Auction City - Online Auction Support System

Submitted

For

MCA PROJECT

In

COMPUTER SCIENCE AND ENGINEERING
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SCHOOL OF COMPUTING AND SCIENCE AND ENGINEERING

BONAFIDE CERTIFICATE

Certified that this project report **"Auction City - Online Auction Support System"** is the bonafide work of **"ARPANA KUMARI (1713203006), ABHINAV KUMAR JHA (1513111001)"** who carried out the project work under my supervision.

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ARPANA KUMARI

ABHINAV KUMAR JHA

CANDIDATE'S DECLARATION

I hereby certify that the work which is being presented in the MCA Dissertation Final Report, entitled **'Auction City - Online Auction Support System'** in Computer Science & Engineering and submitted in the School of Computing Science Engineering of the **Galgotias University**, Greater Noida is an authentic record of my own work carried out during a period from JAN 2020 to MAY 2020 under the supervision of **DR. J. N. SINGH, professor** of School of Computing Science & Engineering, Galgotias University, Greater Noida.

The Content presented in the dissertation has not been submitted by me for the award of any other degree of this or any other Institute.

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This is to certify that the above statement made by the candidate is correct and to the best of my knowledge.

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ABSTRACT

This project, An Online Auction System has two parts- customer interface and admin interface.

Customer Panel permits a customer to upload a product for sale and bid on a particular product to buy.

An admin can control the whole bidding system by an admin panel.

Admin can approve products by the categories and can control the registered customers.

There is fixed delivery policy.

After finishing the bidding process there is a notify system to notify the sellers and bidders.

This is a fully dynamic system, which can be easily operated by the users.

1.INTRODUCTION

▶ The project 'Auction City - Online Auction Support System' is a web based auction system which provides online services for organising and participating in auctions.

▶ The aim of the project is to provide a virtual platform to organise numerous auctions simultaneously in an easy and better way.

▶ The project consists of a section of auction categories like paintings, coins, stamps etc. Each contains the products related to their categories available for auction.

▶ It is enabled with facilities for sellers to organise and add products for auctions with necessary details.

▶ There are facilities for bidders for participating and bidding for the products in various auctions. Also features to order and payment for products are included in the project.[1]

1.1 OBJECTIVE

▶ The objective of present system is to provide one stop junction for all important activities required for auctions.

▶ As we know, auctions in a real world require pre-planned organised events where sellers, bidders and organisers of the auction events participate.

▶ The present system is designed in a way to provide the flexibility of organising virtual auction events without any problem of time and resources.

▶ The system also eliminates the involvement of manpower and enables better time management for successful auctions.

▶ It provides features to facilitate easy, error-free processing and retrieval of reports and information of sellers, bidders, auctions, products and orders etc.

2. SYSTEM STUDY

2.1 PROBLEM STATEMENT AND CHALLENGES

► The problem statement of this system address the auction process that were held manually where the Bidder has to attend the auction event and seller has to organize it that directly reflect in cost and time along with the further arrangement. Right now, there is lack of circulation of advertisement about the auction event.

► The aim of proposed system is to provide a platform where the bidder and the seller can directly communicate at a same place. It can also provide easy payment and delivery option. [1]

2.2   EXISTING SYSTEM

Right now if we look at the current domain for Auction on internet. We can find many systems which are not popular and don't have any reorganization among users. Hence this tells us that existing system are not capable enough to serve the automated action processes. Also these processes are manually which are really lengthy, hectic and expansive. [2]

The problem of existing system is:

- ➔ Slow process
- ➔ Time taking
- ➔ Difficulty to retrieve information
- ➔ Difficulty to analyze the related data
- ➔ More human resource involvement
- ➔ Simultaneous seller and bidder appearance
- ➔ More paper work
- ➔ Data Redundancy
- ➔ Data Dependency

2.3 PROPOSED SOLUTION

▶ No noisy crowds like conventional system where users have to sit and bid.

▶ Excludes general frustration that usually happens while bidding in conventional system.

▶ No schedule constraint that means bidder can bid anytime from anywhere.

▶ The bidding process can be conducted on a global scale.

