SECURE ONLINE AUCTION SYSTEM

A PROJECT REPORT

Submitted to

SAVEETHA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCES

In partial fulfilment for the award of the degree of

BACHELOR OF ENGINEERING IN COMPUTER SCIENCE AND ENGINEERING

By

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SCIENCES, CHENNAI – 602 105

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BONAFIDE CERITIFICATE

Certified that this project report "SECURE ONLINE AUCTION SYSTEM" is the bonafiedwork of "TALLAPANENI SAI ESWAR (191811365)" who carried out the project work under my supervision.

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INTERNAL EXAMINER

EXTERNAL EXAMINER

DECLARATION BY THE CANDIDATE

I declare that the report entitled **"SECURE ONLINE AUCTION SYSTEM"** submitted by me for the degree of Bachelor of Engineering is the record of the project work carried out by me under the guidance of **"DR. R. BEAULAH JEYAVATHANA"** and furthermore this work has not formed the basis for the award of any degree or diploma in this or any other University or other similar institution of higher learning.

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ABSTRACT

Online Auction management system is a web based application which will help users to buy or sell items; they can trade anything they want by posting ad. This application will allow users to post their products for auction; bidder can register and can bid for any available product. There are some existing applications that allow users to bid but the product is not available in your local area, you cannot do inspection of the product that you are going to buy. By online Auction application users will be able to bid for products that are available in their local area.

ACKNOWLEDGEMENT

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1.INTRODUCTION:

1.1 INTRODUCTION:

There are several different types of auctions and certain rules exist for each auction. There are variations for an auction which may include minimum price limit, maximum price limit and time limitations etc. Depending upon the auction method bidder can participate remotely or in person. Remote auction includes participating through telephone, mail, and internet. Shopping online has widely grown; online auction system is increasing rapidly. Online auction is becoming more and more popular in electronic commerce and hence it should system must increase its quality and security.

The online auction system is a model where we participate in a bid for products and service. This auction is made easier by using online software which can regulate processes involved. There are several different auction methods or types and one of the most popular methods is English auction system. This system has been designed to be highly-scalable and capable of supporting large numbers of bidders in an active auction. Online Auctioning System has several other names such as e-Auctions, electronic auction etc. The requirement for online auction or online bidding can be more accurately specified by the client. It should be healthy and will be a good practice when it is made more transparent as a matter of fact.

Online Bidding has become more wide spread in all sorts of industrial usage. It not only includes the product or goods to be sold, it also has services which can be provided. Due to their low cost this expansion made the system to grow. Online bidding has become a standard method for procurement process. Bidders can be maintained in a single database according to the preference, and they can be monitored. User's data can be maintained in a confidential way for validity and integrity of contractual documentation. Neat reporting reduces paperwork, postage, photocopying and time beneficial. Multiple bidders can be communicated with a great ease. This system allows multiple bids by single users. Online bidding is based upon lowest or the highest price which is initiated but not the best value for the product. Although there is a chance to fix the criteria against the fact expected to have desired value by the seller.

1.2 OBJECTIVES:

The Objective is to develop a user-friendly auctioning site where any kind of product can be auctioned and provide value-added services to the bidders and the sellers. The products will be authenticated and the site provides a safe environment for online users:

General objective

To develop an online auction system which will provide a forum for sellers to meet and interact with buyers, and sell items to interested bidders.Secure registration of all users including a personal profile Administrators would authorize the product to auction, set auction dates and Minimum auction amount for that product.

Specific objectives

The Online auction management system shall accomplish the following as way of achieving the major goal:

1. Create an online forum where bidders auction for items posted by the seller through the online system.
2. Create a panel where by a sellers receives requests from a buyer and sends back a feedback, an answer to a question or requests to meet the bidder.
3. To implement and test the workability of the newly developed system.

1.3 SCOPE:

- Using this online auction management system, bidders will be able to get connected to the specific sellers who will offer them necessary information and or give hand to sell their items to them. It will help save time and offer quality deliverables to the bidders by quick response and attention services.

- The scope of this application to build a user friendly auctioning website, where user will be able to auctioned any product which is available nearby or anywhere in the world. By using Online Auction management system it will be easy for auctioneer to make an auction and time saving also. By making auction through this application will help to reach maximum of buyers bidding in local area. There will be a feature where bidder and seller can message each other.

2. LITERATURE REVIEW:

An auction is a market with an explicit set of rules determining resource allocation and prices on the basis of bids from market participants. Generally speaking, an auction is the standard means for performing an aggregation of supply and demand in the marketplace to effectively establish a price for a product or service. It establishes prices according to participants' bids for buying and selling commodities, and the commodities are sold to the highest bidder. Simply stated, an auction is a method for allocating scarce goods, a method that is based upon competition between the participants. It is the purest of markets: a seller wishes to obtain as much money as possible for the commodity offered, and a buyer wants to pay as little as necessary for the same commodity. Traditionally, there are three protagonists in the auction: sellers, buyers, and auctioneers. An auction offers the advantage of simplicity in determining market-based prices. In the case of a traditional physical auction, a seller will choose an auction house based on the service: the form of licensing, the availability of suitable insurance, suitable descriptions and access to the commodities, payment terms, and security of goods before and during the auction process. The buyer or seller needs to come to the market or sends his/ her representative.

Participants may join an online auction system, effectively placing bids using a computer on an anywhere-anytime basis. The access is not only limited to desktop computers, but also handheld devices such as mobile phones. In online auctions, transactions take place based on information (product descriptions), and the products move from seller directly to buyers only after online transactions are completed. They facilitate buyers and sellers in: meeting, the listing of items for sale independent of physical location, exchanging information, interacting with each other, and ultimately completing transactions. They offer significant convenience, allowing trading at all hours, and provides continually updated information; and they allow buyers and sellers to trade directly, by bypassing traditional intermediaries and lowering costs for both parties. Online auctions are global in reach, offering buyers a significantly broader selection of goods to purchase, and provide sellers with the opportunity to sell their goods efficiently to a broader base of buyers. Factors that make online auctions attractive may also present disadvantages. Many online auctions simply list the items for sale. No attempt is made to verify and check that the merchandise actually exists or that the description is accurate. Transaction trustworthiness and security are the two most significant problems.

3. PROBLEM STATEMENT AND METHODOLOGY:

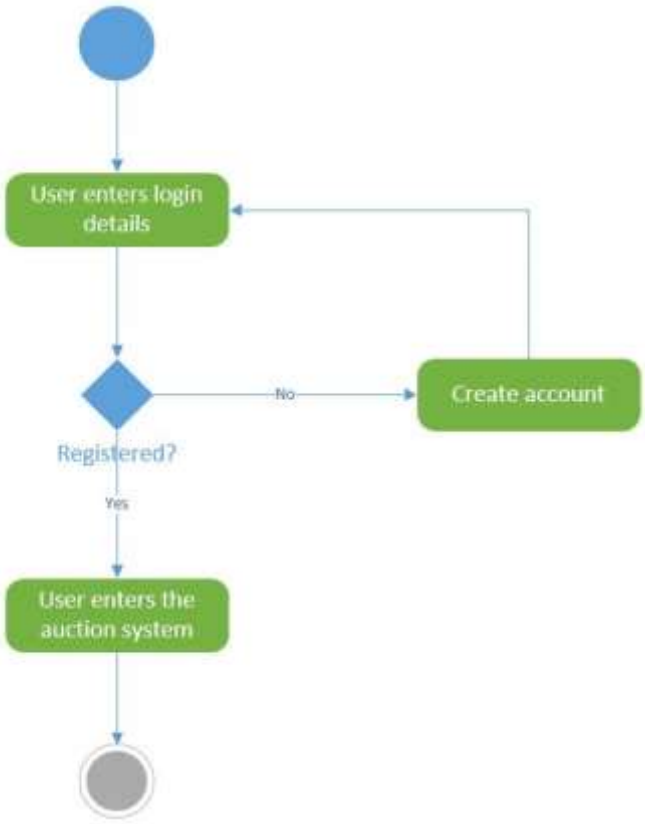
3.1 PROBLEM STATEMENT:

The need is to develop a system that offers maximum level of security as commodities are involved in the process. The system must give exclusive access to the buyers and sellers to put the product for auctioning and bidding. The registration of the users must be verified by a valid aadhar number which can be tracked in case of a fraudulent activity and also by a mobile OTP that is sent during the time of registration.

