



American International University-Bangladesh (AIUB)

Department of Computer Science
Faculty of Science & Technology (FST)
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Software Quality Assurance and Testing

Pharmacy24

Section: B

Group-

A Report submitted

By

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Software Test Plan

for

Pharmacy24

Version 9.0 approved

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Revision History

Revision	Date	Updated by	Update Comments
1	20.4.2023	Sanjida Hoque Sathi	First Draft
2	24.4.2023	Syeda Aynul Karim	Second Draft
3	27.4.2023	Irin Zaman Munni	Third Draft
4	30.4.2023	Shahria Siraj Raju	Forth Draft

1. Test Plan Identifier: Pharmacy24-01.9

2. References

- 2.1 Software Requirement Engineering Document
- 2.2 Software Quality and Testing Course PowerPoint Slides
- 2.3 [Types of software Testing- geeksforgeeks.org](https://www.geeksforgeeks.org/types-of-software-testing/)
- 2.4 Team Gantt (Trello): Time Scheduling & Management
- 2.5 Selenium Tool

3. Introduction

3.1 Background to the problem

Physically going to a pharmacy can take up a lot of time, especially for individuals who face mobility or transportation issues. Furthermore, brick-and-mortar pharmacies may not have the required medications or healthcare products available, resulting in treatment delays and multiple trips to different pharmacies. Additionally, some people may feel uneasy purchasing certain medications in person due to privacy concerns, which can deter them from seeking treatment or buying necessary medications.

3.2 Solution to the problem

PHARMACY'24 is an online store that specializes in selling baby food, healthcare products, and rare medicines. The store provides a more extensive selection of medications and healthcare products than traditional physical pharmacies, and customers can conveniently search for what they need and compare prices and brands.

The website allows customers to purchase their medication from a computer or mobile device, and receive home delivery. This saves time, especially for those with mobility issues or those who live far from a pharmacy and eliminates the need to visit a physical pharmacy in person.

4. Requirement Specifications

4.1 System Features

1. Log in / create account:

- System allows new user to sign up to the system.
- The user must enter username and password.

Priority level: High

Precondition: User have valid user id and password

2. Registration:

- User open an account by doing registration.
- Provide Name, User name, Age, Email, Password & Mobile.
- Verify Name, User name, Age, Email, Password & Mobile.
- Sign up and create the account.

Priority Level: High

Precondition: verify all information

3. User History

- User can see his/her history any time and can see the transactions.

Priority level: High.

Precondition: User have seen history any time

4. Block user:

- Admin can block fake accounts (user, service provider) for security purpose.

Priority level: High.

Precondition: User have block fake account

5. Verification:

- To confirm the user's ID, a verification code will be provided to their email or phone number.

Priority level: High.

Precondition: User have valid email address or phone number

6. Delete account:

- User can delete his account so that he doesn't get any further update

Priority level: High.

Precondition: User can delete account

7. Google Map:

- System can show the location to the user using google map.

Priority level: High.

Precondition: User have used Google map

8. Payment:

- User can pay through mobile banking using Bkash, Nagad. Also, can pay cash.

Priority level: High.

Precondition: User have valid numbers

9. Voucher:

- System gives different badges like premium, gold, silver to the regular users.
- User can get voucher using the badges.

Priority level: High.

Precondition: verify all information

4.2 System Quality Attributes

- Security: The Pharmacy 24 have been secured and protected sensitive information, such as personal health information (PHI) and payment details, from unauthorized access or malicious attacks.
- Performance: The Pharmacy 24 website load quickly and respond to user actions in a timely manner to provide a smooth and efficient user experience.
- Usability: The Pharmacy 24 website is user-friendly and easy to navigate, with clear and concise content, intuitive menus, and appropriate feedback mechanisms.
- Accessibility: The Pharmacy 24 website is accessible to people with disabilities, such as visual impairments, hearing impairments, or mobility impairments, in accordance with web accessibility guidelines.
- Compatibility: The Pharmacy 24 website is working across a range of web browsers, operating systems, and devices, including desktop computers, laptops, tablets, and smartphones.
- Scalability: The Pharmacy 24 website is able to handle increasing traffic and user demands without compromising its performance or functionality.
- Reliability: The Pharmacy 24 website is available and functioning correctly at all times, with minimal downtime or errors.
- Maintainability: The Pharmacy 24 website is easy to maintain and update, with clear documentation and well-structured code that follows industry best practices.
- Data privacy: The Pharmacy 24 website is complied with data privacy regulations and protect the privacy of the users' data.

