MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

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(Declared under Distinct Category by Ministry of Education, Govt. of India)

NAAC Accredited with A++ Grade

Project Report

on

development

of

SWASTIKA DOCTOR APPOINTMENT SYSTEM (ADMIN MODULE)

A project report submitted in partial fulfilment of the requirement for the degree of

MASTER OF COMPUTER APPLICATION

in

COMPUTER SCIENCE AND ENGINEERING

Submitted by:

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0901CA221039

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Sweety Gupta

(Praedico Global Research Pvt. Ltd)

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Submitted to:

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
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To whom so ever it may concern

This is to certify that **Mr./Mrs./Miss. MOHIT SHARMA (0901CA221039)** student of MCA at MITS, Gwalior, has completed **Project** Training/Internship program as an online/offline trainee at our organization **PRAEDICO GLOBAL RESEARCH PVT. LTD.** Him/Her training details are:

Period - **01 JAN 2024 to 22 APR 2024**

Technology – **MERN Full Stack**

Project Title – **SWASTIKA DOCTOR APPOINTMENT SYSTEM (ADMIN MODULE)**

All of us at Praedico Global Research Pvt. Ltd. are pleased to have him/her in our team. This Project Training/Internship program includes training, orientation and focuses primarily on learning and developing new skills and gaining a deeper understanding of concepts through hands on application of the knowledge he/she learned.

We take this opportunity to wish him/her a long, happy and successful career.

For

Authorized Signatory

Praedico Global Research Pvt. Ltd.

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CERTIFICATE

This is certified that **Mohit Sharma** (0901CA221039) has submitted the project report titled **development of Swastika Doctor Appointment system** under the mentorship of **Sweety Gupta, (Praedico Global Research Pvt. Ltd)** in partial fulfilment of the requirement for the award of degree of Master of Computer Application of Computer Science and Engineering from Madhav Institute of Technology and Science,Gwalior.

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MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

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DECLARATION

I hereby declare that the work being presented in this project report, for the partial fulfilment of requirement for the award of the degree of Master of Computer Application in Computer Science and Engineering at Madhav Institute of Technology & Science, Gwalior is an authenticated and original record of my work under the mentorship of **Sweety Gupta**, Praedico Global Research Pvt. Ltd.

I declare that I have not submitted the matter embodied in this report for the award degree or diploma anywhere else.

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ACKNOWLEDGEMENT

The full semester project has proved to be pivotal to my career. I am thankful to my institute, **Madhav Institute of Technology and Science** to allow me to continue my disciplinary project. I extend my gratitude to the Director of the institute, **Dr. R. K. Pandit** and Dean Academics, **Dr. Manjaree Pandit** for this.

I would sincerely like to thank my department, **Department of Computer Science and Engineering,** for allowing me to explore this project. I humbly thank **Dr. Manish Dixit,** Professor and Head, Department of Computer Science and Engineering, for his continued support during the course of this engagement, which eased the process and formalities involved.

. I would like to extend my heartfelt appreciation to **Sweety Gupta,** Praedico Global Research Pvt Ltd. Their valuable inputs and feedback have helped me enhance my knowledge and skills. Their constant encouragement and support have been instrumental in the successful completion of this project.

I am sincerely thankful to my faculty coordinator. I am grateful to the guidance of **Dr. Anshu Chaturvedi**, Professor, Computer Science and Engineering, for her continued support and guidance throughout the project. I am also very thankful to the faculty and staff of the department.

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ABSTRACT

The Swastika is a web application for scheduling healthcare appointments that facilitates communication between patients and doctors. It is an extremely vital prerequisite, particularly in light of the current rapid advancements in communication technology.

In order to meet the needs of patients and doctors by providing them with more rapid and convenient means of communication, the proposed system of the projects would develop a doctor-patient interaction system for booking and searching the nearby Clinics and Hospitals on websites or application platforms.

Through the connections between user terminals and specific services, the web's advantages can be fully utilized to bridge the time and distance gap between clinics and patients, offering quick and effective medical care. This allows patients and doctors to obtain the necessary data to improve their interactions.

To keep the data, secure in records, this website is helpful. In short, we use ReactJs, which is now quite popular in the web development community, for the frontend. We use NodeJS, a well-liked open-source server environment that is particularly well-suited to web development, for the backend. MONGODB is the database

Technically, behaviorally, and economically, this idea is possible in every sense. The majority of people are aware of the technology we used for this project because it is so widely used. The project is designed with ease of use and functionality in mind, making it accessible to anyone.

सार

स्वस्तिक स्वास्थ्य देखभाल नियुक्तियों को शेड्यूल करने के लिए एक वेब एप्लिकेशन है जो रोगियों और डॉक्टरों के बीच संचार की सुविधा प्रदान करता है। यह एक अत्यंत महत्वपूर्ण शर्त है, विशेष रूप से संचार प्रौद्योगिकी में वर्तमान तीव्र प्रगति के आलोक में।

रोगियों और डॉक्टरों को संचार के अधिक तीव्र और सुविधाजनक साधन प्रदान करके उनकी जरूरतों को पूरा करने के लिए, परियोजनाओं की प्रस्तावित प्रणाली वेबसाइटों या एप्लिकेशन प्लेटफार्मों पर नजदीकी क्लीनिकों और अस्पतालों की बुकिंग और खोज के लिए एक डॉक्टर-रोगी संपर्क प्रणाली विकसित करेगी। .

उपयोगकर्ता टर्मिनलों और विशिष्ट सेवाओं के बीच कनेक्शन के माध्यम से, वेब के लाभों का पूरी तरह से उपयोग क्लीनिकों और रोगियों के बीच समय और दूरी के अंतर को पाटने, त्वरित और प्रभावी चिकित्सा देखभाल की पेशकश करने के लिए किया जा सकता है। इससे मरीजों और डॉक्टरों को अपनी बातचीत को बेहतर बनाने के लिए आवश्यक डेटा प्राप्त करने की अनुमति मिलती है।

डेटा को रिकॉर्ड में सुरक्षित रखने के लिए यह वेबसाइट मददगार है। संक्षेप में, हम फ्रंटएंड के लिए ReactJs का उपयोग करते हैं, जो अब वेब डेवलपमेंट समुदाय में काफी लोकप्रिय है। हम बैकएंड के लिए NodeJS का उपयोग करते हैं, जो एक लोकप्रिय ओपन-सोर्स सर्वर वातावरण है जो विशेष रूप से वेब विकास के लिए उपयुक्त है। MONGODB डेटाबेस है

तकनीकी रूप से, व्यवहारिक रूप से और आर्थिक रूप से, यह विचार हर दृष्टि से संभव है। अधिकांश लोग इस परियोजना के लिए हमारे द्वारा उपयोग की गई तकनीक से अवगत हैं क्योंकि इसका व्यापक रूप से उपयोग किया जाता है। प्रोजेक्ट को उपयोग में आसानी और कार्यक्षमता को ध्यान में रखकर डिज़ाइन किया गया है, जिससे यह किसी के लिए भी सुलभ हो सके।

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CHAPTER: 1 INTRODUCTION

Swastika, the doctor appointment health website, streamlines the process for patients to book appointments with specific doctors for various health concerns. Whether it's eye problems, ear issues, dental needs, asthma management, or mental health support, Swastika facilitates efficient scheduling. To address the issues with the manual system in use, the "Doctor Appointment System" was created. The difficulties our current system has are intended to be eliminated or, in certain situations, lessened by this program. A physician appointment system can result in a rapid, safe, dependable, and error-free management system. Instead of focusing on maintaining records, it might help the user focus on other activities. It will therefore assist the organization in making better use of its resources. Every business, no matter how big or little, faces obstacles. The goal of the Doctor Appointment approach is to automate the current manual approach with the aid of sophisticated computer hardware and software, meeting their needs and preserving their priceless Data and information can be easily accessed and manipulated over an extended period of time when kept. The user can focus on record keeping with the help of readily available and user-friendly gear and software. It will therefore assist the organization in making better use of its resources. The company can keep digital records up to date without making duplicate entries. This indicates that even though the information is accessible, it is not relevant. In essence, the project outlines how to manage for optimal performance and improved client services.

Here's Swastika works:

1. **User-Friendly Booking**: Patients fill out relevant fields and submit their appointment requests. This straightforward process saves valuable time for both patients and doctors.
2. **Efficient Management**: Swastika not only handles appointment bookings but also helps manage various aspects of the healthcare business effectively.

I. Patient registration: After logging into the admin dashboard, the admin can verify the patient's availability.

II. Doctor: The administrator has the power to introduce new doctor categories and physicians.

III. Checking the availability of appointments: The administrator can click on spaces to see the patient's availability.

IV. Online appointment scheduling for time and date: Patients can schedule an appointment for the time and day that works best for them.

V. Cancellation of booking: Users have the option to cancel booking at any moment by logging into the system.

VI. Appointment booking email: When the user successfully confirms an appointment and receives a "thank you" email indicating how many appointments are scheduled.

VII. Feedback: The system includes a feedback form that the administrator can access and amend.

1.1 Problem Identification:

Reducing Waiting Time for Patients:

The Swastika system aims to minimize patient waiting time by efficiently managing appointments and streamlining the patient flow.

Access to Doctor Information:

The system provides easy access to essential information about doctors, including qualifications, specialization, availability, fees, and ratings.

Secure Record Management:

Swastika ensures secure and organized storage of patient and doctor records and reports.

Workforce Optimization:

After implementing the system, workforce requirements can be minimized, leading to better resource utilization.

User-Friendly Interface:

Patients may easily engage with the system thanks to Swastika's user-friendly interface, which is simple and convenient.

1.2 Parent Organization

Financial Literacy in India is Being Revolutionized by Praedico Global Research Pvt. Ltd.

