

DOCTOR AVAILABILITY AND APPOINTMENT USING DIGITAL TECHNOLOGY

Sugashini K^{*1}, Anila PS^{*2}, Samrutha RS^{*3}, Santhosh S^{*4}

^{*1,2,3,4}Information Technology, Sri Shakthi Institute Of Engineering And Technology, India.

ABSTRACT

The Doctor Appointment Booking System is a comprehensive and user-friendly digital platform designed to streamline and enhance the process of scheduling and managing medical appointments. In today's fast-paced world, efficient healthcare services are crucial, and this system aims to bridge the gap between patients and healthcare providers by offering a convenient and accessible solution.

This project helps a certain medical establishment such as a clinic or a hospital clients/patient to request an appointment with a doctor online. This system allows patients to easily browse through a database of doctors, view their profiles, specialties, availability, and book appointments at their preferred date and time. This doctor's appointment system will organize the schedules of each patient's appointment, which will be submitted as a request to the doctor they have selected. The system has 3 sides which are the administrator, the doctor, and the patient.

The system admin will populate the list of the doctors with their specialties and along with the doctor's details and system credentials. The patients will browse the doctor's appointment system website to find a doctor that has the specialty of their needs. The patient can check the doctor's weekly schedule to help them to choose the day and time which they can comply for the appointment and they will submit their request for an appointment. After that, the doctors can view all their appointments and the appointment request of the patients for their availability. It offers healthcare providers a robust tool for efficiently overseeing their appointment schedules, so reducing administrative workload and ensuring a seamless patient-experience.

I. INTRODUCTION

In our fast-paced and digitally driven world, the healthcare landscape is continually evolving to meet the ever-growing demands of patients and providers. An integral part of this evolution is the Doctor Appointment System, a modern and innovative solution designed to facilitate the booking and management of medical appointments. This system represents a significant shift away from traditional appointment scheduling methods, offering numerous benefits for both patients and healthcare providers. The Doctor Appointment System harnesses the power of technology to simplify the process of booking appointments with healthcare professionals. It aims to eliminate the common associated with appointment scheduling, such as long wait times, overburdened administrative staff, and miscommunications. It empowers patients to take control of their healthcare by providing them with a user-friendly platform that allows them to access information about doctors, their specialties, and real-time appointment availability.

Real-time availability information allows patients to select appointment times that best suit their schedules, minimizing wait times and optimizing the use of healthcare resources. The Doctor Appointment Booking System not only simplifies the appointment scheduling process but also enhances the patient experience, improves healthcare providers' efficiency. Thus, it makes healthcare more accessible, convenient and effective.

1.1 HYPERTEXT PREPROCESSOR

1.1.1 About PHP

PHP is a general-purpose scripting language geared towards web development. It is open-source environment that it is readily available and free. PHP is perfectly suited for Web development and can be embedded directly into the HTML code. On a web server, the result of the interpreted and executed PHP code which may be any type of data, such as generated HTML or binary image data would form the whole or part of an HTTP response. The PHP syntax is like perl and C. Its ability to interact with databases, including popular choices like MySQL, allows for the storage and retrieval of data, making it a go-to solution for content management systems, e-commerce platforms, and a wide array of web-based services.

Server-side scripting

PHP is a widely-used server-side scripting language that plays a pivotal role in web development. As a server-side scripting language, PHP is executed on the web server to generate dynamic web content, interact with databases, and facilitate various server-related tasks. Operating on the server side, PHP processes user requests, and the resulting HTML or content is sent to the user's browser.

PHP has a large and active community of developers. There is a wealth of documentation, open-source libraries, and frameworks available, such as Laravel and Symfony, which facilitate web application development. Its simplicity, compatibility with databases, and extensive community support have made it a popular choice for building dynamic and interactive web applications. It remains a significant player in the web development ecosystem.

Command line scripting

Command line scripting in PHP allows developers to extend the language beyond web applications, empowering them to create versatile and efficient scripts for various purposes. With PHP's command line interface (CLI), it becomes a powerful tool for automating tasks, processing data, or even building complex system applications.

Command line scripts are written and executed directly in the terminal or console, providing a means to interact with the server or computer at a deeper level. The versatility of PHP in command line scripting is a testament to its adaptability, ensuring that it remains relevant not only in web development but also as a valuable tool for system administration, data analysis, and automation in a broader computational context.

1.1.2 Features of PHP

Open Source:

PHP is an open-source language, which means it is freely available for anyone to use, modify, and distribute. This fosters a large and active community of developers and contributors.

Cross-Platform:

PHP is cross-platform, allowing it to run on various operating systems like Windows, Linux, macOS, and more. This versatility makes it a convenient choice for web developers.

Simplicity:

PHP's syntax is relatively easy to learn and understand, making it accessible for developers of different skill levels. It shares similarities with C and other popular programming languages.

Server-Side Scripting:

PHP is primarily a server-side scripting language. This means that it is executed on the web server, processing requests and delivering dynamic content to the user's browser.

Database Integration:

PHP offers strong support for connecting to databases. It is often used with database management systems like MySQL, enabling the creation of data-driven web applications.

Community and Support:

PHP has a large and active community of developers who provide extensive documentation, forums, and resources. This community-driven aspect ensures continuous support and development.

Security:

While PHP itself is secure, security issues can arise due to poor coding practices. Developers need to follow security best practices to prevent common vulnerabilities like SQL injection and cross-site scripting (XSS).

Real-Time Applications:

While PHP is not typically used for real-time applications, it can be combined with technologies like JavaScript and Web Sockets to create real-time features in web-applications.

1.1.3 MYSQL

About MySQL

MySQL is an open-source relational database management system (RDBMS) that is widely used for storing and

managing structured data. It is a critical component in the development of dynamic web applications, content management systems, e-commerce platforms, and many other software systems.

MySQL's relational database structure facilitates efficient data storage, retrieval, and manipulation, employing the universally recognized Structured Query Language (SQL).

MySQL's ACID compliance guarantees data consistency and reliability, while its support for stored procedures and triggers allows developers to encapsulate business logic within the database. Its cross-platform compatibility ensures adaptability to diverse operating systems, and a rich ecosystem of features, including replication, clustering, and robust security mechanisms, makes it suitable for projects of all scales.

1.1.4 Features of MYSQL

Client/server Architecture:

MySQL is a client/server system. There is a database server (MySQL) and arbitrarily many clients (application programs), which communicate with the server. The clients can run on the same computer as the server or on another computer.

Relational Database:

MySQL is a relational database management system (RDBMS) that organizes data into tables with rows and columns, allowing for efficient data storage and retrieval.

SQL Compatibility:

As before said SQL is a standardized language for querying and updating data and for the administration of a database. Through the configuration setting `sql_mode` we can make the MySQL server behave for the most part compatibly with various database systems.

Platform independence:

MySQL can be executed under several operating systems. The most important are Apple Macintosh OS X, Linux, Microsoft Windows, and the UNIX.

High Performance:

MySQL is known for its high performance and efficient data handling. It can manage large datasets and handle complex queries, making it suitable for demanding applications.

Scalability:

MySQL can scale to meet the needs of applications, from small personal projects to large-scale enterprise systems. It offers various features for replication, clustering, and partitioning to ensure scalability.

Data Types:

MySQL supports a wide range of data types, including integers, floats, strings, dates, and more, allowing developers to store and manipulate diverse data efficiently.

Data Security:

MySQL provides robust security features, including user authentication, authorization, and encryption, to protect data from unauthorized access and ensure compliance with security standards.

II. LITERATURE REVIEW

2.1 IMPLEMENTATION OF OUR SYSTEM USING PHP

The implementation of a Doctor Appointment System using PHP has garnered significant attention in the healthcare sector. This review delves into existing literature to shed light on the multifaceted aspects of these systems. PHP, with its web-based capabilities, has emerged as a preferred choice for building the backend of such systems. Research has shown that Doctor Appointment Systems developed using PHP offer various advantages. They enhance communication between patients and healthcare providers, streamline administrative tasks, and significantly improve the overall healthcare experience (Aigbavboa et al., 2018). These systems empower patients by providing timely and accurate information about their medical records, appointment schedules, and test results, thus improving their experience and engagement with healthcare services.

The backend of a Doctor Appointment System is pivotal for its seamless operation, and PHP plays a prominent

role in this regard. PHP is a server-side scripting language known for its web-based capabilities, making it an ideal choice for handling operations like database integration, data processing, and interaction with the front-end. The official PHP documentation, available on websites such as PHP.net and PHP Manual, provides valuable resources for developers (PHP.net - The PHP community website, PHP Manual - The official documentation for PHP). Continual research and innovation are essential for the continuous improvement of these systems (Future research should continue to explore the impact of PHP-based Doctor Appointment Systems on healthcare service delivery and to investigate the potential of emerging technologies in healthcare).

