American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science &Technology (FST)

Summer 21-22

Software Quality Assurance and Testing

Transport Management System

A Report submitted By

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Software Test Plan

for

Transport Management System

Version 1.0 approved

Prepared by

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19 August 2022

Checked By Industry Personnel

Name:

Designation:

Company:

Sign:

Date:

Table of Contents

Revision History

Revision	Date	Updated by	Update Comments
0.1	2022.07.10	Mehedi Hasan Emon	First Draft
0.2	2022.07.11	Rifat Ahmed	Second Draft
0.3	2022.07.15	Kazi Ahsanul Haque Shojib	Third Draft
0.4	2022.07.20	Tanjim Mahmud Rakin	Fourth Draft
0.5	2022.07.24	Mehedi Hasan Emon	Fifth Draft
0.6	2022.07.29	Rifat Ahmed	Sixth Draft
0.7	2022.08.03	Kazi Ahsanul Haque Shojib	Seventh Draft

1. TEST PLAN IDENTIFIER:TP_TransportManagement_1.01

2. REFERENCES

https://www.trivago.com/bangladesh-243/hotel
https://bdtickets.com
https://paribahan.com

3. INTRODUCTION

This project is being carried out to create an internet software for all styles of delivery control. This software will keep treasured time as it may be used from the consolation of one's home. consumer can view/e-book/cancel tickets all from one region. Managers additionally get these blessings in managing their shipping tickets and additionally get file at the tickets bought.

Background to the Problem

- These project lead to create a web application where a user can register and then login to view/book/cancel tickets of their desired transport to their desired location all from a single place. Also, there will be a manager for each transport who can add/update/remove tickets and view all the tickets that are booked and get a report on all the tickets sold which will
- We made these project for managing ticket booking system for the users so that the can book ticket easily and can save their time.

Solution to the Problem

- By this system we can easily manage and schedule tickets for the users and the wont found any clash .Users can easily booked the tickets and reach their destination. All the update will be automated by this system. Easy to provide proper service to every User.

- In this project a web application is developed for all kinds of transport management. This application saves precious time as it can be used from the comfort of one's home. Users can register and then login to view all the available tickets of their desired transport from which they can even search ticket for their required journey. Which they can book or even cancel afterwards all from a single place. Users also get the option to change their profile info, as well as upload their profile picture and even their account password after they have created the account. Managers also get these benefits in managing their transport tickets.

- They can register as their destined transport manager and then login to manage their transport tickets. They can also add their desired transport and afterwards update its info and even they can remove them. Then they can add tickets to their added transports and also update them afterwards and even can remove them. Managers also get the privilege to view all the tickets that are booked by the users and get a report on all the tickets sold which will help them maximize their profit. Users and even managers can recover their password if they forget after creating an account.

4. REQUEIREMNT SPECIFICATION

4.1 System Features

1.System Login

Functional Requirements

1.1 The software will allow to customers/users to login with their given username and password

1.1 If the inserted username or password has been wrong for more than five times,

the verification code will be generated by the system to retry login.

1.2 If the number of login attempt exceed its limit (10 times), the system will block the customer/user account.

Priority Level: High

Precondition: the user has a valid user id and password

2. System registration

Functional Requirements

2.1 Any Customer can register into the system at any time.

2.2 The registering customer will give at least minimum information for registering into the account.

2.3 The registering customer or user should able to register only through email and password

Priority Level: High

Precondition: the user has a valid email and password

3.System payment

3.1 The card of user is must be valid.

3.2 The customer address is must in service area.

3.3 The user must use the correct username and password of the Card.

Priority Level: High

Precondition: the user has a valid Card

4.2 System Quality Attributes

Usability: The user interface for the application shall be as simple as possible, allowing anyone to utilize it with ease. The main goal of the Bus price ticket booking gadget is to manage the details of. It manages all of the information about Bus, client, Seats. The task is completely constructed at administrative quit and therefore simplest the administrator is assured the access.

Maintainability: Maintainability is the term that defines that how easily the maintenance team can perform their task. The main task of our maintenance team is to solve the overload in the crucial moments and give auto update to our users in a short amount of time so that easily find bus tickets for their destination.

Efficiency: Transport management is a online based utility that works within a centralized community. Users just needs to have a device and order seats they can also cancellation of reservation and extraordinary sorts of direction enquiries used on securing short reservations. Hustle free booking system.

