

Software Test Plan

for

<Renting Valuable Stuffs>

Version 1.0 approved

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# Revision History:

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| **Revision** | **Date** | **Updated by** | **Update Comments** |
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| 0.2 | 2023.04.07 | Pavel, Motaher Hossain | System Feature Update |
| 0.3 | 2023.04.15 | Adranul Islam Talukder Arnab | System quality attribute Update |
| 0.4 | 2023.04.17 | Mim, Fariha Zaman | System Interface update |
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| 0.9 | 2022.12.09 | Shopnil, Md Ryhanul Islam | Test schedule draft |

# TEST PLAN IDENTIFIER: AT-TP01.3

# REFERENCES

* Software Testing and Quality Assurance – Theory and Practice - Kshirasagar Naik & Priyadarshi
* Software Quality Engineering: Testing, Quality Assurance and Quantifiable Improvement - Jeff Tian

# INTRODUCTION

## Background to the Problem

There are a lot of people who have some products which they can’t use for some reason. There are also some people who have a need for some product for a limited time. But it will be beneficial for them if they can rent rather than buy. By our software they are able to communicate with each other as our program gives them their required info. It will be a beneficial solution for them. We don’t always get necessary things that we need for a limited time so our main objective to create a Software which will help to lessen this problem. Renting stuff is a cheaper alternative way than buying. If someone goes out of town and he or she would need a car, flat or room for a couple of days he can easily use our software. And this can go on the other way round if someone not using his stuffs for a while so he can use our software for renting and get some profits.

## Solution to the Problem

Renting come with a lot more flexibility than buying does. There are some solutions of why renting is important-

➢ Saves Money

➢ Avoid Major Repairs and Expenses

➢ More Flexibility As to Where to Live

➢ Test Out Different Types of Equipment Before Deciding On a Purchase

➢ Save Time and Effort

➢ Avoid Having to Make a Large Purchase When You Only Need Something for a short Period of Time.

➢ Renting is Great for Emergencies.

➢ Renting is Flexible and Affordable

➢ Equipment rentals offer flexible payment plans so it’s easier to budget for purchases.

Both renting and buying have their financial advantages, and owning a valuable stuff isn’t right for everyone. Unlike owners, renters have no maintenance costs or repair bills and they don't have to pay property taxes. Amenities that are generally free for renters aren't for owners, who have to pay for installation and maintenance. Renting usually requires a security deposit equal to one month’s rent, whereas a buyer is required to have a sizable down payment when purchasing any kind of property with a mortgage. Renters have lower utility bills, greater flexibility in where they can use and access to amenities, such as a flat, prohibitively expensive. We don’t always get necessary things that we need for a limited time so our main objective to create a Software which will help to lessen this problem. Renting stuff is a cheaper alternative way than buying. The single interface to search for their required products. To provide an easy interface for the owners & borrowers who want to rent & borrow their product. Our goal is to find the target market that would create a particular group of customers who want to rent/ borrow products like car, bike, cycle, flat or room for a limited time duration. Our goal is to find the target market that would create a particular group of customers who want to rent/ borrow products like car, bike, cycle, flat or room for a limited time duration.

# REQUEIREMNT SPECIFICATION

## System Features

1. Renter features:
   1. User will register for the system
   2. Login to the system with valid E-mail and password
   3. Add Product
   4. Delete Product
   5. Update Product
   6. Logout from the system

Priority Level: High

Precondition: User have valid user name and password

1. Borrower features:
   1. User will register for the system
   2. Login to the system with valid username and password
   3. View all available product
   4. Select Products
   5. Add to cart
   6. Logout from the system

Priority Level: High

Precondition: User have valid user name and password

## System Quality Attributes

**Usability**: The attribute usability means the ease with each user can use the system to accomplish certain tasks. Our system is designed such a way that users will easily understand how to use the system. Users can easily view all the products. Adding stuffs to cart is also easy by renters. The features are simply designed and developed so that user can easily understand them by seeing them.

**Integrity/Security:** This attribute enables the system to control unauthorized persons to access the system. Users who have valid username and password can only log into the system. This attribute is important since security denotes the ability of the system to protect the data from unauthorized persons.