2.2 DATABASE CONNECTION TO SYSTEM USING MySQL

Several studies have shown that SMS can have a positive impact on academic performance. For example, Osman et al. (2020) found that SMS improved students' attendance rates, resulting in improved academic performance. In our system, the literature review suggests that SMS is a valuable tool for educational institutions, but its successful implementation and adoption depend on adequate resources, stakeholder involvement, and effective training. We used javascript.info website to refer the concepts of java script related activities in our system. There are many websites that provide useful MySQL reference materials for projects. Here are some of the most used ones in our project

1. MySQL Official Documentation:

The official documentation for MySQL is available on the MySQL website. It includes everything from installation and configuration guides to advanced query techniques and performance tuning.

2. W3Schools MySQL Tutorial:

W3Schools is a popular online learning platform that provides tutorials on various programming languages, including MySQL. Their MySQL tutorial covers the basics of the language, as well as more advanced topics.

3. MySQL Cheat Sheet by SQLtutorial.org:

SQLtutorial.org offers a MySQL cheat sheet that provides a quick reference for common MySQL commands and syntax. It is a handy resource for developers who need to quickly look up a command or function.

4. MySQL Forums:

The MySQL Forums are a great resource for developers who need help with specific MySQL-related issues.

III. SYSTEM STUDY

3.1 EXISTING SYSTEM

The existing Doctor appointment system relies on manual processes and in person interactions for scheduling and managing patient appointments. Patients typically call the healthcare facility to book their appointments, engaging with receptionists or administrative staff who manually check for available slots and make the reservations. Appointment details are often recorded in paper appointment books or records, and patients are provided with physical appointment cards as reminders. In this system, patients are required to physically visit the healthcare facility, wait in waiting rooms, and check in at the reception desk on the day of their appointments. As healthcare facilities expand or the patient population grows, the traditional appointment system may struggle to scale effectively. The manual processes become increasingly burdensome, and maintaining paper records can become impractical. Traditional systems often provide limited flexibility in terms of rescheduling or canceling appointments. Patients may need to make additional phone calls to change their appointments, and rescheduling is subject to staff availability. Access to patient information is often limited during the scheduling process, and scheduling flexibility may be restricted. This approach can result in challenges such as missed appointments, resource allocation inefficiencies, a heavy administrative workload for healthcare staff, and limitations in scalability. While this traditional method has been in use for many years, the advent of digital technology has ushered in more efficient and patient-centric alternatives for appointment management, such as online scheduling, electronic health records, and automated reminders, which have become increasingly popular in modern healthcare systems.

3.2 DISADVANTAGES OF EXISTING SYSTEM

Existing doctor appointment systems, whether traditional or digital, can have several disadvantages, which can impact both patients and healthcare providers. Here are some common disadvantages associated with these

systems:

Limited Availability:

Traditional systems may only allow appointment scheduling during working hours, inconveniencing patients who need to schedule appointments outside these times.

Difficulty in Rescheduling:

Traditional systems can make it challenging for patients to reschedule or cancel appointments without making additional phone calls or incurring penalties.

Time-Consuming:

Traditional manual appointment scheduling is time-consuming for administrative staff, which can lead to inefficiencies and potential errors.

Resource Allocation:

Resource allocation can be challenging, with facilities sometimes over-allocating staff and equipment for appointments that result in no-shows.

Communication Breakdown:

In traditional systems, communication is primarily through phone calls or face-to-face interactions, which can result in communication breakdowns, missed calls, or long hold times.

Inefficient Record-Keeping:

Traditional systems often rely on paper records for appointment scheduling, which can be prone to errors, damage, or loss. Paper records also require physical storage space.

Data Privacy:

In traditional or digital systems, there can be concerns regarding the security and privacy of patient information, especially if robust security measures are not in place.

Inconvenience:

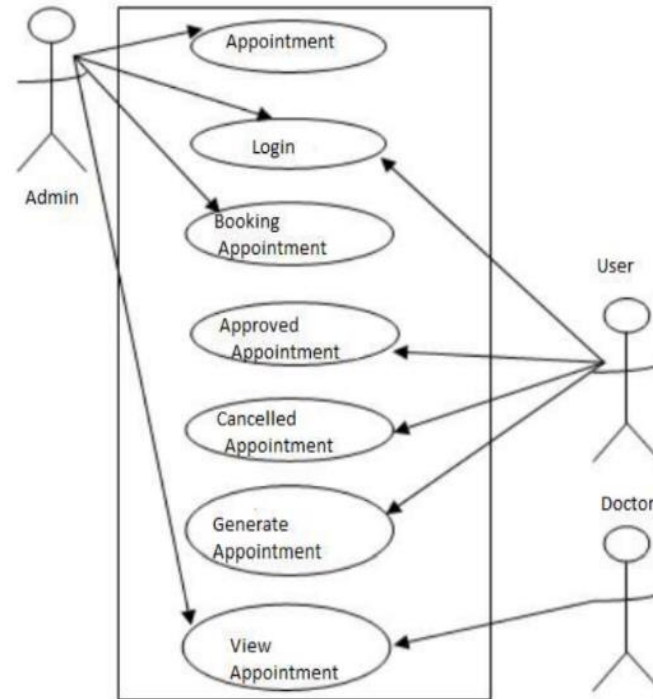
Patients may find traditional systems less convenient, as they require in-person visits or phone calls for scheduling, which can be time-consuming and less patient-friendly.

IV. PROPOSED METHODOLOGY

4.1 PROPOSED SYSTEM

A proposed doctor appointment system represents an advanced and user-friendly solution designed to address the limitations of traditional appointment systems and enhance the patient and healthcare provider experience. The purpose of the project is to build an application program to reduce the manual work for managing the Doctors, Appointments and Patients.

This modern system leverages the power of digital technology to offer online appointment scheduling, enabling patients to book appointments 24/7, thus enhancing convenience and reducing the need for time-consuming phone calls. Patient portals are integrated, allowing individuals to access a secure online platform for managing appointments. Resource optimization and advanced scheduling algorithms ensure efficient use of resources, reducing wait times and improving the productivity of healthcare professionals. It not only reduces administrative costs but also significantly improves the patient experience by offering user-friendly interfaces, self-service capabilities, proactive patient experience.



4.2 ADVANTAGES OF PROPOSED SYSTEM

Efficient Appointment Management:

The system streamlines the process of appointment scheduling, making it efficient for both administrators and patients. This efficiency reduces administrative workload

Improved Patient Experience:

Patients benefit from the convenience of making appointments online and viewing their booking history. They can create accounts, book appointments, and manage their schedules with ease.

Enhanced Doctor Productivity:

Doctors can view their appointments, scheduled sessions, and patient details, allowing them to better manage their time and provide more focused care.

Reduced Waiting Times:

Real-time availability and AI-driven scheduling can significantly reduce waiting times for patients, making the scheduling process more patient-centric

Global Accessibility:

The system can be adapted and expanded for use in various healthcare systems worldwide, improving access to care and addressing healthcare disparities.

Security and Privacy:

Implementing strong security measures is crucial, ensuring that patient information is protected and in compliance with data privacy regulations.

4.3 IMPLEMENTATION OF PROPOSED SYSTEM MODULE DESCRIPTION

- ADMIN MODULE
- DOCTOR MODULE
- PATIENT MODULE

4.3.1 ADMIN MODULE:

Admin can login with email and password, through the login page. Admin is the super user of the website who can manage everything on the website.

Administrative Workflow:

1. Manage Doctors:

- Admin logs in to the system.
 - Admin selects the "Manage Doctors" option.
 - Admin can add new doctors by entering their details (name, specialty, contact information) and creating a profile.
 - Admin can edit existing doctor profiles, making changes to their information if needed.
 - Admin can delete doctor accounts if they are no longer part of the healthcare facility.
2. Manage Sessions:
- Admin selects the "Manage Sessions" option.
 - Admin schedules new sessions for doctors by specifying the date, time, and location.
 - Admin can remove scheduled sessions if they need to be canceled or rescheduled.
3. View Patients' Details:
- Admin can access patient records and view their details, including personal information and appointment history.
4. View Bookings:
- Admin can view the booking records of all patients, allowing them to monitor and manage the appointment schedule effectively.

4.3.2 DOCTOR MODULE:

Doctor can login with email and password. This module Allows doctors to manage their profiles, appointments, patient records, and provide medical services.

Doctor Workflow:

1. View Appointments:
 - Doctor logs in to the system.
 - Doctor can view a list of their upcoming appointments, including patient details and appointment times.
2. Scheduled Sessions:
 - Doctors can access their scheduled sessions, ensuring they are aware of their upcoming appointments and availability.
3. View Patient Details:
 - Doctors can access patient records to review their medical history, enabling more personalized care.
4. Edit Account Settings:
 - Doctors can modify their account settings, including contact information and preferences, to keep their profiles up to date.

4.3.3 PATIENT MODULE:

Enables patients to create profiles, book appointments, access appointment history, and interact with healthcare providers.

