



**Daffodil**  
*International*  
**University**

## **Old Heritage Product Auction**

By

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**(151-35-884)**

A project submitted in partial fulfillment of the requirement for the degree of  
Bachelor of Science in Software Engineering

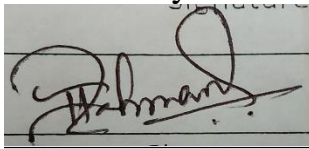
**Department of Software Engineering**  
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## Declaration

I hereby declare that, this project has been done by me under the supervision of Mr. Iftekharul Alam Ifat, Senior Lecturer, and Department of Software Engineering, Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere.

Certified By:

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# TABLE OF CONTENTS

<b>CHAPTER 1.....</b>	<b>1</b>
<b>INTRODUCTION .....</b>	<b>1</b>
<b>1.1 PROJECT OVERVIEW .....</b>	<b>2</b>
1.2 PROJECT PURPOSE.....	2
<b>1.2.1 BACKGROUND .....</b>	<b>2</b>
<b>1.2.2 BENEFITS &amp; BENEFICIARIES .....</b>	<b>3</b>
<b>1.2.3 GOALS.....</b>	<b>3</b>
1.3 STAKEHOLDERS.....	3
1.5 PROJECT SCHEDULE .....	5
<b>1.5.1 GANTT CHART .....</b>	<b>5</b>
<b>1.5.2 RELEASE PLAN OR MILESTONE.....</b>	<b>6</b>
<b>CHAPTER 2.....</b>	<b>7</b>
<b>SOFTWARE REQUIREMENT SPECIFICATION .....</b>	<b>7</b>
2.1 FUNCTIONAL REQUIREMENT .....	7
<b>2.1.1 USER REGISTER ACCOUNT .....</b>	<b>8</b>
<b>2.1.2 LOGIN .....</b>	<b>8</b>
<b>2.1.3 TOP UP CREDIT.....</b>	<b>8</b>
<b>2.1.4 VIEW PROFILE.....</b>	<b>8</b>
<b>2.1.5 SEARCH PRODUCT .....</b>	<b>8</b>
<b>2.1.6 BID PLACE.....</b>	<b>9</b>
<b>2.1.7 VIEW USERS.....</b>	<b>9</b>
<b>2.1.8 MANAGE DATABASE.....</b>	<b>9</b>
<b>2.1.9 SEARCH USERS .....</b>	<b>9</b>
<b>2.1.10 ADD PRODUCT .....</b>	<b>9</b>
2.2 DATA REQUIREMENTS .....	10
2.3 PERFORMANCE REQUIREMENTS .....	10
<b>2.3.2 PRECISION &amp; ACCURACY REQUIREMENTS .....</b>	<b>10</b>
<b>2.3.3 CAPACITY REQUIREMENTS.....</b>	<b>11</b>
2.4 DEPENDABILITY REQUIREMENTS .....	11
<b>2.4.1 RELIABILITY &amp; AVAILABILITY REQUIREMENTS .....</b>	<b>11</b>
<b>2.4.2 ROBUSTNESS OR FAULT-TOLERANCE REQUIREMENTS .....</b>	<b>12</b>
<b>2.5.1 MAINTAINABILITY REQUIREMENT .....</b>	<b>12</b>
<b>2.5.2 SUPPORTABILITY REQUIREMENTS .....</b>	<b>12</b>
2.6 SECURITY REQUIREMENTS .....	12
<b>2.6.1 ACCESS REQUIREMENTS .....</b>	<b>13</b>
<b>2.6.2 INTEGRITY REQUIREMENTS .....</b>	<b>13</b>
<b>2.6.3 PRIVACY REQUIREMENTS .....</b>	<b>13</b>
<b>2.7.2 PERSONALIZATION AND INTERNATIONALIZATION REQUIREMENTS.....</b>	<b>14</b>
<b>2.7.3 UNDERSTANDABILITY AND POLITENESS REQUIREMENTS.....</b>	<b>14</b>
<b>2.7.5 USER DOCUMENTATION REQUIREMENTS .....</b>	<b>14</b>
2.8 LOOK AND FEEL REQUIREMENTS .....	14
<b>2.8.1 APPEARANCE REQUIREMENTS .....</b>	<b>15</b>
<b>2.8.2 STYLE REQUIREMENTS.....</b>	<b>15</b>
2.9 OPERATIONAL AND ENVIRONMENTAL REQUIREMENTS .....	15

2.10 LEGAL REQUIREMENTS .....	15
<b>CHAPTER 3.....</b>	<b>17</b>
<b>REQUIREMENT ANALYSIS.....</b>	<b>17</b>
3.1 USE CASE DIAGRAM.....	18
3.1.1 REGISTER ACCOUNT.....	19
3.1.2 LOGIN .....	20
3.1.3 TOP UP CREDIT.....	21
3.1.4 EDIT PROFILE.....	22
3.1.5 ADD PRODUCT.....	23
3.1.6 SEARCH PRODUCT .....	24
3.1.7 BID PLACE.....	25
3.1.8 MAINTAIN DATABASE.....	26
3.1.9 BLOCK ACCOUNT .....	27
3.1.10 SEARCH USERS .....	28
3.2 ACTIVITY DIAGRAM .....	29
3.2.1 REGISTER ACCOUNT.....	29
3.2.2 LOGIN .....	30
3.2.3 TOP UP CREDIT.....	31
3.2.4 EDIT PROFILE.....	32
3.2.5 ADD PRODUCT .....	33
3.2.6 SEARCH PRODUCT .....	34
3.2.7 BID PLACE.....	35
3.2.8 MAINTAIN DATABASE.....	36
3.2.9 BLOCK ACCOUNT .....	37
3.2.10 SEARCH USERS .....	38
3.3 SEQUENCE DIAGRAMS .....	39
3.3.1 REGISTER USER .....	39
3.3.2 LOGIN .....	40
3.3.3 TOP UP CREDIT.....	40
3.3.4 EDIT PROFILE.....	41
3.3.5 ADD PRODUCT .....	43
3.3.6 SEARCH PRODUCT .....	44
3.3.7 BID PLACE.....	45
3.3.8 MANAGE DATABASE.....	46
3.3.9 BLOCK ACCOUNT .....	47
3.3.10 SEARCH USERS .....	48
3.3.11 PAYMENT .....	49
<b>CHAPTER 4.....</b>	<b>50</b>
<b>SYSTEM DESIGN SPECIFICATION .....</b>	<b>50</b>
4.1 DEVELOPMENT TOOLS AND TECHNOLOGY .....	50
4.1.1 USER INTERFACE TECHNOLOGY .....	51
4.1.2 IMPLEMENTED TOOLS AND PLATFORM.....	52
4.2 CLASS DIAGRAM.....	53
4.3 DATABASE DESIGN DIAGRAM .....	54
<b>CHAPTER 5.....</b>	<b>56</b>

<b>SYSTEM TEST .....</b>	<b>56</b>
5.1 TESTING FEATURES .....	56
<b>5.1.1 FEATURE TO BE TESTED.....</b>	<b>57</b>
5.2 TESTING STRATEGY.....	57
<b>5.2.1 TEST APPROACH.....</b>	<b>58</b>
<b>5.2.2 PASS / FAIL CRITERIA .....</b>	<b>59</b>
5.3 TESTING SCHEDULE.....	59
5.4 TRACE ABILITY MATRIX.....	60
5.5 TESTING ENVIRONMENT .....	61
5.6 TEST CASES .....	62
<b>5.6.1 REGISTER ACCOUNT .....</b>	<b>62</b>
<b>5.6.2 LOG IN .....</b>	<b>63</b>
<b>5.6.3 LOG OUT.....</b>	<b>64</b>
<b>5.6.4 INSERT NEW PRODUCT .....</b>	<b>65</b>
<b>5.6.5 EDIT PROFILE .....</b>	<b>66</b>
<b>5.6.6 TOP UP CREDIT.....</b>	<b>67</b>
<b>5.6.7 BLOCK USERS .....</b>	<b>68</b>
<b>5.6.8 SEARCH PRODUCT .....</b>	<b>69</b>
<b>5.6.9 BID PLACE.....</b>	<b>70</b>
<b>5.6.10 DATABASE.....</b>	<b>71</b>
<b>CHAPTER 6.....</b>	<b>73</b>
<b>USER MANUAL .....</b>	<b>73</b>
<b>&lt;&lt; GETTING STARTED &gt;&gt; .....</b>	<b>73</b>
6.1 REGISTER ACCOUNT.....	73
6.2 LOGIN.....	74
6.3 HELP FOR NEW USERS .....	75
6.4 USER PAGE.....	78
6.5 ADD PRODUCT PAGE .....	79
6.6 ADMIN PAGE .....	80
6.7 ADMIN PANEL/DASHBOARD .....	81
6.8 PENDING REQUEST .....	82
6.9 PRODUCT SHOW .....	83
6.10 MANAGE USER PAGE .....	84
6.11 DELETE USER .....	85
6.12 UPDATE USER DETAILS BY ADMIN .....	86
6.13 BUY CREDIT .....	89
6.14 PAYMENT PAGE.....	90
6.16 USER UPDATE PAGE.....	91
<b>Chapter 7.....</b>	<b>94</b>
<b>Conclusion.....</b>	<b>94</b>
7.1 GITHUB LINK.....	94
7.2 PROJECT SUMMARY.....	94
7.3 LIMITATIONS .....	95
7.4 OBSTACLES AND ACHIEVEMENTS .....	95

7.5 FUTURE SCOPE .....	96
7.6 REFERENCES.....	96

## LIST OF FIGURE

FIGURE 1.1: PROPOSED SYSTEM MODEL.....	4
FIGURE 1.2: GANTT CHART .....	5
FIGURE 3.1: USE CASE DIAGRAM FOR “OLD HERITAGE PRODUCT AUCTION” .....	18
FIGURE 3.2: REGISTER ACCOUNT .....	29
FIGURE 3.3: LOGIN.....	30
FIGURE 3.4: TOP UP CREDIT .....	31
FIGURE 3.5: EDIT PROFILE .....	32
FIGURE 3.6: ADD PRODUCT .....	33
FIGURE 3.7: SEARCH PRODUCT.....	34
FIGURE 3.8: BID PLACE.....	35
FIGURE 3.9: MAINTAIN DATABASE.....	36
FIGURE 3.10: BLOCK ACCOUNT .....	37
FIGURE 3.11: SEARCH USERS .....	38
FIGURE 3.12: SEQUENCE DIAGRAM FOR REGISTER ACCOUNT .....	39
FIGURE 3.13: SEQUENCE DIAGRAM FOR LOGIN .....	40
FIGURE 3.14: SEQUENCE DIAGRAM FOR TOP UP CREDIT .....	41
FIGURE 3.15: SEQUENCE DIAGRAM FOR EDIT PROFILE .....	42
FIGURE 3.16: SEQUENCE DIAGRAM FOR ADD PRODUCT .....	43
FIGURE 3.17: SEQUENCE DIAGRAM FOR SEARCH PRODUCT .....	44
FIGURE 3.18: SEQUENCE DIAGRAM FOR BID PLACE.....	45
FIGURE 3.19: SEQUENCE DIAGRAM FOR MANAGE DATABASE.....	46
FIGURE 3.20: SEQUENCE DIAGRAM FOR BLOCK ACCOUNT.....	47
FIGURE 3.21: SEQUENCE DIAGRAM FOR SEARCH USERS .....	48
FIGURE 3.22: SEQUENCE DIAGRAM FOR PAYMENT .....	49
FIGURE 4.1: CLASS DIAGRAM.....	54
FIGURE 4.2: DATABASE DESIGN .....	55
FIGURE 6.1: REGISTRATION PAGE.....	74
FIGURE 6.2: LOGIN PAGE .....	75
FIGURE 6.3: HOW IT WORKS.....	76
FIGURE 6.4: HOW TO BID AN AUCTION.....	77
FIGURE 6.5: TIPS & TRICKS .....	78
FIGURE 6.6: TIPS & TRICKS.....	78
FIGURE 6.7: USER PAGE.....	79
FIGURE 6.8: ADD PRODUCT PAGE.....	80
FIGURE 6.10: ADMIN PAGE .....	81
FIGURE 6.11: ADMIN DASHBOARD.....	82
FIGURE 6.12: PENDING REQUEST .....	83
FIGURE 6.13: PRODUCT SHOW .....	84
FIGURE 6.13: MANAGE USER PAGE .....	85
FIGURE 6.14: DELETE USER.....	86
FIGURE 6.15: DELETE USER.....	86
FIGURE 6.16: UPDATE USER DETAILS BY ADMIN PAGE.....	87



FIGURE 6.17: UPDATE USER DETAILS PAGE .....	88
FIGURE 6.18: UPDATE USER DETAILS PAGE .....	89
FIGURE 6.19: BUY CREDIT PAGE .....	89
FIGURE 6.20: BUY CREDIT PAGE .....	90
FIGURE 6.21: BUY CREDIT PAGE .....	91
FIGURE 6.22: USER UPDATE PAGE .....	92
FIGURE 6.23: USER UPDATE PAGE .....	93

## LIST OF TABLE

Table 0.1: Replace plan/Milestone.....	6
Table 1.1: Register Account.....	19
Table 1.2: Login .....	20
Table 1.3: Top up credit .....	21
Table 1.4: Edit Profile .....	22
Table 1.5: Add Product .....	23
Table 1.6: Search Product .....	24
Table 1.7: Bid place .....	25
Table 1.8: Maintain Database .....	26
Table 1.9: Block Account .....	27
Table 1.10: Search users .....	28
Table 2.1: Feature to be tested .....	57
Table 2.2: Testing Schedule.....	60
Table 2.3: Trace ability matrix.....	61
Table 2.4: Register account.....	63
Table 2.5: Login .....	64
Table 2.6: Logout .....	65
Table 2.7: Insert new product.....	66
Table 2.8: Edit Profile .....	67
Table 2.9: Top up credit .....	68
Table 2.10: Block users.....	69
Table 2.11: Search Product .....	70
Table 2.12: Bid now .....	71
Table 2.13: Database .....	72

# **Chapter 1**

## **Introduction**

## **1.1 Project Overview**

Today we have computers with large computing power and almost every business is going to take the advantages of using those technologies. But nowadays digital certifications itself becomes an essential component for every business infrastructure. Because it provides security and it can identify every unique individual. Besides, it also provides confidential communications to the users.

Old Heritage Product Auction is a web application where all kinds of antique products are displayed in different categories and a user/bidder can bid to the selected category wised product. Old Heritage Product Auction deals with bidder and seller. It provides the users for register to this system and search for products, manages their accounts.

Each user will have their own account showing their username they have logged in. Users can also see product details without having any problem. Register users will have to log in first then they can upload only antique products on the site from their account and also can bid for other antique products which are not owned by them.

Users can edit their profile and see their uploaded products and bided products. Admin panel can approve products, update products, delete products, delete user, update and delete all ongoing bids and can also see all the products, categories, users and bids. All particular bids have limited time to finish. After finishing the bids admin can notify the sellers and also the bidders. This is a well secured system and can be easily operated. This is fully dynamic. There is nothing static here.

## **1.2 Project Purpose**

The main purpose of this project is to make a good online bidding website because there is no bidding website in our country especially for antique products item. I think this web based system will help users to choose their desire antique items as well as upload products on this site. Users can also bid on particular products item. So, that will be challenging for me to replicate traditional online shopping cart website to bidding or auction related website.

### **1.2.1 Background**

Suddenly I notice that many people have attraction about antique products. Some of them have also antique items but when they try to sell them they cannot get expected money for this kind of antique products. So considering that, I have brainstormed and thinking that these kind of problem can be fixed by an auction related website and people can sell and buy their expected antique product at a great price by bidding.

## 1.2.2 Benefits & Beneficiaries

This application would be beneficial for some point of view. Now I'm mentioning those below:

- Bidder can participate online auction from anywhere and at any given time.
- It helps to find peoples expected antique products with fun and joy.
- It helps to save a lot of time and money for both bidders and sellers.
- Seller can easily add antique product.
- Seller can set their own product price by negotiating the price up while bidding.
- Bidders and Sellers information are fully protected.
- It is helpful for both bidder and seller point of view.
- No bargaining. Just choose your product, place a bid and wait for closing countdown.
- Admin manages all products and user information carefully.
- Unreliable activities are fully prohibited.

I have mentioned some benefits and beneficiaries. So, I think this system is very much helpful for bidders and sellers.

## 1.2.3 Goals

The main goals of this system are to sell and bid different types of antique products to the customers living anywhere around in our country. The website will show all antique products in categorized manner. Customers can browse any product and their details and can bid on the products. User has to get the order through the delivery policy. Admin can manage all user info and bidding info also through admin panel.

## 1.3 Stakeholders

There are three types of stakeholders in this system actually it should call two types of stakeholder cause bidder and seller can do the same thing in this system like bidder can bid the product as well as pick up a product for auction. Seller can also follow this process. And lastly, the administrator, who is able to initially setup the system, add new users, give approval or reject for product selling post and set their authorization level.

**Bidder/Seller:** As a bidder or as a seller, two of them need to have an account for bidding product or selling a product.

**Admin:** The system administrator is a user who is able to maintain the whole system. The system administrator seeks to ensure that the uptime, performance, resources and security of the system and also maintain system member account.

## 1.4 Proposed System Model

Before going to develop a system it is very important to have a system model. I have already prepared a system model. This model will clarify my proposed system in brief.

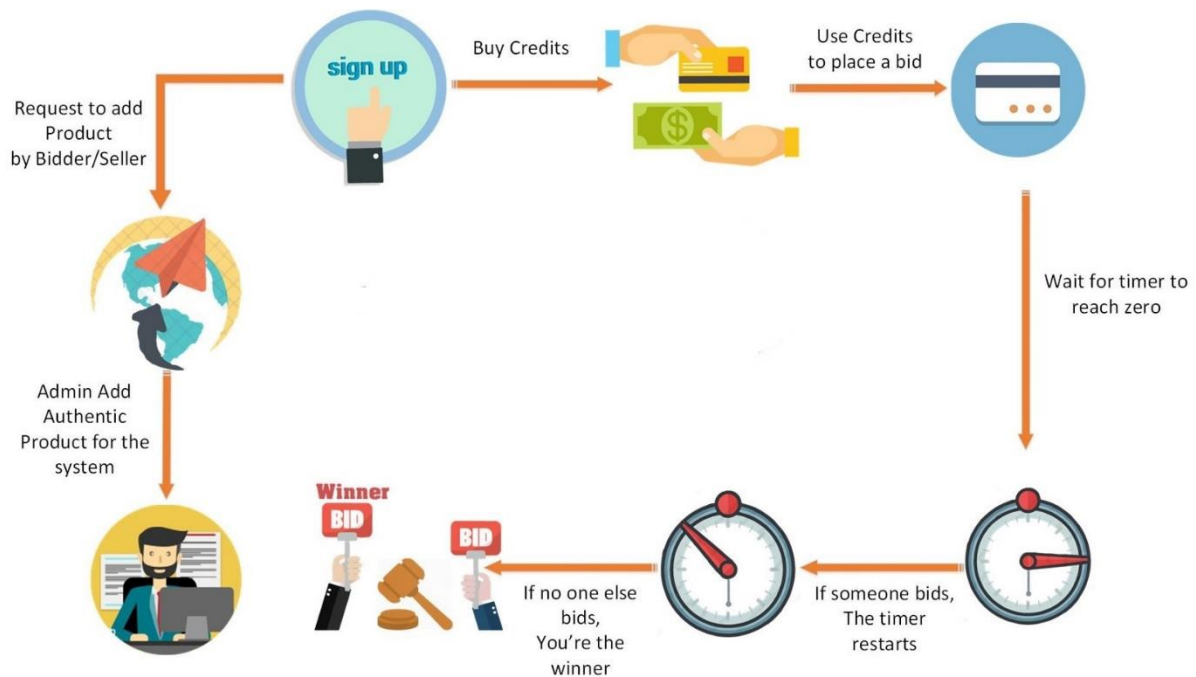


Figure 1.1: Proposed System Model

This project named “Old Heritage Product Auction” is going to be developed on web based application. This application reserves different types of modules as well as user privileges. And each module architecture is different from one another. Before describing project overview, I need to expose module architecture.

Such as:

### Bidder/Seller Module:

- Register
- Login
- Add product
- Selling product details
- View status
- Search product
- Update product details
- Change password
-

## Admin Module:

- Login
- View/Edit/Delete/update users
- Approve/reject for add product request
- View bidder request
- Send bidder info to seller
- Delete product for specific item if bidding closed
- Update database

## 1.5 Project Schedule

I need to prepare a scheduling plan to complete the project on time. It also refers to make communication with what task need to get done within timeframe.

### 1.5.1 Gantt Chart

Gantt chart is mainly a production control tools. It remained us to complete my assigned tasks within a certain period of time. For developing software, it is mostly used. Now I will show a Gantt chart for my project.

Activities		W 1	W 2	W 3	W 4	W 5	W 6	W 7	W 8	W 9	W 10	W 11	W 12	W 13	W 14	W 15	W 16
<b>Planning</b>	Ideas	█															
	Problem definition		█														
	Proposal planning	█	█														
<b>Requirements</b>	Requirement specification		█														
	Requirement analysis		█	█													
<b>QA - 1</b>	Quality assurance			█													
<b>System design</b>	Sketching				█												
	Design specification				█	█											
	Database design					█											
<b>Implementation-1</b>	Searching vehicles					█	█	█	█	█							
<b>QA - 2</b>	Test cases			█				█	█	█	█						
<b>Implementation-2</b>	Impose case & demerits									█	█	█	█				
<b>Testing</b>	Unit testing					█		█				█	█	█			
	Blackbox testing											█	█	█	█		
<b>Delivery</b>	Software release																█
<b>Scheduled time</b>					█	█	█	█	█	█	█	█	█	█	█	█	█
<b>Buffered time</b>					█	█	█	█	█	█	█	█	█	█	█	█	█

Figure 1.2: Gantt Chart

## 1.5.2 Release plan or Milestone

The release plan or milestone are given below:

Activities	Duration in week	Total week
Brainstorming	Week 1	1
Problem identification	Week 1, Week 2	2
Requirement Specification	Week 2	1
Requirement Analysis	Week 2	1
Sketching	Week 4	1
Design Specification	Week 4	1
Database Design	Week 5	1
Quality Assurance	Week 3	1
Test Case	Week 6, Week 7, Week 8	3
Impose Case & Demerits	Week 9, Week 10, Week 11	3
Unit Testing	Week 12, Week 13	2
Black-box Testing	Week 14, Week 15, Week 16	3
Software Release	Week 17	1

Table 0.1: Replace plan/Milestone



# **Chapter 2**

## **Software Requirement Specification**

### **2.1 Functional Requirement**

Functional requirements refer to the functions which are mandatory to the system. Functional requirements must be able to perform on the software system. Every system must have some functional requirements. Now, we are going to mention functional requirements associating with our project.

