American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science &Technology (FST)

Summer 23 24

Section: A/ B

Software Quality Assurance and Testing

Pain Guest Management System

A Report submitted
By ABHIJIT BHOWMIK

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Checked By Industry Personnel

Name:

Designation:

Company:

Sign:

Date:

Software Test Plan

for

Pain Guest Management System

Version 1.0 approved

Prepared by Ahamad Safat & NAZMUN NAHAR

27 September 2024

Table of Contents

1. TEST PLAN IDENTIFIER:RS-MTP01.3

2. REFERENCES

- www.btroomer.com
- www.pgmanager.in

3. INTRODUCTION

Background to the Problem

Managing guests with special needs, or pain guests, in hospitals, nursing homes, and hotels presents unique challenges. These guests often require immediate and specialized attention related to health, mobility, or personal preferences. However, traditional management systems are not equipped to handle these complexities efficiently, leading to delays, miscommunication, and overall dissatisfaction for both guests and staff.

One of the key issues is the lack of comprehensive guest profiles that capture vital information such as medical conditions, mobility limitations, or dietary needs. This makes it difficult for staff to provide personalized care. Additionally, the manual process of assigning rooms and managing services often leads to delays and inaccuracies, which can frustrate guests with special requirements.

Another problem is the absence of real-time monitoring and alerts. Without automated notifications, staff may not respond promptly to urgent guest needs. Moreover, poor integration with medical or care systems in facilities like hospitals further hampers coordination between departments, leading to missed appointments or delayed treatments.

The guest experience also suffers due to these inefficiencies, particularly for those needing frequent attention. Inaccurate or delayed billing is another issue, as manual processes often result in errors or confusion about charges. Lastly, limited accessibility and user-friendliness of current systems make it difficult for staff to access guest information quickly, reducing responsiveness.

Addressing these issues with a streamlined, integrated system like the Pain Guest Management System (PGMS) would improve guest satisfaction and operational efficiency, ensuring that all special needs are met promptly and effectively.

Solution to the Problem

The Pain Guest Management System (PGMS) will address the specific needs of guests requiring special attention by implementing the following features:

1. Comprehensive Guest Profiles:
    - The system will allow the creation of detailed profiles for each guest, including medical conditions, mobility limitations, dietary preferences, and any special requirements.

    - These profiles will be accessible to all staff members, ensuring that every department has the necessary information to provide personalized care.
2. Real-Time Room and Service Management:
    - The system will automatically assign rooms to guests based on their specific needs. For example, a guest with mobility issues will be assigned a room with wheelchair accessibility.
    - It will manage service requests, such as medical equipment, extra bedding, or meal preferences, ensuring that guests receive what they need without delays.
3. Automated Alerts and Monitoring:
    - The system will continuously monitor guest profiles for critical updates. If a guest requires immediate attention (e.g., medication reminders, emergency assistance), the system will trigger automated alerts to notify the appropriate staff.
    - Alerts will be prioritized based on urgency, ensuring quick responses for high-priority situations.
4. Integration with Medical and Care Systems:
    - The system will integrate with medical systems (for hospital settings) to ensure that medical staff are alerted to any changes in a guest's condition. This ensures that guests with special health needs are consistently monitored.
5. Guest Experience Enhancement:
    - The platform will improve the overall guest experience by ensuring that their needs are met promptly. This personalized attention will lead to higher guest satisfaction, especially for guests with more complex care requirements.
6. Billing and Service Tracking:
    - PGMS will automatically generate detailed billing reports for services rendered during the guest's stay. This includes room charges, additional services, and any special requests.
    - The system will ensure that all charges are transparent and accurately reflect the services provided.
7. Improved Communication Between Staff:
    - The system will provide a unified platform where staff members from different departments (e.g., housekeeping, medical, and administration) can access the same information, improving coordination and minimizing the risk of miscommunication.
8. Accessibility and Ease of Use:
    - PGMS will feature a user-friendly interface that ensures quick and easy access for staff, enabling them to respond promptly to guest needs. The system will be accessible across devices, including mobile phones and tablets, making it ideal for use in various environments like hospitals, hotels, or nursing homes.