Patient Workflow:

1. Browse Doctor Availability:
 - Patients log in to the system or create an account.
 - They can browse the profiles of available doctors and their respective schedules, displayed as open time slots.
2. Select a Doctor and Time Slot:
 - Patients select a doctor they wish to see and choose an available time slot from the doctor's schedule.
3. Confirm Appointment:
 - Patients confirm the appointment booking, providing any necessary information or specifying the reason for the visit.

4. View their old booking

- Patients can access their booking history, displaying past and upcoming appointments, for their reference.

4.4 SYSTEM SPECIFICATION

4.4.1 Software requirements

This section gives the details of the software that are used for the development.

- Operating System : Windows 10 /Linux
- Web Browser : Google Chrome
- Coding Language : PHP
- Database : MySQL

4.4.2 Hardware specification

This section gives the details and specification of hardware on which the system is expected to work.

- Processor : Intel (R) core(TM) i3-6100U
- Ram : 4 GB
- Hard Disk : 500 GB

4.5 SOFTWARE DESCRIPTION

4.5.1 PHP

PHP is a general-purpose scripting language geared towards web development . It is open-source environment that it is readily available and free. PHP is perfectly suited for Web development and can be embedded directly into the HTML code. On a web server, the result of the interpreted and executed PHP code which may be any type of data, such as generated HTML or binary image data would form the whole or part of an HTTP response. The PHP syntax is like perl and C. Its ability to interact with databases, including popular choices like MySQL, allows for the storage and retrieval of data, making it a go-to solution for content management systems, e-commerce platforms, and a wide array of web-based services.

4.5.2 MYSQL

A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amount of information in a corporation network. MySQL is an open-source relational database management system (RDBMS) that is widely used for storing and managing structured data. It is a critical component in the development of dynamic web applications, content management systems, e-commerce platforms, and many other software systems.

MySQL's relational database structure facilitates efficient data storage, retrieval, and manipulation, employing the universally recognized Structured Query Language (SQL).

4.5.3 VS CODE

Visual Studio Code (VS Code) is a free, open-source code editor developed by Microsoft. It is widely used by developers and software engineers for writing, testing, and debugging code across multiple programming languages and platforms. VS Code is a lightweight yet powerful tool that provides a user-friendly interface and a wide range of features, including code highlighting, autocompletion, debugging tools, version control integration, and more. It is highly customizable through extensions and themes, allowing developers to tailor the environment to their specific needs. One of the main advantages of VS Code is its cross-platform compatibility, as it can be used on Windows, macOS, and Linux. It also offers seamless integration with other Microsoft products, such as Azure cloud services and GitHub.

4.5.4 HTML

HTML stands for Hypertext Markup Language, and it is the standard markup language used for creating and structuring content on the World Wide Web. HTML is the backbone of every web page, and it provides the basic structure and semantics of a web page. Structure and Semantics: HTML provides a clear structure for web pages, making it easy to organize content into headings, paragraphs, lists, and other elements. It also provides semantic tags to describe the meaning and purpose of the content, which is important for accessibility and SEO. Cross-Platform Compatibility: HTML is platform-independent and can be viewed on any device with a web

browser. This makes it easy to create web pages that are accessible to a wide audience. Ease of Use: HTML is easy to learn and use, especially for beginners. It has a straightforward syntax that uses tags to define elements, and there are many resources available online for learning HTML.

4.5.5 CSS

CSS (Cascading Style Sheets) is a language used for styling web pages and making them visually appealing. Here are some of the key features of CSS: Separation of Content and Presentation: CSS separates the content of a web page from its presentation, making it easy to update the design of a website without affecting its content. This separation also allows developers to create consistent styles across multiple web pages. Selectors and Cascading: CSS uses selectors to target specific HTML elements and apply styles to them. Styles can be defined in multiple locations, and they cascade down to child elements, making it easy to create complex and dynamic styles. Layout Control: CSS provides a range of layout options, such as positioning, floats, and flexbox, that allow developers to control the layout and arrangement of elements on a web page. Responsive Design: CSS offers media queries and other responsive design techniques that allow developers to create web pages that adjust to different screen sizes and devices. Typography Control: CSS provides precise control over typography, allowing developers to customize the font family, size, color, spacing, and other aspects of text.

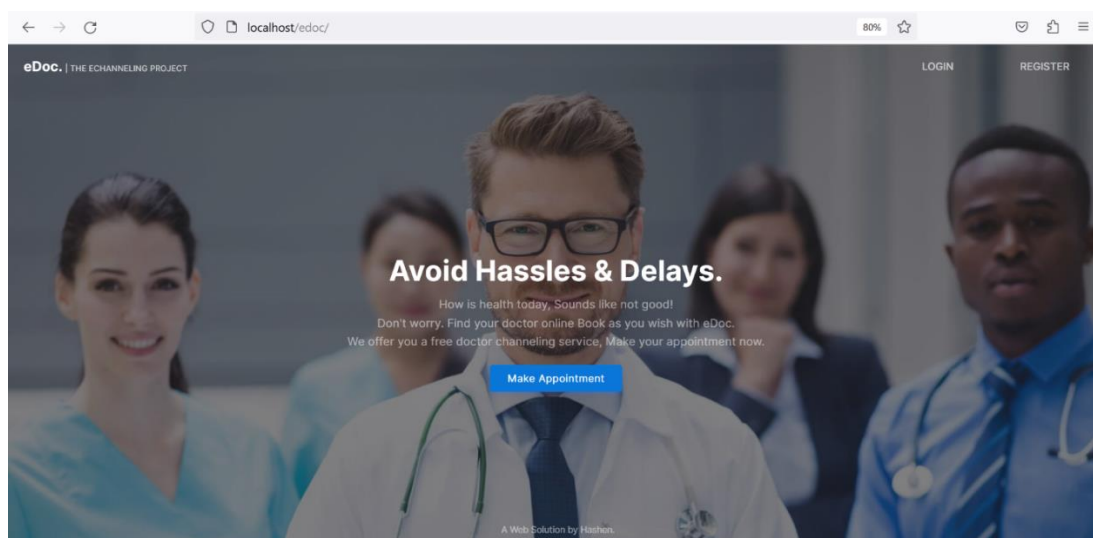
4.5.6 BOOTSTRAP

Bootstrap is a popular front-end development framework that is used to design and develop responsive, mobile-first web applications. It offers a range of features that make it a popular choice for developers. Here are some of the key features of Bootstrap: Responsive Design: Bootstrap provides a responsive grid system that allows developers to create mobile-first, responsive designs that adjust to different screen sizes and devices. Built Components: Bootstrap comes with a wide range of pre-built UI components, such as navigation menus, buttons, forms, modals, and more, that can be easily customized and integrated into web applications.

V. RESULT AND DISCUSSION

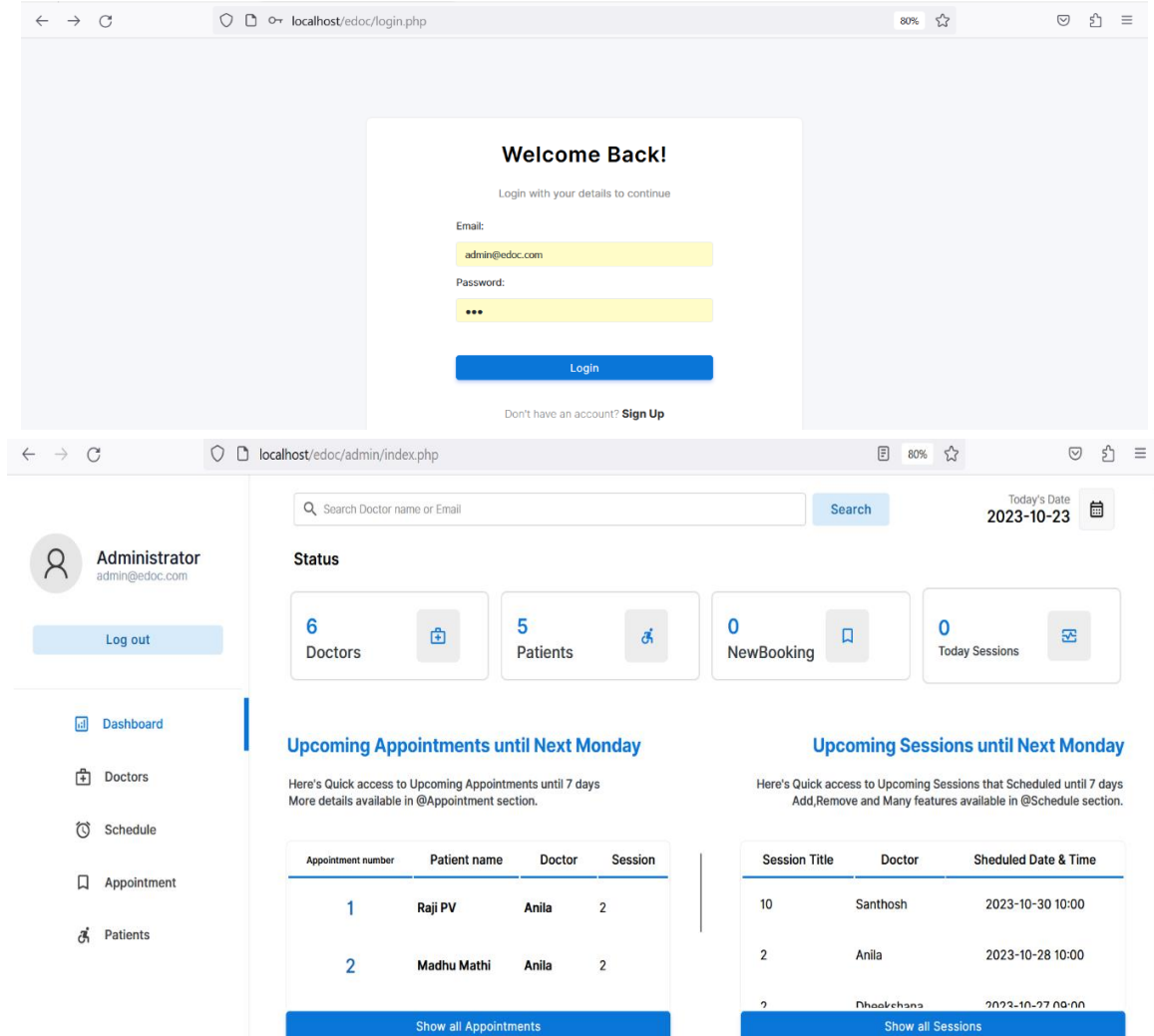
The digital doctor appointment system has revolutionized the way healthcare services are accessed and managed. With this system, patients can conveniently schedule appointments with their healthcare providers from the comfort of their own homes. Furthermore, the system facilitates secure and confidential communication between patients and healthcare providers, ensuring that medical information is protected. It also aids in streamlining the healthcare process by maintaining accurate and up-to-date medical records, making it easier for doctors to provide personalized care. The system enhances the efficiency of healthcare facilities by optimizing appointment scheduling, reducing no-shows and minimizing administrative overhead.

