



American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science & Technology (FST)

Fall 21_22

Section: F

Group No: 01

Renting Management Service

A software Engineering project submitted
By

S/N	Student Name	Student ID	Contribution (%)
12	Rubina Islam Reya	19-39811-1	20%
20	Ankon Sharkar Linkon	19-40895-2	20%
21	MD Tamim Ul Islam	19-40902-2	20%
22	Mir Monjur Morshed	19-40913-2	20%
24	Tanvir Ahmed	19-41072-2	20%

The project will be evaluated for the following Course Outcomes

Your Project will be Evaluated based on the following marking criteria	Total Marks
Requirements Analysis (functional, quality, and project requirements) [5Marks]	
System Design (UI/UX design) [5Marks]	
Test and Project Management Planning [5Marks]	
Submission, Completeness, Spelling, Grammar and Organization [5Marks]	

Submission Date: 09-Dec-21

<p>Student Name: Rubina Islam Reya</p> <p>Student ID: 19-39811-1</p> <p>Contribution in Percentage (%): 20%</p> <p><u>Contribution in the Project:</u></p> <ul style="list-style-type: none">System Test Plan. <p>____REYA____</p> <p>Signature of the Student</p>
<p>Student Name: Ankon Sharkar Linkon</p> <p>Student ID: 19-40895-2</p> <p>Contribution in Percentage (%): 20%</p> <p><u>Contribution in the Project:</u></p> <ul style="list-style-type: none">Risk Analysis. <p>____Ankon____</p> <p>Signature of the Student</p>
<p>Student Name: MD Tamim UI Islam</p> <p>Student ID: 19-40902-2</p> <p>Contribution in Percentage (%): 20%</p> <p><u>Contribution in the Project:</u></p> <ul style="list-style-type: none">System Features.System Quality AttributesUI Design <p>____Tamim____</p> <p>Signature of the Student</p>
<p>Student Name: Mir Monjur Morshed</p> <p>Student ID: 19-40913-2</p> <p>Contribution in Percentage (%): 20%</p> <p><u>Contribution in the Project:</u></p> <ul style="list-style-type: none">Project Scheduling <p>____Monjur____</p> <p>Signature of the Student</p>

Student Name: Tanvir Ahmed
Student ID: 19-41072-2
Contribution in Percentage (%): 20%

Contribution in the Project:

- Project Requirements

_____ *Tanvir* _____

Signature of the Student

1. PRODUCT AND PROJECT DESCRIPTION

1.1 System Features

I. User Registration.

- 1.1 Sign-up by using Email id or Phone number.
- 1.2 Send a verification email or verification message.
- 1.3 Phone number verification.
- 1.4 Set-up a username & password.
- 1.5 Set-up other necessary information's. (Name, Date of Birth, Address etc.)

Priority Level: High

Precondition: User must have a valid Email address or Phone Number & Must provide correct contract information.

Precondition: User must have a valid username and password.

Cross-reference: UI Design no I.

II. Search Bar.

- 2.1 This feature will allow the user to search for a specific renting service (Car, House, devices, Electronics etc.)
- 2.2 If the items matches with the requirements of the client then all of those items will be show to the user.
If the searched item didn't match then it will show "Do not have this specific item" and it will show related services by the app.

Priority Level: Medium.

Precondition: User must specify requirement in search bar.

Cross-reference: N/A

III. Upload for renting.

- 3.1 This feature will allow user to add his/her product or item for rent.
- 3.2 They can upload photo of the item and add some extra information about that item.
- 3.3 They can also add the renting price along with this.

Priority Level: High

Precondition: User must provide specific product picture and necessary information about that.

Cross-reference: N/A

IV. Rent an Item.

- 4.1 This feature will allow user to choose item that he/she want to take for rent.
- 4.2 They can see the product photo, information and price.
- 4.3 Finally they can apply to take that item for rent by providing his address and other information.

Priority Level: High

Precondition: User must provide his own info correctly.

Cross-reference: UI Design Page no 8

V. Report Issue (Customer Feedback)

- 5.1 If user faces any difficulties or face any problem then they can inform through this feature.
- 5.2 They can write in details about the problem or direct contact with the authority.

Priority Level: High

Precondition: The user must provide actual information about the incident or problem.