4. REQUEIREMNT SPECIFICATION

4.1 System Features

Below is a list of the functional requirements that describe the system's core functionalities:

1. System Login
    - Functional Requirements:
      1.1 The software shall allow users to log in using a valid username and password.
      1.2 If the username and/or password is incorrect after three attempts, the system will generate a verification code for the user to retry.
      1.3 If the number of failed login attempts exceeds five, the system will block the user's account for one hour.
    - Priority Level: High
    - Precondition: Users must have valid login credentials.
2. Guest Profile Management
    - Functional Requirements:
      2.1 The software shall allow the creation of guest profiles, capturing details like medical conditions, mobility limitations, and dietary preferences.
      2.2 The software shall allow staff to update guest profiles in real-time based on changing needs.
      2.3 The software shall allow authorized staff to view guest profiles across different departments.
    - Priority Level: High
    - Precondition: Users must have the appropriate permissions.
3. Room and Service Assignment
    - Functional Requirements:
      3.1 The software shall automatically assign rooms based on guest preferences and medical needs.
      3.2 The system shall allow staff to manually reassign rooms or services if needed.
      3.3 The software shall manage requests for special services like medical equipment or dietary requirements.
    - Priority Level: High
    - Precondition: Available rooms and services must be correctly recorded in the system.
4. Monitoring and Alerts
    - Functional Requirements:
      4.1 The system shall provide real-time monitoring of guest conditions and trigger alerts for critical issues.
      4.2 The system shall allow staff to prioritize alerts based on urgency and importance.
    - Priority Level: High

- Precondition: Guest profiles must be complete and up-to-date.