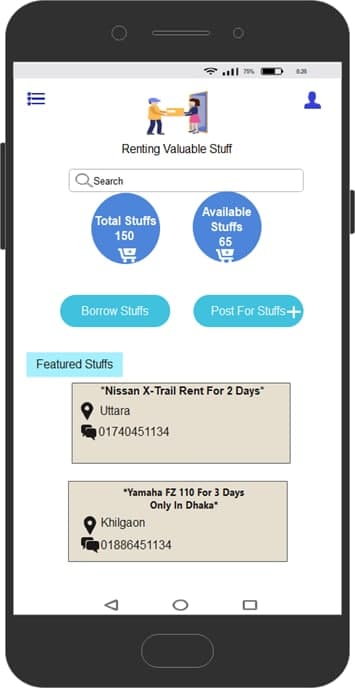
**Reliability and correctness:** These attributes are defined as how a system is expected to perform its intended functions with required precession. We have implemented our system in such a way that user gets their intended function like when they want to view different products, they can see them. No error gets generated. We have made it sure that user gets correct output. Besides, our system also doesn’t take much time to respond to user’s action.

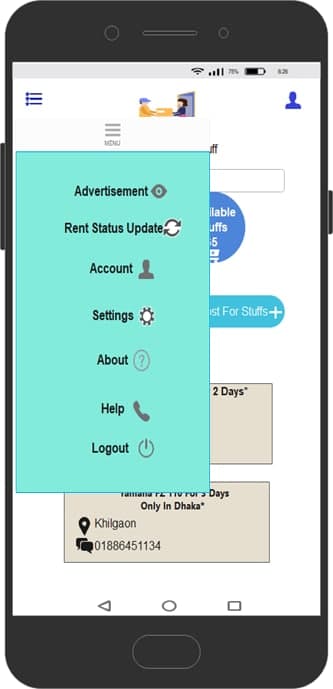
**Flexibility:** We have made our system flexible enough to modify. It is adaptable to other functionalities and easy to add code to the system and upgradation for new features.

**Maintainability**: It means the effort required to locate and fix a bug and modification to any functionality. Our team member can fix the bug and can also add new features if any changes are made in the system.

**Testability**: It is the suitability for allowing the programmers to follow for program execution and for debugging. The testability of a software depends on its modularity. Since we have developed our system module wise, there was a less chance of getting errors. Whenever we were encountered with bugs, we have checked that module to fix bug.

## System Interface





## Project Requirements

Project development time = 3 months Number of people will work = 4 members

**Budget:**

Working days = 6 days in a week

Working hours per day = 5 hours

Working hours in 1 week= (5\*6) = 30 hours

Salary for each member per hour = 250 Taka

Salary for each member per week = (250\*5\*6) = 7500 Taka

Salary for each member for 4 weeks = (4\*7500) Taka = 30,000 Taka

Salary for each member for 3 months = (3\*30,000) Taka = 90,000 Taka

Salary for 4 members for 3 months = (4\*90,000) Taka = 360,000 Taka

Office rent for 3 months = (3\*12,000) = 36,000 Taka

Electricity and other bills = 30,000 Taka

Maintenance Cost = (3\* 4\* 1000) = 12,000 Taka

Total Estimated Cost = (360,000 + 36,000 + 30,000 + 12,000) = 408,000 Taka

20% profit of total estimated cost = (0.2\*408,000) = 81,600 Taka

**Total Estimated Budget is = (408,000 +81,600) = 4,89,600 Taka**

# FEATURES NOT TO BE TESTED

We tested the features of seller. But did not test the features of borrower. The following features are not to be tested:

* Registration and login for buyer.
* Available product view page for buyer
* Search Product for buyer
* Add to cart
* Logout for buyer

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# TESTING APPROACH

## Testing Levels

We will test our built features in four testing levels. These are:

* Unit Testing
* Integration testing
* System Testing
* Acceptance Testing
* **Unit Testing:** This testing will be performed initially as we construct our system. Individual software modules will be tested as part of this testing to determine whether they contain errors or not. The software developers and QA team use this testing approach. The aim of this testing is to confirm that each piece of software code functions as planned.
* **Integration Testing:** After doing the unit testing, we will do the integration testing part. We will ensure that all the software components are logically connected, tested collectively, and are functional during this testing. Finding problems in how separate software modules interact when they are integrated is the aim of this level of testing. We'll use the "Bottom-up Integration" method in this phase.
* **System Testing:** The third part is system testing. That means the whole system will be tested. We will test a fully functional, seamlessly integrated system through system testing. Then we'll check to see whether it satisfies all the requirements. Testing that uses a black box falls under this category.
* **Acceptance Testing:** This is the last phase of our testing. We shall do this testing to determine whether or not our product is acceptable. This test will be carried out to see whether any flaws were overlooked during the functional testing stage.