3.PROJECT CATEGORY

► The present project is based on the latest and versatile Internet Technologies like HTML, CSS and Java Server Page (JSP). These technologies are used as the front-end environment for creating interface for users to interact with the services of the system.

► It also uses Relational Database Management System (RDBMS) as its back end environment for the storage and retrieval of data & information.

► The present system is a web based online system which relies on Client-Server Architecture. Using client-server architecture, the system provides an interface to facilitate and connect multiple clients to the server at a same time.

3.1 DESCRIPTION OF TECHNOLOGIES

HTML:

➔ HTML stands for Hyper Text Mark-up Language.

➔ An HTML file is a text file containing small mark-up tags.

➔ The mark-up tags tell the web browser how to display the page.

➔ HTML can be described as a document formatting language used to link documents with the help of Hypertext links.

CSS:

➔ CSS stands for Cascading Style Sheets.

➔ CSS is web standard that describes style for web pages.

➔ It enables to control the layout of multiple pages at once.

➔ There are three ways to include CSS code in web pages: inline, embedded and external.

➔ Using this we can modify style definition in CSS file, and the changes will be reflected in all the web pages in which the CSS file is linked with link element. [3]
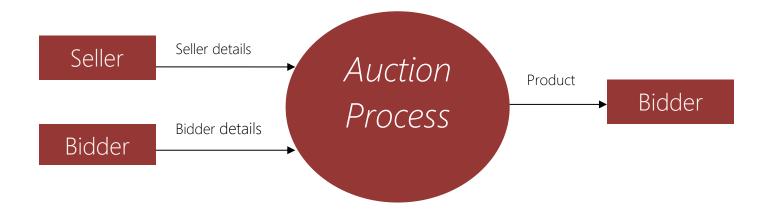
Java Server Page (JSP):

➜ JSP is one of the latest and very widely used internet technologies implemented for web based solutions.

➜ In a Client-Server Architecture, JSP provides features for server side programming and processing in a comparatively easy manner.[4]

➜ It can be embedded into HTML and it generally runs on a web server e.g. Apache Tomcat.

➜ Entire JSP page is translated into a servlet, and servlet is what actually is invoked internally for each request.

➜ There are three main types of JSP constructs that you embed in a page: Scripting elements, Directives and Actions. [5]

MySQL:

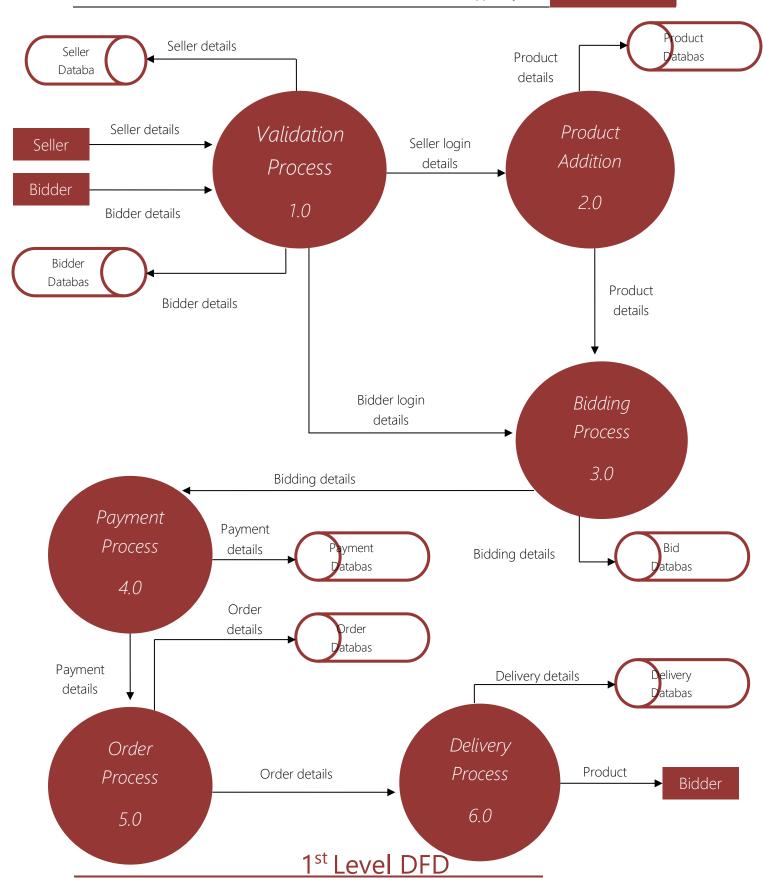➜ MySQL is an open source SQL Relational Database Management System (RDBMS) that is free for many uses.

