American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science &Technology (FST)

Spring 22 23

Section: B

Software Quality Assurance and Testing

ONLINE MEDICAL APPOINTMENT MANAGEMENT SYSTEM

A Report submitted
By

SN	Student Name	Student ID
1	Musfiqur Rahman	20-42558-1
2	MD. Rifat Khan	20-42704-1
3	MD. Rakib Hossain Morul	19-39374-1
4	MD. Mahbub Alam Siddik	19-39376-1

Checked by Industry Personnel

Name:

Designation:

Company:

Sign:

Date:

Software Test Plan

for

< ONLINE MEDICAL APPOINTMENT MANAGEMENT SYSTEM>

Version 1.0 approved

Prepared by <Musfiqur Rahman, MD. Rifath Khan, MD. Rakib Hossain Morul, MD. Mahbub Alam Siddik>

<AMERICAN INTERNATION UNIVERISTY-BANGLADESH (AIUB)>

<30/04/2023>

Checked by Industry Personnel

Name:
Designation:
Company:
Sign:
Date:

Table of Contents

Revision History

Revision	Date	Updated by	Update Comments
0.1	2023.04.27	Musfiqur Rahman	Version_1
0.2	2023.04.27	MD. Rakib Hossain Morul	Version_2
0.3	2023.04.28	MD. Mahbub Alam Siddik	Version_3
0.4	2023.04.30	MD. Rifath Khan	Version_4

1. TEST PLAN IDENTIFIER:RS-MTP01.3

2. REFERENCES

- S. Pankaj, A. Tomar, Y. Poojashree, J. Saurabh, S. Bhatambrekar and S. Awasthi, "The Study of Online Appointment System - A Case Study," 2022 International Conference on Computational Intelligence and Sustainable Engineering Solutions (CISES), Greater Noida, India, 2022, pp. 590-595, doi: 10.1109/CISES54857.2022.9844363.

3. INTRODUCTION

Background to the Problem

- An Online Medical Appointment system is essential in today's digital age, as it streamlines the process of scheduling appointments for both patients and healthcare providers. The system saves time, improves the patient experience, and reduces the burden on administrative staff. Patients can choose a time and date that suits them and select the healthcare provider they prefer. The system then sends an automated confirmation to the patient with the appointment details.
- Online Medical Appointment system is the inefficiency and inconvenience of traditional methods of booking medical appointments. In the past, patients had to call medical facilities during working hours to schedule an appointment, which could often result in long wait times on hold and limited appointment availability. This inconvenience can lead to patients delaying or even avoiding medical appointments, which can have serious consequences for their health.

Solution to the Problem

- The proposed solution to address the problem of inefficient medical appointment scheduling is to develop an Online Medical Appointment Management System. This system will enable patients to schedule appointments with healthcare providers through a user-friendly online platform, view their medical records, and communicate with healthcare providers securely and efficiently.
- The solution is appropriate because it addresses the root causes of the problem by streamlining the appointment scheduling process and improving communication between patients and healthcare providers. It also enables medical facilities to better manage their resources and provide more personalized care by leveraging patient data. It is feasible to meet the business objectives because it can be customized to fit the specific needs of the medical facility and integrated with existing medical software and systems. Additionally, it can be designed to comply with relevant healthcare regulations and standards, ensuring the privacy and security of patient data. Overall, the proposed Online Medical Appointment Management System is a practical and effective solution to

the problem of inefficient medical appointment scheduling. It can improve the patient experience, enhance healthcare provider efficiency and effectiveness, and help medical facilities meet their business objectives.

- There are several existing software solutions available to address the problem of inefficient medical appointment scheduling. Some of these solutions include:
    - Zocdoc: It is an online platform that enables patients to find and book appointments with healthcare providers in their area
    - Doctolib: It is a web-based solution that enables medical professionals to manage their appointments and patient records through a user-friendly online platform.
    - Epic Systems: It is a comprehensive healthcare software solution that includes appointment scheduling, patient record management, and communication features.
    - Athenahealth: It is a cloud-based healthcare software solution that includes features such as appointment scheduling, patient record management, and patient communication.

4. REQUEIREMNT SPECIFICATION

4.1 System Features

1. **User Login**

Functional Requirements

1.1 User will login this system with the User password and username

1.2 If login successful user homepage will be displayed otherwise it will redirect to User login page

Priority Level: High

Precondition: User must have valid username and password.

2. **Search Doctor & Session**

Functional Requirements

2.1 User will login this system and can search doctor list.

2.2 If login successful admin homepage will be displayed otherwise it will redirect to admin login page

Priority Level: High

Precondition: Admin must have valid username and password.

3. **Add Doctor**

Functional Requirements

3.1 If admin login is successful then admin can add doctor .

3.2 Doctro's Name, Password & Email information needs to be valid if admin want to add doctor. If doctor added is successful then it will show a successful massage and redirect to admin page.

Priority Level: Medium

Precondition: An existing admin must log into this system in order to add a new doctor.

4. User Account Delete, Edit and View Details

Functional Requirements

4.1 An user can delete, edit and view details of his/her account after his/her successful login.
4.2 If user select delete option and confirm the delete pop up ,then delete user is successful.
4.3 If user select edit option ,then edit user is successful.
4.4 If user select view option ,then view details of user is successful.

Priority Level: High

Precondition: An User must log into this system in order to delete,edit and view his account.

5. Appointment Manager

Functional Requirements

5.1 An admin can view and cancel patient's appointment after his/her successful login.
5.2 If admin select cancel option and confirm the cancel pop up and if admin is redirect to cancel appointment , then cancel is successful.
5.3 If admin select view option and if admin is redirect to view appointment , then view is successful.

Priority Level: Medium

Precondition: An admin must log into this system in order to manage appointment.

6. Schedule Manage

Functional Requirements

6.1 An admin can manage all the appointment schedules after his/her successful login.
6.2 Admin can create new session
6.3 Admin can remove session
6.4 Admin can search individual doctor's schedule

Priority Level: Low

Precondition: An admin must log into this system in order to post a notification.

7. Manage Appointment

Functional Requirements

7.1 Doctor has to Login with valid username and password in order to manage appointment .
7.2 Doctor need to put all information for add new patient and then press Add now. If new appointment added is successful then it will show a successful massage and redirect to doctor page.

Priority Level: High

Precondition: A Doctor must log into the system to manage appointment.

8. View Account Details

Functional Requirements

8.1 Doctor has to Login with valid username and password in order to view account details.

8.2 Doctor can update his profile name, phone, NID, address or email but to update doctor has to give his/her valid password. After then he/she can update profile. This operation is successful if it shows successful massage and redirect to view account details page.

Priority Level: Medium

Precondition: A doctor must log into this system in order to view his/her account details.

9. Logout

Functional Requirements

9.1 Everyone has to Login with valid username and password in order to do Logout.

9.2 It will be successful if after pressing logout it redirects to log in page.

Priority Level: High

Precondition: An admin or user or doctor needs to successfully log in first then they can do logout operation.

10. Registration

Functional Requirements

10.1 If anyone wants to register in our system, he/she needs to give valid information to register.

10.2 It will be successful if after pressing Registration button it shows a successful pop up and redirects to login page.

Priority Level: High

Precondition: None

4.1 System Quality Attributes

- Some quality attributes are given below to ensure the quality of a software:

1. **Performance**: The ability of the system to respond to user requests within a reasonable time frame and handle large volumes of data or traffic.
2. **Reliability**: The ability of the system to function consistently and predictably without crashing or producing errors.

3. **Security**: The ability of the system to protect sensitive data and prevent unauthorized access or attacks.
4. **Maintainability:** The ease with which the system can be modified or updated to meet changing needs or fix issues.
5. **Usability**: The degree to which the system is user-friendly and easy to use for its intended audience.
6. **Functionality:** A registered user or an unregistered user can see the current bidding of any product by going current running bid, but a registered user can only bid for those products.
7. **Accessibility:** Because it is web-based software, it can be accessed from anywhere on the Internet.
8. **Readability**: It is important to show current bid price perfectly as in one product lots of customer can bid. So, it is critical to determine whether the system is strong enough to withstand any condition.

