

# **BID AND BUY**

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## CERTIFICATE

We accept the work contained in this report titled “Bid and Buy” by Muhammad Hasan and M.Awais Amin Khattak as a confirmation to the required standard for the partial fulfillment of the degree of BS(CS).

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## **DEDICATION**

We would like to dedicate this project to every person who supported us but above all to our beloved family who have been a constant support. It is their unconditional love that motivates us to set higher targets and inspire us to tackle every task with enthusiasm.

## **ACKNOWLEDGEMENTS**

We first of all thanks to Almighty ALLAH (SWT) to give us knowledge, power and strength to accomplish our Project. We learned a lot while doing this project and this will certainly help us in our forth coming life. We are also thankful for this project to our supervisor (Mr.Sayed Khushal Shah) who helped us very much in every aspects during time of difficulties, without whom this project might not have been completed, and to whom we are greatly indebted. In the end we would like to thank all of our friends for their support and encouragement.

Muhammad Hasan and M.Awias Amin Khattak  
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## **ABSTRACT**

This project “Bid and Buy” is a problem solving solution for online buying and selling, particular to mobiles and laptops, market. The problematic interaction of buyer and seller will be eased with the use of this system and will help improve the e-commerce industry. Nowadays, the e-commerce industry is one of the most growing and ever needed market for any kind of dealing including mobile and laptop purchases. Our system is specified to this market only so we can develop a specialized system for these items and extend it further, if required, to other market needs. We will use different problem solving techniques, through the use of which we will make this system into and organized, robust, flexible and a reliable system. The project management will be an integral part of this project to ensure that we do not stray away from our objectives in timeline. The development of this system will help us learn to manage, evaluate and control a project in different scenarios which will further help us in our profession.

# TABLE OF CONTENTS

Certificate.....	ii
Dedication.....	iii
Acknowledgements.....	iv
Abstract.....	v
Table of Contents.....	vi
List of Figures.....	ix
List of Tables.....	x
1 Introduction.....	12
1.1 Project Background/Overview.....	12
1.2 Problem Statement.....	13
1.3 Project Scope.....	13
2 Literature Review.....	16
2.1 Some overview.....	16
2.2 Some more overview.....	18
3 Requirement Specifications.....	21
3.1 Existing System.....	21
3.2 Proposed System.....	21
3.3 Non-Functional Requirements.....	21
3.3.1 Operating Environment.....	22
3.4 Use Cases.....	22
4 System Design.....	27
4.1 System Architecture.....	27
4.2 Assumptions and Dependencies.....	27

4.3	High Level Design .....	28
4.3.1	Physical .....	32
4.3.2	Module .....	32
4.3.3	Security .....	32
4.4	Low Level Design .....	33
4.5	GUI Design .....	34
5	System Implementation .....	42
5.1	Tools and Technology Used.....	42
5.1.1	Visual Studio 2013 as Compiler .....	42
5.1.2	ASP.NET as framework 4.5.....	42
5.1.3	SQL Server Management Studio .....	42
5.1.4	Adobe Photoshop .....	42
5.2	Development Environment/Languages Used.....	43
5.2.1	C# as Programming Language.....	43
5.2.2	HTML and CSS .....	43
5.2.3	Bootstrap.....	43
5.2.4	Html Agility pack .....	43
5.3	Processing Logic .....	43
6	System Testing and Evaluation.....	46
6.1	Graphical user interface testing.....	46
6.2	Test cases: .....	46
7	Conclusion .....	50
	References:.....	51





## LIST OF FIGURES

Figure 1: OLX Graphical user Interface .....	19
Figure 2: Freelance Graphical user Interface .....	19
Figure 3: Use case for whole Bid and Buy .....	22
Figure 4: Use case for Seller side. ....	23
Figure 5: Use case for Buyer side. ....	24
Figure 6: Flow diagram for Seller side. ....	28
Figure 7: Flow diagram for Buyer side. ....	29
Figure 8: Sequence diagram for Seller side. ....	30
Figure 9: Sequence diagram for Buyer side. ....	31
Figure 10: Package diagram. ....	32
Figure 11: GUI of Bid and Buy's Main Page .....	34
Figure 12: GUI of Bid and Buy's Viewing Ad(s) Page .....	35
Figure 13: GUI of Bid and Buy's Getting Price-Quote Page .....	35
Figure 14: GUI of Bid and Buy's Posting an Ad(s) page	
Figure 15: GUI of Bid and Buy's Viewing Personal Ad .....	36
Figure 16: Bid and Buy Working on Internet Explorer .....	37
Figure 17: Validation that Seller's name is compulsory .....	37
Figure 18: Validation that Seller must select the date accurate date. ....	38
Figure 19: Validation that Bid is accurate .....	38
Figure 20: User must have to mention the Condition of Item. ....	39
Figure 21: Viewing personal Ad. ....	39
Figure 22: Getting Price Quote of new Item. ....	40
Figure 23: Getting Price Quote of Second hand Item. ....	40

## ST OF TABLES

Table 2.1: Comparison between Proposed and existing system. ....	17
Table 3.1: Defining Use case for whole Bid and Buy . ....	21
Table 3.2: Defining Use case for Seller Side .....	22
Table 3.3: Defining Use case for Buyer Side .....	22

# **Chapter 1**

## **Introduction**

# 1 INTRODUCTION

Web based systems are the information system that uses internet to provide applications or services to its user. Web based systems uses web browser so therefore accessible from anywhere in the world via the Web.

The Project as titled “Bid and Buy” is fundamentally the web-based system for online sale and purchase Laptops and Mobile phones by bidding and also without bidding. This system is developed to provide a solution for any of resource loss, for example: time, by buying or selling your laptops and mobile phones. To overcome this problem here we will introduce a whole new online way in which you can sell or buy, used or new laptops and mobile phones

This project “Bid and Buy” will allow any person to post ad of any laptop or of mobile phone but before posting an ad the user have option to get a price quote according to properties and state of that particular item, along with the price quote the user will be provided by another option to set a fix price or organize an auction.

In addition to that our scenario will provide an option to the purchaser who can bid rate of any laptop or of mobile phone they are interested in.

## 1.1 Project Background/Overview

People around the World want to sell their new or second-hand items, which they may have used for a very short period of time. If so, the item must be ‘as-new’ or in very good condition.

However, many people want to sell second-hand items which are not in good condition like:

- Broken or damaged
- Banned by the manufacturer company
- Vital parts not available.

## **1.2 Problem Statement**

The available websites nowadays usually allow to post ad of items to sale without knowing the present condition of the item, which results in the wastage of time of both the seller and buyer. Many customers cannot afford the price of item but still contact the seller and ask for price negotiation which again waste many resources most importantly time.

### **1.2.1 Project Objectives**

The objectives of our system are as follows:

- To provide a system which does not let any seller to just post an ad without telling the item's state.
- The user have to tell its condition properly so that only interested person are attracted.
- Also the system don't let purchaser to ask for negotiation of price, and
- Not allowing to bid lower than the seller fixed the range.

## **1.3 Project Scope**

The main scope of the project is to keep in mind that this is an online system, and will certainly have a large number of customers, due to which the requirements related to all kind of users will be fully completed. User requirements relating to a good Graphical User Interface (GUI) will be taken into account.

The project will be able to perform following operations:

- The Seller post an ad of the desired price of the item or by getting a price quote as well
- Seller will be able to post an ad after declaring the exact condition of the item
- Seller will be provided the option to set the fix price or organize an auction
- Buyer can visit any ad which is posted and can bid on any of them which attracted him
- Buyer cannot bid for an ad which is restricted by the Seller as the fix price ad.
- Perfection in the system covering following aspects:

- User friendly
- Fast performance
- Quick Results

## **Chapter 2**

# **Literature Review**

## 2 LITERATURE REVIEW

The project we have selected has many similar system already present on the World Wide Web but with many loopholes. We will be trying to cover those bad patches in our project with high accuracy and precision.

The OLX system already available on internet is one of the market giants in the industry but lacks the functionality of providing the condition of the item to be sold since. Furthermore, it does not have any option for the user to bid for the item online which causes a fatigue for the seller to argue with the buyer to set a price for the item. [1].

Another system we studied is the Freelancer system which provides a bridge between industrialist and professionals and the clients who are in need of some particular service. In this system the client posts a project on which different freelancers bid. The one who bids the best gets the chance to perform the services for the client. Although there needs to be some discussion on different issues for the project but this websites allows both the users(buyer and seller) to move through the initial process of selection through bidding process and getting estimate price quote. This not only eases both the parties but also saves time, which is an essential part of any project. [2].

Reference:

[1]. [www.olx.com](http://www.olx.com)

[2]. [www.freelancer.com](http://www.freelancer.com)

### 2.1 Some overview

#### ➤ Asp.net

Asp.Net (Active Server Pages) is fundamentally a versatile open-source web application framework for web development. Microsoft after developing it for four years, Asp.Net framework in was released January 2002 with the versions of .Net 1.0. Programmers are allowed to use any .Net supported language as Asp.net is built on the Common Language Runtime (CLR).

Web Forms or Web Pages are the elementary unit for website development in Asp.Net. Vast amount of features which can easily be integrated with databases or some other web services. Almost nine versions are followed by .Net 1.0. The latest version 4.6 is released in July 2015 along



with the Visual Studio 2015. Asp.Net have enriched controls and have two major categories: User and Custom controls. Asp.net framework provide platform for development and execution of programs written in C# or few more programming language. [3].

➤ **C#**

Microsoft together with .Net platform developed powerful, type-safe, modern object-oriented programming language. C# language is somehow similar to other high-level languages such as Java and C++.Microsoft solely maintain and manage the C# and the .Net framework. Programs consists of classes and that consists of methods and the methods contains the program logic as all C# Programs are object-oriented. C# is widely used for multiple purposes like for developing any website, applications for desktop and many others. Programs written in C# can be supported under different operating system from Windows however it is not supported by Microsoft. [4].

Reference books:

[3]. “.NET Framework Essentials”

[4]. Fundamentals of Computer Programming with C#

## 2.2 Some more overview

After a thorough study about existing system and defining the scope of our project we compared the systems on the basis of some well-defined criteria. The comparison as shown in the following table shows the different services provider by each system.