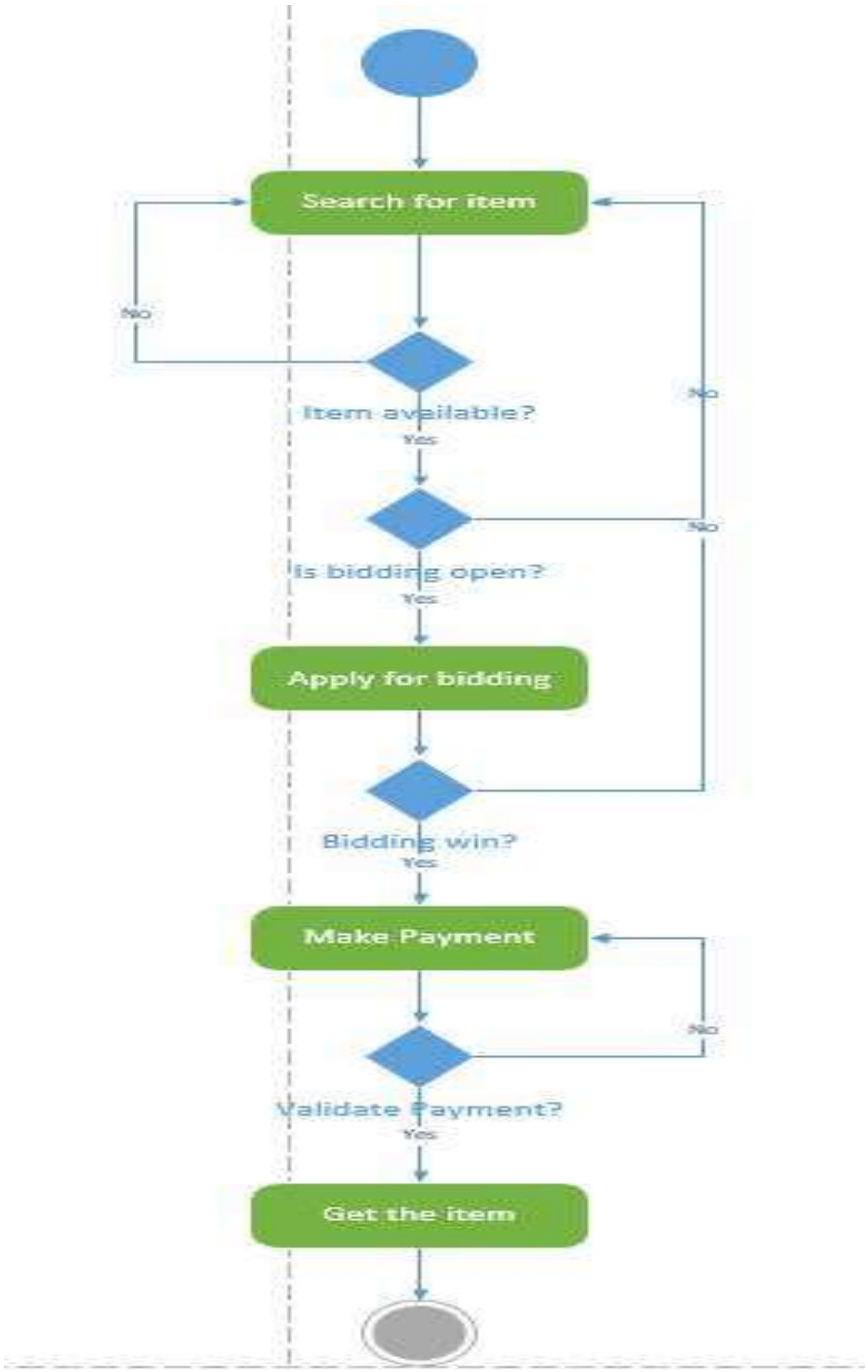
3.2 METHODOLOGY:

Activity diagram provides a graphical representation of various activities that are carried out in an application. A clear overview of the online auction management website will be provided from the beginning till the end. The workflow of the activities and their dependencies with each other during the execution of the tasks and processes is shown in the activity diagram. The major functionalities of the site have been depicted using the diagram as shown below.

NEW USER REGISTRATION:



BIDDING PROCESS:



3.2.1 EXISTING SYSTEM:

From a recent study make by scientists at Carnegie Mellon University, found many fraud schemes from the historical auction data using data mining techniques and other accomplices.One of the most currently fraud schemes is that the bidders are making false

identity or accounts in order to increase the sale price.Currently there are two approaches mostly being implemented such as policy-based and reputation-based trust management, which also lag certain security issues.

There was a recently proposed system by Ganeriwal and Srivastava, which was a reputation based model for sensor networks. This system works well in maintain the reputation for the nodes and also in evaluating trustworthiness. But the main drawback is that there is no effective and particular method to prevent the users from giving false identity and hence the system fails in providing a secured environment.

The existing "OPEN Auction House" is managed manually. Prior to each auction the day of auction, the (venue and the items on auction are announced through news media. Those who wish to take part in the auction have to arrive at the venue on that day on time. This conventional method most of the times prevent aspiring bidders from participating in the bidding process. Another headache of the old system is to track each bidding process and to make it culminate in financial settlement. So the system has to keep records of both buyers and sellers until the end of settlement. The process is very cumbersome and time consuming.

3.2.2 PROPOSED SYSTEM:

The development of this new system contains the following activities, which try to develop the web-application entire process keeping in the view of database integration approach:

- This system will provide secure registration and profile management of the users.
- Administrators would authorize the product to auction, set auction dates & minimum auction amount for that product.
- Prior to each bid, the user's mobile number and Aadhar card must be authenticated and authorized.
- Users can select their interested fields for bidding and periodic Message alerts must be sent in case they have won an auction for a particular item/product.
- Complete Search/Site Map of the entire site for easy access.

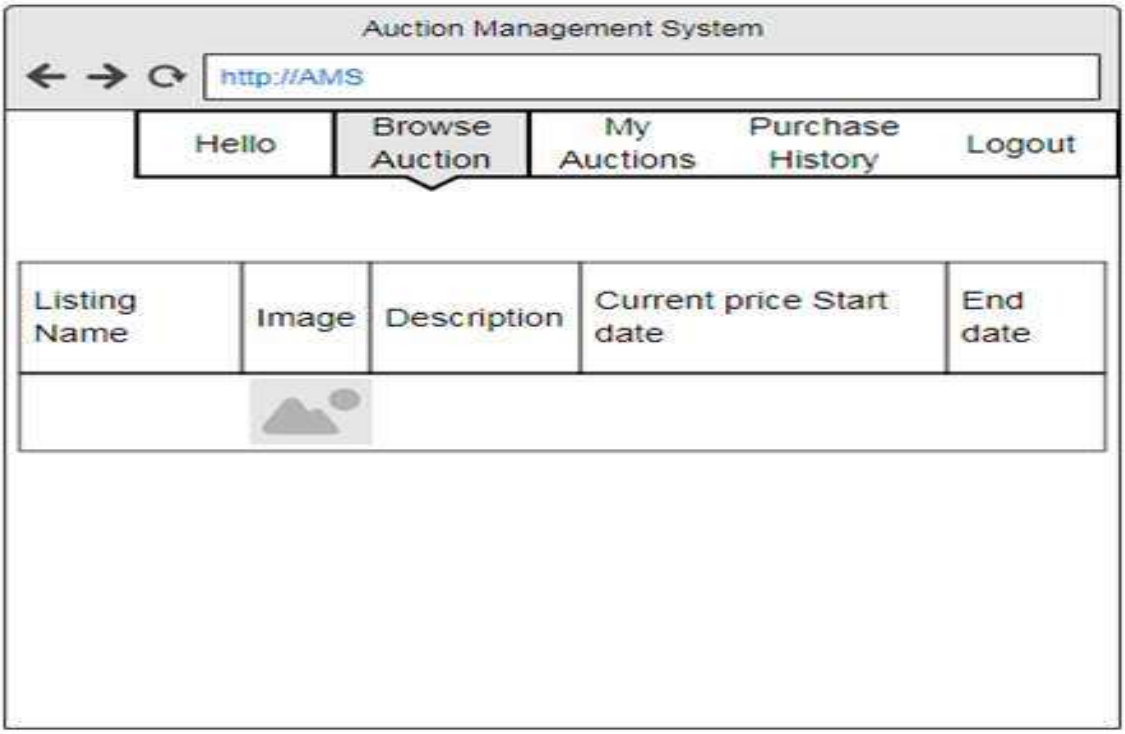
An auction house needs to have products to auction/ so in the proposed system this is done using product registration module. The module is open to user who is registered sellers and

they need to authenticate before they register any product. The system controls the closing date by adding 1 days to the submitting date there by restricting the bidding process to go on in definitely. Another important module in the proposed protect is the "Bidding module ". Here one can see the details of any particular product and also the bidding history. The user can bid on that item by entering any amount greater than or equal to the incremental bid amount. Here also system checks to see whether the user has his credential verified otherwise he, she will be directed to the login, registration page. The last but the least module is the "Administration module". The module is only open to the web administrator due to security reasons. This module the administrator can add product categories and this is to avoid rampant creation of categories. This will be necessary when some of the details of the product need to be edited for one reason or other. The third and last the closed bid manager where the administrator notifies both the seller and buyer the need to complete the transaction. There is another module which runs more or less like background process. The function of the module is to close bid of those products whose closing date is less than the current date. The process is automatic and hidden from the web users.