4.2 System Interface

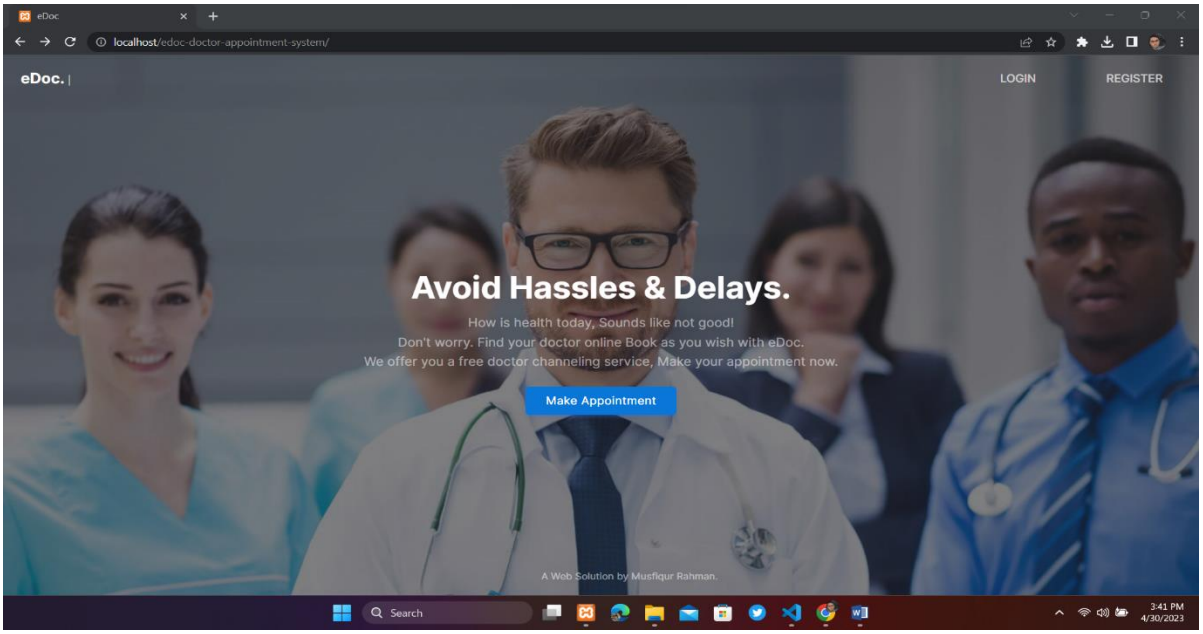


Figure 01: Online Medical Appointment System.

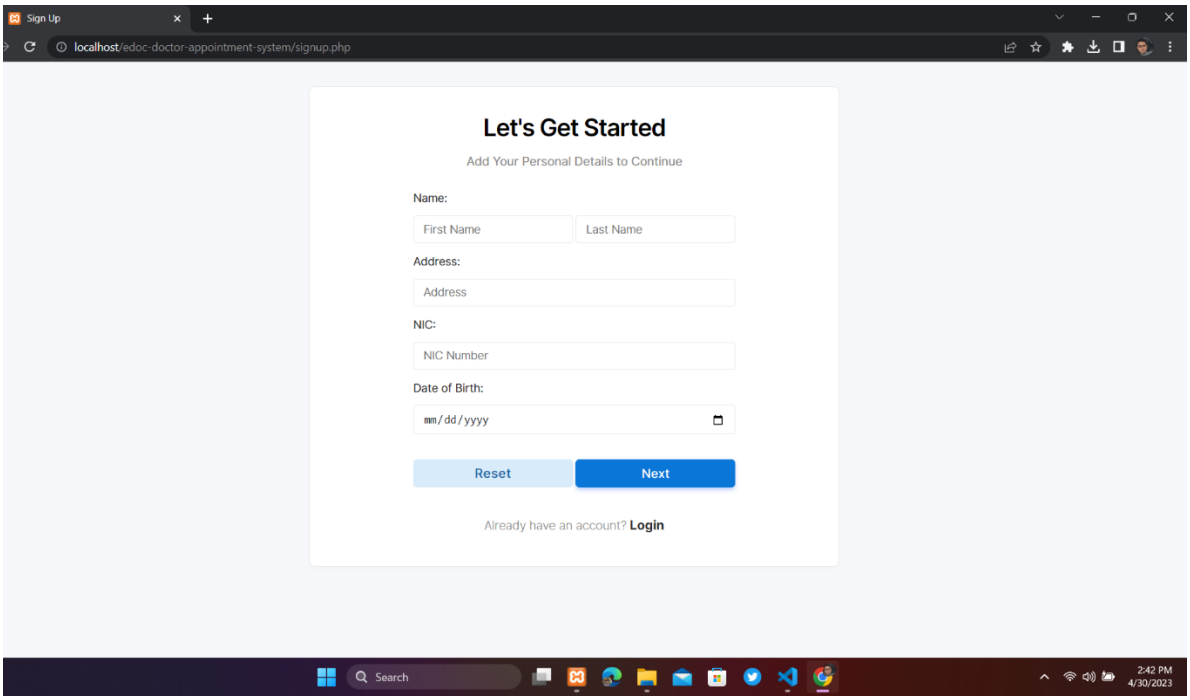


Figure 02: Registration view.

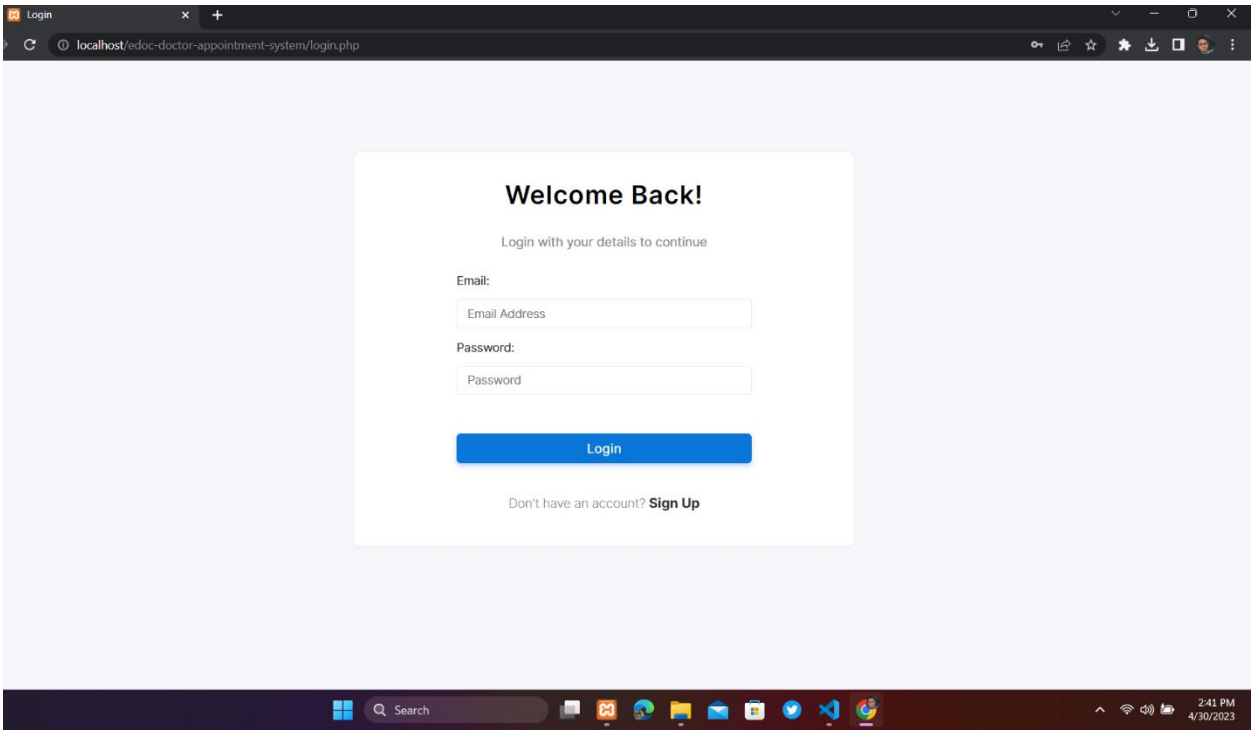


Figure 03: Login View.