## Test Tools

**We have tested our system feature with “Postman” and “Selenium” software.**

* **Postman:** We have tested our website API with postman software. Postman basically provides an environment to create and interact with APIs. Firstly, we enter the URL in the address bar and hit send to see the HTML response. Then, we run a script before sending the request (Pre- requisite scripts) to see the response. Here, each request is stored in a collection. We test our login and registration functionally using post method in Postman. We test our show available medicine functionality using get method that retrieve the data from the database called medicine and show in the postman software.

* **Selenium:** We tested our website functionality using selenium. We write the script using JavaScript. We use chrome as a testing browser. We test login functionality, Registration functionality using selenium. We use chrome driver for using the chrome browser. We use “sendkeys” function for sending the login and registration functionality check.

## Meetings

A successful system can be developed within time only when proper work is distributed among the members so that work gets completed within time. It is the duty of a testing team to find bugs/ errors so that the system is bug-free and customer gets a product which is worth of quality. So, to make our project successful our testing team has arranged for meeting in every week to check every module to evaluate the progress and to find and fix bugs. The QA team had also met with the development team and the project manager too so that they could keep the track the development of the system. In case of emergency issues, meetings were also arranged.

# TEST CASES/TEST ITEM

**7.1 Registration**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Project Name:** Renting Valuable Stuffs | | | **Test Designed by:** Motaher Hossain Pavel | | |
| **Test Case ID:** FR\_1 | | | **Test Designed date:** 23.03.2023 | | |
| **Test Priority (Low, Medium, High):** High | | | **Test Executed by:** Ryhanul Islam Sopnil | | |
| **Module Name:** Registration | | | **Test Execution date:** 23.03.2023 | | |
| **Test Title:** Registration with valid username, password and e-mail | | |  | | |
| **Description:** Test registration page | | |  | | |
| **Precondition (If any):** User must fulfil all the field | | | | | |
| **Test Steps** | **Test Data** | **Expected**  **Results** | | **Actual Results** | **Status**  **(Pass/Fail)** |
| 1. Go to the website 2. Click registration button 3. Enter username 4. Enter password 5. Enter e-mail 6. Click submit | Username: sopnil  Password: sopnnil12345  E-mail: sopnil@gmail.com | User should register for the system | | As expected, | Pass |
| **Post Condition :** Renter & Borrower is validated with database and successfully login to account. The account session details are logged in the database. | | | | | |

**Figure: 7.1**

**7.2 Log in**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Project Name:** Renting Valuable Stuffs | | | **Test Designed by:** Fariha Zaman | | |
| **Test Case ID:** FR\_2 | | | **Test Designed date:** 23.03.2023 | | |
| **Test Priority (Low, Medium, High):** High | | | **Test Executed by:** Motaher Hossain Pavel | | |
| **Module Name:** Login Session | | | **Test Execution date:** 23.03.2023 | | |
| **Test Title:** verify login with valid E-mail 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)** |
| 1. Go to the website 2. Enter E-mail 3. Enter password 4. Click submit | E-mail: pavel@gmail.com  Password: pavel12345 | User should login into the system | | As expected, | Pass |
| **Post Condition:** Borrower and Renter validated with database and successfully login to account. The account session details are logged in the database. | | | | | |

**Figure: 7.2**

**7.3 Add Product**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Project Name:** Renting Valuable Stuffs | | | **Test Designed by:** Adranul Islam Talukder Arnab | | |
| **Test Case ID:** FR\_3 | | | **Test Designed date:** 25.03.2023 | | |
| **Test Priority (Low, Medium, High):** High | | | **Test Executed by:** Fariha Zaman | | |
| **Module Name:** Add Product | | | **Test Execution date:** 25.03.2023 | | |
| **Test Title:** Renter can add product. | | |  | | |
| **Description:** Renter can add product into the database. | | |  | | |
| **Precondition (If any):** Must fulfill all the field and add picture of the product in the file section. | | | | | |
| **Test Steps** | **Test Data** | **Expected Results** | | **Actual Results** | **Status**  **(Pass/Fail)** |
| 1. Go to the website 2. Login to the system 3. Go to Add Products bar 4. Enter products name 5. Add picture 6. Add price 7. Add description 8. Click Add product | Name: Honda CBR165  File Type: JPEG  Price:30000  Description: Black | Product information will be stored in to the database. | | As expected, | Pass |