<b>Element</b>	<b>Bid &amp; Buy Project</b>	<b>OLX</b>	<b>Freelancer</b>
Online service	Yes	Yes	Yes
Bidding system	Yes	No	Yes
User friendly	Yes	Yes	Yes
Price quote	Yes	No	No

*Table 2.1: comparison between proposed and existing systems*

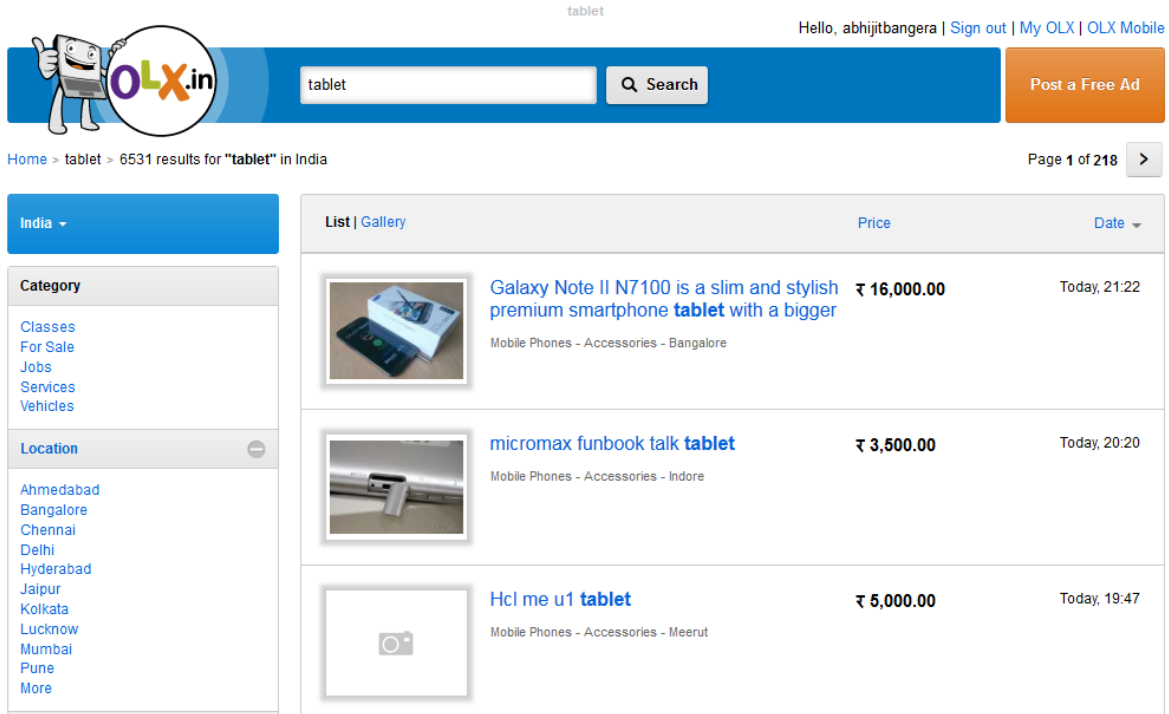


Figure 1: OLX Graphical user Interface

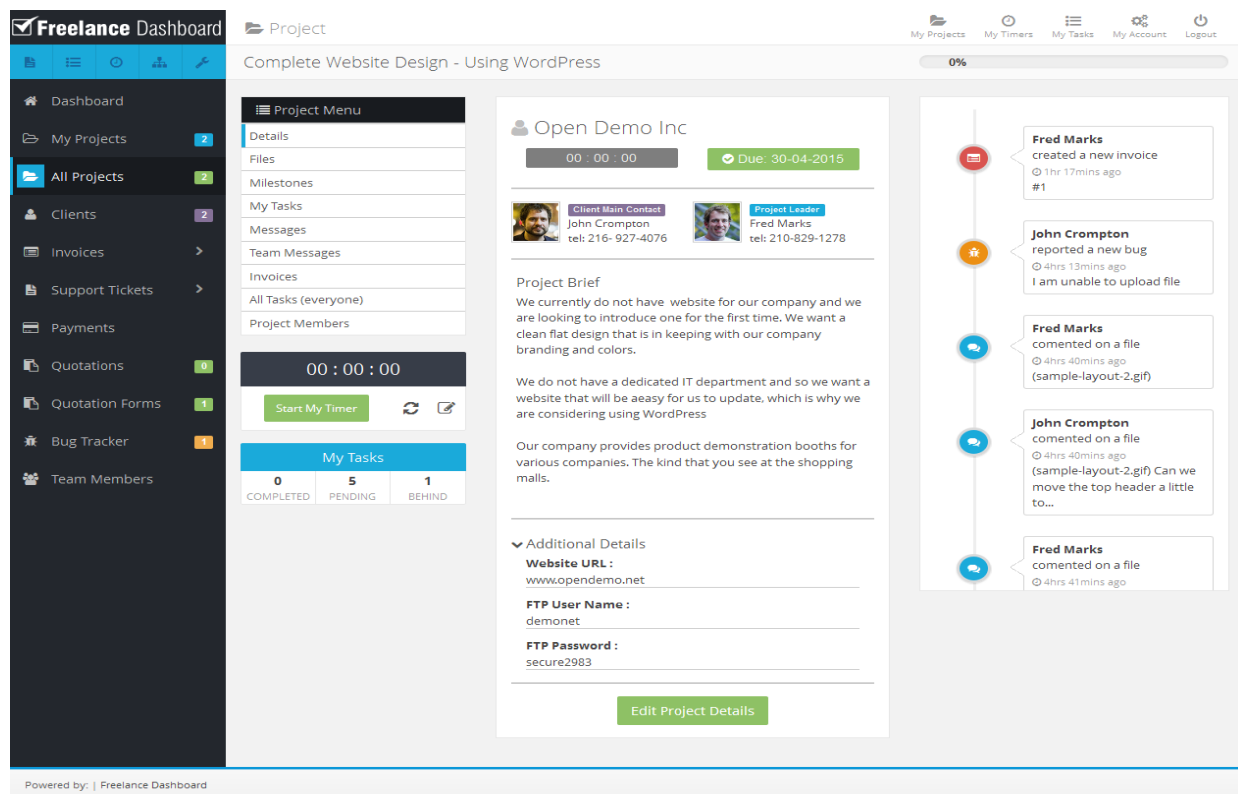


Figure 2: Freelance Graphical user Interface

## **Chapter 3**

# **Requirement Specifications**

## 3 REQUIREMENT SPECIFICATIONS

### 3.1 Existing System

The systems nowadays don't have bidding concept, if in case they have option for bidding then they do not provide any specific range to its user for the particular item. None of the website allow its user to get price quote, which may let seller to post ad of any price. This system does not have any predecessor and will be a new self-contained system.

### 3.2 Proposed System

The system we will be developing is a new self-contained system with the ability to provide a bridge between the buyer and seller. It will give both parties the ease of use. Seller will have the option to set a fixed price ad or to organize the auction while buyer will have the ability to check the condition of the mobile or laptop remotely and bid for the item on sale. Seller can fix the specific range for buyer to bid. In addition both the users (the buyer and seller) have the option to get the price quote.

### 3.3 Non-Functional Requirements

The requirements that a system must have to complete alongside functional requirements

**Performance** System should perform accordingly to the use cases and other flow diagrams

**Reliability** If in some state a failure occur the system should handle it without the user getting to know about it is called reliability.

**Operability** The system should be easy, feasible. And the user could use it without any difficulty is known as operability.

**Robustness** System must handle crashes and recover from them.

### 3.3.1 Operating Environment

System will operate on World Wide Web, so it requires access to internet by the user. It will also require the user to have an internet browser which supports it.

### 3.4 Use Cases

Use case diagram for whole Bid and Buy:

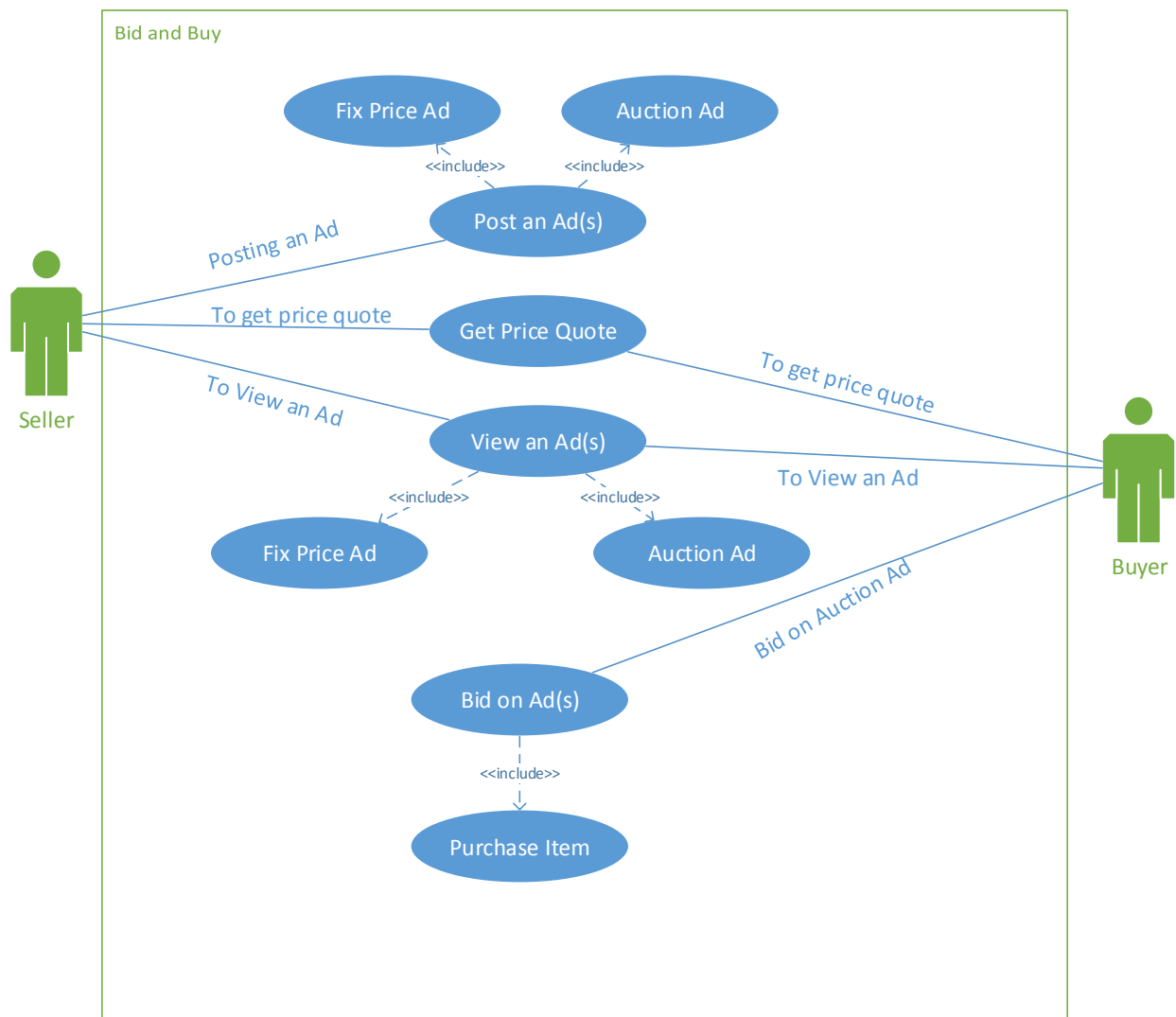


Figure 3: Use case for whole Bid and Buy

<b>Use Case 1</b>	Bid and Buy
<b>Primary Actor</b>	Seller, Buyer
<b>Pre-Condition</b>	Seller must have the item he/she want to sell. Buyer knows what he/she want to buy.
<b>Main Scenario</b>	Seller can post an Ad of the item. Buyer can view Ad(s) of the item. Both users can get a price quote.