3.3 SYSTEM ARCHITECTURE:

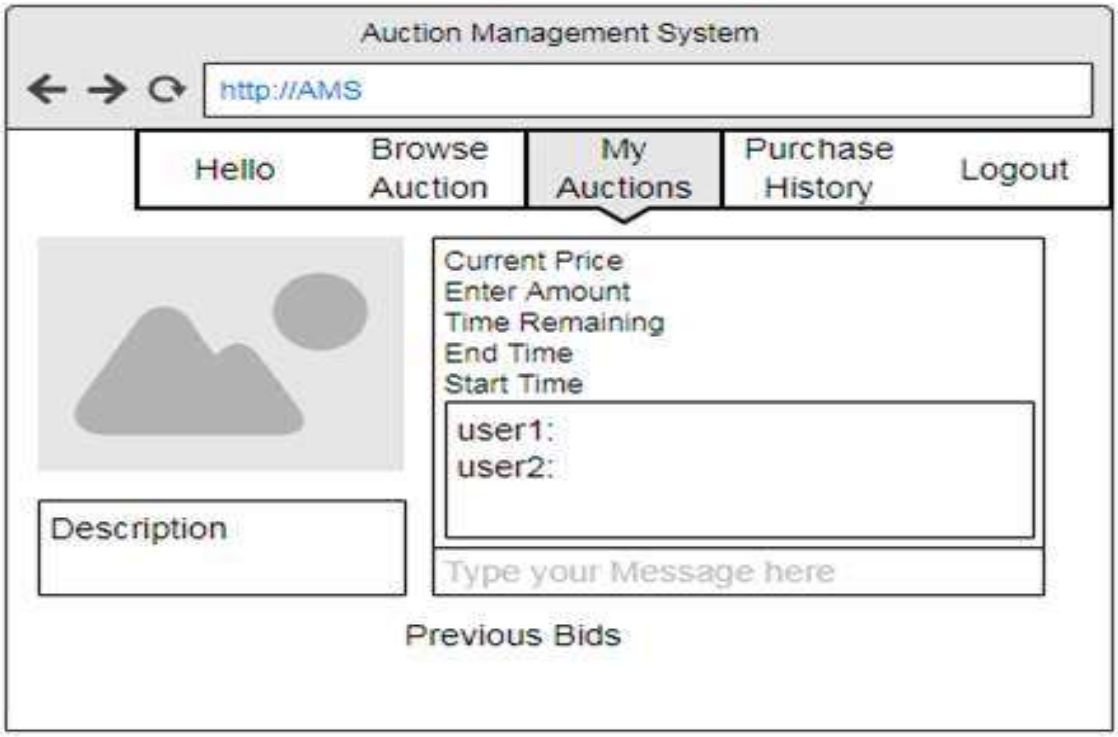
Various activity diagrams were used to illustrate the flow of activities of given subsystem and the flow of activities of the entire application. Following are some prototypes of Auction management system application. This is prototype for the login page.

LOGIN PAGE



BROWSE AUCTION

This is prototype for My Auction page where the detail of product will be available.



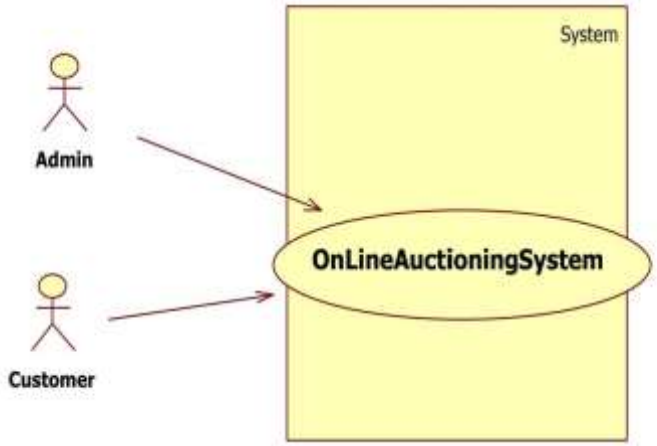
MY AUCTION

3.4 UML DIAGRAMS:

3.4.1 USE CASE DIAGRAM:

It is extremely significant to understand the needs of the user in a project. Use case diagram assists in defining the user requirements and needs. It also shows the interaction between the system users and the system itself which allows easier designing and development activities. The users for online auction management web site will be bidder, seller, or admin. The actors involved in the use case diagram will be the system, bidder, seller, or admin. They will perform the various activities as illustrated in the functional requirements section.

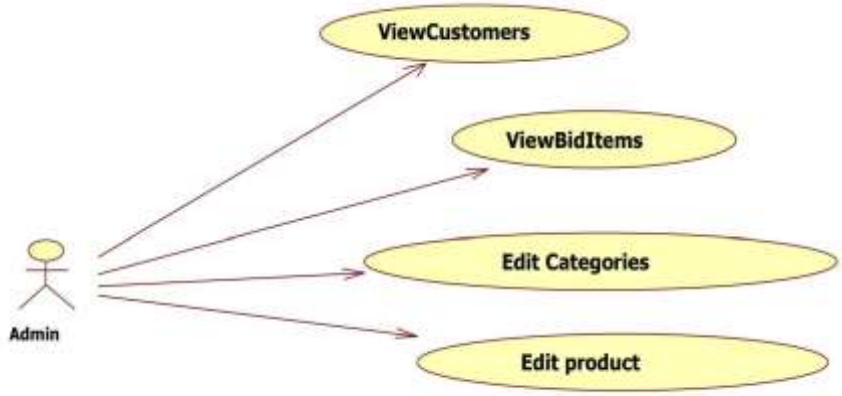
Use case diagram of system:



SYSTEM USE CASE DIAGRAM

- The above system use case diagram shows that both Admin and customer can access the Online Auctioning System.

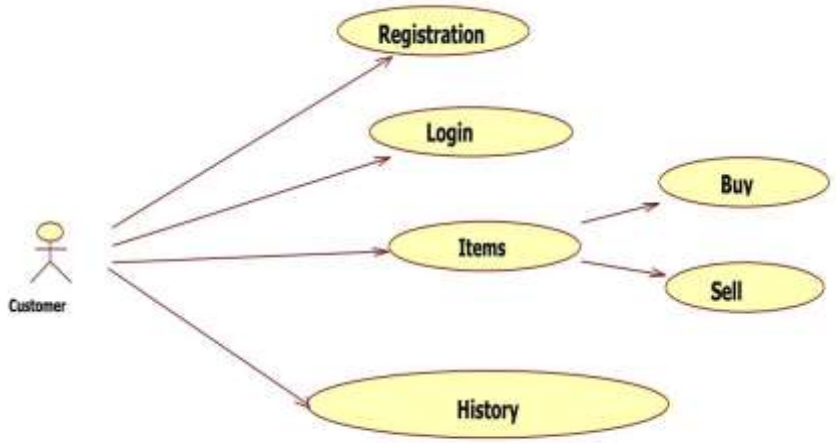
Use case diagram of Admin:



ADMIN USE CASE DIAGRAM

- The Above use case diagram of Admin shows the Functionalities of Admin such as viewing a customer, view bid items, edit categories, edit products.

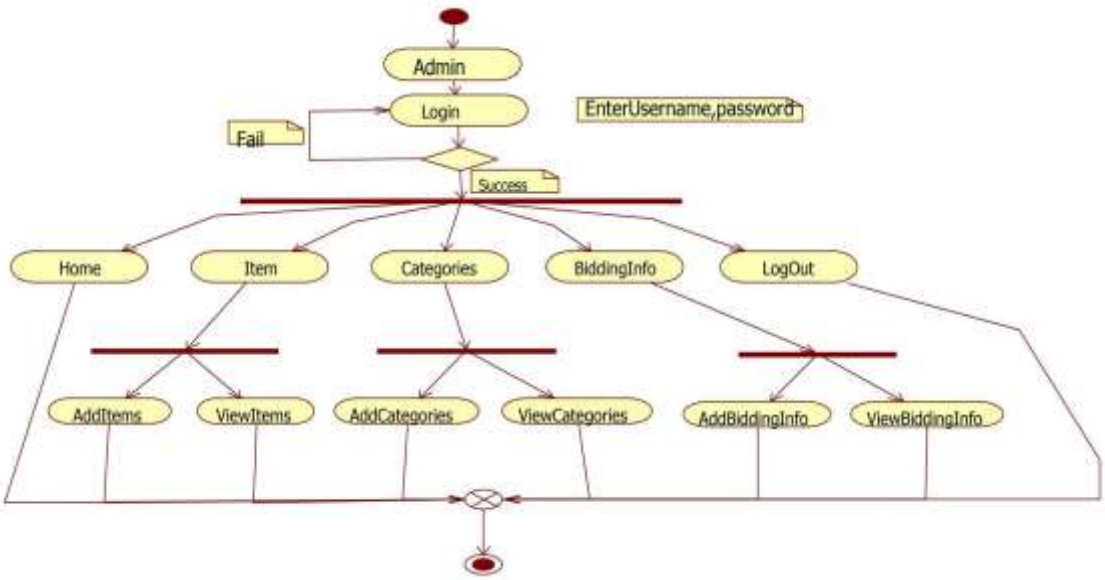
Use case diagram of Customer:



BUYER/SELLER (CUSTOMER) USE CASE DIAGRAM

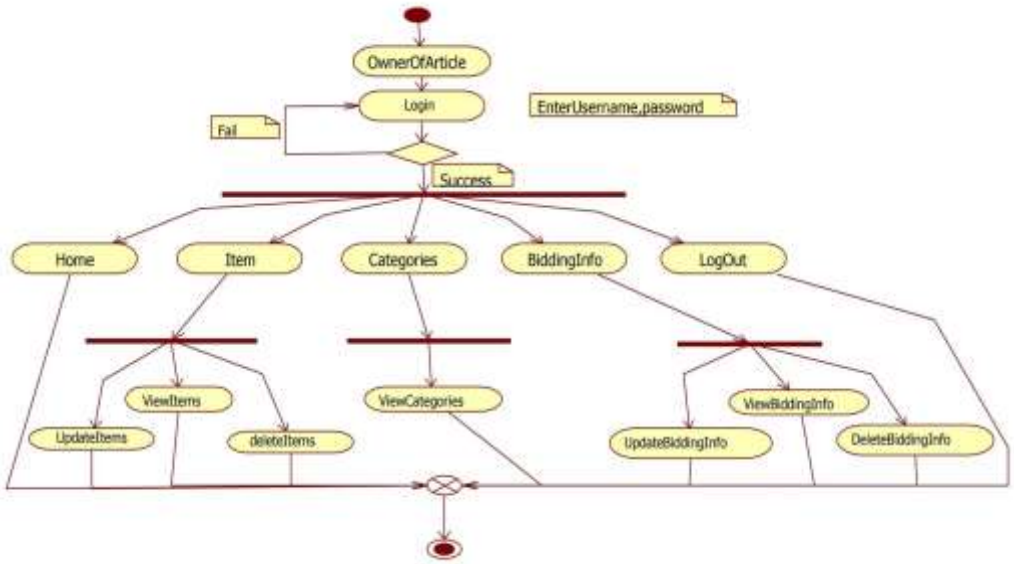
- The customer can be a buyer and a seller.
- A customer will first sign up as a buyer or a seller and then login into the system.
- Different functionalities will be provided to both buyer and seller.

3.4.2 ACTIVITY DIAGRAM:



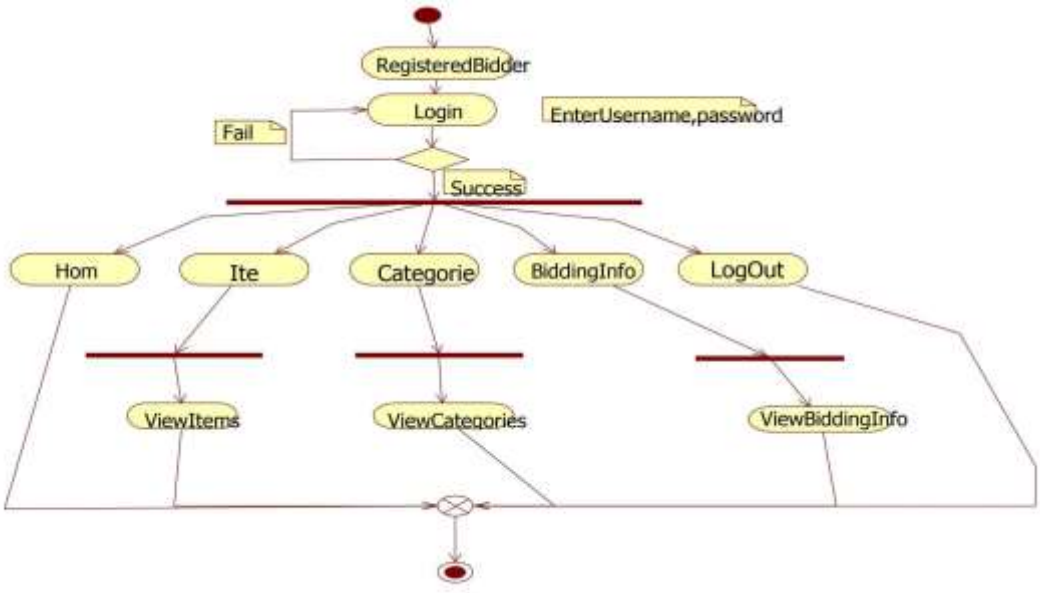
ADMINISTRATOR ACTIVITY DIAGRAM

After successful validation of login credentials Admin will be redirected to the home page and from the home page he can add items for auction, view items that are up for auction, add categories, view categories, add bidding info and view bidding information.



SELLER (CUSTOMER) ACTIVITY DIAGRAM

After successful validation of login credentials seller/owner will be redirected to the home page and from the home page he can view items, update or delete items, view categories, view bidding info, update bidding info and delete bidding info.

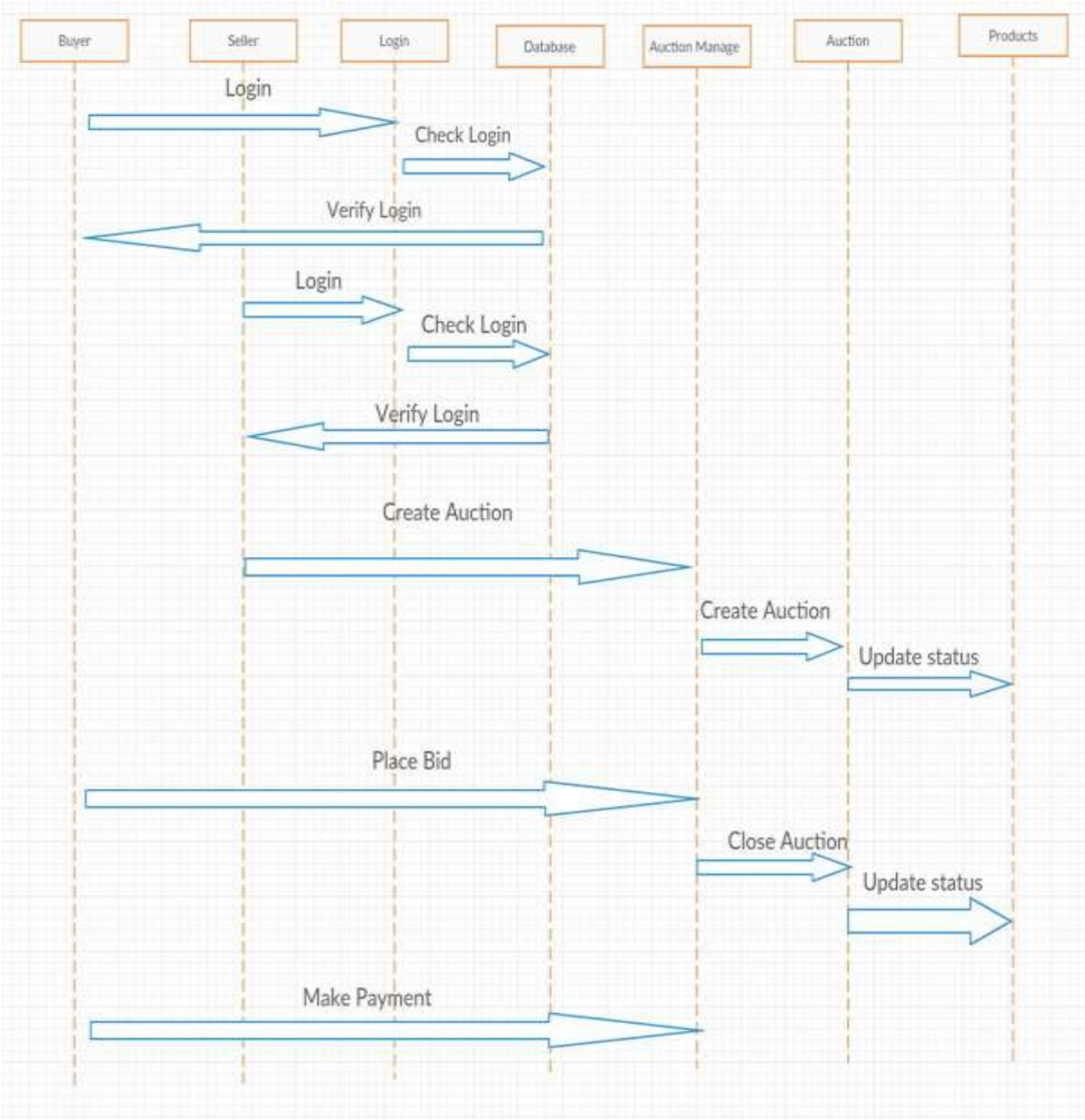


BUYER (REGISTERED BIDDER OR CUSTOMER) ACTIVITY DIAGRAM

After successful validation of login credentials registered bidder will be redirected to the home page and from the home page he can view items, view categories and view bidding info.