Reliability: Manager is capable of make something changes, If they want they can reconstruct like price, timing in below the circumstances . The system will perform properly at that second.

Availability: This system will be a web-based application that will be available 24 hours a day, 7 days a week.

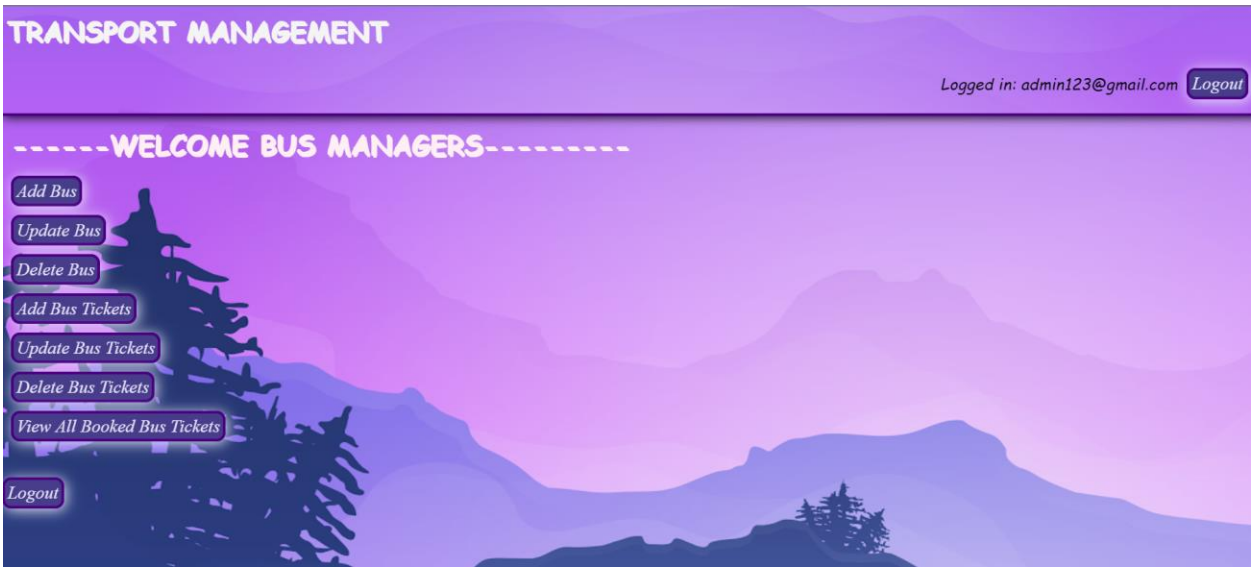
Performance: We will examine all possible limits while designing this program. It's a little piece of software, for example, that makes very few HTTP requests and can respond rapidly.

Extensibility: The underlying structure of the program will be so basic that any future enhancements will not have an impact on the rest of the code.

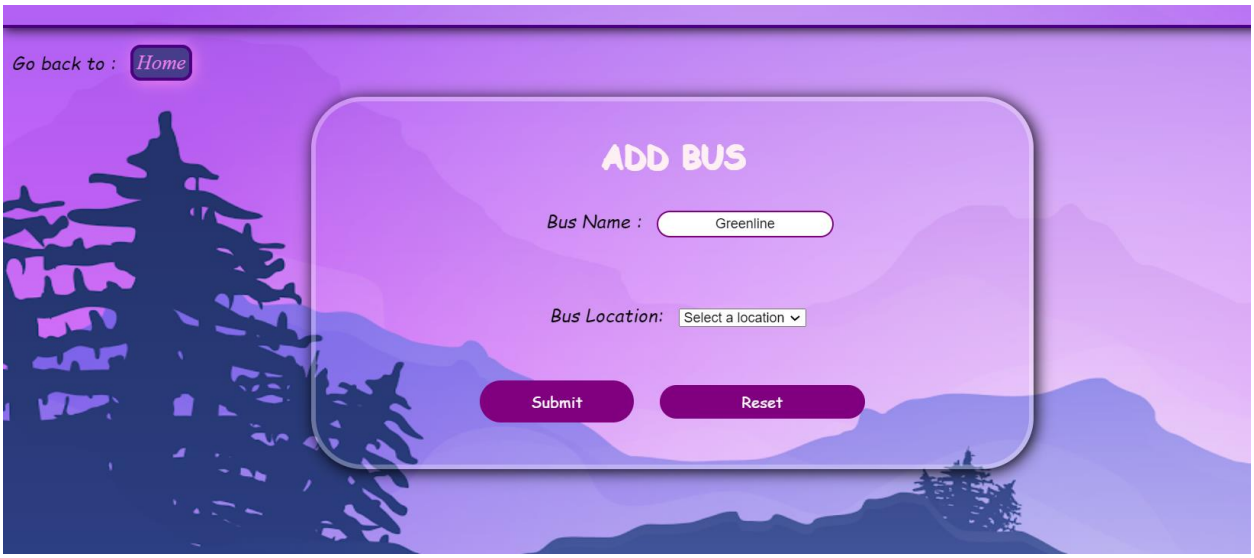
Security: Because all data will be exchanged between two firms, we will prioritize confidentiality. Users should be able to perform security tasks with ease, and two-factor authentication and other security layers will be deployed as required.