Our mission at Praedico is to democratize financial literacy in India, and we are volunteering our time to do this. Inspired by the neural architecture of the human brain, we have pioneered the development of financial neurons, powerful neural networks that power our cutting-edge stock market.

We are not just another finance organization; we are the first finance neuron developers in India. With the help of properly constructed neural networks, we can predict the performance of the stock market globally with a high degree of accuracy. As a leading fintech company, we seek for new financial research products using artificial intelligence in order to give consumers access to excellent, free research and insights.

Our products have an outstanding track record of accuracy, with projections in the Indian stock market and financial goods exceeding 80% correctness. This suggests that regular Indian investors may now make free use of our services, as they were previously required to pay substantial fees for research and advising services. Our mission is to lead the international movement to end financial injustice. By providing free access to financial knowledge and resources, we're leveling the playing field and ensuring that everyone, regardless of financial means, has the opportunity to thrive in the market.

We're dedicated to creating financial solutions that beat the market in terms of pricing and performance in order to realize our mission. Our goal is to become the industry leader in financial product creation by setting the bar for performance and cost-effectiveness in the marketplace

At Praedico, we're not just focusing on financial literacy—we're revolutionizing the entire financial landscape. We are empowering people all across India to take control of their financial lives thanks to our innovative approach, persistent dedication to accessibility, and steady attention to accuracy.

At Praedico Global Research Organization, we blend finance and technology seamlessly. As a web developer, my role revolves around creating user-friendly interfaces that facilitate efficient access to financial information and analysis. We're deeply involved in stock and ETF (Exchange Traded Fund) analysis, covering a wide range of assets, including GoldBees, NiftyBees, and SilverBees. Our joy stems from the comprehensive calculations and insights we derive from these analyses.

Features: -

1. Gives the user long-term view of company.
2. Helps users to differentiate good companies and bad companies.
3. Provide buying and selling signals of multiple companies from different sectors at one place.
4. Online accessibility so anyone can easily access it.
5. Easy to get buying and selling indications.
6. Helps to earn profit to user by providing accurate signals.
7. Helps to save user from losses by showing sell signals.

1.3 Hardware and software specification

"The MERN stack is used in the design and development of the doctor appointment system. The popular technology stack consists of Node.js, React.js, Express.js, and MongoDB. By making use of these technologies, the system offers patients a scalable, effective, and user-friendly platform for making medical appointments. You can begin developing your web application utilizing the MERN stack once your development environment satisfies these requirements."

1.3.1 Hardware specification

a. Processor: It is advised to use a contemporary multi-core processor, such as an Intel Core i5 or comparable. This guarantees stable performance while developing and effectively manages numerous processes and server requests.

b. Memory: 16 GB or more is recommended, although 8 GB is the bare minimum. This prevents sluggish performance while running numerous databases and applications at once.

c. Storage: It is advised to have a Solid-State Drive (SSD) of at least 512 GB in size, however a 256 GB SSD would do. Your development environment's and your databases' loading times are greatly decreased with an SSD.

d. Display: It's comfortable to code on a display that has a minimum resolution of 1920x1080. To properly manage appointments and the system interface, take into consideration investing in a larger display or perhaps a dual monitor configuration.

e. Network: To access and manage appointment data, communicate with patients, and, if applicable, interact with team members, a dependable internet connection is required.

1.3.2 Software specification

a. Operating System: Select from the most recent version of macOS, Windows 10 or 11 (64-bit), or Linux (Ubuntu and Fedora are two popular versions).

b. Development Environment: Set up MongoDB Community Edition, the most recent LTS version of Node.js, and an IDE or text editor such as Visual Studio Code for writing code.

c. Dependencies: To manage dependencies for the project, use yarn or npm. Packages for React.js, Express.js, and any other libraries or frameworks utilized in your application are included in this.

d. MongoDB: The foundation of your MERN apps' data storage is this NoSQL database. For testing and debugging frontend components, make sure your web browser (e.g., Chrome, Firefox, or Edge) is up to date.

e. Version Control: Git is suggested but not required for version control. Code change management is made simpler by platforms such as GitHub, which also include collaboration tools.

f. Deployment: Select a MongoDB and Node.js suitable deployment environment. These might be hosting services like Heroku or Digital Ocean, or cloud platforms like AWS or Azure.

1.3.3 Additional tool

a. **Postman or Thunder Client**: Used for development-stage API endpoint testing.

b. **DevTools:** Tools for debugging your front-end code that are available in browsers.

c. **API Documentation Tools:** If you want to document your APIs, you may find it useful to use tools such as Swagger or Postman.

CHAPTER: 2 SYSTEM ANALYSIS

The project's architecture is examined. The process of establishing a system's design, parts, and data in order to meet predetermined requirements is known as system analysis. This section provides a detailed description of the project's data flow diagram, feasibility assessment, and problem analysis.

2.1 Problem Analysis: -

In the current healthcare landscape, the traditional methods of booking and managing doctor appointment are often ruined by inefficiencies, resulting is suboptimal patient experiences and operational challenges for healthcare providers. The current manual appointment system contributes to long waiting times, scheduling problem, and a lack of Real-time communication between patients and doctors.

a. One of the primary issues with the current doctor appointment System is the high demand for appointments contrasted with limited availability of resources, including doctor time and clinic slots.
b. Patient often struggle to secure appointment in a timely manner due to the scarcity of available slots.
c. The existing appointment booking process might be in efficient and time-consuming for both patients and administrative staff.
d. Manual booking systems or outdated software may contribute to long waiting times and error in appointment booking.
e. Another significant challenge is the rate of no-shows and last-minute cancellations which disrupt the scheduling and utilization of available appointments. This leads to wasted resources and potential revenue loss for the healthcare facility.
f. There may be a lack of patient engagement and empowerment in the appointment scheduling process. Patient might not have access to sufficient or tools to manage their appointments effectively leading to confusion and missed opportunities.
g. Accessibility issues such as difficulty in reaching the healthcare facility or limited availability of appointments during non-standard hours, might pose barriers to certain patient.
h. The doctor appointment system may not be effectively integrated with electronic health records (EHR). Resulting in inefficiencies, redundant data entry and potential errors in patient information management.

2.2 Feasibility study: -

The project's viability, likelihood of success, and likelihood that the system will benefit the company are all examined in the preliminary investigation. The primary goal of the feasibility study is to evaluate the viability from a technical, operational, and financial standpoint for adding new modules and fixing existing systems. If there are endless resources and time, then any system is possible.

2.2.1 Technical Feasibility study: -

a. Hardware requirement: -

S.NO	Component	Specification
1.	CPU, or processor	Intel Core i7
2.	Monitor	FHD (1920x1080)
3.	RAM, or memory	At least 8 GB or above
4.	Storage (SSD)	512 GB
5.	Internet	512 KB (speed)
6.	Keyboard	USB Wired or Wireless
7.	Mouse	USB Wired or Wireless
8.	Printer	HP MFP 136w Laser

b. **Programing language: -**

S.NO	Site	Detail
1.	Front-end	JS6, CSS, HTML, and React
2.	Back-end	NodeJs and ExpressJs
3.	database	MongoDB

c. **Software requirement**

S.NO.	Component	Minimum requirement
1.	Operating system	Window XP, 7 or later, macOS, Ubuntu
2.	Internet browser	Chrome, Edge, Mozilla and Similar
3.	IDE	Visual Studio Code, Sublime Text Editor
4.	Dependencies	Npm or yard
5.	Server Deployment	hosting services like Heroku or Digital Ocean, or platforms like AWS or Azure.

2.2.2 Economic Feasibility study: -

The economic feasibility of a Swastika Doctor Appointment System involves assessing whether the benefits of implementing such a system outweigh the costs associated with its development, maintenance, and operation.

Cost of Development: This sums up the costs associated with developing software, buying hardware, and paying any license fees for frameworks or software tools that are required.

Operational Costs: These include recurring charges for things like domain registration, server hosting, upkeep, and technical assistance.

Time Savings: By expediting the appointment scheduling process, a doctor appointment system can save time for patients and medical personnel alike.

Better Patient Experience: By providing easy online booking alternatives, cutting down on wait times, and avoiding scheduling errors, a well-thought-out appointment system can improve patient satisfaction.

Decreased No-Shows: The system can assist in lowering the number of missed appointments by sending automated reminders and confirmations, which will maximize resource usage and income creation for the healthcare.

Competitiveness in the market: Patients looking for modern, convenient care may find a healthcare facility more appealing if it offers online appointment scheduling. Increased patient acquisition and retention may result from this.

Return on Investment (ROI): Determine the possible ROI by comparing the initial investment and recurring costs to the financial gains attained from enhanced patient satisfaction, decreased operating costs, and higher efficiency.

