

# **E-Auction Management System**

A project submitted to

**UKA TARSADIA UNIVERSITY**

in partial fulfilment of the requirements  
for the degree of

*Bachelors of Science in Information Technology*

for 5<sup>th</sup> Semester

2024-25

**Group Number: 08**

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**Babu Madhav Institute of Information Technology**

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# CERTIFICATE

This is to certify that the project report entitled “**E-Auction Management System**” has been carried out by Ms. Riya Dhorajiya (202206100110058), Mr. Krish Virani (202206100110142), Mr. Hemil Ghori (202206100110147) and Ms. Isha Jivani (202206100110212), under my guidance in partial fulfillment of the requirement for the **Bachelors of Science in Information Technology** during the academic year 2024-25.

**Date: 28-11-2024**

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**Programme Coordinator**

**External Examiner(s)**

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**BABU MADHAV INSTITUTE OF  
INFORMATION TECHNOLOGY**

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# Chapter 1: Introduction

## 1.1 Problem Definition

The E-Auction Management System is an online platform designed to facilitate auctions between sellers and bidders. The system operates within the scope of e-commerce, specifically catering to antique items. Sellers can list items, bidders can participate in auctions, and admins can verify item, ensuring smooth transactions and auction management. The product aims to automate the entire auction process, from listing items to managing payments and refunds. It will connecting buyers and sellers across India. Users access the system through their web browsers.

## 1.2 Project Purpose

The purpose of the E-Auction Management System is to provide a platform for all sellers of antique items to auction online. The system will facilitate the auctioning process, allow users to bid on various antiques while ensuring a smooth, secure, and user-friendly experience.

## 1.3 Project Scope

Our scope of the System shall be within all over the india to connect sellers to bidder for antique item auction.

## **Chapter 2: Overall Description**

### **2.1 Product Perspective/Environment Description**

#### **2.1.1 Hardware Interface/ Hardware Specification**

- Processor:
  - Core i5
- RAM:
  - 6 GB

#### **2.1.2 Software Interface/ Software Specification**

- **Web Server:** Apache NetBeans IDE 22.
- **Database:** MySQL.
- **Languages:** PHP for backend; HTML, CSS, JavaScript for frontend.
- **Frameworks:** Razor pay (for payment gateway).

## Chapter 3: System Specific Requirement

### 3.1 Functional Requirements

- **User Management:**

Requirement No.	Description	Comment
FR1	The system allow sellers and bidders to register with First name, Last name, date of birth, unique email id, password, mobile number. System shall be able to send OTP for Email verification.	User Registration
FR2	Admin, Bidders and seller log in using their email id and password.	User Login
FR3	Admin, Bidders and the seller view and update their profile information.	Profile Management
FR4	Users change their password and reset it through email verification if forgotten.	Password Management

- **Item Management:**

Requirement No.	Description	Comment
FR1	<ul style="list-style-type: none"><li>➤ The seller shall be able to add auction items with some specific proof of authenticity.</li><li>➤ Sellers view the status of their submitted items (pending, approved, rejected).</li><li>➤ Sellers shall be able to edit or remove items that have not yet been approved.</li></ul>	Manage Items
FR2	Admin view and approve or reject submitted items by sending notification to sellers.	Approval of Item

- **Auction Management:**

Requirement No.	Description	Comment
FR1	Seller can manage the auction timing for each item.	Auction Scheduling
FR2	The system will display a list of upcoming auctions to all Bidders.	Upcoming Auctions
FR3	Only interested bidders and seller shall be able to view and participate in live auctions.	Live Auctions

- **Bidding:**

Requirement No.	Description	Comment
FR1	Interested bidders shall be able to place bids on auction items.	Bid Placement
FR2	The system send notifications to bidders about their bid status (outbid, winning bid) and auction updates.	Bid Notifications

- **Earnest Money Deposit (EMD):**

Requirement No.	Description	Comment
FR1	Bidders have to register and pay the EMD before the EMD date to participate in an auction.	Auction Registration
FR2	Seller shall be able to manage the EMD amount and its due date for each item.	Auction Scheduling
FR3	The EMD amount will be refunded to all non-winning bidders after the auction Finished.	EMD Refund



- **Payment Processing:**

Requirement No.	Description	Comment
FR1	Bidders make EMD payments through a secure payment gateway.	EMD Payment
FR2	Winning bidders make the full payment for the auctioned items via the payment gateway.	Full Payment
FR3	The system shall be able to generate payment reports.	Payment Report

- **Auction Outcomes:**

Requirement No.	Description	Comment
FR1	The system will automatically determine the auction winner based on the highest bid amount.	Winner Determination
FR2	The auction will start only if the first bid meets or exceeds the reserve price.	Reserve Price
FR3	The final price of the item will be the highest bid amount at the end of the auction.	Final Price

- **Search and Filtering:**

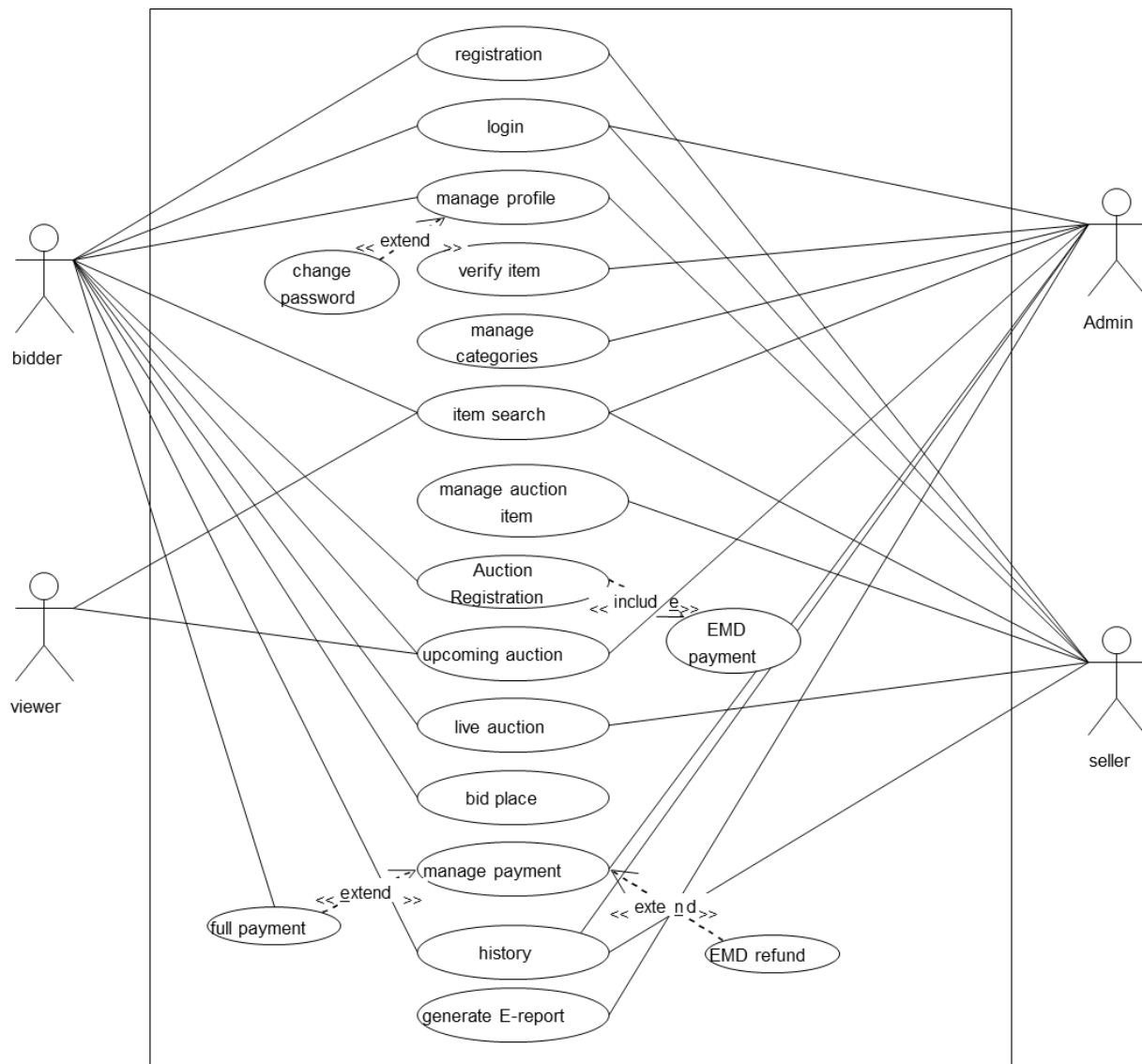
Requirement No.	Description	Comment
FR1	Users shall be able to search for auction items using keywords.	Item Search
FR2	Users shall be able to filter auction items based on item name, category, and reserve price.	Filtering Options