4.3Project Requirements

An algorithmic software cost estimating methodology is the Constructive Cost Model

(COCOMO). We will be using an organic software project type. It is a software project that must be worked on in a hardware-dependent environment.

Constructive Cost Model

We are assuming that the SLOC (Source Lines of Code) that we require here after analyzing all the components.

$$\text{SLOC} = 10,000$$

Now we need to figure out the effort, development time, and required number of people.

Suppose that, our software project type is organic, the values of the Coefficient<Effort Factor> = 2.4

$$P = \text{project complexity} = 1.05$$

$$\text{SLOC} = 10,000$$

$$T = \text{SLOC-dependent coefficient} = 0.38$$

Now,

$$\text{Effort} = PM = \text{Coefficient} * (\text{SLOC}/1000)^P$$

$$\begin{aligned} PM &= 2.4 * (10000/1000)^{1.05} \\ &= 26.93 \end{aligned}$$

$$\begin{aligned} \text{Development Time} = DM &= 2.5 * (PM)^T \\ &= 2.5 * (26.93)^{0.38} \\ &= 8.74 \\ &= 9 \text{ [In months]} \end{aligned}$$

$$\begin{aligned} \text{Required Number of People} &= ST \\ &= PM/DM \\ &= 26.93/8.74 \\ &= 3.08 \\ &= 3 \end{aligned}$$

Budget Estimation

$$\text{Duration in weeks} = 9 * 4 = 36 \text{ weeks Office days}$$

$$\text{Per week working days} = 5 \text{ days}$$

$$\text{Working hours} = 7 \text{ Hours}$$

$$\text{So, per week working hours is} = (5 * 7) \text{ hours} = 35 \text{ hours}$$

So Total Working hours is = $35 \times 36 = 1260$ hours.

Developer salary is = 800 Taka/ Hour

Total developers Salary = (800×1260)
 = 1008000 Taka

Expense	Amount	Total Amount
Salary for 3 developers		10,08,000
For Requirement analysis Cost for 1 months	$22 \times 8 \times 400$	70,400
Transport Cost		10,000
9 months office rent	9×25000	2,25,000
Hardware Expanse		80,000
4 months maintenance cost	$16 \times 9 \times 1200$	1,72,800
Training Cost		10,000
Project Manager salary for 9 months	$25,000 \times 9$	2,25,000
Now Total Estimation Cost is		18,00,400

Profit

20% of total estimation cost = $18,00,400 \times 20\% = 3,60,080$

Total budget for the project = $18,00,400 + 3,60,080$
 = 21,60,480

The total budget for the project is 21,60,480 Taka.

5. TEST CASES/TEST ITEMS (Pharmacy24)

5.1 Sign Up:

This Test case is for testing the sign-up details

Project Name: Online based medicine delivery system - (Pharmacy24)			Test Designed by: Sanjida Hoque Sathi	
Test Case ID: FP_01			Test Designed date: 18, Mar,2023	
Test Priority (Low, Medium, High): High			Test Executed by: Syeda Aynul Karim	
Module Name: Sign Up			Test Execution date: 18, Mar,2023	
Test Title: Verify sign up sending verification code				
Description: Test the sign-up verification				
Precondition: User should have valid email or phone number				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website sign up page 2. Enter first name 3. Enter last name 4. Enter valid email 5. Enter valid phone number 6. Select reason for choosing us 7. Click sign up	First Name: Syeda Last Name: Karim Email: Syedaishmee19@gmail.com Phone no:01713456778	Verification code should be sent to the user email or phone no	As expected,	Pass
Post Condition: User should get the verification code and confirm it and get sign up in to the system successfully.				