**Figure: 7.3**

**7.4 Delete products:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Project Name:** Renting Valuable Stuffs | | | **Test Designed by:** Fariha Zaman | | |
| **Test Case ID:** FR\_5 | | | **Test Designed date:** 26.03.2023 | | |
| **Test Priority (Low, Medium, High):** High | | | **Test Executed by:** Motaher Hossain Pavel | | |
| **Module Name:** Delete product | | | **Test Execution date:** 26.03.2023 | | |
| **Test Title:** Delete products long with their details | | |  | | |
| **Description:** After clicking delete button, check deleted products are shown or not | | |  | | |
| **Precondition (If any):** Products must be available in database. | | | | | |
| **Test Steps** | **Test Data** | **Expected Results** | | **Actual Results** | **Status**  **(Pass/Fail)** |
| 1. Go to the website 2. Login to the system 3. View all product and choose the product. 4. Click Delete | Choose product: HeroCycle | Herocycle will be deleted from the database | | As expected, | Pass |

**Figure: 7.4**

**7.5 Log out:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Project Name:** Renting Valuable Stuffs | | | **Test Designed by:** Motaher Hossain Pavel | | |
| **Test Case ID:** FR\_7 | | | **Test Designed date:** 28.03.2023 | | |
| **Test Priority (Low, Medium, High):** High | | | **Test Executed by:** Adranul Islam Talukder Arnab | | |
| **Module Name:** Log out | | | **Test Execution date:** 28.03.2023 | | |
| **Test Title:** verify log out option | | |  | | |
| **Description:** Test whether logout option is working or not | | |  | | |
| **Precondition (If any):** User must login to the system | | | | | |
| **Test Steps** | **Test Data** | **Expected Results** | | **Actual Results** | **Status**  **(Pass/Fail)** |
| 1. Go to the website 2. Login to the system 3. Click logout | N/A | Logout from the system | | As expected, | Pass |
| **Post Condition:** User goes to the home page | | | | | |

**Figure: 7.5**

# ITEM PASS/FAIL CRITERIA

We have implemented total 5 test cases. All the test cases were passed successfully. The searching option was working differently as we wanted the option to behave like when we type the first 2/3 initial letter of the product name, the product should be suggested from database but it was not working. As a result, we had to type the full name of the product. So, searching test case was not working properly at first. But we solved it.

# TEST DELIVERABLES

Test deliverables are list of documents, tools that must be created, provided and maintained to support testing teams in their activities during the project. The list for our test deliverables is given below:

* Test plan
* Test data
* Test results
* Defect reports and summaries

# STAFFING AND TRAINING NEEDS

One full time tester will be assigned to test the system from starting till end. He will keep checking whether all test cases are executed properly or not. He will inform to the project managers. Developers should also know how to test basic things. All other testing engineers will be responsible for creating test cases, plans, documentation etc. They should know the software development life cycle. There’s no need to give training to the engineers as they already know things about testing.

# RESPONSIBILITIES

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Sopnil | Pavel |  | Fariha |  | Arnab |
| Project Proposal | ✓ |  | ✓ |  |  |  |
| Requirement analysis |  |  |  |  | ✓ | ✓ |
| Planning |  |  | ✓ |  | ✓ |  |
| System Design | ✓ |  |  |  |  | ✓ |
| Implementation | ✓ |  |  |  | ✓ |  |
| Test case design | ✓ |  | ✓ |  | ✓ | ✓ |
| Test case implementation | ✓ |  | ✓ |  | ✓ | ✓ |
| Integration Testing |  |  | ✓ |  | ✓ |  |
| Report Bugs & make summary |  |  | ✓ |  |  | ✓ |
| Documentation | ✓ |  |  |  |  | ✓ |

# TESTING SCHEDULE



# PLANNING RISKS AND CONTINGENCIES

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|  |  |  |  |
| --- | --- | --- | --- |
| Risk | Probability | Impact | Plan |
| Insufficient member (if any member takes  leave or becomes  sick) | 20% | marginal | We have made some backup  plans for this like hiring new  member |
| Module testing could demonstrate errors. | 30% | critical | Development team were always ready to fix this bug. |
| Module coding can take longer time than expected | 30% | critical | More member will handle the module |

# APROVALS

|  |  |
| --- | --- |
| Project Sponsor | Pavel, Motaher Hossain |
| Development Management | Shopnil, Md Ryhanul Islam |
| EDI Project Manager | Mim, Fariha Zaman |
| RS Development Team Manager | Adranul Islam Talukder Arnab |
| RS Test Manager | Pavel, Motaher Hossain |