Table 3.1: Defining use case for whole project.

**Use case for Seller side:**

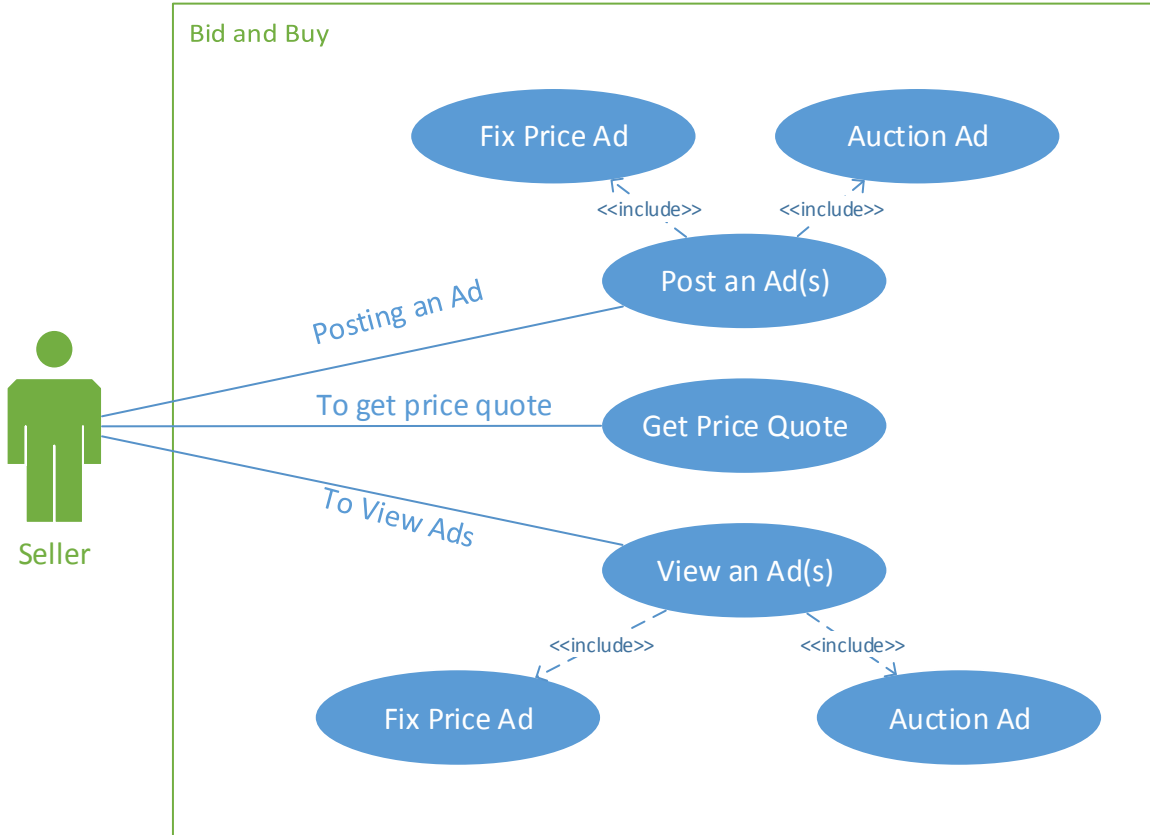


Figure 4: Use case for Seller side.

<b>Use Case 2</b>	Seller Side
<b>Primary Actor</b>	Seller
<b>Pre-Condition</b>	User must have the item he/she want to sell.
<b>Main Scenario</b>	Seller before posting an ad of the item have an option to get an estimate price quote after than he can post an ad along with item's picture, condition, price and either with option for auction or fixed price.

Table 3.2: Defining the use case of seller side.

**Use case for Buyer side:**

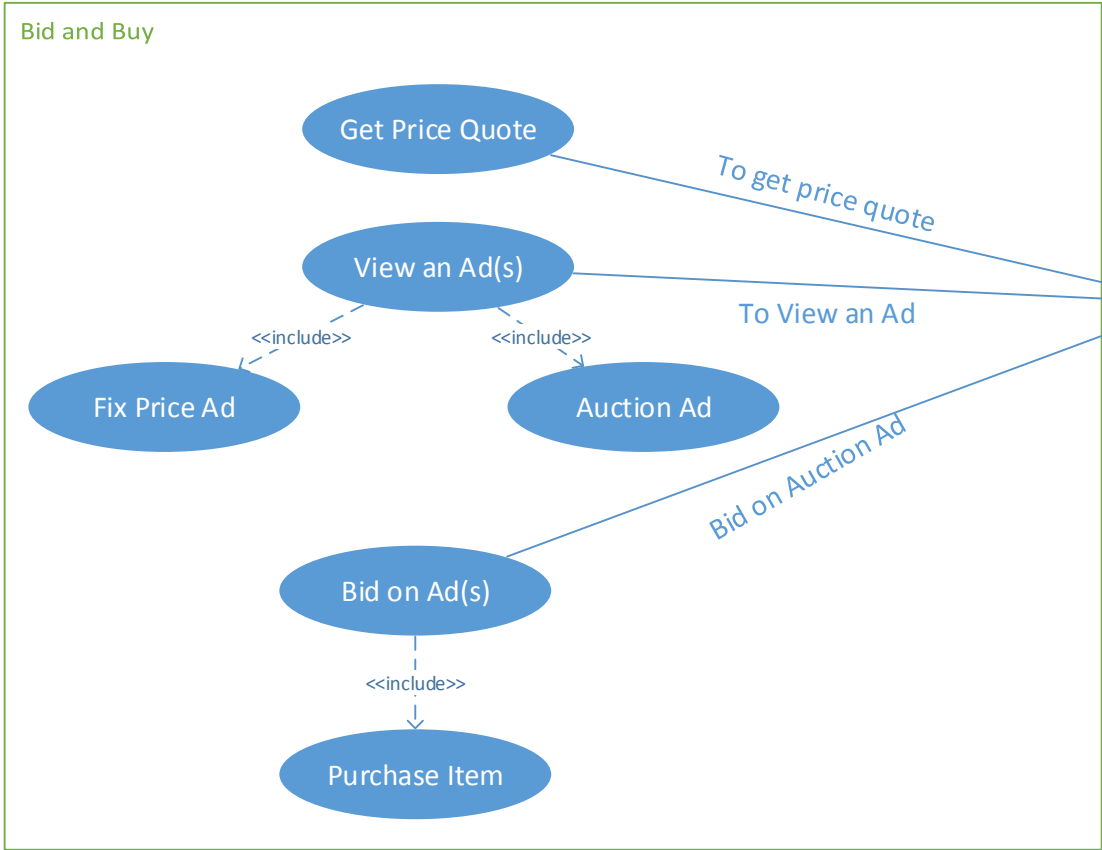


Figure 5: Use case for Buyer side.



<b>Use Case 3</b>	Buyer Side
<i>Primary Actor</i>	Buyer
<i>Pre-Condition</i>	User decide the item he want to buy (laptop or mobile)
<i>Main Scenario</i>	Buyer searches for the required mobile or laptop and then places a bid for that item only in case if the ad is not fixed price. After doing bid or checking the fixed price item, the highest bidder is notified about winning the bid for the item or attractive buyer for fixed price than be asked for payment options.
<i>Alternate Scenario</i>	<ul style="list-style-type: none"> <li>• Buyer loses the bid for the item.</li> <li>• Buyer cannot find the attractive price fixed by seller.</li> <li>• Bad network condition causes the system to fail.</li> </ul>

Table 3.2: Defining the use case of Buyer side.

# **Chapter 4**

## **System Design**

## 4 SYSTEM DESIGN

### 4.1 System Architecture

Bid and Buy system is developed to help the E-commerce and make useful contribution to the industry. The use case diagram presented in the previous chapter has been designed using visual paradigm and shows in detail how the system, database and user components of the system are related to each other. It further shows their interoperability and dependency on each other.

### 4.2 Assumptions and Dependencies

- Speed of the internet connection will ensure smooth working and loading of the page.
- The graphical interface provides an easy way of using the application with minimum of training.

#### ➤ Design Methodology

- Our design methodology includes using C# to create this system to ensure that's since it is a highly object oriented language.
- ASP.NET as a framework.
- C# as a language.
- SQL as a database.
- Microsoft Visual Studio as a compiler.

Looking as a whole the incremental methodology will be used to develop this web-based system. We will make use of different requirement gathering techniques to make sure that our system is according to the market need.