Cross-reference: UI Design Page no 6.

VI. Payments

- 6.1 If renter person want to complete the payment process he/she needs to select the specific product.
- 6.2 Then select take rent and proceed.
- 6.3 Then select payment process (Online/Offline).
- 6.4 If online then system will provide various options of online payment.
- 6.5 User can select and complete payment process.

Priority Level: High

Precondition: The user must provide

Cross-reference: N/A

1.2 System Quality Attributes

- I. Security:** The system will protect the privacy and safety of the user's data and prevent unauthorized access to the system. Security of the users will be the most important priority. And it will not be compromised at any cost.
Priority Level: High.
Precondition: N/A
- II. Availability:** The app will operate almost 24/7. The uptime will be 22 hours. It shall be available at least 97 % of the time. In weekend between 6am to local mid night, and 8am to local mid night in weekdays.
Priority Level: High.
Precondition: N/A
- III. Performance:** The system will be load within 3/4 seconds after user tries to use it. & it will work on around 60kbps modern connection.
Priority Level: High.
Precondition: N/A
- IV. Usability:** The app is user-friendly for new and infrequent users. All the necessary information to use the system will be provided to the user at the very first visit.
Priority Level: Medium.
Precondition: III. Performance.
- V. Flexibility:** By taking user feedback our maintenance developer can implement code modification and testing within 1-2 hours. As the system is user friendly it will be modified according to the user's feedback.
Priority Level: Medium
Precondition: VII Maintainability.
- VI. Portability:** The app will be available on IOS and Android platform.
Priority Level: Medium.
Precondition: N/A

VII. Maintainability: The maintenance developer can fix or modify the system within 5-10 hours as long as its
Priority Level: High.
Precondition: VIII Testability.

VIII. Testability: As the software will be frequently modified and will contain complex algorithm, so the testability is critical.
Priority Level: Medium
Precondition: N/A

1.3 Project Requirements

Time: By our estimates, the app will take approximately 3days to design and 2/3 month to develop. It may increase or decrease.

Budget: App development costs run between \$59,000 and \$100,000 USD by our estimation. It can be increase or decrease according to work and services.

Resource:

Man power; A number of hardworking designer, developer, programmer will be needed. At the beginning the number will be 2 in each position.

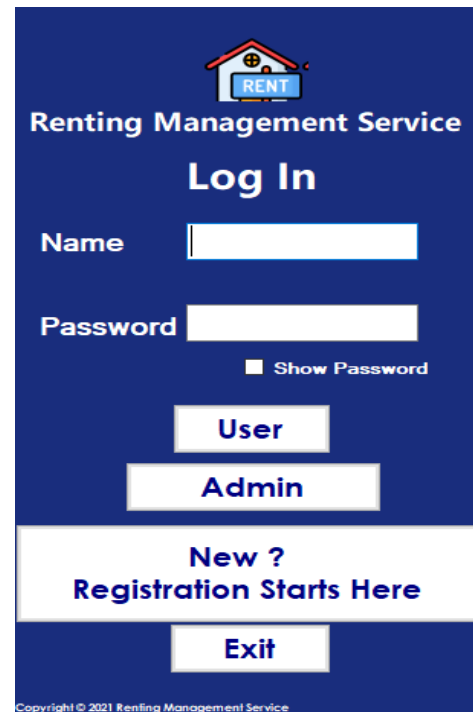
Devices: Necessary devices needed for the developer, programmer and others.

Environment: The system can be operate from Windows, android and IOS. Hopefully user can use this system in all of these environments.

2. SYSTEM DESIGN SPECIFICATION

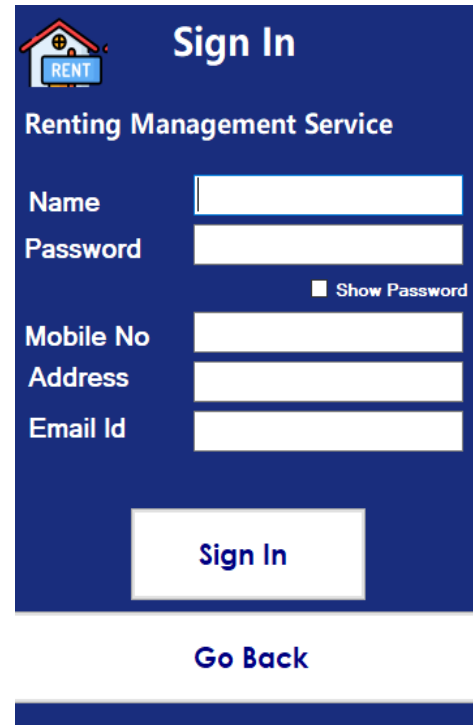
UI/UX Design

- I. Log-In Page: From this page one can login to the system. Admin and User both can log in with the use of two different buttons. Also new people can register to the system. Also can exit from the system.