4.3 System Interface

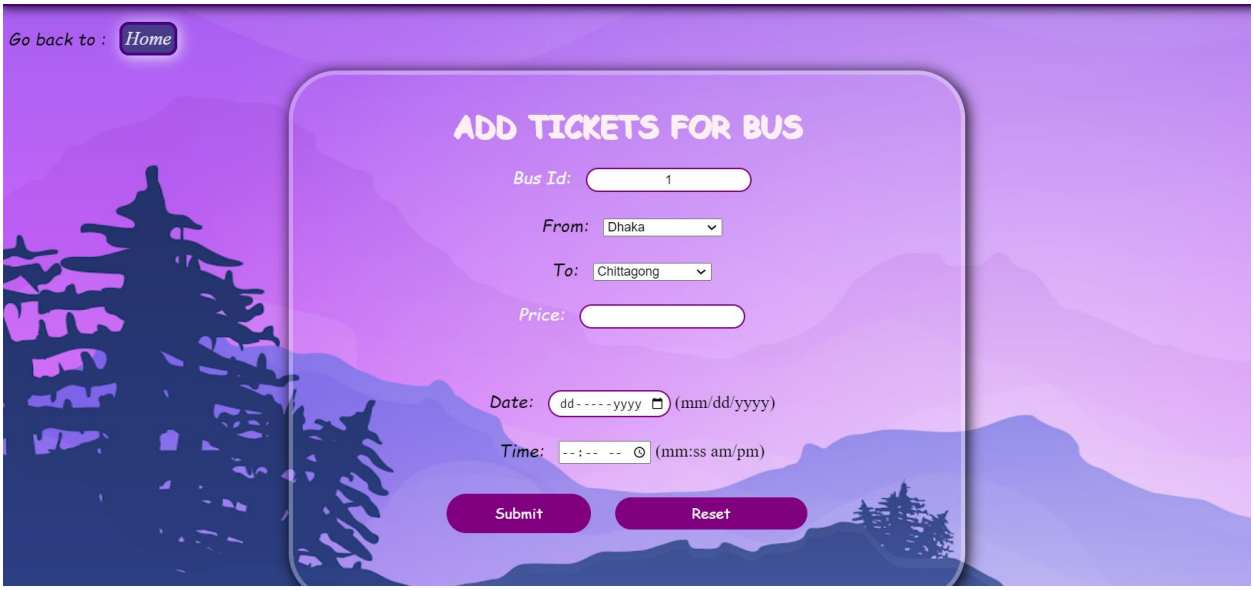
1. Welcome page of our Transport management system