### 3.2 Non- Functional Requirements

Requirement No.	Description	Comment
NFR1	The application will be user-friendly and easy to operate, the functions will be easily understandable.	Usability
NFR2	The system will be designed in a maintainable manner. It will be easy to add new requirements in the any individual modules.	Maintainability
NFR3	E-auction management shall be able to compatible with modern web browsers (chrome, fire fox, safari).	Compatible

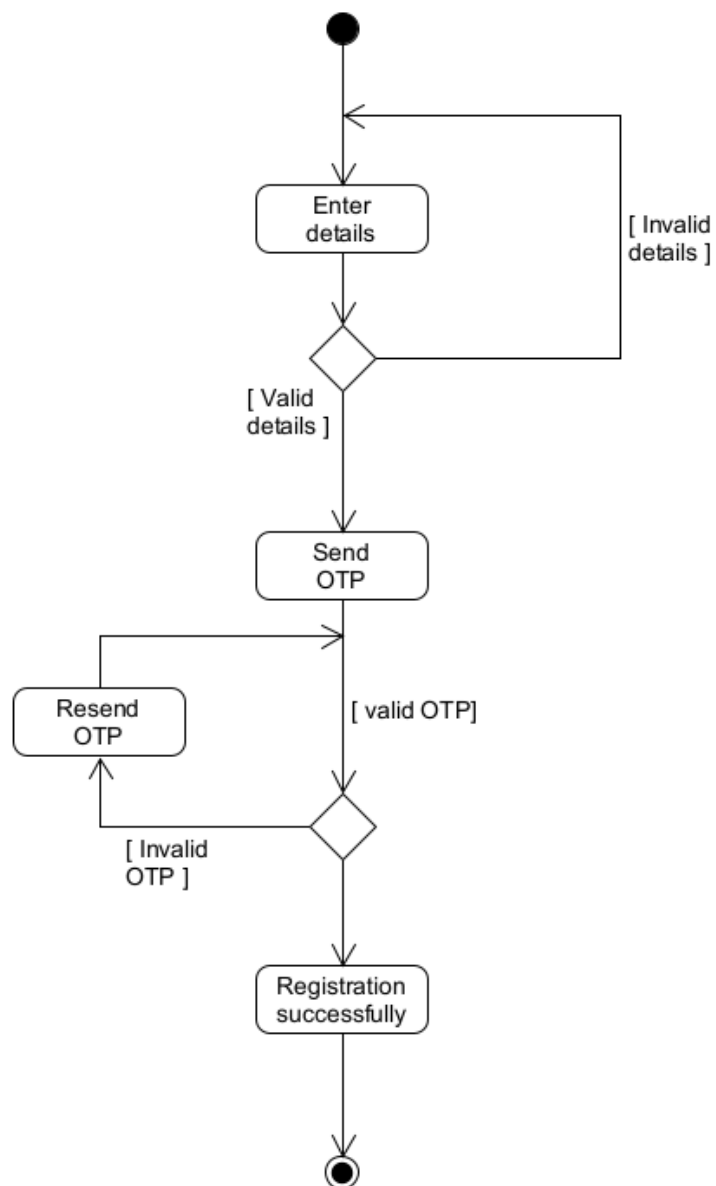
# Chapter 4: System Analysis

## 4.1 Use Case Diagrams

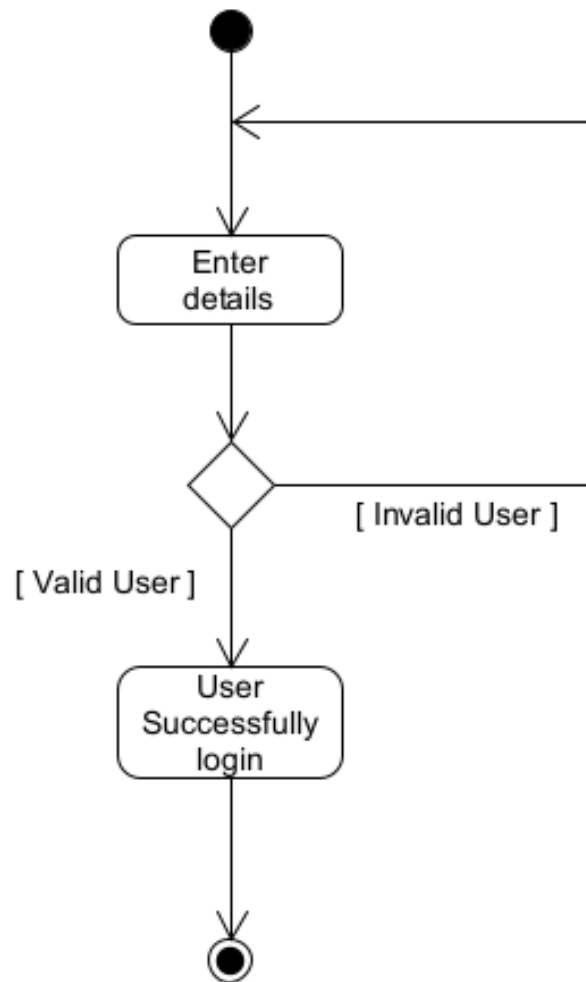


## 4.2 Activity Diagrams

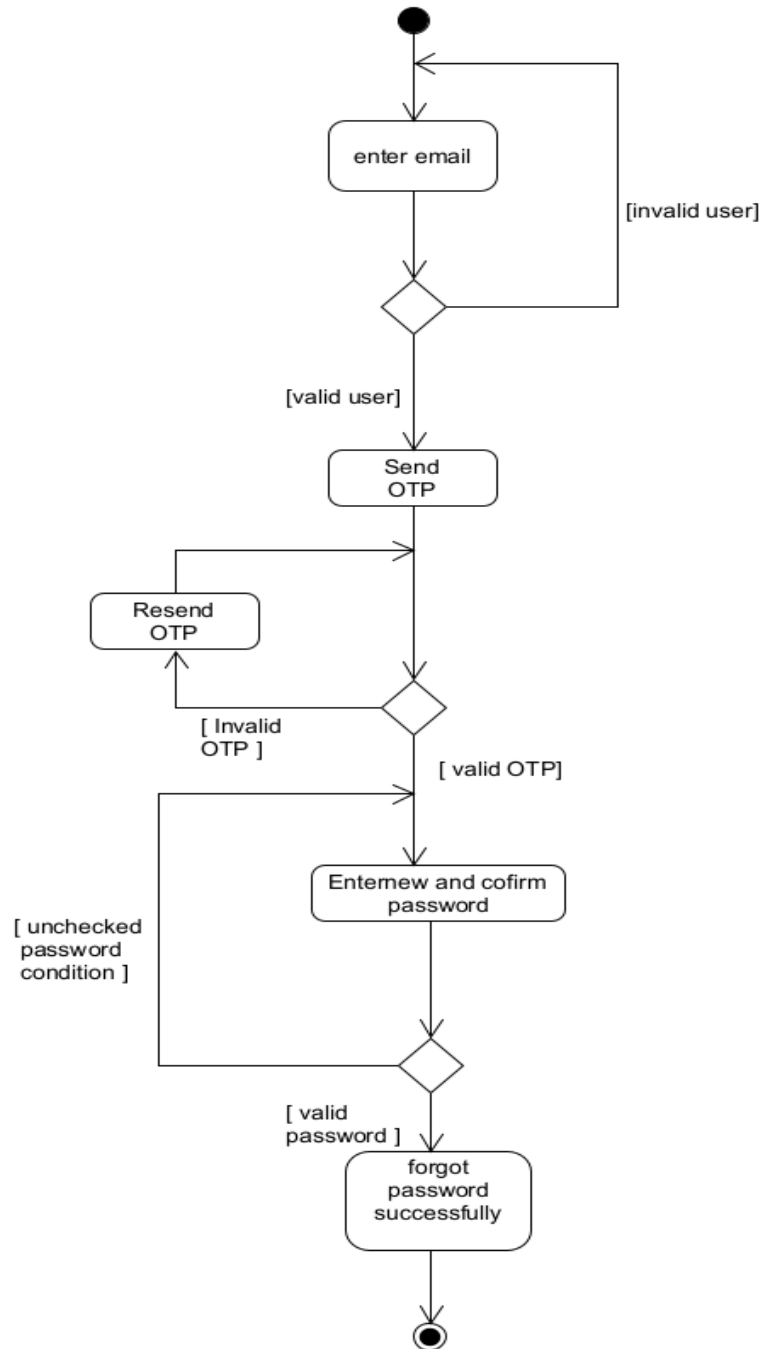
- **Registration:**



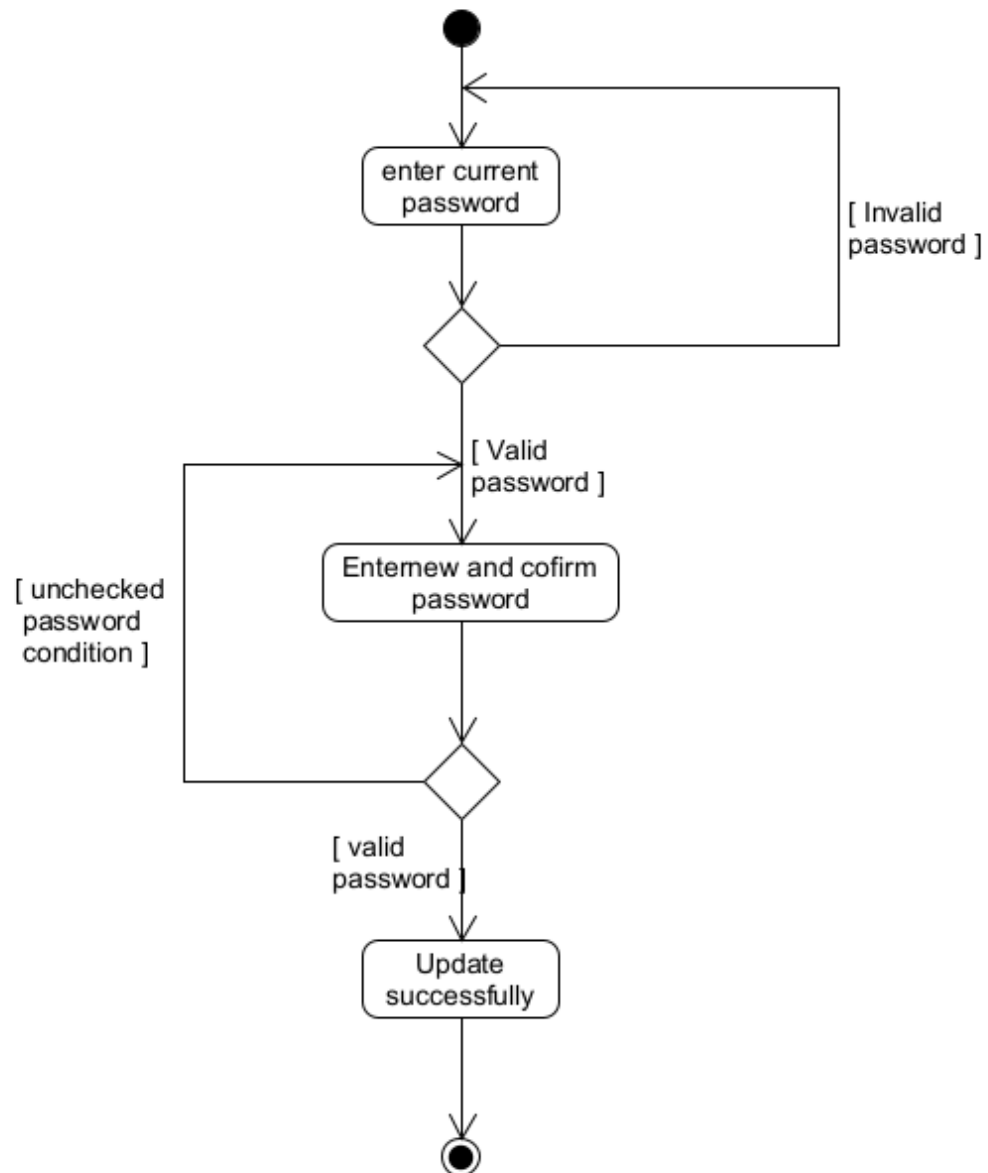
- **Login:**



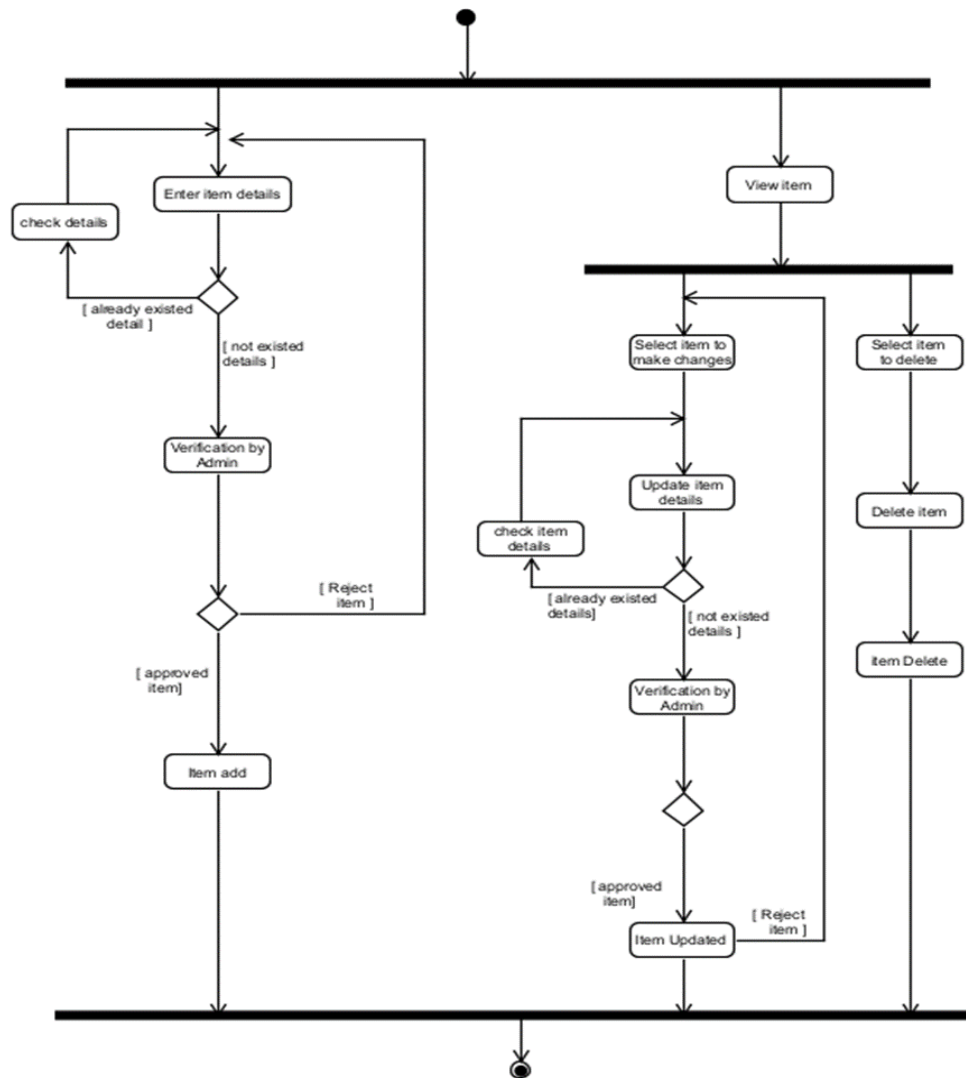
- **Forgot password:**



- **Change password:**

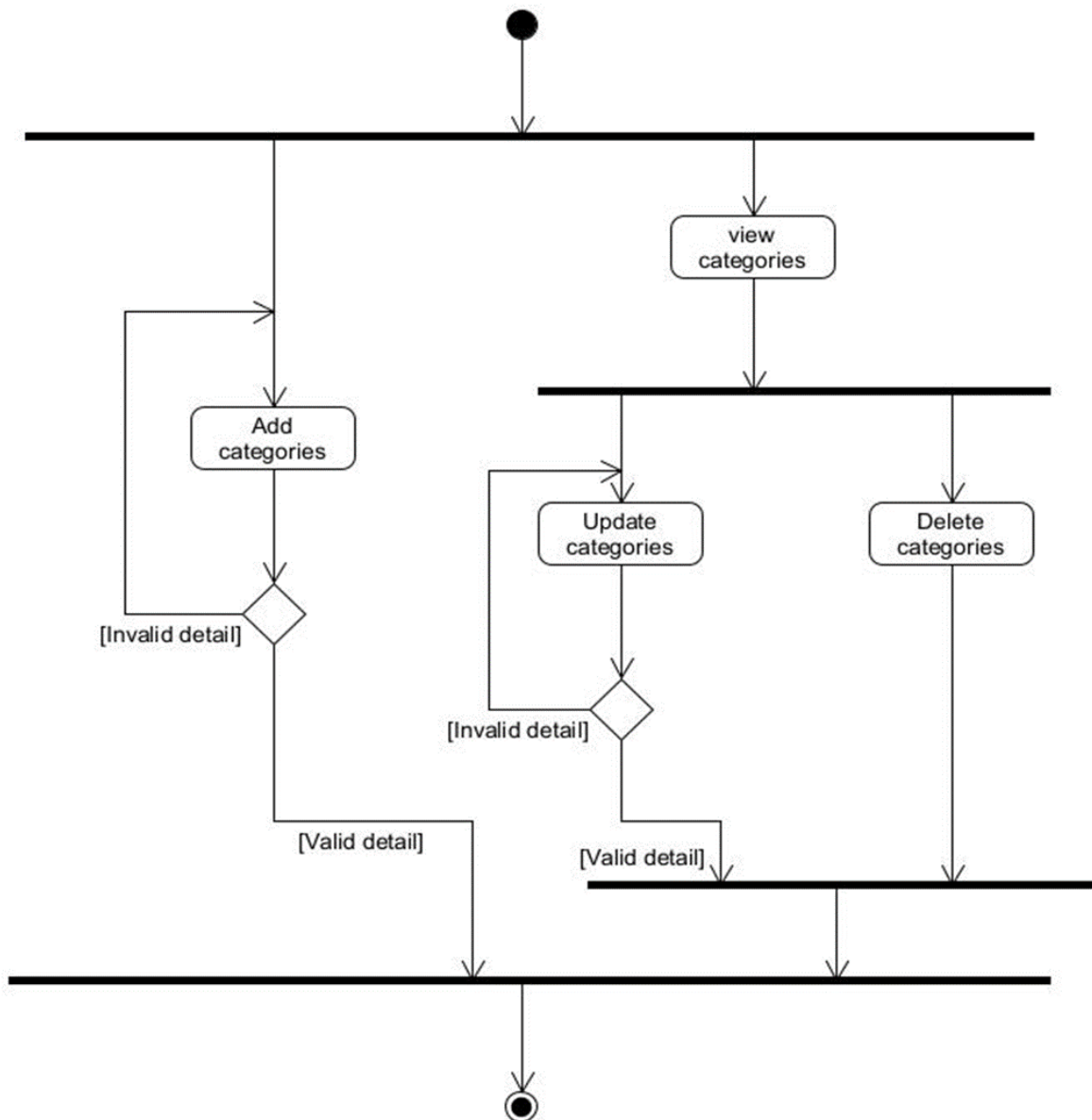


- **Manage Item:**

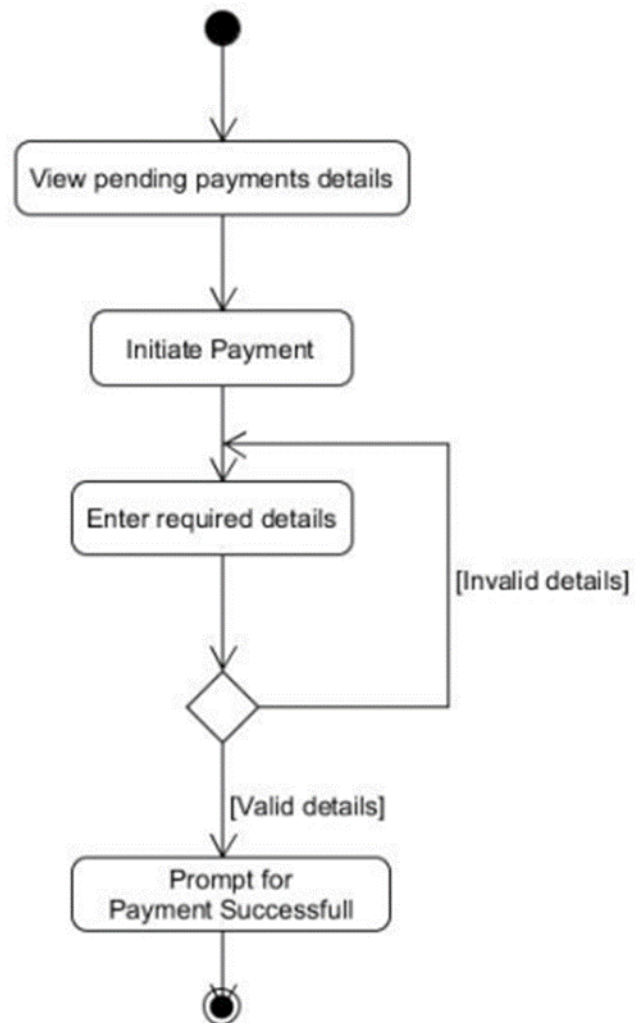




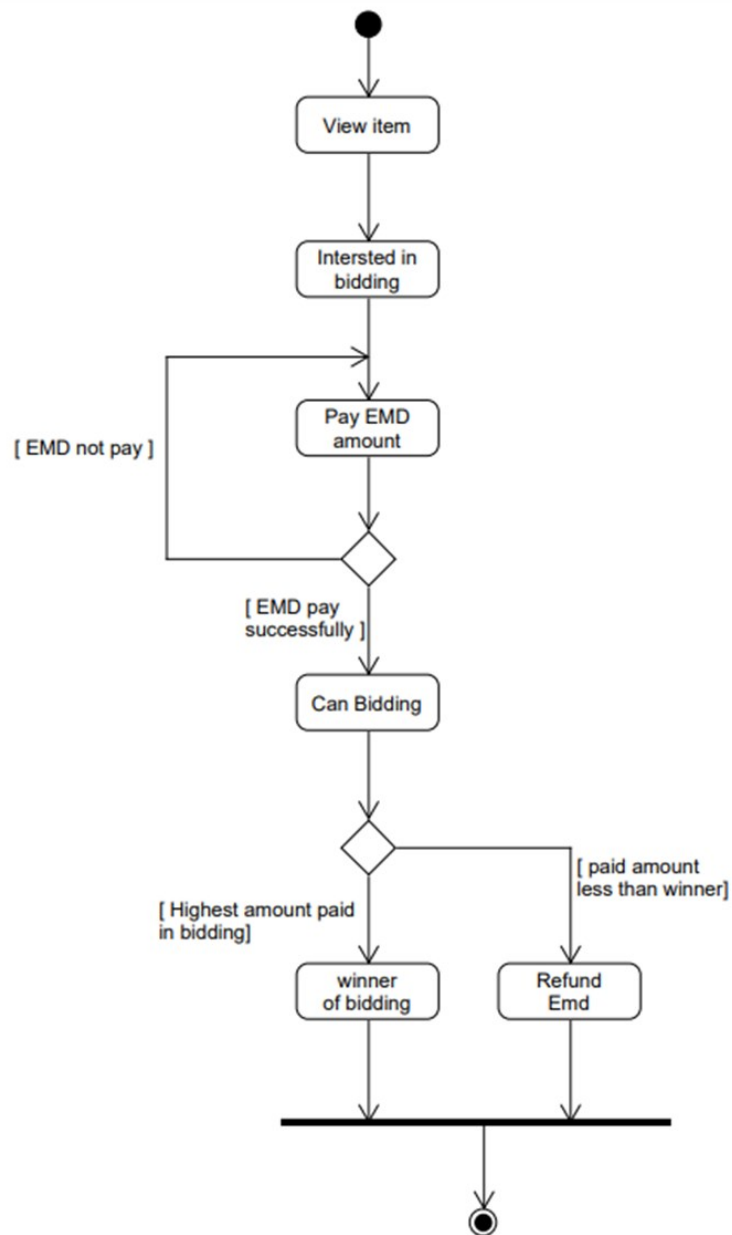
- **Manage categories:**



- **Payment:**



- **Bidding:**



## Chapter 5: System Design

### 5.1 System Design

- tblBidder(Id [PK], firstname, lastname, contact, email, date\_of\_birth, address, password, user\_img, created\_date)
- tblSeller(Id [PK], firstname, lastname, contact, email, date\_of\_birth, address, password, adhar\_number, adhar\_img, created\_date, user\_img)
- tblAdmin(Id [PK], email, password)
- tblCategory(Id [PK], name, status)
- tblItem(Id [PK], name, seller\_id [FK], category\_id [FK], description, starting\_price, verification\_certificate, verify\_status, status)
- tblImg(Id [PK], item\_id [FK], img)
- tblAuctionItem(Id [PK], item\_id [FK], start\_datetime, end\_datetime, reserve\_price, emd\_date, emd\_amount, minimum\_bidders, increment\_value, winner\_id, auction\_status)