### 2.1.1 User Register Account

<b>FR-01</b>	<b>User Register Account</b>
<b>Description</b>	This module helps to Create a profile to login the system. Admin keeps the registration information in the database.
<b>Stakeholder</b>	Seller/Bidder

### 2.1.2 Login

<b>FR-02</b>	<b>Login</b>
<b>Description</b>	This module helps to verify the registered account or not. If user gives right username and password then user can go forward to the system.
<b>Stakeholder</b>	Seller/Bidder

### 2.1.3 Top up Credit

<b>FR-03</b>	<b>Top Up Credit</b>
<b>Description</b>	To place a bid, Bidder needs to have credit value in their account. Without credit, no one can bid a product. So, bidder must recharge their account.
<b>Stakeholder</b>	Seller/Bidder

### 2.1.4 View Profile

<b>FR-04</b>	<b>View Profile</b>
<b>Description</b>	Admin as well as Bidder/Seller can view profile. Admin also checkout every users profile cause provided information may false or valueless.
<b>Stakeholder</b>	Seller/Bidder , Admin

### 2.1.5 Search Product

<b>FR-05</b>	<b>Search Product</b>
--------------	-----------------------

<b>Description</b>	Bidder/Seller can search product for their expected items. When they search for system will provide them and show their expected product.
<b>Stakeholder</b>	Seller/Bidder

### 2.1.6 Bid Place

<b>FR-06</b>	<b>Bid Place</b>
<b>Description</b>	When Bidder/seller want to bid a product, the system check credit in their profile. If minimum credit is found, then they can bid that item.
<b>Stakeholder</b>	Seller/Bidder

### 2.1.7 View Users

<b>FR-07</b>	<b>View Users</b>
<b>Description</b>	Admin can view the entire details of registered members who want to buy a product or want to sell a product.
<b>Stakeholder</b>	Admin

### 2.1.8 Manage Database

<b>FR-08</b>	<b>Manage Database</b>
<b>Description</b>	Admin manages and protect database from malicious users or hackers attack.
<b>Stakeholder</b>	Admin

### 2.1.9 Search Users

<b>FR-09</b>	<b>Search users</b>
<b>Description</b>	Admin can search details of the members and system displays the specific member.
<b>Stakeholder</b>	Admin

### 2.1.10 Add Product

<b>FR-10</b>	<b>Add Product</b>
--------------	--------------------

<b>Description</b>	Bidder/Seller anyone can pick up a product for auction. When they add product in the system, they need to approve their product by the admin. Here, admin can plays two kind of role like if he/she think that this product is suitable for the system then admin can approve it and not suitable for system then reject add product request.
<b>Stakeholder</b>	Admin, Bidder/Seller

## 2.2 Data Requirements

For defining data requirements, we need to build the model. For our application maximum data would be loaded from remote user. And for that purpose we need to focus on some major points. Such as:

- Types of entity of the system
- Route data locations
- Capacity and resources of the data requirements
- Data source sequence
- Data availability schedules
- Quantity of data
- Availability of data

## 2.3 Performance Requirements

A requirement that specifies a performance characteristic that a system or system or system component must possess; for example, speed, accuracy, frequency.

### 2.3.1 Speed & Latency Requirements

Speed and latency requirements must be ensured while retrieving data from the cloud server.

<b>SLR-01</b>	The landing page will response within a second.
<b>Description</b>	While the user's browsing the system the landing page will show within a second. It also depends in user's internet connection.
<b>Stakeholder</b>	Admin, Bidder/Seller

### 2.3.2 Precision & Accuracy Requirements

Results that is to be shown to the end user is need to be accurate. Because, wrong information might be ruined the whole business process.

<b>PAR-1</b>	Search result must be accurate
<b>Description</b>	When users search for a product, then the search result must be according to the input value given by users.
<b>Stakeholders</b>	Bidder/Seller

### 2.3.3 Capacity Requirements

The system is able to manage all the information about bidder/seller.

<b>CR-01</b>	Initially the system will store 10,000 Bidder/Seller.
<b>Description</b>	The information of bidder/seller will be stored in database.
<b>Stakeholder</b>	Admin, Bidder/Seller

### 2.4 Dependability Requirements

The term dependability is measured based on four dimensions. Such as:

- Availability
- Reliability
- Safety
- Security

The flexibility of current frameworks encourages system architects to enable reconfiguration mechanisms that refocus the available, safe resources to support the most critical services rather than over-provisioning to build failure-proof system. Therefore, these requirements are essentials.

#### 2.4.1 Reliability & Availability Requirements

Now, I will mention requirements which is related to reliability and availability.

<b>RAR-01</b>	The system must be available 24x7
<b>Description</b>	<ul style="list-style-type: none"> <li>• The system must be available 24 hours in a day</li> <li>• The system must be updated regularly</li> </ul>
<b>Stakeholder</b>	Admin, Bidder/Seller

## 2.4.2 Robustness or Fault-Tolerance Requirements

To ensure robustness and fault-tolerance facilities to the end users, it is urgent to ensure 0% crash. Moreover, it must show accurate results.

<b>RFTR-01</b>	The system handles over access and system errors
<b>Description</b>	Sometimes multiple users can handle over the system. The system can handle multiple user access.
<b>Stakeholder</b>	N/A

## 2.5.1 Maintainability Requirement

<b>MR-01</b>	The system helps to update any information in any time
<b>Description</b>	Bidder/Seller can add product or delete their product and Amin can change or update any information in any situation.
<b>Stakeholder</b>	Admin, Bidder/Seller

## 2.5.2 Supportability Requirements

In order to understand the system's behavior on a technical support required by the system operator. The reason for reading them might be

- System malfunction has occurred and the system operator has to find the exact point of time when this happened
- System produces wrong results and the developers must be able to reproduce the data flow through the system
- Hacker tried to breach the system's security mechanisms and the system operator must understand what he did

## 2.6 Security Requirements

There are no access requirements beside those that have been outlined in the below:

- The software must validate all user input to ensure it does not exceed the size specified for that type of input
- The server must authenticate every request accessing the restricted Web pages
- After authenticating the browser, the server must determine whether that browser is authorized to access the requested restricted Web pages
- The system must have security controls to protect against denial-of-service attacks
- The system must encrypt sensitive data transmitted over the Internet between the server and the browser

### 2.6.1 Access Requirements

For accessing to our application system, there remains some authentication and authorization techniques. And every module of our system will provide it. Now I will provide an explanation below.

<b>AR-01</b>	The system provides security strategies.
<b>Description</b>	The system is designed in way that allows modules to access a mechanism that security services.
<b>Stakeholder</b>	Admin, Bidder/Seller

### 2.6.2 Integrity Requirements

To protect credentials of user from being stolen, all passwords are stored in encrypted form. The Requirements significantly reduces the value of stolen user credentials, it's not easy to decrypt the password.

### 2.6.3 Privacy Requirements

The system provides a protection of the database in the server. However, the system will have to increment this level of protection because of the personal data mode available on the system & the larger share of people that will be having access to it through the system's

registration. The user's privacy will be granted by the limited access that the log in process is going to give to the database.

<b>PR-02</b>	All data will be protected
<b>Description</b>	The main requirement in the context is user's data analysis.
<b>Stakeholder</b>	Admin, Bidder/Seller

## 2.7 Usability and Human-Interaction Requirements

The main target of developing any system is to make the system user friendly and easy to usable for the end users.

### 2.7.2 Personalization and Internationalization Requirements

There are not any personalization and internationalization requirements to our system. This maiden version of our application is only be operated by Bangladesh.

### 2.7.3 Understandability and Politeness Requirements

It is already said that the application which we are going to develop, is understandable enough. The system provides hints to users whether any error occurred or wrong. By reading those errors users can be able to operate the system easily.

### 2.7.5 User Documentation Requirements

Documentation are mainly two types. One is internal documentation which is generally written by the application engineers. It is prepared to make development life cycle easier for the system engineers or system analysts.

<b>UDR-01</b>	The system developer documentation
<b>Description</b>	To develop this project, I have specified requirement of user documentation. As I develop this system that's why I am also involved to this project documentation.
<b>Stakeholder</b>	System Developer

## 2.8 Look and Feel Requirements

The look and feel requirements describe the intended spirit, the mood, or the style of the product's appearance. These requirements specify the intention of the appearance, and are not a detailed design of an interface.



## 2.8.1 Appearance Requirements

It should be clear to the admin and bidder/seller which fields need to be filled and which can be left blank in this system.

<b>AR-01</b>	Labels of mandatory fields must be bold
<b>Description</b>	Labels of mandatory fields must be bold to identify them and being of mandatory
<b>Stakeholder</b>	Admin, Bidder/Seller

## 2.8.2 Style Requirements

We will provide a web based user interface. This requirement does not only define the necessity to use a CSS but also the requirements regarding the CSS's content as well as CSS framework like bootstrap.

<b>SR-01</b>	The look and feel must be controllable using style sheet		
<b>Description</b>	The styling of the elements of the web based user interface will be defined using CSS, JS and Bootstrap.		
<b>Stakeholder</b>	Admin, System Developer	<b>Priority</b>	Medium

## 2.9 Operational and Environmental Requirements

This requirement focus on how the users will operate the system, including interfaces and interoperability with other systems. The requirements establish how well and under what conditions the system must perform.

## 2.10 Legal Requirements

Legal requirements normally refer to the terms and conditions or privacy policy of any organizations. The terms and condition of our application is that, no third party software or person are allowed to engage to use our data for their business purpose.



# **Chapter 3**

## **Requirement Analysis**

### 3.1 Use Case Diagram

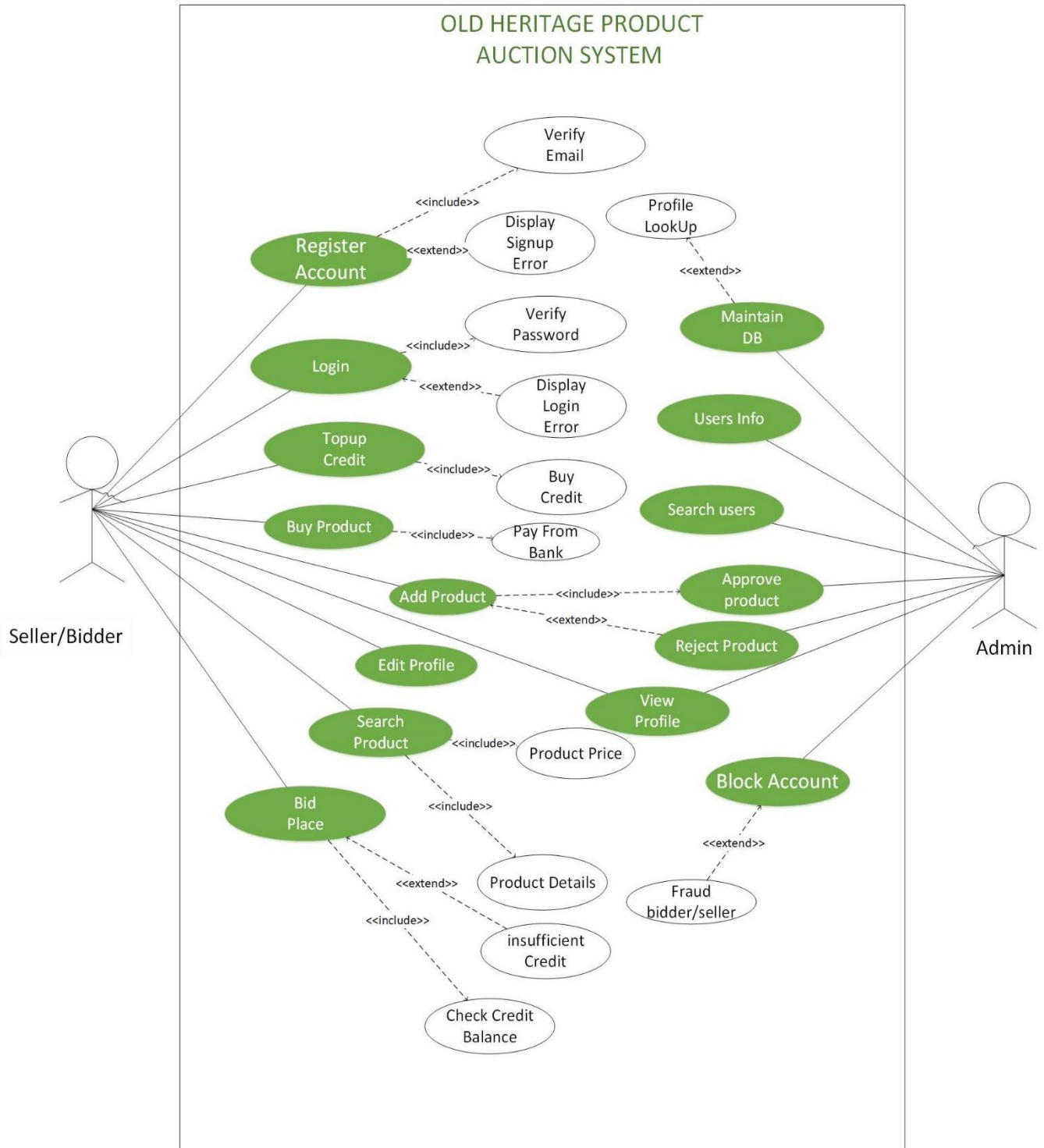


Figure 3.1: Use Case Diagram for “Old Heritage Product Auction”

### 3.1.1 Register Account

<b>Use Case-01</b>	Register account.	
<b>Goal</b>	Bidder/seller can easily register their account.	
<b>Preconditions</b>	Bidder/Seller must have a email id.	
<b>Success End Condition</b>	Bidder/Seller can perfectly login the system.	
<b>Failed End Condition</b>	Display signup error message.	
<b>Primary Actors:</b>	Bidder/Seller	
<b>Secondary Actors:</b>	System	
<b>Trigger</b>	Bidder/Seller is given their email, password, mobile no, City into the system.	
<b>Description / Main Success Scenario</b>	<b>Step</b>	<b>Action</b>
	1	User creates their account without a problem.
	2	System verify the users email and send it to a confirming message.
	2.1 2.2	After confirming the email then users can successfully create an account. Without this, system will not add any users in the system.
<b>Alternative Flows</b>	<b>Step</b>	<b>Branching Action</b>
	3a	If email id is not valid, then users can't create account.
	3a1	If they input valid email, then they can create account easily.
<b>Quality Requirements</b>	<b>Step</b>	<b>Requirement</b>
	4	One user can register their account for one email id.
	5	Using fake email id is not acceptable for the system.

Table 1.1: Register Account

### 3.1.2 Login

<b>Use Case-02</b>	Login	
<b>Goal</b>	After giving email and password then gently logged in the system.	
<b>Preconditions</b>	Bidder/Seller must have register account.	
<b>Success End Condition</b>	Successfully login the system.	
<b>Failed End Condition</b>	Login request denied by system.	
<b>Primary Actors:</b>	Bidder/Seller	
<b>Secondary Actors:</b>	System	
<b>Trigger</b>	Providing Email and Password into the system.	
<b>Description / Main Success Scenario</b>	<b>Step</b>	<b>Action</b>
	1	Users input their email and password.
	2	System matching their entered password from database section.
	2.1 2.2	If provided password matched, then user can log in. Otherwise system appears invalid username and password message.
<b>Alternative Flows</b>	<b>Step</b>	<b>Branching Action</b>
	3a	If password is right , user login the system easily.
	3a1	If they enter wrong password , then they can't login the system.
<b>Quality Requirements</b>	<b>Step</b>	<b>Requirement</b>
	4	Too many wrong login request, system will temporary disable for you.
	5	After entering 10 times wrong password, then it will happen.

Table 1.2: Login

### 3.1.3 Top Up Credit

<b>Use Case-03</b>	Top Up Credit	
<b>Goal</b>	Buying credit for participating the auctions.	
<b>Preconditions</b>	Bidder/Seller should have bank account or mobile banking facility.	
<b>Success End Condition</b>	Perfectly buy credits from the system through mobile banking or internet banking.	
<b>Failed End Condition</b>	No bank account no credit and no participation on an auction.	
<b>Primary Actors:</b>	Bidder/Seller	
<b>Secondary Actors:</b>	System	
<b>Trigger</b>	Buy credit and ready to place a bid.	
<b>Description / Main Success Scenario</b>	<b>Step</b>	<b>Action</b>
	1	When users click on top up credit option, system will bring them bid package store.
	2	To buy a bid package, users should click on buy credit.
	2.1 2.2	Then system will bring them payment section. After providing right payment method, then users are ready to participate an auction.
<b>Alternative Flows</b>	<b>Step</b>	<b>Branching Action</b>
	3a	If user don't have bank account or mobile banking then you cannot perform a bidding.
	3a1	If user have bank account or mobile banking but their account have no virtual money , they cannot perform a bidding.
<b>Quality Requirements</b>	<b>Step</b>	<b>Requirement</b>
	4	Invalid bank account is not acceptable.

Table 1.3: Top up credit

### 3.1.4 Edit Profile

<b>Use Case-04</b>	Edit Profile	
<b>Goal</b>	Users can change or edit their profile.	
<b>Preconditions</b>	Must be a registered user in this system.	
<b>Success End Condition</b>	Gently edit profile for user betterment or satisfaction.	
<b>Failed End Condition</b>	Don't have register account, User can do nothing.	
<b>Primary Actors:</b>	Bidder/Seller	
<b>Secondary Actors:</b>	System	
<b>Trigger</b>	Users have to go their my account and edit profile.	
<b>Description / Main Success Scenario</b>	<b>Step</b>	<b>Action</b>
	1	Register user can edit their profile.
	2	Can change all information.
<b>Alternative Flows</b>	<b>Step</b>	<b>Branching Action</b>
	3a	If user is login the system, then they can edit profile.
	3a1	Don't have any sub use case.
<b>Quality Requirements</b>	<b>Step</b>	<b>Requirement</b>
	4	N/A
	5	N/A

Table 1.4: Edit Profile



### 3.1.5 Add Product

<b>Use Case-05</b>	Bidder/Seller Add product	
<b>Goal</b>	Add product after bidder/seller request.	
<b>Preconditions</b>	Bidder/Seller must be authenticate.	
<b>Success End Condition</b>	Bidder/Seller can see their product in this system.	
<b>Failed End Condition</b>	Product add request denied by admin	
<b>Primary Actors:</b>	Bidder/Seller	
<b>Secondary Actors:</b>	Admin	
<b>Trigger</b>	Data comes to the bidder/seller application from server.	
<b>Description / Main Success Scenario</b>	<b>Step</b>	<b>Action</b>
	1	Bidder/ Seller sends add product request.
	2	Admin can see their request.
	2.1 2.2	Admin gives approval for requested item. Admin gives to decline for requested item.
<b>Alternative Flows</b>	<b>Step</b>	<b>Branching Action</b>
	3a	Authenticate product can be picked up for auction.
	3a1	Renegotiate request.
	4a	Bidder/seller must be logged in.
	4a1	Bidder/Seller have to fulfil their profiles correctly and accurately.
<b>Quality Requirements</b>	<b>Step</b>	<b>Requirement</b>
	5	Admin should confirm add product within 10 minutes.
	6	Add product request can be made only one time for one item.

Table 1.5: Add Product

### 3.1.6 Search Product

<b>Use Case-06</b>	Search product	
<b>Goal</b>	Bidder/Seller search their anticipated product.	
<b>Preconditions</b>	Bidder/Seller must be authenticate user.	
<b>Success End Condition</b>	Users can see their provided search result.	
<b>Failed End Condition</b>	System cannot sorting the product and show inaccurate result.	
<b>Primary Actors:</b>	Bidder/Seller	
<b>Secondary Actors:</b>	System	
<b>Trigger</b>	Users is looked for their expected product and type on search box get result.	
<b>Description / Main Success Scenario</b>	<b>Step</b>	<b>Action</b>
	1	User search for a product .
	2	System will search and match the provided keyword.
	2.1 2.2	If system find it Then show the users.
<b>Alternative Flows</b>	<b>Step</b>	<b>Branching Action</b>
	3a	If keyword is not accurately placed in search box, system will not show perfect result.
	4a1	Product price.
	4a2	Product details.
<b>Quality Requirements</b>	<b>Step</b>	<b>Requirement</b>
	5	Keyword should be accurate.

Table 1.6: Search Product

### 3.1.7 Bid Place

<b>Use Case-07</b>	Bid Place	
<b>Goal</b>	Bidder/Seller can place a bid.	
<b>Preconditions</b>	Bidder/Seller must be authenticate user.	
<b>Success End Condition</b>	Users can participate bidding.	
<b>Failed End Condition</b>	Cannot place bidding.	
<b>Primary Actors:</b>	Bidder/Seller	
<b>Secondary Actors:</b>	System	
<b>Trigger</b>	Bidder/Seller is have enough credit to participate an auction.	
<b>Description / Main Success Scenario</b>	<b>Step</b>	<b>Action</b>
	1	Bidder/ Seller click on bid now button
	2	System cut the credit for the users account according to the product required per bid.
	2.1 2.2	System will provide last bidder name and restart countdown timers from 10s.
<b>Alternative Flows</b>	<b>Step</b>	<b>Branching Action</b>
	3a	If user account have no credit, then they cannot perform an auction.
	4a1	Insufficient credits
	4a2	Recharge credit balance.
<b>Quality Requirements</b>	<b>Step</b>	<b>Requirement</b>
	5	Must have credit on users account.

Table 1.7: Bid place

### 3.1.8 Maintain Database

<b>Use Case-08</b>	Maintain database	
<b>Goal</b>	All users data remain safe and sound.	
<b>Preconditions</b>	Admin must have security system to get rid of bad attackers.	
<b>Success End Condition</b>	Safely handle the database.	
<b>Failed End Condition</b>	Properly maintain the database. Attackers can harm the users data.	
<b>Primary Actors:</b>	Admin	
<b>Secondary Actors:</b>	Bidder/Seller	
<b>Trigger</b>	Admin should enrich his security system first.	
<b>Description / Main Success Scenario</b>	<b>Step</b>	<b>Action</b>
	1	Admin should have backup server.
	2	Have secure passwords
	2.1	Encrypt database.
	2.2	Segment database.
	2.3	Monitor and audit database.
<b>Alternative Flows</b>	<b>Step</b>	<b>Branching Action</b>
	3a	If admin don't have any backup server, then all data will be risky.
	3a1	If admin don't have proper security, all data will be risky.
<b>Quality Requirements</b>	<b>Step</b>	<b>Requirement</b>
	5	Need proper security and backup.