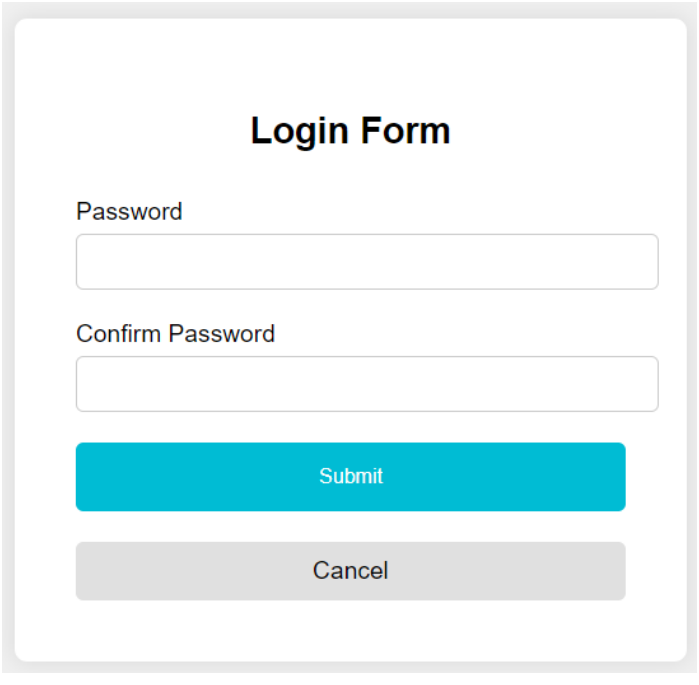
5. Billing System

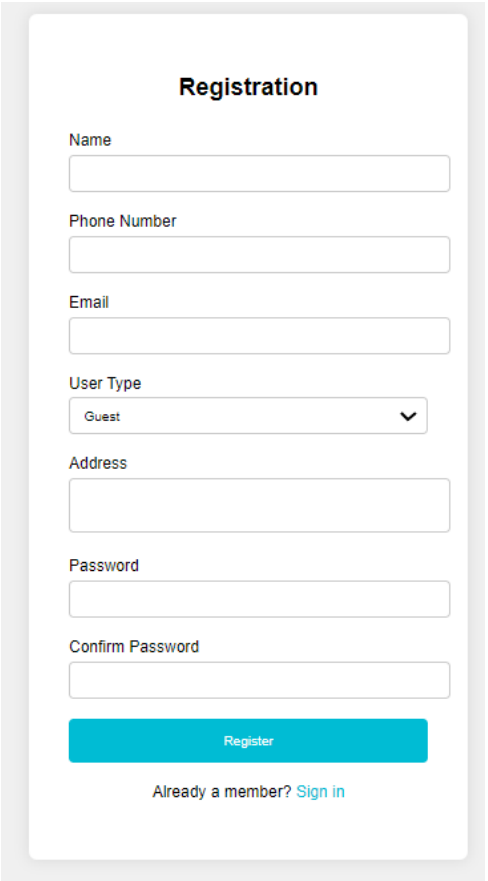
   - Functional Requirements:
     5.1 The software shall automatically generate invoices for guests based on their room, services, and any special requests.
     5.2 The software shall track all transactions and services associated with each guest profile.
     5.3 The system shall allow users to print or export bills in a readable format.
   - Priority Level: Medium
   - Precondition: Guest profiles must be linked to room and service records.

4.2 System Quality Attributes

- Usability: A trained user should be able to create a complete guest profile, including room assignment and service requests, within an average of five minutes and a maximum of seven minutes.
- Scalability: The system must handle up to 500 simultaneous users without degrading performance.
- Reliability: The system should have 99.9% uptime, ensuring uninterrupted access for critical services.
- Security: All sensitive guest data, including medical and personal information, must be encrypted and accessible only to authorized personnel.
- Performance: The system should generate guest invoices within five seconds of request submission, even during peak usage times.

4.3 System Interface





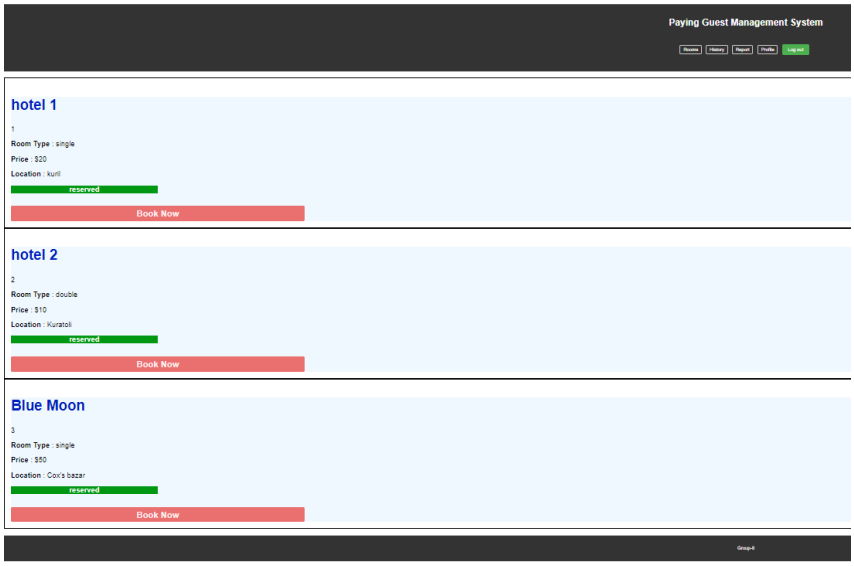
Forget Password

Email

Phone Number

Submit

Back to Login



hotel 1

Room Type : single

Price : $20

Facilities : tv, wifi, ac

Location : kuril

Status : reserved

Payment

You have to make payment $20

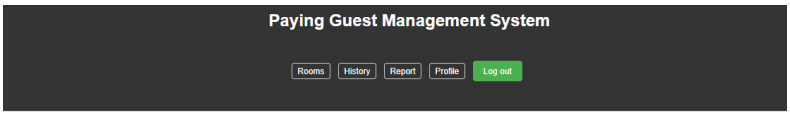
Customer email : ahamadahasaf@gmail.com

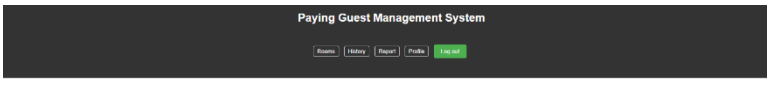
Number :