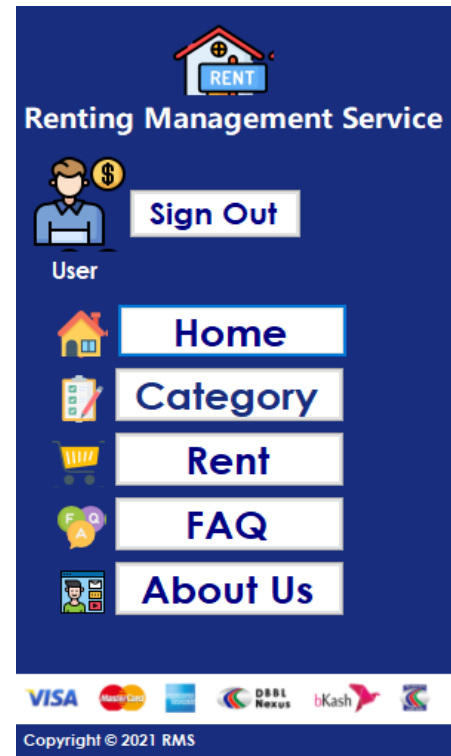
The Log In page features a dark blue background. At the top center is a house icon with a 'RENT' sign. Below it, the text 'Renting Management Service' and 'Log In' are displayed in white. There are two input fields for 'Name' and 'Password'. A 'Show Password' checkbox is located below the password field. Two buttons, 'User' and 'Admin', are positioned below the password field. At the bottom, there is a 'New ? Registration Starts Here' link and an 'Exit' button. A copyright notice 'Copyright © 2021 Renting Management Service' is at the very bottom.

- II. Registration Page: In this page a new member/user can register themselves by providing Name, Password, Mobile no, Address, Email id. After this page a confirmation message with OTP will be sent to the mobile number and after confirming the OTP user will be registered to the system.