2.2.3 Behavioral Feasibility study: -

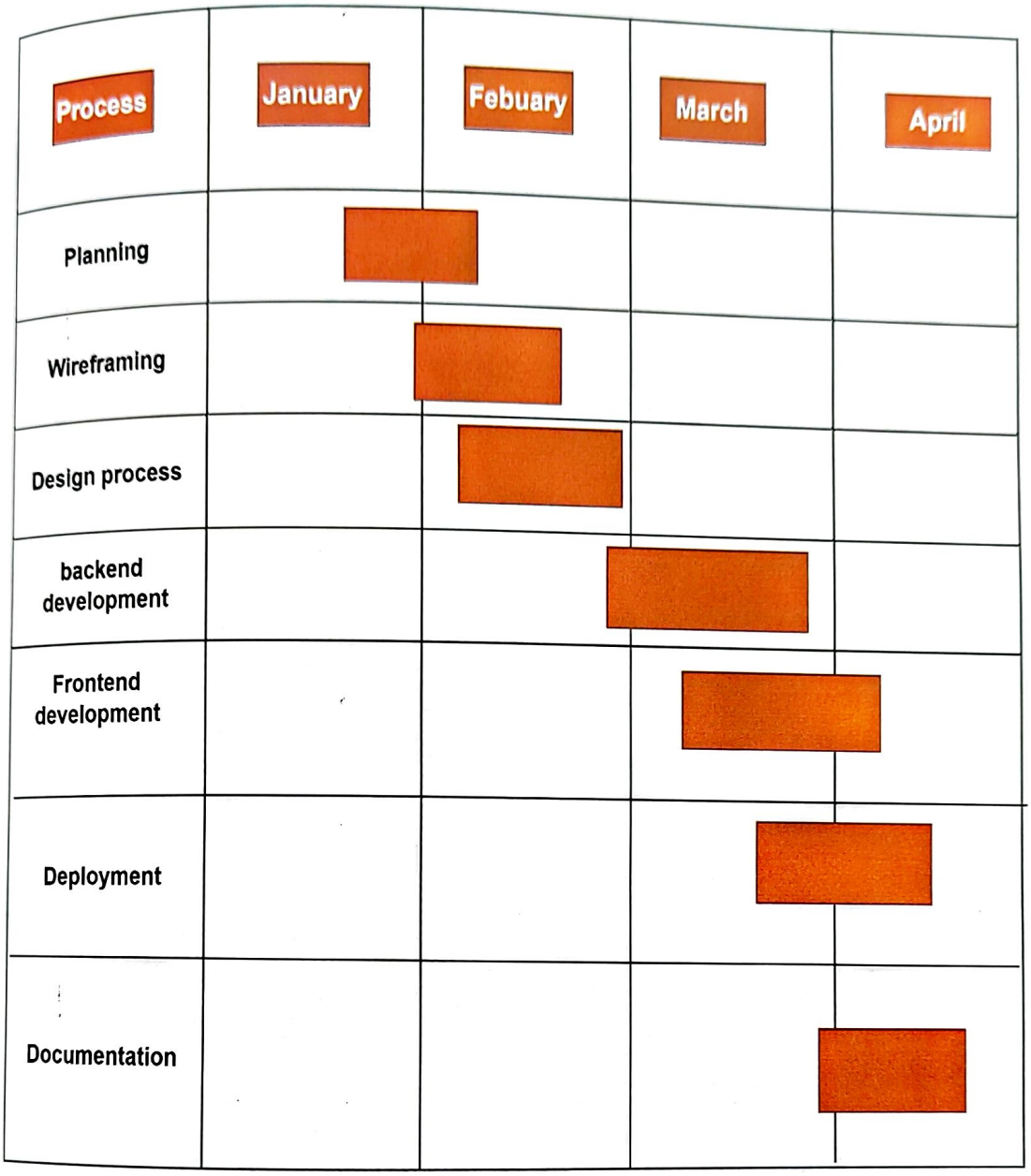
The phrase "behavior feasibility" is used to characterize people's perspectives on many topics. It also examines human reactions to various stimuli. We can declare a system to be behaviorally feasible if it satisfies the administrator's and patient's needs.

The suggested system will only be useful if it can be created and implemented to suit the project's criteria and if people are willing to support it enough. Only then will the client benefit from the suggested projects. When will the project's behavioral viability be tested?

1. Health Literacy Ensure that the system provides clear information about the importance of regular medical appointments, the significance of follow-up visits, and any specific instructions related to appointments of medical conditions.
2. Appointment Flexibility Offering flexibility in scheduling appointments, such as providing options for different slot, times and date can improve the likelihood of individuals making and keeping appointments but admin case view only appointment.
3. Security and compliance the administrator must give top priority to the system's security and compliance, making sure that patient data is safeguarded and that the system conforms with all applicable healthcare laws.
4. In order to employ this technological help, we can additionally offer training. Give a description of the new system's user training timetable. Shared the strategy for ongoing support and upkeep.
5. Experts or specialists met with team twice a month to ensure optimum participation and satisfaction during our growth process. They review each team member's activity and offer improved solutions to address their concern.

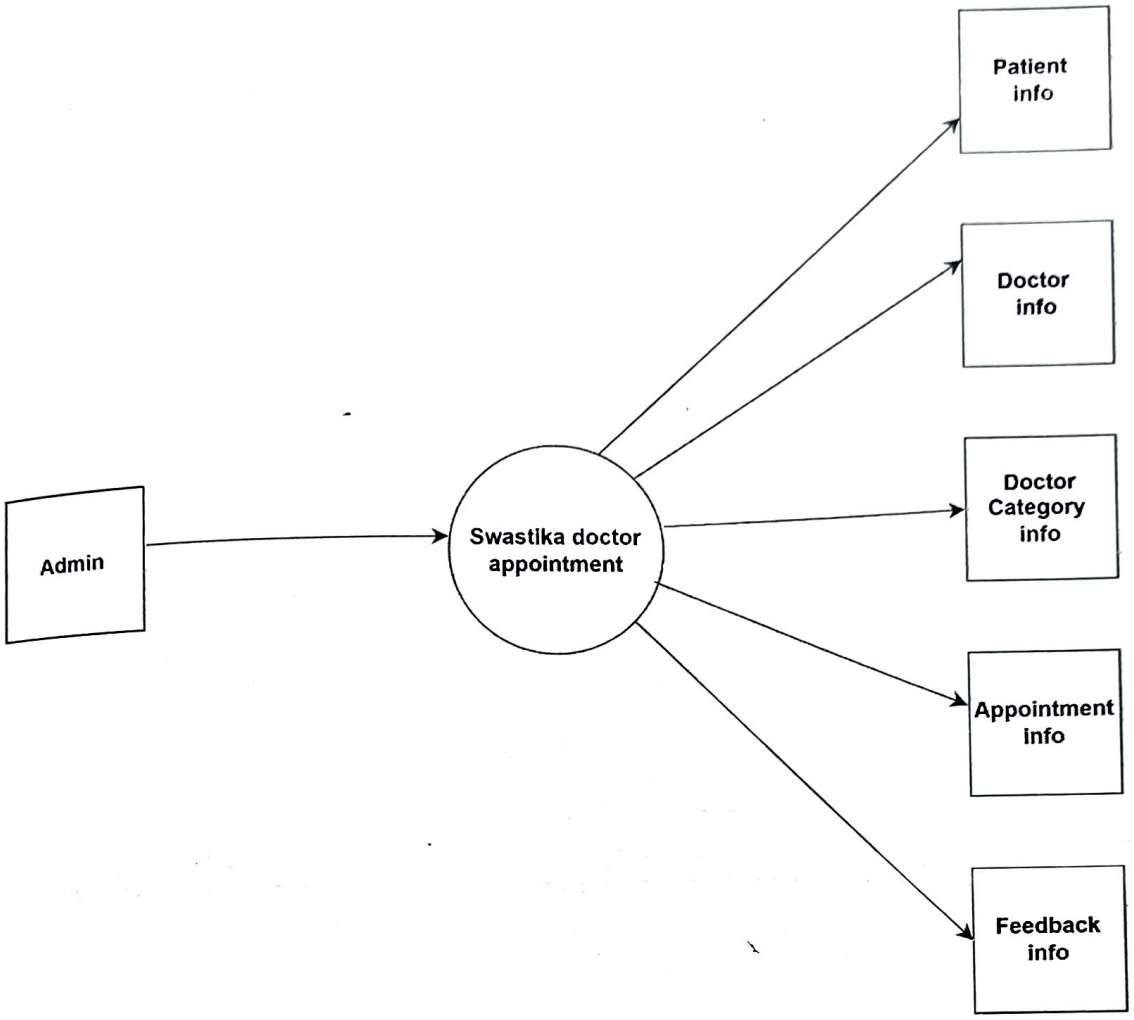
2.2.4 Scheduling Feasibility study: -

The system is completed within scheduled time and do not exceed the succeed the scheduled times.