- tblBid(Id [PK], auction\_item\_id [FK], bidder\_id [FK], bid\_value, bid\_datetime)
- tblTransaction(Id [PK], auction\_item\_id [FK], amount, datetime, type)
- tblBidderPayment(Id [PK], auction\_item\_id [FK], bidder\_id [FK], emd\_refund, full\_payment)
- tblSellerPayment(Id [PK], seller\_id [FK], auction\_item\_id [FK], amount, status)
- tblFavoriteItem(Id [PK], item\_id [FK], bidder\_id [FK])

### 5.1.1 Data Dictionary

- **tblBidder:**

Sr. No	Field Name	Datatype	Size	Constraint	Description
1.	Id	INT	-	PRIMARY KEY, AUTO_INCREMENT	Unique identifier for each bidder
2.	Firstname	VARCHAR	50	NOT NULL	First name of the bidder
3.	Lastname	VARCHAR	50	NOT NULL	Last name of the bidder
4.	Contact	BIG INT	-	NOT NULL, UNIQUE	Contact number of the bidder
5.	Email	VARCHAR	100	NOT NULL, UNIQUE	Email address of the bidder
6.	date_of_birth	DATE	-	NOT NULL	Date of birth of the bidder
7.	address	VARCHAR	255	NOT NULL	Residential address of the bidder
8.	password	VARCHAR	255	NOT NULL	Password for the bidder's account (hashed)
9.	user_img	BLOB	-	NULL	Profile image of the bidder (optional)
10.	created_date	DATE	-	NOT NULL	Store Bidder Register Date

- **tblSeller:**

Sr. No	Field Name	Datatype	Size	Constraint	Description
1.	Id	INT	-	PRIMARY KEY, AUTO_INCREMENT	Unique identifier for each seller
2.	Firstname	VARCHAR	50	NOT NULL	First name of the seller
3.	Lastname	VARCHAR	50	NOT NULL	Last name of the seller
4.	Contact	BIG INT	-	NOT NULL, UNIQUE	Contact number of the seller
5.	Email	VARCHAR	100	NOT NULL, UNIQUE	Email address of the seller
6.	date_of_birth	DATE	-	NOT NULL	Date of birth of the seller
7.	address	VARCHAR	255	NOT NULL	Residential address of the seller
8.	password	VARCHAR	255	NOT NULL	Password for the seller's account (hashed)