Money :

Make payment

Back





User Email	:	
Room Number	:	
Complain	:	

Submit

User Profile : Guest

Update

Name	abc
Phone Number	abc
Email	ahamadahasaf@gmail.com
Address	17/A Dhaka
Password	123456

4.4 Project Requirements

Budget estimation:

Resource Name	Type	Cost
Project Management Team	Work	48,000 Taka
HR Team	Work	48,000 Taka
System Designer Team	Work	48,000 Taka
Software Development Team	Work	60,000 Taka
Quality Assurance Team	Work	25,000 Taka
System Testing Team	Work	25,000 Taka
4 Computer	Recourse	2,00,000 Taka
Server	Recourse	60,000 Taka
Others	Recourse	60,000 Taka
	Total	**574,000 Taka**

Time estimation:

Task Name	Duration
Documentation	7 days
Design	7 days
Test plan	7 days
Unit testing	14 days
Integration testing	3 days
System Testing	3 days
Security testing	2 days
System testing bug report	3 days
Acceptance testing	3 days
Acceptance test bug report	7 days
Project completion	7 days
Feedback	3 days
Total	**66 days**

5. FEATURES NOT TO BE TESTED

1. Blocking Multiple Concurrent Logins:
    - Although it is important to prevent multiple users from logging into the system with the same credentials simultaneously for security reasons, this feature will not be part of the current test cycle. It will be addressed in a future release, and the focus of this cycle will remain on core functionalities like guest management and monitoring.
2. Tracking Guest Progress:
    - The system will eventually allow staff to track guest progress through various stages of their stay, from check-in to checkout. However, this feature is not included in the current testing scope. It will be developed and tested in later phases of the project.

6. TESTING APPROACH

6.1 Testing Levels

The testing for the Pain Guest Management System (PGMS) will follow three key levels: Unit Testing, System/Integration Testing, and Acceptance Testing, managed primarily by the test manager with help from the development team.

1. Unit Testing:
    - Responsibility: Developers will conduct unit testing and provide proof (test cases, outputs, and defect reports) to the team leader for approval.
    - Goal: Ensure individual modules, like guest profile management and billing, work correctly in isolation before integration.
2. System/Integration Testing:
    - Responsibility: The test manager and development team will test integrated modules to verify their interactions.
    - Goal: Ensure all system components work seamlessly together. Minor non-blocking defects are allowed but must not impact overall system functionality.
3. Acceptance Testing:
    - Responsibility: End users, assisted by the test manager and development team leader, will perform this testing.
    - Goal: Ensure the system meets user requirements during a one-month trial, running parallel with current processes.

6.2 Test Tools

The primary tool for automatic testing will be Selenium IDE. This tool will facilitate both unit and integration testing.

- Unit Testing: Performed by software developers using Selenium IDE to ensure individual components function correctly independently.
- Integration Testing: Conducted by the Software Development Leader and the QA Leader using Selenium IDE to verify that all system components work together seamlessly.

6.3 Meetings

- Weekly Meetings: The test team will meet weekly to track progress and address errors early.
- Biweekly Meetings: The test leader will meet with the development team and project manager every two weeks to ensure collaboration.
- Emergency Meetings: Additional meetings will be called as needed for urgent issues.