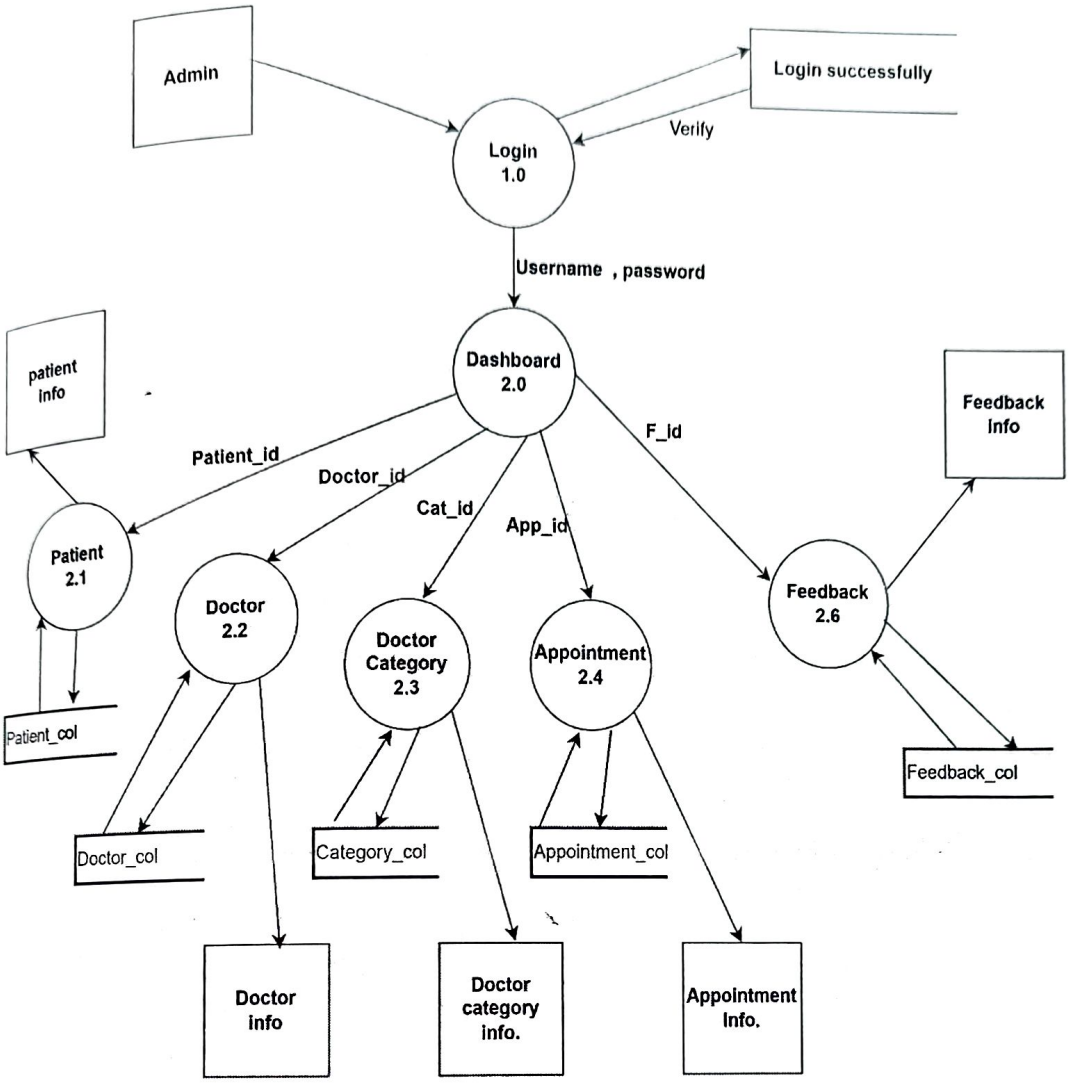


2.3 Data Flow Diagram: -

2.3.1 Level Zero (DFD): -

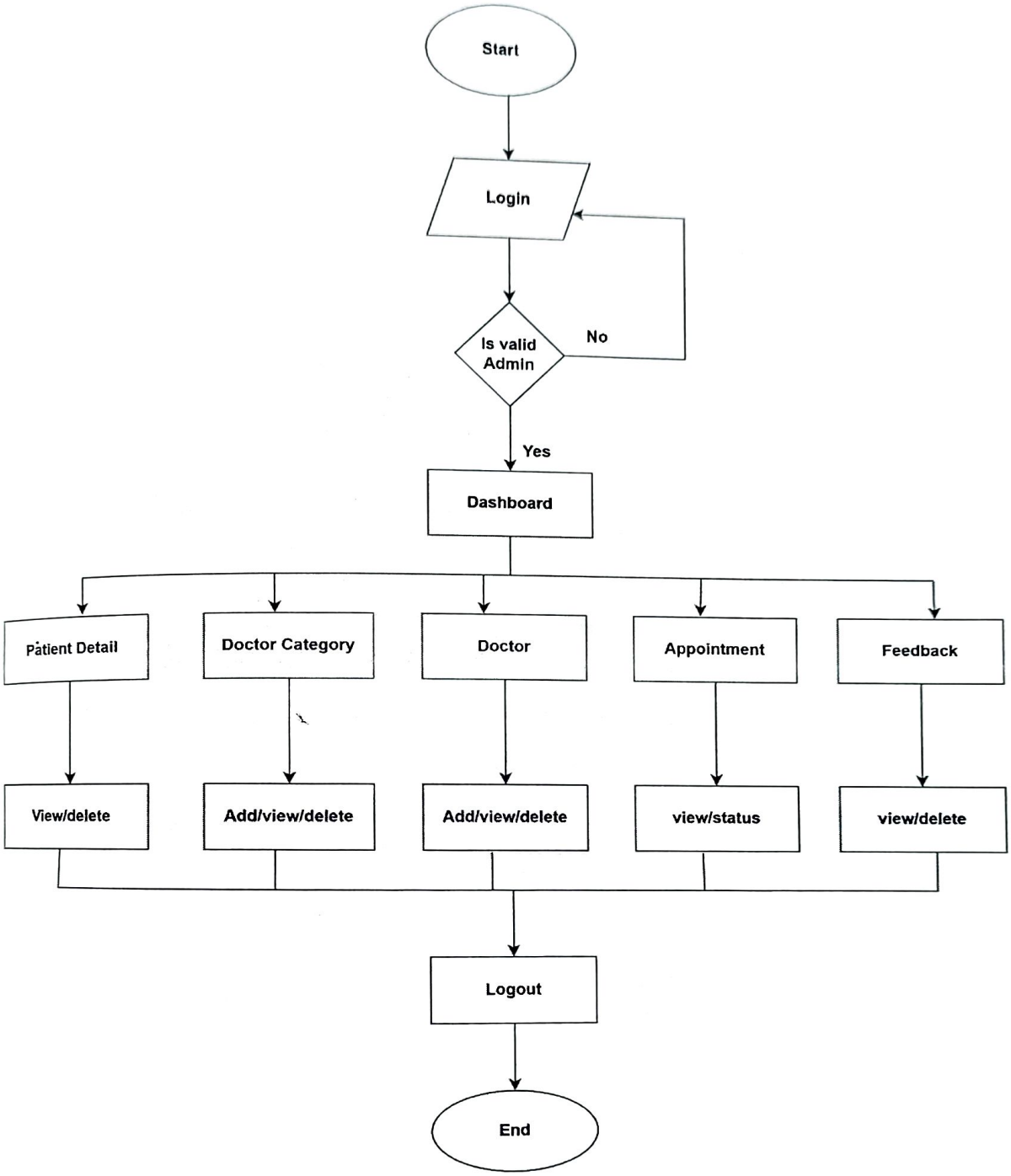


2.3.2 Level One (DFD): -



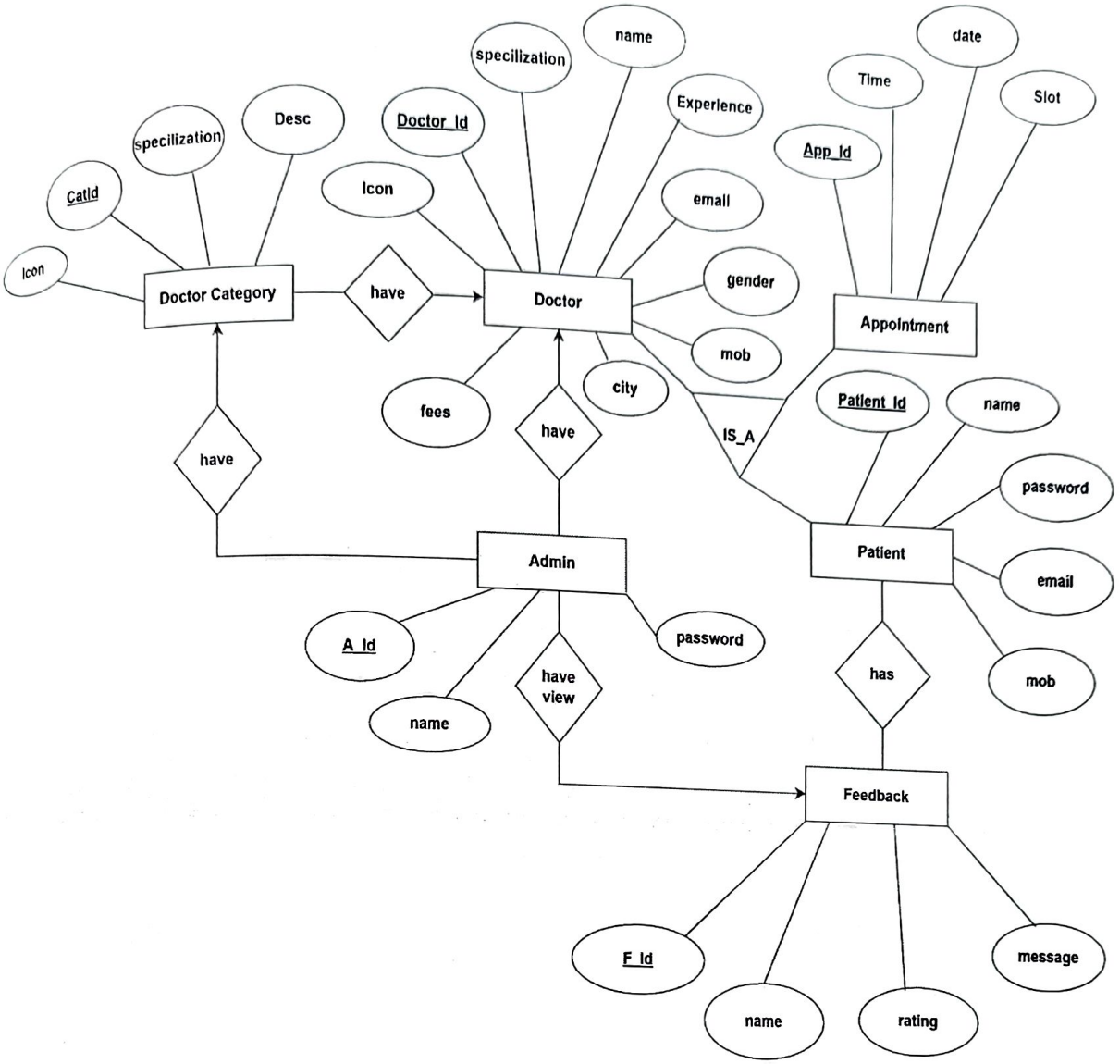
CHAPTER :3 SYSTEM DESIGN

3.1 System flow: -



3.2 Use case diagram: -

3.3 E_R Diagram: -



CHAPTER: 4 TESTING

Testing is the process of assessing a system or program to find flaws, faults, malfunctions, and other problems that could compromise its functionality, quality, or dependability. It entails comparing the application's intended and actual results, as well as executing it in a controlled environment to ensure that it operates as expected. Testing's primary goal is to confirm that the program satisfies the needs and guidelines provided by its clients or users and that it operates consistently, dependably, and effectively to carry out the activities for which it was created. Thus, in order to determine whether or not the produced system satisfies the criteria, we are employing a variety of testing techniques.