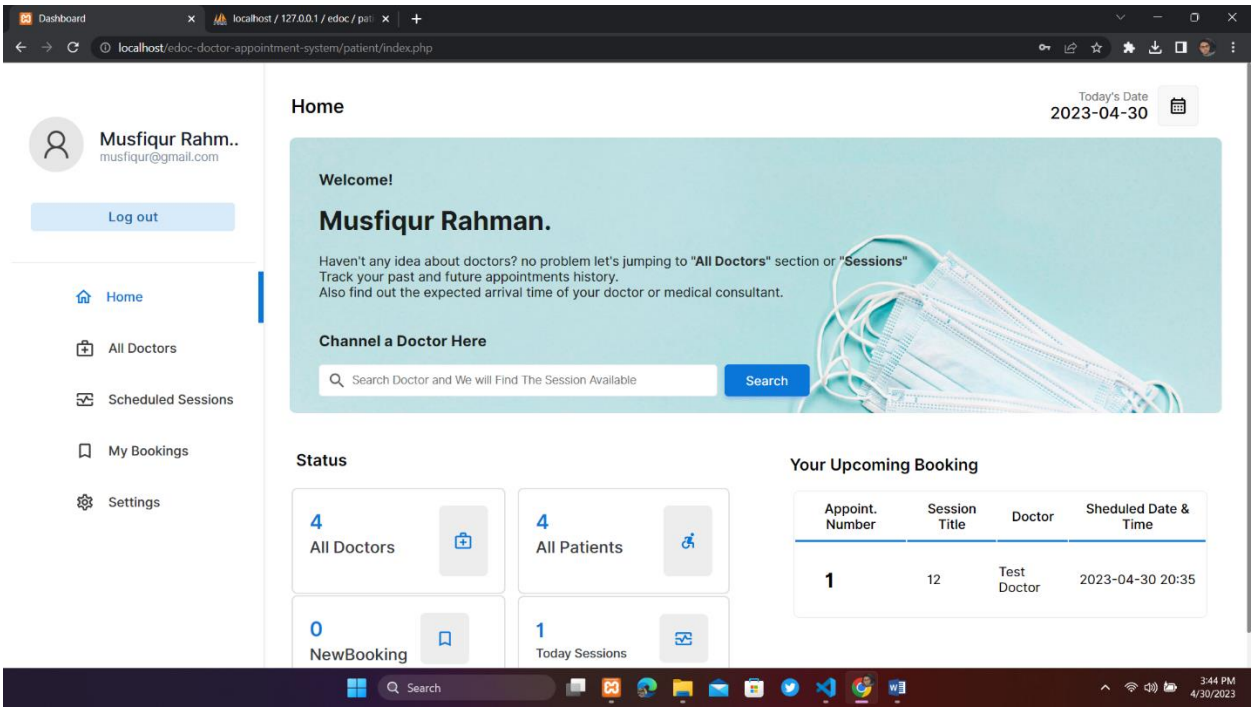


Figure 04: User Dashboard.

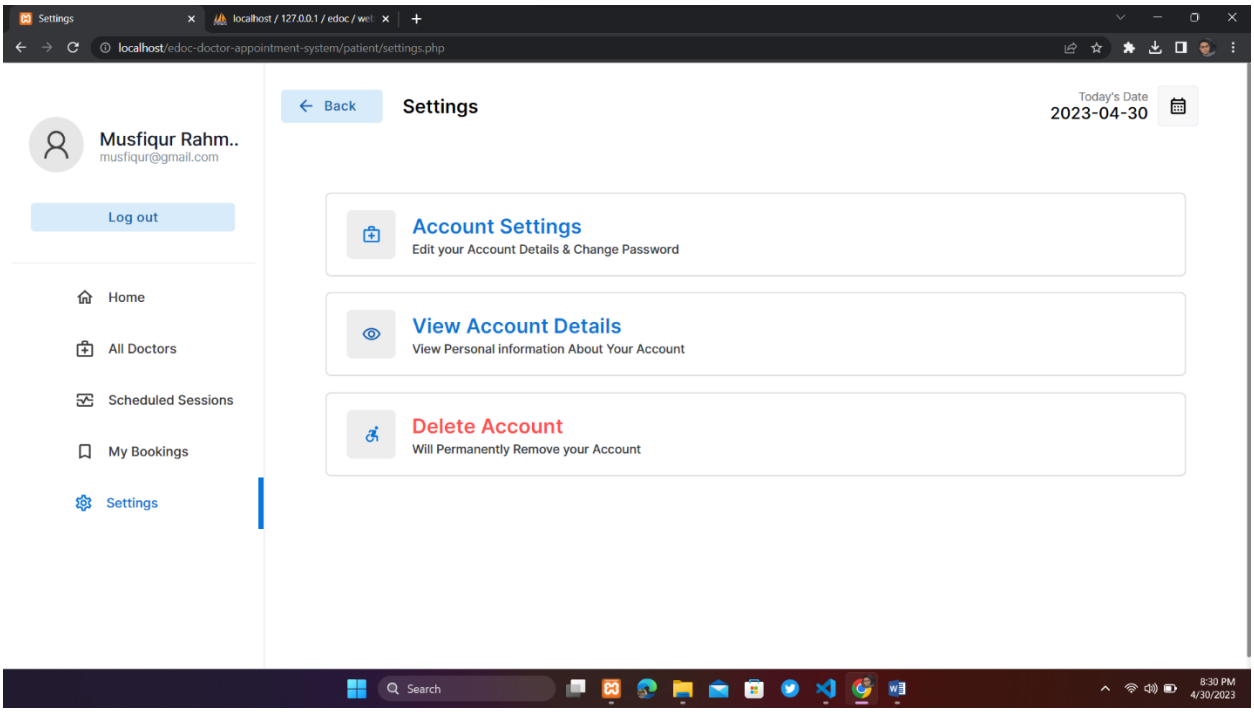


Figure 05: User Account Setting View.

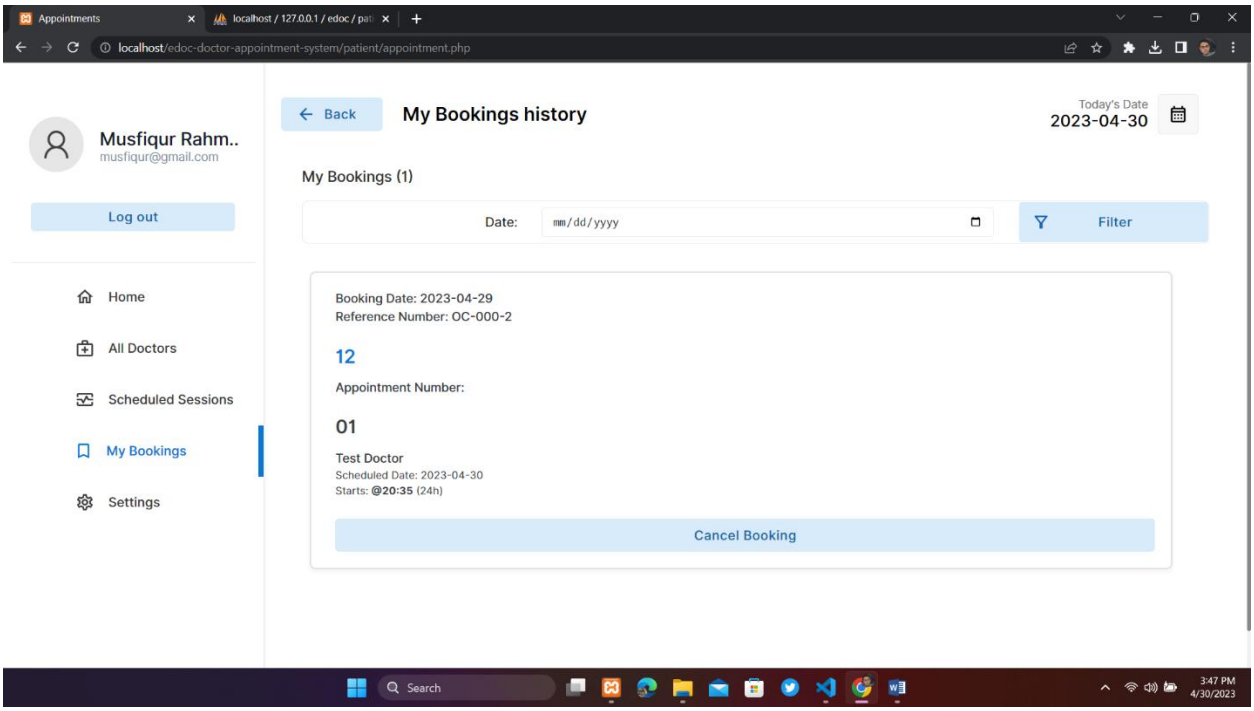


Figure 06: User Appointment details view.