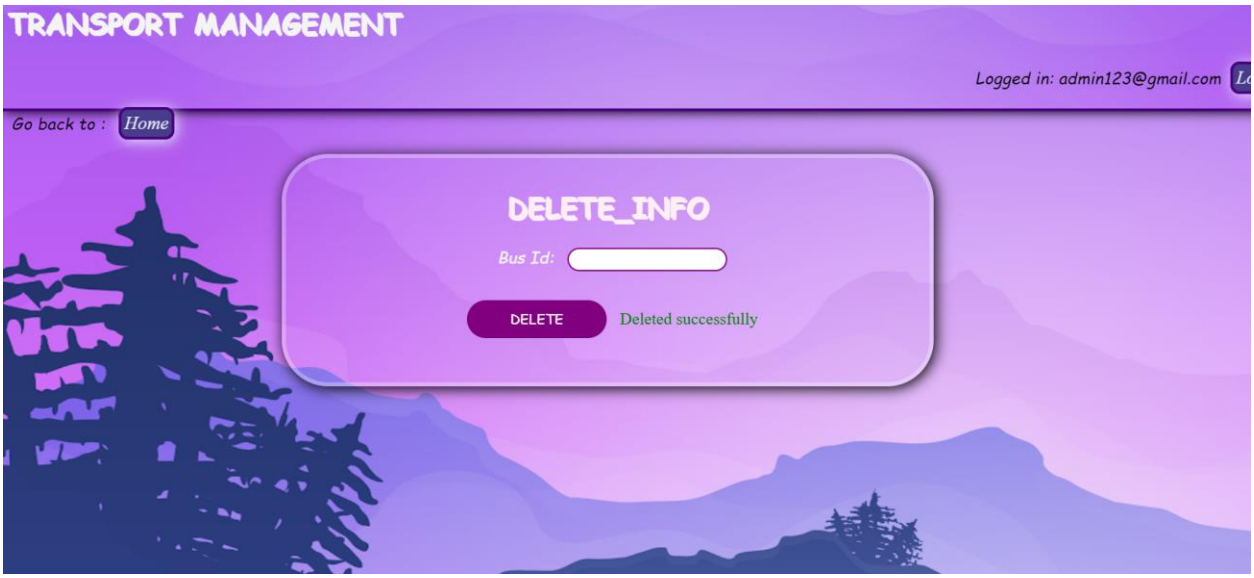
2. Add Bus for the different route



3. Add ticket for the bus



4.Delete Bus Info



4.4 Project Requirements

Project Estimation

COCOMO is a procedural cost estimate model for software projects and often used as a process of reliably predicting the various parameters associated with making a project such as size, effort, cost, time and quality.

So, we will used Constructive Cost Model (COCOMO) to calculate the estimation of our project were,

D = Total time required for project development in Months (M).

KLOC = The size of the code for the project in Kilo lines of code.

a, b, c, d = The constant parameters for a software project.

Consider, project is organic

For, Organic Software Project,
a= 2.4
b= 1.05
c=2.5
d= 0.38

Consider, kilo line of code KLOC=3500

Effort Estimation Formulas:
Effort, E = (a(KLOC)^b) *EAF
= (2.4 * (3500/1000) ^1.05) * 0.81
= (2.4 * (3.5) ^1.05) * 0.81
= 7.22 ~7person-month

Development Time, D = c(Effort)^d
= 2.5*(7) ^0.38
=5.23 ~5
=5

Required number of people = Effort/Time
= 7/5
=1.4~ 2
=2

Cost:
Labour cost = 2 * 25,000 = 50,000/= Taka (Approximately)
Service cost = 5000*2 =10000/=
so, In total 50,000+10000 = 60,000/= Taka (Approximately) or
=$705(Approximately)

Budget Estimation:

4 developers and/or engineers working of 2 months:

Duration in weeks = 6 weeks

Office days = 5 days

Working hours = 8 Hours

So, per week working hours is = (5*8) hours

= 40 hours

Hence, Total Working hours is = (40*6) hours

= 240 hours.

Developer salary is = 1000 BDT

Total developers Salary = (1000*240) BDT

= 240000 BDT

5. FEATURES NOT TO BE TESTED

The following is a list of the areas that will not be specifically addressed. All testing in these areas will be indirect as a result of other testing efforts. For example:

I. Booked ticket service because the bus company will completely be responsible in it. After confirmation the payment the booking option is available. So, depends on the Bus company how long they will take time to give a seat for the customer.

II. Delete info of the Bus: The management have the right to delete all the information of the bus

6. TESTING APPROACH

6.1 TESTING LEVELS

Unit, Integration testing, System testing and Acceptance are the test levels. Testing is used to test if modules are satisfying the requirement or not.