5.2 Login:

This Test case tests the login that a user can login using their id and password

Project Name: Online based medicine delivery system -(Pharmacy24)			Test Designed by: Syeda Aynul Karim	
Test Case ID: FP_02			Test Designed date: 19, Mar,2023	
Test Priority (Low, Medium, High): High			Test Executed by: Sanjida Hoque Sathi	
Module Name: Login			Test Execution date :19, Mar,2023	
Test Title: Verify login with valid email or phone number and password				
Description: Test the system login				
Precondition: User should have registered mail address/phone number and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the login page 2. Enter valid email/ phone number 3. Enter password 4. Click login	Email: Syedaishmee19@gmail.com or Phone: 01713456778 password: 123456	User should login to the system	As expected,	Pass
Post Condition: User should have logged in to the system successfully				

5.3 Logout

This Test case is for checking the user can logout successfully or not.

Project Name: Online based medicine delivery system - (Pharmacy24)	Test Designed by :Syeda Aynul Karim
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Test Case ID: FP_06			Test Designed date: 22, Mar,2023	
Test Priority (Low, Medium, High): High			Test Executed by: Irin Zaman Munni	
Module Name: Logout			Test Execution date: 22,Mar,2023	
Test Title: Verify the logout Module				
Description: Test the logout session.				
Precondition (If any): User need to Login into the system.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website home page 2. Click to the “logout”button	N/A	Successful logout	As expected,	Pass
Post Condition: user may go back to the login page.				

5.4 View Medicine List

This Test case will check that the feature is showing all the medicines with their corresponding details or not

Project Name: Online based medicine delivery system - (Pharmacy24)		Test Designed by: Irin Zaman Munni	
Test Case ID: FP_03		Test Designed date: 19, Mar,2023	
Test Priority (Low, Medium, High): High		Test Executed by: Syeda Aynul Karim	
Module Name: View Medicine List		Test Execution date: 19, Mar,2023	
Test Title: Showing all the medicine with their corresponding details			
Description: Test all the medicines are visible or not			
Precondition: Some medicines must be added before viewing cart.			

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website in Pharmacy24 2. Login to the page 3. Go to the Medicine page		User should see all the medicines in details with the price	As expected,	Pass
Post Condition: Added medicines must view in the cart section.				

5.5 Add to Cart

This Test case is for checking the user whether he/she can order multiple medicines.

Project Name: Online based medicine delivery system - (Pharmacy24)			Test Designed by: : Syeda Aynul Karim	
Test Case ID: FP_04			Test Designed date: 21, Mar,2023	
Test Priority (Low, Medium, High): High			Test Executed by: : Syeda Aynul Karim	
Module Name: Add to cart			Test Execution date: 21, Mar,2023	
Test Title: Adding items in the cart				
Description: Test whether multiple items are added in the cart				
Precondition (If any): Cart should be empty.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the Pharmacy24 page. 2. Select multiple medicine items.		User should see all the selected items on cart.	As expected,	Pass
Post Condition: Added medicine items must show in the cart section.				

5.6 Payment Method

This Test case tests the payment method. There is used two types of payment method. Users can either pay with cash or using mobile banking named Bkash.

Project Name: Online based medicine delivery system - (Pharmacy24)			Test Designed by: Syeda Aynul Karim	
Test Case ID: FP_05			Test Designed date: 21, Mar,2023	
Test Priority (Low, Medium, High): High			Test Executed by: Syeda Aynul Karim	
Module Name: Cash Payment Method			Test Execution date: 21, Mar,2023	
Test Title: Showing options for paying with cash				
Description: Test Bkash cash validation				
Precondition (If any): Items should be added to the cart.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Add 1 Cough Syrup and 1 Paracetamol 2. Pay with Bkash.	Pay 245 BDT by Bkash	The system must accept cash 270 BDT	As expected,	Pass
Post Condition: Must accept Bkash terms and conditions.				