7. TEST CASES/TEST ITEMS

Project Name: Paying Guest Management System			**Test Designed By:** Nazmun Nahar	
Test Case Id: TC_1			**Test Designed Date:** 27-9-24	
Test Priority (Low, Medium, High): High			**Test Executed By:** Ahmed Safat	
Module Name: Registration Section			**Test Execution Date:** 26-9-24	
Test Title: Verify Registration Field Providing Credentials				
Description: Test registration page				
Precondition: N/A				
Test Steps	**Test data**	**Expectation Results**	**Actual Results**	**Status (Active)**
1.Go to Website 2.Go to sign up 3.Fill the registration form 4.click register	Name: Safat Ahmed Phone no:01721291286 Email: ahamadahasaf@gmail.com User Type: Guest Address: Password: 123456 Confirm Password: 123456	All users get the message- "Your Registration Complete Successfully"	As Expected	Pass
Post Condition: User is validated with database and successfully login to account. The account session and details are stored in database.				

Project Name: Paying Guest Management System			**Test Designed By:** Nazmun Nahar	
Test Case Id: TC_2			**Test Designed Date:** 26-9-24	
Test Priority (Low, Medium, High): High			**Test Executed By:** Ahmed Safat	
Module Name: Login Section			**Test Execution Date:** 27-9-24	
Test Title: Verify Login Field Providing Credentials				
Description: Test Login page				
Precondition: N/A				
Test Steps	**Test data**	**Expectation Results**	**Actual Results**	**Status (Active)**
1. Go to the website 2. Login section 3. Login the account 4. Logout the account	Email: ahamadahasaf@gmail.com: Password: 123456	All users get the message- ""Login and logout Successful" Redirect to dashboard	As Expected,	Pass
Post Condition: User should have a valid account.				

Project Name: Paying Guest Management System			**Test Designed By:** Nazmun Nahar	
Test Case Id: TC_3			**Test Designed Date:** 26-9-24	
Test Priority (Low, Medium, High): High			**Test Executed By:** Ahmed Safat	
Module Name: Forget Password Section			**Test Execution Date:** 27-9-24	
Test Title: Verify Login Field Providing Credentials				
Description: Test Forget Password page				
Precondition: N/A				
Test Steps	**Test data**	**Expectation Results**	**Actual Results**	**Status (Active)**
1. Go to the website 2. Go to Login page 3. Click forget password 4. In Forgot password page provide email and phone no then click submit 5.In login form provide password and confirm password and click submit	Email: ahamadahasaf@gmail.com Phone no: 01721291286 Password: 123456 Confirm password:1234567	All users get the message- ““Your password set successfully”	As Expected	Pass
Post Condition: User should have a valid account.				

Project Name: Paying Guest Management System			**Test Designed By:** Nazmun Nahar	
Test Case Id: TC_4			**Test Designed Date:** 26-9-24	
Test Priority (Low, Medium, High): Medium			**Test Executed By:** Ahmed Safat	
Module Name: Update Section			**Test Execution Date:** 27-9-24	
Test Title: Verify Update Field Providing Credentials				
Description: Test Update page				
Precondition: N/A				
Test Steps	**Test data**	**Expectation Results**	**Actual Results**	**Status (Active)**
1. Go to the website 2. Go to update page 3.Fill the update form 4.Don’t change the email 5.Click submit	Name: Safat Ahmed Phone no:01721291286 Email: ahamadahasaf@gmail.com User Type: Guest Address: Password: 12345678 Confirm Password: 12345678	All users get the message- ““Your Account updated successfully”	As Expected	Pass
Post Condition: User should have a valid account.				

Project Name: Paying Guest Management System			**Test Designed By:** Nazmun Nahar	
Test Case Id: TC_5			**Test Designed Date:** 26-9-24	
Test Priority (Low, Medium, High): Medium			**Test Executed By:** Ahmed Safat	
Module Name: Room booking Section			**Test Execution Date:** 27-9-24	
Test Title: Verify Room Booking and Payment Field Providing Credentials				
Description: Room Booking and Payment System page				
Precondition: N/A				
Test Steps	**Test data**	**Expectation Results**	**Actual Results**	**Status (Active)**
1. Go to the website 2. Go to Room booking page 3.If a room is available go to payment 4.in payment page provide room no and phone no 5.Click submit	Room no:1 Phone no:01721291286	All users get the message- ““Your room booked successfully”	As Expected	Pass
Post Condition: User should have a valid account.				