➜ It is a very powerful database tool with rich library and numerous useful modules and functions.

➜ This RDBMS package can manage data and information in a well-designed manner.

➜ It is enabled with features that provide security, integrity and effectiveness in storage and retrieval of data.
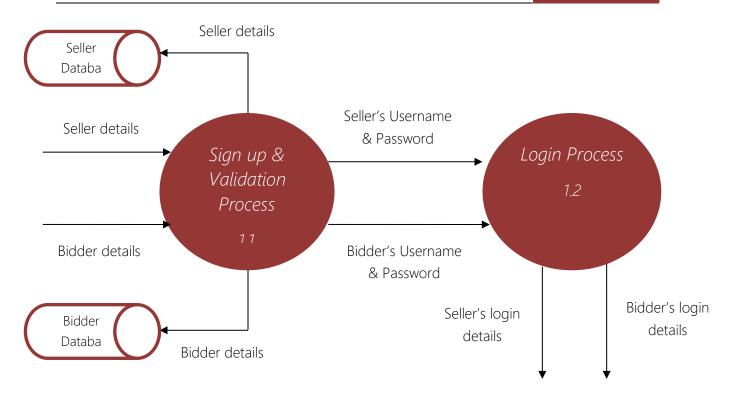
4.SYSTEM DESIGN AND ANALYSIS

4.1 DATA FLOW DIAGRAM

Seller	→ Seller details →	*Auction Process*	→ Product →	Bidder
Bidder	→ Bidder details →			

Context Level DFD

Seller details

Seller
Databa

Seller details

Seller

Seller details

Validation Process

1.0

Bidder

Bidder details

Bidder
Databas

Bidder details

Product
details

Product
Databas

Product Addition

2.0

Seller login details

Product details

Bidder login details

Bidding Process

3.0

Bidding details

Payment Process

4.0

Payment details

Payment
Databas

Bidding details

Bid
Databas

Order details

Order
Databas

Payment details

Delivery details

Delivery
Databas

Order Process

5.0

Order details

Delivery Process

6.0

Product

Bidder

1st Level DFD

17

Seller details

Seller
Databa

Seller details

Sign up & Validation Process

1 1

Bidder details

Bidder
Databa

Bidder details

Seller's Username
& Password

Bidder's Username
& Password

Login Process

1.2

Seller's login
details

Bidder's login
details

2nd Level DFD of 1.0 Validation Process

Bidding details

Mode of Payment Selection

4 1

Bidder

Mode selection
details

Bank details
(Credit/Debit
card details,
PIN etc.)