Table 1.8: Maintain Database

### 3.1.9 Block Account

<b>Use Case-09</b>	Block Account	
<b>Goal</b>	Admin can block fraudulent users account.	
<b>Preconditions</b>	N/A	
<b>Success End Condition</b>	As admin build the system, he/she should have the way of blocking the fraud users.	
<b>Failed End Condition</b>	Cannot block or trace the fraud user.	
<b>Primary Actors:</b>	Admin.	
<b>Secondary Actors:</b>	Bidder/Seller.	
<b>Trigger</b>	Admin delete or block the username so that those particular user cannot access the system again..	
<b>Description / Main Success Scenario</b>	<b>Step</b>	<b>Action</b>
	1	Admin observe all users activity.
	2 2.1	When admin find any bad things in a user Admin just block the user.
<b>Alternative Flows</b>	<b>Step</b>	<b>Branching Action</b>
	3a	If any user breaks the rules and policy of the system, then admin block them without any warning.
	3a1	Fraud bidder/seller
<b>Quality Requirements</b>	<b>Step</b>	<b>Requirement</b>
	5	N/A
	6	N/A

Table 1.9: Block Account

### 3.1.10 Search Users

<b>Use Case-10</b>	Search users	
<b>Goal</b>	Admin can search all register user for his/her need.	
<b>Preconditions</b>	N/A	
<b>Success End Condition</b>	If search result is accurate.	
<b>Failed End Condition</b>	If search result shows inappropriate result.	
<b>Primary Actors:</b>	Admin	
<b>Secondary Actors:</b>	Bidder/Seller	
<b>Trigger</b>	Admin search user from database.	
<b>Description / Main Success Scenario</b>	<b>Step</b>	<b>Action</b>
	1	Go into the database.
	2	Search for expected users.
<b>Alternative Flows</b>	<b>Step</b>	<b>Branching Action</b>
	3a	If search result is not correct, Admin corrects the searching algorithm.
	3a1	
<b>Quality Requirements</b>	<b>Step</b>	<b>Requirement</b>
	5	N/A
	6	N/A

Table 1.10: Search users

## 3.2 Activity Diagram

I have prepared some activity diagram according to my use case. These activity diagrams are properly referring the flow of the individual conditions of my project.