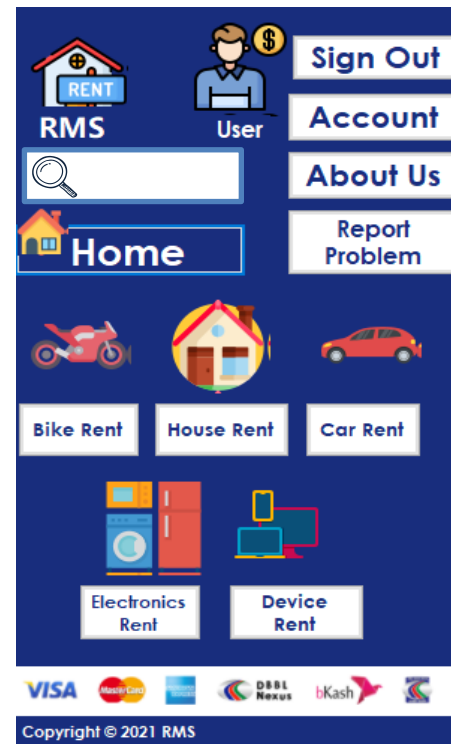


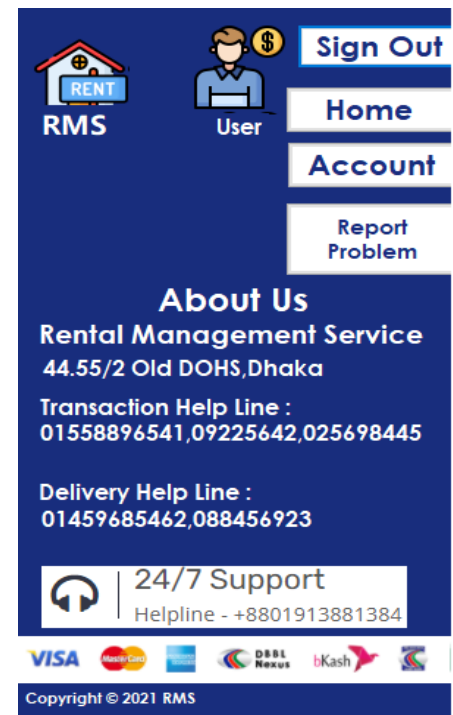
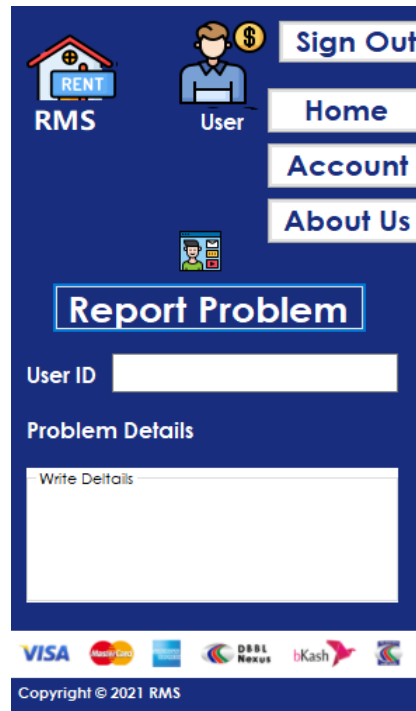
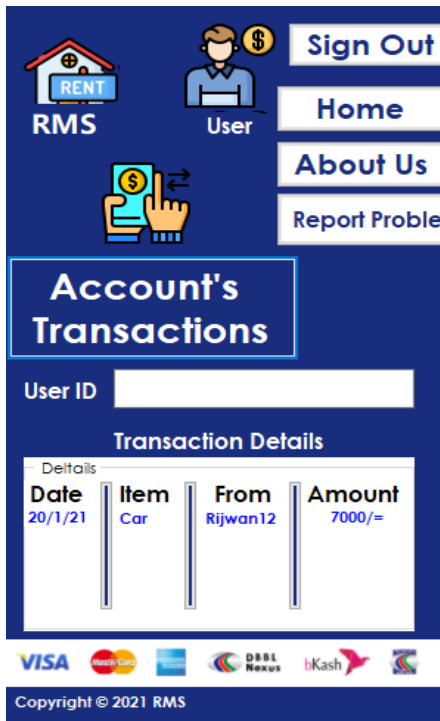
The Sign In page has a dark blue background. It features a house icon with a 'RENT' sign at the top center. Below the icon, the text 'Renting Management Service' and 'Sign In' are shown in white. There are input fields for 'Name', 'Password', 'Mobile No', 'Address', and 'Email Id'. A 'Show Password' checkbox is next to the password field. A 'Sign In' button is located below the email field. At the bottom, there is a 'Go Back' link.

- III. First page: After successfully logging into the system user will see this page and from this page user can go to “Home Page” using “Home button”, can see the product category with the help of “category button”, can see previously rented things from “Rent Button”, and finally by using “FAQ Button” and “About Us button” can ask questions and access contact number of our hotlines.



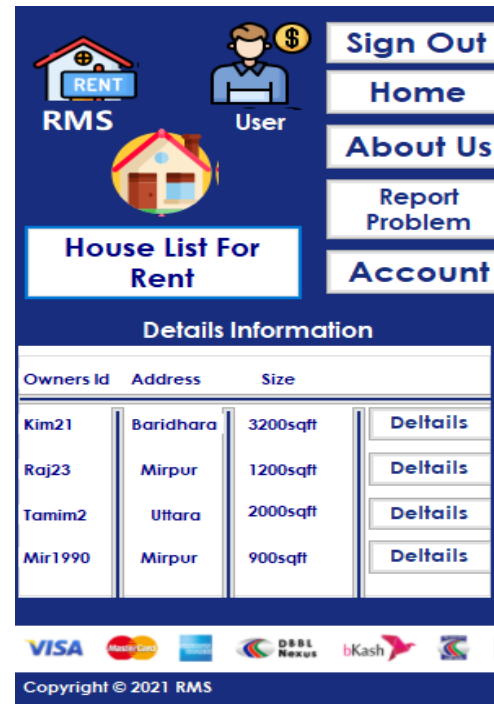
- IV. Home Page: This is the main page for any user. From here they can choose any option like Bike, House, Car and other things and see the details about that items. There are separate button for every elements, for example “House Rent” button can take to the page from where user can take rent any house. User can also Sign Out from the system, see the account section, can report any problem and know details about the system. User can also search item by using the “Search bar”
Let's look into some of these pages.