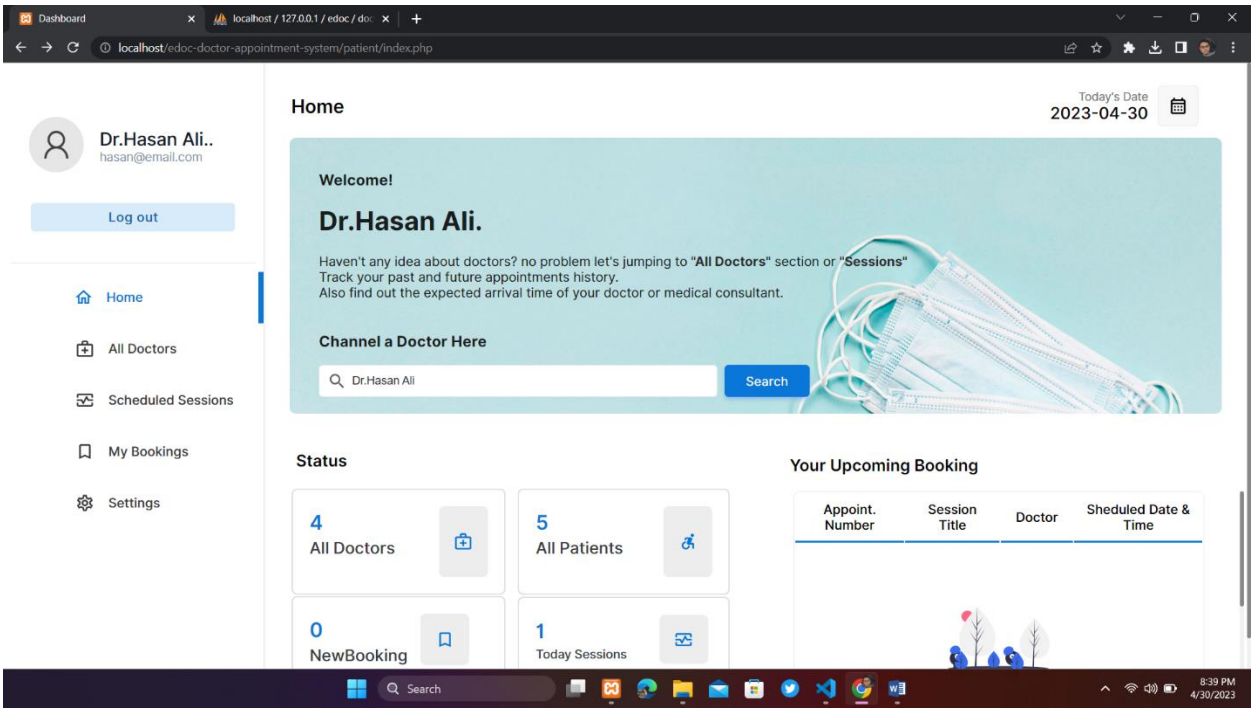


Figure 07: Doctor's Dashboard.

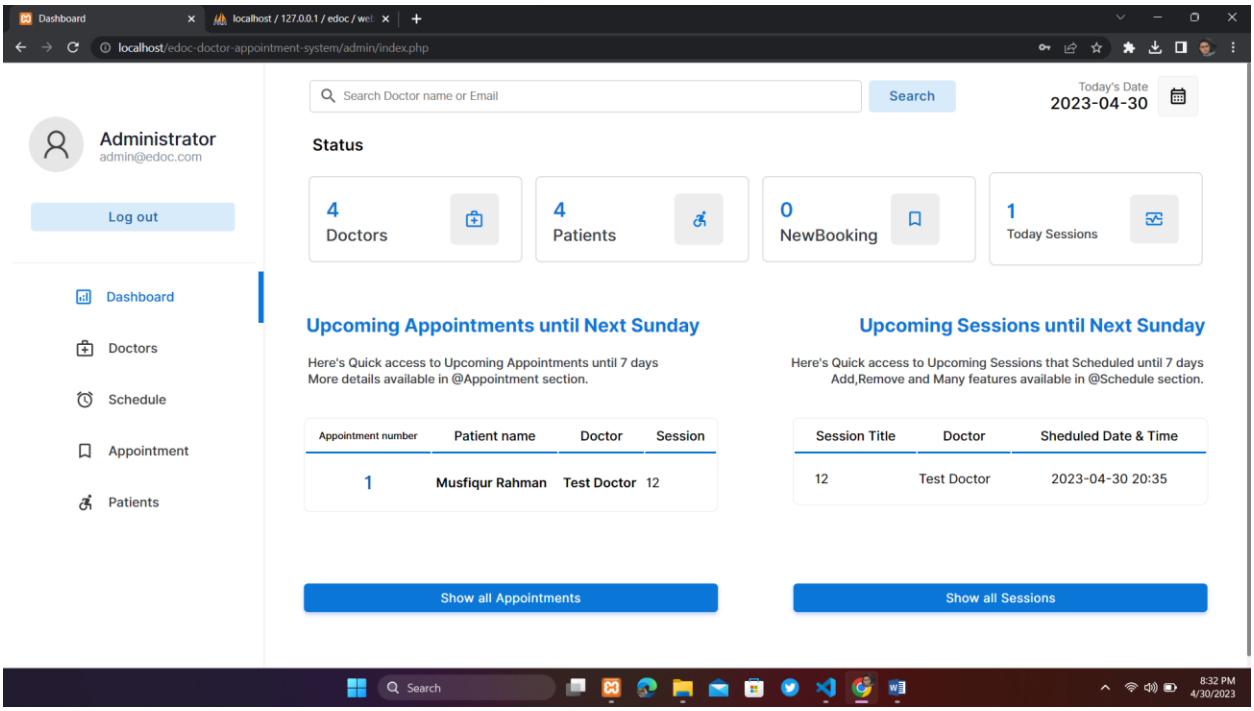


Figure 08: Admin's Dashboard.

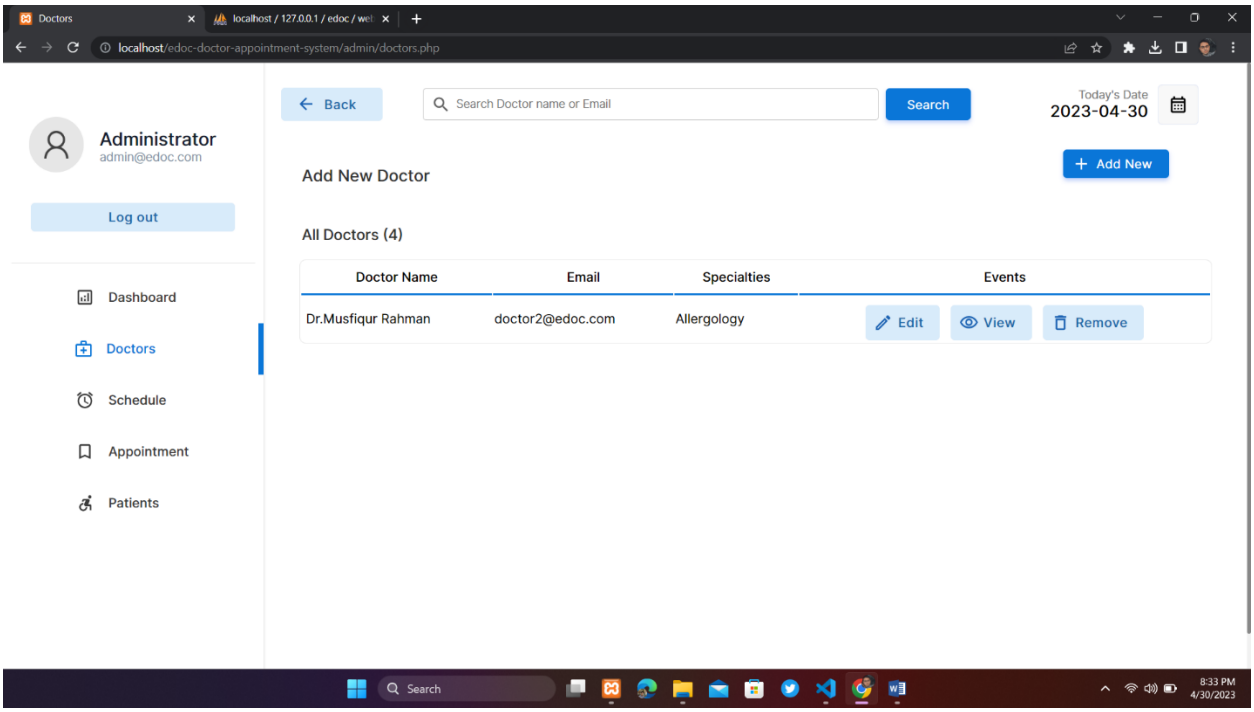


Figure 09: Admin doctor's monitoring view.