4.1 Unit testing: -

To make sure everything was functioning, we tested each and every tiny component of the project separately using unit testing. To do the testing, we employed various test datasets. We attempt every conceivable input to verify that the accompanying outputs function as intended. These tests were run on the admin login, add category, add exam, add questions, and other units that were still unfinished. Additionally, we tested the entire admin module.

Test Case ID	Section	Element Name	Data Test	Result expected	Actual result	Test result
TC-001	Admin Login	Name, password	No Data	Error message displayed.	Please fill out the field.	Test case passed.
			admin@gmai ....., **********, (Incorrect Data)	message displayed.	Invalid email and password	Test case passed.
			admin@gmai ....., **********, (Correct Data)	message displayed.	Login successfully	Test case passed.
TC-002	Add Category	CatName, Icon, descriptio n	No Data	Error message displayed.	Please fill out the field.	Test case passed.

			Icon.jpg, Computer, this is for only testing purpose.	No error message displayed.	Data inserted without any message.	Test case passed
TC-003	Add Doctor	Icon, mob, email, dob, category, city, Exp, description, fees.	Icon.jpg, ReactJS, this is for only testing purpose..60	No error message displayed.	Data inserted successfully.	Test case passed

4.2 Compatibility testing: -

Compatibility testing refers to the process of testing its compatibility across different platforms, devices, browsers, operating system, and network environments. The objective is to ensure that the website functions work properly and consistently for users.

Test Case ID	Element Name	Element Type	Test Condition	Expected Result	Actual Result	Test Result
TC-001	Device Compatibility	Responsiveness on different devices	Verifying the responsiveness of gadgets, such as laptops, tablets, and smartphones	Website will adapt different screen sizes on different devices without any disbalancing	As expected, the website is full responsive and working perfectly	Test case passed
TC-002	Operating System	Checking website behavior on different operating systems	Working on different Operating Systems e.g., Android systems, macOS, iOS, Windows, etc.	There shouldn't be any changes in website Designing, Working, Accessibility and Performance speed, while switching the Operating System	Compatibility as Expected, The Website is working all same even on different Operating System expect Linux operating system	Partially Passed

	End-user Security	Data Security	Testing security measures of users	The logged in user will be able to see his/her own details related information only or correct user-profile is opened for user while logging in	As Expected. Details of login Email is shown. no details of other user is visible to all. Hence Secured	Test case passed

4.3 Function testing: -

We make sure that every component of the Swastika doctor appointment system functions as it should. Check, for instance, that the administrator can access various features, like seeing users, deleting users, adding doctors, and so more.

Check to see if the administrator can log in using their credentials. procedures for logins to guarantee panel administrators can access it safely. Test the procedure that involves the user-created appointment, which includes picking the right time slot and length of time.

Analysis of Requirements:

Recognize the system's functional needs for scheduling doctor's appointments. Examine the use cases, user stories, and system specifications to determine which important features require testing.

Planning Tests:

For every functional area, create a test plan that includes the objectives, scope, testing strategy, and test cases. Establish the hardware, software, and data requirements for the testing environment. For testing activities, assign resources and establish roles and duties.

Test Case Structure:

Based on the system specs, create thorough test cases for every functional requirement. Make sure that boundary conditions, error handling scenarios, and positive and negative scenarios are covered by the test cases.

In every test case, include preconditions, test procedures, anticipated outcomes, and any test data that is required.

4.4 Recovery testing: -

Software testing that evaluates how well a system recovers from mistakes or interruptions is referred to as. tests for recovery. Making that the program can continue as usual and recover gracefully in the event of unanticipated events, such as hardware failures, network outages, software crashes, or other system issues, is the main objective of recovery testing.

Make that there is no data loss or corruption during the recovery process and that data integrity is preserved. Verify that all appointments, patient records, and system configurations are appropriately restored by doing data consistency tests both before and after the recovery.

CHAPTER:5 IMPLEMENTATION

Firstly, we need to install some IDE and other software for implementing our project successfully which are as follows: -

5.1 Visual Studio code: -

a. Visit the Visual Studio official website: Get Visual Studio Code for Windows, Linux, and Mac.

b. Select the Visual Studio version that corresponds to your operating system (e.g., Windows, macOS, Linux) by clicking the "Download " button.

c. Select the languages, frameworks, and tools that you wish to install.

d. Click "Install" to begin the installation process, then follow the installation wizard's instructions to install this.

e. Choose the options that best fit your needs by following the installation wizard's instructions.

f. Press the "exit" button.

5.2 Mongo DB: -

a. Navigate to the MongoDB Community Server Download page on the official MongoDB website.

b. Using the website, choose the appropriate MongoDB version based on your operating system (e.g. Windows, macOS, or Linux).

c. To begin the download, click the "Download" button.

d. After the download is finished, launch the installer and follow the installation wizard's instructions, making the appropriate selections. Additionally, be sure to check the Compass Installation box, which opens a MongoDB management GUI.

5.3 Node JS: -

a. Visit the Node.js official website: Get Node.js here.

b. Choose the Node.js version that is compatible with your operating system (e.g., Windows, macOS, or Linux).

c. To begin the download, click the "Download" button.

d. Launch the installer after the download is finished. Choose the options that best suit your needs by following the installation procedure.

e. After the installation is finished, you can verify that Node.js is installed correctly by opening a terminal or command prompt and typing node -v. This should show the latest version of Node.js that you installed, indicating that the installation was successful.

f. To verify that Node.js is installed correctly, you can open a terminal or command prompt when the installation is finished and execute node -v. This should show the latest version of Node.js that you installed, indicating that the installation was successful.

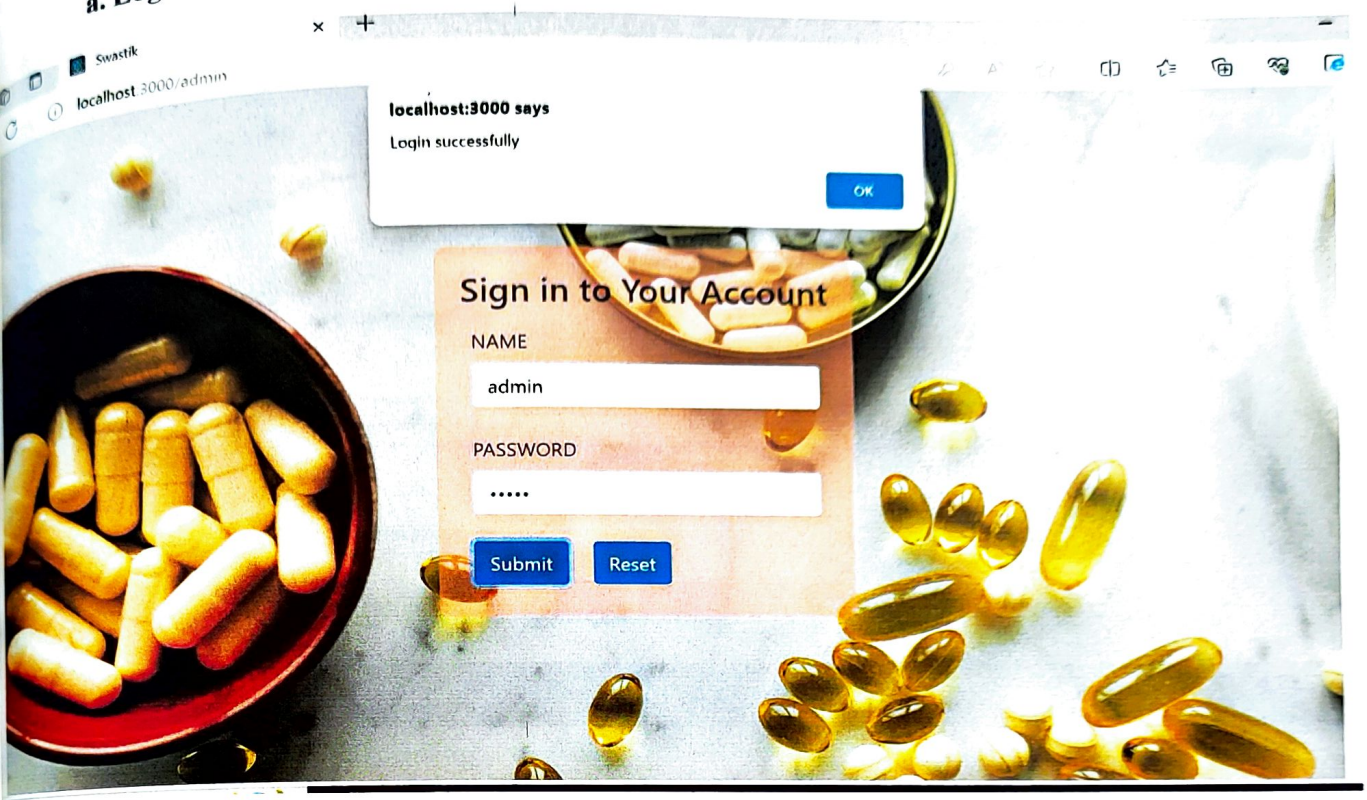
Standard MERN Modules and Libraries (Express.js, React.js, Node.js, MongoDB) Stack Utilized in Projects:

a. **React.js:** An interactive and reusable component creation tool for JavaScript user interface development.
b. **node.js:** A runtime environment that enables the building of scalable and fast backend applications by running JavaScript code on the sever side.
c. **mongoose:** An ODM (Object Data Modeling) module for MongoDB that offers a simple interface for defining data structures and interacting with the database
d. **Bcrypt:** A password hashing and encryption library that is frequently used for safe password storing and verification.
e. **cors:** A middleware for Express.js that permits Cross-origin Resource sharing (CORS), Which is necessary to manage requests from the frontends to the backend in a MERN application. It permits regulated access to resources from many origins.
f. **dotenv:** A module that allows the safe and practical configuration of application settings and sensitive data by loading environment variables from a.env file into process.env.
g. **Axios:** A well-known HTTP client library that makes asynchronous HTTP requests from Node.js and browsers easier to make.
h. **React Router:** A React routing module that facilitates routing navigation inside a single-page