3.4.3 SEQUENCE DIAGRAM:

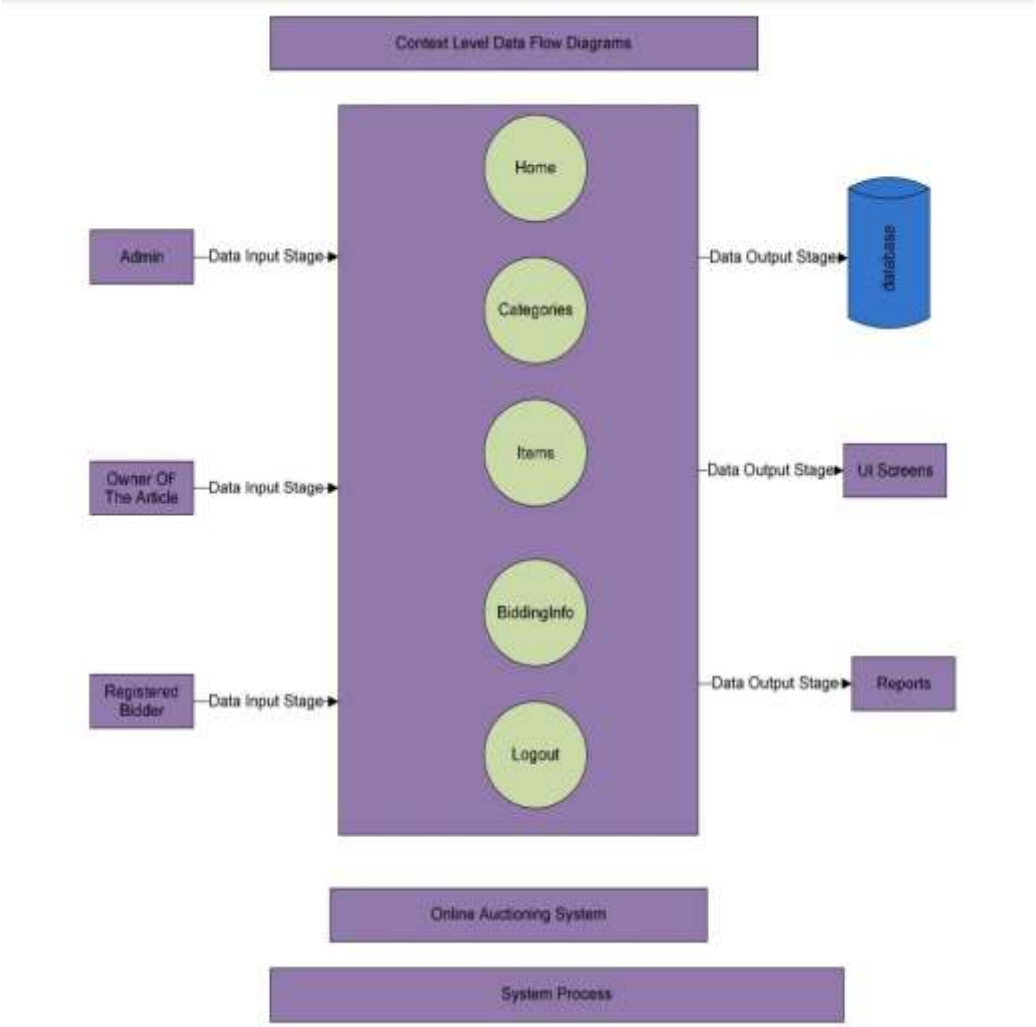
Sequence diagram is graphical representation of the whole system, that how the bidder and seller will login. How the user will create the auction, the request will go to the auction manager then it will return back with the result. Same with the bid placement auction manager will send request to auction and auction will update the status of the product.



3.4.4 DATA FLOW DIAGRAM:

The data flow diagram shown illustrates the entire flow in the process.

- In the Login Screen the entered username and password will be supplied to the authentication server and if the login credentials are valid the user will be directed to the home screen and if they are invalid the user will be taken back to the login screen.

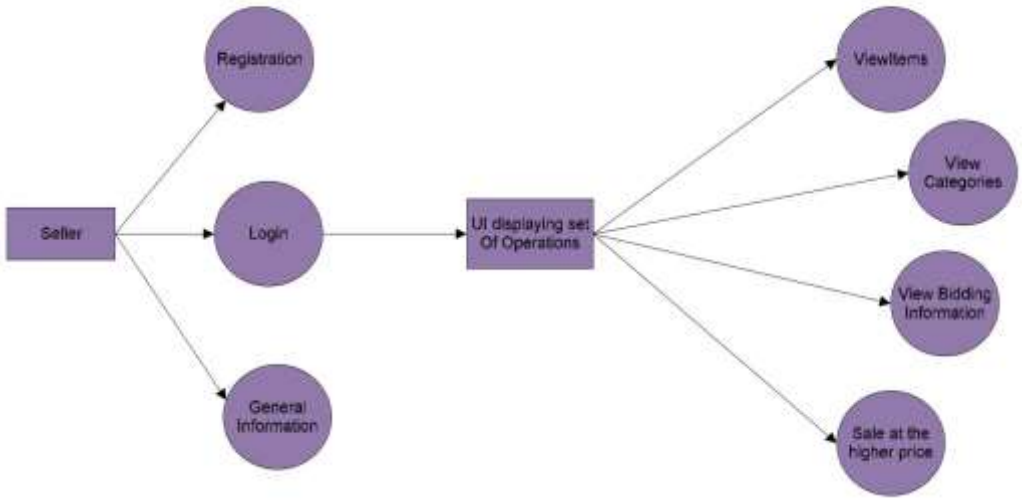


DATA FLOW DIAGRAM WHICH ILLUSTRATES ENTIRE FLOW IN THE PROCESS

Administrator flow diagram:

- In the Login Screen the entered username and password will be supplied to the authentication server and if the login credentials are valid the user will be directed to the home screen and if they are invalid the user will be taken back to the login screen.

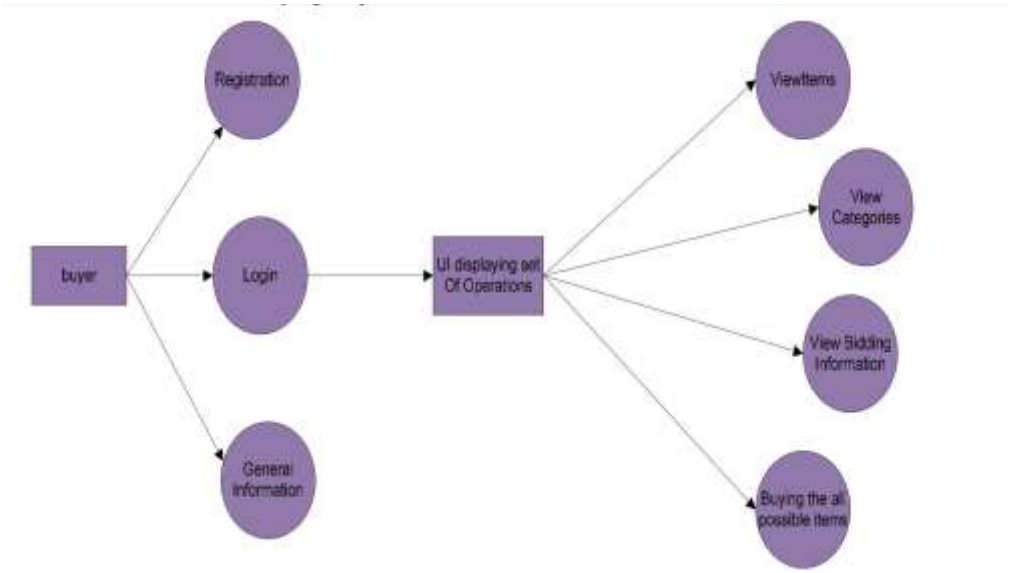
- After logging in Admin will be redirected to the User Interface which displays all the available admin tasks that are to be performed. These tasks include Creating/Modifying Categories, Creating/Modifying Items and Bidding Information.



DATA FLOW DIAGRAM FOR ADMIN

Seller flow diagram:

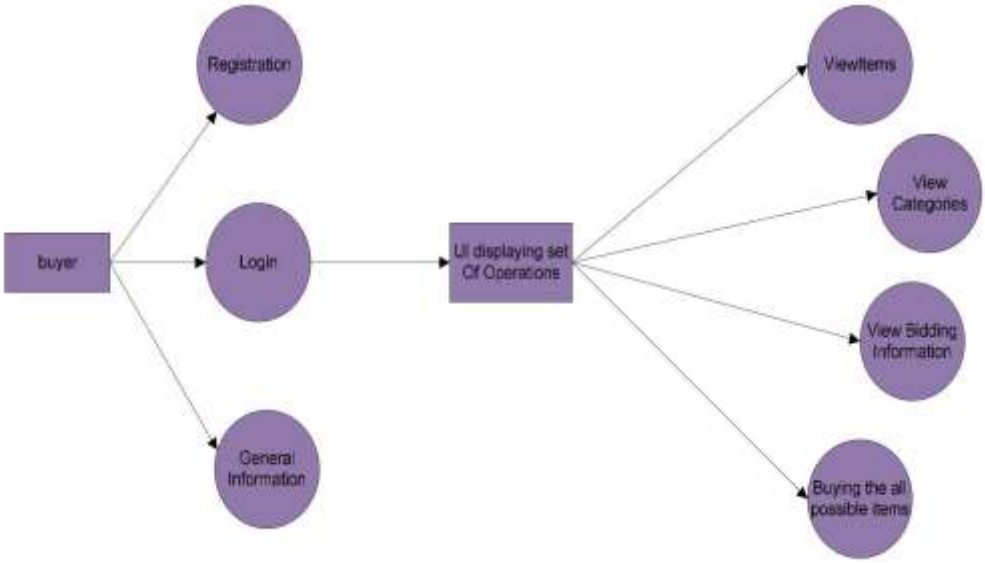
- For Seller the first step is registration and upon successful login the seller will be taken to the UI displaying the set of operations. The operations include View Items, View Categories, View Bidding Information and sale at higher price.



LEVEL 1 DATA FLOW DIAGRAM FOR SELLER

Buyer flow diagram:

- For buyer the first step is registration and upon successful login the UI is displayed with a set of operations. Operations include View Items, View Categories, View Bidding Information and buying all possible items.