### 3.2.1 Register Account

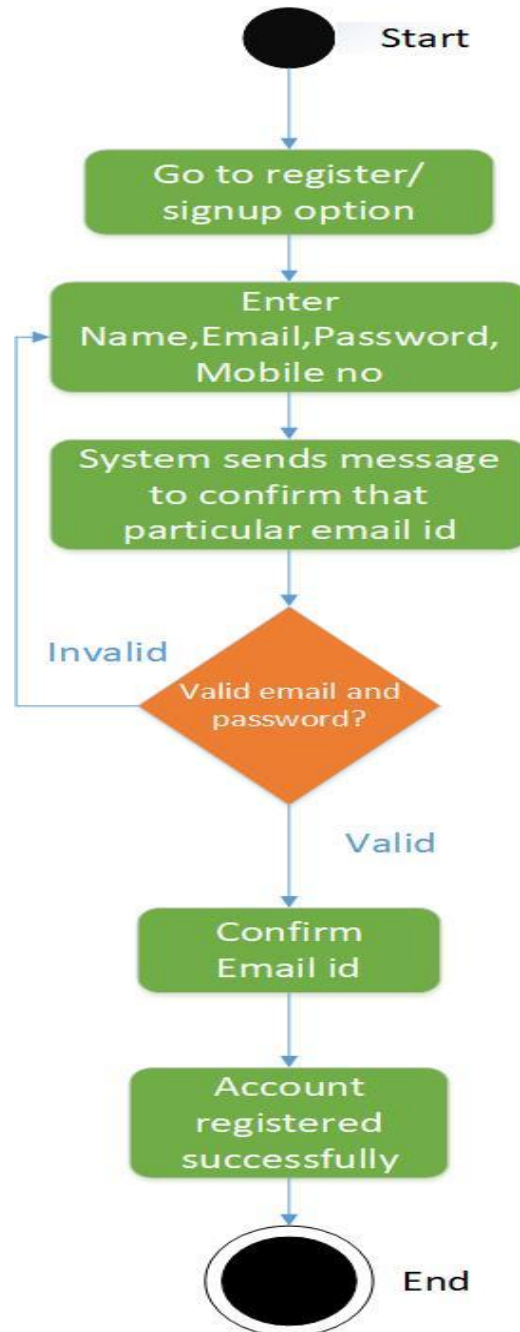


Figure 3.2: Register Account

### 3.2.2 Login

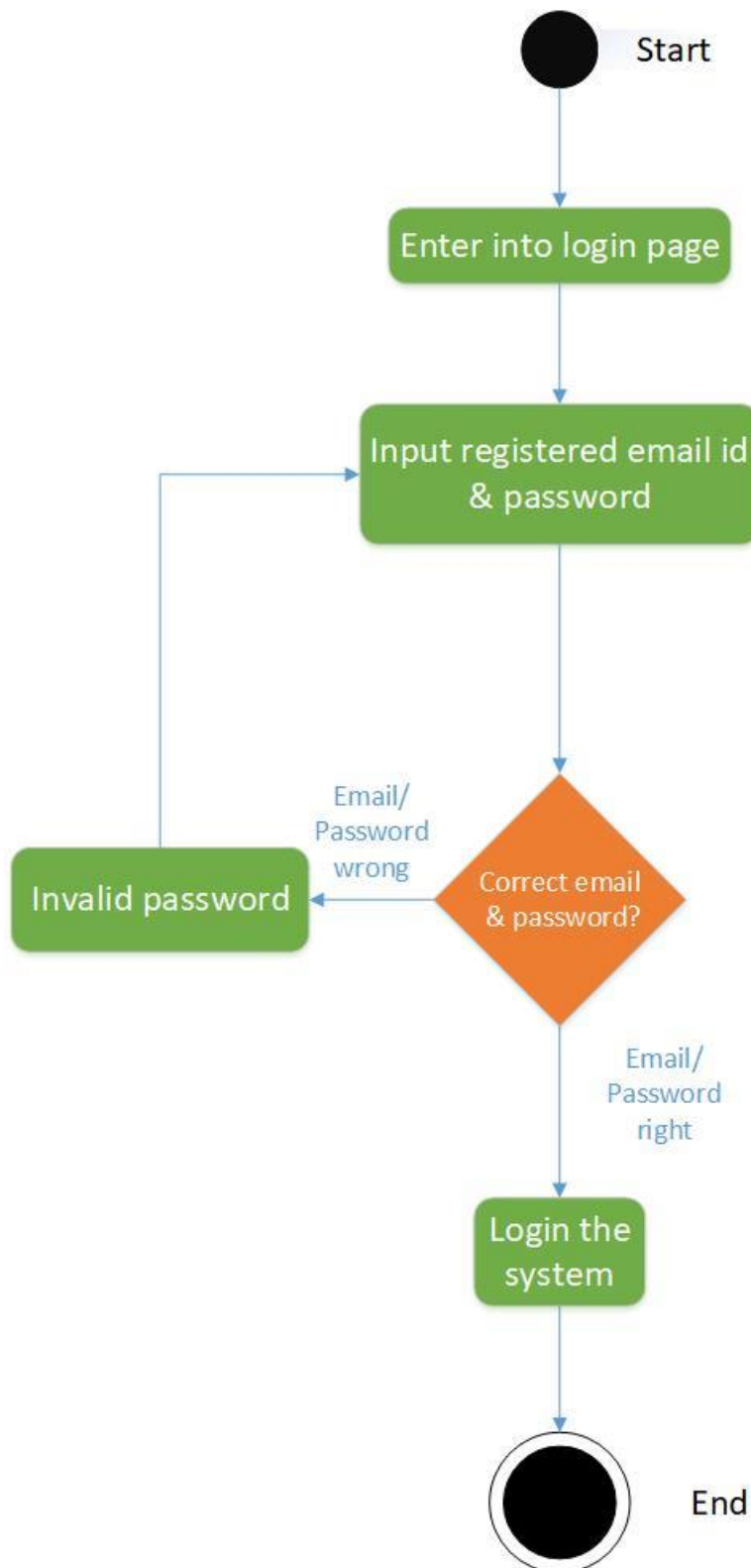


Figure 3.3: Login



### 3.2.3 Top Up Credit

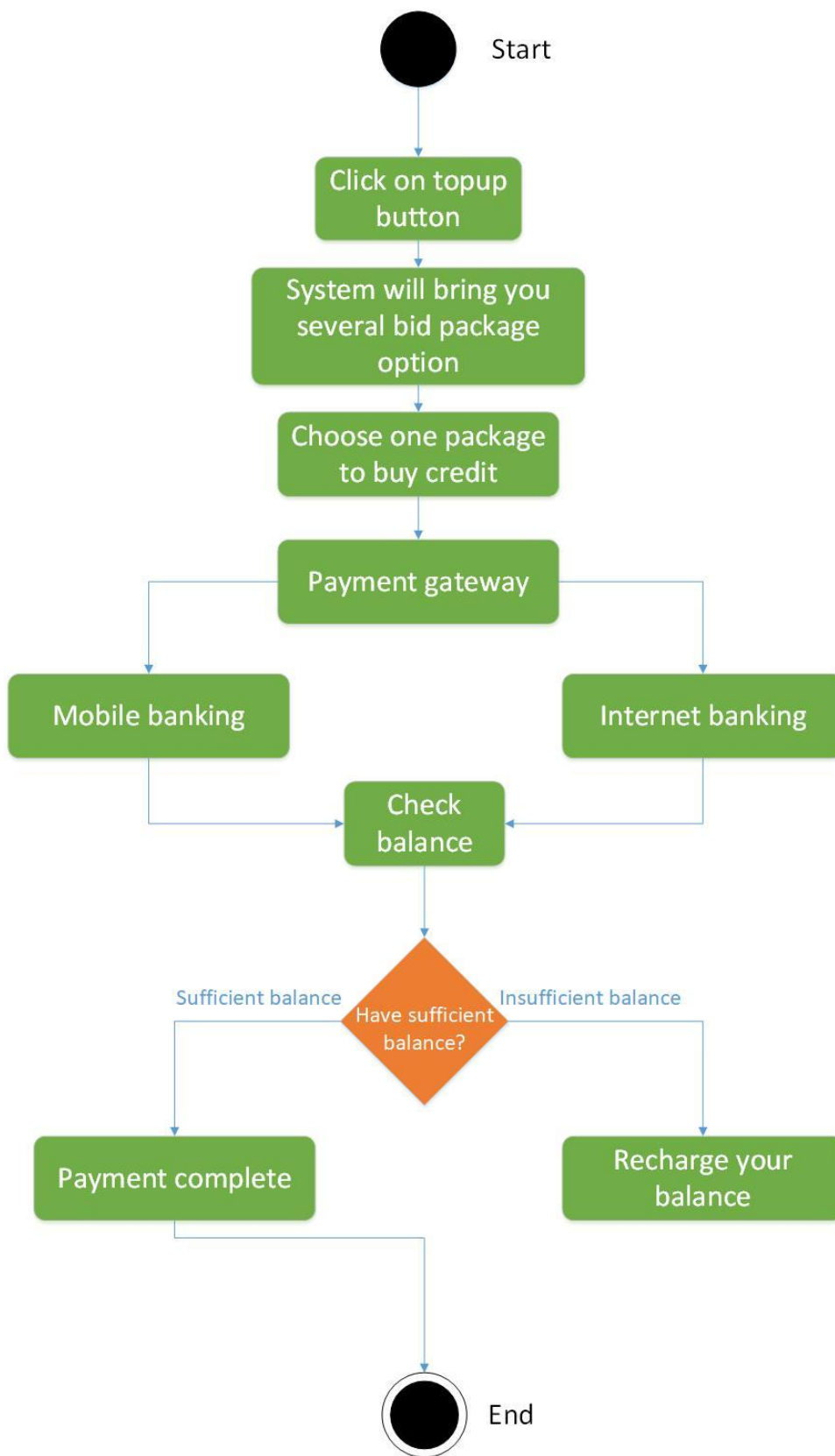


Figure 3.4: Top Up Credit

### 3.2.4 Edit Profile

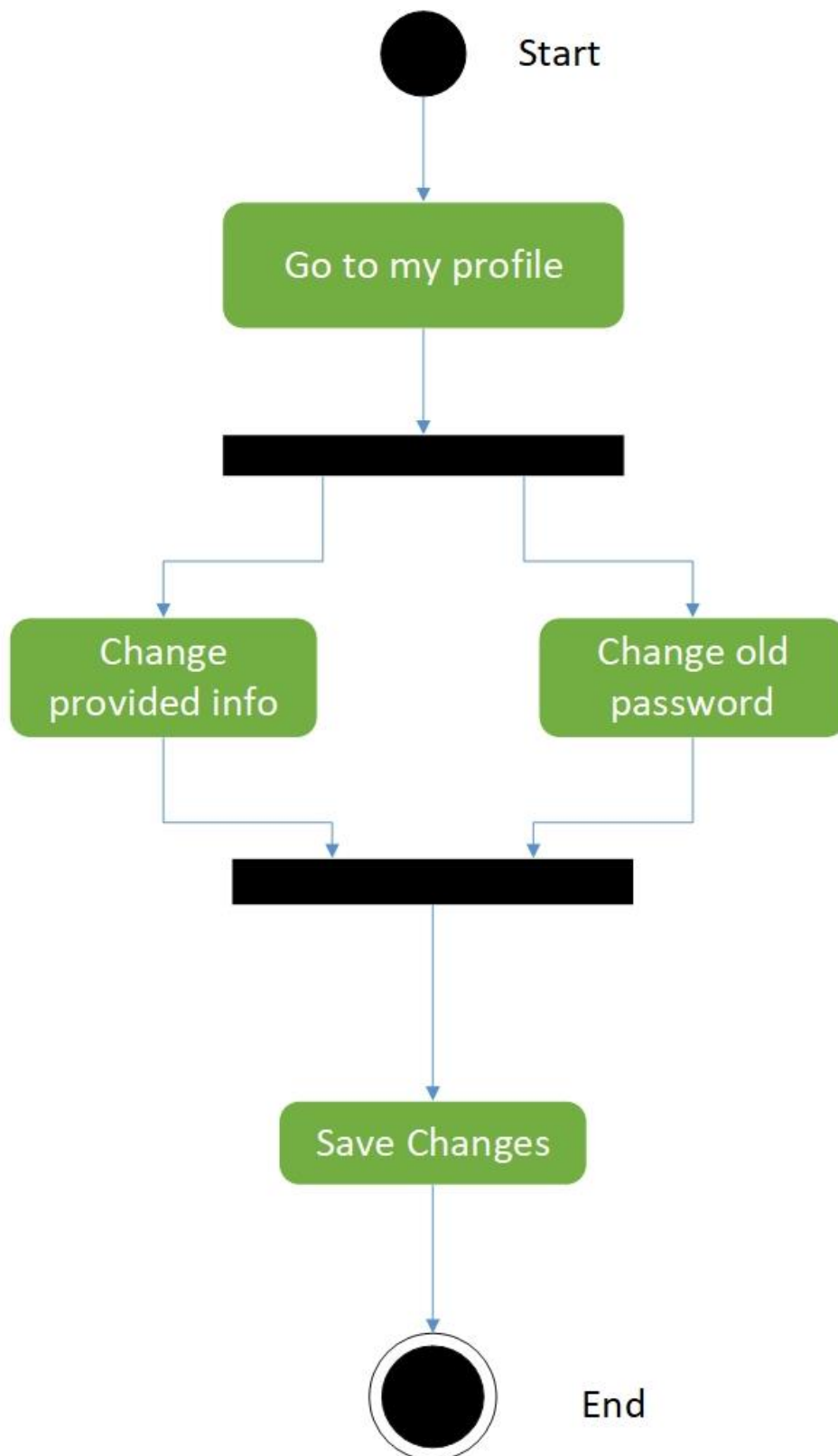


Figure 3.5: Edit Profile

### 3.2.5 Add Product

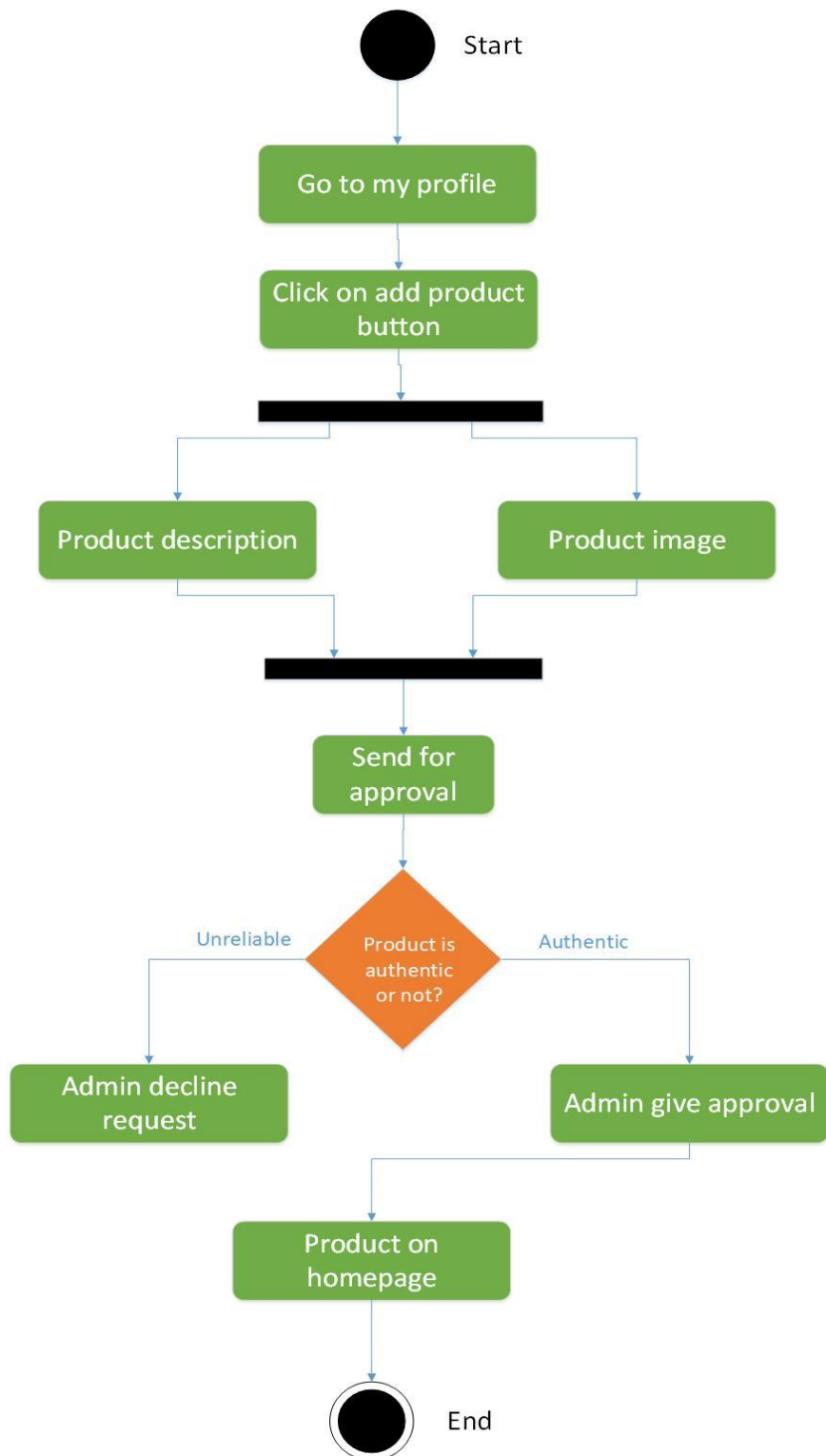


Figure 3.6: Add Product

### 3.2.6 Search Product

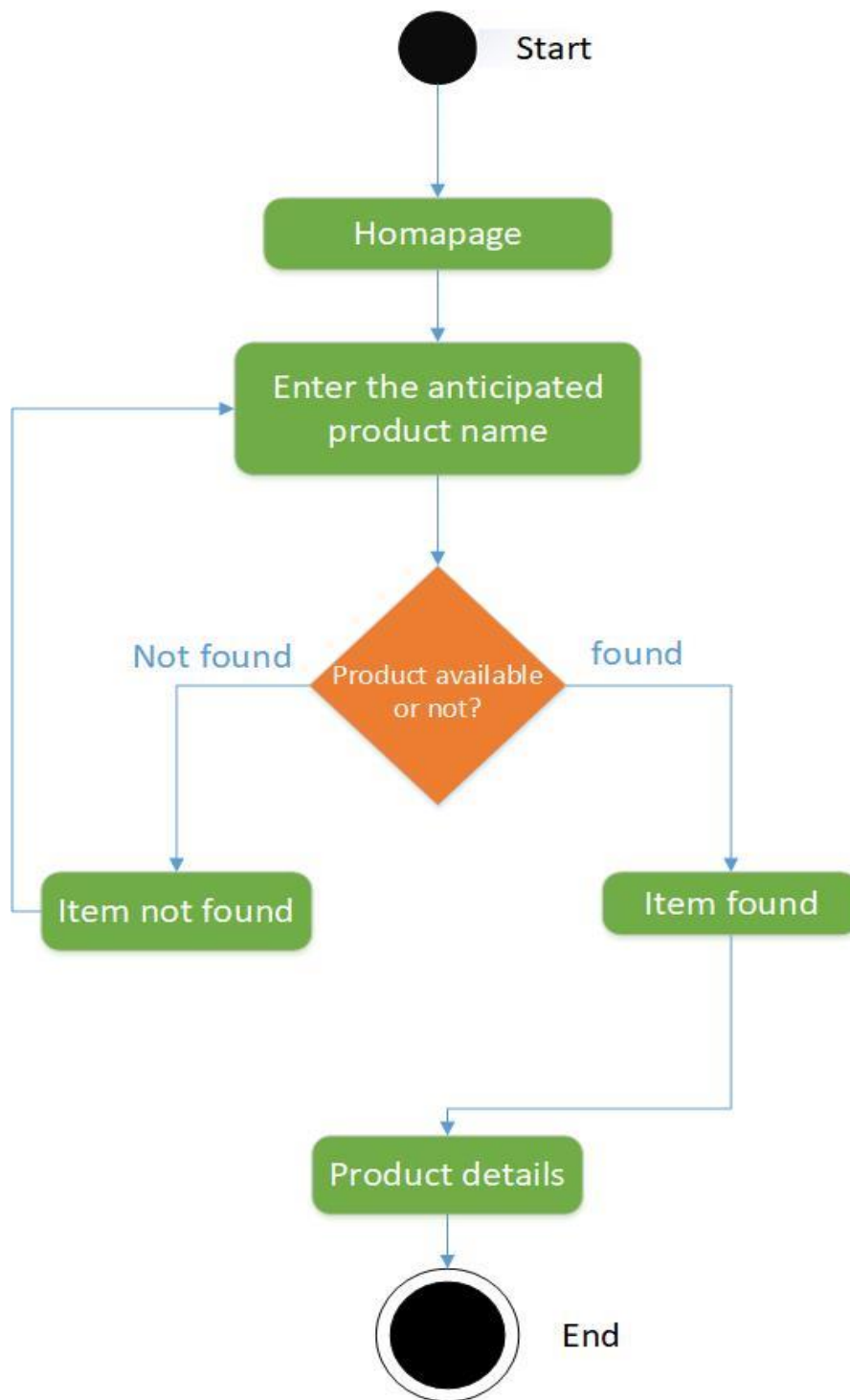


Figure 3.7: Search Product

### 3.2.7 Bid Place

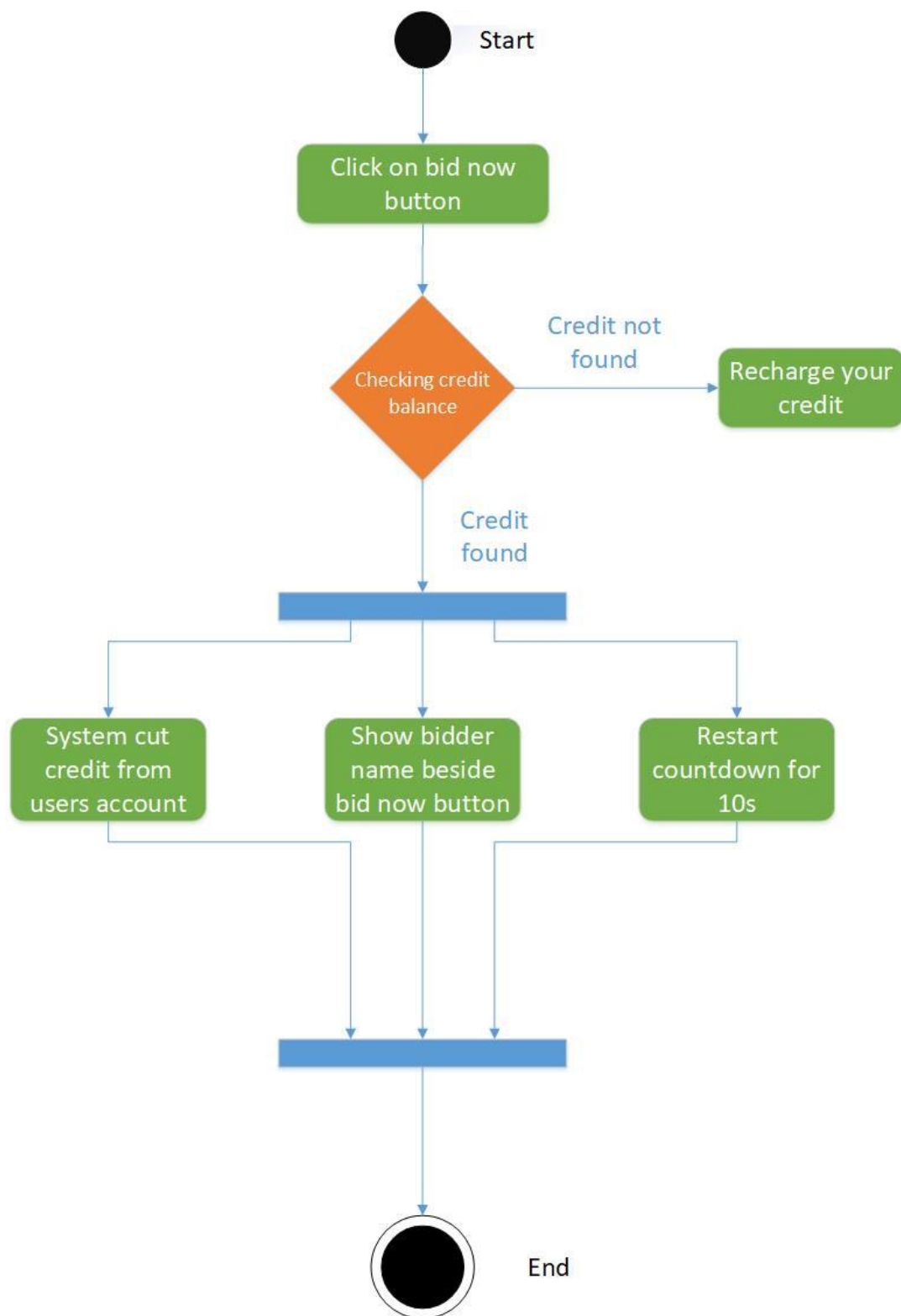


Figure 3.8: Bid Place

### 3.2.8 Maintain Database

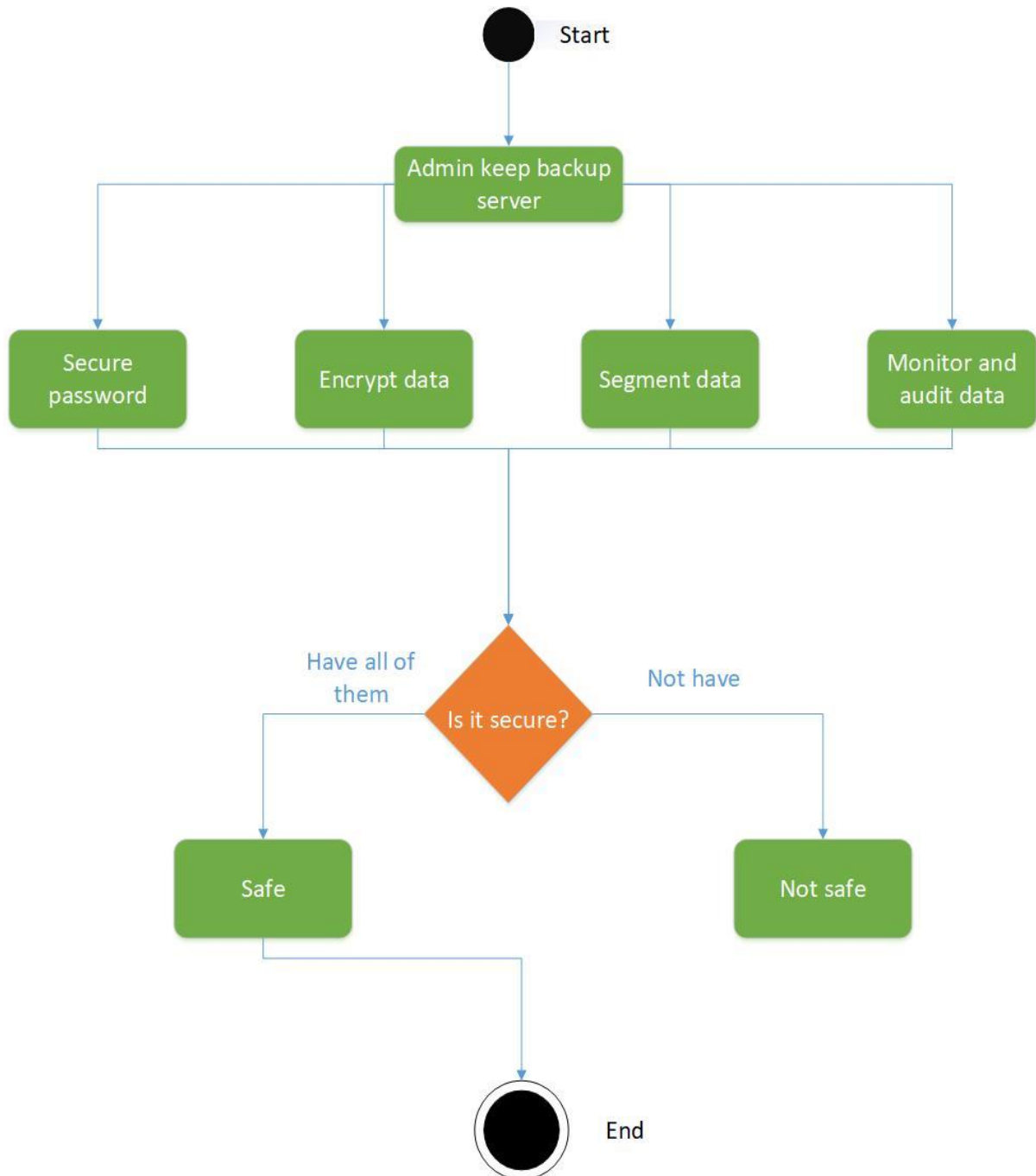


Figure 3.9: Maintain Database

### 3.2.9 Block Account

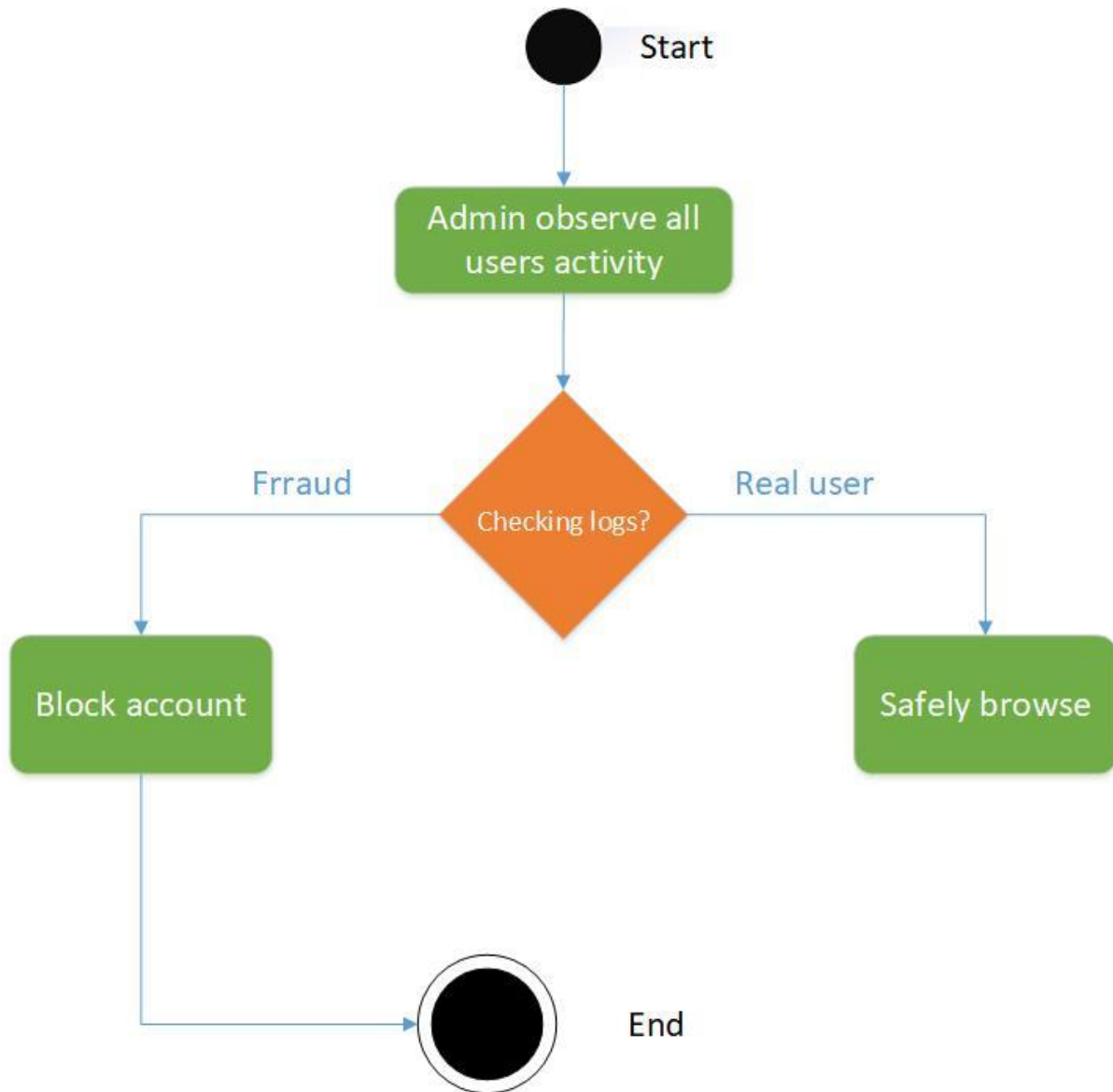


Figure 3.10: Block Account

### 3.2.10 Search Users

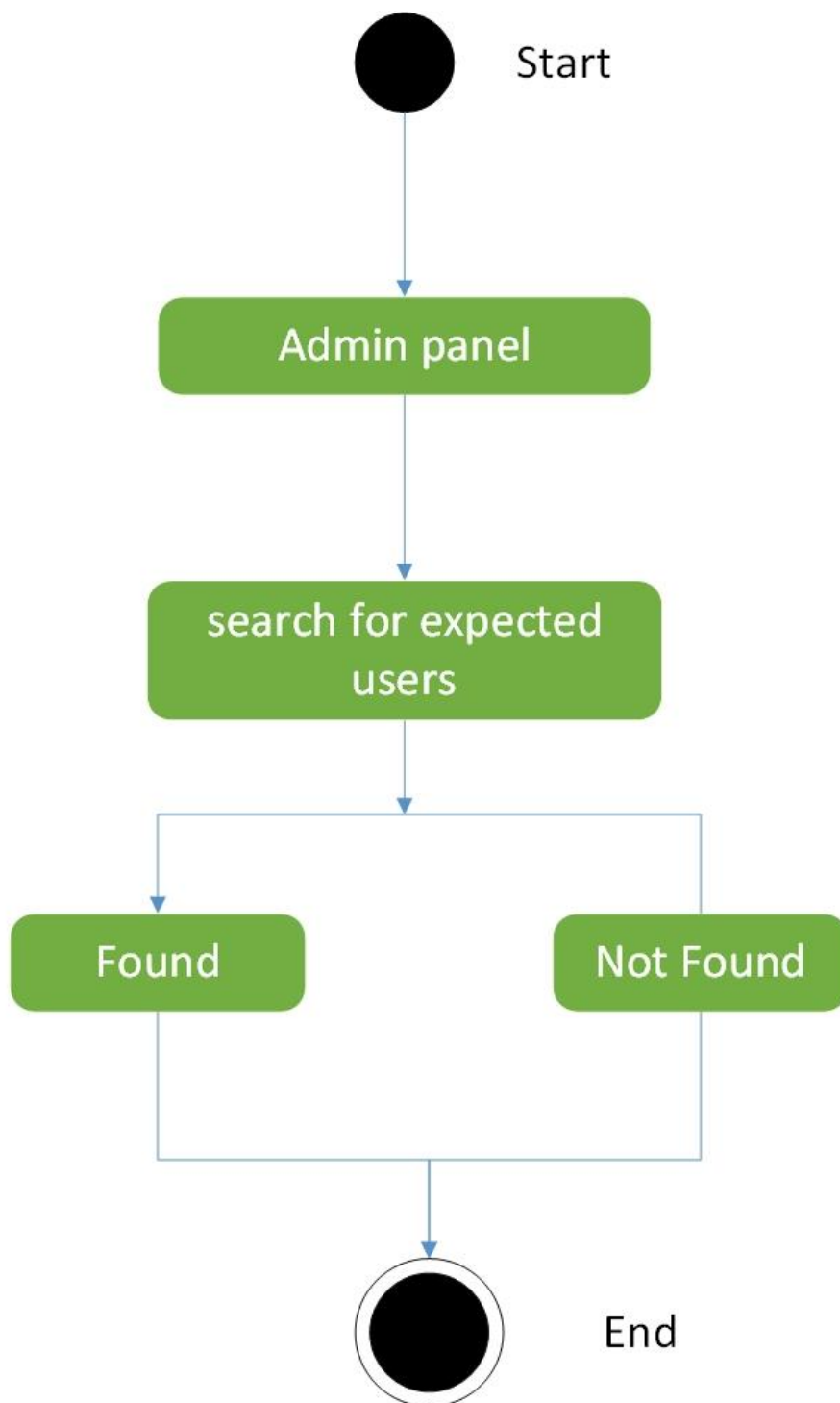


Figure 3.11: Search Users



### 3.3 Sequence Diagrams

Mainly sequence diagrams understand us how the data will be followed in any application.

Now we are going to show some sequence diagrams.