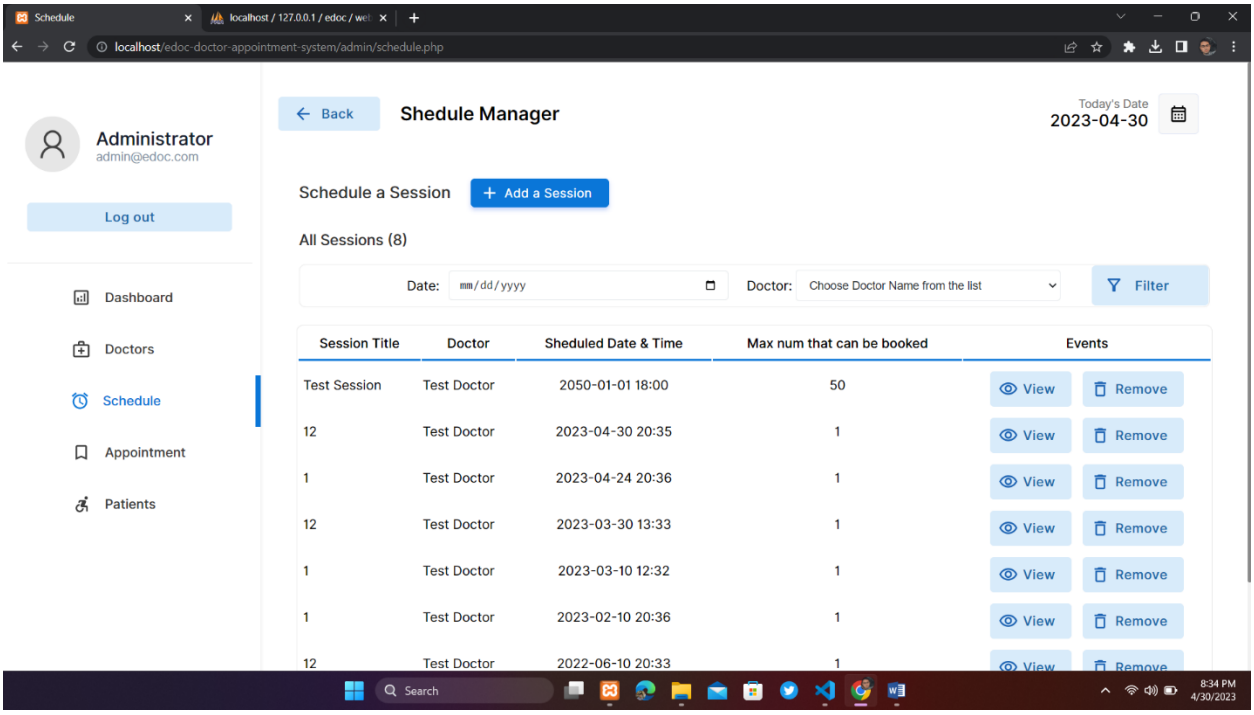


Figure 10: Schedule control view.

4.3 Project Requirements

- To develop an online medical appointment system website, the following resources will be required:

1. Project Manager: responsible for managing the project timeline, budget, and resources.
2. Development Team: including front-end and back-end developers, UI/UX designers, and quality assurance specialists.
3. Server: to host the website and store the system's data.
4. Software Tools: to develop and test the system, including PHP, HTML, CSS, JavaScript, and a database management system.
5. Communication Tools: to facilitate communication among team members and stakeholders, including email, video conferencing, and project management software.
6. Testing Tools: to perform functional, usability, and security testing, including automated testing tools and manual testing methods.
7. Documentation Tools: to create project documentation, including requirements specifications, design documents, and user manuals.

- Total budget 4,65,000 to 4,80,000 BDT

1. Planning and Requirement Gathering: The cost of this phase will depend on the number of resources required to gather the requirements, define the scope of the project, and create a plan for the development process. The estimated cost could range from 45,000 to 50,000.

2. Design: The cost of this phase will depend on the number of resources required to design the user interface, create wireframes and mockups, and get approval from stakeholders. The estimated cost could range from 75,000 to 80,000.

3. Development: The cost of this phase will depend on the number of resources required to develop the system functionality, integrate the front-end and back-end, and ensure that the system is responsive and user-friendly. The estimated cost could range from 65,000 to 70,000.

4. Testing: The cost of this phase will depend on the number of resources required to perform various tests, including functional testing, usability testing, and security testing to ensure the system's quality. The estimated cost could range from 75,000 to 80,000.

5. Deployment and Launch: The cost of this phase will depend on the number of resources required to deploy the system on the production server, configure the system for live use, and launch the website. The estimated cost could range from 45,000 to 50,000.

- Total Development Time 6 months.

1. Planning and Requirement Gathering (2-3 weeks): In this phase, the project team will gather the requirements, define the scope of the project, and create a plan for the development process.
2. Design (4-6 weeks): In this phase, the project team will design the user interface, create wireframes and mockups, and get approval from stakeholders.
3. Development (8-12 weeks): In this phase, the project team will develop the system functionality, integrate the front-end and back-end, and ensure that the system is responsive and user-friendly.
4. Testing (4-6 weeks): In this phase, the project team will perform various tests, including functional testing, usability testing, and security testing to ensure the system's quality.
5. Deployment and Launch (1-2 weeks): In this phase, the project team will deploy the system on the production server, configure the system for live use, and launch the website.

5. FEATURES NOT TO BE TESTED

The following modules that will not be specifically touched on for testing. As a result of other testing initiatives, all testing in these areas will be indirect. We did not execute selenium testing on the modules mentioned below in our project.

- Static Content: Static content such as text, images, that do not change frequently or dynamically may not require testing as they are unlikely to affect the functionality of the system.
- Third-party Libraries: Third-party libraries or modules that are widely tested and used, then testing those modules may not be necessary. However, it is always a good practice to check the compatibility of the third-party libraries with the syste

.

6. TESTING APPROACH

6.1 Testing Levels

UNIT TESTING: Unit testing is the first level of testing in software development where we test each unit of the software. Units are individual, small and independent part of a program. The main purpose is to ensure smallest units are working properly so that they do not cause an issue after integrating into module. In unit test, part of the code is to be isolated and tested individually. Developer will perform these tests while coding or developing those units. Unit tests can be monitored by development team lead. Testing tools and packages can be downloaded from official websites. We can test smallest units of the project at early stage without waiting for the project to be integrated or waiting for others code. By performing unit test we will be able to ensure the functionality of smallest units and detect bug in the earliest stage possible and simplify later debugging process as well as quality of the product.

INTEGRATION TESTING: Integration testing comes after unit testing and shall be performed by dedicated testing team. The main target is to test different modules of the software to ensure each module works properly as an independent part of the program and validate its performance, functionality, and reliability of the integrated module. We will also validate the performance of each module. If integration testing is done in earlier stage, there will be less bug and debugging process will be easier in both top-down and bottom-up approach. Integration testing is important to check the functionalities implemented by the developer against user requirements. There are various integration testing methodology such as Big Bang, Incremental, Top-down, Bottom-up, Sandwich etc. Any of them can be followed whatever suits the development process and seem convenient. Test strategy must be ready before starting integration testing. Critical modules should be identified before integration testing on a priority basis. When the test cases are prepared, an automation testing tool should be selected to execute the test cases for integration testing. Defects should be identified and reported for re-testing.

System Testing: When integration testing is completed, System testing should be performed to ensure all the modules are working properly together after connecting them as a whole software. This should also be done by dedicated testing team. It can be considered as black-box testing as it is not required to know what is inside those modules and how they are working. We test the system as a whole and tester should be aware of the requirements and real-time usage of the application. Here also test strategy must be ready and critical modules should be identified on a priority basis before starting system. End-to-end testing must be done to verify interaction between all the components and external applications. If system testing is done properly, mitigating and maintenance will be a lot easier later. Low priority bugs can be left to be tested at acceptance testing. System testing must check all the quality attributes of the software to ensure maximum quality of the product.

ACCEPTANCE TESTING: Acceptance test is the last major testing level at software development process which takes place after system testing and it's done by the user. Here customer decides or reviews if this software is ready to be in the market or not. For this, an alpha or beta version of the product should be prepared. User should have proper knowledge about the product, domain and its features. Issues found in the Acceptance test phase should be considered a high priority and fixed immediately. Acceptance test validates the effort of both testing and developer team and reflects the quality and overall software quality. Various types of acceptance test are recognized such as – UAT, BAT, RAT. CAT, Alpha/Beta Testing, etc. Lack of enough data and wrong testing audience could impact the result of acceptance test which should be controlled properly.

6.2 Test Tools

For the project required testing tools are described below –

Selenium: Selenium is the most popular open-source browser automation tool that can run scripts across multiple browsers and automate web application for testing. It is an enhanced framework that supports cross-platform and cross-browser and can be easily integrated. It is language independent and support various popular languages such as Java, C#, Python, Ruby, PHP, JavaScript etc. it can be integrated with popular testing tools such as SauceLabs, Maven, TestNG, QMetry, Extent, JUnit and others and run parallel testing. It is not a single tool, instead it's a collection of tools that can later be integrated with Agile, DevOps others. We can also handle reports with selenium. Selenium itself offers different tools like Selenium IDE, Selenium WebDriver, Selenium Grid etc. Selenium also supports mobile testing. We can test hybrid, native or mobile web apps with selenium. For mobile testing, few popular tools of selenium are Appium, Selendroid, Robotium, IOS-driver etc. supporting Android, IOS and other popular OS. Selenium is a universal use case which is good enough for testers to put forth a greater effort and ignore the codeless trend. Various third-party solutions are available for report like TestNG, JUnit, Extend Library, Allure to prepare report in various format including graphs, timeline, screenshots, pic charts, error logs and so on.