5.7 Settings:

The test case is for the settings options

Project Name: Online based medicine delivery system - (Pharmacy24)			Test Designed by: Sanjida Hoque Sathi	
Test Case ID: FP_07			Test Designed date: 22, Mar,2023	
Test Priority (Low, Medium, High): Low			Test Executed by: Syeda Aynul Karim	
Module Name: Settings			Test Execution date: 22, Mar,2023	

Test Title: Test all the settings option				
Description: Test all the orders are visible or not				
Precondition: User have logged in and went to system list				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to Pharmacy24 page 2. Login to the page 3. Go to system bar 4. Then from option click setting option	.	In setting section user can change the language, floating icon, receive push notifications, receive offers by email	As expected,	Fail
Post Condition:				

5.8 Change Password

This Test case is for Change password

Project Name: Online based medicine delivery system - (Pharmacy24)	Test Designed by: Syeda Aynul Karim
Test Case ID: FP_08	Test Designed date: 23, Mar,2023
Test Priority (Low, Medium, High): Medium	Test Executed by: Syeda Aynul Karim
Module Name: Change password	Test Execution date: 23, Mar,2023
Test Title: Test the changing password	
Description: Test the password is changing or not	
Precondition: User have to logged into the system then go to profile option	

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Login to the website 2. Go to option 3. Click on the “change password” option	Password: 45897	Password should be added by the user and stored in database.	As expected,	Pass
Post Condition: Database should be updated password				

5.9 Update Profile:

This Test case is for update the profile

Project Name: Online based medicine delivery system - (Pharmacy24)			Test Designed by: Syeda Aynul Karim	
Test Case ID: FP_09			Test Designed date: : 23, Mar,2023	
Test Priority (Low, Medium, High): Low			Test Executed by: Syeda Aynul Karim	
Module Name: Update Profile			Test Execution date: : 23, Mar,2023	
Test Title: Test the update profile				
Description: Test the profile is update or not				
Precondition: User have logged in and went to system menu				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)

1. Login to the website 2. Go to menu option 3. Click profile option	Email: Syedaishmee19@gmail.com First Name: Syeda Last Name: Karim Phone No: 01713456778	User provide information email and phone number should be verified and User edit their name and click save it will show that the profile is update	As expected,	Pass
Post Condition: After changing their name email, phone number profile show is update				

6. Item Pass/Fail Criteria

To develop Pharmacy24, nine test cases were employed initially. During unit testing, 95% of these test cases were successful, while the remaining 5% failed. This failure was attributed to difficulties with database queries. However, after addressing the query-related issues, all test cases were executed effectively, and none of them failed.

7. TEST DELIVERABLES

- Test plan
- Test results documents
- Test summary
- Defect reports and summaries

8. Testing Approach

8.1 Testing Levels

- **Unit Testing:**

Unit testing is a fundamental software testing process that focuses on testing individual units, components, or elements of software. The primary objective of unit testing is to verify that each unit of code functions correctly and is free of bugs, errors, and flaws. During unit testing, the lead developer approves the module, integrates it with the system, and transfers it to the QA team. This process detects any defects present in the specific unit, and developers must work to resolve them to ensure that the unit meets the expected functionality.

Unit testing is considered a "white box" testing method, as the code can be viewed but typically not modified. It is recommended that unit testing is performed early in the software development process to save costs, time, and effort in the long run.

- **Integration Testing:**

Integration testing is a level of software testing where multiple units or modules of the software are combined and tested as a group. The main purpose of integration testing is to ensure that the individual units function correctly when combined, and that the software operates as a complete system. During integration testing, issues such as interface errors, communication problems, and incorrect data sharing between modules can be identified and addressed.

Integration testing is also known as I & T (integration and testing), thread testing, or string testing. This method focuses on checking the flow of data from one module to the next, and it is typically performed by testers. This level of testing is critical because it verifies that everything is working together as a unified whole.