8. ITEM PASS/FAIL CRITERIA

The test process for the Pain Guest Management System (PGMS) will be considered complete when the following pass/fail criteria are met:

1. Successful Guest Profile Creation and Management:
    - Pass: All guest profiles can be created, updated, and deleted without errors. Information like medical conditions, mobility requirements, and preferences are accurately stored and retrievable.
    - Fail: If guest profiles cannot be created or updated, or if data is lost or improperly saved during the process.
2. Room and Service Assignment:
    - Pass: Rooms and services are correctly assigned based on the guest’s profile, and any manual changes are reflected accurately in the system.
    - Fail: If rooms or services are incorrectly assigned, or if the system fails to reflect manual changes.

3. Monitoring and Alerts:
    - Pass: Alerts for critical guest needs are generated and sent to the appropriate staff members in real time, with no delays.
    - Fail: If alerts are delayed, missed, or fail to trigger when needed.
4. Billing System Accuracy:
    - Pass: Invoices are generated accurately, reflecting all services provided to the guest. Billing records match the services logged in the system.
    - Fail: If invoices are inaccurate, or if there are discrepancies between services and the charges generated.
5. User Access and Security:
    - Pass: Only authorized users can access sensitive guest data, and all access attempts by unauthorized users are blocked.
    - Fail: If unauthorized users are able to view or modify sensitive data.
6. User Acceptance:
    - Pass: End users confirm that the system functions as expected during a one-month trial period running parallel to the current manual process.
    - Fail: If the system fails to meet the requirements of end users during this trial.
7. Final Activation:
    - Pass: Once the parallel trial is successfully completed, the manual system is deactivated, and the PGMS is fully operational without errors.
    - Fail: If critical errors or malfunctions occur during the trial period, preventing full activation.

9. TEST DELIVERABLES

The following deliverables will be produced during the testing process for the Pain Guest Management System (PGMS):

1. Acceptance Test Plan:
    - A document outlining the criteria, scope, and procedures for the User Acceptance Testing (UAT) phase. This plan will ensure that the system meets the end-user requirements and is ready for deployment.
2. System/Integration Test Plan:
    - A detailed plan that covers the integration and interaction of different system components. This will include test cases, testing methods, and tools used to verify the proper functioning of all integrated modules.

3. Unit Test Plans/Turnover Documentation:
    - Unit test plans will detail the testing of individual system components or modules. Turnover documentation will include all necessary materials for handing off the tested components to the integration phase, ensuring a smooth transition.
4. Screen Prototypes:
    - Visual prototypes of system interfaces, providing a clear layout and design of screens that will be used by staff and administrators during system operation. These prototypes will be reviewed for usability before final development.
5. Report Mock-ups:
    - Preliminary versions of system-generated reports, such as billing summaries, guest profiles, and service logs. These mock-ups will be reviewed to ensure that the final reports meet user requirements and contain all necessary information.
6. Defect/Incident Reports and Summaries:
    - Documentation of any defects or incidents found during testing, categorized by severity and priority. This will include descriptions of the issues, steps to reproduce, expected outcomes, and their current status (open, resolved, closed). Summaries will provide an overview of testing progress and defect resolution.
7. Test Logs and Turnover Reports:
    - Logs documenting the execution of test cases, including details on test results (pass/fail), the duration of tests, and any issues encountered. Turnover reports will summarize the results of testing phases and provide a basis for transitioning the system to production.

10. STAFFING AND TRAINING NEEDS

To ensure proper testing and operational success for the Pain Guest Management System (PGMS), the following staffing and training requirements must be met:

1. Full-Time Tester Requirement:
    - At least one full-time tester should be assigned during the system/integration and acceptance testing phases. This tester will work part-time initially and transition to full-time around four months into the project. If a dedicated tester is unavailable, the project manager/test manager will take over this role.
2. Training for Developers and Testers:
    - Developers and tester(s) need training on the basic operations of the system and the EDI interface. This ensures they understand the data flow and can identify integration issues early in the process.
3. Operations Staff Training:
    - The operations staff will receive training on the EDI communications process before project acceptance, ensuring they can manage data exchanges and troubleshoot effectively.
4. Sales Administration Staff Training:
    - Sales administration staff will require training on the new system screens and reports to familiarize themselves with guest profile management, billing, and report generation.