6.3 Meetings

Each week, our test group meets to talk about movement, challenges, work status and proposals for testing prepare. To moving forward usefulness, blunder characteristics and possibility test, standard assembly is essential. Each two weeks, test group lead or administrator will check in the event that advance meets client prerequisite and quality. Persistent checking and overseeing ought to be kept up to guarantee most extreme quality. Extra gatherings may be called as required in crisis circumstances. Analyzers ought to talk about challenges and advance with other analyzers. Workers may take part in live chat sessions from domestic to talk about modern headways and proposals for moving forward usefulness some time recently any arranged gatherings. Diverse groups and their advance ought to be collaborated by group lead and group lead will be in nonstop touch with each group by means of standard assembly.

7. TEST CASES/TEST ITEMS

Project Name: Online Medical Appointment Management System	Test Designed By: Mahbub
Test Case ID: OMAMS_1	Test Designed Date: 29-4-23
Test Priority: High	Test Executed By: Musfiqur
Test Title: Admin Login Test	Test Execution Date: 1-5-23
Description: Check If admin login works perfectly with valid username and password.	

Precondition: Admin must have a valid username and password. Dependencies:				
Test Steps	Test Data	Expected Results	Actual Results	Status
1. Go to the website 2. Then Admin Login 3. Put valid username and password 4. Click Sign In button	Username: admin@edoc.com Password: 123456	Login must be successful	Login successful	Pass
Post Condition: Redirected to admin dashboard				

Project Name: Online Medical Appointment Management System			Test Designed By: Mahbub	
Test Case ID: OMAMS_2			Test Designed Date: 29-4-23	
Test Priority: High			Test Executed By: Musfiqur	
Test Title: User Registration Test			Test Execution Date: 1-5-23	
Description: Check If user Registration works perfectly with valid user details				
Precondition: User must have a valid detail Dependencies:				
Test Steps	Test Data	Expected Results	Actual Results	Status
1. Go to the website 2. Then Registration 3. Put valid details 4. Click Register button	Username: musfiqur@gmail.com Pass: 123456	Registration must be successful	Registration successful	Pass
Post Condition: Redirected to Login page				

Project Name: Online Medical Appointment Management System	Test Designed By: Mahbub
Test Case ID: OMAMS_3	Test Designed Date: 29-4-23
Test Priority: High	Test Executed By: Musfiqur
Test Title: User Search Doctor & session Test	Test Execution Date: 1-5-23
Description: Check If user Search Doctor & Session works perfectly with valid username & password	

Precondition: User must be logged in Dependencies:				
Test Steps	Test Data	Expected Results	Actual Results	Status
1. Go to the website 2. Then Registration 3. Put valid details 4. Click Register button	Username: doctor1@edoc.com Password: 123456	Search Doctor & Session must be successful	View Search Doctor & Session successful	Pass
Post Condition: Redirected to Search Doctor & Session page				

Project Name: Online Medical Appointment Management System			Test Designed By: Mahbub	
Test Case ID: OMAMS_4			Test Designed Date: 29-4-23	
Test Priority: High			Test Executed By: Musfiqur	
Test Title: User account edit, delete, view details info Test			Test Execution Date: 1-5-23	
Description: Check If User account edit, delete, view details info works perfectly with valid username & password				
Precondition: User must be logged in Dependencies:				
Test Steps	Test Data	Expected Results	Actual Results	Status
1. Go to the website 2. Then Registration 3. Put valid details 4. Click Register button	Username: rakib@edoc.com Password: 123456	User account edit, delete, view details info must be successful	View User account edit, delete, view details info successful	Pass
Post Condition: Redirected to User account page				

Project Name: Online Medical Appointment Management System	Test Designed By: Mahbub
Test Case ID: OMAMS_5	Test Designed Date: 29-4-23
Test Priority: Medium	Test Executed By: Musfiqur
Test Title: View Doctor’s Account Details Test	Test Execution Date: 1-5-23

Description: Check if Doctor's view account details works perfectly with valid username and password.				
Precondition: Doctor must be logged in Dependencies:				
Test Steps	Test Data	Expected Results	Actual Results	Status
1. Go to the website 2. Then Admin Login 3. Put valid username and password 4. Click Sign In button	Username: doctor@edoc.com Password: 123456	View details must be successful	View successful	Pass
Post Condition: Redirected to view details page				

Project Name: Online Medical Appointment Management System			Test Designed By: Mahbub	
Test Case ID: OMAMS_6			Test Designed Date: 29-4-23	
Test Priority: High			Test Executed By: Musfiqur	
Test Title: Manage Doctor's Appointment Test			Test Execution Date: 1-5-23	
Description: Check if Doctor's Manage Appointment works perfectly with valid username and password.				
Precondition: Doctor must be logged in Dependencies:				
Test Steps	Test Data	Expected Results	Actual Results	Status
1. Go to the website 2. Then Admin Login 3. Put valid username and password 4. Click Sign In button	Username: doctor@edoc.com Password: 123456	View Manage Appointment details must be successful	View successful	Pass
Post Condition: Redirected to Manage Appointment details page				

Project Name: Online Medical Appointment Management System	Test Designed By: Mahbub
Test Case ID: OMAMS_7	Test Designed Date: 29-4-23
Test Priority: High	Test Executed By: Musfiqur

Test Title: Logout Test			Test Execution Date: 1-5-23	
Description: Check if Doctor's log out works perfectly				
Precondition: Doctor must have a valid username and password. Dependencies:				
Test Steps	Test Data	Expected Results	Actual Results	Status
1. Go to the website 2. Then Admin Login 3. Put valid username and password 4. Click Sign In button	Username: doctor@edoc.com Password: 123456	Logout must be successful	Log out successful	Pass
Post Condition: Redirected to login page				

Project Name: Online Medical Appointment Management System			Test Designed By: Mahbub	
Test Case ID: OMAMS_8			Test Designed Date: 29-4-23	
Test Priority: High			Test Executed By: Musfiqur	
Test Title: Admin's Add Doctor Test			Test Execution Date: 1-5-23	
Description: Check if Admin's Add Doctor works perfectly				
Precondition: Admin must log in Dependencies:				
Test Steps	Test Data	Expected Results	Actual Results	Status
1. Go to the website 2. Then Admin Login 3. Put valid username and password 4. Click Sign In button	Username: admin@edoc.com Password: 123456	Add Doctor must be successful	Add Doctor successful	Pass
Post Condition: Redirected to Add Doctor page				

Project Name: Online Medical Appointment Management System	Test Designed By: Mahbub
Test Case ID: OMAMS_9	Test Designed Date: 29-4-23
Test Priority: High	Test Executed By: Musfiqur
Test Title: Admin's Appointment manager Test	Test Execution Date: 1-5-23

Description: Check if Admin’s Appointment manager works perfectly				
Precondition: Admin must log in Dependencies:				
Test Steps	Test Data	Expected Results	Actual Results	Status
1. Go to the website 2. Then Admin Login 3. Put valid username and password 4. Click Sign In button	Username: admin@edoc.com Password: 123456	Appointment manager must be successful	Appointment manager successful	Pass
Post Condition: Redirected to Appointment manager page				

Project Name: Online Medical Appointment Management System			Test Designed By: Mahbub	
Test Case ID: OMAMS_10			Test Designed Date: 29-4-23	
Test Priority: High			Test Executed By: Musfiqur	
Test Title: Admin’s Schedule manage Test			Test Execution Date: 1-5-23	
Description: Check if Admin’s Schedule manage works perfectly				
Precondition: Admin must log in Dependencies:				
Test Steps	Test Data	Expected Results	Actual Results	Status
1. Go to the website 2. Then Admin Login 3. Put valid username and password 4. Click Sign In button	Username: admin@edoc.com Password: 123456	Schedule manage must be successful	Schedule manage successful	Pass
Post Condition: Redirected to Schedule manage page				