- **System Testing:**

The subsequent level of software testing is system testing, which aims to determine whether the system meets the necessary requirements. System testing involves

evaluating the software in various operating environments, configurations, and scenarios to ensure its proper functionality. Performance, load, reliability, and security are among the components scrutinized during system testing, with the objective of assessing the end-to-end system specifications.

Typically, professional testing agents perform this method on the finished software product before it is released to the market for use by actual users. This stage is crucial because the project is almost complete, and the software must be tested in an environment that is similar to what the user will encounter once it is ready.

- **Acceptance Testing:**

This is the final stage of testing before the software is released to the end-users.

Acceptance testing is performed by the end-users or stakeholders to ensure that the software meets the business requirements and is ready for deployment. The focus of acceptance testing is on the software's functionality, usability, and performance, and it involves a variety of tests to ensure that the software works as intended and meets the needs of the end-users.

8.2 Testing Tools

- **Selenium IDE-testing Tool**

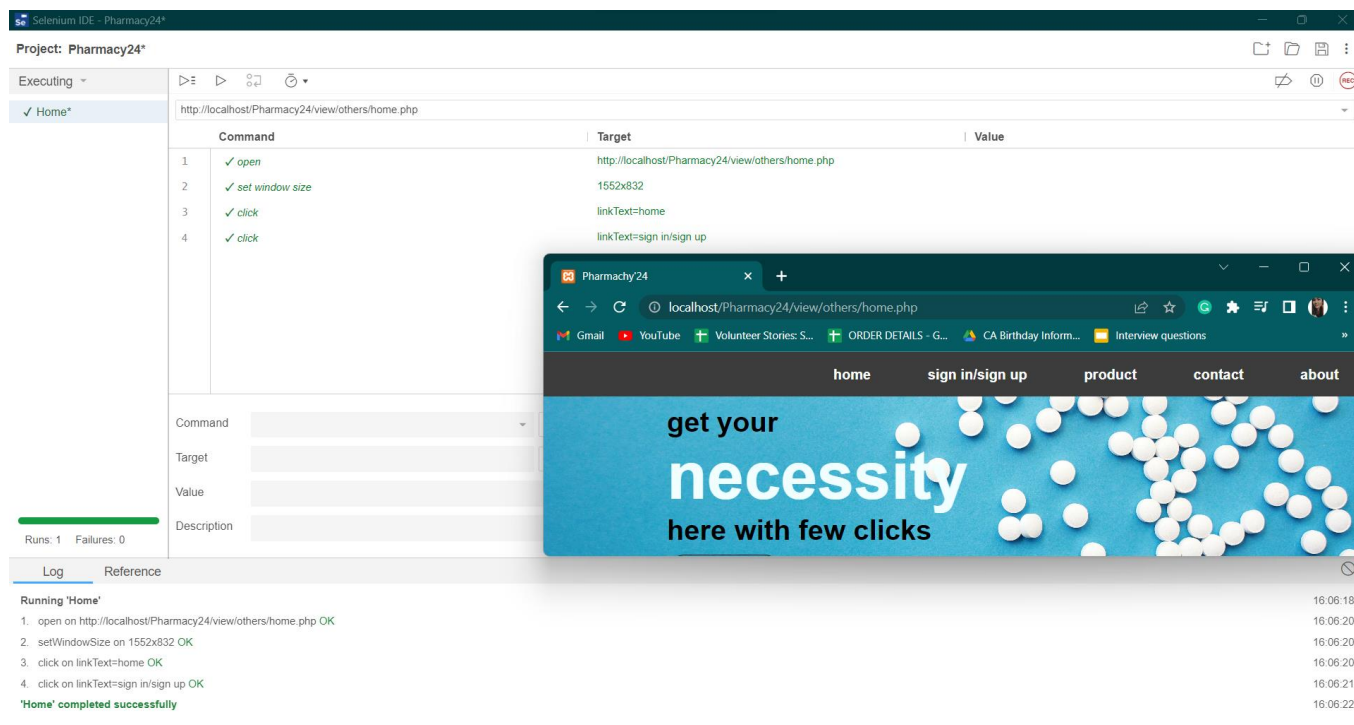


Fig.01: Selenium IDE for testing interactions and basic functionality of Pharmacy'24 site home page