9.	adhar_number	VARCHAR	20	NOT NULL, UNIQUE	Aadhar number of the seller

10.	adhar_img	BLOB	-	NOT NULL	Aadhar image of the seller.
11.	created_date	DATE	-	NOT NULL	Store Bidder Register Date
12.	user_img	BLOB	-	NULL	Profile image of the seller (optional)

- **tblAdmin:**

Sr. No	Field Name	Datatype	Size	Constraint	Description
1.	id	INT	-	PRIMARY KEY, AUTO_INCREMENT	Unique identifier for admin
2.	email	VARCHAR	100	NOT NULL,	Email address of the admin
3.	password	VARCHAR	255	NOT NULL	Password for admin account (hashed)

- **tblCategory:**

Sr. No	Field Name	Datatype	Size	Constraint	Description
1.	Id	INT	-	PRIMARY KEY, AUTO_INCREMENT	Unique identifier for category

2.	name	VARCHAR	50	NOT NULL, UNIQUE	Name of the category
3.	status	enum('Active', 'Inactive')	255	enum('Active', 'Inactive')	Status of the item

- **tblItem:**

Sr. No	Field Name	Datatype	Size	Constraint	Description
1.	Id	INT	-	PRIMARY KEY, AUTO_INCREMENT	Unique identifier for each item
2.	Name	VARCHAR	100	NOT NULL	Name of the item
3.	seller_id	INT	50	FOREIGN KEY REFERENCES tblSeller(id)	Identifier of the seller
4.	category_id	INT	-	FOREIGN KEY REFERENCES tblCategory(id)	Identifier of the category
5.	Description	TEXT	100	NOT NULL	Detailed description of the item
6.	starting_price	DECIMAL	10,2	NOT NULL	Starting price of the item
7.	verification_certificate	BLOB	-	NOT NULL	Verification certificate of the item



8.	verify_status	ENUM	-	NOT NULL	Verification status of the item (values: pending, verified, sold, rejected)
9.	status	ENUM	-	NOT NULL	Status of the item(values: active, inactive)

- **tblImg:**

Sr. No	Field Name	Datatype	Size	Constraint	Description
1.	id	INT	-	PRIMARY KEY, AUTO_INCREMENT	Unique identifier for each image
2.	item_id	INT	-	FOREIGN KEY REFERENCES tblItem(id)	Identifier of the item