- Unit testing will help the test engineer and developers in order to understand the base of code that makes them able to change defect causing code quickly. By the help of unit testing, it analyzed

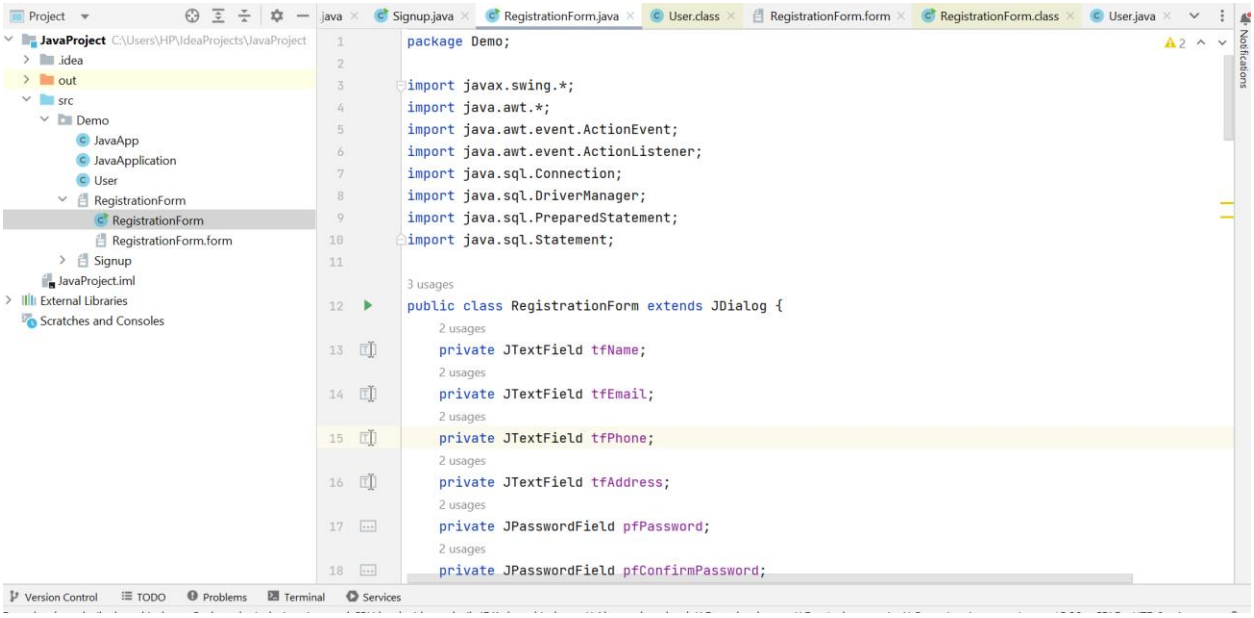
each unit or an individual component for ordering the ticket. After engineer completed the unit testing the development group leader will approve the test.

- Integration testing is identifying the defects at the interaction between integrated components. The test engineer tests the units or separate components or modules of the software in a group

- System testing is used to test the software's functional and non-functional requirements System testing is a sequence of different types of tests to implement and examine the entire working of an integrated software computer system against requirements. Actually, we will test the application as a whole system.

6.2 **TEST TOOLS**

Test tools to be used are the Figma and selenium.
For designing and testing the prototype of the software Figma will be the tool for testing. The range of tools offered within the free tier is excellent and can really help accelerate design work
For other types of testing (Unit testing, integration testing, and acceptance testing) selenium will be the best option. Selenium automation framework is very easy-to-use tool. Selenium provides a user-friendly interface that helps create and execute test scripts easily and effectively.



6.3 **MEETINGS**

The purpose of meetings in project management are to keep a project moving toward success. The test group will meet once a month to analyze progress to date and identify error so that they can fixed the problem as soon as possible and complete the project in time which is given in the conditions.
The leader of the test group and the project manager will meet with the turn of events. These two gatherings will take place over the course of several weeks. If any crisis or major problem occurred then extra meeting between tester and project management officer have to convened as needed.

7. **TEST CASES/TEST ITEMS**

Project Name: Transport Management System			Test Designed by: Shojib, Kazi Ahsanul Haque	
Test Case ID: OP_1			Test Designed date: 16-08-22	
Test Priority (Low, Medium, High): High			Test Executed by: Mehedi Hasan Emon	
Module Name: Login Session			Test Execution date: 17-08-22	
Test Title: Verify login with valid Email and Password				
Description: Test web application login page				
The precondition (If any): The user must have valid mail and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website or application 2. Enter email 3. Enter the password 4. Click login	Email: admin123@gmail.com Password: 12345678#Aa	Users should login to the application	As expected	Pass
Post Condition: The user is validated with the database and successfully login to the account. The account session details are logged in the database.				