7.1 Testing by Selenium:

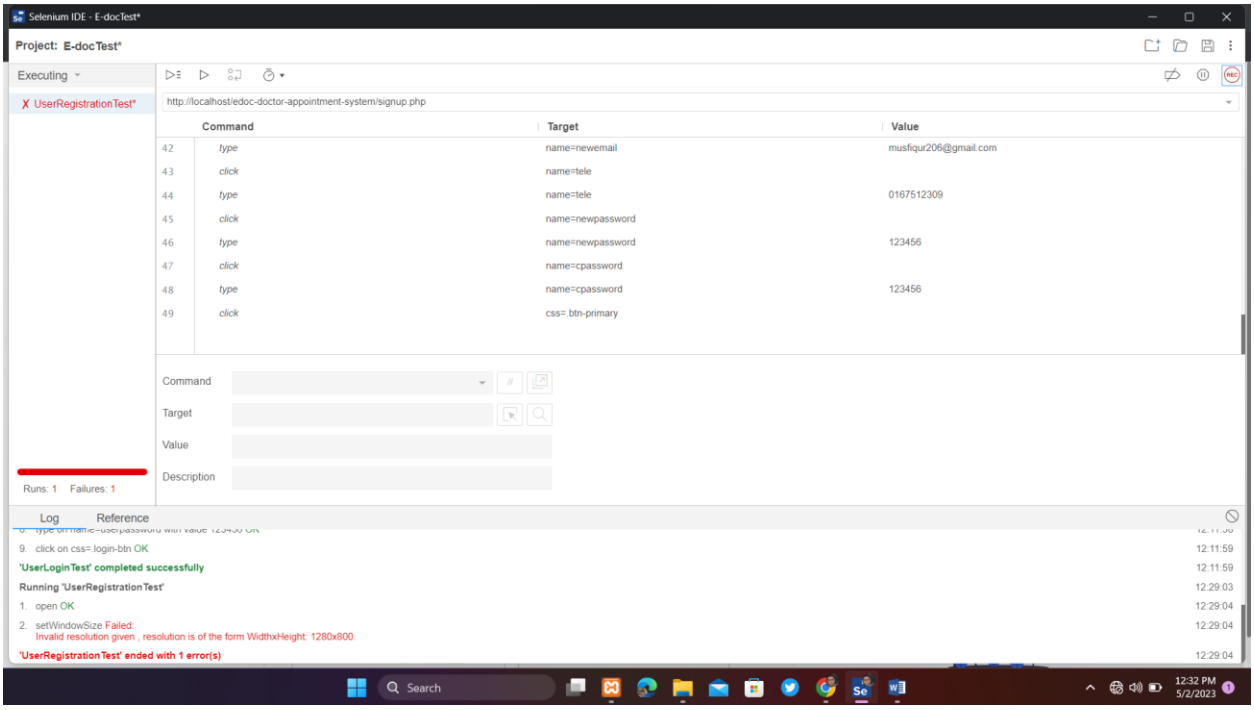


Figure: User Login page Testing.

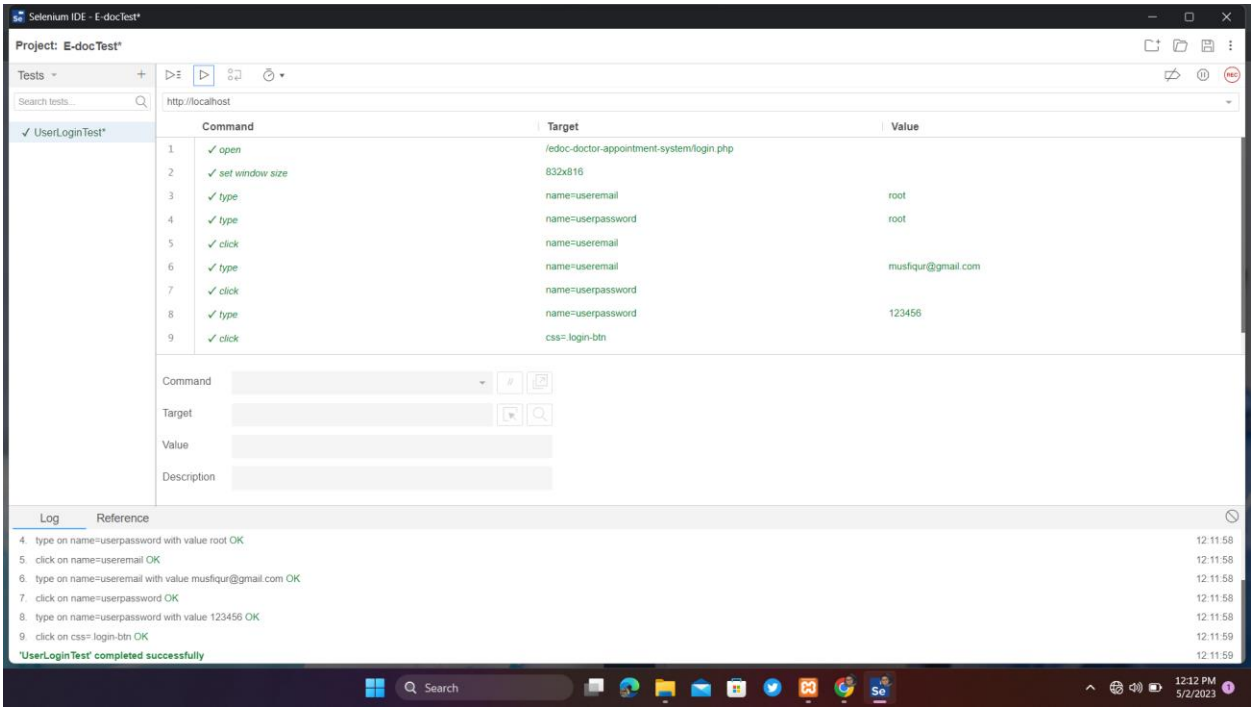


Figure: User Registration page Testing

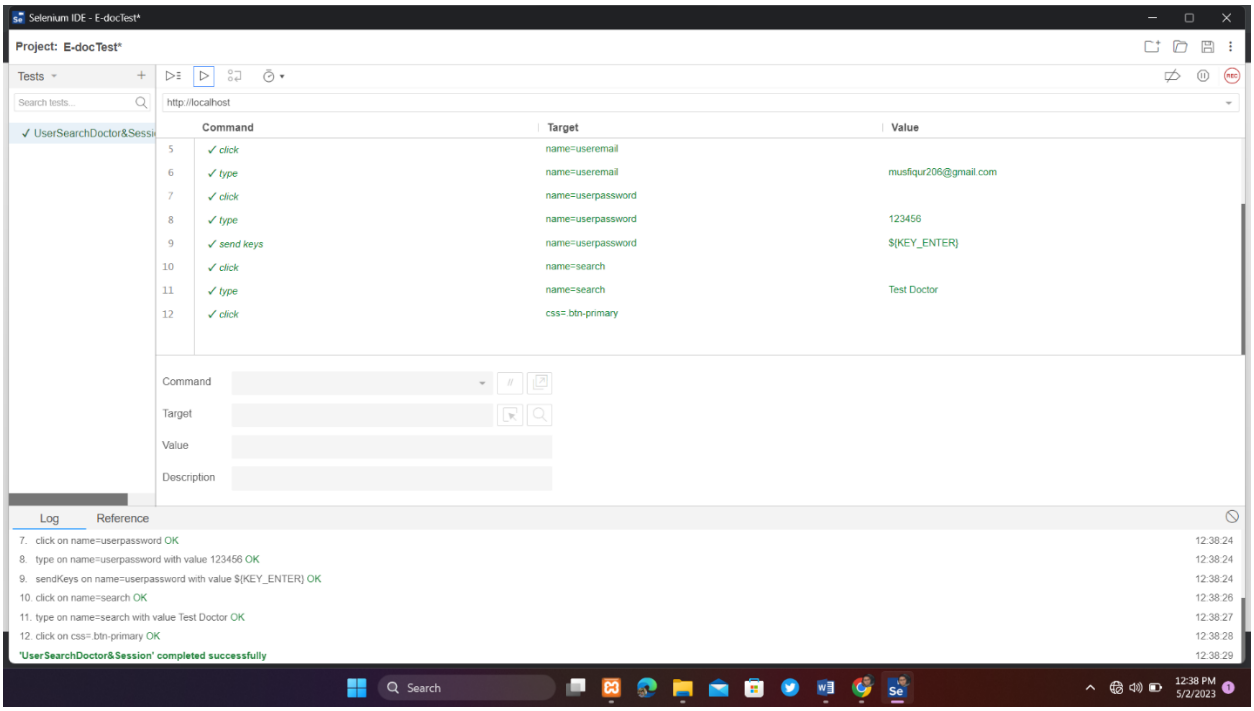


Figure: User Search Doctor & session page Testing.