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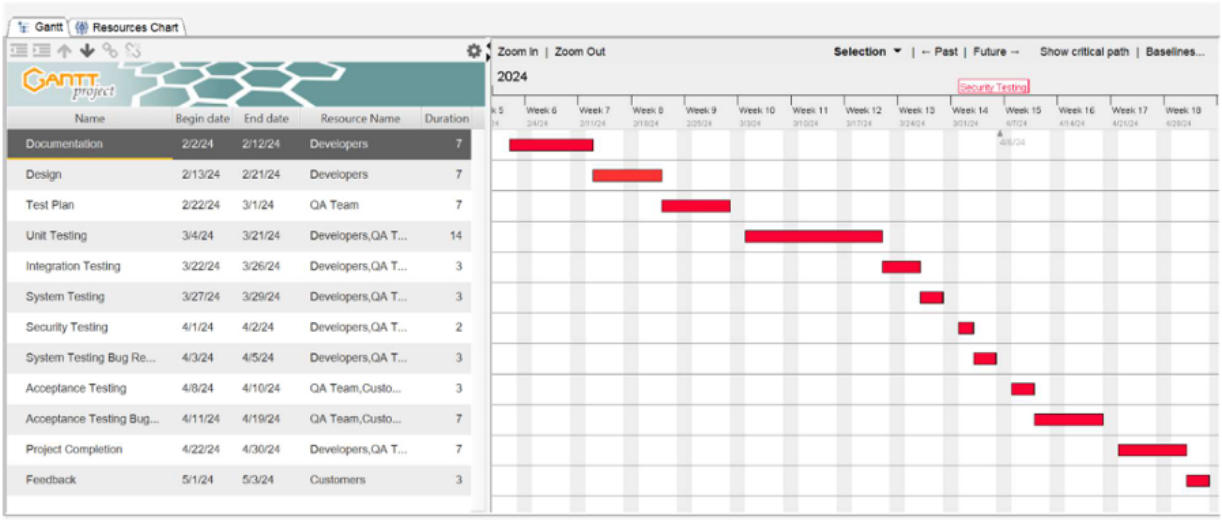
11. RESPONSIBILITIES

	TM	PM	Development Team	Test Team	Client
Test cases documentation	X	X	X	X	
Test Procedures and rules	X		X	X	
Unit test documentation & execution			X	X	
Integration test Documentation & Execution	X		X	X	
System test Documentation & Execution		X		X	
System Design Reviews	X	X	X	X	X
Details Design Reviews	X	X	X	X	
Screen & Report prototype reviews	X	X		X	X
Change Control and regression testing	X	X	X	X	X
Acceptance test Documentation & Execution	X	X		X	X

12. TESTING SCHEDULE



13. PLANNING RISKS AND CONTINGENCIES

1. Staff Shortages in Sales Administration:
    - The Sales administration team currently has two unfilled positions, which could lead to delays in reviewing documents and participating in the Acceptance test process. This shortage may impact the timely completion of critical reviews and testing phases.

2. Delays in Review and Testing:
    - If client staff availability becomes a challenge, the scheduled dates for document reviews and Acceptance testing will be adjusted accordingly. To maintain quality, no steps in the review and testing processes will be skipped or bypassed to compensate for delays.
3. Contingency Plan:
    - In the event of prolonged delays, additional resources or temporary staff may need to be allocated to assist with testing and review to minimize project slippage while ensuring that no critical review processes are omitted.

14. APROVALS

Name	Role	Signature
Ahamad Safat	QA Lead	
Nazmun Nahar	Project Manager	
Ahamad Safat	Business Analyst	
Nazmun Nahar	Test Manager	
Ahamad Safat	Developer Lead	