- V. Accounts: From the home page and also from the other pages after logging in user can find “Account Button”. That button will take him/her to this page and from here he/she can see his previous transactions by providing his/her unique “User ID”.
- VI. Report Problem: From the home page and also from the other pages after logging in user can also find “Report Button”. That button will show the upper middle page and from here they can report any issues that they faced using this system.
- VII. About Us: If user want to contact with “Rental Management system” they can easily visit the about us page. From this page they can have the address of the office. Also it will provide the helpline number for any support. For different kind of support there are different helpline numbers.

- VIII. Rent House page: After selecting rent house from home page user can see the details of the house from this page and select any house for rent and press details and confirm that from details page of that specific item.



- IX. Admin Home: After logging in as an admin this page will be shown. In this page there are different button with different functionality. Admin can see admin info from "Admin info button", admin can see employee list and details about all employee with the help of "Employee info button". Thus admin can also check product owners and product renter and all product info. Admin can also see all the transactions through the system.



3. SYSTEM TEST PLAN

Project Name: Renting Management Service		Test Designed by: Rubina Islam Reya		
Test Case ID: FR_1		Test Designed Date: 23-11-2021		
Test Priority(Low,Medium,High): Medium		Test Executed by:		
Module Name: Login Session		Test Execution Date:		
Test Tittle: verify login with valid username and password				
Description: Test website login page				
Precondition(If any): User must have valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
i. Go to the website ii. Enter username iii. Enter password iv. Click submit	User name: rubinaislamreya@gmail.com Password:*****	User should login into the application		
Post Condition: User is validated with database and successfully login to account.The account session details are logged in the database.				

Project Name: Renting Management Service		Test Designed by: Mir Monjur Morshed			
Test Case ID: FR_3		Test Designed Date: 23-11-2021			
Test Priority(Low,Medium,High): Medium		Test Executed by:			
Module Name: Basic Information		Test Execution Date:			
Test Title: verify Renter.					
Description: Test website user information as renter & borrower					
Precondition(If any): User must have valid username and password					
Test Steps		Test Data	Expected Results	Actual Results	Status(Pass/ Fail)
i. Go to the website ii. After log in the enter FAQ iii. Click submit		Name: Mir Address: C-4/108,Banani Phone Number: 01234567890 E-mail:reya@yahoo.com Item: Car Duration: 2 month Condition: Well Payment: 2500 Payment type: Cash	Renter Info is saved		
Post Condition:The renter info is successfully saved in database & their ad is published in the Renting Management Service homepage.					