3.	img	BLOB	-		Image data

- **tblAuctionItem:**

Sr. No	Field Name	Datatype	Size	Constraint	Description
1.	Id	INT	-	PRIMARY KEY, AUTO_INCREMENT	Unique identifier for each auction item
2.	item_id	INT	-	FOREIGN KEY REFERENCES tblItem(id)	Identifier of the item being auctioned

3.	start_datetime	DATETIME	-	NOT NULL	Date and time when the auction starts
4.	end_datetime	DATETIME	-	NOT NULL	Date and time when the auction ends
5.	reserve_price	DECIMAL	10,2	NOT NULL	Minimum price the seller is to accept
6.	emd_date	DATETIME	-	NOT NULL	Deadline date and time for Earnest Money Deposit
7.	emd_amount	DECIMAL	10,2	NOT NULL	Amount to be deposited as Earnest Money
8.	minimum_bidders	INT	-	NOT NULL	Minimum number of bidders required
9.	increment_value	DECIMAL	10,2	NOT NULL	Minimum increment value for bids
10.	Winner_id	INT	-	NOT NULL	Stores Winner Bidder Id

- **tblbid:**

Sr. No	Field Name	Datatype	Size	Constraint	Description
1.	Id	INT	-	PRIMARY KEY, AUTO_INCREMENT	Unique identifier for each bid
2.	auction_item_id	INT	-	FOREIGN KEY REFERENCES tblAuctionItem(id)	Identifier of the auction item
3.	bidder_id	INT	-	FOREIGN KEY REFERENCES tblBidder(id)	Identifier of the bidder
4.	bid_value	DECIMAL	10,2	NOT NULL	Value of the bid
5.	bid_datetime	DATETIME	-	NOT NULL	Date and time when the bid was placed

- **tblTransaction:**

Sr. No	Field Name	Datatype	Size	Constraint	Description
1.	Id	INT	-	PRIMARY KEY, AUTO_INCREMENT	Unique identifier for each transaction
2.	auction_item_id	INT	-	FOREIGN KEY REFERENCES tblAuctionItem(id)	Identifier of the auction item
3.	amount	DECIMAL	10,2	NOT NULL	Amount of the transaction

4.	datetime	DATETIME	-	NOT NULL	Date and time of the transaction
5.	type	ENUM	-	NOT NULL	Type of transaction(values: 'EMD', EMDRefund, CustomerFull Payment, SellerPayment )