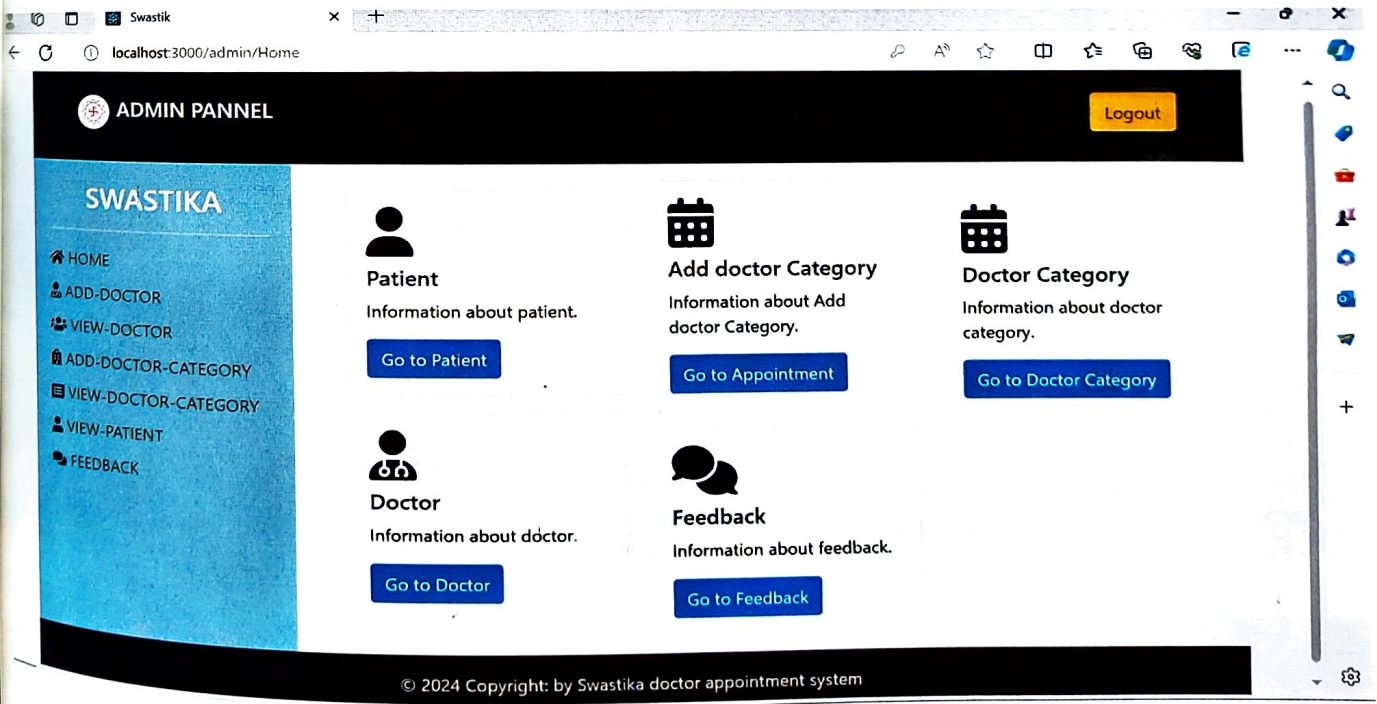
application, enabling components to be dynamically rendered according to the URL.