OUTPUT:



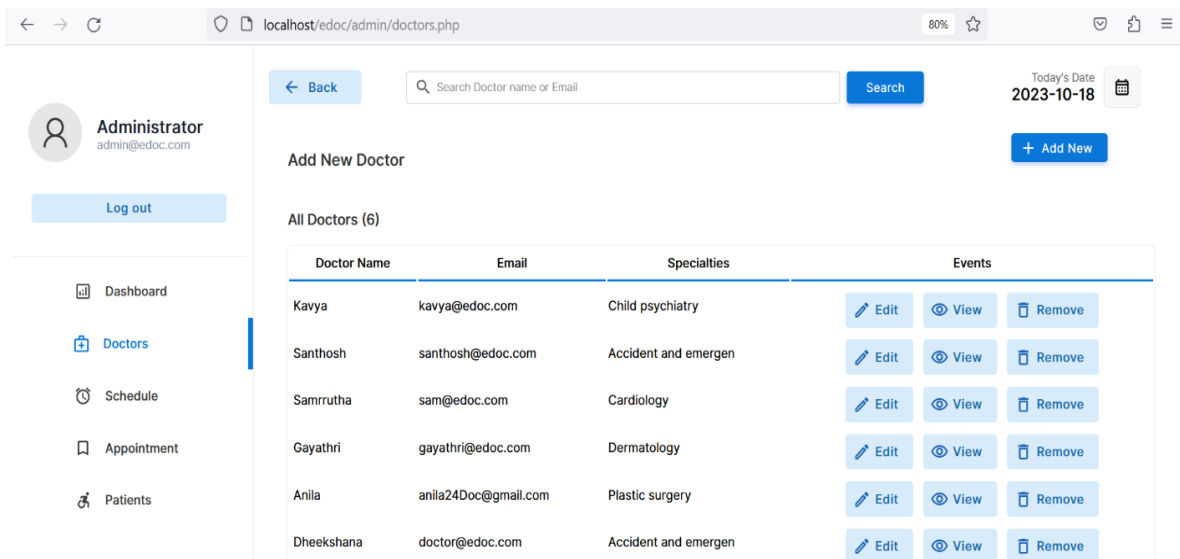
5.1 ADMIN MODULE:

Admin can login with email and password, through the login page. Admin is the super user of the website who can manage everything on the website.



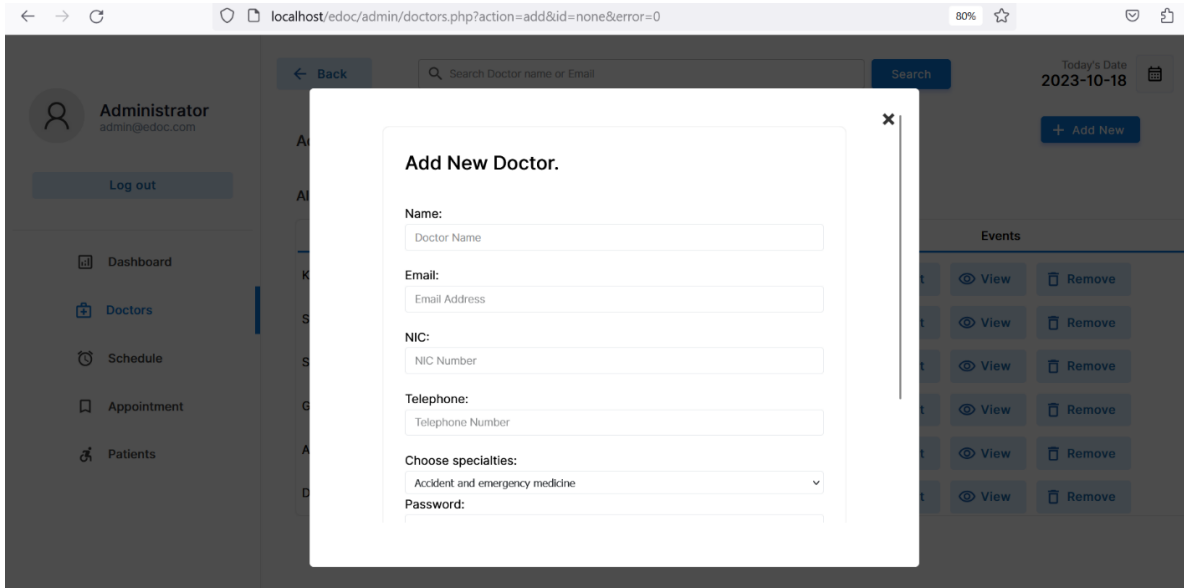
The image shows two browser screenshots. The top one is the login page at localhost/edoc/login.php, featuring a 'Welcome Back!' message and login fields for 'Email' (admin@edoc.com) and 'Password'. The bottom screenshot is the administrator dashboard at localhost/edoc/admin/index.php. It includes a sidebar with navigation options like Dashboard, Doctors, Schedule, Appointment, and Patients. The main content area shows a search bar, a status overview with 6 Doctors, 5 Patients, 0 NewBooking, and 0 Today Sessions, and two tables for 'Upcoming Appointments until Next Monday' and 'Upcoming Sessions until Next Monday'.

5.1.1 MANAGE DOCTORS



The image shows the 'Manage Doctors' page at localhost/edoc/admin/doctors.php. It features a sidebar with navigation options and a main content area with a search bar, a '+ Add New' button, and a table listing all doctors. The table has columns for Doctor Name, Email, Specialties, and Events (Edit, View, Remove).

Doctor Name	Email	Specialties	Events
Kavya	kavya@edoc.com	Child psychiatry	Edit View Remove
Santhosh	santhosh@edoc.com	Accident and emergen	Edit View Remove
Samrrutha	sam@edoc.com	Cardiology	Edit View Remove
Gayathri	gayathri@edoc.com	Dermatology	Edit View Remove
Anila	anila24Doc@gmail.com	Plastic surgery	Edit View Remove
Dheekshana	doctor@edoc.com	Accident and emergen	Edit View Remove



Add New Doctor.