- **tblBidderPayment:**

Sr. No	Field Name	Datatype	Size	Constraint	Description
1.	Id	INT	-	PRIMARY KEY, AUTO_INCREMENT	Unique identifier for each payment
2.	auction_item_id	INT	-	FOREIGN KEY REFERENCES tblAuctionItem(id)	Identifier of the auction item
3.	bidder_id	INT	-	FOREIGN KEY REFERENCES tblBidder(id)	Identifier of the bidder
4.	emd_refund	ENUM	-	NOT NULL	EMD refund status(values: pending, done, notApplicable )

5.	full_payment	ENUM	-	NOT NULL	Full payment status(values: pending,done, notApplicable )
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- **tblSellerPayment:**

Sr. No	Field Name	Datatype	Size	Constraint	Description
1.	Id	INT	-	PRIMARY KEY, AUTO_INCREMENT	Unique identifier for each payment
2.	seller_id	INT	-	FOREIGN KEY REFERENCES tblSeller(id)	Identifier of the seller
3.	Auction_item_id	INT	-	FOREIGN KEY REFERENCES tblAuctionItem(id)	Identifier of the auction item
4.	amount	DECIMAL	10,2	NOT NULL	Amount of the payment
5.	status	ENUM	-	NOT NULL	Payment status (values: pending, done)

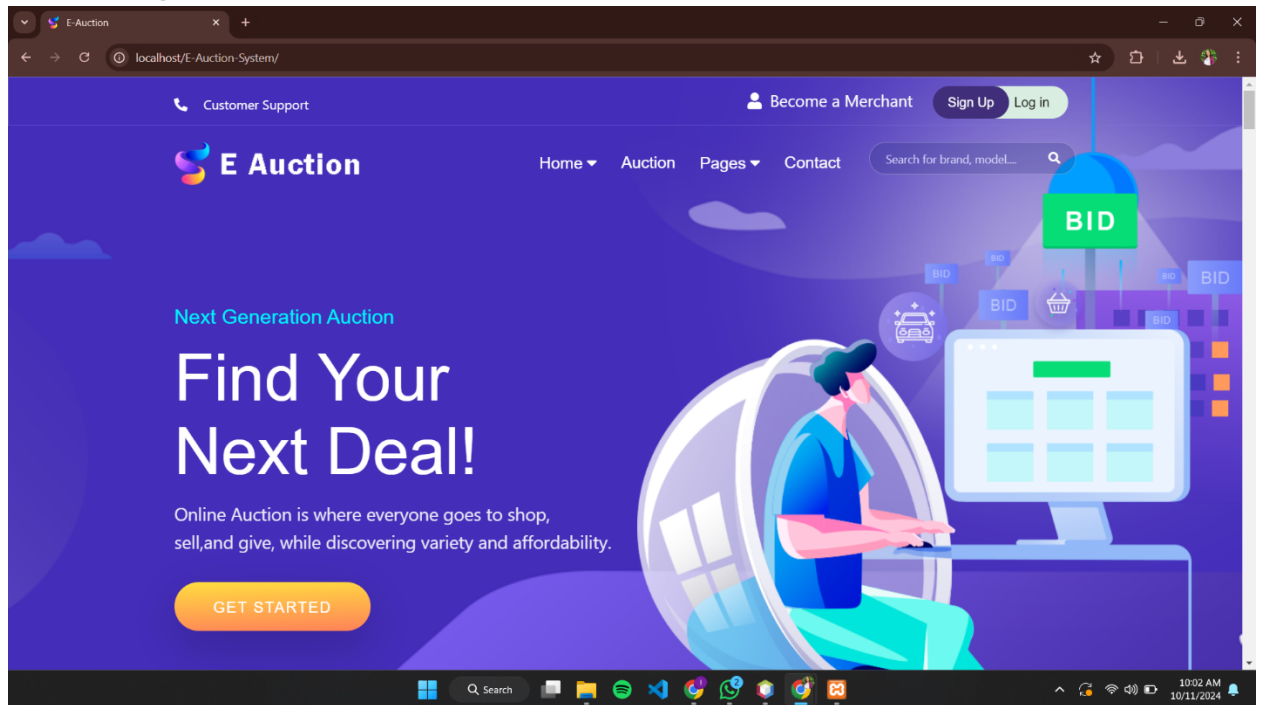
- **tblFavoriteItem:**

Sr. No	Field Name	Datatype	Size	Constraint	Description
1.	id	INT	-	PRIMARY KEY, AUTO_INCREMENT	Unique identifier for each favorite item
2.	item_id	INT	-	FOREIGN KEY REFERENCES tblItem(id)	Identifier of the item
3.	bidder_id	INT	-	FOREIGN KEY REFERENCES tblBidder(id)	Identifier of the bidder