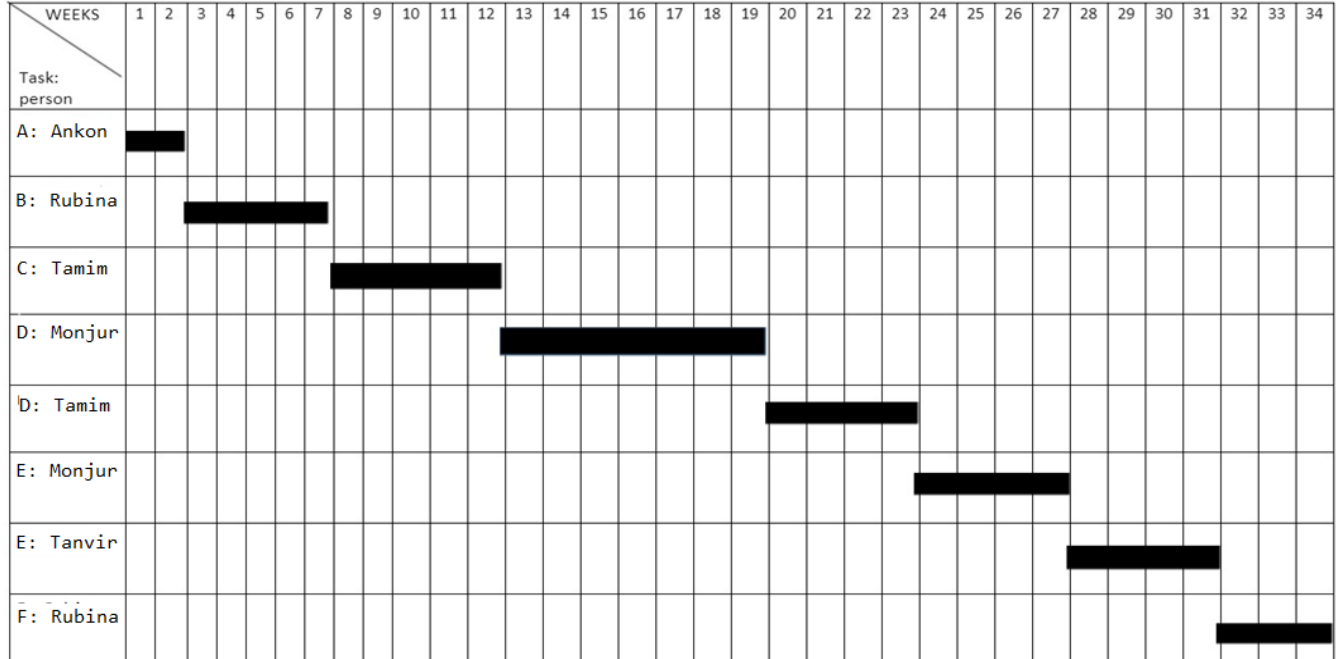
Project Name: Renting Management Service		Test Designed by: Md Tamim UI Islam		
Test Case: FR_8		Test Designed Date: 23-11-2021		
Test Priority(Low,Medium,High): Medium		Test Executed by:		
Module Name: Borrower Info		Test Execution Date:		
Test Title: verify have the info of product				
Description: Test website that staff have all the need info to delivered the product				
Precondition(If any): User must have valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status(Pass /Fail)
i. Go to the website ii. Log-In iii. Check product from any item. iv. See details v. Click submit	Name: Tamim Address: B-block,Bashundhora Phone Number: 01234567890 Email: tamim99@gmail.com Item: Bike Duration: 1 month Payment Type: Card	Borrower will find their require product if available		
Post Condition: Borrower with valid info will find their product & their info is saved to the admin database				

Project Name: Renting Management Service		Test Designed by: Tanvir Utsha		
Test Case ID: FR_9		Test Designed Date: 23-11-2021		
Test Priority(Low,Medium,High): Medium		Test Executed by:		
Module Name: Admin Session		Test Execution Date:		
Test Title: verify Admin work				
Description: Test website admin activity				
Precondition(If any): User must have valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status(Pass /Fail)
i. Go to the website ii. Admin Dashboard iii. Check the needed pages iv. Click submit	✓ Check log in page ✓ Check borrower info ✓ Check renter info ✓ Emergency contact	Admin should check all the pages		
Post Condition: Admin can take needed actions				

Project Name: Renting Management Service	Test Designed by: Ankon Sarker Linkon
Test Case: FR_7	Test Designed Date: 23-11-2021
Test Priority(Low,Medium,High): Medium	Test Executed by:
Module Name: Emergency Contact	Test Execution Date:
Test Title: If Emergency fill a form	
Description: If any problem give a details of it	
Precondition(If any): User must have valid username & password	