LEVEL 1 DATA FLOW DIAGRAM FOR BUYER

4.SYSTEM IMPLEMENTATION:

4.1 PLATFORM SELECTION:

Sublime text has been used as it has a very simple interface and breaks down code in a very interactive way. It gives a better view of the code and helps us understand code better. XAMPP was used to create servers for MySQL and PHP.

PROGRAMMING LANGUAGE GIST

The platform being used are:

HTML and CSS

HTML is a markup language for describing web documents (web pages).

- HTML stands for Hyper Text Markup Language
- A markup language is a set of markup tags
- HTML documents are described by HTML tags
- Each HTML tag describes different document content

CSS is a style sheet language that describes the presentation of an HTML (or XML) document. CSS describes how elements must be rendered on screen, on paper, or in other media.

PHP

The PHP stands for Hypertext Preprocessor (PHP), is a programming language that allows web developers to create dynamic content that interacts with databases. PHP is basically used for developing web based software applications. This document helps programmer to build system base with PHP. PHP is an acronym for "PHP: Hypertext Preprocessor"

- PHP is a widely-used, open source scripting language
- PHP scripts are executed on the server
- PHP is free to download and use
- PHP can generate dynamic page content
- PHP can create, open, read, write, delete, and close files on the server
- PHP can collect form data
- PHP can send and receive cookies
- PHP can add, delete, modify data in system database
- PHP can be used to control user-access
- PHP can encrypt data

MySQL

MySQL is the most popular Open Source Relational SQL database management system. MySQL is one of the best RDBMS being used for developing web-based software applications. MySQL is a fast, easy-to-use RDBMS being used for many small and big businesses. MySQL is developed, marketed, and supported by MySQL AB, which is a Swedish company. MySQL is becoming so popular because of many good reasons:

- MySQL is released under an open-source license. So programmer has nothing to pay to use it.
- MySQL is a very powerful program in its own right. It handles a large subset of the functionality of the most expensive and powerful database packages.
- MySQL uses a standard form of the well-known SQL data language.
- MySQL works on many operating systems and with many languages including PHP, PERL, C, C++, JAVA, etc.
- MySQL works very quickly and works well even with large data sets.
- MySQL is very friendly to PHP, the most appreciated language for web development.

Bootstrap Framework

Bootstrap is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first web sites. Bootstrap is completely free to download and use and also an open-source collection of tools for creating websites and web applications. It contains HTML- and CSS-based design templates for typography, forms, buttons, navigation and other interface components, as well as optional JavaScript extensions. It aims to ease the development of dynamic websites and web applications.

Bootstrap is a front end framework, that is, an interface for the user, unlike the server-side code which resides on the "back end" or server. Bootstrap is compatible with the latest versions of the Google Chrome, Firefox, Internet Explorer, Opera, and Safari browsers, although some of these browsers are not supported on all platforms. Since version 2.0 it also supports responsive designthis means the layout of web pages adjusts dynamically, taking into account the characteristics of the device used (desktop, tablet, mobile phone). Starting with version 3.0, Bootstrap adopted a mobile design philosophy, emphasizing responsive design by default. Bootstrap provides bootstrap CSS, bootstrap layouts and bootstrap plugins for effective design.

4.2 MODULE DESCRIPTION:

The system after careful analysis has been identified to be presented with the following modules and roles.

The modules involved are:

- **Seller module**

  In this module, the seller will post the product information in which he/she wants to sell or auction the product through online. In this module the seller can post the image of the product by using capture image and all the necessary information about the product such as the product name, its description and the auction date and time at what the product is going to be auctioned and finally the stop time of the auction.

- **Buyer module**

  In this module, the bidder will first see which product is been posted on the app which is to be auctioned. The bidder/buyer will see all the information about the product. If the bidder is interested to buy that product then he can register for the auctioning and bid the amount. At last, at the end of the auctioning the bidder will get to know the result. Last when the number of auction has been created the bidder will decide the

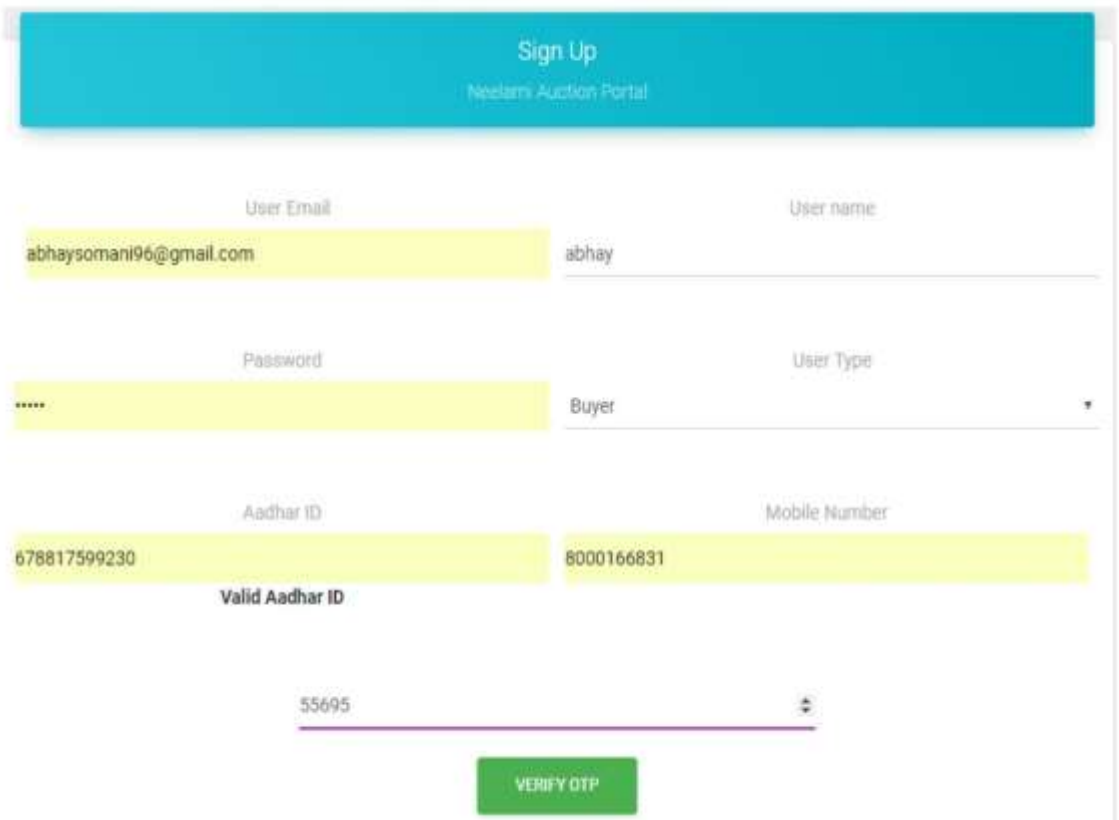
amount which product to be auction. The bidder has to auction within a time which is set by the seller while creating auction that is one hour, twenty-four hours, etc.

- **Admin module**

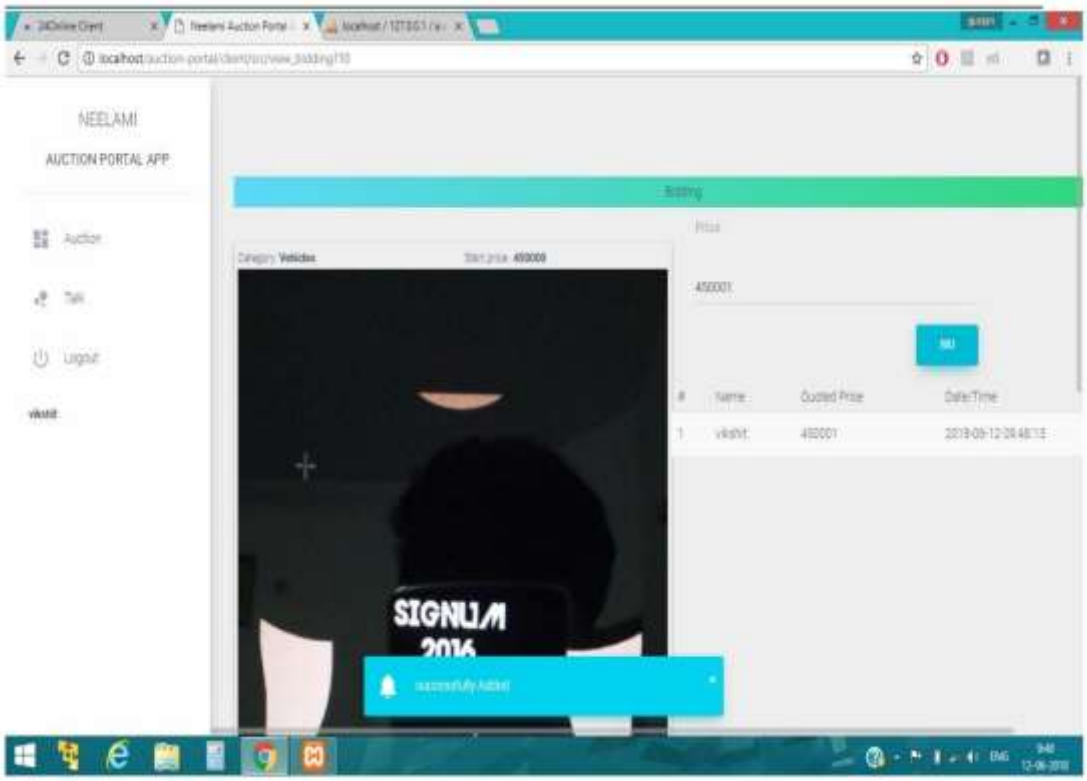
  The admin can manage the users and view the information about each item on the system. If the item was sold or reached its ending time, it will be removed from the data-base.