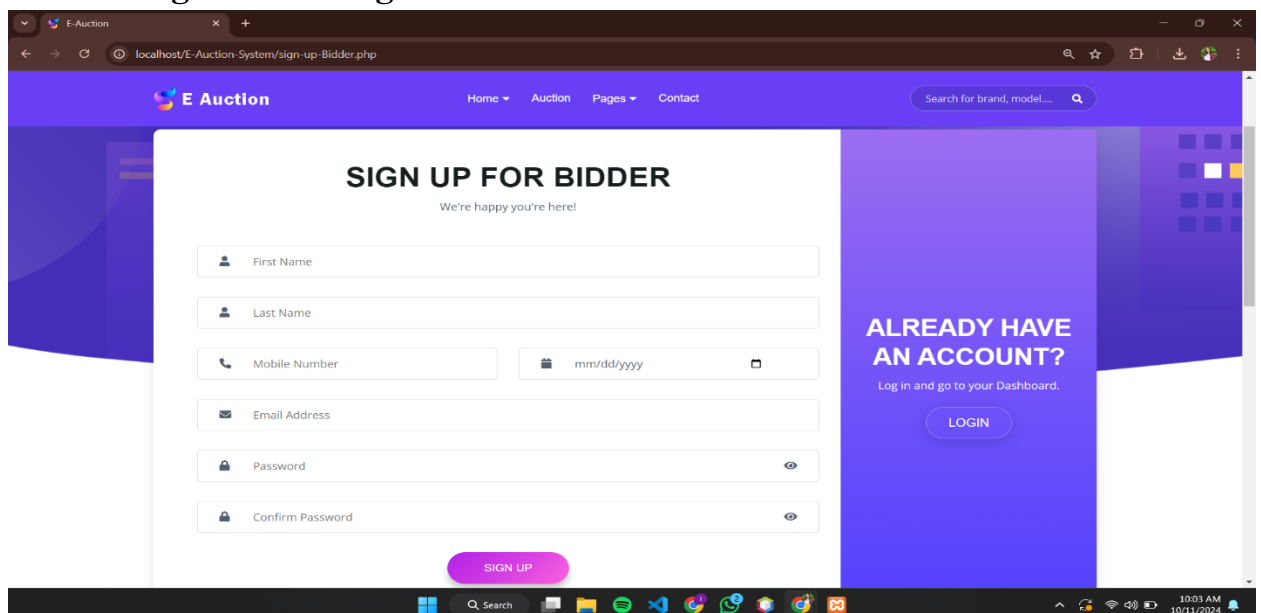
## Chapter 6: System Implementation

### 6.1 Screenshots

- Home Page



- Bidder Registration Page



- **Seller Registration Page**

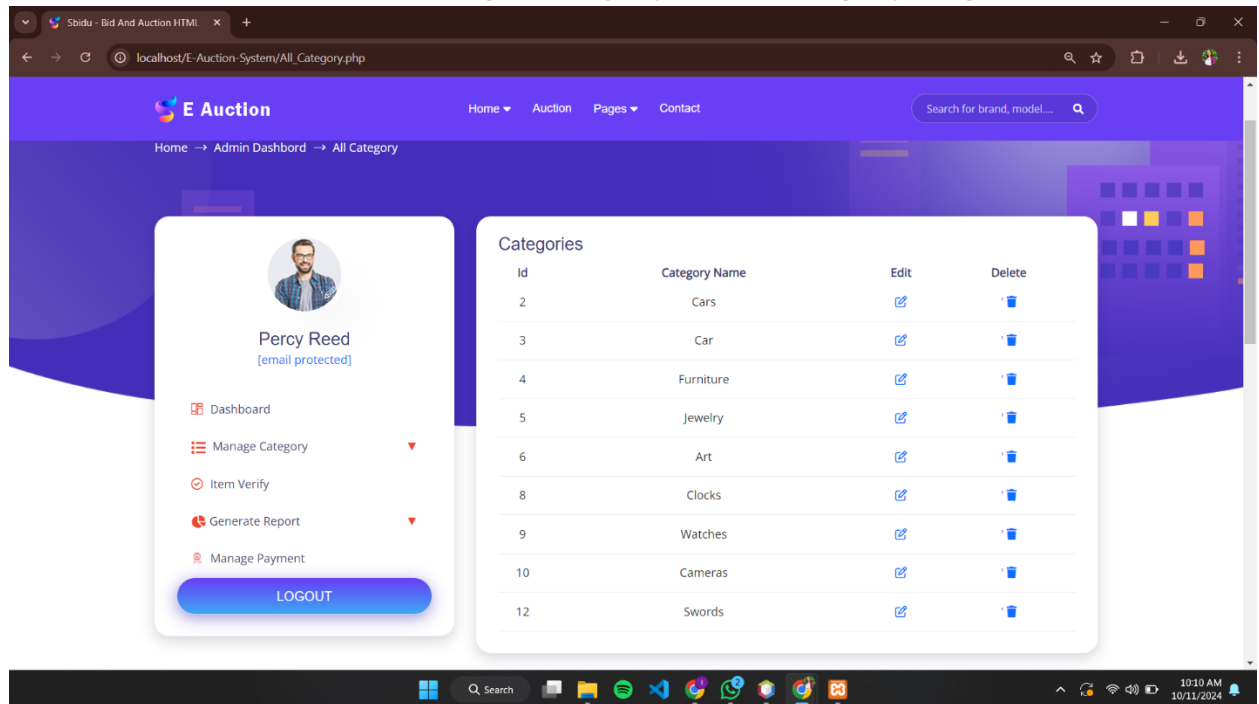
The screenshot shows the 'SIGN UP FOR SELLER' page of the E-Auction system. The page has a purple header with the 'E Auction' logo and navigation links: Home, Auction, Pages, and Contact. A search bar is located in the top right corner. The main content area is white and contains a registration form with the following fields: First Name, Last Name, Mobile Number, Email Address, Adhar No (with a date format hint 'mm/dd/yyyy'), a file upload section for an Adhar Card (accepting PDF, JPEG, or JPG formats), Password, and Confirm Password. A 'SIGN UP' button is at the bottom of the form. To the right of the form, there is a purple sidebar with the text 'ALREADY HAVE AN ACCOUNT?' and a 'LOGIN' button. The browser's address bar shows the URL 'localhost/E-Auction-System/sign-up-merchant.php'.

- **Login Page**

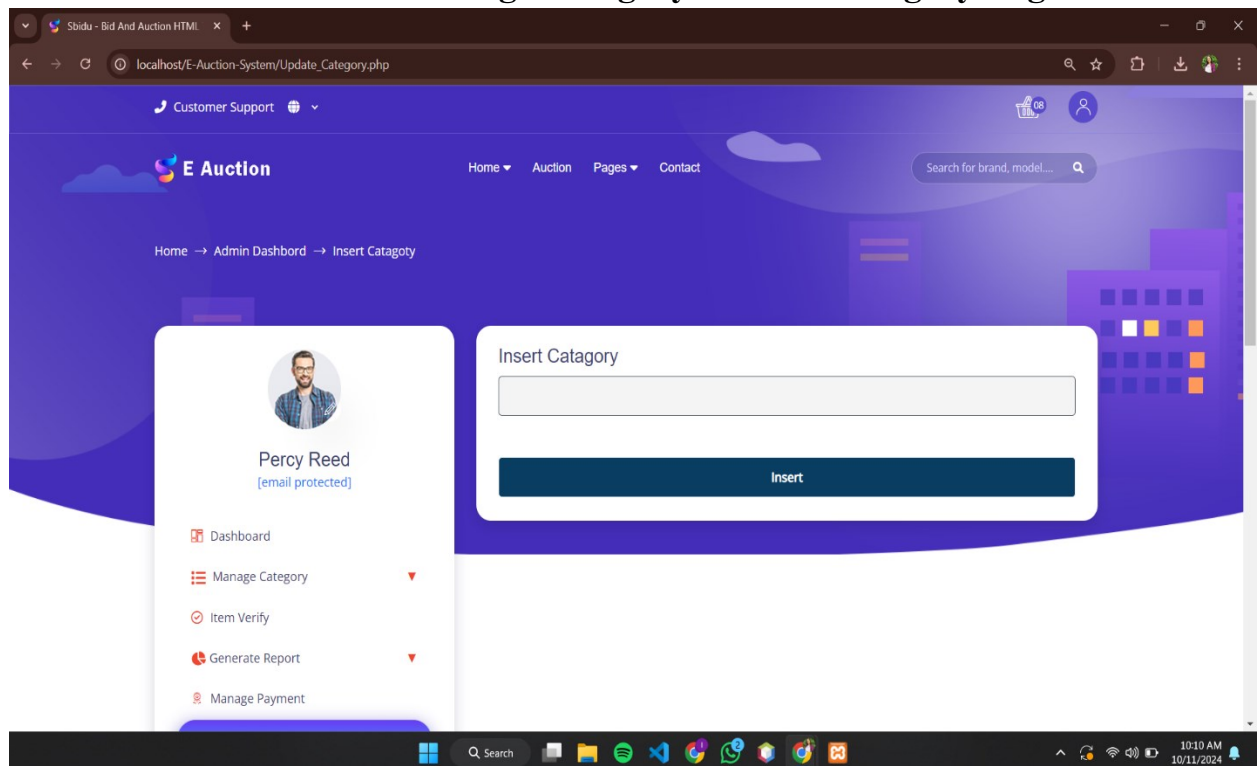
The screenshot shows the login page of the E-Auction system. The page has a purple header with the 'E Auction' logo and navigation links: Home, Auction, Pages, and Contact. A search bar is located in the top right corner. The main content area is white and contains a login form with the following fields: Email Address and Password. A 'Forgot Password?' link is located below the password field. A 'LOG IN' button is at the bottom of the form. To the right of the form, there is a purple sidebar with the text 'NEW HERE?' and a 'SIGN UP' button. The browser's address bar shows the URL 'localhost/E-Auction-System/sign-in.php'.



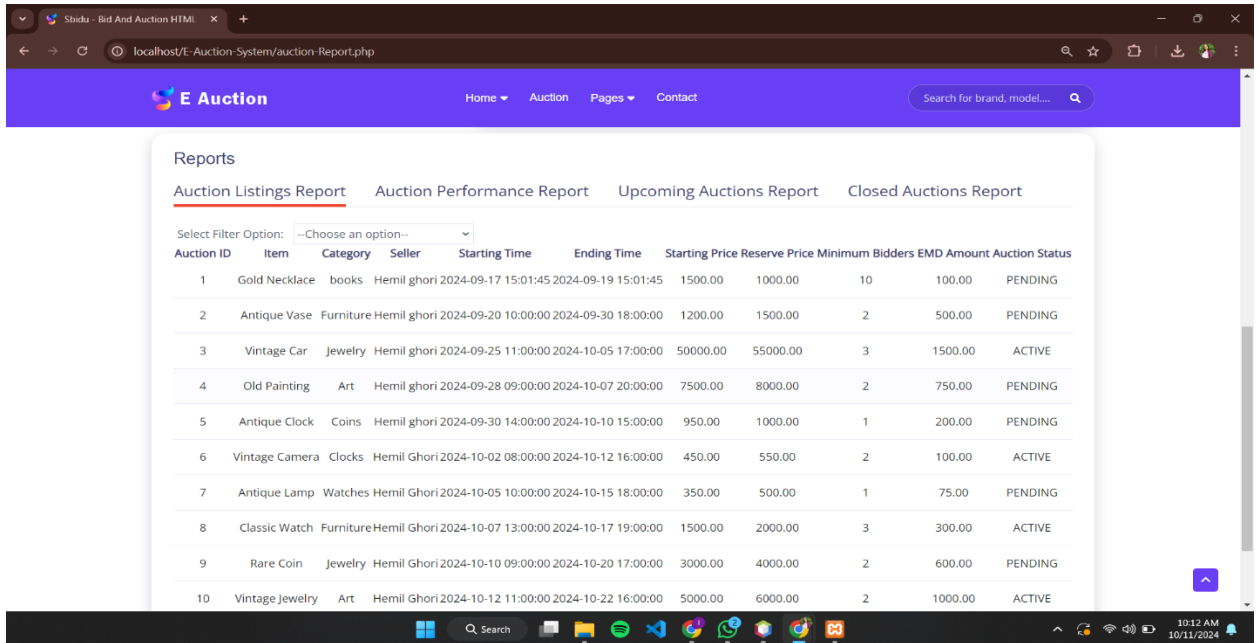
- **Admin Dashboard->Manage Category->All Category Page**