#### 3.3.1 Register User

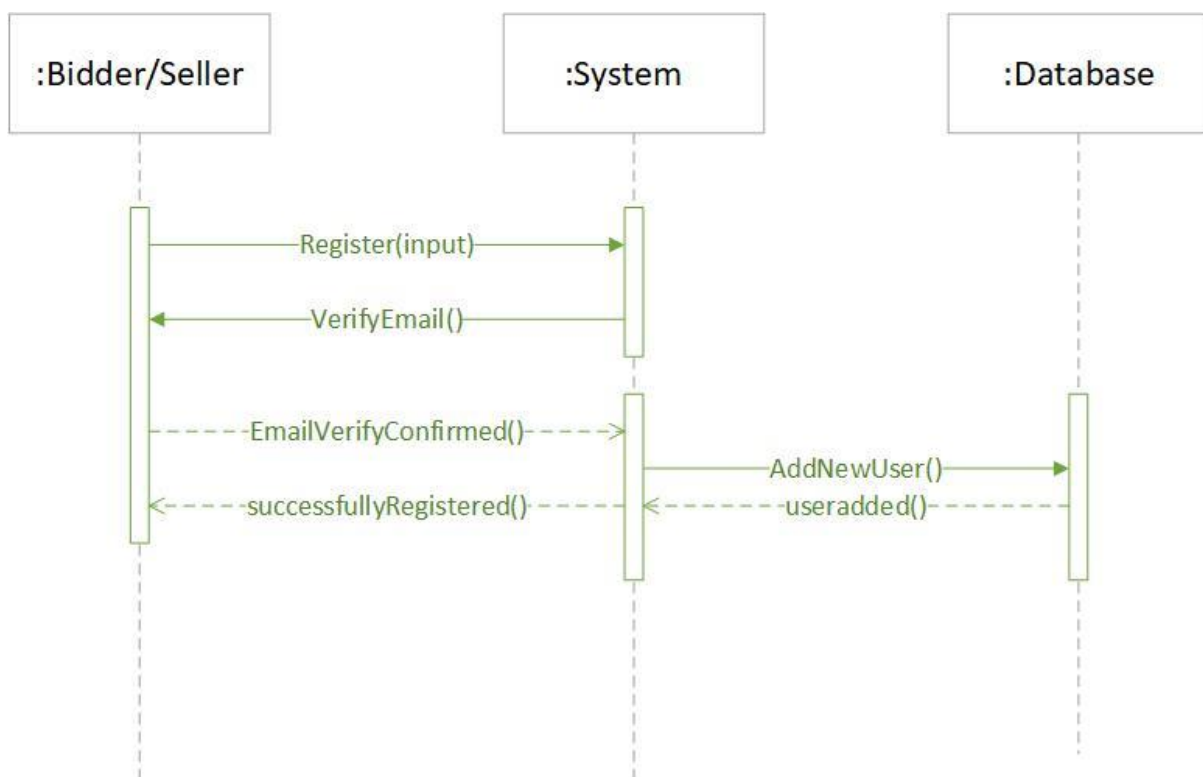


Figure 3.12: Sequence diagram for register account

### 3.3.2 Login

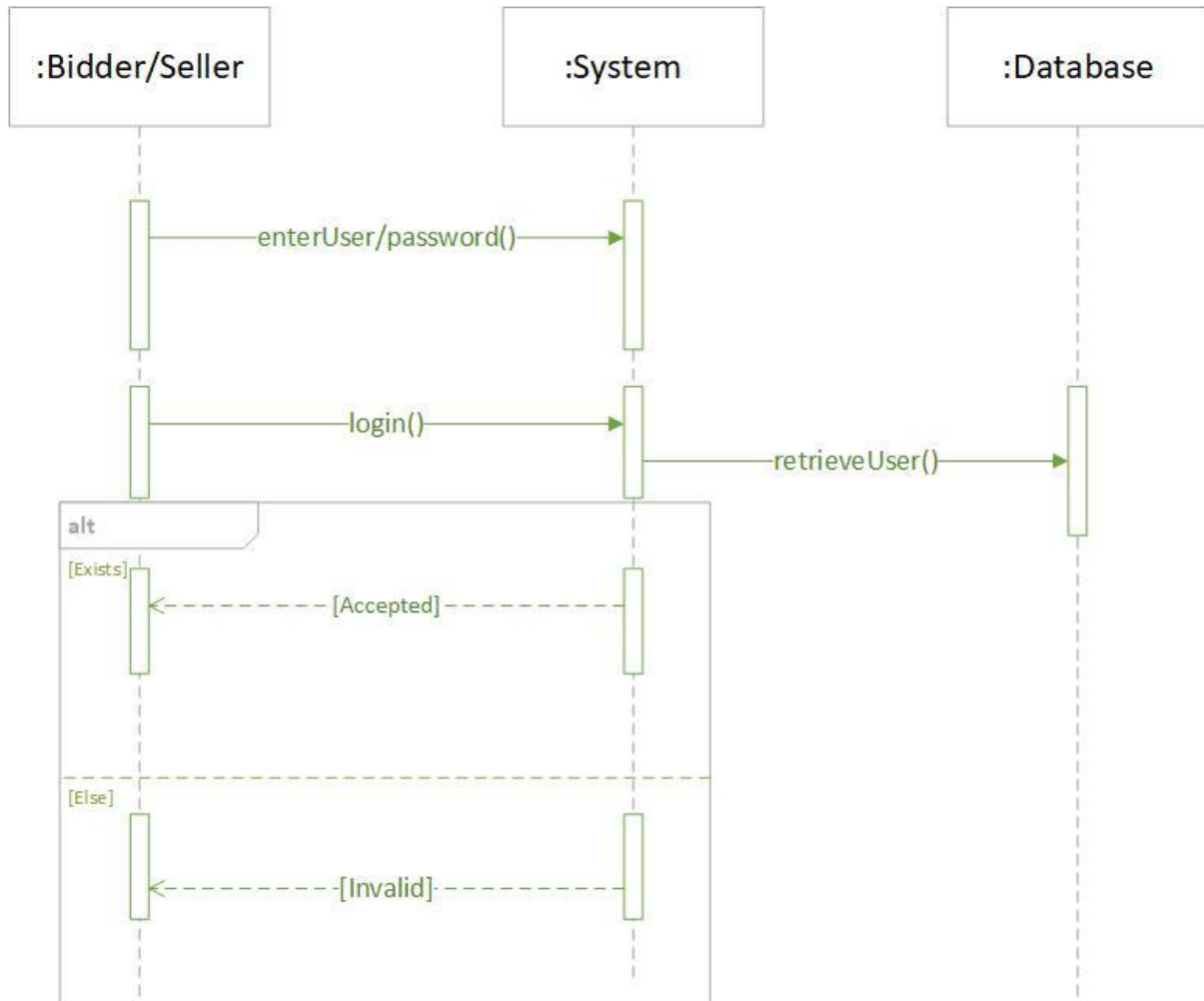


Figure 3.13: Sequence diagram for login

### 3.3.3 Top Up Credit

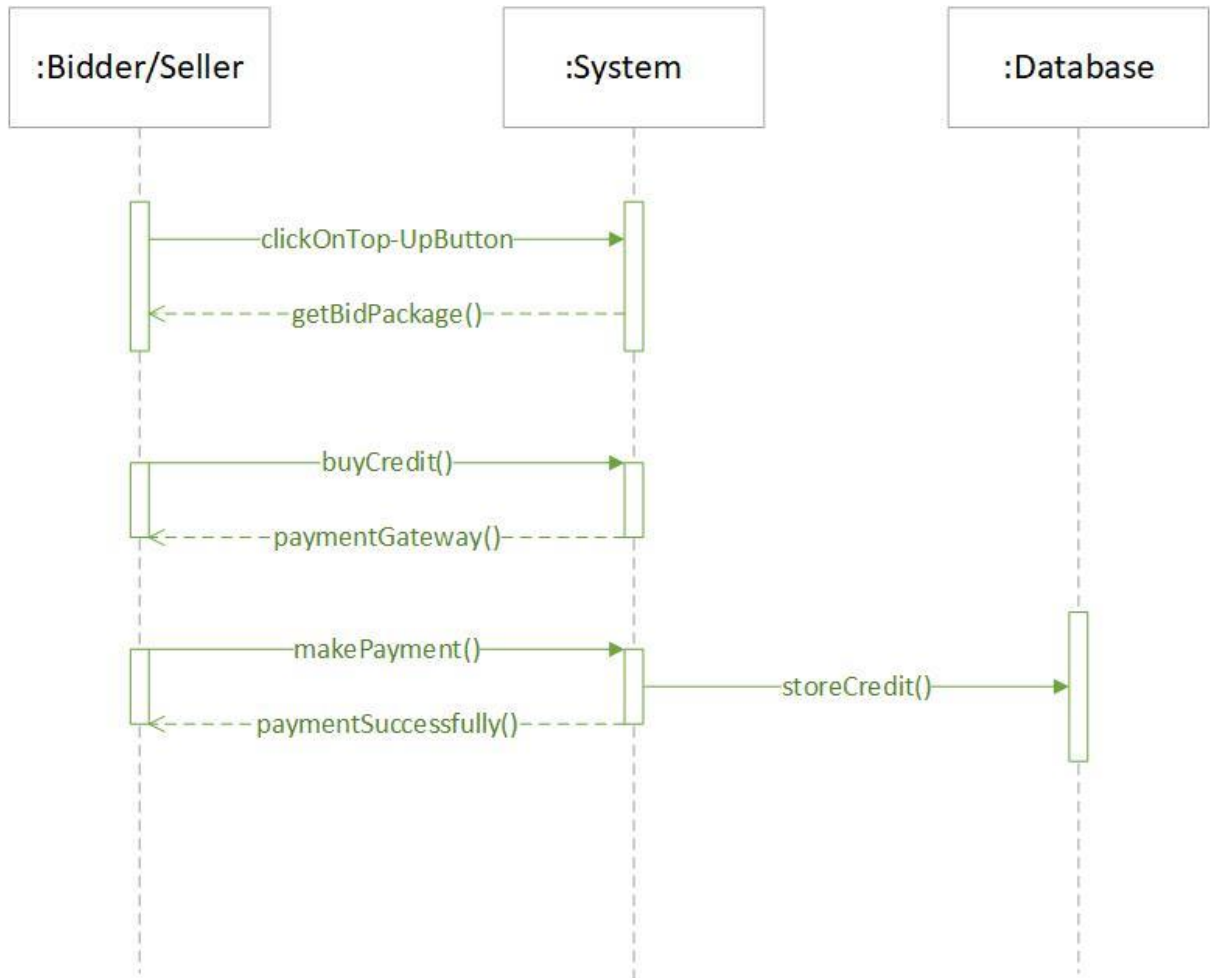
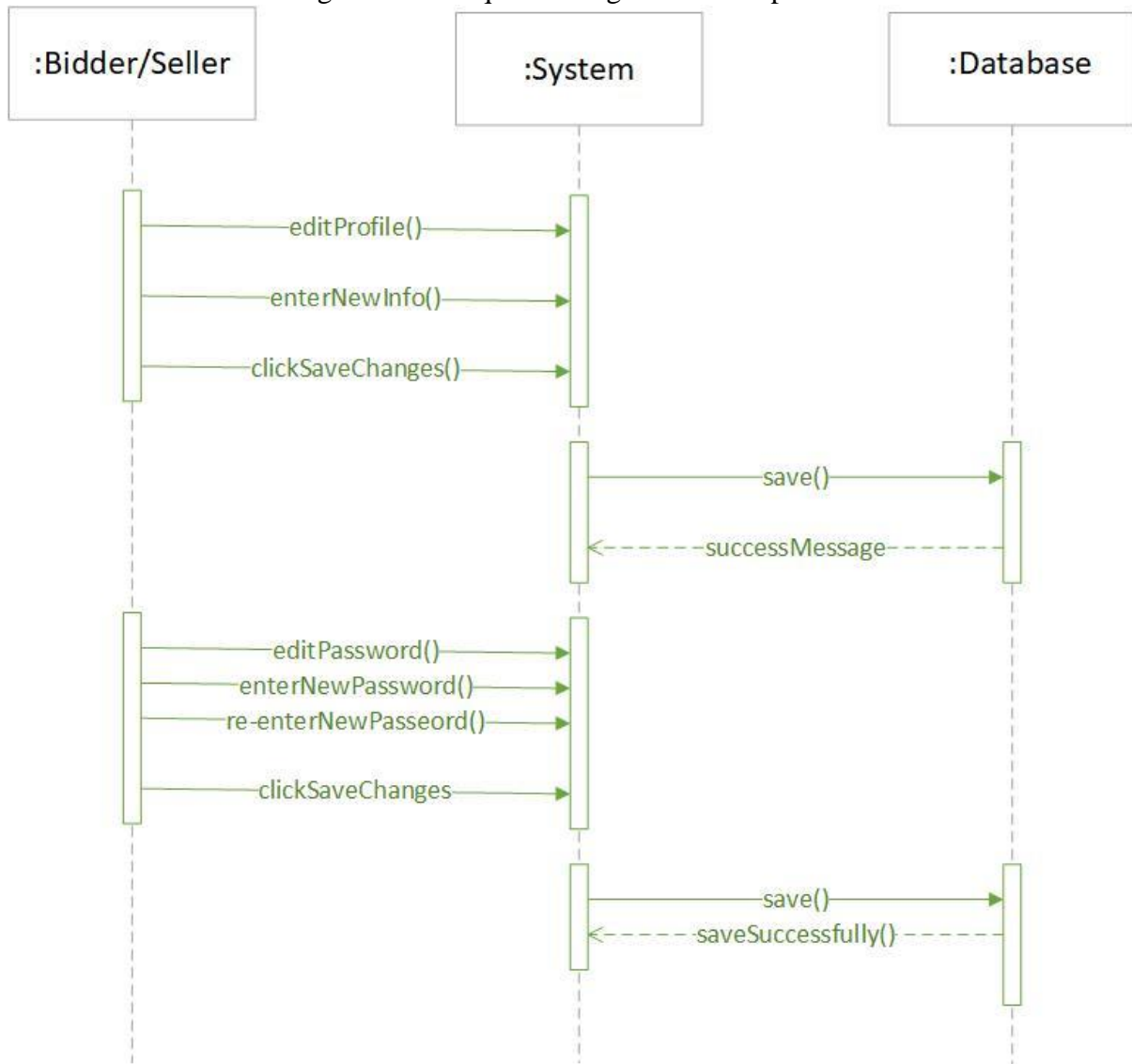