Money Transaction Process

4 2

Payment
details

Payment
details

Payme
nt

2nd Level DFD of 4.0 Payment Process

Order details

Seller

Product

Packaging Process

6.1

Product with delivery address

Courier Process

6.2

Product

Bidder

Product with courier details

Courier Service Provider

Delivery acknowledgment details

Administrator
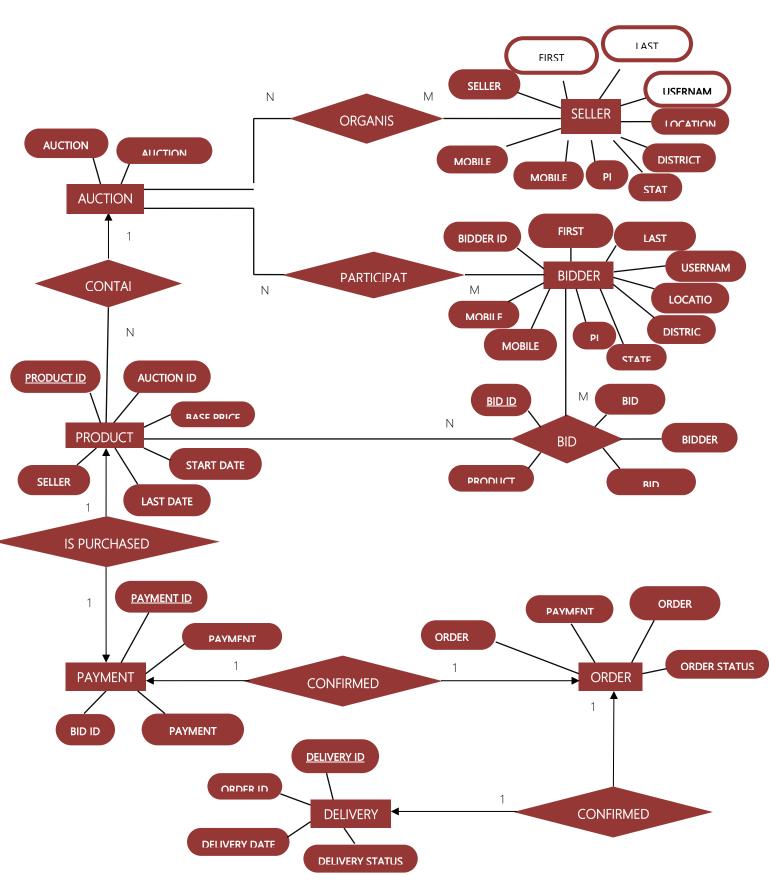
Delivery details

Delivery Databa

2nd Level DFD of 6.0 Delivery Process

4.2 ENTITY RELATIONSHIP DIAGRAM

4.3 COMPLETE STRUCTURE
4.3.1 NUMBER OF MODULES AND THEIR DESCRIPTIONS:

The main modules designed for the project are:

   i.   Seller module

  ii.   Bidder module

 iii.   Auction module

 iv.   Product module

  v.   Bid module

 vi.   Payment module

 vii.   Order module

viii.   Delivery module

Seller Module: The seller module is directly connected to auction module to add products for auction. Seller module holds the personal details of the seller such as seller's id, name, address and mobile number.

Bidder Module: The bidder module is also connected to the auction module to participate in auctions. Also it is connected to product module so that bidders can bid for the products. This module holds the personal information of the bidders such as bidder's id, name, address and mobile number.

Auction Module: This module is the intermediate module among seller, bidder and product module. It contains details like auction id and auction type.

Product Module: This module contains the information like product id, base price of the product, auction id, seller id, start date and last date to bid for the product.

<u>Bid Module</u>: It holds the information of the bids made by bidder. It contains bid id, product id, bid amount, bidder id and bid date.

<u>Payment Module</u>: This module stores the records of payment made by bidders for the products. It contains payment id, payment type, bid id and payment date.

<u>Order Module</u>: This module is used hold the details such as order id, payment id, order date and order status.

<u>Delivery Module</u>: This module is used hold the details of delivery. It includes delivery id, order id, delivery date and delivery status.

4.3.2 DATA STRUCTURES:

The data structures of all the modules of the project are as follows:

1: Table Name: SELLERS

The tables provide all details of seller module.

Field Name	Data Type	Size	Description
SELLER_ID	INT	10	Seller Id, Primary Key
F_NAME	VARCHAR	20	First Name, Not Null
L_NAME	VARCHAR	20	Last Name, Not Null
USERNAME	VARCHAR	20	Username, Not Null
LOCATION	VARCHAR	20	Location, Not Null
DISTRICT	VARCHAR	20	District, Not Null
S_STATE	VARCHAR	20	State, Not Null
PIN	INT	6	Pin Code, Not Null
MOBILE1	INT	15	Mobile Number, Not Null
MOBILE2	INT	15	Alternate Mobile Number

2: Table Name: BIDDERS

The tables provide all details of bidder module.