### 4.3 High Level Design

#### Seller side Flow Diagram:-

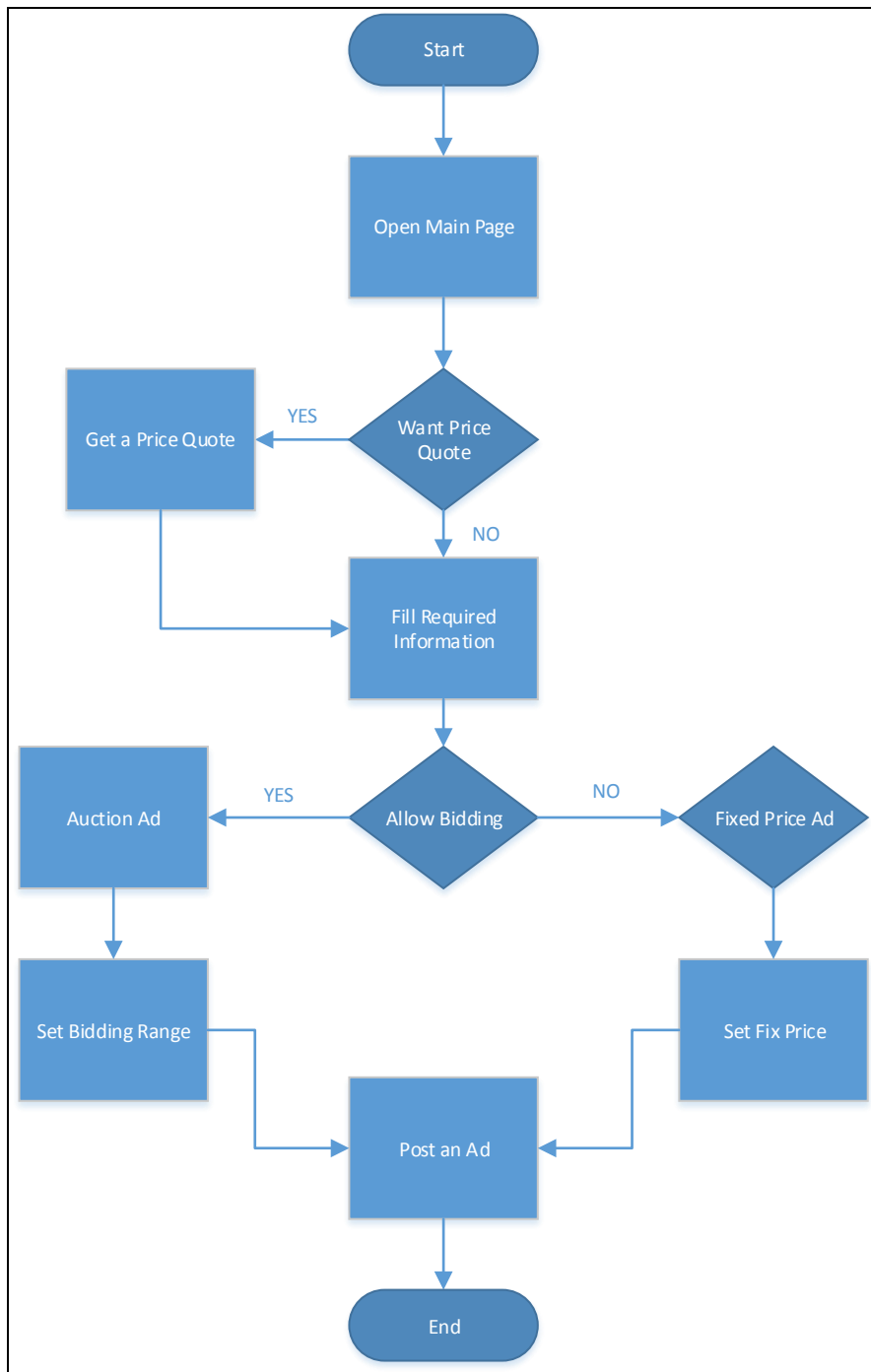
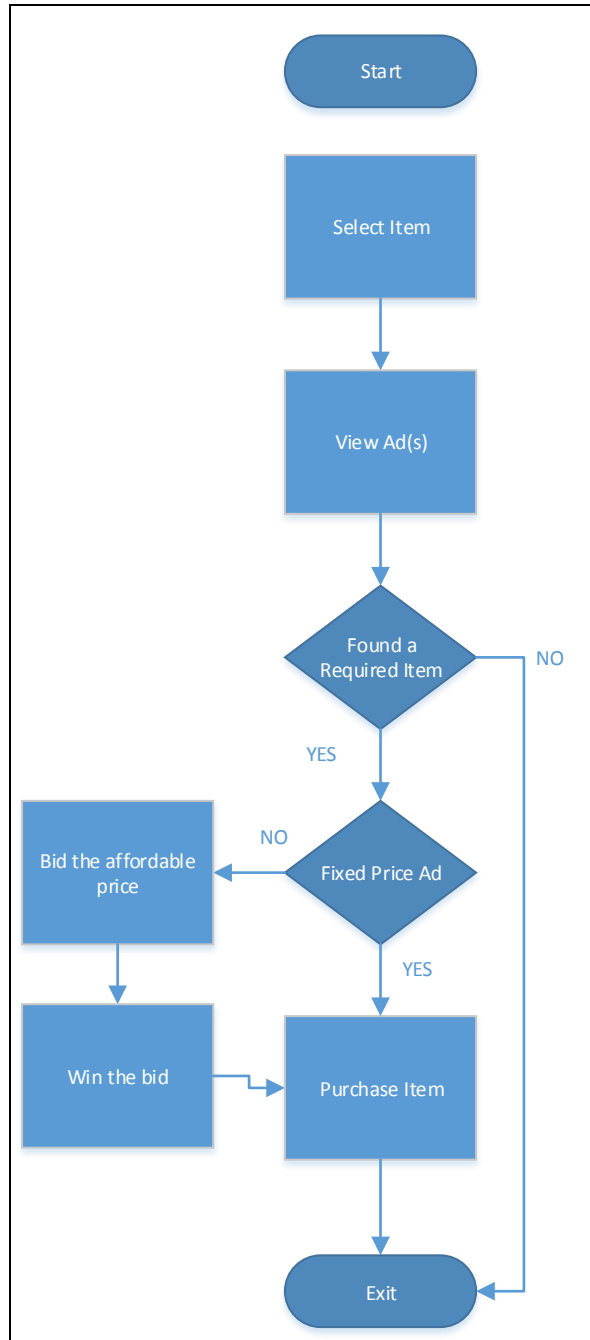


Figure 6: Flow diagram for Seller side.

**Buyer Side Flow Diagram:-**



*Figure 7: Flow diagram for Buyer side.*

### Seller side Sequence Diagram:-

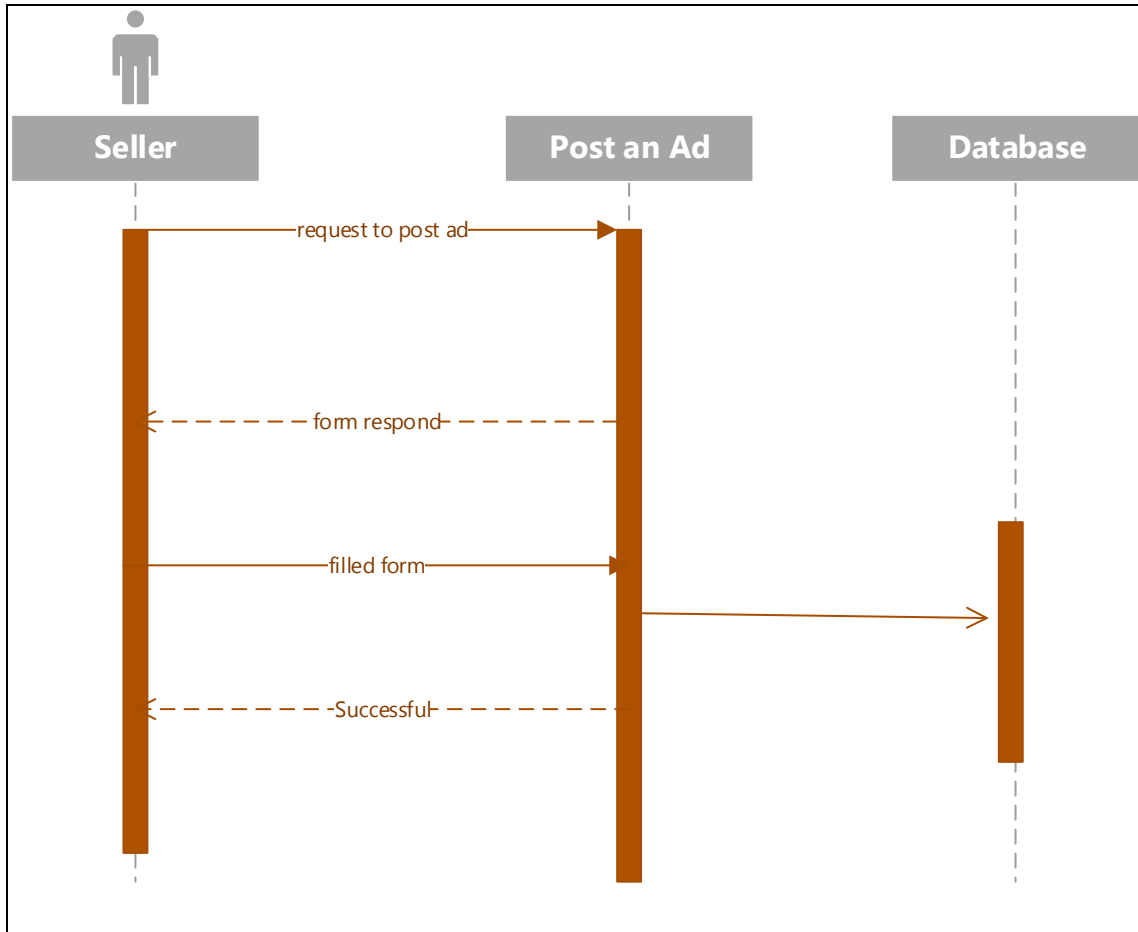


Figure 8: Sequence diagram for Seller side.

### Buyer Side Sequence Diagram:-

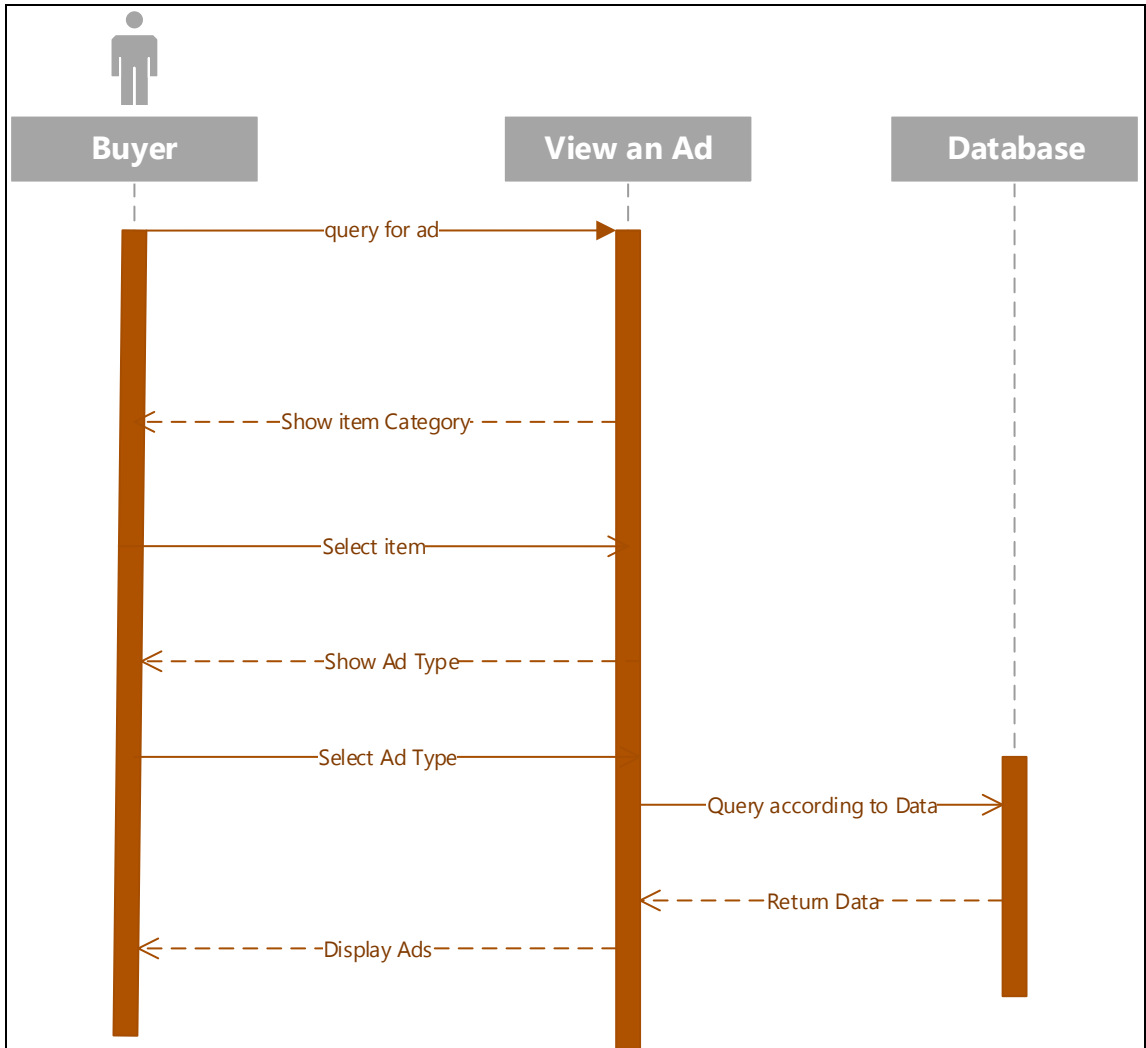


Figure 9: Sequence diagram for Buyer side.