Figure 3.14: Sequence diagram for top up credit

### 3.3.4 Edit Profile

Figure 3.15: Sequence diagram for edit profile



### 3.3.5 Add Product

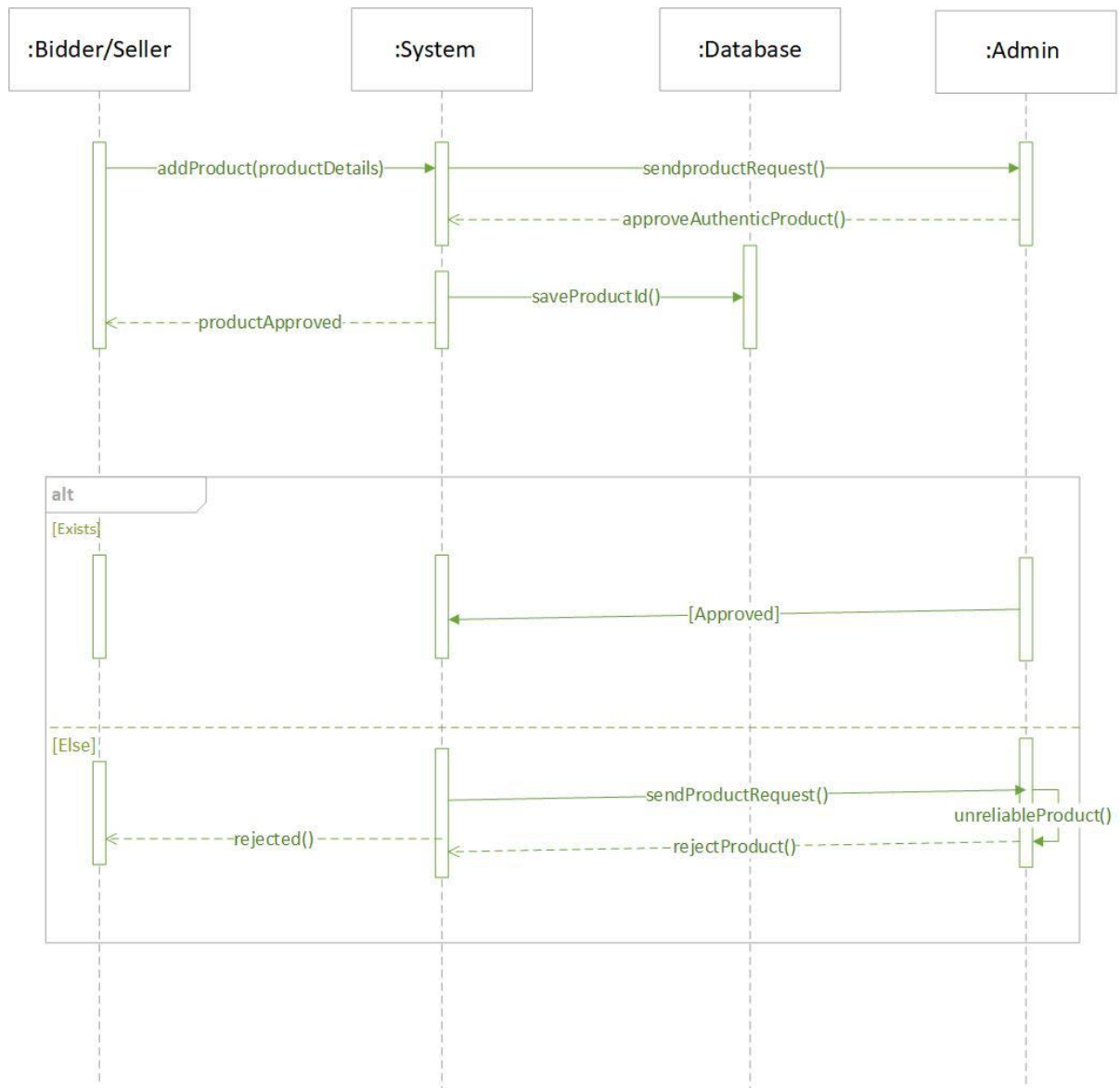


Figure 3.16: Sequence diagram for add product

### 3.3.6 Search Product

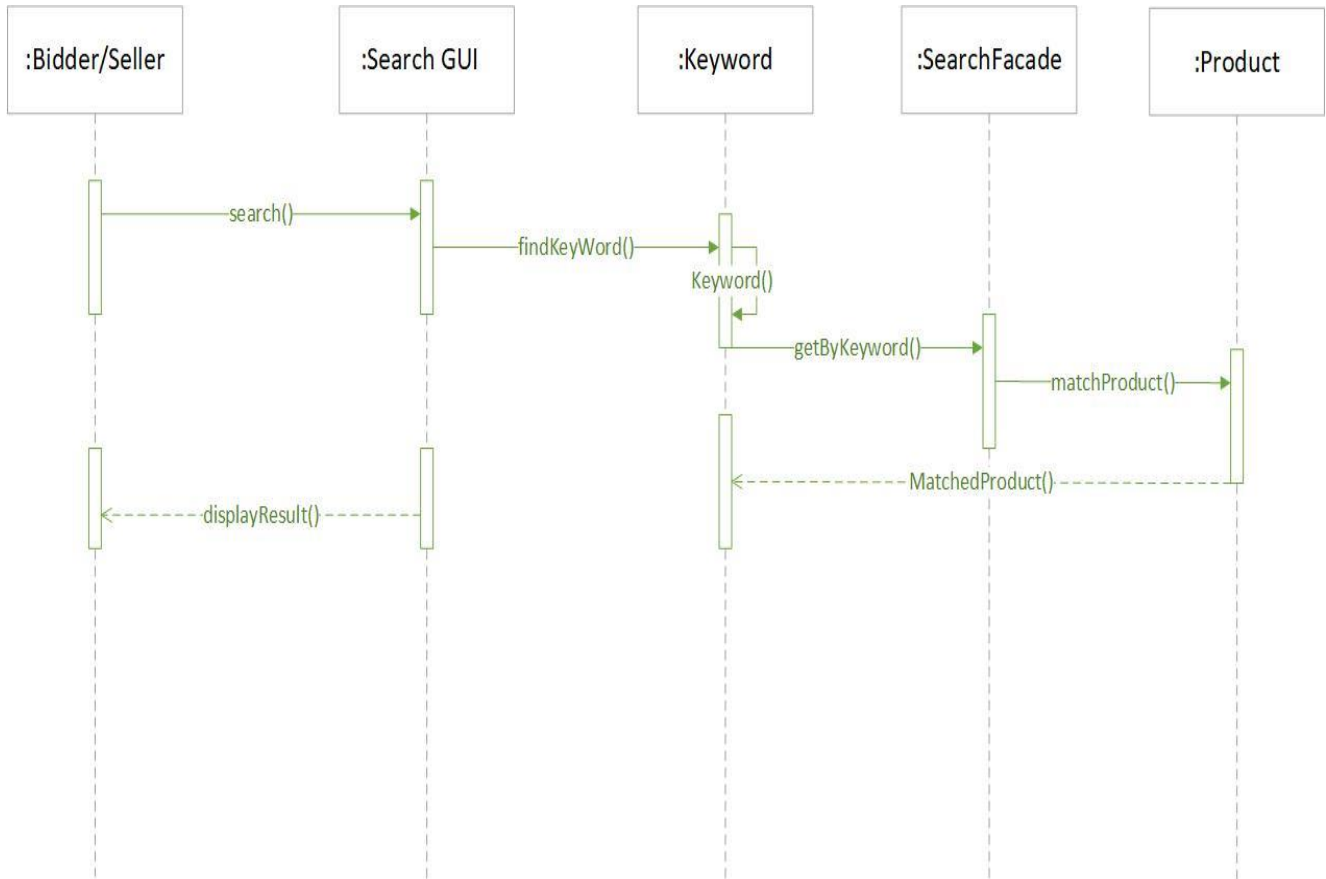


Figure 3.17: Sequence diagram for search product

### 3.3.7 Bid Place

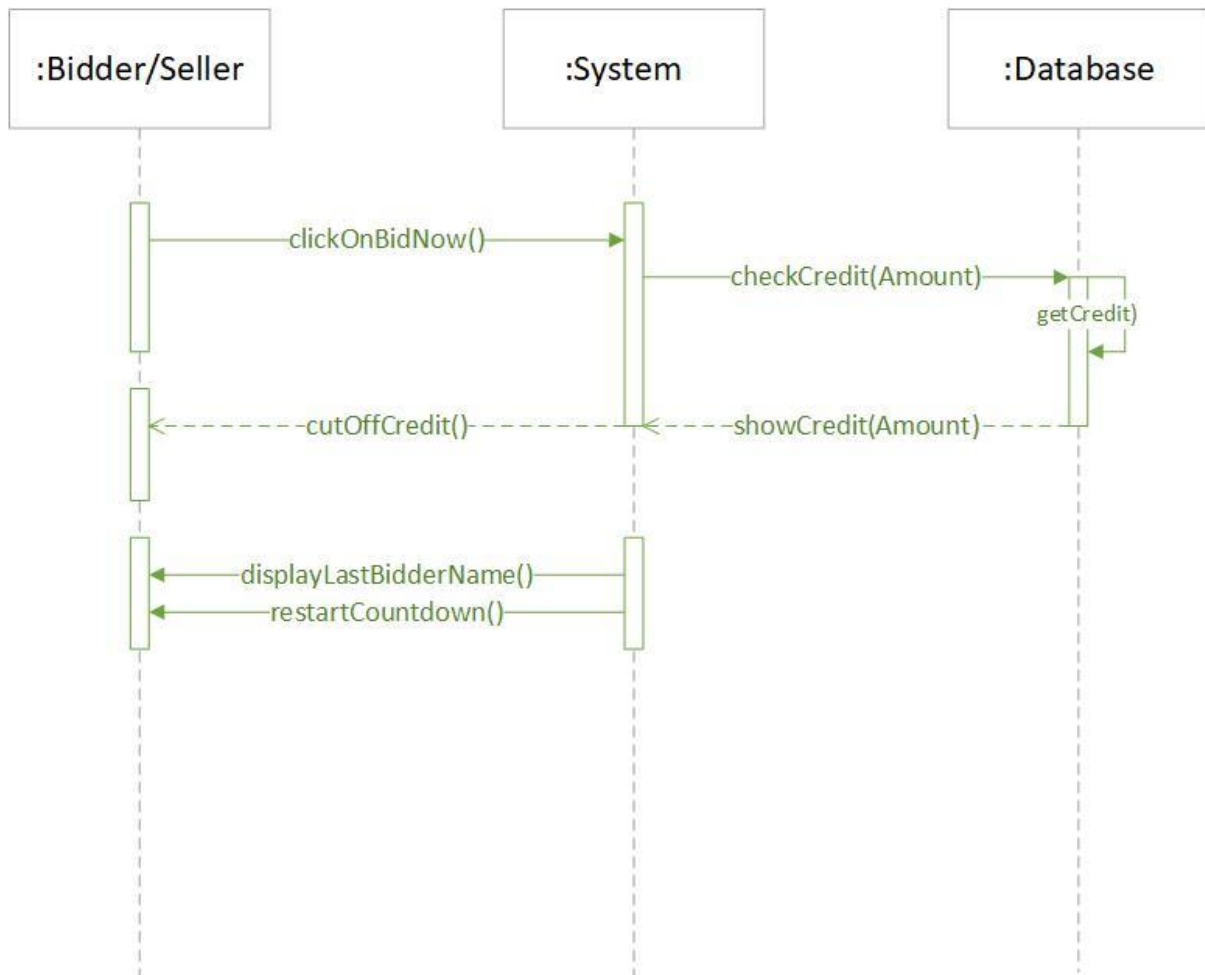


Figure 3.18: Sequence diagram for bid place

### 3.3.8 Manage Database

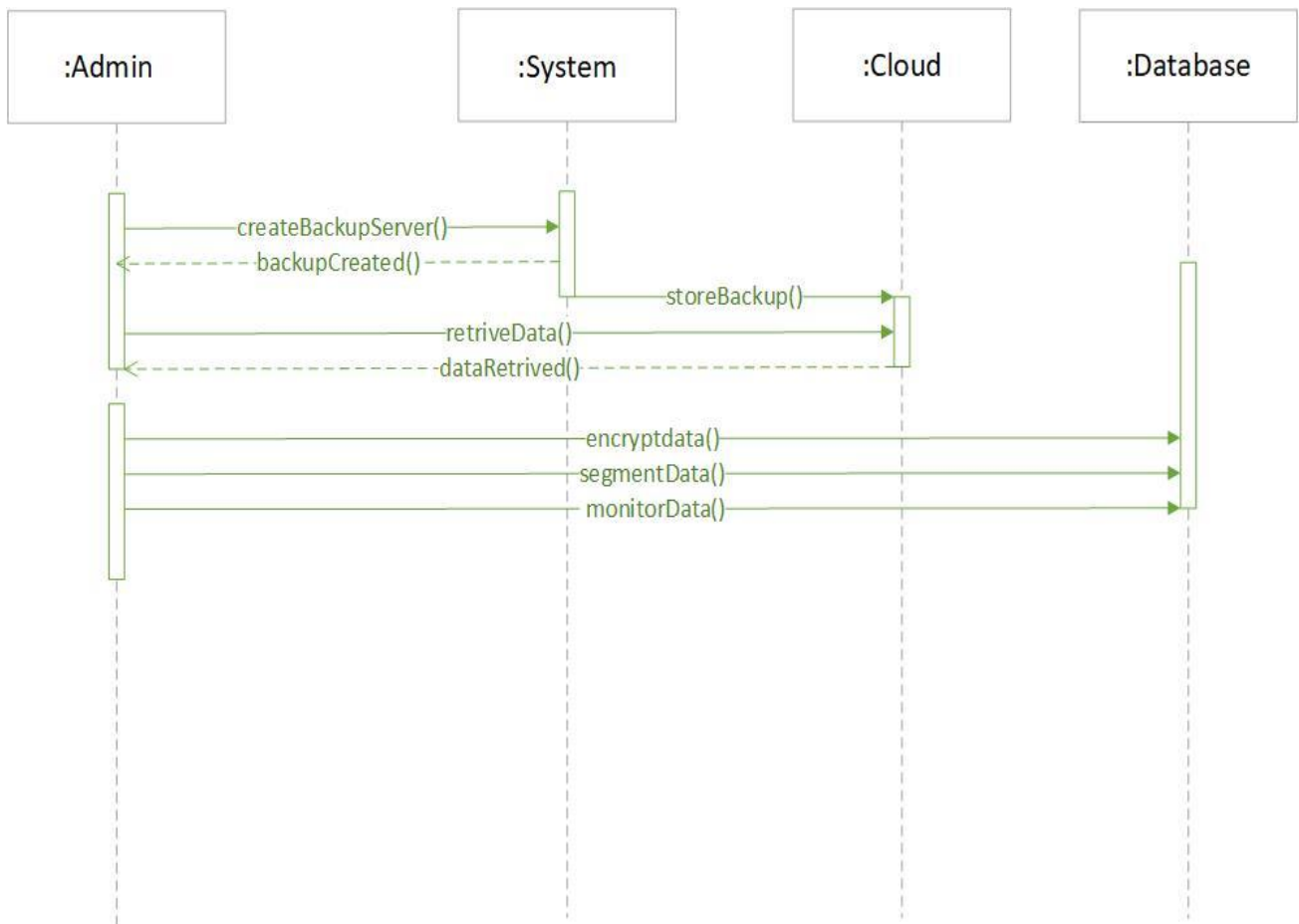


Figure 3.19: Sequence diagram for manage database



### 3.3.9 Block Account

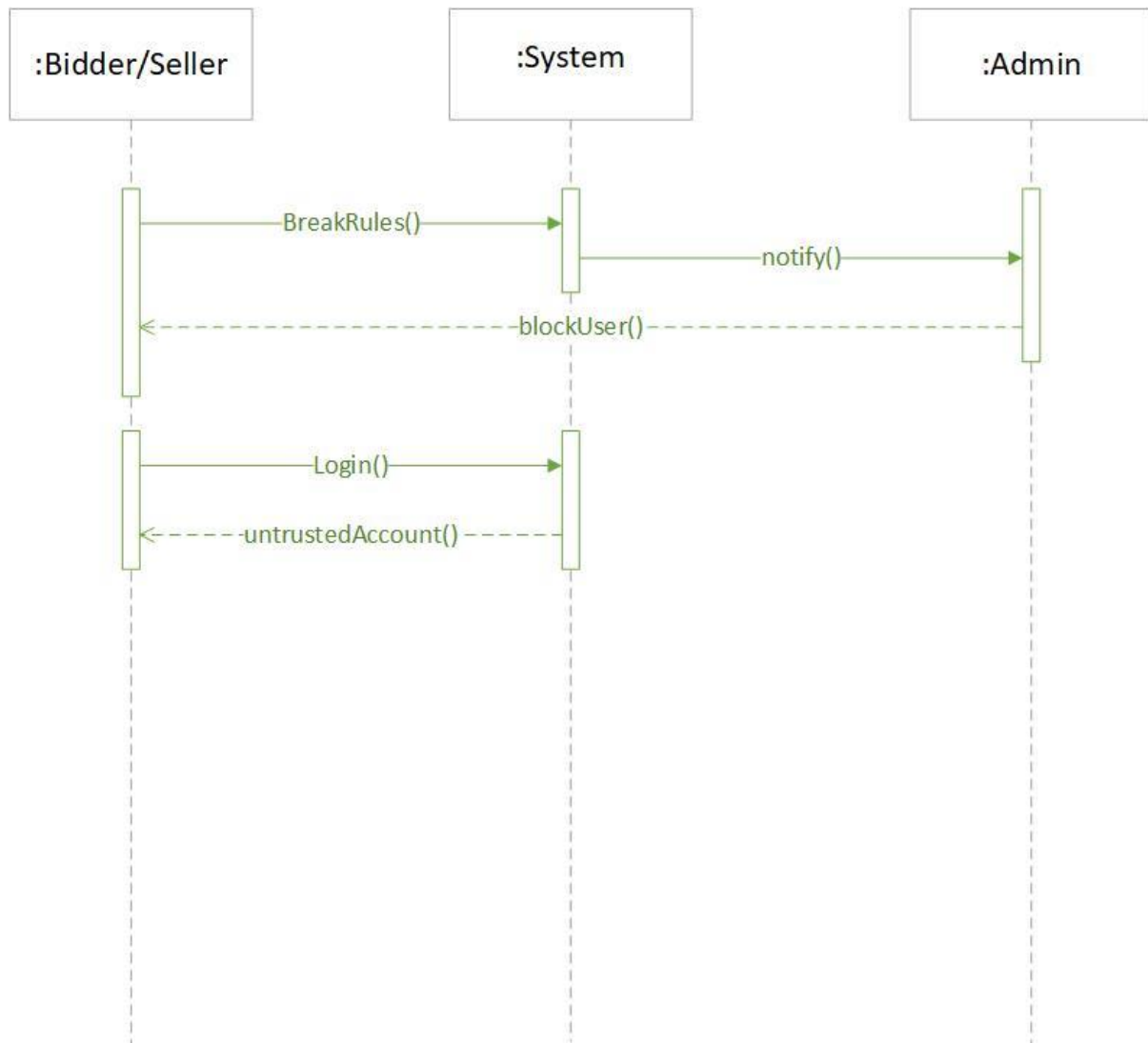


Figure 3.20: Sequence diagram for Block account

### 3.3.10 Search Users

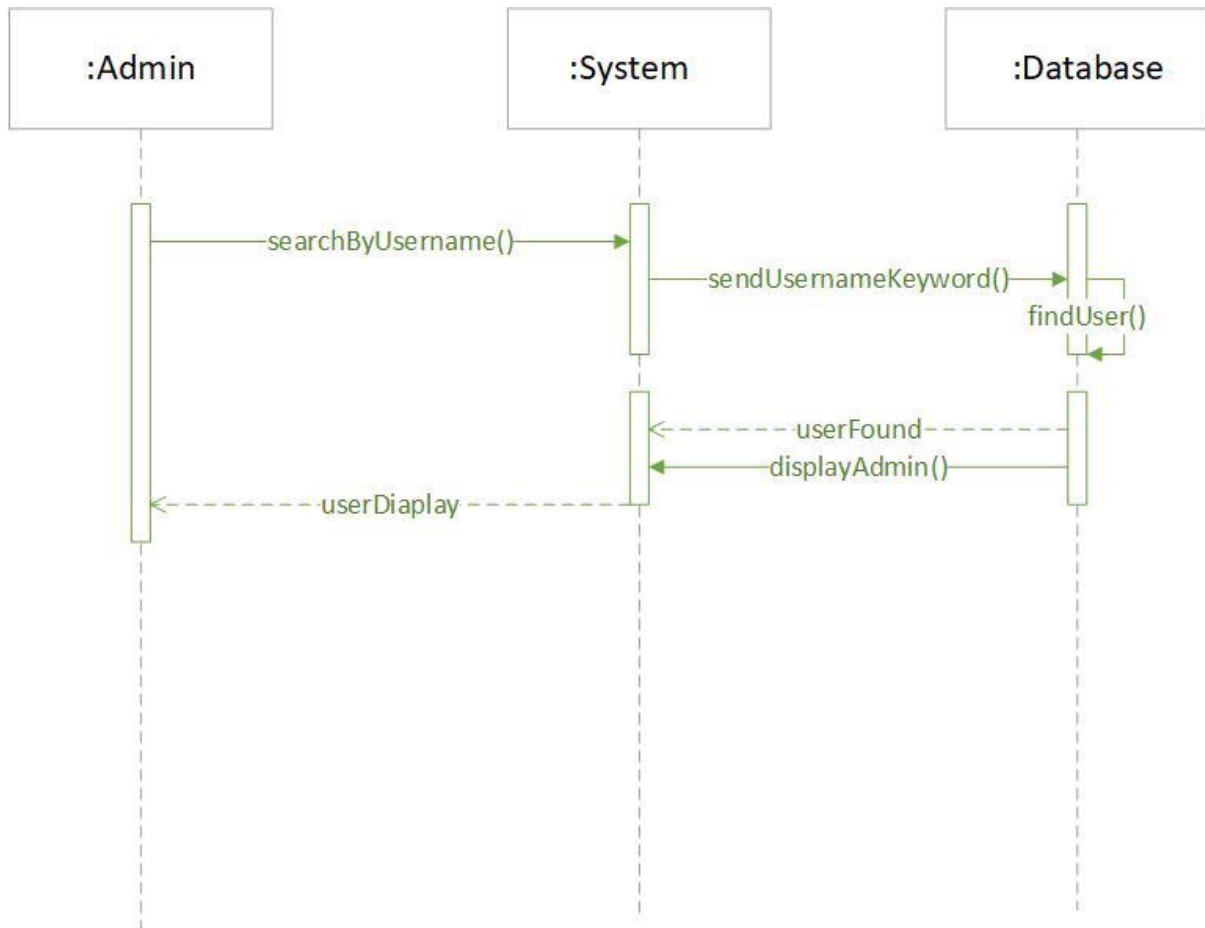


Figure 3.21: Sequence diagram for search users

### 3.3.11 Payment

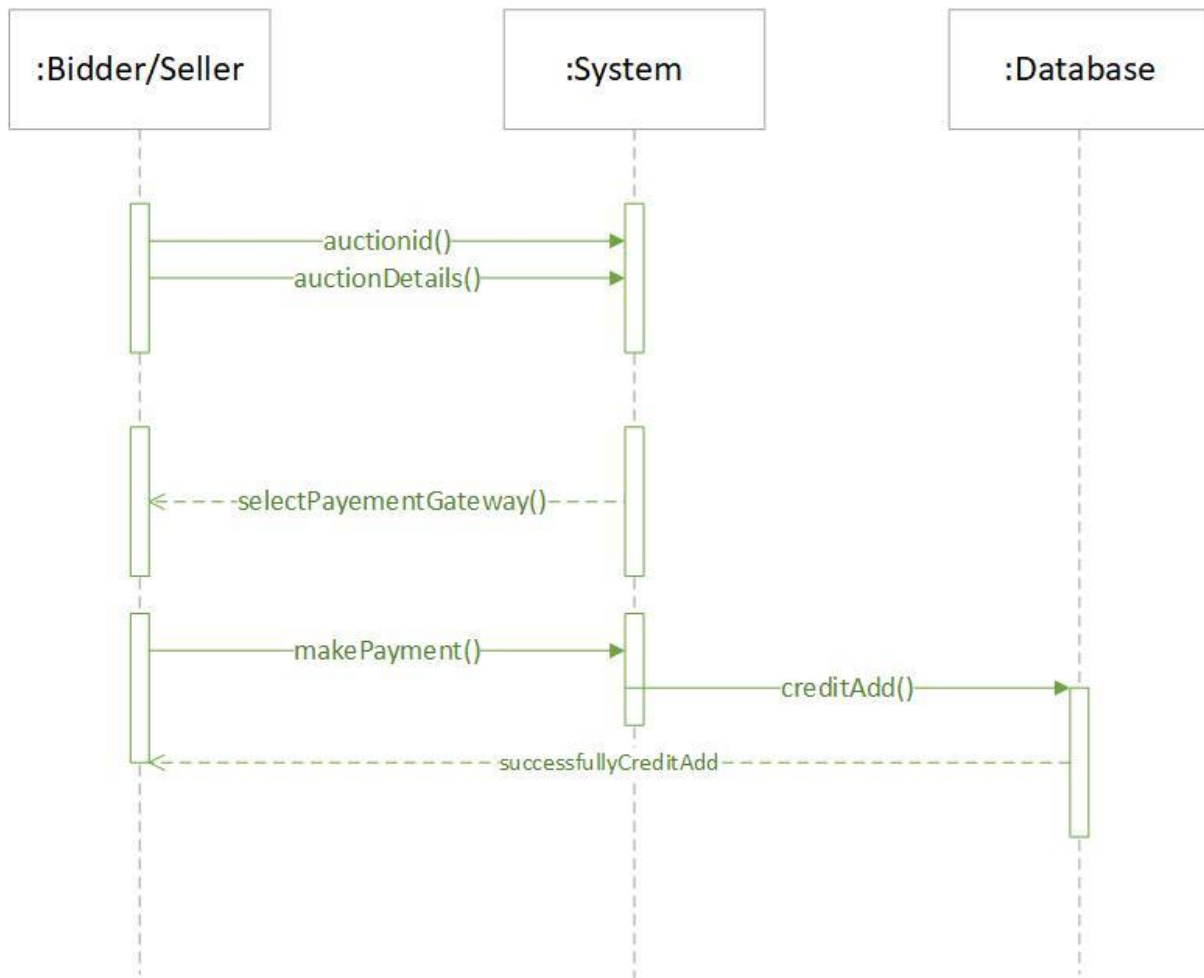


Figure 3.22: Sequence diagram for Payment

# **Chapter 4**

## **System Design Specification**

### **4.1 Development tools and technology**

Software development tools are used to develop software. There are different kinds of tools for software developers to make the process of software development very smooth. But now I will mention some of tools that I am using to develop my project.

## **4.1.1 User Interface Technology**

First of all, after landing any application, interface of that software is appeared to the user. So, the importance of user interface is very high. For success of any software application, a good looking user interface plays a vital role. User interface includes using good image, graphics, typography, stylesheets, scripting etc.

### **4.1.1.1 CSS framework or Bootstrap**

After completing markup, cascading style sheets are designed. It generally explains how HTML elements will display. There are three ways to write stylesheet. One internal CSS, another is external CSS. And last one is inline CSS. But most of time external CSS is used. Because, by using external CSS, all CSS data can be kept in different files. But nowadays CSS framework seems to be very popular. In our application, I have used Twitter Bootstrap framework. This framework is developed mainly for CSS and JavaScript. It is a free and open source front-end framework. This framework is highly used for designing website and web application also. This framework supports almost every browser. Like Google Chrome, Mozilla Firefox, Opera, Safari, Internet Explorer etc. Bootstrap also provides media query which features responsive layout for different devices with different screen size. Bootstrap provides a set of some files which contains stylesheets which gives basic definition.

Bootstrap also provides some JavaScript components also. There are some built in components like JQuery UI. By using Bootstrap framework, we get both CSS and JavaScript facilities with a single platform. But before start designing an application interface with Bootstrap, one may have some basic knowledge about this framework. It will increase the efficiency.

### **4.1.1.2 JQuery UI**

JQuery UI is a name of library which uses JavaScript as core programming language. It simplifies codes of a programming language named JavaScript. Generally, it interacts with Graphical User Interface (GUI). It also provides visual effects with animation. It can also override cascading style sheets. It also provides AJAX functionality which stands for Asynchronous JavaScript and XML. It is also a subset of JavaScript. By using AJAX no page reloading is required. It is also compatible with any browser like Google Chrome, Mozilla Firefox, Opera, Safari, Internet Explorer etc.

### **4.1.1.3 Programming Language**

For developing any application system minimum one programming language is essential. In my application, there are two different programming language is used. One is for front-end side. And another is for server side. The front-end language that I have used to my application is JavaScript. And the server side programming language name is PHP which stands for Hypertext Preprocessor. Both of them are open source general purpose scripting language.

### **4.1.2 Implemented tools and platform**

As I have said before, there are some tools and technologies that need to be used for developing software. It is very important to determine which tools and platforms are the best match of my requirements. After making a proper decision, one need to start using them.

#### **4.1.2.1 Integrated Development Environment**

IDE stands for Integrated Development Environment. Programmers write code on IDE. After that IDE provide the feature to execute the source code. For developing my web application, I have used two IDE. Because my project has two versions. One is for web version, and another is for mobile users. To develop my web version, I have used phpStorm which is powered by JetBrains company. It is a commercial IDE for cross platform environment. It is able to suggest code to the programmers also.

#### **4.1.2.2 Web Server**

We have used apache server. It is a free and open source software to use. It can be used on cross platform. It supports a wide range of features and most of them are already implemented as compiled modules. This module can extend the main features or core functionality.

#### **4.1.2.3 Database Server**

For developing our whole project, we have followed Relational Database Management System or RDBMS. And we find that MySql provides the feature of RDBMS. So we should not have

any issue to use MySQL database. It is also very easy to use. It can also ensure the security, scalability, high performance and many things.

## 4.2 Class Diagram

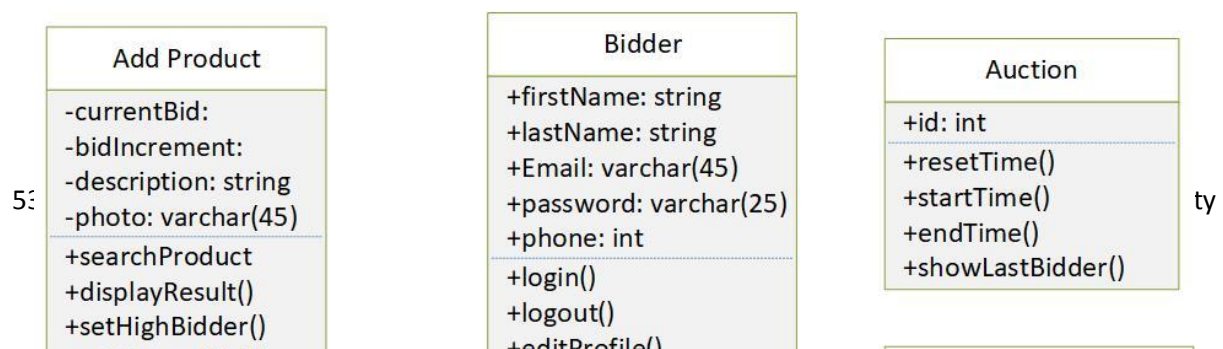


Figure 4.1: Class Diagram

### 4.3 Database Design Diagram

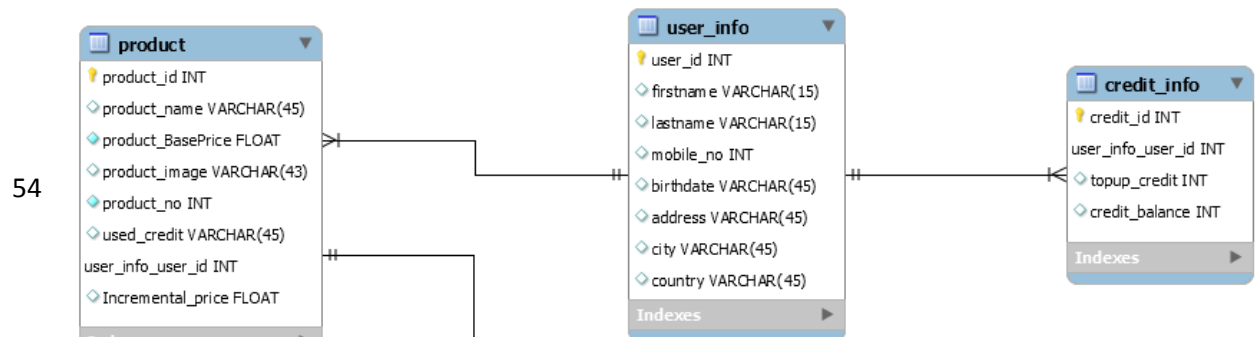




Figure 4.2: Database Design

# **Chapter 5**

## **System Test**

### **5.1 Testing Features**

Feature testing can be considered as making change to add or modify the new functionality to the existing project. To test the features and functionality, a new test set is to be written for testing purpose. Almost every feature and functionality have different characteristics. Those are designed to make the application more useful, intuitive, reliable, secured, scalable, effective and efficient.

### 5.1.1 Feature to be tested

Feature	Priority	Description
Register	1	To participate the bidding procedural or pickup product for auction bidder/seller must be registered first.
Login	1	User must be authenticate by login.
Logout	1	Session must be destroyed after logout.
Insert new product	2	Seller new product data must be inserted properly.
Edit profile	2	Bidder/Seller must be able to edit their profile easily.
Top up credit	1	To engage with bidding user must be bought credit balance from credit webpages.
Block Users	2	Admin can be blocked any bidder/seller when see the unreliable activity happen with system,
Search product	1	User search their expected antique product. So search result must be accurate.
Bid Place	2	When users have sufficient credit balance, then users can bidding for a product.
<b>Technological Feature</b>		
Database	3	Database will be user at almost every operation. That's why, this part must be controlled tightly.

Table 2.1: Feature to be tested

Here, 1= Low Priority, 2=Medium Priority, 3=High Priority

### 5.2 Testing Strategy

Testing strategy is to be considered as a general purpose of testing process. Testing object, testing function methods, total available resources are included to the testing strategy. It is also the indicator of test levels that are to be performed on the whole software development life cycle. Those strategies that are prepared by the quality assurance team should be reviewed by the developers of the application. After that it should be reviewed by the test team leads.

Different kinds of testing strategies can be performed according to the type of application system that need to be tested.

### 5.2.1 Test approach

To complete the test process, testers must take some approach. There are mainly two test approach.

- **Automation testing:** Automation testing is a name of testing technique by which test engineers prepare some scripts according to test plan and after that they use suitable tools to perform testing of the software. Nowadays, almost every software company follow the approach of automation testing.
- **Manual testing:** Manual testing is also a name of technique of testing by searching out the bugs or vulnerability in an application. In this process, test engineers manually test and execute the test cases without having any automation tools.

#### 5.2.1.1 Black Box Testing

Black box testing is a software testing method by which test engineers test the software without having knowledge of the internal architecture of the application that need to be tested. It is also known as behavioral testing. Black box testing can be both functional or non-functional. It ignores the internal mechanism of a system. I have decided to perform the equivalent class partitioning and Boundary value analysis techniques to implement.

#### 5.2.1.2 Equivalent Class Partitioning

Equivalent class partitioning is also known as equivalent partitioning. In this technique input data is to be divided into groups. Those group of data are expected to perform as similar behavior. Each groups works as same as other groups also.

The main advantage of following the approach of equivalent class partitioning is to reduce the total number of test cases from infinite to finite. Another advantage is that it can be applied to all testing levels also.

For legal input value output will produce a meaning data. But for illegal input value, output will not produce meaningful data.

#### 5.2.1.3 Boundary Value Analysis

Boundary value analysis is a name of software testing by which input data can be included within a boundary range. Following this strategy, test engineers firstly define the boundary

value. After that they take a specific boundary and then write the test cases that will be go through the application for testing purpose. After completing those tasks, testers use test cases to test applications software.

#### **5.2.1.4 White Box Testing**

White box testing is also a name of testing approach which is also known as clear box testing, glass box testing, open box testing, transparent box testing, code based testing or structural testing. It is opposite to the black box testing. In black box testing, the internal architecture or algorithms is not known to the testers whether the whole software architecture is known to the testers while white box testing.

Testers can also predict the output of every test cases for white box testing. White box testing can be classified into some levels. Such as:

- Unit Testing
- Integration Testing
- System Testing

The main advantage of white box testing is that testing is more throughout and the testing can be started from the very beginning stage.

#### **5.2.2 Pass / Fail Criteria**

Pass or fail criteria will be set by the test engineers. They will prepare the pass / fail criteria on the basis of which input data are worked and which are not works well. Those data that are worked well will considered as pass criteria. And rest of input data will be considered as fail criteria.

Now I will give the pass / fail criteria below.

- System crash will not be considered as pass case.
- If any criteria pass 100% times, then it will be considered as pass criteria only.
- If data can't be displayed to the application properly, then it is also to be considered as fail criteria.

### **5.3 Testing Schedule**

Table

<b>Test Phase</b>	<b>Time</b>
Testing plan create	1 week
Testing specification	2 week
Unit testing	During development time
Component testing	1 week
Integration testing	1 week
Validating use cases	1 week
Testing user interfaces	1 week
Load testing	1 week
Performance testing	1 week
Release to production	1 week

2.2:

Testing Schedule

## 5.4 Trace Ability Matrix

Project Manager			Business Analyst Lead		
QA Lead			Target Implementation Date		
BR#	Category / Functionality	Requirement Description	Use Case Reference	Test Case Reference	Comments
BR-1	Functional	Register Account	Use case 3.1.1	Test case 5.6.1	
BR-2	Functional	Buy credits	Use case 3.1.3	Test case 5.6.6	
BR-3	Functional	Login	Use case 3.1.2	Test case 5.6.2	
BR-4	Functional	Logout	Use case N/A	Test case 5.6.3	
BR-5	Functional	Search Product	Use case 3.1.6	Test case 5.6.8	
BR-6	Functional	Add product	Use case 3.1.5	Test case 5.6.4	
BR-7	Functional	Edit Profile	Use case 3.1.4	Test case 5.6.5	
BR-8	Functional	Bid place	Use case 3.1.7	Test case 5.6.9	
BR-9	Non- functional	Reliability	N/A	N/A	
BR-10	Functional	Block Account	Use case 3.1.9	Test case 5.6.7	
BR-11	Functional	Search Users	Use case 3.1.10	Test case N/A	
BR-12	Functional	Manage Database	Use case 3.1.8	Test case 5.6.10	

Table 2.3: Trace ability matrix

## 5.5 Testing Environment

Testing environment means to prepare the environment with hardware and software so that test engineers can be able to execute test cases as required. Besides hardware and software usage, network configuration might be needed to execute test plans.