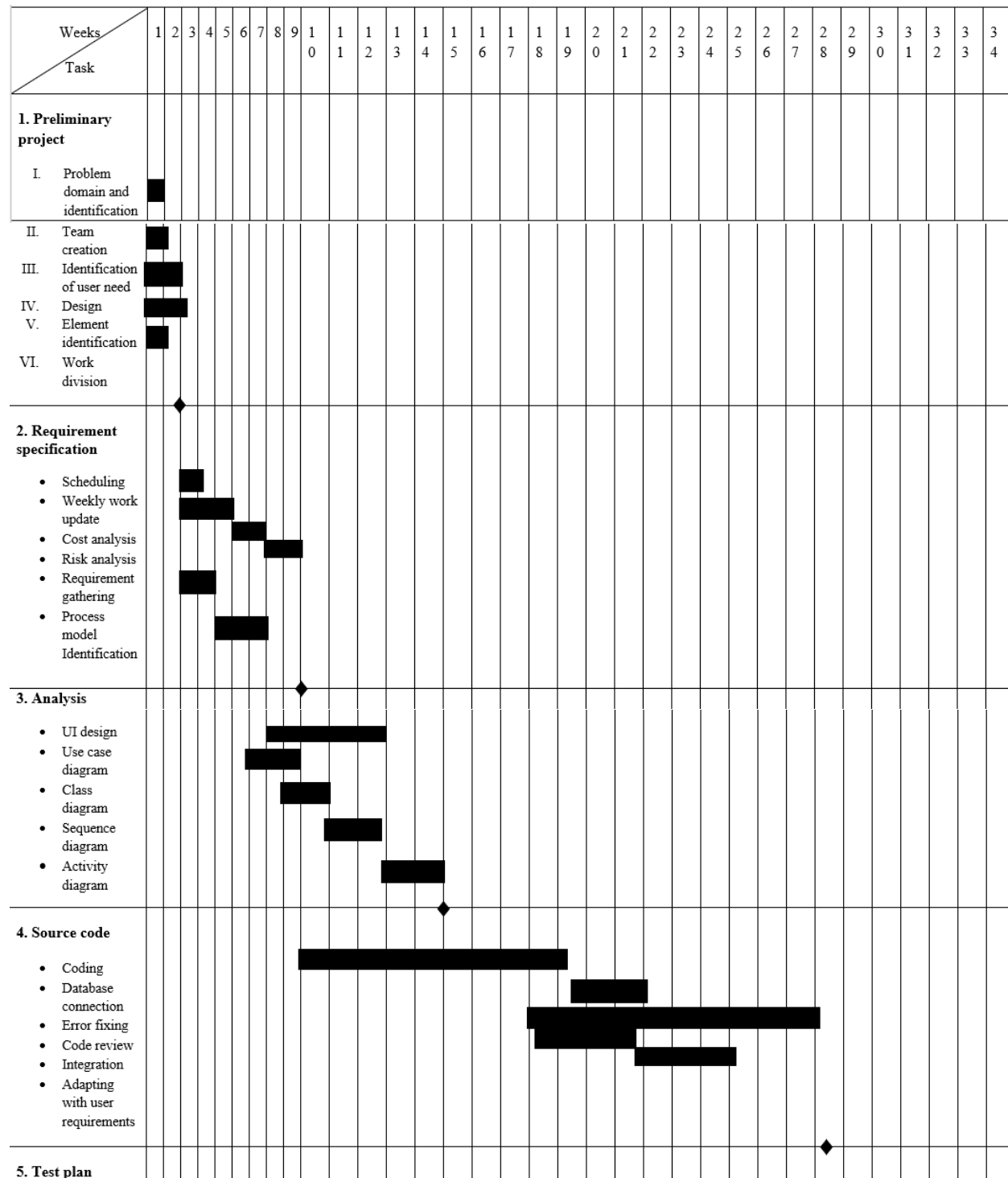
Test Steps	Test Data	Expected Results	Actual Results	Status(Pass/Fail)
i. Go to the website ii. Click about us iii. Find hotline number or address.	Renter Name: Ankon Borrower Name: Monjur Product Name: Car Complain Details: Car has scratch	Admin get notified		
Post Condition: User complain will valid if admin finds it true after notified				