Project Name: Transport Management System	Test Designed by: Shojib, Kazi Ahsanul Haque
Test Case ID: OP_2	Test Designed date: 16-08-22
Test Priority (Low, Medium, High): High	Test Executed by: Rifat Ahmed
Module Name: Registration Session	Test Execution date: 17-08-22
Test Title: Register user with full name, valid mail, Phone number, gender, password, confirm password, day of Birth	
Description: Test web application registration page	

The precondition (If any): User must have valid mail and password

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website or application 2. Enter full name 3. Enter a Valid Email 4. Enter gender details 5. Enter the password 6. Confirm the password 5.Choose the Date of birth 6. Click sign up	Full name : Shojib Kazi Ahsanul Haque Email: Shojibjr5@gmail.com Gender : Male Password: Shojib123@ Confirm Password: Shojib123@ Date of birth: 15-10-2000	If the all information is correct then sign-up is done.	As expected	Pass

Post Condition: User is validated with database and successfully login to the account after successful account creation. The account session details are logged in the database.

Project Name: Transport Management System	Test Designed by: Shojib, Kazi Ahsanul Haque
Test Case ID: OP_3	Test Designed date: 16-08-22

Test Priority (Low, Medium, High): High			Test Executed by: Tanjim Mahmud Rakin	
Module Name: Add Ticket			Test Execution date: 17-08-22	
Test Title: Add tickets for the bus				
Description: Allocation of all bus tickets				
The precondition (If any): The user must have a login the system				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website or application 2. Login With an account 3. Bus id 4. From Location 5. To location 6. Add the price 7. Enter Date 8. Enter the time 9. Click submit	Login With an account Bus id: F0001 From: Dhaka To: Sylhet Price: 800 Date: 16-08-22 Time: 10.00 am	At first login to the system. For Adding the allocated, bus tickets user or manager must give the bus id, bus route, price of the ticket, date and time	As expected	Pass
Post Condition: User is validated with database and successfully Make Payment by the account. The account session details are logged in the database.				

Project Name: Transport Management System			Test Designed by: Shojib, Kazi Ahsanul Haque	
Test Case ID: OP_4			Test Designed date:16-08-22	
Test Priority (Low, Medium, High): High			Test Executed by: Mehedi Hasan Emon	
Module Name: Update Ticket			Test Execution date: 17-08-22	
Test Title: Updates all the tickets for the bus				
Description: By using this function Updates all the tickets for the bus and adds new seats for the bus				
The precondition (If any): The user must have a login the system				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website 2. Login to the system 3. Give Ticket Id 4. Give Bus id 5. From Location 6. To location 7. Add the price 8. Enter Date 9. Enter the time 10. Click submit	Ticket Id: AA001 Bus id: F0001 From: Dhaka To: Sylhet Price: 800 Date: 16-08-22 Time: 10.00 am	If the all information is correct then you can update ticket or change the bus timing.	As expected	Pass
Post Condition: User is validated with database and successfully login to the account after successful add their address. The account session details are logged in the database.				

8. ITEM PASS/FAIL CRITERIA

The test process will be completed once the initial set of distributors have successfully sent in reassigned sales data for a period of one month and the new EDI data balances with the old ZIP/FAX data received in parallel. When the sales administration staff is satisfied that the data is correct the initial set of distributors will be set to active and all parallel stopped for those accounts.

9. TEST DELIVERABLES

- Acceptance test plan
- System / Integration test plan
- Unit test plans/ turnover documentation
- Screen prototypes
- Report mock-ups
- Defect/ Incident reports and summaries
- Test logs and turnover reports