For making the environment for testing, some key area need to setup. Those are:

- Test data
- Database server
- Client's operating system
- Front end running environment
- Browser
- System and application
- Network
- Hardware with server operating system
- Documentation is also required. Like: user manuals, installation guides, configuration guides, documents etc.

## **5.6 Test Cases**

A test case refers to some rules and regulations or conditions by which it can be determined whether a system can be able to meet the works or requirements under test cases properly. We know, there is a chance to have some fault or break holes in any application. This is very common scenario. And those issues are solved usually by software testing approaches. But if we don't care of those issues, then the full application development might be ruined. So proper testing must be needed. For testing our application, I have prepared some test cases. Now, I am going to provide them.

### **5.6.1 Register Account**



<b>Test Case #1</b>			<b>Test Case Name:</b> Register Account			
<b>System:</b> Old Heritage Product Auction			<b>Sub-System:</b> N/A			
<b>Designed by:</b> Naeem Islam			<b>Designed date:</b> 17-Apr-19			
<b>Executed by:</b>			<b>Executed date:</b>			
<b>Short description:</b> To participate the bidding procedural or pickup product for auction bidder/seller must be registered first.						
Pre-conditions: <ul style="list-style-type: none"> <li>• Bidder/Seller must have an email id to get confirmation message while registration process is completed.</li> <li>• Users must be authentic.</li> </ul>						
Step	Username	Email	Password	Expected result	Pass/Fail	Comment
1	naeem1212	naeem@gamail.com	Gfdj232	Invalid email address		
2	rahat.info		Jiui1i2	email cannot be blank		
3	naeem1212	Naeem12@gmail.com	#jd233d	You have successfully register.		
<b>Post-conditions:</b> Bidder/Seller will get confirmation message while registration process is completed.						

Table 2.4: Register account

### 5.6.2 Log In

<b>Test Case #2</b>	<b>Test Case Name:</b> Log in
<b>System:</b> Old Heritage Product Auction	<b>Sub-System:</b> N/A

<b>Designed by:</b> Naeem Islam		<b>Designed date:</b> 17-Apr-19			
<b>Executed by:</b>		<b>Executed date:</b>			
<b>Short description:</b> The registered users need to login to the application. And before that application will check the authentication and authorization.					
Pre-conditions: <ul style="list-style-type: none"> <li>• Users must have registered username and password.</li> <li>• Assume that, username is 'rakesh332' and password is 'fdsdj12234@'</li> </ul>					
Step	Username	Password	Expected result	Pass/Fail	Comment
1	naeem2121	Ghgh#12323	Invalid		
2	rahat.info		Password cannot be blank		
3		Fdas12	Username cannot be blank		
4	Naeem1212	#mash#mellow	Successfully login to the system and redirect to users page.		
<b>Post-conditions:</b> Bidder/Seller will successfully login to the system.					

Table 2.5: Login

### 5.6.3 Log out

<b>Test Case #3</b>	<b>Test Case Name:</b> Log out
---------------------	--------------------------------

<b>System:</b> Old Heritage Product Auction		<b>Sub-System:</b> N/A		
<b>Designed by:</b> Naeem Islam		<b>Designed date:</b> 17-Apr-19		
<b>Executed by:</b>		<b>Executed date:</b>		
<b>Short description:</b> Session must be destroyed after logout.				
Pre-conditions: <ul style="list-style-type: none"> <li>Users must be logged in the system.</li> </ul>				
Step	Action	Response	Pass/Fail	Comment
1	User click on logout.	System redirect to the index page.		
2				
<b>Post-conditions:</b> After pressing logout button, session will be destroyed.				

Table 2.6: Logout

#### 5.6.4 Insert new product

<b>Test Case #4</b>	<b>Test Case Name:</b> Insert new product
<b>System:</b> Old Heritage Product Auction	<b>Sub-System:</b> N/A

<b>Designed by:</b> Naeem Islam		<b>Designed date:</b> 17-Apr-19		
<b>Executed by:</b>		<b>Executed date:</b>		
<b>Short description:</b> Seller new product data must be inserted properly.				
Pre-conditions: <ul style="list-style-type: none"> <li>• Bidder/Seller must be authentic.</li> </ul>				
Step	Action	Response	Pass/Fail	Comment
1	Seller sends add product request to admin	Admin review the requested antique product.		
2	Seller send irrelevant product item to admin.	Admin reject unreliable and irrelevant product.		
<b>Post-conditions:</b> If admin review becomes good , then he/she gives approval for specific requested item.				

Table 2.7: Insert new product

### 5.6.5 Edit Profile

<b>Test Case #5</b>	<b>Test Case Name:</b> Edit profile
<b>System:</b> Old Heritage Product Auction	<b>Sub-System:</b> N/A

<b>Designed by:</b> Naeem Islam		<b>Designed date:</b> 17-Apr-19		
<b>Executed by:</b>		<b>Executed date:</b>		
<b>Short description:</b> Bidder/Seller must be able to edit their profile easily.				
Pre-conditions: <ul style="list-style-type: none"> <li>• Bidder/Seller must be authentic.</li> <li>• Must be a registered user in this system.</li> <li>• Bidder/Seller must be logged in.</li> </ul>				
Step	Action	Response	Pass/Fail	Comment
1	Edit/update personal information	System save updated information.		
2	Change password	System store new password		
<b>Post-conditions:</b> N/A				

Table 2.8: Edit Profile

### 5.6.6 Top up credit

<b>Test Case #6</b>	<b>Test Case Name:</b> Top up credit
<b>System:</b> Old Heritage Product Auction	<b>Sub-System:</b> N/A

<b>Designed by:</b> Naeem Islam		<b>Designed date:</b> 17-Apr-19		
<b>Executed by:</b>		<b>Executed date:</b>		
<b>Short description:</b> To engage with bidding user must be bought credit balance from credit webpages				
Pre-conditions: <ul style="list-style-type: none"> <li>• Users must have internet or mobile banking account for payment</li> </ul>				
Step	Action	Response	Pass/Fail	Comment
1	When user click on top up credit option	System will bring them bid package store.		
2	To buy bid package	Users should click on buy credit.		
3	After click on buy credits	System will bring them payment section.		
<b>Post-conditions:</b> N/A				

Table 2.9: Top up credit

### 5.6.7 Block users

<b>Test Case #7</b>	<b>Test Case Name:</b> Block users
<b>System:</b> Old Heritage Product Auction	<b>Sub-System:</b> N/A

<b>Designed by:</b> Naeem Islam		<b>Designed date:</b> 17-Apr-19		
<b>Executed by:</b>		<b>Executed date:</b>		
<b>Short description:</b> Admin can be blocked any bidder/seller when see the unreliable activity happen with the system,				
Pre-conditions: N/A				
Step	Action	Response	Pass/Fail	Comment
1	User browse and bid properly	System will not bother any more.		
2	User breaks the rules and regulation.	Admin block the users.		
3	User try to login the system again	System will say you are blocked by admin		
<b>Post-conditions:</b> If bidder/Seller breaks the rules and privacy of the system, they will be kicked out from the system				

Table 2.10: Block users

### 5.6.8 Search Product

<b>Test Case #8</b>	<b>Test Case Name:</b> Search Product
<b>System:</b> Old Heritage Product Auction	<b>Sub-System:</b> N/A
<b>Designed by:</b> Naeem Islam	<b>Designed date:</b> 17-Apr-19

<b>Executed by:</b>		<b>Executed date:</b>		
<b>Short description:</b> User search their expected antique product. So search result must be accurate.				
Pre-conditions: <ul style="list-style-type: none"> <li>• Users must be logged in.</li> <li>• Users must be authentic.</li> <li>• User must be type proper and appropriate keyword for searching product.</li> </ul>				
Step	Action	Response	Pass/Fail	Comment
1	Bidder/seller search expected product but keywords was wrong.	System will say cannot find product.		
2	User search with accurate keywords.	If product is available then system will show the results.		
<b>Post-conditions:</b> If bidder/Seller breaks the rules and privacy of the system, they will be kicked out from the system				

Table 2.11: Search Product

### 5.6.9 Bid Place

<b>Test Case #9</b>	<b>Test Case Name:</b> Bid place
<b>System:</b> Old Heritage Product Auction	<b>Sub-System:</b> N/A



<b>Designed by:</b> Naeem Islam		<b>Designed date:</b> 17-Apr-19		
<b>Executed by:</b>		<b>Executed date:</b>		
<b>Short description:</b> When users have sufficient credit balance, then users can bidding for a product.				
Pre-conditions: <ul style="list-style-type: none"> <li>• Users must be logged in.</li> <li>• Users must be authentic.</li> </ul>				
Step	Action	Response	Pass/Fail	Comment
1	Users click on bid now button	System will check credit balance and if found sufficient credit balance then bidding started and system will show the last bidder name.		
2	Insufficient credit balance.	System will say recharge you're credit balance		
<b>Post-conditions:</b> N/A				

Table 2.12: Bid now

### 5.6.10 Database

<b>Test Case #10</b>	<b>Test Case Name:</b> Database
<b>System:</b> Old Heritage Product Auction	<b>Sub-System:</b> N/A

<b>Designed by:</b> Naeem Islam		<b>Designed date:</b> 17-Apr-19		
<b>Executed by:</b>		<b>Executed date:</b>		
<b>Short description:</b> Database will be user at almost every operation. That's why, this part must be controlled tightly.				
Pre-conditions: <ul style="list-style-type: none"> <li>• Admin must be logged in.</li> <li>• Admin must have security system to get rid of bad attackers.</li> </ul>				
Step	Action	Response	Pass/Fail	Comment
1	Admin keep backup server for security purpose	When attacker crash website, admin can open backup server system for website.		
2	If don't have additional security.	Malicious attacker can attack this system.		
<b>Post-conditions:</b> N/A				

Table 2.13: Database

# **Chapter 6**

## **User Manual**

### **<< Getting Started >>**

#### **6.1 Register Account**

If anyone want to pick up antique products for auction or want to have antique product for them, they need to register first. Bidder/Seller should have valid email id for completing registration. So, user go into the homepage>login>signup, Then the register page will appear. Now I will provide the screenshot of register page below:

The registration form is titled "Registration" and contains the following fields and elements:

- First Name:
- Last Name:
- Username:
- Email:
- Password:
- Confirm Password:
- Mobile:
- Register button:
- Link: [Already a member? Log in](#)

Figure 6.1: Registration Page

## 6.2 Login

User need to login for participating bidding or pick up for auction. But before that they need to be authenticated the system. First of all, they need to enter into the login page and fill up the required information. After that they will get access. Now I will provide the screenshot of login page below:

The login form is titled "Login" and contains the following field:

- Username:

Figure 6.2: Login page

### 6.3 Help for new users

After signing up, new user may not understand how it works, how to bid an auction or tips & tricks. For that reason, now I will provide some screenshots for your better understanding.



Figure 6.3: How it works

Here user can know the details of how to perform bidding

The screenshot shows the top navigation bar of the 'OLD HERITAGE PRODUCT AUCTION' website. The navigation menu includes 'Help', 'How it works', 'Tips & Tricks', 'Winner', and 'Get Started'. A 'Login' button is located in the top right corner. On the left side, there is a vertical menu with the following items: 'How it works', 'How to bid in an auction' (highlighted in blue), 'Tips & Tricks', 'Promotions', and 'Payment'. The main content area is titled 'How to bid in an auction' and contains the following text:

1. Find the product you like  
2. Use the "Bid Now" Button or the BidBuddy to bid automatically for you.  
3. If you are the highest bidder when the timer hits zero, you WIN!

**Get bids back with buy it Now**

Lost an auction? No worries! You can always purchase the item at the Buy it Now price. It will be delivered within 14 days. What about all of the bids you placed in the auction? You get them all back! Every time you use the "Buy it Now" option, every bid you placed in that auction is returned to your bid balance, so you can try again in new auctions without buying more bids!

**Save with Bidbuddy**

Don't want to have your smartphone in your hand all day long? No problem! The BidBuddy will place bids on your behalf. Simply enter the number of bids you wish to place in the auction in

Figure 6.4: How to bid an auction

Here user can know the tips and tricks of bidding.

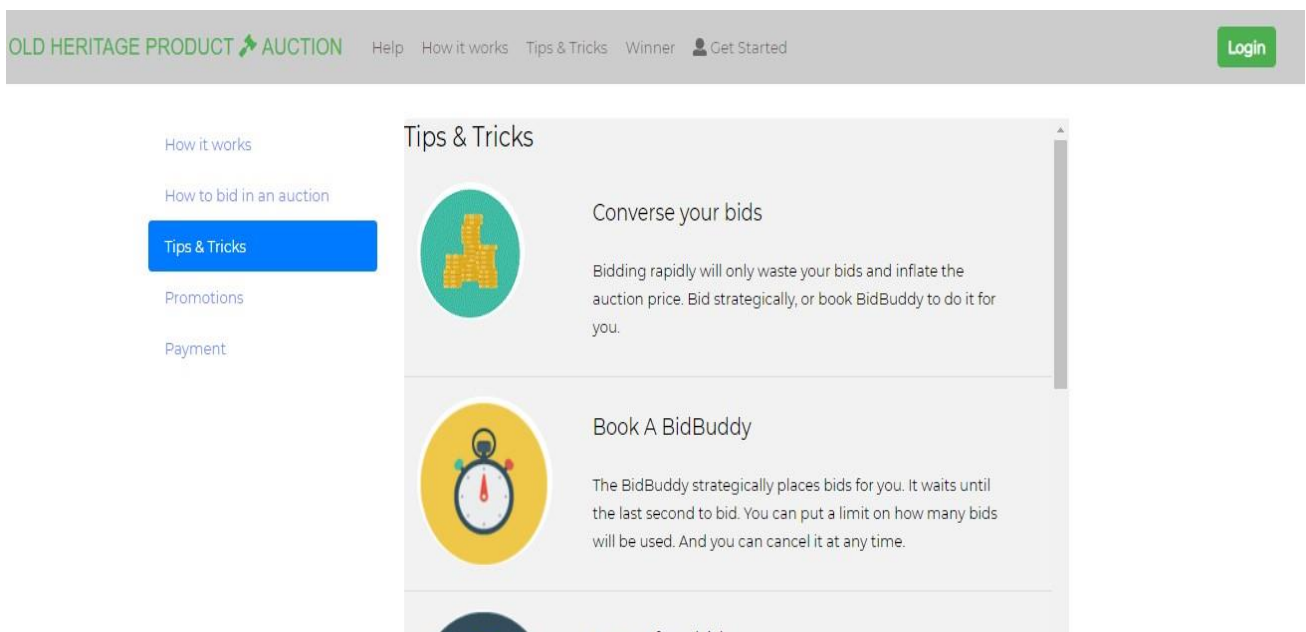


Figure 6.5: Tips & Tricks

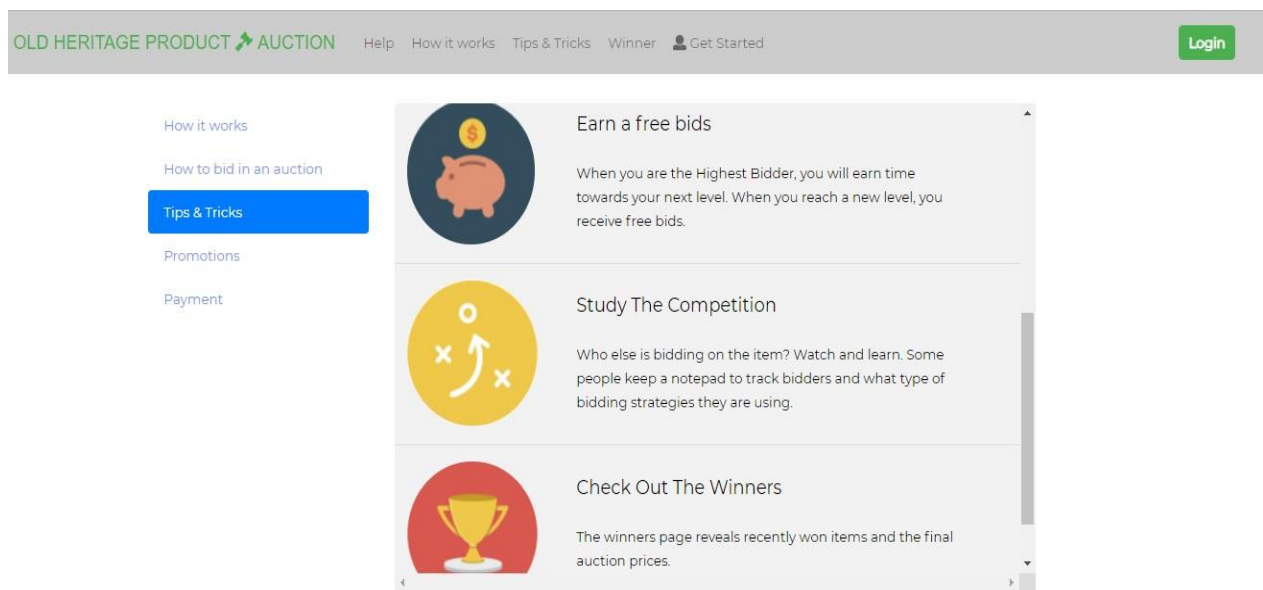
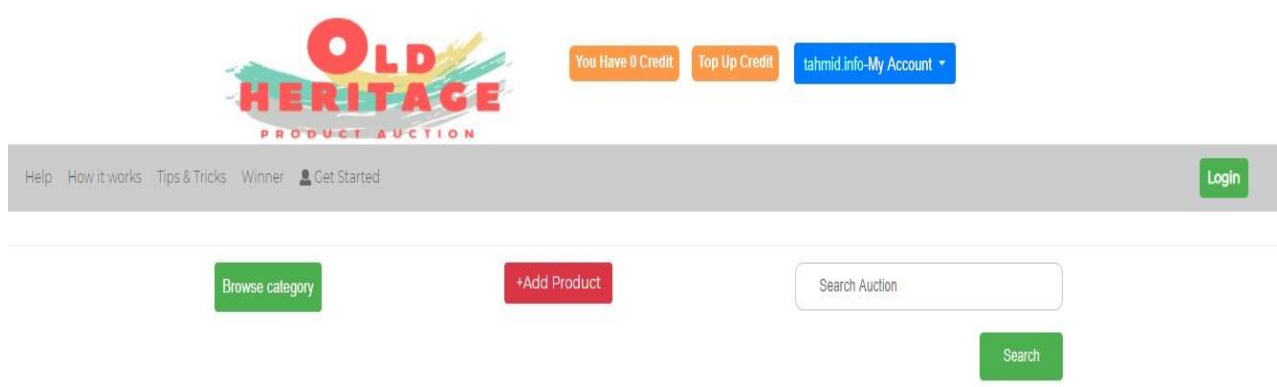


Figure 6.6: Tips & Tricks

## 6.4 User page

After registration and login process user go into user page. Here bidder can bid product if he/she have sufficient credit for bidding and seller can see the add product button in this user page. Now I'm going to show some screenshot of user page below:





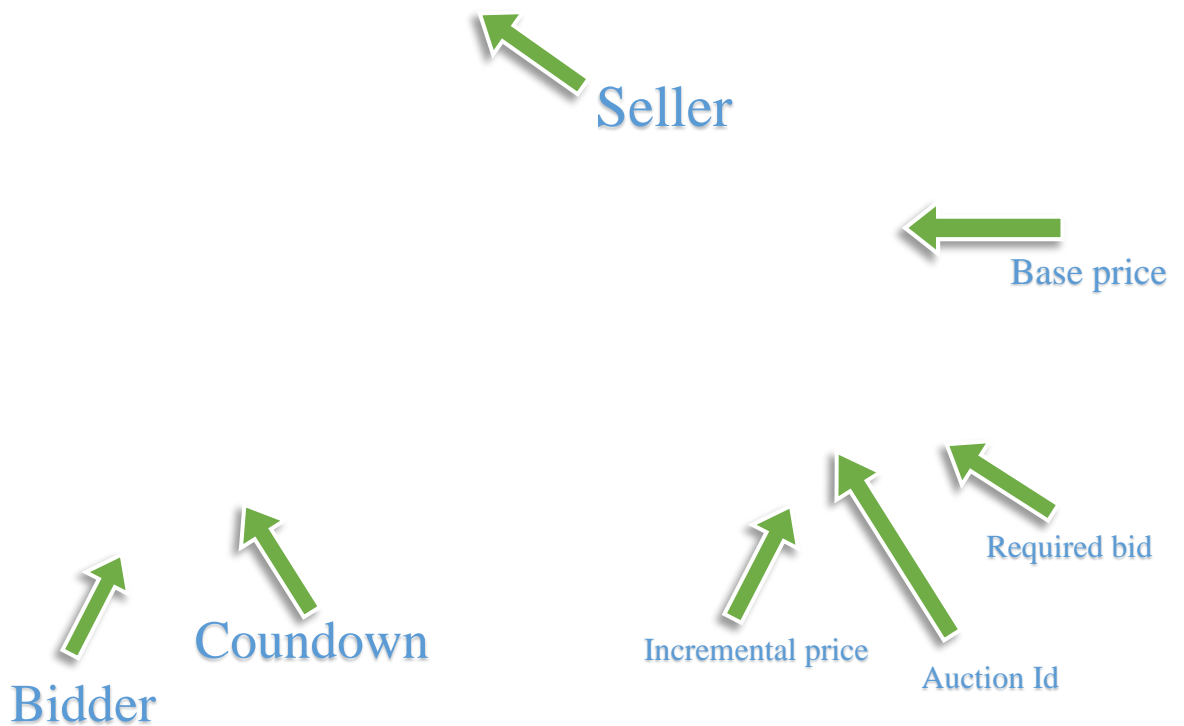


Figure 6.7: User Page

## 6.5 Add Product Page

This is add product page and seller can add their product here. Seller need to fulfill all the blanks and click on upload button. Then information go into the database section and give pending add product request into admin panel.

### + Add New Product

Product Name

Name

Product BasePrice

Base Price

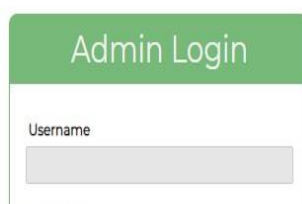
Product Auction Id

Required Bid

Figure 6.8: Add Product Page

## 6.6 Admin page

Admin page like admin login page. To enter administration page admin need to input his username and password. System validate his username and password and match it from database if username and password is correct then the can access the admin panel. Let's see the admin login page below:



Admin Login

Username

Figure 6.10: Admin page

## 6.7 Admin Panel/Dashboard

Here you can see that admin dashboard. Admin can see how many auctions are built and how many auctions are running/pending. Admin can see here total user and block users number in real time.