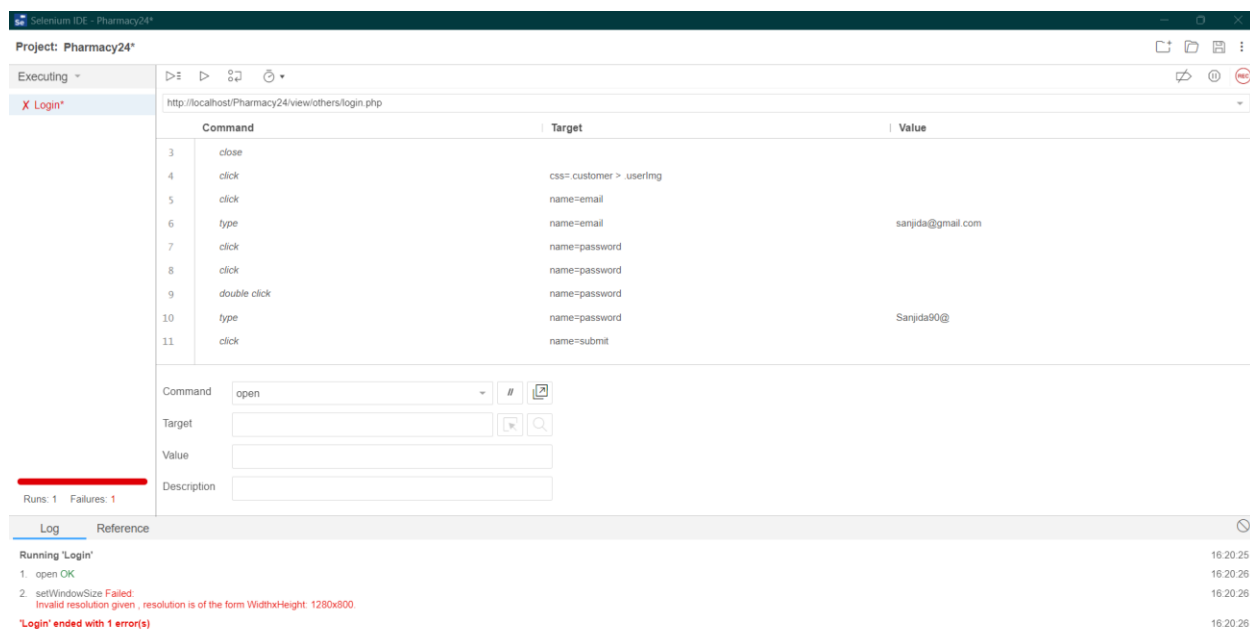


Fig.02: Selenium IDE for testing interactions and basic functionality of Pharmacy'24 site login page

8.3 Meetings

This entire project duration is about 4 weeks. Every day our group member has to report how much progress was done. All the members also provided suggestion for improving various functionality.

9. Staffing and Training Needs

For the project's system/integration and acceptance testing phases, it is desirable that at least one (1) full-time tester be allocated to the task. In order to participate in evaluations, meetings, etc., a person will need to be assigned part-time at the start of the project. After around six months, they will be assigned full-time. The project manager/test manager will take on this responsibility if a separate test person is not readily accessible. A full-time professional communicator should be required. sufficient numbers of operation staff should be needed. The following training needs to be handled in order for this project to be effective.

- The operation employees will need to receive communication and language training from a professional communicator.
- Instruction on the fundamental functions of the EDI interface will be required for the developers and testers for the project's final acceptance.