CHAPTER :6 SAMPLE FORMS AND REPORTS

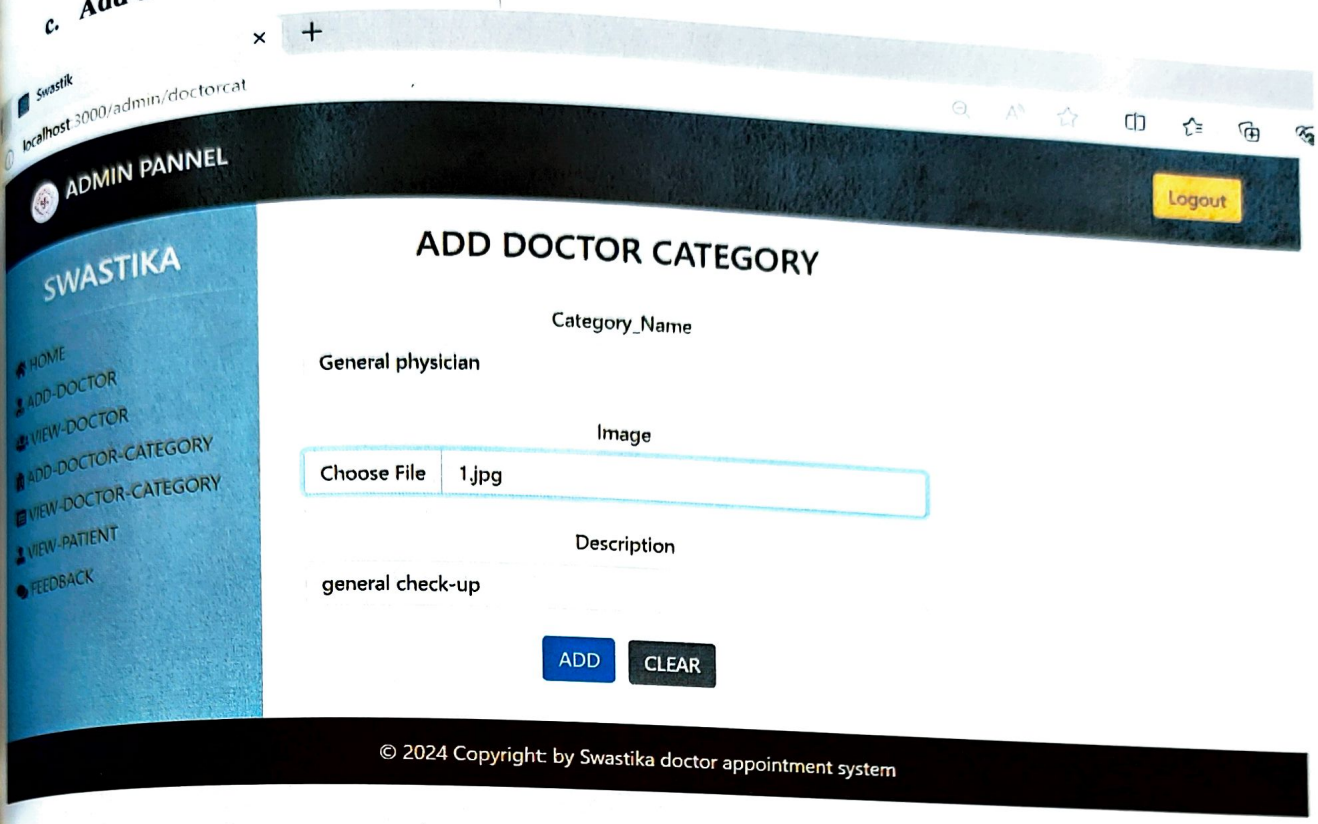
a. Login Page



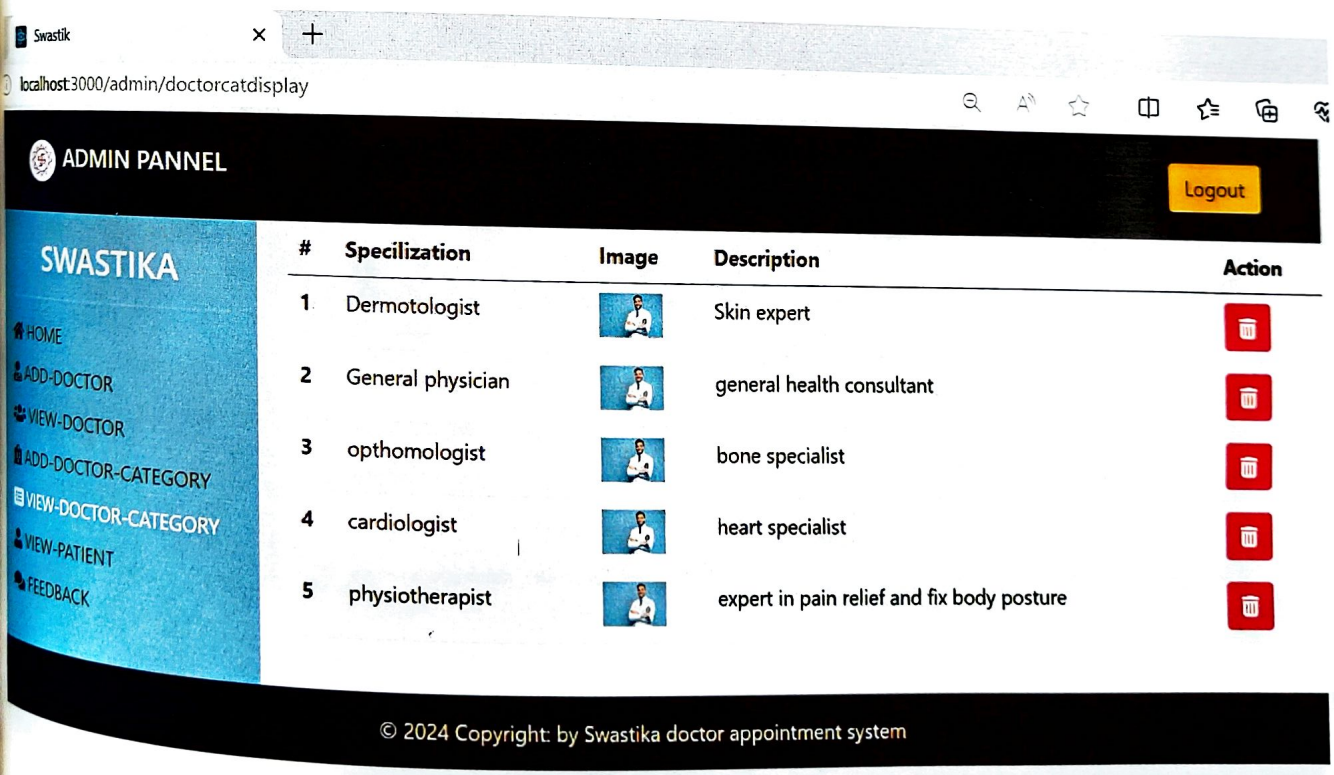
b. Admin Dashboard Page



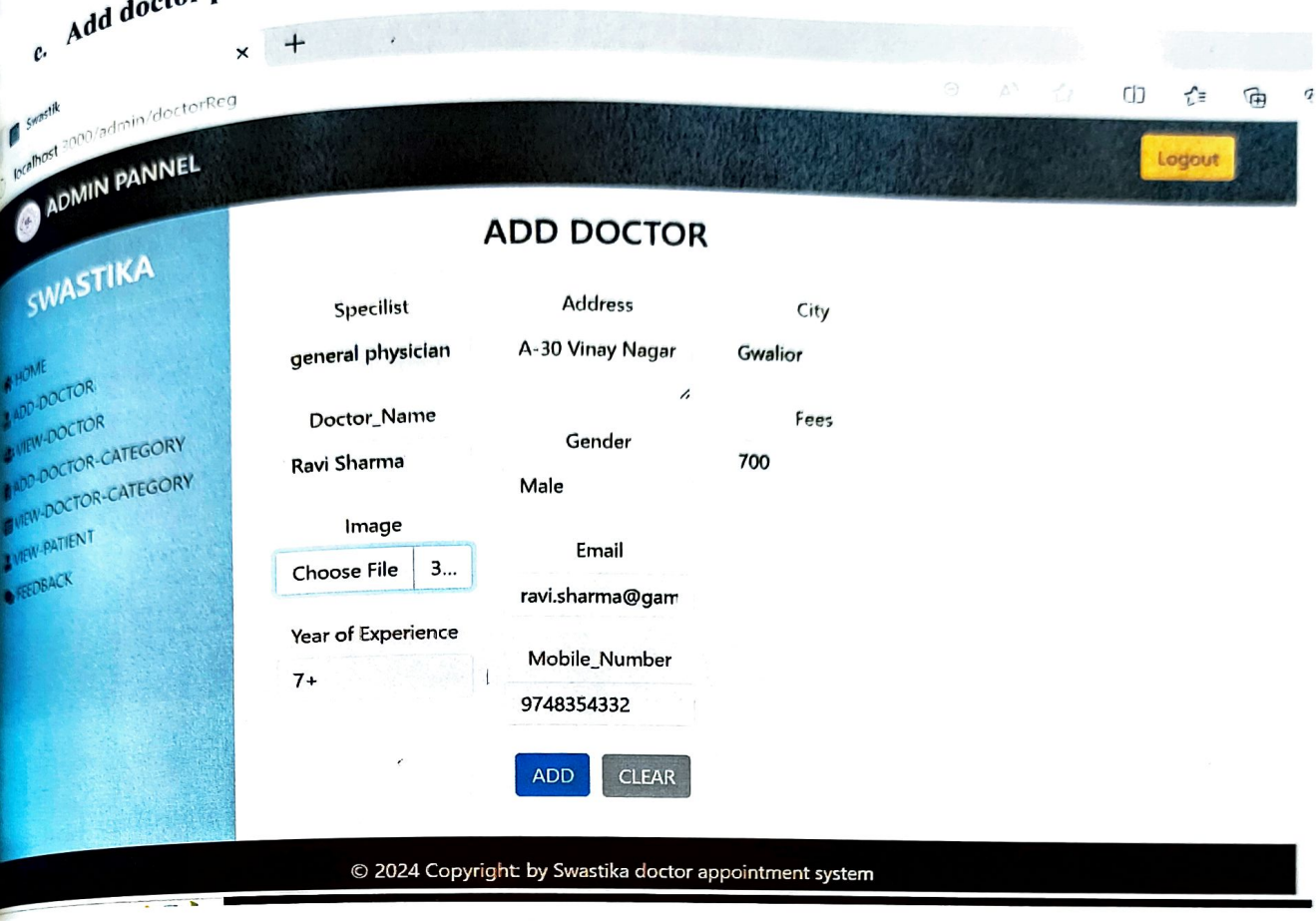
c. Add doctor category page



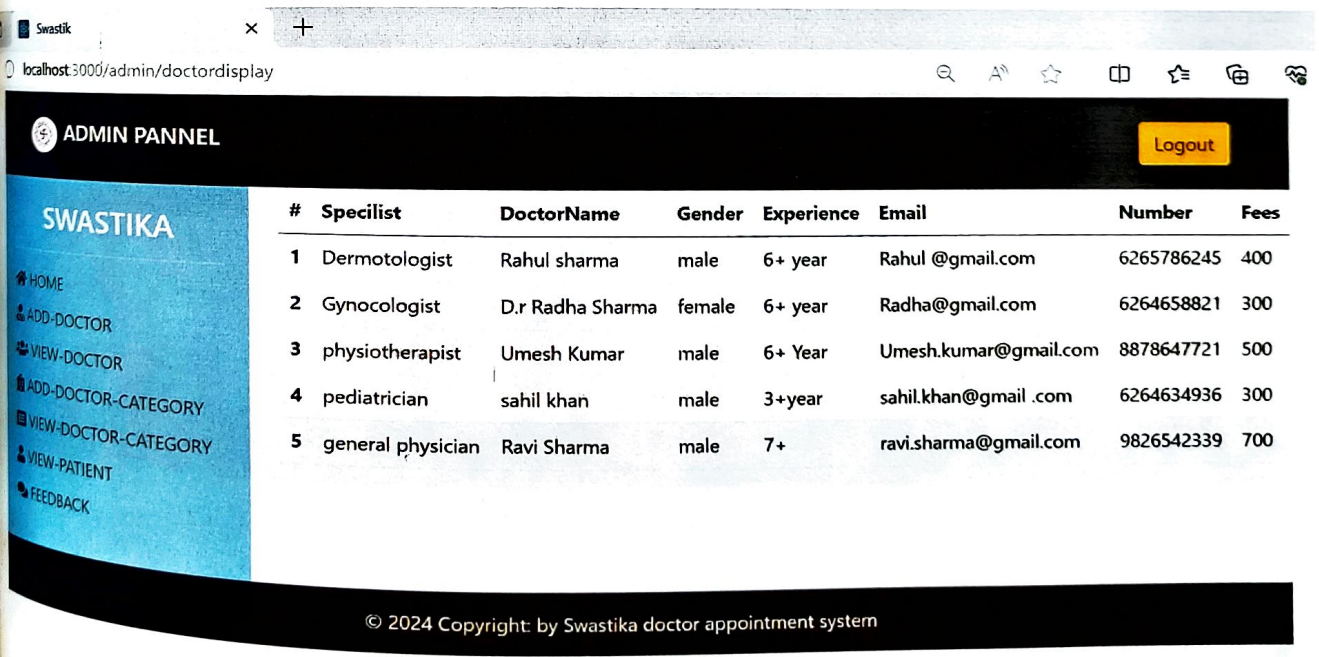
d. Display doctor category page



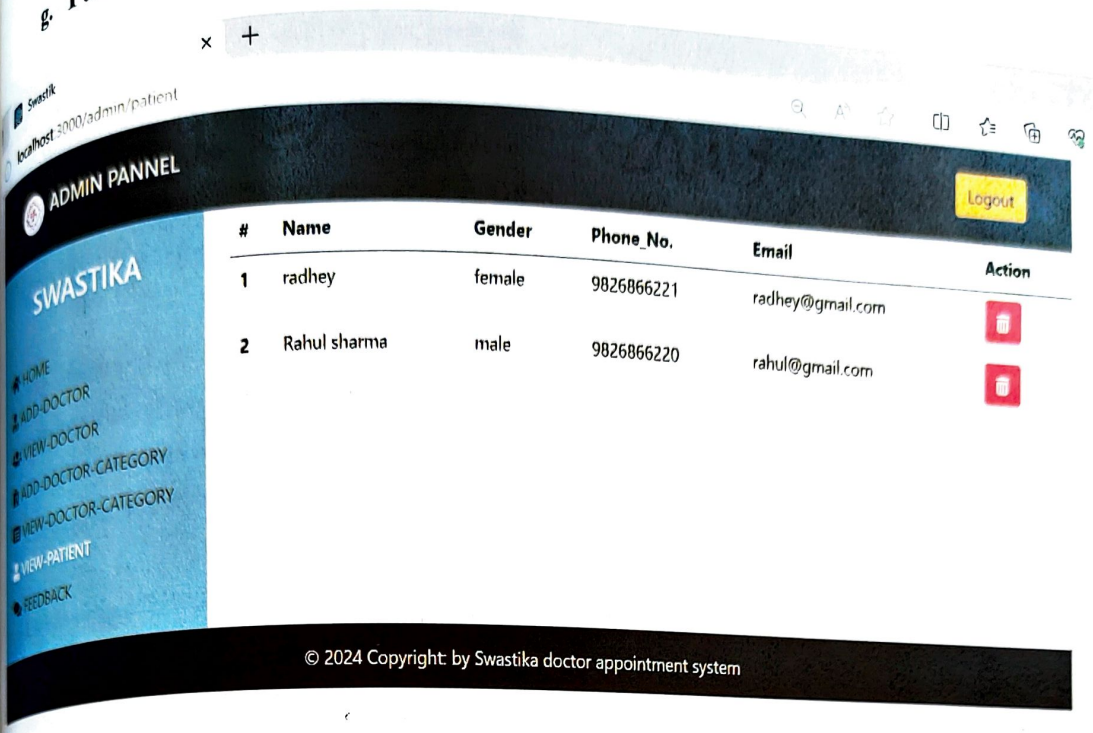
e. Add doctor page



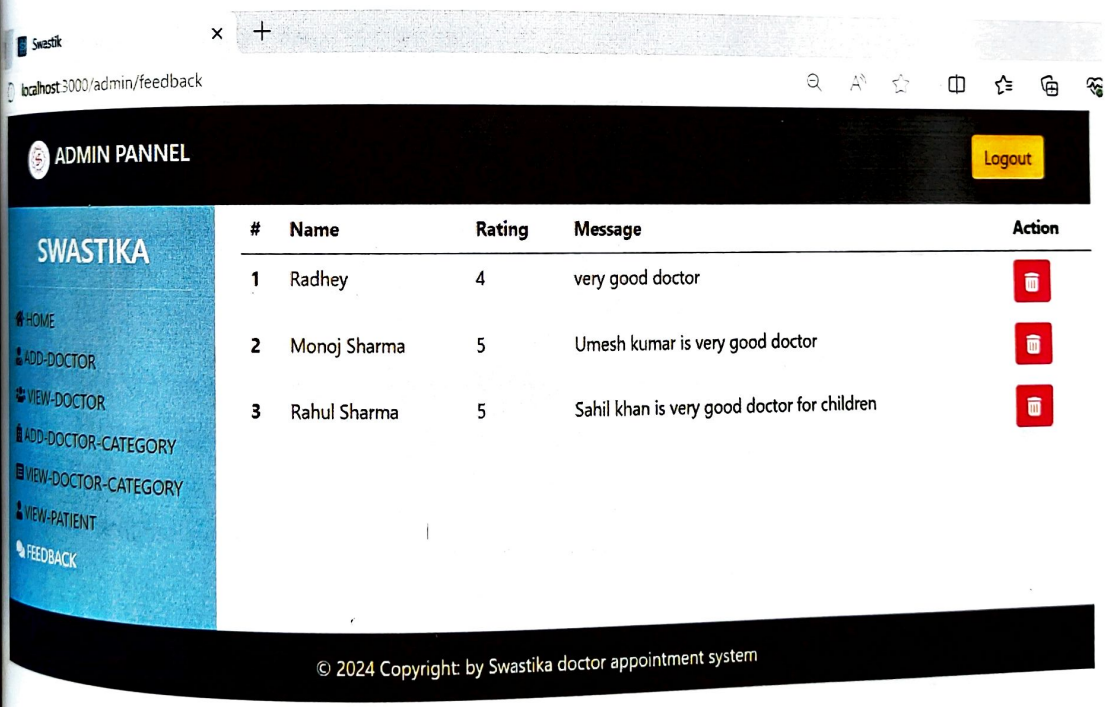
f. Add doctor display page



g. Patient view page



h. Feedback Page



CHAPTER:7 CONSCLUSION AND FUTURE SCOPE

In conclusion, the Swastika doctor appointment system stands as a transformative solution to the challenges inherent in traditional healthcare appointment management. Through the systematic design, development, and implementations of this system, we have addressed critical issues such as appointment inefficiencies, limited accessibility, and operational burdens on healthcare providers.

The creation of the Doctor Appointment System admin site is a major step toward streamlining the appointment-scheduling and management process for patients and healthcare providers alike. By providing administrators and medical personnel with strong capabilities to manage appointment scheduling, monitoring, and analysis, this consolidated platform improves the overall efficacy and efficiency of healthcare delivery.

I made every effort to design the system in a way that would be most appropriate, practical, and simple for the administrator to utilize. Users with varying privileges can readily access the information they expect. This program is web-based and may be used via the internet from any computer in the user's network. To ascertain the system's versatility, I have evaluated it using a number of methods. I made an attempt to create automated medical appointment and assistance scheduling systems.

Administrators can easily manage doctor availability, allocate appointment slots, and monitor appointment bookings in real-time, ensuring optimal resource utilization and minimizing scheduling conflicts. Patients gain from the system's accessibility and convenience because it makes it simple for them to schedule appointments online whenever it's convenient for them to do so rather than by phone or in person. This flexibility accommodates busy schedules and empowers patients to take control of their healthcare appointments with ease.

Additionally, the Doctor Appointment System offers extra features designed to enhance the patient experience in general, going above and beyond standard appointment scheduling. For example, it might incorporate telemedicine features, which would enable patients to arrange online consultations with medical professionals from the comfort of their homes.

In order to guarantee the confidentiality and integrity of patient information at all times, the system also places a high priority on data security and adherence to healthcare legislation. Through the use of technology

The Doctor Appointment System is an excellent example of our dedication to using innovation to address the changing demands of healthcare providers and patients in the digital age. It streamlines administrative procedures and improves patient access to care.

The Doctor Appointment System can be improved and expanded in a number of ways to better meet the needs of patients and healthcare professionals and to keep up with the changing healthcare environment. The following are some possible areas for further development:

a. **Integration with Electronic Health Record (EHR) Systems:** Explore opportunities to integrate the appointment system with existing EHR platforms to streamline patient information management and improve continuity of care. This integration would enable healthcare providers to access relevant patient data during appointment scheduling and enhance decision- making processes.

b. **Improved Patient Communication Features:** Put in place tools that let patients and healthcare professionals communicate safely and individually, like post-visit follow-ups, medication alerts, and appointment reminders. Better patient participation and adherence to treatment programs result from this, which eventually improves health outcomes.

c. **Integration of Telehealth**: Increase the appointment system's capacity to accommodate telehealth appointments, enabling patients to arrange online consultations with medical professionals. This makes it possible for people who live in rural places or have limited mobility to get healthcare services remotely.

d. **Real-Time Availability Updates:** Develop functionality that provides real-time updates on doctor availability, allowing patients to see current appointment slots and book appointments instantly. This reduces wait times and improves patient satisfaction by offering greater flexibility and convenience.