10. STAFFING AND TRAINING NEEDS

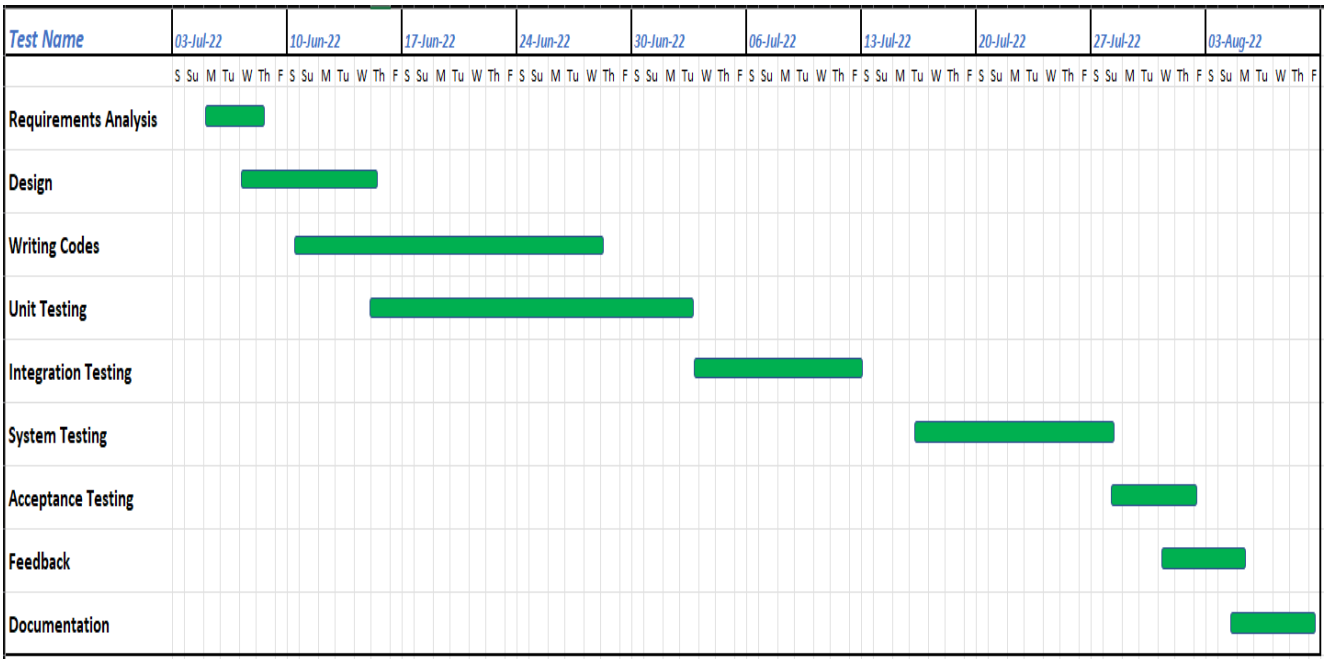
For the framework/mix and acknowledgement testing phases of the project, it is required at least one-full time analyst will be allocated to the task. Individual low-maintenance tasks will be required at the start of the project to take interest in inspections and also other activities, and they will be assigned full-time about two months later. If a different test individual is unavailable, the project test administrator will accept the job. To provide comprehensive and proper testing, the surrounding areas should be tented to in terms of preparation.
The testers and developers need to be trained on Selenium and Figma interface on the basic operations. On basis of the final acceptance of the project, other staffs will also be trained on the Figma and Selenium testing process.

11. RESPONSIBILITIES

Name	Role	Responsibilities
Kazi Ahsanul Hoque	Project Manager	1. Requirement analysis and make plans for designing of the project. 2. The whole Designing of the Project. 3. Execute all the test cases and report defects. 4. Control whole project as designed.
Tanjim Mahmud Rakin	Quality Analyst	1. Creation of test plans, test forms, test cases and test information. 2. Carry out testing as per the characterized methods. 3. Prepare all reports related to program testing carried out.
Rifat Ahmed	Developer	1. Researching, designing, implementing, and managing software programs. 2. Writing and implementing efficient code. 3. Deploying software tools, processes, and metrics.
Mehedi Hasan Emon	Test Engineer	1. Check the characteristics of all the testing activities 2. Check all obligations of test planning 3. Prepare the report of testing activities. 4. Control of the test flow of Integration and System Testing. 5. Execute all the test cases. 6. Find out severe and Major bugs on the programs. 7. Ensure that the system is almost defect less (about 98%). 8. Make documentation.

12. TESTING SCHEDULE

Time has been allocated within the project plan for the following testing activities. The specific dates and times for each activity are defined in the project plan timeline



13. PLANNING RISKS AND CONTINGENCIES

- The requirements might be very well updated or revised
- Staffing level is low and a lot of pressure on particular people
- Not enough individual assets during testing time

14. APROVALS

Project Sponsor	American International University Bangladesh(AIUB)
Development Management	Mehedi Hasan Emon
EDI Project Manager	Kazi Ahsanul Hoque Shojib
RS Test Manager	Mehedi Hasan Emon
RS Development Team Manager	Tanjim Mahmud Rakin
Reassigned Sales	Rifat Ahmed
Order Entry EDI Team Manager	Kazi Ahsanul Hoque Shojib