8. ITEM PASS/FAIL CRITERIA

The main objective of this section is to describe the PASS/FAIL criteria for the tests that are a part of this project. Any component, unit, system, or integrated test item scoring in the range of 80% to 95% will be assumed to meet the pass condition, and any system or unit scoring below 80% will be subject to the failure criteria. We used this metric in our project to assess how reliable and client-pleasant it is.

9. TEST DELIVERABLES

After development, technical process should be followed. Delivery process should be defined in SQ Test plan –

- Unit test findings and result should be documented properly. Product should be analyzed properly to help post testing. Turnover document must be ready.
- Connected modules in system integration, test plans, result should be documented. COTS and 3rd party integration should be mentioned. OTS tolerance level and component functionality should be properly described. For system testing, DRE, PhAge, Spoilage etc. calculation should be

calculated and documented before software delivery to make it easier to understand QA improvement and effort.

- Acceptance test audience should be chosen wisely as wrong testers can cause wrong result and feedback. It is like a contact for development team to be released and software to be ready to deliver.
- Test strategy will be decided based on System Requirement Specification (SRS) document. It is a high-level document prepared by the Test manager or lead. Test objective, approach, scope, levels, entry & exit criteria, staffing etc. must be mentioned.
- Test plans and progress should be tracked with project management tools like Clickup, Wrike etc.
- Test summary report might be needed depending on client demand to review overall performance. Test Summary Report includes all the test activities, test results, client details, tester info, scope, objectives, test approach, defect report etc.
- Screen-based prototyping concepts and toolsets of software system should be included with the document. It helps to understand software functionality and potential threats or issues. It is used to describe the requirement fulfillment to the end user.
- Mockup report must be ready before project delivery to provide a model, visual draft of what the project would look like or how the design was planned initially. Different formats for charts, graphs and illustrations can be used to comfort reader to view the whole thing without going back and forth.
- Test manual outlining the unit, integration and system tests before delivery and expected outcomes should be included in documentation to compare planned and original product.
- The test log contains record of occurred events during a test schedule and execution, as well as the status of each phase. We revised every phase has been noted and data has been recorded data which describes activities and different approaches in the project.
- Incident reports should be ready to keep employees safe and ensure best practices has been established in the workplace during the project to increase industry/organization grade and to ensure a successful project. We made full summary and report in our project.
- An employee turnover report shows the number of terminated employees among the active employee in the organization and the monthly analysis report. The average is calculated for the year. So, it is very much important for our projects and plays a significant role in maintaining a clear process and standard in development.

10. STAFFING AND TRAINING NEEDS

The staffing approach's purpose is to ensure that there are enough employees on the project with the right knowledge and experience to finish it effectively. Additionally, staffing and training are important human resource management techniques utilized to improve corporate performance through the development of human capital assets. The tasks are necessary to finish the project are listed in detail in the section below. It describes the positions involved in the project, their duties, and the number of individuals required to fill each position.

- The project will function well if it is well-budgeted and all of its perspectives are active. We ought to be aware of these things. Our initiative must be expanded to include training and other activities as necessary.

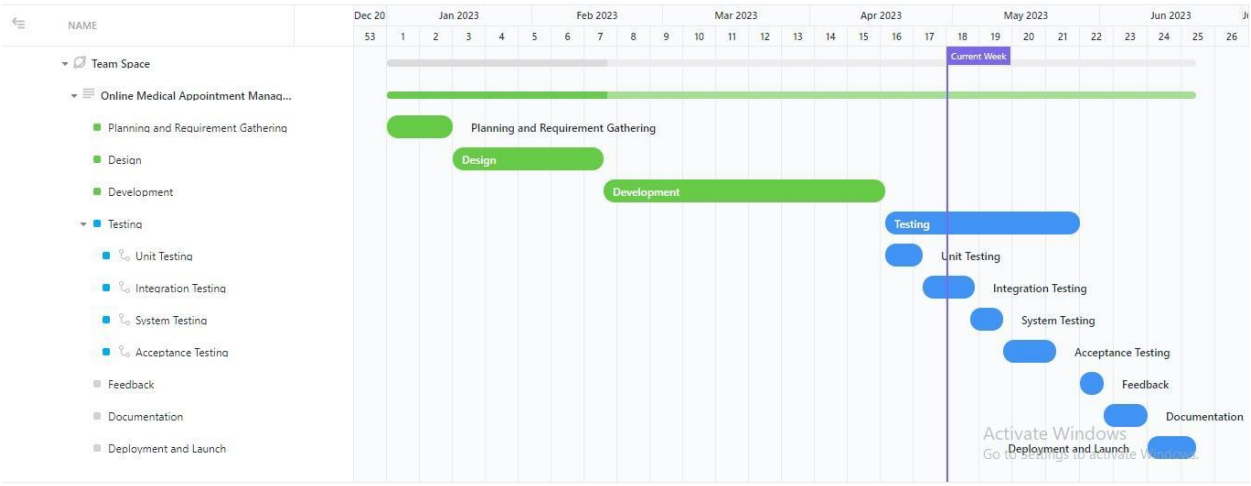
- First and foremost, there will be at least one or two project managers who are adept at organizing, planning, and carrying out projects while sticking to deadlines and financial restrictions.
- Lead programmers were employed for our project. Software engineers that handle many projects are known as lead programmers. He is in charge of managing projects, making technical choices, and developing work on the technical level. He is in charge of accomplishing objectives and keeping deadlines at the management level.
- For our project, the system/integration and acceptability testing phases require at least one full-time tester. (Full-time tester) will be entrusted with the project for a period of four months after it begins. In the absence of a tester, the test manager will act in this capacity. We must solve several training-related issues if we want to guarantee a thorough and proper exam.
- The fundamental aspects of our project interface need to be taught to developers and testers. Before the project is officially approved, operations employees must also get thorough training in this project communication procedure.
- Determine how to transform a designer's vision into a strategy that developers can accomplish by analyzing the project requirements. We may complete these kinds of tasks by including a requirement analyst in our project.
- In regards to our project's testing method and goals, we determined its goal. Observed how a testing cycle appears when it has been completed successfully.
- A crucial part of project objectives is played by the monitoring and control mechanisms. A monitoring system will be useful if project-related talks have taken place. The developer will monitor the development of the project and make necessary modifications.
- User management and development management are more integrated. The user administrator makes their choice after considering modifications to the control procedure. Thus, in our project (Online Medical Appointment Management System), the user management team could be consulted when the development management system requested assistance to improve the project. The testing team must then tell whether there is a problem or a need for an upgrade or modification.

Finally, we may state that staffing and appropriate training (if required) are crucial. Staffing and training are crucial if we want to complete the project successfully with scheduled timing.

11. RESPONSIBILITIES

	TM	PM	Dev. Team	Test Team	Client
Acceptance test Documentation & Execution	X	X		X	X
System/Integration test Documentation & Exec.	X		X	X	
Unit test documentation & execution	X		X	X	
System Design Reviews	X	X	X	X	X
Detail Design Reviews	X	X	X	X	
Test Procedures and rules	X	X	X	X	
Screen & Report Prototype reviews			X	X	X
Change control and Regression testing	X	X	X	X	X

12. TESTING SCHEDULE



13. PLANNING RISKS AND CONTINGENCIES

- For development an online medical appointment system website. Here are some potential risks and their corresponding contingencies:

Technical risks: Technical risks could include issues with software compatibility, database errors, or server downtime. To mitigate these risks, the project team should conduct thorough testing and quality assurance, maintain a backup of the system data, and have a technical support plan in place to address any issues that arise.

Security risks: Security risks could include data breaches, cyberattacks, or unauthorized access to sensitive patient information. To mitigate these risks, the project team should implement appropriate security measures, such as using secure authentication protocols, encryption, and firewalls, and conduct regular security audits to identify and address vulnerabilities.

Resource risks: Resource risks could include issues with staffing, budgeting, or equipment availability. To mitigate these risks, the project team should have a contingency plan in place to address any potential resource shortages, such as outsourcing certain tasks, reallocating resources, or adjusting the project timeline and scope.

Stakeholder risks: Stakeholder risks could include issues with stakeholder engagement or communication breakdowns. To mitigate these risks, the project team should establish clear communication channels, provide regular progress updates, and involve stakeholders in decision-making processes.

Scope risks: Scope risks could include changes in project requirements or unexpected delays. To mitigate these risks, the project team should establish a clear project scope, monitor progress regularly, and be prepared to adjust the project timeline or scope as needed.

14. APROVALS

Project Sponsor - Steve Sponsor	
Development Management - Ron Manager	
EDI Project Manager - Peggy Project	
RS Test Manager - Dale Tester	
RS Development Team Manager - Dale Tester	
Reassigned Sales - Cathy Sales	
Order Entry EDI Team Manager - Julie Order	