Field Name	Data Type	Size	Description
BIDDER_ID	INT	10	Bidder Id, Primary Key
F_NAME	VARCHAR	20	First Name, Not Null
L_NAME	VARCHAR	20	Last Name, Not Null
USERNAME	VARCHAR	20	Username, Not Null
LOCATION	VARCHAR	20	Location, Not Null
DISTRICT	VARCHAR	20	District, Not Null
B_STATE	VARCHAR	20	State, Not Null
PIN	INT	6	Pin Code, Not Null
MOBILE1	INT	15	Mobile Number, Not Null
MOBILE2	INT	15	Alternate Mobile Number

3: Table Name: AUCTIONS

The tables provide all details of auction module.

Field Name	Data Type	Size	Description
AUCTION_ID	INT	10	Auction Id, Primary Key
AUCTION_TYPE	VARCHAR	20	Type of Auction, Not Null

4: Table Name: PRODUCTS

The tables provide all details of product module.

Field Name	Data Type	Size	Description
PRODUCT_ID	INT	10	Product Id, Primary Key
AUCTION_ID	INT	10	Auction Id, Foreign Key, Not Null
SELLER_ID	INT	10	Seller Id, Foreign Key, Not Null
BASE_PRICE	FLOAT	10	Base Price of the Product, Not Null
START_DATE	DATETIME	10	Start Date of bidding for the Product, Not Null
LAST_DATE	DATETIME	10	Last Date of bidding for the Product, Not Null

5: Table Name: BIDS

The tables provide all details of bid module.

Field Name	Data Type	Size	Description
BID_ID	INT	10	Bid Id, Primary Key
BIDDER_ID	INT	10	Bidder Id, Foreign Key, Not Null
PRODUCT_ID	INT	10	Product Id, Foreign Key, Not Null
BID_AMOUNT	FLOAT	10	Bid Amount for the Product, Not Null
BID_DATE	DATETIME	10	Date of bidding for the Product, Not Null

6: Table Name: PAYMENTS

The tables provide all details of payment module.

Field Name	Data Type	Size	Description
PAYMENT_ID	INT	10	Payment Id, Primary Key
BID_ID	INT	10	Bid Id, Foreign Key, Not Null
PAYMENT_TYPE	VARCHAR	10	Mode of Payment, Not Null
PAYMENT_DATE	DATETIME	10	Date of Payment for the Product, Not Null

7: Table Name: ORDERS

The tables provide all details of order module.

Field Name	Data Type	Size	Description
ORDER_ID	INT	10	Order Id, Primary Key
PAYMENT _ID	INT	10	Payment Id, Foreign Key, Not Null
ORDER_DATE	DATETIME	10	Date of Order for the Product, Not Null
ORDER_STATUS	VARCHAR	10	Order Status, Not Null

8: Table Name: DELIVERY

The tables provide all details of delivery module.

Field Name	Data Type	Size	Description
DELIVERY_ID	INT	10	Delivery Id, Primary Key
ORDER _ID	INT	10	Order Id, Foreign Key, Not Null
DELIVERY_DATE	DATETIME	10	Date of delivery for the Product, Not Null
DELIVERY_STATUS	VARCHAR	10	Delivery Status, Not Null

4.4   PROCESS LOGIC:

The process logic of the project describes the way modules are interconnected with each other. It also describes how well the processes are working with each other. It also consist the types and role of users in the project.

The process logic of the project is described as follows:

Users:

➜ The project involves of three main users: Administrator, Seller and Bidder. Each user has unique features depending on their role in the system.

➜ Administrator is privileged with features to monitor, maintain and make possible changes in the system regarding making improvements and fixing minor issues for other users in the system.

➜ Sellers are the type of users who want their product to be auctioned. They provide the details of the products like base price, type, description etc. for auction process.

➜ Bidders are the type of user who bids for products in the auction process and claim to purchase a product with highest bid. The same bidder can bid for many products in many auctions at the same time.