Name:

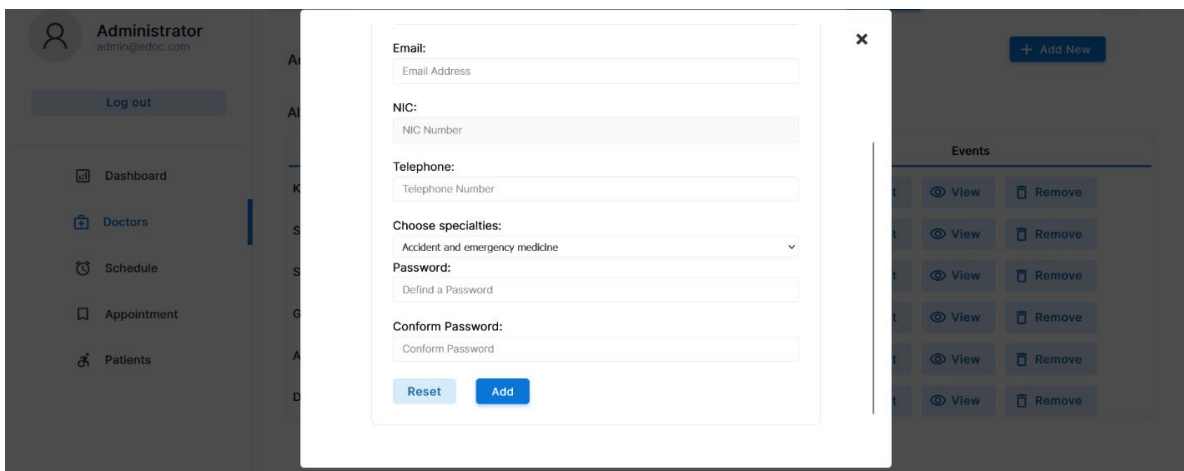
Email:

NIC:

Telephone:

Choose specialties:

Password:



Add New Doctor.

Email:

NIC:

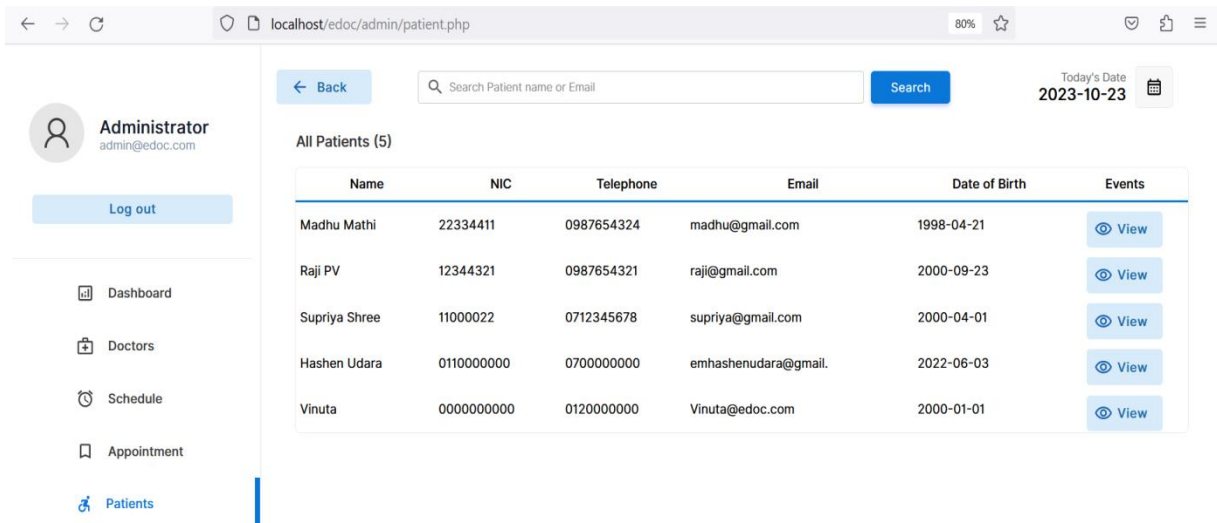
Telephone:

Choose specialties:

Password:

Conform Password:

5.1.2 MANAGE PATIENTS

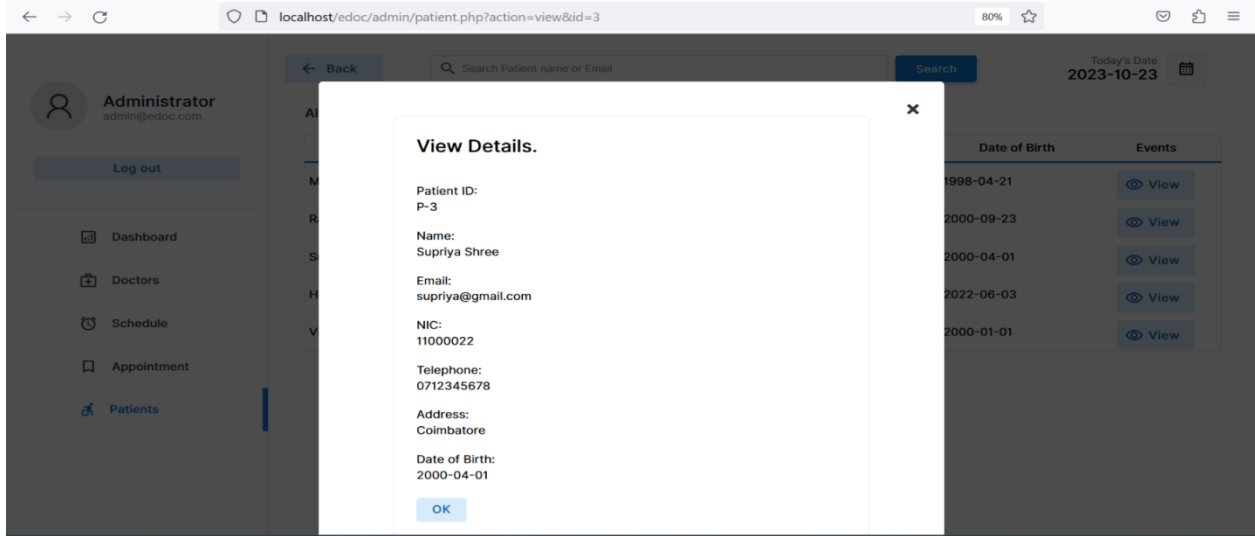


Administrator admin@edoc.com

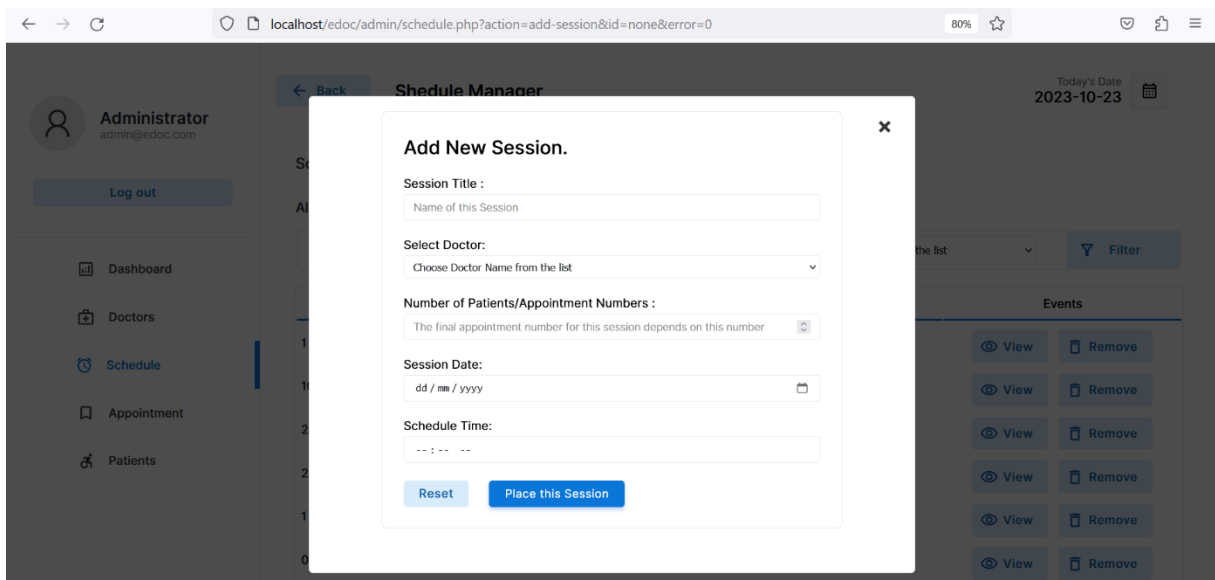
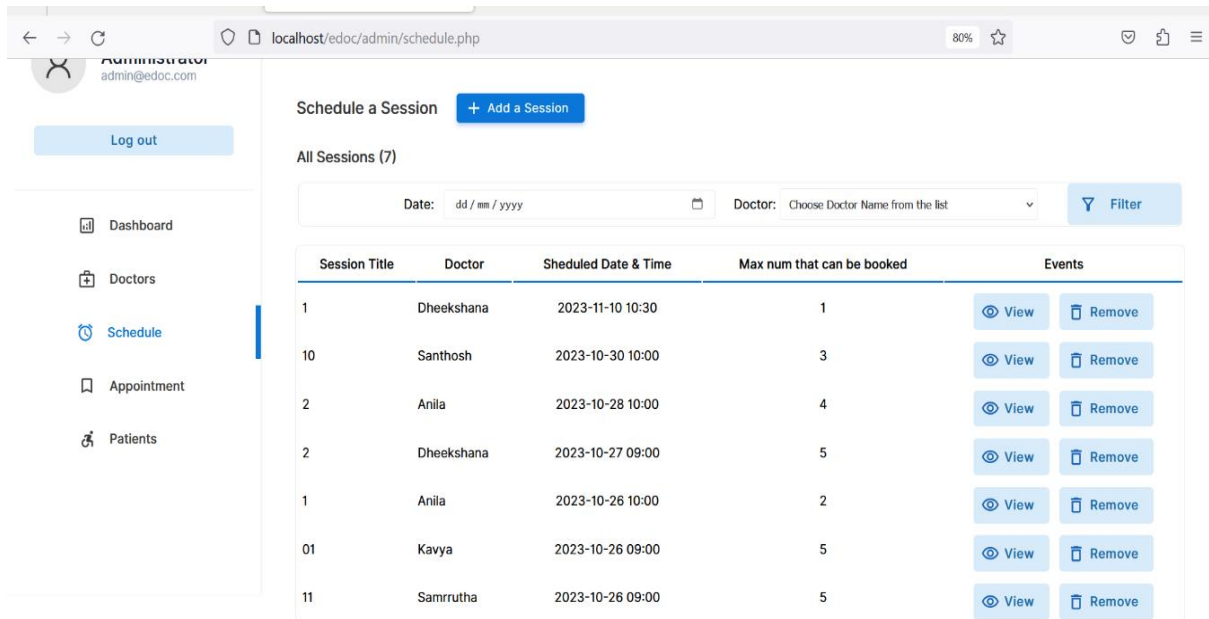
Today's Date: 2023-10-23

