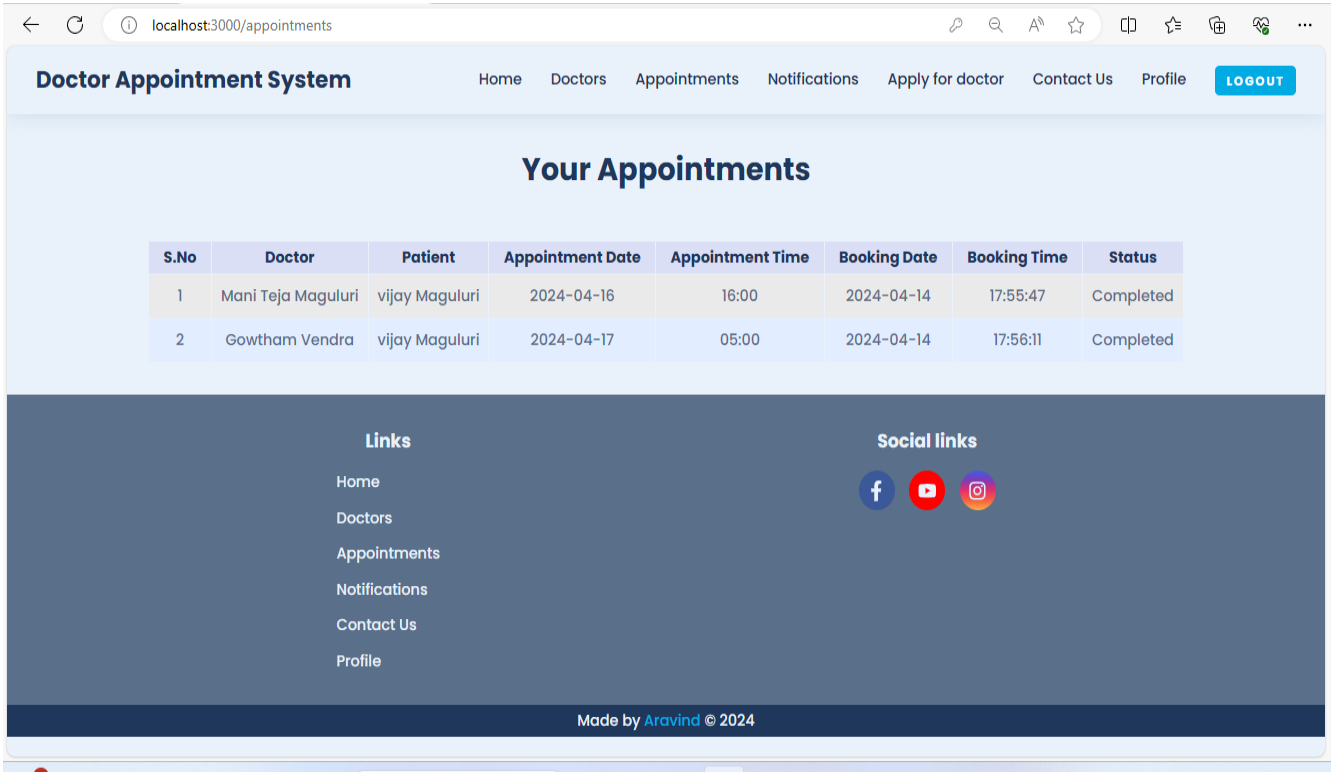
Screenshot of User Appoinment Booking Panel



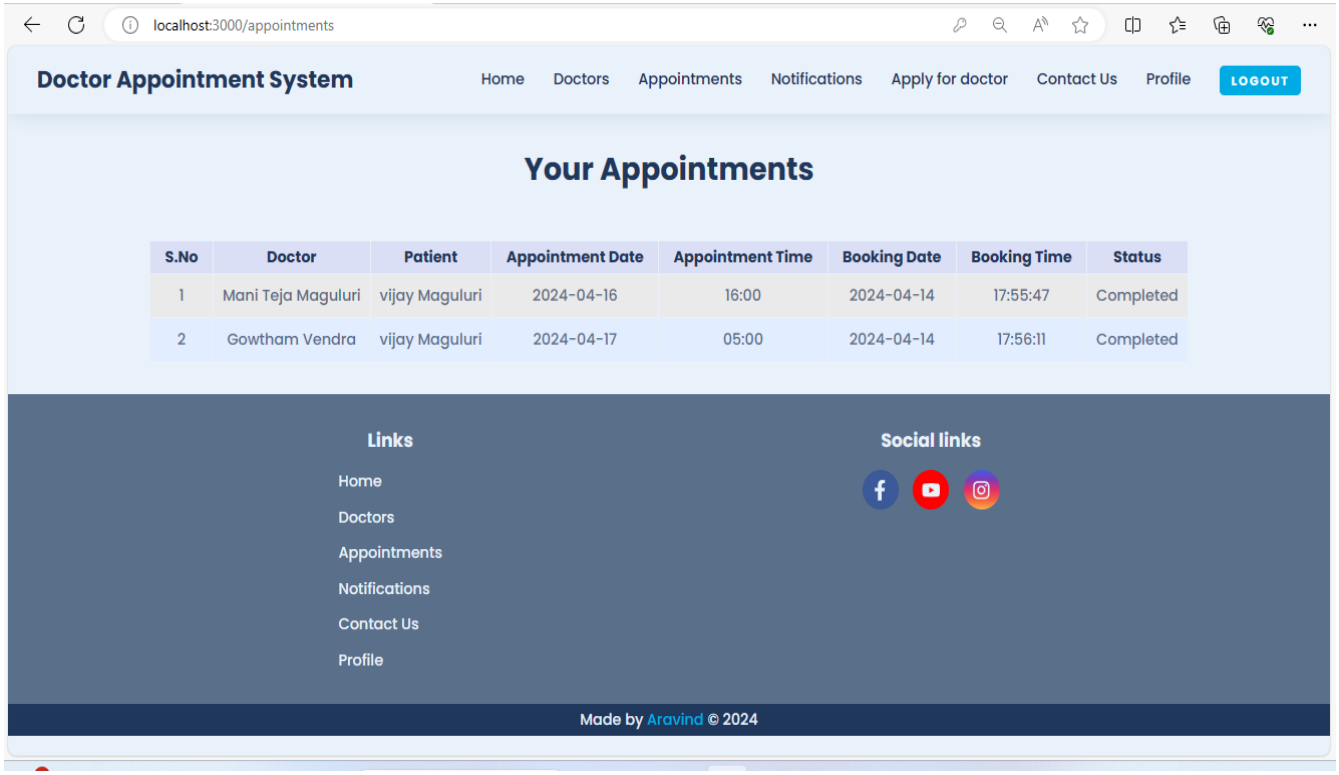
Screenshot of User& Doctor Profile Update Form:



Screenshot of User Appoinment Booked Status



Screenshot of Doctor Interface Appoinments view status:



5.1 MODULE DESCRIPTION:

For Online Doctor Appointment System it is divided into the following Modules:

1. User Authenication and Registration
2. Appointment Management
3. Doctor Dashboard
4. Patient Dashboard
5. Admin Panel
6. Appoinment Booking

CHAPTER 5
SYSTEM TESTING

The aim of the system testing process was to determine all defects in our project .The program was subjected to a set of test inputs and various observations were made and based on these observations it will be decided whether the program behaves as expected or not. Our Project went through two levels of testing

1. Unit testing
2. integration testing

UNIT TESTING

Unit testing is under taken when a module has been created and successfully reviewed. Inorder to test a single module we need to provide a complete environment ie besides the module we would require

- The procedures belonging to other modules that the module under test calls
- Non local data structures that module accesses
- A procedure to call the functions of the module under test with appropriate parameters

Unit testing was done on each and every module that is described under module description of chapter 4.

1. Test for the admin module:

    - Testing admin login form:This form is used for login of administrator of the system. In this we enter the username and password if both are correct administration page will open otherwise if any of data is wrong it will get redirected back to the login page and again ask for username and password.
    - Patient Account Management: This section allows administrators to verify patient details from existing records, ensuring accuracy and completeness before adding them to the main appointment system database. It includes options for adding new patient accounts and deleting existing ones. If the administrator clicks the "Add" button, the patient's information will be added to the patient database, facilitating future appointment scheduling and management.Clicking the "Delete" button will remove the patient's data from the system, allowing for efficient database maintenance and data

management.

- Doctor Profile Management: In this section, administrators have the ability to add details of doctors into the main doctor profile database. They can input comprehensive information about doctors, including their specialties, qualifications, availability, and contact information. Additionally, administrators can view requests related to doctor appointments, ensuring efficient management of appointment scheduling and allocation of resources.

2. Test for user login module:
    - Test for User Login Form: This form serves as the gateway for patients to access their accounts within the system. Patients are required to enter their login credentials, including their username and password, along with additional verification such as their patient ID or unique identifier. Upon successful validation of the provided information, patients gain access to their personalized appointment dashboard. However, if any of the entered data is incorrect, the system redirects the user back to the login page, prompting them to re-enter their credentials for authentication. This iterative process ensures the security and integrity of patient accounts within the Online Doctor Appointment System.
    - Test for account creation-This form is used for new account creation when user does not fill the form completely it asks again to fill the whole form when he fill the form fully it gets redirected to page which show waiting for conformation message as his data will be only added by administrator after verification.
3. Test for Doctor login module:

Test for Doctor login form- This form is used for login of doctor .In this we enter the username and password if all these are correct doctor login page will open otherwise if any of data is wrong it will get redirected back to the login page and again ask for username and password.

INTEGRATIONTESTING

In this type of testing we test various integration of the project module by providing the input .The primary objective is to test the module interfaces in order to ensure that no errors are occurring when one module invokes the other module.

CHAPTER
6.CONCLUSION&FUTURE SCOPE

This platform offers a computerized version of an appointment management system tailored for healthcare facilities, benefiting both patients and staff members involved in the appointment scheduling process. By transitioning to an online system, users can experience streamlined appointment booking, efficient resource allocation, and enhanced communication between patients and healthcare providers. The system aims to optimize the appointment management workflow, leading to improved patient satisfaction, increased operational efficiency, and better utilization of healthcare resources.

This platform revolutionizes the appointment management process for healthcare facilities, offering a comprehensive online solution that benefits both patients and medical staff. Here are the key features:

Patient Functions: Patients can easily search for available doctors, view the status of their appointments, and request new appointments through their personalized login portal. Additionally, they can provide feedback or suggestions to improve the appointment experience.

Staff Functions: Medical staff have access to features such as generating reports, managing appointment schedules, and conducting appointment transactions seamlessly within the system.

Doctor's Portal: Doctors can log in to the system to manage their availability, view appointment requests, and provide necessary suggestions or updates related to their practice. They can also share information about workshops, medical events, or conferences through the online notice board.

By incorporating these additional features, the platform becomes more interactive, user-friendly, and adaptable to the diverse needs of students and faculty members. It transforms into a comprehensive educational tool that fosters collaboration, knowledge sharing, and academic excellence within the academic community.

CHAPTER
7.REFERENCES

- http://www.w3schools.com/html/html_intro.asp

  http://www.Udemy.com/css/css_background.asphttp://www.w3schools.com/js/js_datatypes.asp