### Package Diagram:-

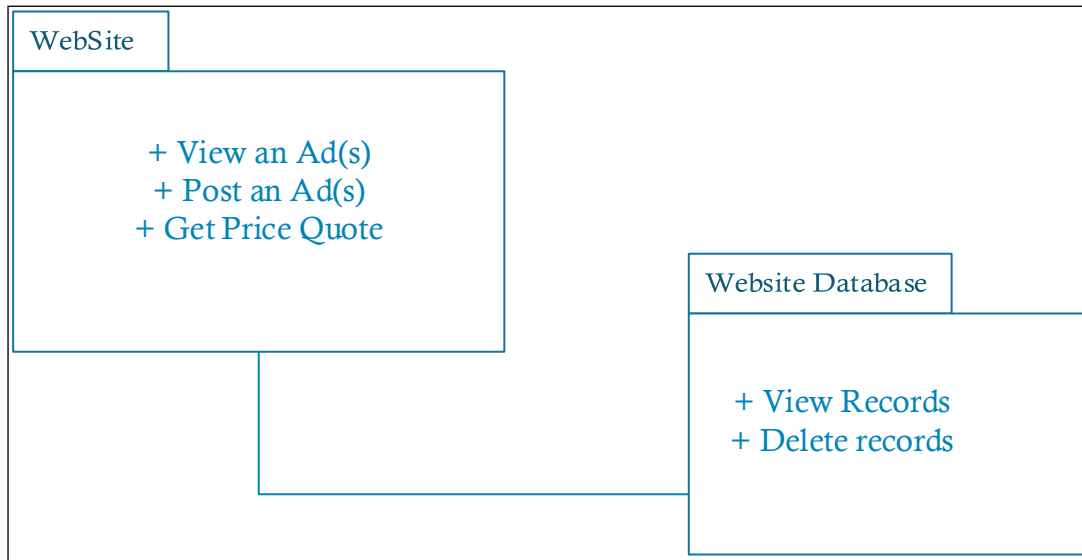


Figure 10: Package diagram.

#### 4.3.1 Physical

This system will be a distributed system since user will be remotely accessing it via internet. A server will be maintained on a simple computer for testing purposes in the initial stages and will be transferred to a comparatively larger server depending on the requirement and user interaction/load.

#### 4.3.2 Module

The systems code, design and development structure will be saved on our laptops. The code could be further managed through the use of online repositories like GitHub etc.

#### 4.3.3 Security

We will use all our knowledge and information provided by our mentors to ensure the security level of the Bid and Buy system.



## 4.4 Low Level Design

### ➤ Database Design

Database standards:

- Redundancy should be avoided with the use of normalization techniques.
- Inputs will be taken through text fields on the forms
- Use of SQL to ensure that large database can be maintained and controlled easily.

### ➤ GUI Design

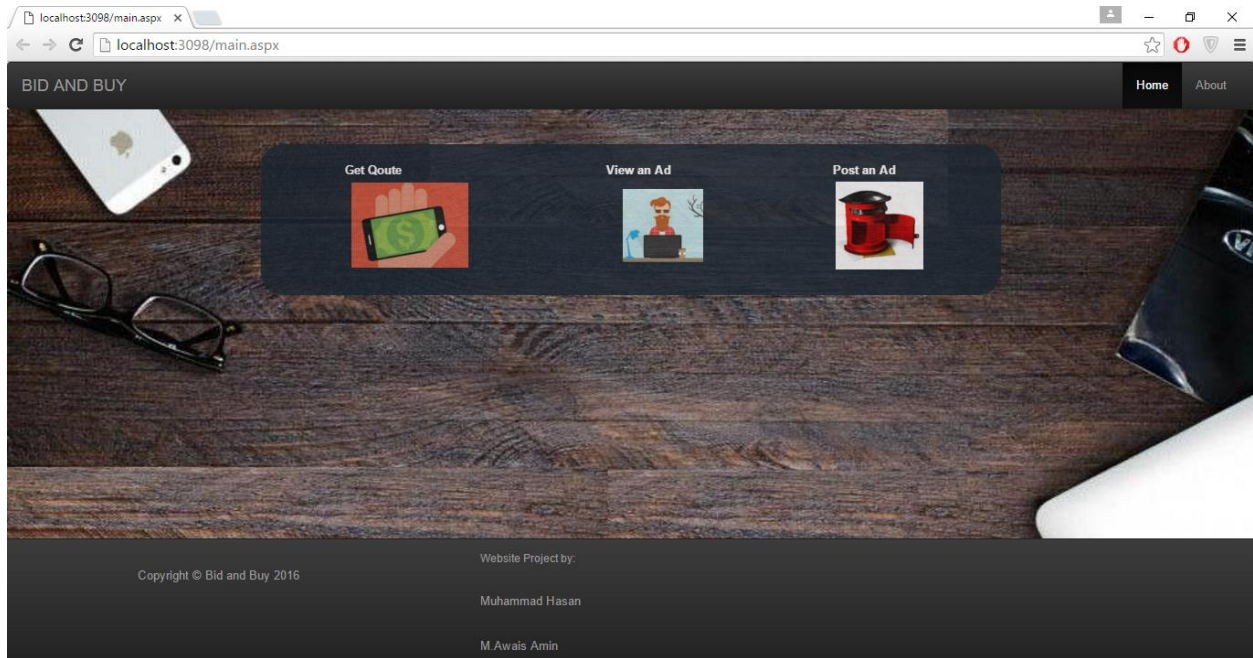
This section provides the detailed design of the system and subsystem inputs and outputs relative to the user. Depending on the particular nature of the project, it may be appropriate to repeat these sections at both the subsystem and design module levels.

### ➤ External Interfaces

External systems are any systems that are not within the scope of the system under development. In this section, describe the electronic interface(s) between this system and each of the other systems and/or subsystem(s), emphasizing the point of view of the system being developed.

## 4.5 GUI Design

Following are the Screen Shot of User Interface:



*Figure 11: GUI of Bid and Buy's Main Page*

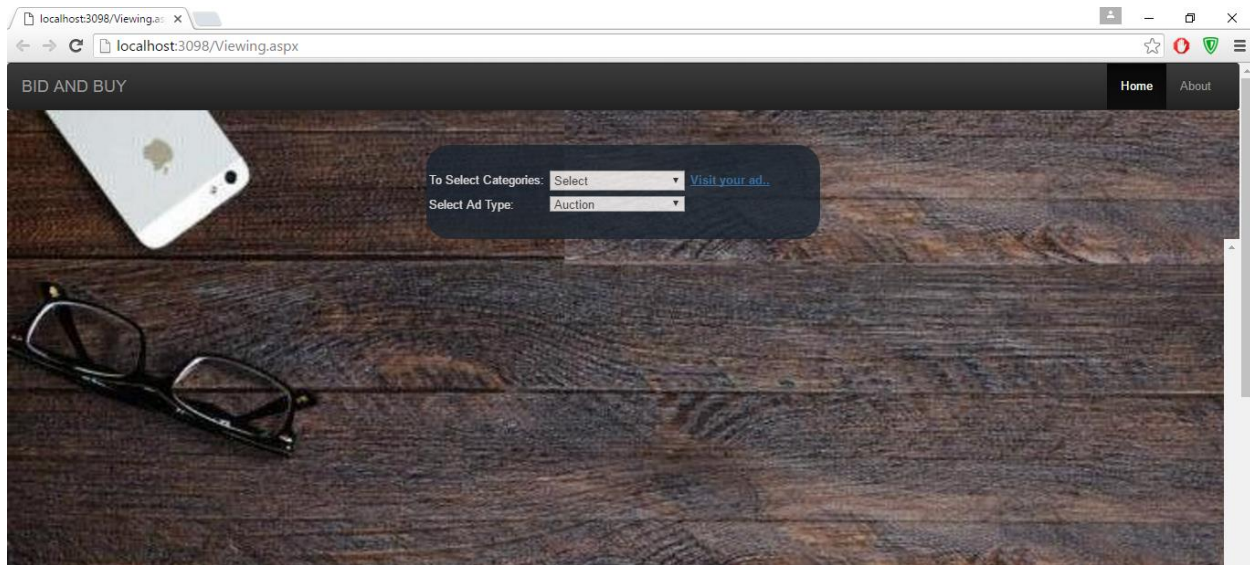


Figure 12: GUI of Bid and Buy's Viewing Ad(s) Page

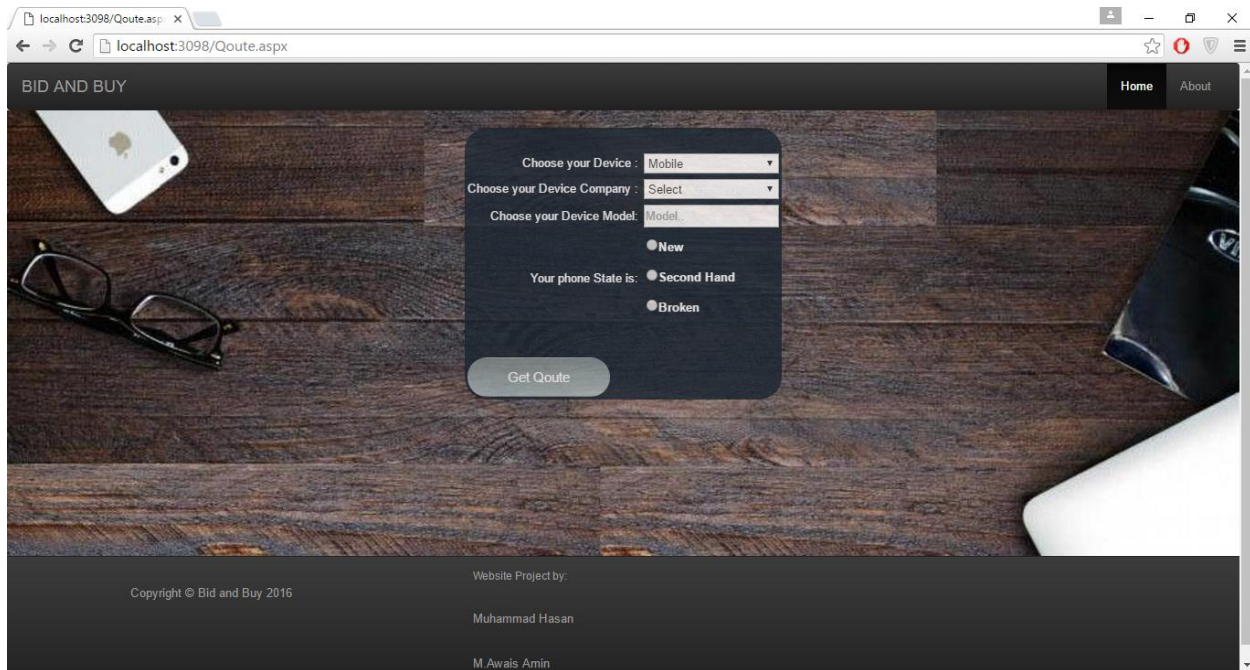


Figure 13: GUI of Bid and Buy's Getting Price-Quote Page

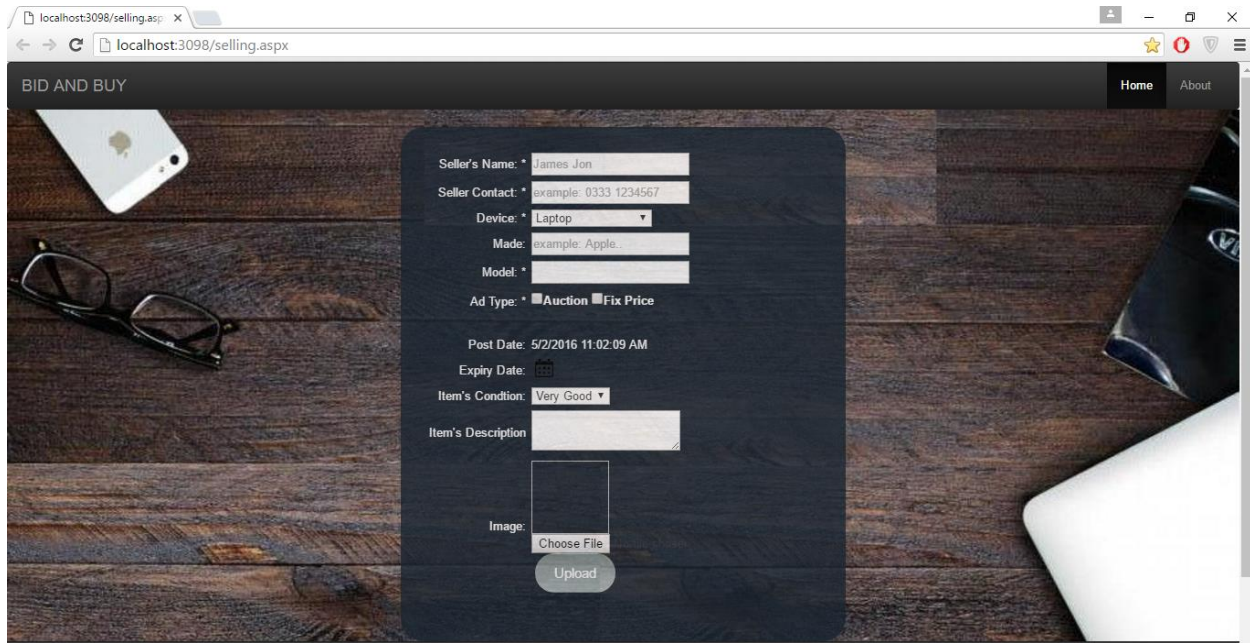


Figure 14: GUI of Bid and Buy's posting an Ad(s) page

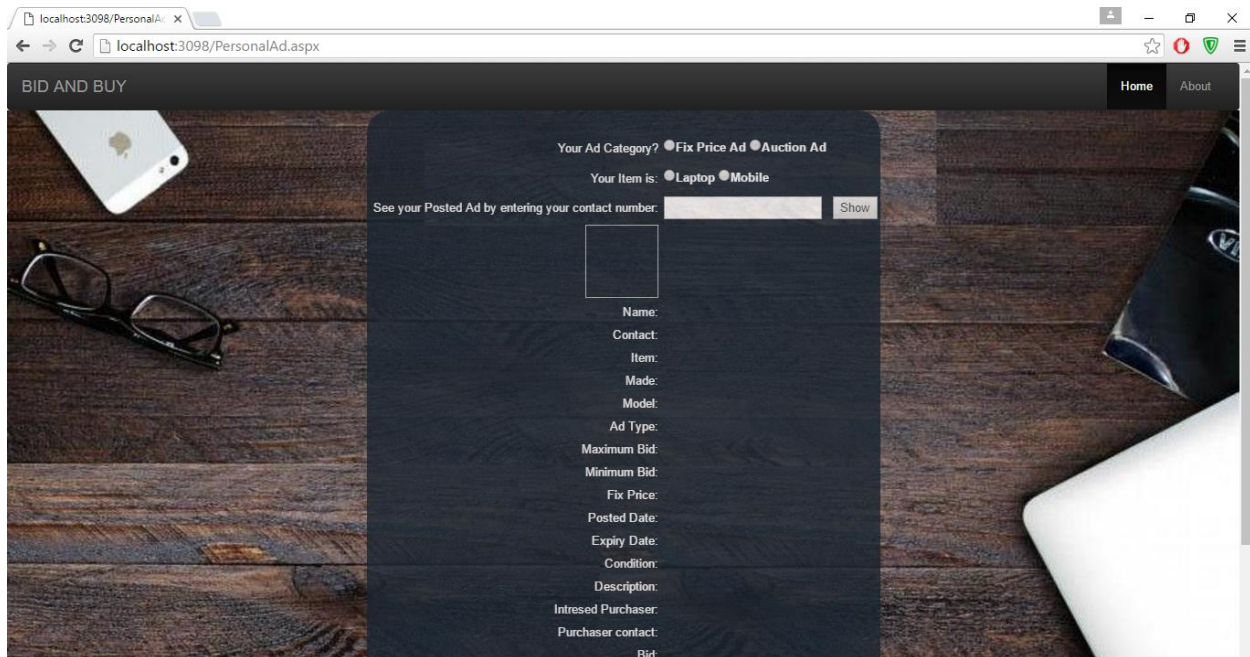


Figure 15: GUI of Bid and Buy's Viewing Personal Ad

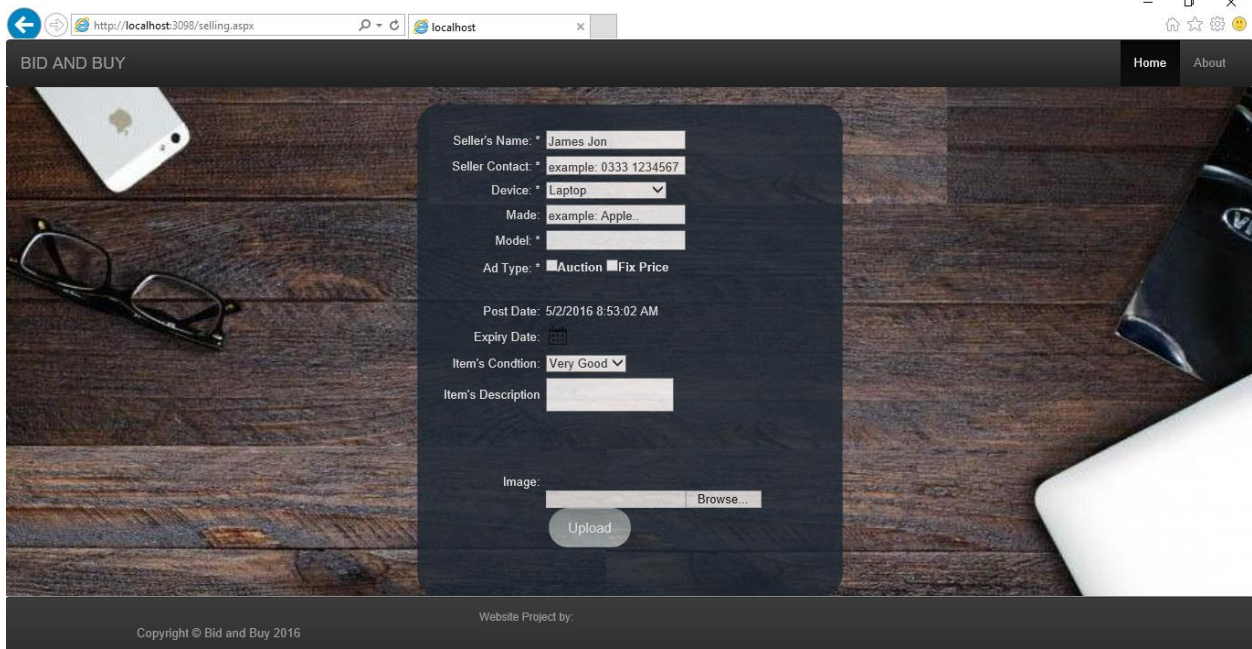