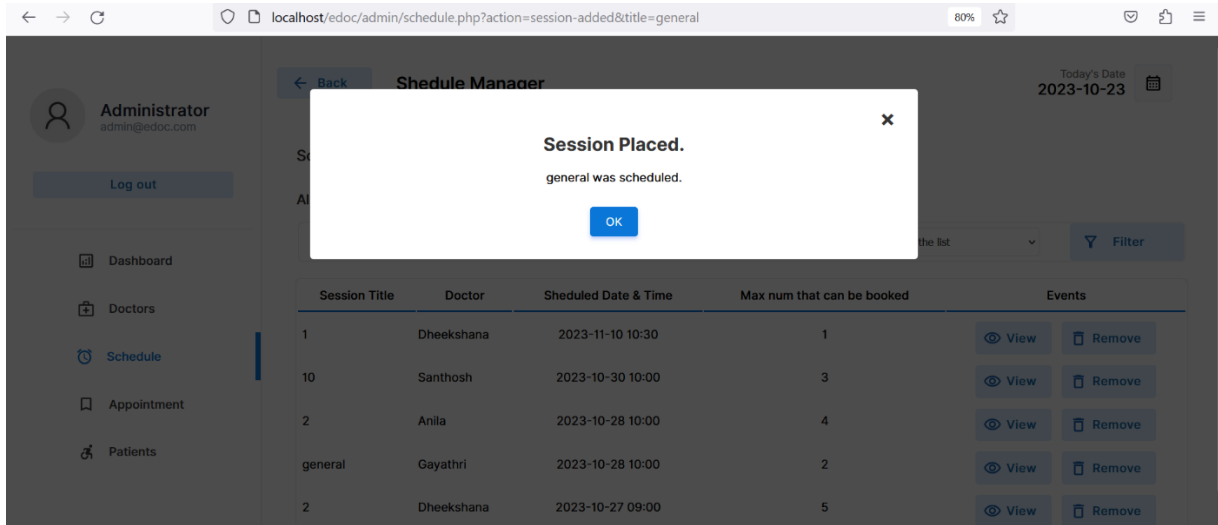
All Patients (5)

Name	NIC	Telephone	Email	Date of Birth	Events
Madhu Mathi	22334411	0987654324	madhu@gmail.com	1998-04-21	<input type="button" value="View"/>
Raji PV	12344321	0987654321	raji@gmail.com	2000-09-23	<input type="button" value="View"/>
Supriya Shree	11000022	0712345678	supriya@gmail.com	2000-04-01	<input type="button" value="View"/>
Hashen Udara	0110000000	0700000000	emhashenudara@gmail.	2022-06-03	<input type="button" value="View"/>
Vinuta	0000000000	0120000000	Vinuta@edoc.com	2000-01-01	<input type="button" value="View"/>



5.1.3 MANAGE SESSIONS

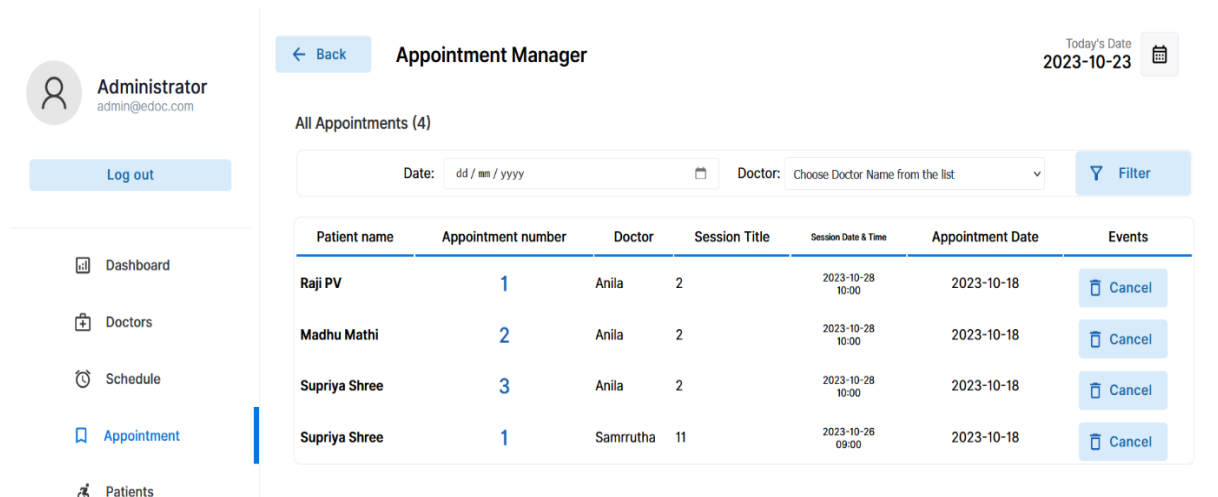




Session Placed.
general was scheduled.

Session Title	Doctor	Sheduled Date & Time	Max num that can be booked	Events
1	Dheekshana	2023-11-10 10:30	1	View Remove
10	Santhosh	2023-10-30 10:00	3	View Remove
2	Anila	2023-10-28 10:00	4	View Remove
general	Gayathri	2023-10-28 10:00	2	View Remove
2	Dheekshana	2023-10-27 09:00	5	View Remove

5.1.4 MANAGE APPOINTMENTS

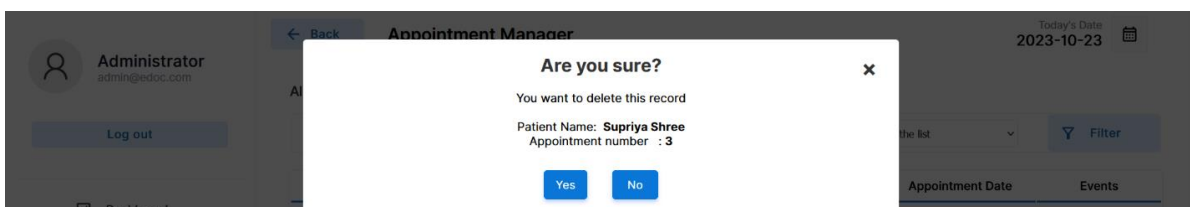


Appointment Manager

All Appointments (4)

Date: dd / mm / yyyy Doctor: Choose Doctor Name from the list Filter

Patient name	Appointment number	Doctor	Session Title	Session Date & Time	Appointment Date	Events
Raji PV	1	Anila	2	2023-10-28 10:00	2023-10-18	Cancel
Madhu Mathi	2	Anila	2	2023-10-28 10:00	2023-10-18	Cancel
Supriya Shree	3	Anila	2	2023-10-28 10:00	2023-10-18	Cancel
Supriya Shree	1	Samrutha	11	2023-10-26 09:00	2023-10-18	Cancel

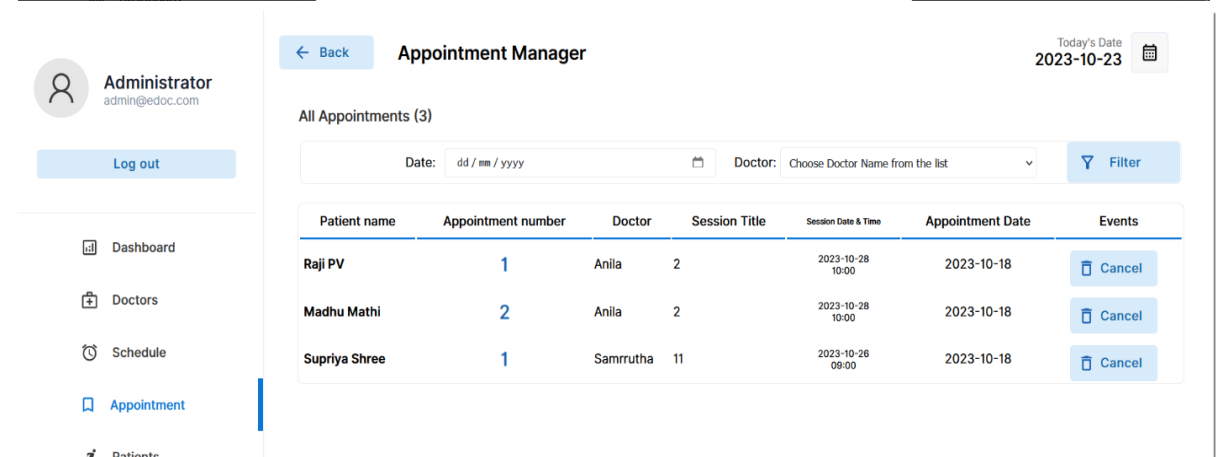


Are you sure?