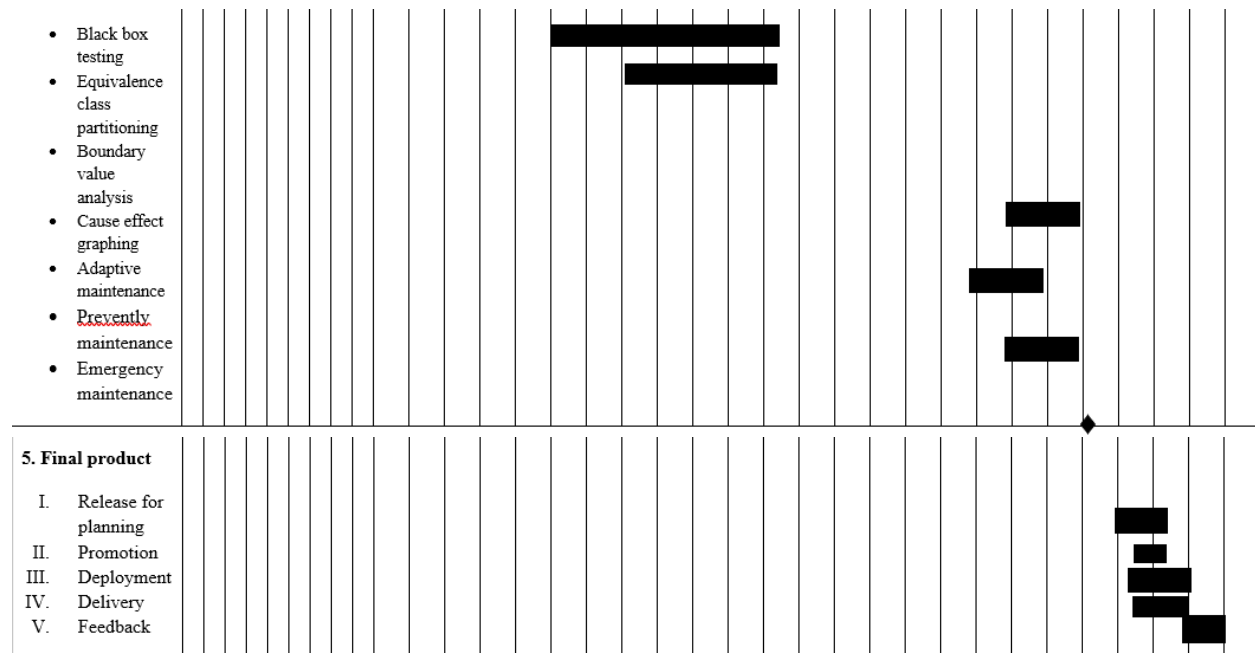
4.1 Project Scheduling



Project Activity	Duration
1. Preliminary Project/Thesis Plan	2 weeks
2. Requirements Specification	5 weeks
3. Analysis [Object model, User interface]	5 weeks
4. Source Code	11 weeks
5. Test Plan	8 weeks
6. Final Product / Demo	3 weeks

Timeline chart:





EVA (Earned value Analysis)

TASK	PLANNED EFFORT	ACTUAL EFFORT
1	5	5
2	5	4
3	10	12
4	10	14
5	10	9
6	5	5
7	5	7
8	15	17

9	BCWP=160 10	18 ACWP=186
10	10	11
11	10	8
12	15 BCWS=290	17
13	25	28
14	15	17
15	10	14
16	10	
17	10	
18	45	
19	15	
20	50	

Total task = 37

Total effort estimated = 300 Person Day

BAC=300.00

$SPI = BCWP / BCWS = 160 / 290 = 0.551724$

$SV = BCWP - BCWS = 160 - 290 = -130 \text{ person-day}$

$$CPI = BCWP / ACWP = 160 / 186 = 0.86$$

$$CV = BCWP - ACWP = 160 - 186 = -26 \text{ person-day}$$

$$\% \text{ Schedule for completion} = BCWS / BAC = 96.67\% \text{ [% of work scheduled to be done at this time]}$$

$$\% \text{ complete} = BCWP / BAC = 53.33\% \text{ [% of work completed at this time]}$$

4.2 Risk Analysis

I. Potential Risk for the system and Mitigation plan.

S/N	Risk Description	Probability	Impact	Priority	Mitigation Plan
1	Limitation of budget(if it crosses)	20%	Project quality could be decreased.	High	Set a targeted budget at the very early stage and follow that throughout the project.
2	Wrong information is stored(Renter and Borrower info gets exchanged)	60%	Users will face difficulties.	High	Check and confirm the information's clearly.
3	Users get admins password	10%	Security threat	Low	Give the system security a very high priority and take care of that.
4	Delivery deadline gets late	60%	Bad review	Medium	Choose the best staffs for the system who can give the best performance.
5	User didn't understand the system.	10%	Shortage of user	High	Use different advertising approach to attract the users and make them think about the importance of the system.

-----Thank You -----