Processes:

i.   <u>Signup Process:</u> Every user of the system needs to register themselves through signup process with their relevant details. Username are selected by the user which needs to be unique from user to user. User id will detect the role of the users as administrator, seller or bidder.

ii.   <u>Login Process:</u> After the successful signup process, user can login with their username and password.

iii.   <u>Product Addition Process:</u> The users who logged in as sellers can add products for auctions. User provide details of the products such as base price, type of product, start date of auction and last date of auction.

iv.   <u>Bidding Process:</u> The user who logged in as bidders can bid for products which are auctioned. Bidders need bid higher than other bidder to purchase a product. The highest bid by a bidder for product should be made before the last date of auction of that product.

v.   <u>Payment Process:</u> After the successful completion of bidding process, bidder with the highest bid needs to make payment to confirm the auction of the product. Payment can be made through credit/debit card, net banking etc.

vi.   <u>Order Process:</u> After payment, an order will be generated for the delivery process of the product to the bidder.

vii.   <u>Delivery Process:</u> The process consists of the successful delivery of products to the bidder. [6]

4.5 TESTING:

After coding of this project we can perform various types of testing. There are many kinds of testing, that we will perform on this system. There are following testing that performs on system after coding:

Unit Testing: In this testing we test each component of the system as well as each functions or modules separately.

Integration Testing: When each module will be tested separately and after that we integrate all modules and functions and then test it again.

Validation Testing: Test system output and also test system is valid or not. In this testing technique we check system output is according to user.

System Testing: In this testing, we check that system is operational and compatible with the hardware as well software.

5   REPORT GENERATION:

This system produces various types of report of softcopy as well as hardcopy.
There are following types of reports generated by the system:

�ड Report of total details of all sellers.

➳ Report of total details of all bidders.

➳ Report of total auctions details.

➳ Report of total products details.

➳ Report of all bids for the products.

➳ Report of all payment details.

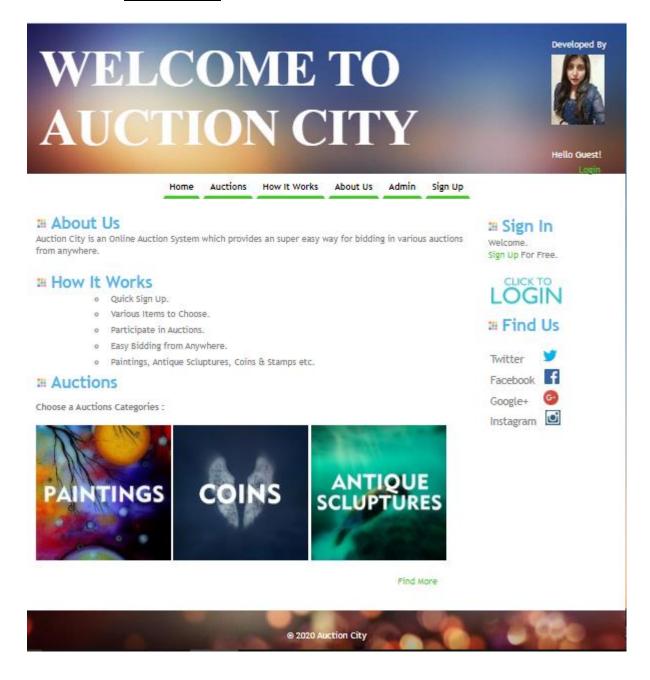➳ Report of all order details.

➳ Report of all delivery details.

All these reports will be publish daily, weekly, monthly or yearly according to
users' need. These reports will be in tabular form such as:

Report of total details of all sellers

Seller Id	First Name	Last Name	Username	Location	District	State	Pin	Mobile1	Mobile2
1	Vaibhav	Anand	vaibhav1	MG Road	Bhopal	MP	600122	9820507707	NULL
2	Aniket	Rana	ankit6	JP Colony	Patna	Bihar	841205	9508549225	NULL
3	Shruti	Sharma	shrti5	GT Colony	Varanasi	UP	798032	9460786612	NULL