You want to delete this record

Patient Name: **Supriya Shree**
Appointment number : 3

Yes No



Appointment Manager

All Appointments (3)

Date: dd / mm / yyyy Doctor: Choose Doctor Name from the list Filter

Patient name	Appointment number	Doctor	Session Title	Session Date & Time	Appointment Date	Events
Raji PV	1	Anila	2	2023-10-28 10:00	2023-10-18	Cancel
Madhu Mathi	2	Anila	2	2023-10-28 10:00	2023-10-18	Cancel
Supriya Shree	1	Samrutha	11	2023-10-26 09:00	2023-10-18	Cancel

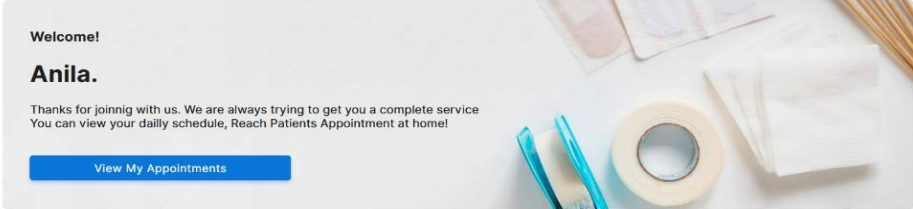
5.2 DOCTOR MODULE:

Doctor can login with email and password.

This module Allows doctors to manage their profiles, appointments, patient records, and provide medical services.

Dashboard

Today's Date
2023-10-23



Welcome!
Anila.

Thanks for joinng with us. We are always trying to get you a complete service
You can view your daily schedule, Reach Patients Appointment at home!

[View My Appointments](#)

Status

6
All Doctors

10
All Patients

4
NewBooking

0
Today Sessions

Your Up Coming Sessions until Next week

Session Title	Sheduled Date	Time
10	2023-10-30	10:00
2	2023-10-28	10:00
general	2023-10-28	10:00

Appointment Manager

Today's Date
2023-10-23

My Appointments (6)

Date: [Filter](#)

Patient name	Appointment number	Session Title	Session Date & Time	Appointment Date	Events
Raji PV	1	2	2023-10-28 @10:00	2023-10-18	Cancel
Madhu Mathi	2	2	2023-10-28 @10:00	2023-10-18	Cancel
Anjana P	3	2	2023-10-28 @10:00	2023-10-23	Cancel
Hari S	1	1	2023-10-26 @10:00	2023-10-23	Cancel
Keerthi V	2	1	2023-10-26 @10:00	2023-10-23	Cancel
Aswin S	4	2	2023-10-28 @10:00	2023-10-23	Cancel

My Sessions

Today's Date
2023-10-23

My Sessions (2)

Date: [Filter](#)

Session Title	Sheduled Date & Time	Max num that can be booked	Events
1	2023-10-26 10:00	2	View Cancel Session
2	2023-10-28 10:00	4	View Cancel Session

Anila..
anila24Doc@gmail.com

Log out

- Dashboard
- My Appointments
- My Sessions
- My Patients
- Settings

← BackSearch

Today's Date
2023-10-23

My Patients (6)

Show Details About : My patients Only
Filter

Name	NIC	Telephone	Email	Date of Birth	Events
Raji PV	12344321	0987654321	raji@gmail.com	2000-09-23	View
Madhu Mathi	22334411	0987654324	madhu@gmail.com	1998-04-21	View
Anjana P	22667788	0987654311	anjana@gmail.com	2000-03-24	View
Hari S	11889900	0896745231	hari@gmail.com	1998-07-31	View
Keerthi V	2123897	0987655678	keerthi@gmail.com	2000-09-20	View
Aswin S	22113344	0765432198	aswin@gmail.com	1998-06-23	View

Anila..
anila24Doc@gmail.com

Log out

- Dashboard
- My Appointments
- My Sessions
- My Patients
- Settings

← Back

Settings

Today's Date
2023-10-23

⚙️

Account Settings

Edit your Account Details & Change Password

👁️

View Account Details

View Personal Information About Your Account

🗑️

Delete Account

Will Permanently Remove your Account

5.3 PATIENT MODULE:

Enables patients to create profiles, book appointments, access appointment history, and interact with healthcare providers.

Anjana P.
anjana@gmail.com

Log out

- Home
- All Doctors
- Scheduled Sessions
- My Bookings
- Settings

Welcome!

Anjana P.

Haven't any idea about doctors? no problem let's jumping to "All Doctors" section or "Sessions"
Track your past and future appointments history.
Also find out the expected arrival time of your doctor or medical consultant.

Channel a Doctor Here

Search

Status

6

All Doctors

10

All Patients

4

NewBooking

0

Today Sessions


Your Upcoming Booking

Appoint. Number	Session Title	Doctor	Scheduled Date & Time
3	2	Anila	2023-10-28 10:00

www.irjmets.com

@International Research Journal of Modernization in Engineering, Technology and Science


[3157]



Anjana P..
anjana@gmail.com

Log out


- Home
- All Doctors
- Scheduled Sessions
- My Bookings
- Settings



Anjana P..
anjana@gmail.com

Log out

- Home
- All Doctors
- Scheduled Sessions
- My Bookings
- Settings



Anjana P..
anjana@gmail.com

Log out

- Home
- All Doctors
- Scheduled Sessions
- My Bookings
- Settings

All Doctors (6)

Doctor Name	Email	Specialties	Events	
Kavya	kavya@edoc.com	Child psychiatry	View	Sessions
Santhosh	santhosh@edoc.com	Accident and emergen	View	Sessions
Samrutha	sam@edoc.com	Cardiology	View	Sessions
Gayathri	gayathri@edoc.com	Dermatology	View	Sessions
Anila	anila24Doc@gmail.com	Plastic surgery	View	Sessions
Dheekshana	doctor@edoc.com	Accident and emergen	View	Sessions

All Sessions(8)

1

Anila
2023-10-26
Starts: @10:00 (24h)

[Book Now](#)

01

Kavya
2023-10-26
Starts: @09:00 (24h)

[Book Now](#)

11

Samrutha
2023-10-26
Starts: @09:00 (24h)

[Book Now](#)

2

Dheekshana
2023-10-27
Starts: @09:00 (24h)

[Book Now](#)

2

Anila
2023-10-28
Starts: @10:00 (24h)

[Book Now](#)

general

Gayathri
2023-10-28
Starts: @10:00 (24h)

[Book Now](#)

Session Details

Doctor name: **Gayathri**
 Doctor Email: **gayathri@edoc.com**

Session Title: **general**
 Session Scheduled Date: **2023-10-28**
 Session Starts : **10:00:00**
 Channing fee : **LKR.2 000.00**

Your Appointment Number

1

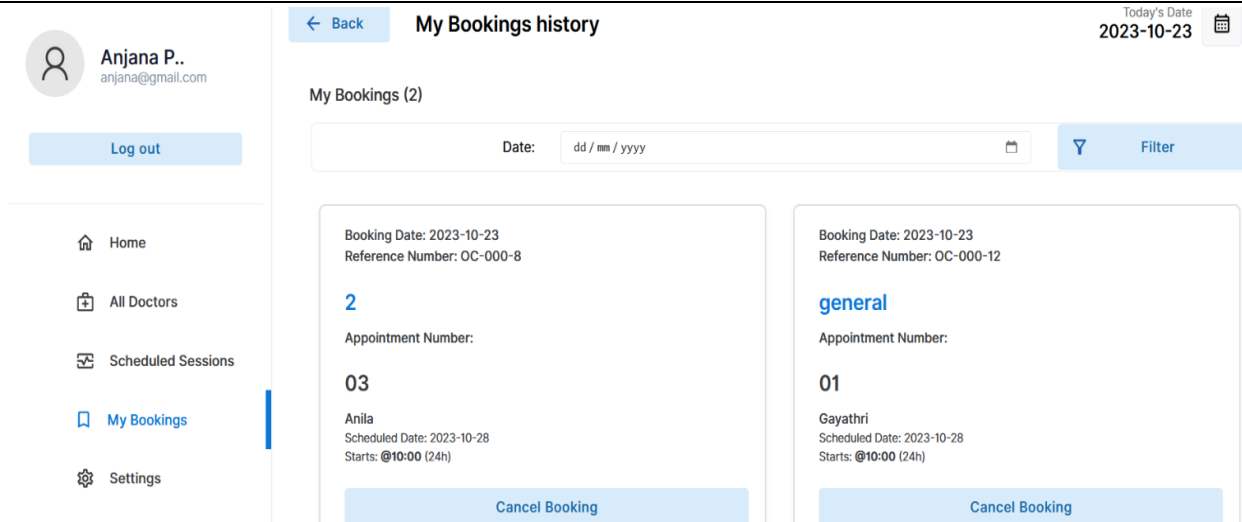
[Book now](#)

Booking Successfully.