5. RESULTS AND DISCUSSIONS:

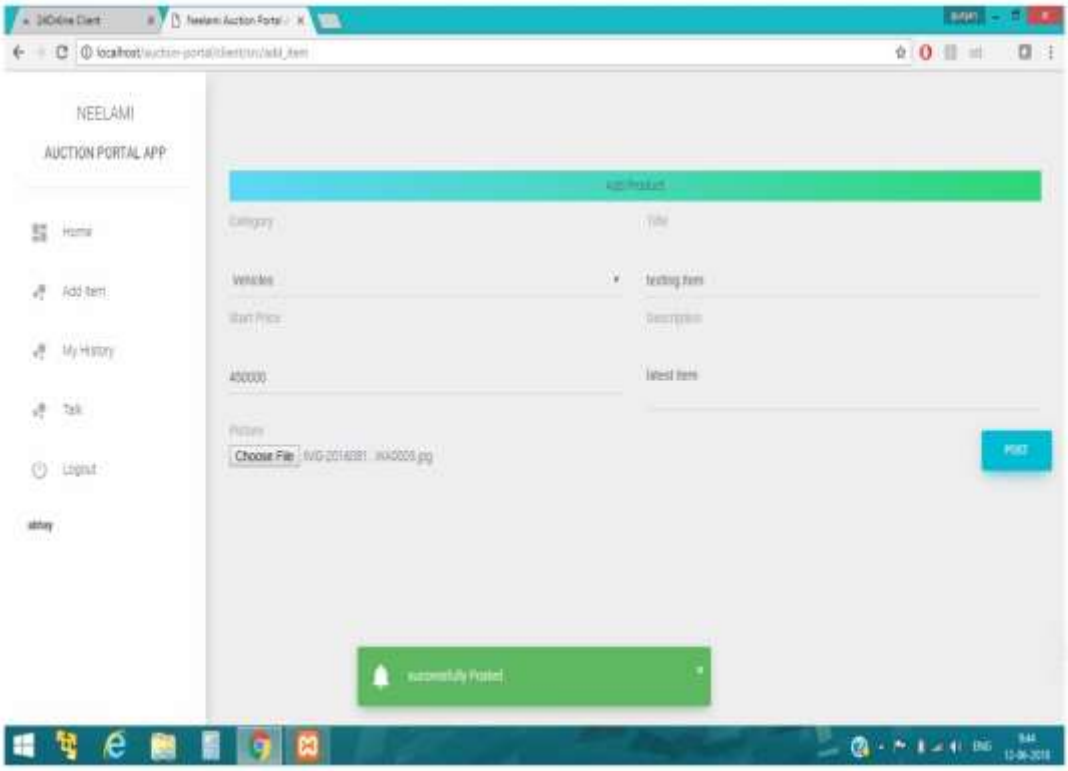
We have developed a software which is more secure than the existing software. Security is achieved by validating the Aadhar card ID and verifying the mobile OTP (One Time Password) sent to the user. The existing system lacks the aspect of security in verifying and authenticating the users. The user or the client inputs his unique Aadhar card ID with the linked mobile number to that Aadhar during sign up process and then OTP is sent to the client's mobile number which he uses to complete his verification process. Thus it makes the proposed software more secure and efficient.



SIGN UP PAGE



ADDING A NEW PRODUCT



NEW PRODUCT SUCCESSFULLY POSTED

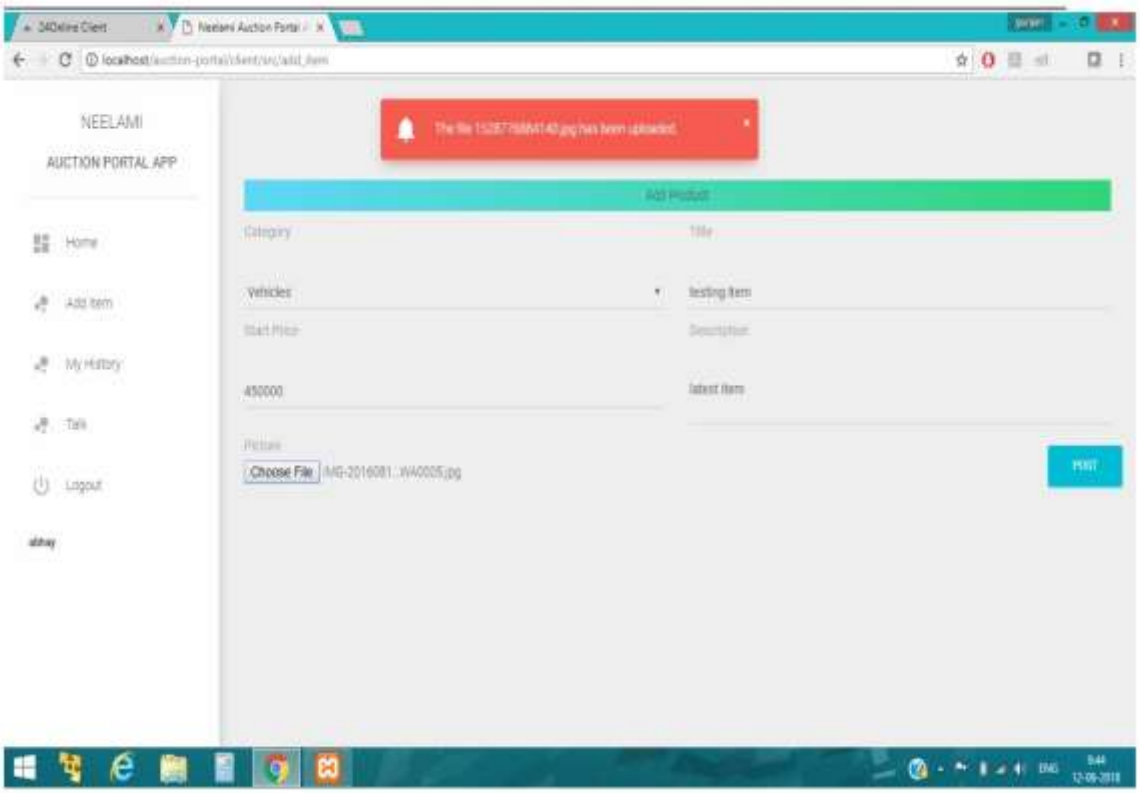
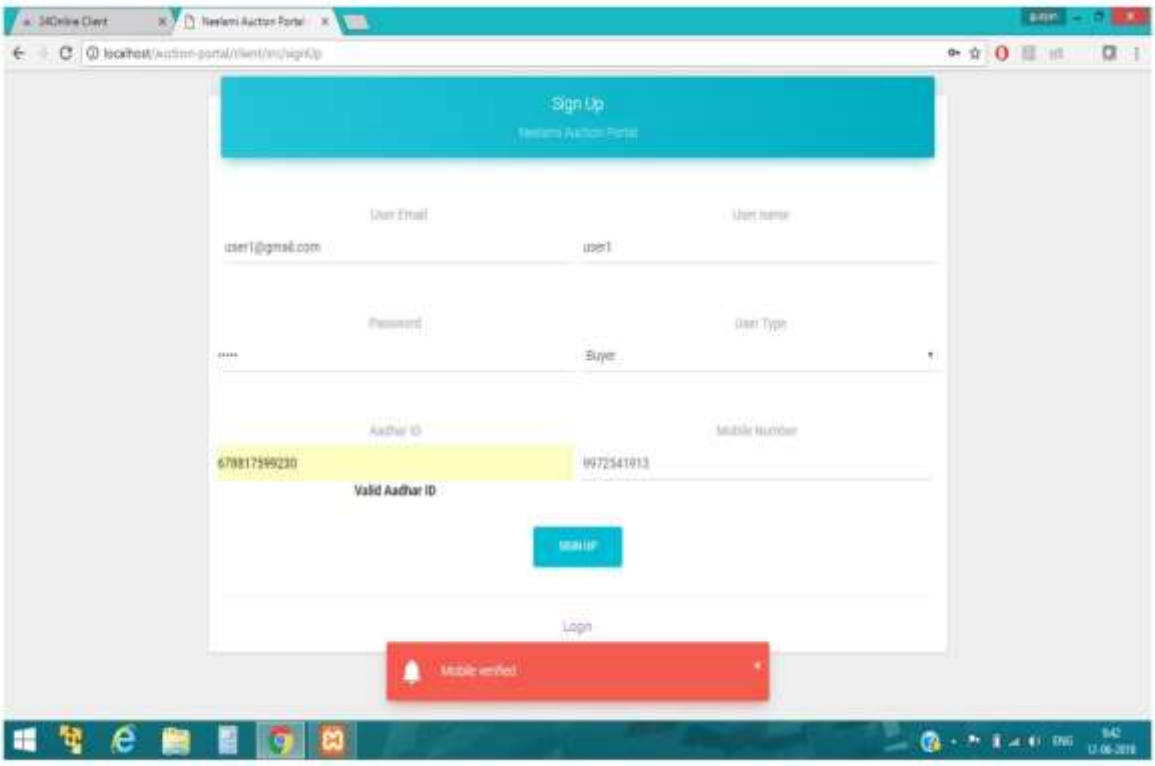