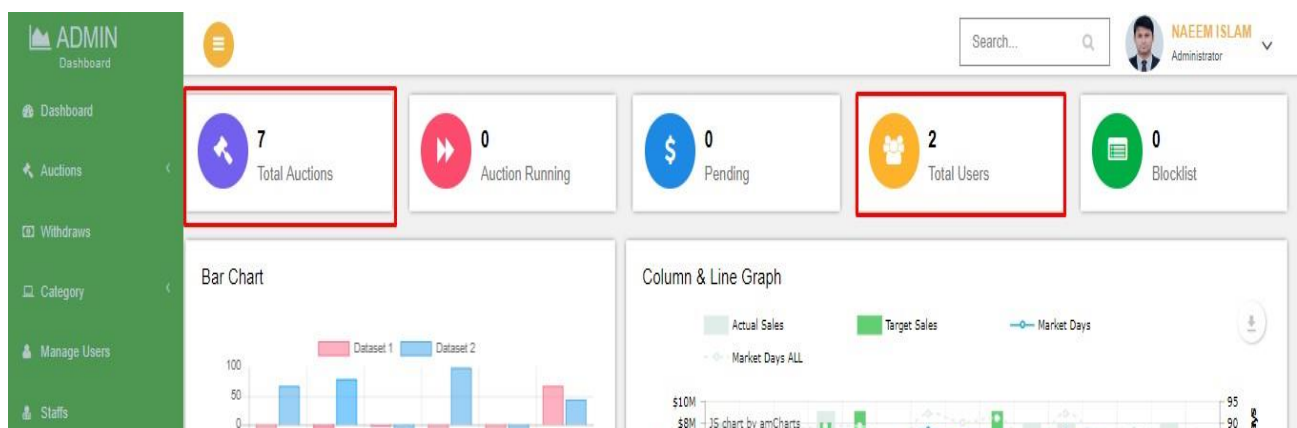


Figure 6.11: Admin Dashboard

## 6.8 Pending Request

Seller cannot add product directly. He need to get approval from admin. When admin approve any product from here it will show the index page and all bidder/seller can see this approved product. And when admin assume that requested item is not valid for this system admin simply reject the product.

The screenshot shows the Admin Dashboard interface. On the left is a green sidebar with navigation links: ADMIN Dashboard, Dashboard, Auctions, Withdraws, Category, and Manage Users. The top right corner features a search bar and a user profile for NAEEM ISLAM, Administrator. The main content area is titled 'Auctions' and shows 'Total auctions: 7'. Below this is a table with the following data:

S.no	Auction Title	BasePrice	Auction id	Bid Required	Incremental Price	Pimage	Approve	Reject
1	Apara Ruby	MRP: 10000 tk	RB0050	10	1000 tk		<button>APPROVE</button>	<button>REJECT</button>

Figure 6.12: Pending Request

## 6.9 Product Show

Here you can see the approved product show and any bidder can bid this product.

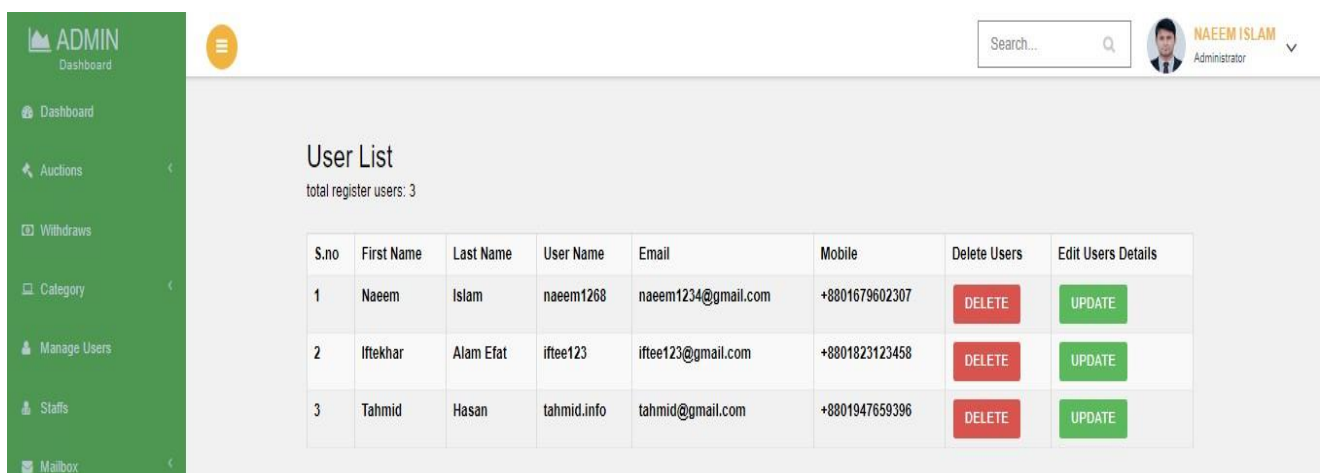
Search

<p><b>Apara Ruby</b></p> <p>BDT : 10000</p> 	<p><b>Muscle Car</b></p> <p>BDT : 10000</p> 	<p><b>Agusta Ring</b></p> <p>BDT : 10000</p> 	<p><b>Flower Vase</b></p> <p>BDT : 2400</p> 
---	---	---	---

Figure 6.13: Product Show

## 6.10 Manage User Page

Admin can manage user by delete user and update users details



The screenshot displays the 'ADMIN Dashboard' interface. On the left is a green sidebar with navigation options: Dashboard, Auctions, Withdraws, Category, Manage Users, Staffs, and Mailbox. The main content area is titled 'User List' and shows 'total register users: 3'. A table lists the users with columns for S.no, First Name, Last Name, User Name, Email, Mobile, Delete Users, and Edit Users Details. Each row has a red 'DELETE' button and a green 'UPDATE' button.

S.no	First Name	Last Name	User Name	Email	Mobile	Delete Users	Edit Users Details
1	Naeem	Islam	naeem1268	naeem1234@gmail.com	+8801679602307	DELETE	UPDATE
2	Iftekhhar	Alam Efat	iftee123	iftee123@gmail.com	+8801823123458	DELETE	UPDATE
3	Tahmid	Hasan	tahmid.info	tahmid@gmail.com	+8801947659396	DELETE	UPDATE

Figure 6.13: Manage user page

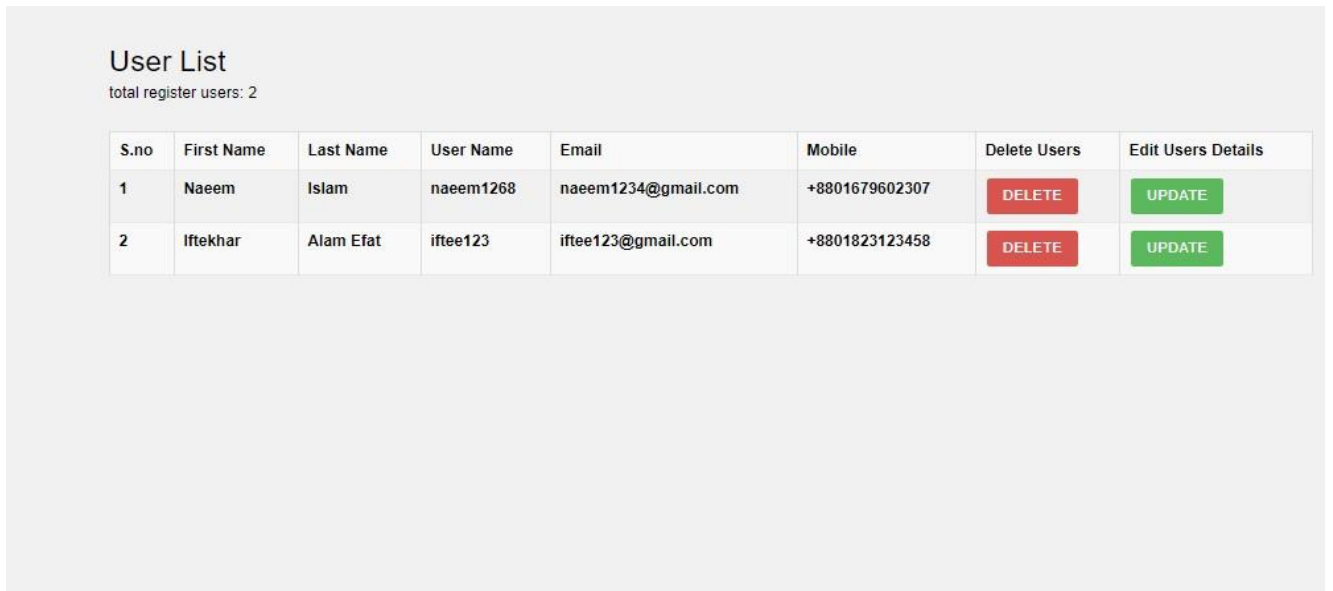
## 6.11 Delete user

**User List**  
total register users: 3

S.no	First Name	Last Name	User Name	Email	Mobile	Delete Users	Edit Users Details
1	Naeem	Islam	naeem1268	naeem1234@gmail.com	+8801679602307	DELETE	UPDATE
2	Iftexhar	Alam Efat	iftee123	iftee123@gmail.com	+8801823123458	DELETE	UPDATE
3	Tahmid	Hasan	tahmid.info	tahmid@gmail.com	+8801947659396	DELETE	UPDATE

Figure 6.14: Delete user

Here figure 6.14 you can see that number 3 user successfully deleted from the list.



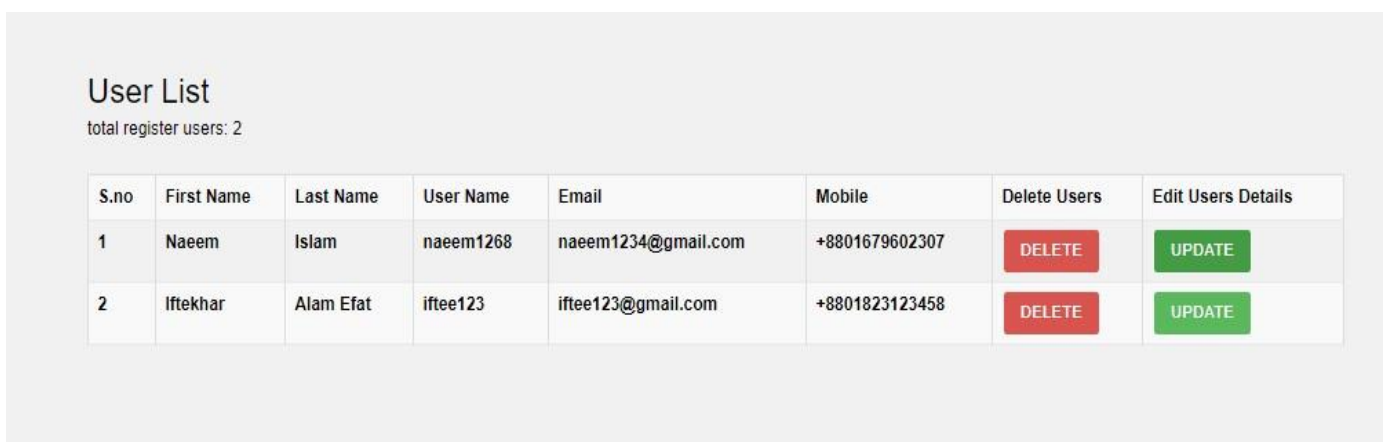
User List  
total register users: 2

S.no	First Name	Last Name	User Name	Email	Mobile	Delete Users	Edit Users Details
1	Naeem	Islam	naeem1268	naeem1234@gmail.com	+8801679602307	DELETE	UPDATE
2	Iftekhhar	Alam Efat	iftee123	iftee123@gmail.com	+8801823123458	DELETE	UPDATE

Figure 6.15: Delete user

## 6.12 Update User Details by admin

Here admin can update users details if he needs.



User List  
total register users: 2

S.no	First Name	Last Name	User Name	Email	Mobile	Delete Users	Edit Users Details
1	Naeem	Islam	naeem1268	naeem1234@gmail.com	+8801679602307	DELETE	UPDATE
2	Iftekhhar	Alam Efat	iftee123	iftee123@gmail.com	+8801823123458	DELETE	UPDATE



Figure 6.16: Update user details by admin page

Retrieve data from database user table and show it here. Now admin change or update new name username email mobile.

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The image shows a web form titled "Update User Details" with a green header. The form contains three input fields, each with a label above it: "First Name" with the value "Naeem", "Last Name" with the value "Islam", and "Username" with the value "naeem1268".

Field	Value
First Name	Naeem
Last Name	Islam
Username	naeem1268

Figure 6.17: Update user details page

Here you can see that user table successfully updated.

User List  
total register users: 2

S.no	First Name	Last Name	User Name	Email	Mobile	Delete Users	Edit Users Details
1	sami	Rahman	samixp0268	samixp0@gmail.com	+8801834559396	DELETE	UPDATE
2	Iftexhar	Alam Efat	iftee123	iftee123@gmail.com	+8801823123458	DELETE	UPDATE

Figure 6.18: Update user details page

## 6.13 Buy Credit

To recharge credit balance user need to go bid package store. So user need to the step below:

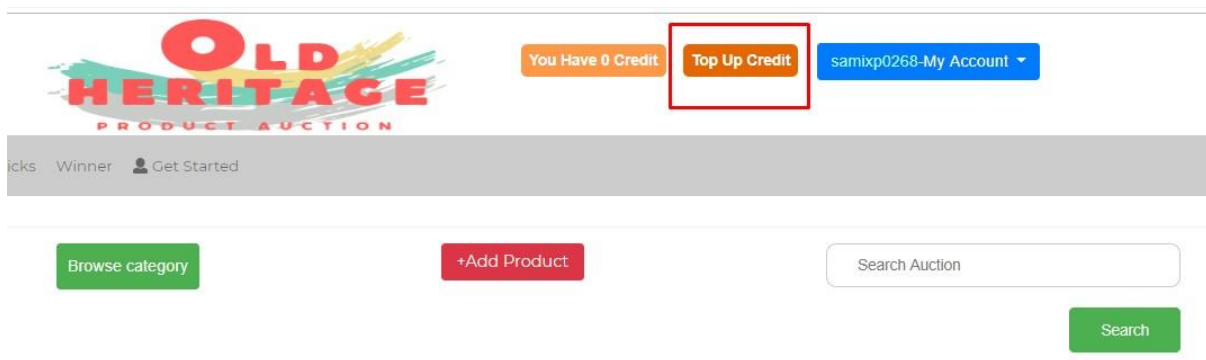
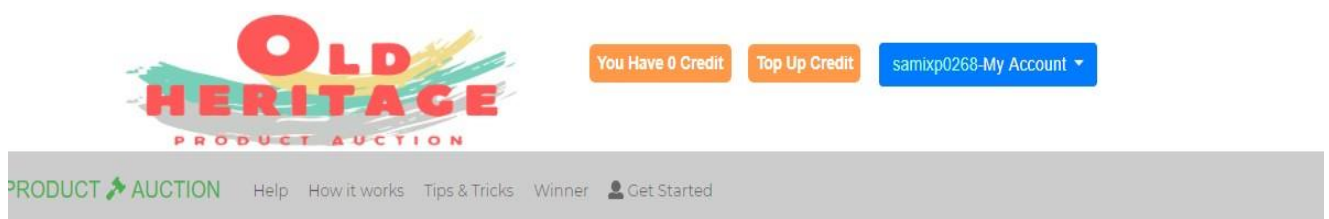


Figure 6.19: Buy credit page

Here user can buy their desire bid package. After choosing any package just click on buy now button. Then system will bring you payment page.



=BID PACKAGES=

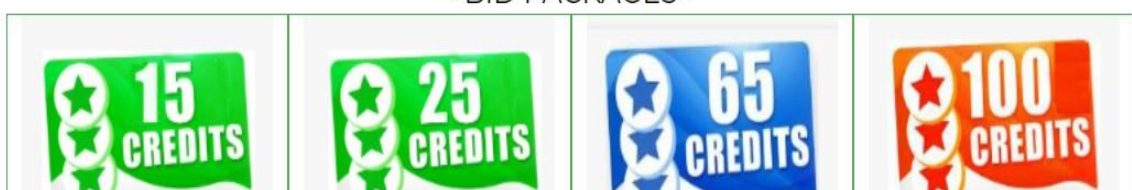


Figure 6.20: Buy credit page

## 6.14 Payment page

After completing all necessary field just click on checkout and you are successfully bought credit balance. Now you can perform bidding without any hassle.

The screenshot displays a payment page with a navigation bar at the top containing links for Home, Help, How it works, Tips & Tricks, Winner, and Get Started, along with a Login button. The main content area is divided into three sections: Billing Address, Payment, and Cart.

**Billing Address:** Includes input fields for Full Name, Email (checked), and Address.

**Payment:** Offers two payment methods: bKash (a碧AC BANK company) and Rocket (ROCKET company). A green Checkout button is positioned below these options.

**Cart:** Shows a single item, Product 1, priced at \$30, with a total of \$30 and a shopping cart icon indicating 1 item.

Figure 6.21: Buy credit page

## 6.16 User Update page

To update user's details just follow the step

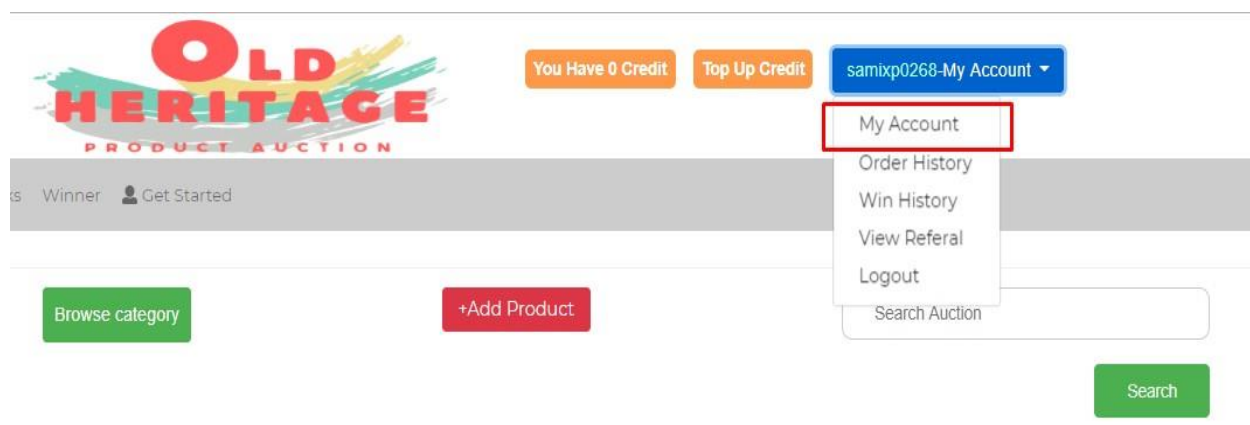


Figure 6.22: User Update page

Here you can easily update your details and password changed can be done from here.




MY INFORMATION <a href="#">EDIT PROFILE</a>		CHANGE PASSWORD	
Name	<input type="text" value="Naeem"/> <input type="text" value="Islam"/>	 <input type="password" value="Old Password"/>	
User Name *	<input type="text" value="naeemxp"/>	 <input type="password" value="New Password"/>	
Email *	<input type="text" value="naeemxp@gmail.com"/>	 <input type="password" value="Confirm Password"/>	
Mobile *	<input type="text" value="+8801679602307"/>	<input type="button" value="Change Password"/>	
Birthdate *	<input type="text" value="Birthdate"/>		
Address *	<input type="text" value="Address"/>		
City *	<input type="text" value="City"/>		

Figure 6.23: User Update page

# **Chapter 7**

## **Conclusion**

### **7.1 GitHub Link**

<https://github.com/samixp0/Old-Heritage-Product-Auction>

### **7.2 Project Summary**



I have started to develop my project from January. From the very beginning of developing this project, it needs hard working, patience, persistence to the requirements of stakeholders though it's not take too much to find out all requirements. And then I started to work.

Database plays a vital role for any software. And so this is why, I have designed the database diagram having tables with proper relationship. After that, I have prepared the user interface and take their approval to continue to the next part. It is to be said that, the interface of my application is very simple and easy to understand. After completing that, I have started to write the core functionality of the project.

Developing project is not end of all tasks actually. There are some other important tasks to perform. And that is testing. It is also known as quality assurance also. Almost at every software company there are a quality assurance team. Their main responsibility is to find the loop holes or vulnerability of software. If there any bug remains before handover to the stakeholders, there is a change to ruin the whole project. So testing plan is very important. And after developing the project, I have assured the quality of this project.

### 7.3 Limitations

For developing this project, I have face some limitations. Now I will describe those in brief

- **Only web version:** I have designed and developed this project for web version. But there are some other platforms like windows, ios, android. I haven't worked for them. But all platforms user can use by opening any browser and go into my website and start to bidding.
- **Ease-of-use:** I try to design my system look good at a time easy to use. But when I try to delve resizing images, input links, customize pages, they begin to become a painstaking process. How to change certain area, how to remove this portion these thinks take too much time to learn for mine. This is extremely time consuming.

### 7.4 Obstacles and Achievements

I believe that if there are not any obstacles to develop a project, then there doesn't have any challenges. Because we know, challenge give us the opportunity to prove ourselves. Obstacles, challenges and achievements are like a path to the success.

Before starting this project, I didn't know the actual flow of software development life cycle. By developing this project, I have learnt to know how to have a row requirement from clients.

After that I have learnt system analysis, database design and many more things. My supervisor helps me a lot from the very beginning of the development of this project.

- **Lack of customer:** In our country, all the people are habituated to buy product from online ecommerce site. This is the main problem or obstacle for me to replicate or introduce online bidding system for antique product.
- **Product Genuineness:** When seller add product for bidding/auction, there are some risk remains in this portion. Their product may not genuine or real. By seeing product image, I cannot assume it real product or not. This is one the worst obstacle for me in this project.
- **Time Consuming:** Because auction takes too much time to finish bidding, people may not be interested to engage or participate the auction.

## 7.5 Future Scope

I have learnt a lot throughout the whole development stage of this project. For making this project developed, some of my fellow helps me a lot. I am very much thankful to all of them as their idea and discussion gave me some opportunities to make my project complete. It will help me to work with similar type project in future also.

## 7.6 References

I have gained some knowledge from some platforms. Obviously I will mention those references. For making my project successful those resources help me a lot. Not I will mention the names below.

Visual database schema design. (n.d). Retrieve from  
<https://www.mysql.com/products/workbench/design>

Creating new files. (n.d). Retrieve from  
<https://help.github.com/en/articles/creating-new-files>

Compiled css and js. (n.d). Retrieve from  
<https://getbootstrap.com/docs/4.3/getting-started/download/>

Getting data from mysql. (n.d). Retrieve from  
[https://www.tutorialspoint.com/php/mysql\\_select\\_php.htm](https://www.tutorialspoint.com/php/mysql_select_php.htm)

References-websites. (n.d). Retrieve from  
<https://www.apastyle.org/learn/quick-guide-on-references#top>

Gantt chart design. (n.d). Retrieve from  
<https://creately.com/app/#>

Joel Clinton Diana.J, Class Diagram for the Online Brokering System. (26 April 2002).  
Retrieve from  
<http://www.cse.msu.edu/~cse470/Public/S02/Projects/Team4/req-analysis/node18.html>