Figure 16: Bid and Buy Working on Internet Explorer

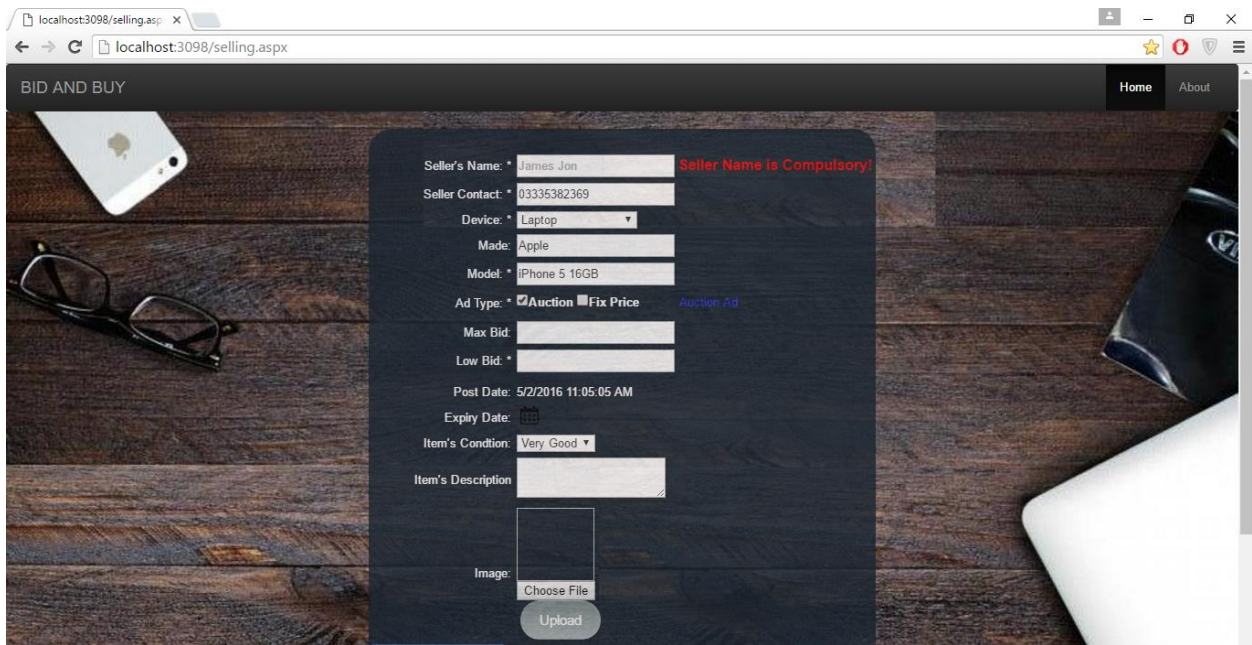


Figure 17: Validation that Seller's name is compulsory

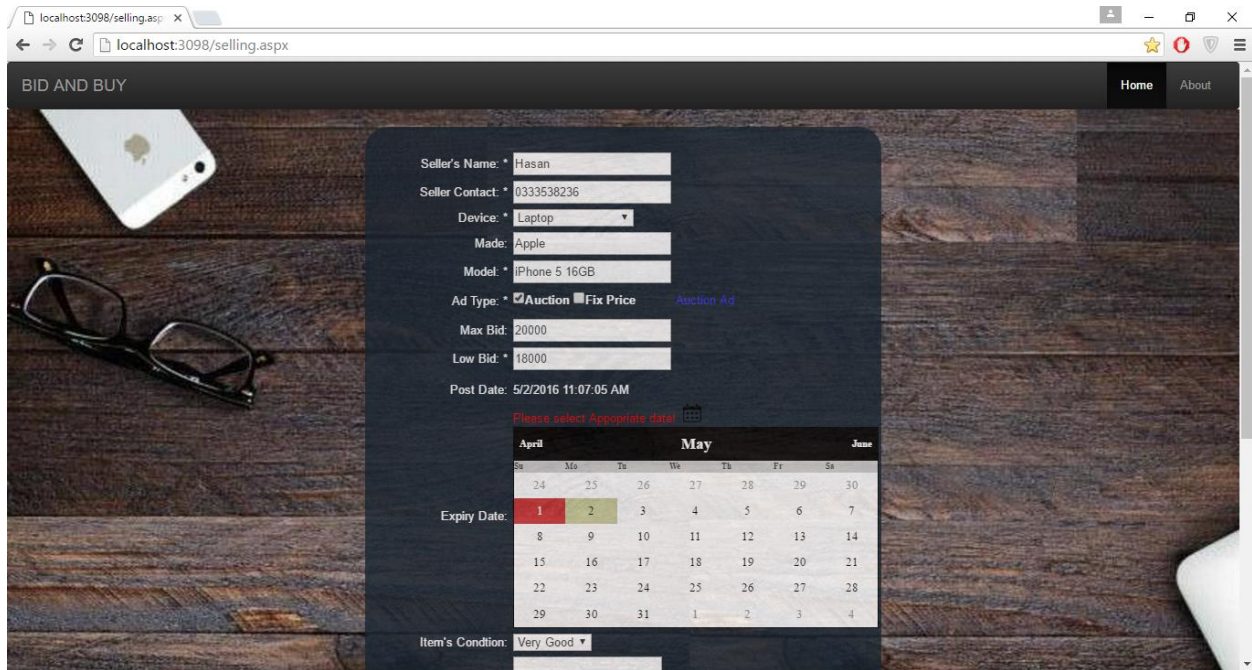


Figure 18: Validation that Seller must select the date accurate date.

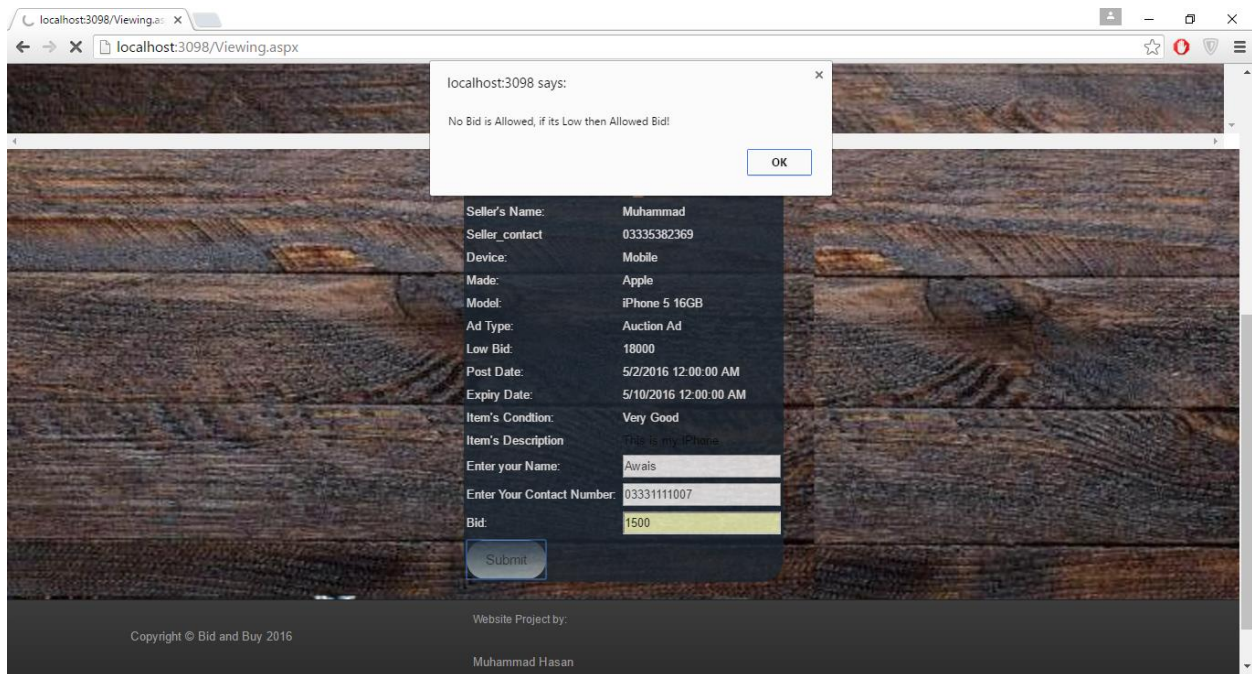


Figure 19: Validation that Bid is accurate

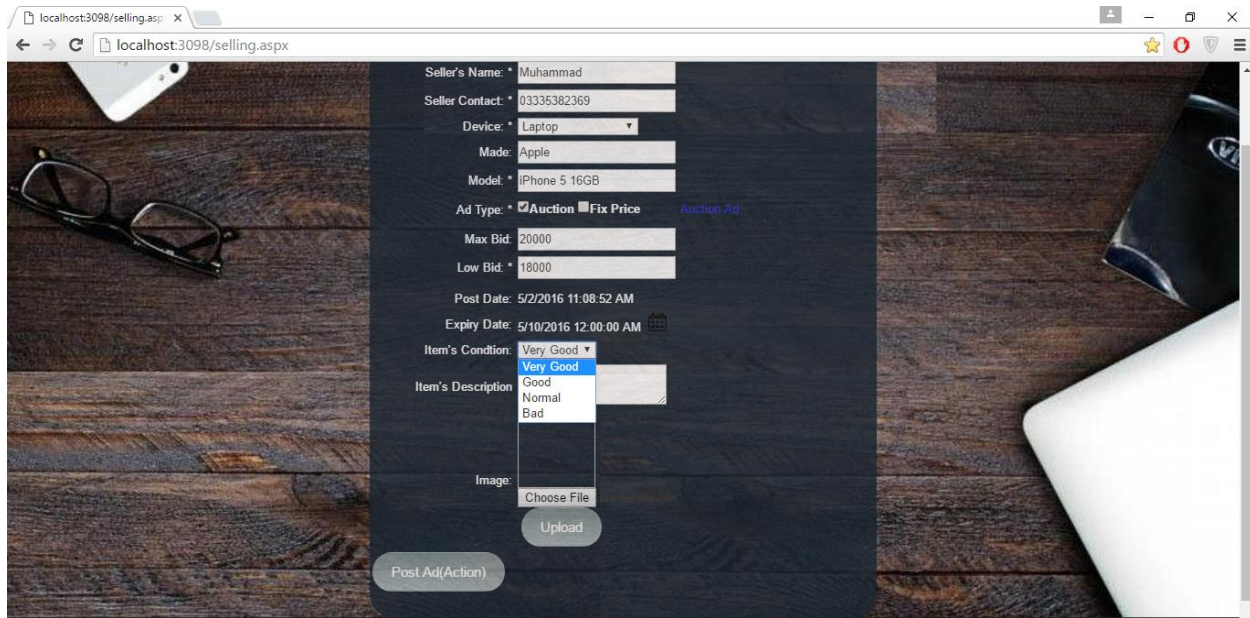


Figure 20: User must have to mention the Condition of Item.