10. Testing Responsibilities

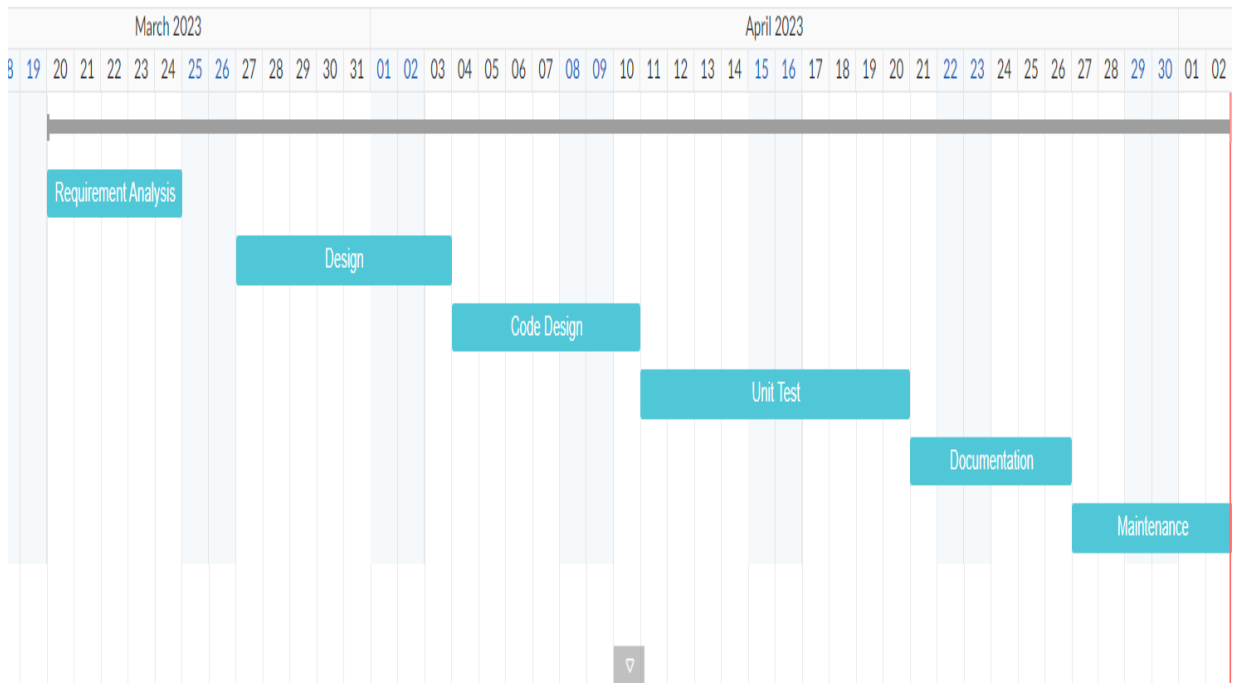
Name	Role	Responsibilities
SANJIDA HOQUE SATHI	Product Manager	1. Ensure the completion of the project in due time. 2. Conduct required interactions with customers 3. Manage the whole project and team 4. Match the completed project with the requirements
SYEDA AYNUL KARIM	Senior Developer & Lead Quality Control Engineer	1 Research, design, implement and manage software programs

		2, Write and implement efficient code 3, Deploy software tools, process and metrics 4, Execute all the test cases and report defects
IRIN ZAMAN MUNNI	Lead Quality Assurance Engineer	1, Create test plans, test forms, test cases and test information 2, Prioritize testing activities
SHAHRIA SIRAJ RAJU	Test Engineer	1, Characterize the testing activities of test planning 2, Check if the fundamental assets are available to execute the test cases

11. Testing Schedule

Time has been allocated within the project plan for the following testing activities.

Task Name	Duration	Responsible
Requirement Analysis	5 days	Project Manager
Design	7 days	Project Manager
Writing codes	8 days	Developers
Unit Test	10 days	Developers
Documentation	6 days	Test Engineer
Maintenance	6 days	Developers & End User



12. Planning risks and Contingencies for testing

Pharmacy'24 may be pricey and the upkeep may be a problem because the hardware and software must cooperate. There is relatively little interaction between people. Given that it is a self-service system, the user must be cautious when choosing the products.