Your Appointment number is 1.

[OK](#)

Filter



VI. CONCLUSION

Traditional systems rely on phone calls and manual record-keeping, often leading to time-consuming and potentially error-prone processes. In contrast, digital appointment systems leverage technology to provide patients with the convenience of online booking, real-time availability information, and automated reminders.

Real-time availability information allows patients to select appointment times that best suit their schedules, minimizing wait times and optimizing the use of healthcare resources. It not only reduces administrative costs but also significantly improves the patient experience by offering user-friendly interfaces, self-service capabilities, proactive patient experience.

Overall, the Doctor Appointment Booking System not only simplifies the appointment scheduling process but also enhances the patient experience, improves healthcare providers' efficiency, and contributes to the optimization of healthcare services. Thus, it makes healthcare more accessible, convenient and effective.

VII. FUTURE SCOPE

In addition to the existing advantages, there will be the integration of email notification capabilities will offer an additional layer of communication and appointment reminders for patients, enhancing engagement and reducing the likelihood of missed appointments and the incorporation of artificial intelligence (AI) will play a pivotal role in optimizing the system. AI-driven scheduling can learn from past appointment patterns and patient preferences to provide personalized and efficient appointment recommendations.

APPENDIX SOURCE CODE

```

<!DOCTYPE html>
<html lang="en"><head> <meta charset="UTF-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<link rel="stylesheet" href="../css/animations.css">
<link rel="stylesheet" href="../css/main.css">
<link rel="stylesheet" href="../css/admin.css">
<title>Dashboard</title><style>
.dashbord-tables{ animation: transitionIn-Y-over 0.5s;}
.filter-container{animation: transitionIn-Y-bottom 0.5s; }
.sub-table{animation: transitionIn-Y-bottom 0.5s; }
</style></head><body>
<?phpsession_start();
if(isset($_SESSION["user"])){
if(($_SESSION["user"])==" or $_SESSION['usertype']!= 'a'){

```



```

<table width="100%" border="0" class="dashbord-tables"><tr><td>
<pstyle="padding:10px;padding-left:48px;padding-bottom:0;font-size:23px;font-weight:700;color:var(--primarycolor);">
Upcoming Appointments until Next <?php
echo date("l",strtotime("+1 week"));
<pstyle="text-align:right;padding:10px;padding-right:48px;padding-bottom:0;font-size:23px;font-weight:700;color:var(--primarycolor);">
Upcoming Sessions until Next <?php
echo date("l",strtotime("+1 week"));
?> </p>
<pstyle="padding-bottom:19px;text-align:right;padding-right:50px;font-size:15px;font-weight:500;color:#212529e3;line-height: 20px;">
Here's Quick access to Upcoming Sessions that Scheduled until 7 days<br>
Add,Remove and Many features available in @Schedule section.
<td width="50%"><center>
<div class="abc scroll" style="height: 200px;">
<table width="85%" class="sub-table scrolldown" border="0"> <thead><tr>
<th class="table-headin" style="font-size: 12px;">
Appointment number </th>
<th class="table-headin">Patient name</th>
<th class="table-headin"> Doctor </th>
<th class="table-headin"> Session </th> </tr><thead><tbody>
<?php$nextweek=date("Y-m-d",strtotime("+1 week"));sqlmain="select
appointment.appoid,schedule.scheduleid,schedule.title,doctor.docname,patient.pname,schedule.scheduledate,s
chedule.scheduletime,appointment.apponum,appointment.appodate from schedule inner join appointment on
schedule. Scheduleid = appointment. scheduleid inner join patient on patient. pid=appointment. pid inner join
doctor on schedule. docid=doctor. docid where schedule. Scheduled ate>='$today' and schedule. Schedule
date<='$nextweek' order by schedule. Schedule date desc";
$result= $database->query($sqlmain);
if($result->num_rows==0){
echo '
<tr>
<td colspan="3">
<br><br><br><br><center>
 <br>
<p class="heading-main12" style="margin-left: 45px;font-size:20px;color:rgb(49, 49, 49)">We couldnt find
anything related to your keywords !</p>
<aclass="non-style-link" href="appointment.php"><buttonclass="login-btn btn-primary-soft btn"
style="display: flex;justify-content: center;align-items: center;margin-left:20px;">&nbsp; Show all
Appointments &nbsp;</font></button>
</a></center><br><br><br><br></td></tr>'; }
else{
for ( $x=0; $x<$result->num_rows;$x++){
$row=$result->fetch_assoc();
$appoid=$row["appoid"];
$scheduleid=$row["scheduleid"];
$title=$row["title"];

```



```

$docname=$row["docname"];
$scheduledate=$row["scheduledate"];
<tdstyle="text-align:center;font-size:23px;font-weight:500;color:var(--bttnicetext);padding:20px;">
'.$apponum.' </td>
<td style="font-weight:600;"> &nbsp;'.
substr($pname,0,25)
<td width="50%" style="padding: 0;">
<center>
<div class="abc scroll" style="height: 200px;padding: 0;margin: 0;">
<table width="85%" class="sub-table scrolldown" border="0" >
<?php-$nextweek=date("Y-m-d",strtotime("+1week"));$sqlmain="select
schedule.scheduleid,schedule.title,doctor.docname,schedule.scheduledate,schedule.scheduletime,schedule.nop
from schedule inner join doctor on schedule.docid=doctor.docid where schedule.scheduledate>='$today' and
schedule.scheduledate<='<nextweek' order by schedule.scheduledate desc";
$result= $database->query($sqlmain);
if($result->num_rows==0){
echo '<tr>
<td colspan="4">
<br><br><br><br>
<center>

</center> <br><br><br><br></td></tr>'; }
else{
for ( $x=0; $x<$result->num_rows;$x++){
$row=$result->fetch_assoc();
$scheduleid=$row["scheduleid"];
$title=$row["title"];
$docname=$row["docname"];
$scheduledate=$row["scheduledate"];
$scheduletime=$row["scheduletime"];
$nop=$row["nop"];
echo '<tr>
<td style="padding:20px;"> &nbsp;'.
substr($title,0,30)
.'</td> <td>
'.substr($docname,0,20).'</td>
<td style="text-align:center;">
'.substr($scheduledate,0,10).' .substr($scheduletime,0,5).'</td>
</tbody> <center>
<a href="appointment.php" class="non-style-link"><button class="btn-primary btn" style="width:85%">Show
all Appointments</button></a>
</center></td><center>
<a href="schedule.php" class="non-style-link"><button class="btn-primary btn" style="width:85%">Show all
Sessions</button></a>
</center></td></tr></div></div></body></html>
    
```

VIII. REFERENCES

- [1] Arthur Hylton III and Suresh Sankaran arayanan "Application of Intelligent Agents in Hospital Appointment Scheduling System", International Journal of Computer Theory and Engineering, Vol. 4, August 2012, pp. 625-630.
- [2] Yeo Symey, Suresh Sankaran arayanan, Siti Nurafifah binti Sait "Application of Smart Technologies for Mobile Patient Appointment System", International Journal of Advanced Trends in Computer Science and Engineering, august 2013
- [3] Cayirli, T, E. Veral, and H. Rosen. (2006). Designing appointment scheduling systems for ambulatory care services. Health Care Management Science 9, 47–58.
- [4] A. Peter Idowu, O. Olusegun Adeosun and K. Oladipo Williams, "Dependable Online Appointment Booking System for Nhis Outpatient in Nigerian Teaching Hospitals", International Journal of Computer Science and Information Technology, vol. 6, no. 4, pp. 59-73, 2014.
- [5] https://www.researchgate.net/publication/312946008_Mr_Doc_A_Doctor_Appointment_Application_System