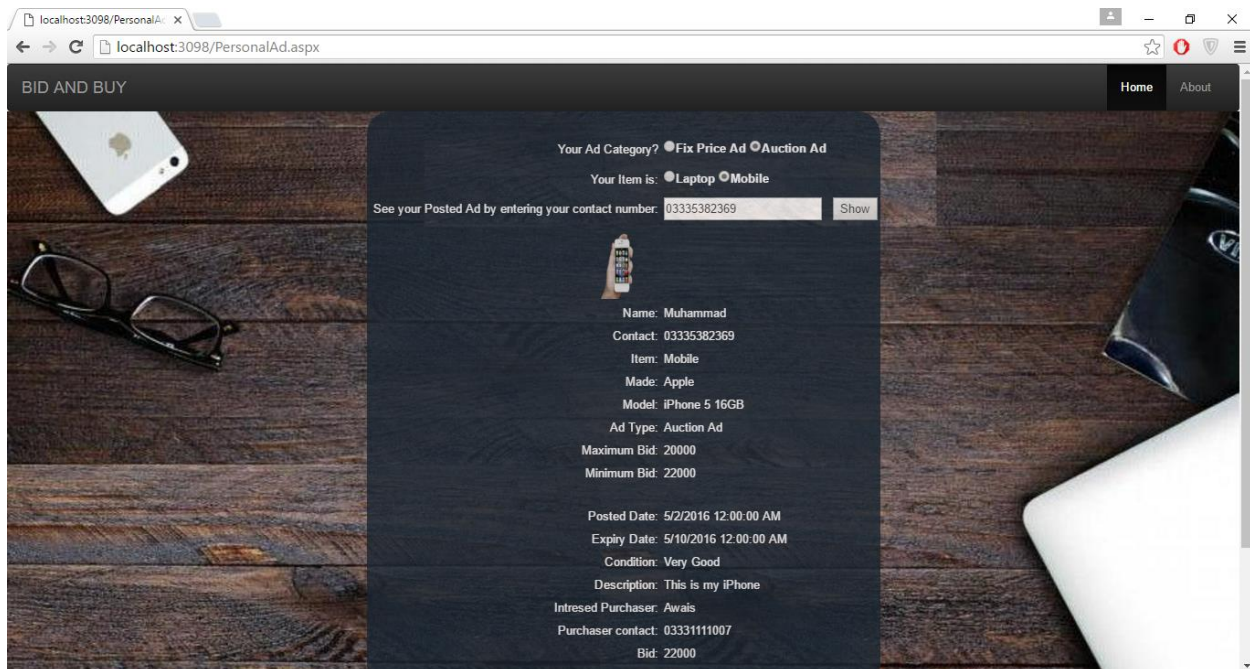


Figure 21: Viewing personal Ad.

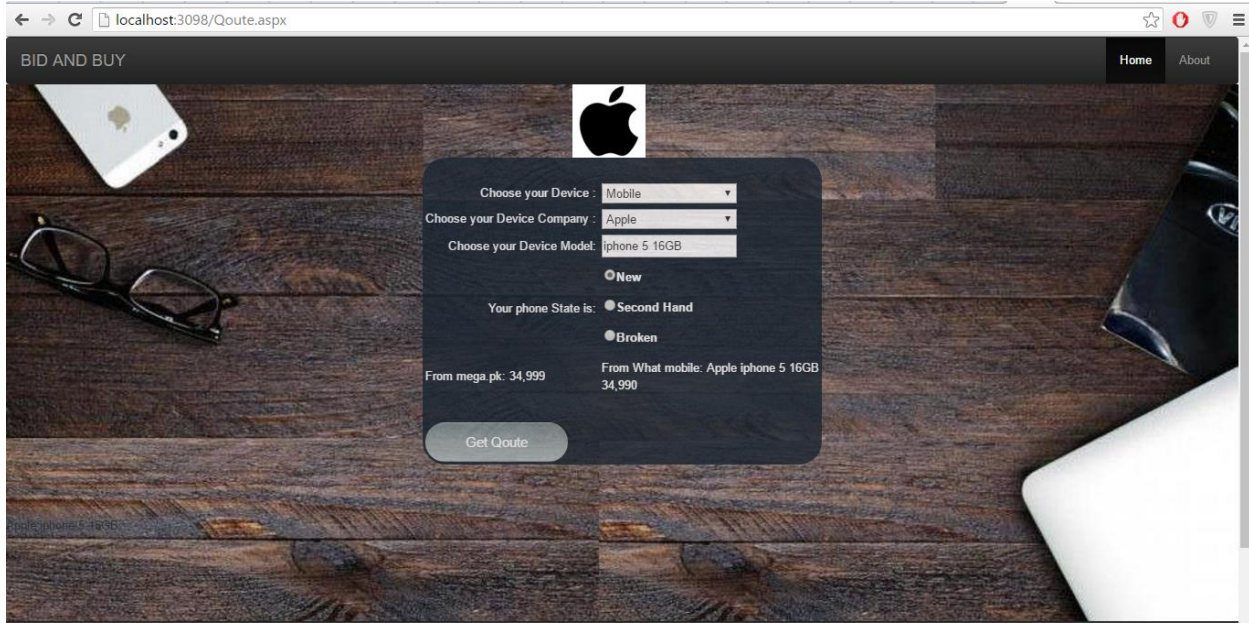


Figure 22: Getting Price Quote of new Item.



Figure 23: Getting Price Quote of Second hand Item.



# **Chapter 5**

## **System Implementation**

## **5 SYSTEM IMPLEMENTATION**

Our Web-based system have two modules:

1. Web application: Web application includes the website which provide user with three options, to view Ad(s), to post Auction or Fix price Ad(s) and get a price quote of the laptop or mobile phones.
2. Database: Maintains the data of Ads. Database have another job is to Delete the Ad after ten days of its posting. This is done by using the SQL Server Agent.

### **5.1 Tools and Technology Used**

Tools used for development of this Project are listed below:

#### **5.1.1 Visual Studio 2013 as Compiler**

Graphical User Interface (GUI) of websites, Web form applications, Web Services, etc. can be developed and designed by using Integrated Development Environment (IDE) Microsoft Visual Studio 2013.

#### **5.1.2 ASP.NET as framework 4.5**

Asp.net framework enables to make dynamic web pages. ASP.NET is normally written in C#.

#### **5.1.3 SQL Server Management Studio**

Microsoft SQL Server Management Studio is a software with a primary function to store and retrieve data from Database as per request.

#### **5.1.4 Adobe Photoshop**

For assisting the GUI design.

## **5.2 Development Environment/Languages Used**

### **5.2.1 C# as Programming Language**

C# which is platform-independent language, designed to work with .Net Platform to facilitate developers to make faster and less expensive new products.

### **5.2.2 HTML and CSS**

Hyper Text Mark-Up Language (HTML) is the language used to create web pages in the Internet. Cascading Style Sheets (CSS) for making presentative web pages.

### **5.2.3 Bootstrap**

Bootstrap us used for Responsive front end of our website, as it is open source front-end library.

### **5.2.4 Html Agility pack**

The .Net code library used for web parsing.

## **5.3 Processing Logic**

- Price of new Mobile and Laptop are parsed from different websites which get updated on regular basis using the HTML Agility pack, follows is the logic (algorithm):

START PROGRAM

Make variable and load the URL of website, this variable will have the Html of the webpage.

FOR LOOP1 BEGIN:

Find the desired Html Tag, using another variable.

FOR LOOP2 BEGIN:

Within that tag's inner text match the required Company

FOR LOOP3 BEGIN:

When Company (brand) will be matched the required model will be matched  
another variable will store the price of that specific Model of the particular Company

END LOOP3 FOR

END LOOP2 FOR

END LOOP1 FOR

This variable will be converted into string and displayed as a Price quote.

END PROGRAM

---

- The Price of used or second-hand and broken mobiles and laptop have following Logic:

START PROGRAM

Get price of new selected Item by Parsing

Subtract some percent from them accordingly to the brand

Add them

Divide the total by the number of websites parsed for getting the price

This will give the estimate Price of used mobile or laptop

END PROGRAM

---

## **Chapter 6**

# **System Testing and Evaluation**

## 6 SYSTEM TESTING AND EVALUATION

Testing of any system is essential and begins with functional testing which give assistance to the developer for verification and validation that either the system fulfil those requirements.

### 6.1 Graphical user interface testing

Interface of our project has being carefully designed while keeping in mind many usability principles i.e. Simplicity, Error Prevention etc. and that our website should be responsive so that can be viewed from multiple screen sizes and on different web Browsers.

### 6.2 Test cases:

#### Test Case 1: Test the Graphical User Interface.

<b>Test Case ID</b>	TC_01	
<b>Description</b>	Test The GUI	
<b>Applicable for</b>	Internet Explorer, Google Chrome	
<b>Requirements</b>	Network Connection	
<b>Step</b>	<b>Task &amp; Expected Result</b>	<b>Status</b>
1	Open the Website	Pass
2	Check working of different controls	Pass
3	Check the working of links given on Home webpage.	Pass

### Test Case 2: Providing Correct input while posting an Ad.

<b>Test Case ID</b>	TC_02	
<b>Description</b>	Test The Selling Form	
<b>Requirements</b>	Network Connection	
<b>Step</b>	<b>Procedural Steps</b>	
1	Go to Post an Ad webpage	
<b>Step</b>	<b>Task &amp; Expected Result</b>	<b>Status</b>
1	Seller name, Contact, Type of device are Mandatory Fields	Pass
2	Seller Contact number must be digits	Pass
3	Seller Contact number with maximum 11 digits	Pass
4	If the Ad type is Auction then minimum allowable bid is compulsory.	Pass
5	Expiry date of an Ad must not be any past date	Pass
6	Expiry date of an Ad must not exceed 10 days	Pass
7	Price of any item must not exceed more than 6 digits.	Pass

### Test Case 3: Viewing Ad(s)

<b>Test Case ID</b>	TC_03	
<b>Description</b>	Test The Viewing Ad Form	
<b>Requirements</b>	Network Connection	
<b>Step</b>	<b>Procedural Steps</b>	
1	Go to View an Ad(s) webpage	
<b>Step</b>	<b>Task &amp; Expected Result</b>	<b>Status</b>
1	Displaying Selected item type that is either laptop or mobile	Pass
2	Displaying only items of selected ad type, either Auction or Fix Price ad	Pass
3	View whole information of selected ad	Pass
4	Allow bid in Auction Ad	Pass

5	Only allow to bid equal or greater than the Minimum allowable bid range set by seller.	Pass
6	Ad will automatically expire after 10 days	Pass

#### Test Case 4: Getting price quote of the item

<b>Test Case ID</b>	TC_04	
<b>Description</b>	Test The Get Price Quote Web Form	
<b>Requirements</b>	Network Connection	
<b>Step</b>	<b>Procedural Steps</b>	
1	Go to Get Price Quote webpage	
<b>Step</b>	<b>Task &amp; Expected Result</b>	<b>Status</b>
1	Only give price quote of selected device with selected model of the selected company	Pass
2	Price quote of new, second-hand and broken item are given	Pass



# **Chapter 7**

## **Conclusion**

## 7 CONCLUSION

We have developed a web-based system and tried to make it effective and efficient from usability perspective. There are many things we have learnt from the project, first and main thing is how to come with a new idea and while working on the project how to get familiar with new techniques and implement them successfully.

The project helped us to get good knowledge of doing Web-Parsing in ASP.NET, this project helped us to improve our software management and programming skills. We thank Almighty who helped us to explore the vast framework i.e. ASP.NET, and giving us the required strength with which we have completed our project.

This “Bid and Buy” project can be taken up to the product level, we are thinking to do so by enhancing its reliability. We are also thinking to extend our project for other items as well so that user can not only use this system for mobile and laptop.

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