e. **Patient Feedback and Satisfaction Surveys:** Implement tools for collecting patient feedback and satisfaction surveys following appointments, enabling healthcare providers to gather valuable insights into patient experiences and identify areas for improvement. This feedback loop fosters continuous quality improvement and strengthens patient-provider relationship

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Summary

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Name of student	Mohit Sharma		Department	MCA	
Industry/Organization	Praedico global PVT LTD		Date/Duration	01/01/2024 – 05/05/24	
Criterion	**Poor**	**Average**	**Good**	**Very Good**	**Excellent**
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation				✓	
Performance/Quality of work			✓		
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work			✓		
Comment on nature of work done/Area/Topic	Learn HTML, CSS and JavaScript.				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
Name of Industry Mentor	Sweety Gupta				
Signature of Industry Mentor					

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Receiving Date	23/4/24	Name of Faculty Mentor	D.r anshyo chaturvedi	Sign	

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FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	Mohit Sharma		Department	MCA	
Industry/Organization	Praedico Global Research Pvt. Ltd.		Date/Duration	16/01/24 - 31/01/24	
Criterion	**Poor**	**Average**	**Good**	**Very Good**	**Excellent**
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation			✓		
Performance/Quality of work				✓	
Behaviour/Discipline/Team work			✓		
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	Learn BootStrap, Advance Javascript (ES6), Introduction of React				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
Name of Industry Mentor	Sweety Gupta				
Signature of Industry Mentor	Gupta				

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Name of student	Mohit Sharma		Department	MCA	
Industry/Organization	Praedico Global Research Pvt. Ltd.		Date/Duration	02/02/24 - 15/02/24	
Criterion	**Poor**	**Average**	**Good**	**Very Good**	**Excellent**
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation			✓		
Performance/Quality of work				✓	
Behaviour/Discipline/Team work			✓		
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	React setup, components, Hooks, Props and React Bootstrap Integration				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT** ✓				
Name of Industry Mentor	Sweety Gupta				
Signature of Industry Mentor	Gupta				

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Name of student	Mohit Sharma		Department	MCA	
Industry/Organization	Praedico Global Research Pvt. Ltd.		Date/Duration	16/02/24 - 29/02/24	
Criterion	**Poor**	**Average**	**Good**	**Very Good**	**Excellent**
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation			✓		
Performance/Quality of work				✓	
Behaviour/Discipline/Team work			✓		
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	Working on frontend Development using React and Bootstrap				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
Name of Industry Mentor	Swekty Gupta				
Signature of Industry Mentor					

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Industry/Organization	Praedico Global Research Pvt. Ltd.		Date/Duration	01/03/24 - 15/03/24	
Criterion	**Poor**	**Average**	**Good**	**Very Good**	**Excellent**
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Learning capacity/Knowledge up gradation				✓	
Performance/Quality of work			✓		
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	Worked on NodeJS, ExpressJS MongoDB for Backend & DataBase				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
Name of Industry Mentor	Sweety Gupta				
Signature of Industry Mentor	Gupta				

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Learning capacity/Knowledge up gradation					✓
Performance/Quality of work				✓	
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work					✓
Comment on nature of work done/Area/Topic	Worked on project using MERN Technology.				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
Name of Industry Mentor	Sweety Gupta				
Signature of Industry Mentor	Gupta				

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Punctuality/Timely completion of assigned work					✓
Learning capacity/Knowledge up gradation				✓	
Performance/Quality of work					✓
Behaviour/Discipline/Team work					✓
Sincerity/Hard work					✓
Comment on nature of work done/Area/Topic	Worked on Project				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT** ✓				
Name of Industry Mentor	Sweety Gupta				
Signature of Industry Mentor	Gupta				

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