6. INPUT & OUTPUT SCREENS

6.1 Home Page:

6.2 Signup Page:

6.3.1 Auction Category - Paintings:
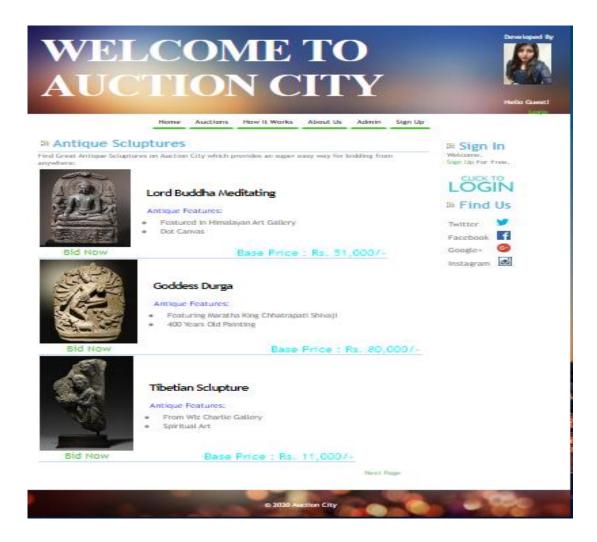

6.3.2 Auction Category - Coins:

6.3.3. Auction Category – Antique Sculpture's:

7. TOOLS & ENVIRONMENT

Hardware Requirements:

(Both Client and Server)

Microprocessor	:	Intel Pentium Dual Core
RAM	:	512 MB
Mother Board	:	945 E Intel
Hard Disk Drive	:	160 GB
Keyboard	:	Multimedia Keyboard
Mouse	:	Optical Mouse

Software Requirements:

(For Client)

Operating System	:	Windows /iOS/Unix
Web Browser	:	IE/Google Chrome/Firefox
Scripting Language	:	JavaScript

(For Server)

Operating System	:	Windows 2000 Server
Web Server	:	Apache Tomcat 8.0
Scripting Languages	:	Java Server Page (JSP)
Front End	:	HTML and CSS
Back End	:	MySQL

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8. FUTURE SCOPE OF THE PROJECT

Auction City - 'Online Auction Support System' is based on client-server architecture it means working in networked environment. This system is versatile and flexible system and can be easily modified to suit any further requirements and updates in future. The system has been designed in such a way that hierarchical modification/additional capabilities can be applied at any level.

There is always room for further enhancement of this system in the following areas:

➔ Addition of auction categories to expand the range of products covered in the system.

➔ If required, distributed database can be implemented. From which many server holds data and reliability as well as backup will be high.

➔ Tracking of ordered product can also be added to the system to provide real time status to the users of products.

➔ Back up, data recovery and zipping mechanism can be implemented to empower the present system. [7]

9.   <u>Conclusion:</u>

Online auction has reduced the involved bidders from being physically present in auction place. The auction website provides different types of products online which gives lot of choices for the bidders to choose the product of their interest. The products are placed in classes and subclasses which make it simple to search and find the desired product. The online auction site doesn't take place face to face interaction which creates many bidders. By predicting the end-bid rate of product and maintaining it hide from bidders, bids can be analyzed against the predicted price or range of it. The proposed website is to provide a platform where the bidder and the seller can directly communicate at a same place. It can also provide easy payment and delivery option.

10. References:

[1] Geetanjali Sawant, Ganesh Bane, Akshay Gurav, Swaraj Pawar: Survey on Online Auction System. IOSR Journal of Computer Engineering (IOSR-JCE), 2016

[2] Rashesh G Chothani, Nainesh A Patel, Asagarali H Dekavadiya, Punit R Patel: A Review of Online Auction and Its Pros and Cons, Volume 2, Issue 1, January -2015

[3] Mariam W. Alawar, Samy S. Abu Naser. CSS-Tutor: An intelligent tutoring system for CSS and HTML. International Journal of Academic Research and Development, 2017.

[4] Jennifer Niederst Robbins, Learning Web Design: A Beginner's Guide to Html, CSS, Javascript, And Web Graphics, O'Reilly Media; 4th edition, 2012.

[5] A.K.Ratha, S.Padhan, S.Mohanty, Transformation of Java Server Pages: A Modern Approach, Dec-2017.

[6] Hans Bergsten, Java Server Pages, O'Reilly 2002.

[7] Sandeep Kumar, "Pricing Algorithms in Online Auctions by" International Journal of Advanced Research in Computer Science and Software Engineering, Volume 3, Issue 6, ISSN: 2277 128X, June – 2013.