IMAGE HAS BEEN SUCCESSFULLY UPLOADED



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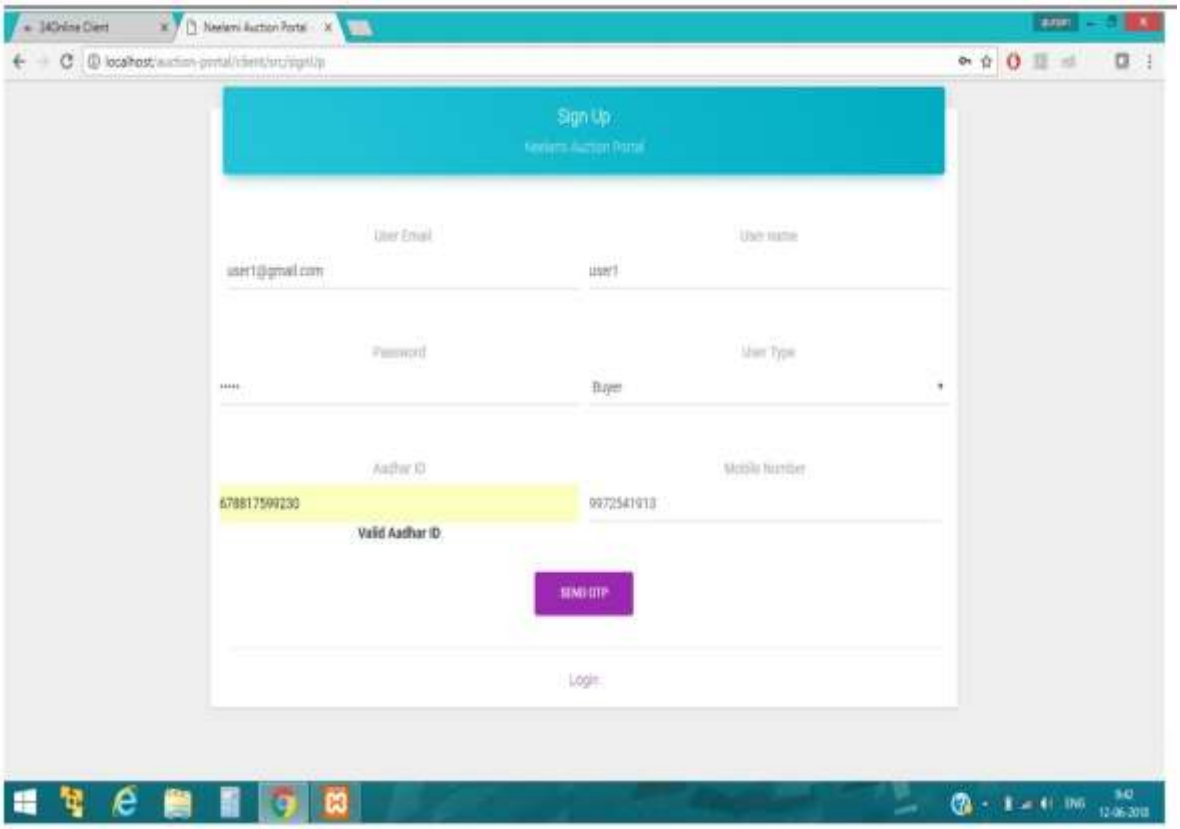
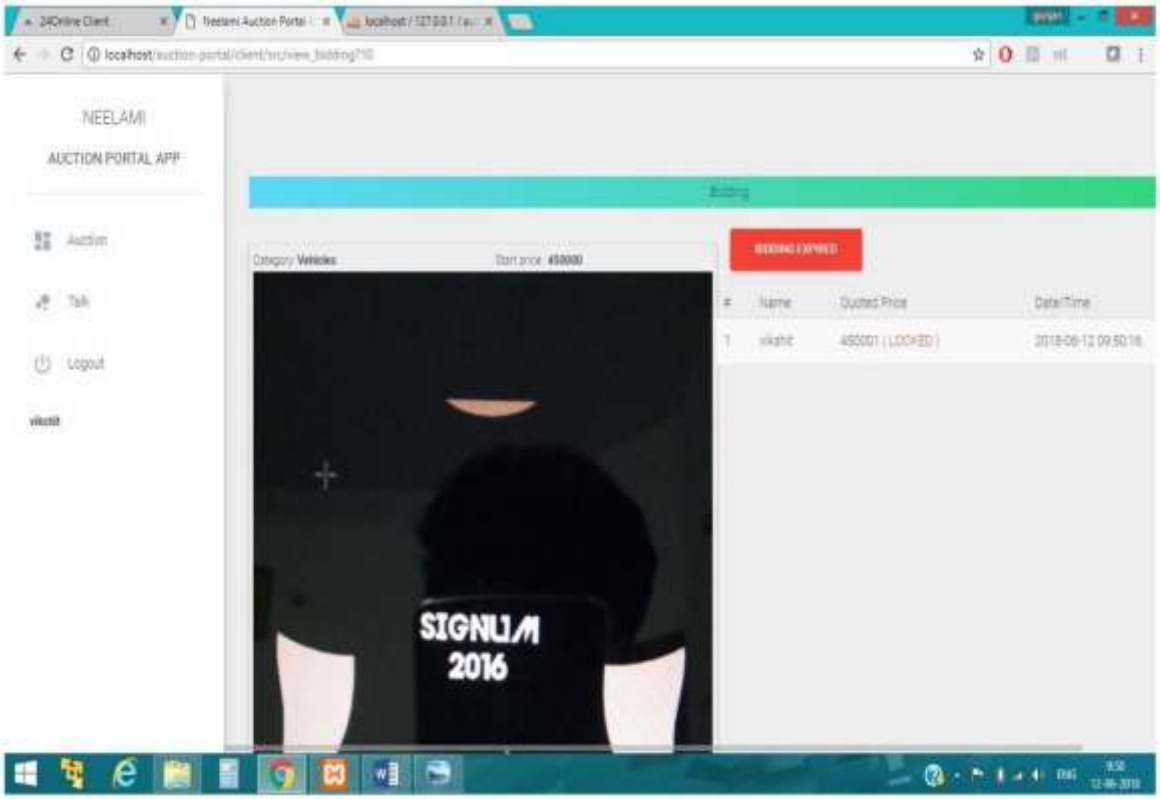


VALID AADHAR ID



BOOKING HAS BEEN LOCKED

6. CONCLUSION:

Secure Online Auction Portal is a new experience and has greatly impacted the lives of consumers in its short time of existence. It is expected to grow constantly in years to come with advancements in technology. Secure online auction portal has made consumers more effective and efficient in their behavior and has driven businesses to a new level, forcing many to make the necessary adjustments and changes to reach the new market of knowledgeable consumers. The results of this survey underscore the need for businesses to take the online market seriously. e-transformation in the global retail infrastructure. Secured online payments, better to Electronic Stores, return policies and exciting discounts could help the Perceptions of Auction System Benefits. Secure online auction portal organizations can use the relevant variables and factors, identified from the study, to formulate their strategies and plans in the country. The organizations can prioritize the consumer implicit and explicit requirements in Secure online auction portal environment. The results can also be used by various organizations to identify their target 32 customer segments. The results of the study can be utilized by practitioners in 45% relooking or revamping their strategies for Secure online auction portal. Online websites should pay more attention to the female segments as results prove that females shop more in secure online auction portal as compared to men. So companies should devise the policies and strategies to attract more number of people in this segment in future also. With the advances in technology, more business opportunities will be discovered by companies. Electronic commerce will become an important part of the business in companies. Better understandings of consumer secure online auction portal behavior will help companies in getting more online consumers and increasing their e-business revenues. At the same time, as realized the benefits from e-auction, consumers are more willing to make purchases online. With the popularity of Internet, the number of Internet users will continue to grow and more Internet users will become online consumers, even regular online buyers. However, the evolvement of e-auction will bring new problems.

The changes in business operation, business environment, and economic condition etc. will affect consumer secure online auction portal behavior. Therefore, continuous efforts have to be devoted to studying consumer secure online auction portal 230 behavior in a dynamic way. With the knowledge of consumer secure online auction portal behavior, it is believed that e-auction will continue to grow and it will become not only an important business revenues channel, but also a part of people's daily life.

6.1 FUTURE ENHANCEMENTS:

It is not possible to develop a system that makes all the requirements of the user. User requirements keep changing as the system is being used. Some of the future enhancements that can be done to this system are:As the technology emerges, it is possible to upgrade the system and can be adaptable to desired environment. Because it is based on object-oriented design, any further changes can be easily adaptable. Based on the future security issues, security can be improved using emerging technologies. Sub admin module can be added. An in-built web browser can be added. The future plan of this project is to improve design, implementation and documentation in such a way that anyone can use this project for better perform. We will develop the site more dynamically and the database work as well. In future we will add the following module for better improvement of the project: More security in the system, More user friendly system.

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