- **Admin Dashboard -> Manage Category->Insert Category Page**



- Admin Dashboard -> Auction Report Page



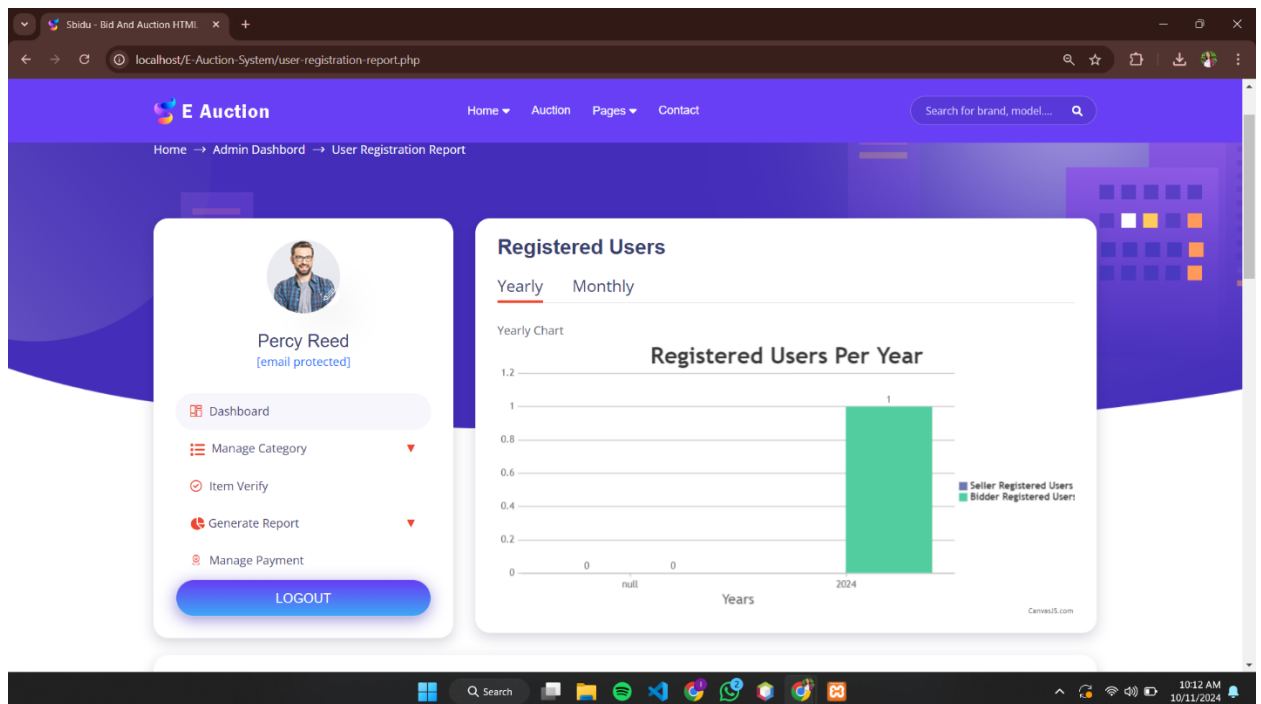
**Reports**

Auction Listings Report   Auction Performance Report   Upcoming Auctions Report   Closed Auctions Report

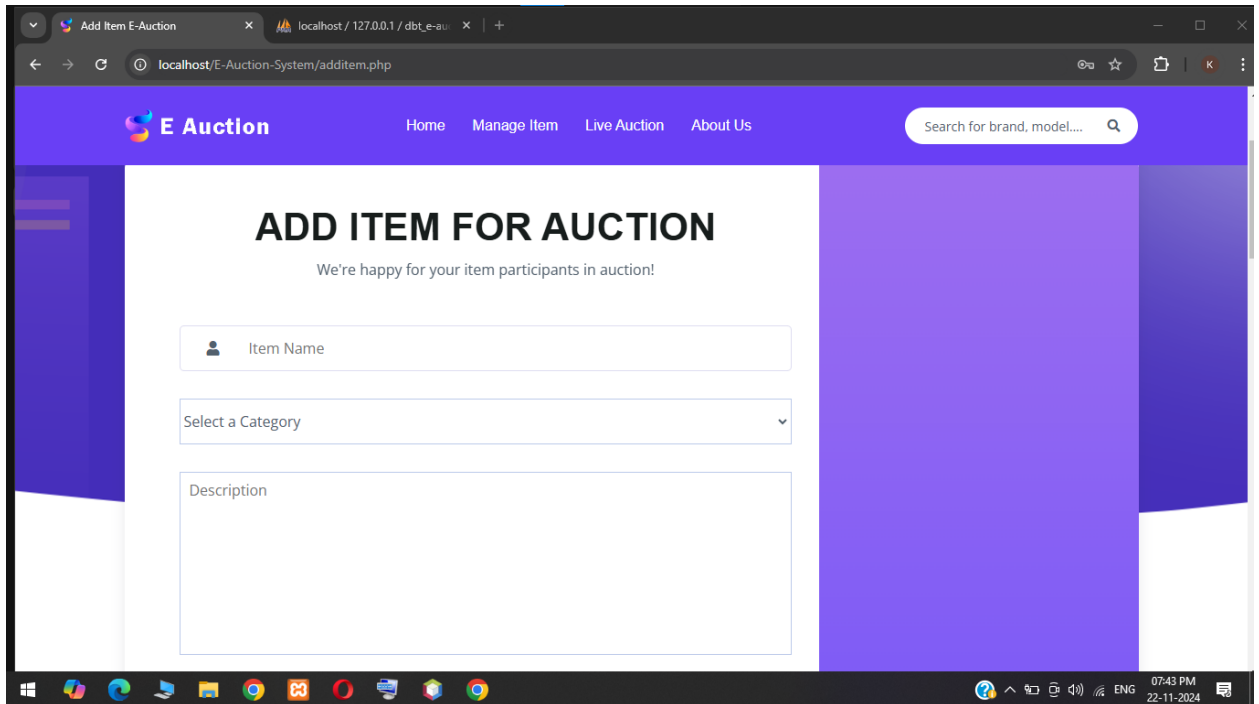
Select Filter Option: --Choose an option--

Auction ID	Item	Category	Seller	Starting Time	Ending Time	Starting Price	Reserve Price	Minimum Bidders	EMD Amount	Auction Status
1	Gold Necklace	books	Hemil ghori	2024-09-17 15:01:45	2024-09-19 15:01:45	1500.00	1000.00	10	100.00	PENDING
2	Antique Vase	Furniture	Hemil ghori	2024-09-20 10:00:00	2024-09-30 18:00:00	1200.00	1500.00	2	500.00	PENDING
3	Vintage Car	Jewelry	Hemil ghori	2024-09-25 11:00:00	2024-10-05 17:00:00	50000.00	55000.00	3	1500.00	ACTIVE
4	Old Painting	Art	Hemil ghori	2024-09-28 09:00:00	2024-10-07 20:00:00	7500.00	8000.00	2	750.00	PENDING
5	Antique Clock	Coins	Hemil ghori	2024-09-30 14:00:00	2024-10-10 15:00:00	950.00	1000.00	1	200.00	PENDING
6	Vintage Camera	Clocks	Hemil Ghori	2024-10-02 08:00:00	2024-10-12 16:00:00	450.00	550.00	2	100.00	ACTIVE
7	Antique Lamp	Watches	Hemil Ghori	2024-10-05 10:00:00	2024-10-15 18:00:00	350.00	500.00	1	75.00	PENDING
8	Classic Watch	Furniture	Hemil Ghori	2024-10-07 13:00:00	2024-10-17 19:00:00	1500.00	2000.00	3	300.00	ACTIVE
9	Rare Coin	Jewelry	Hemil Ghori	2024-10-10 09:00:00	2024-10-20 17:00:00	3000.00	4000.00	2	600.00	PENDING
10	Vintage Jewelry	Art	Hemil Ghori	2024-10-12 11:00:00	2024-10-22 16:00:00	5000.00	6000.00	2	1000.00	ACTIVE

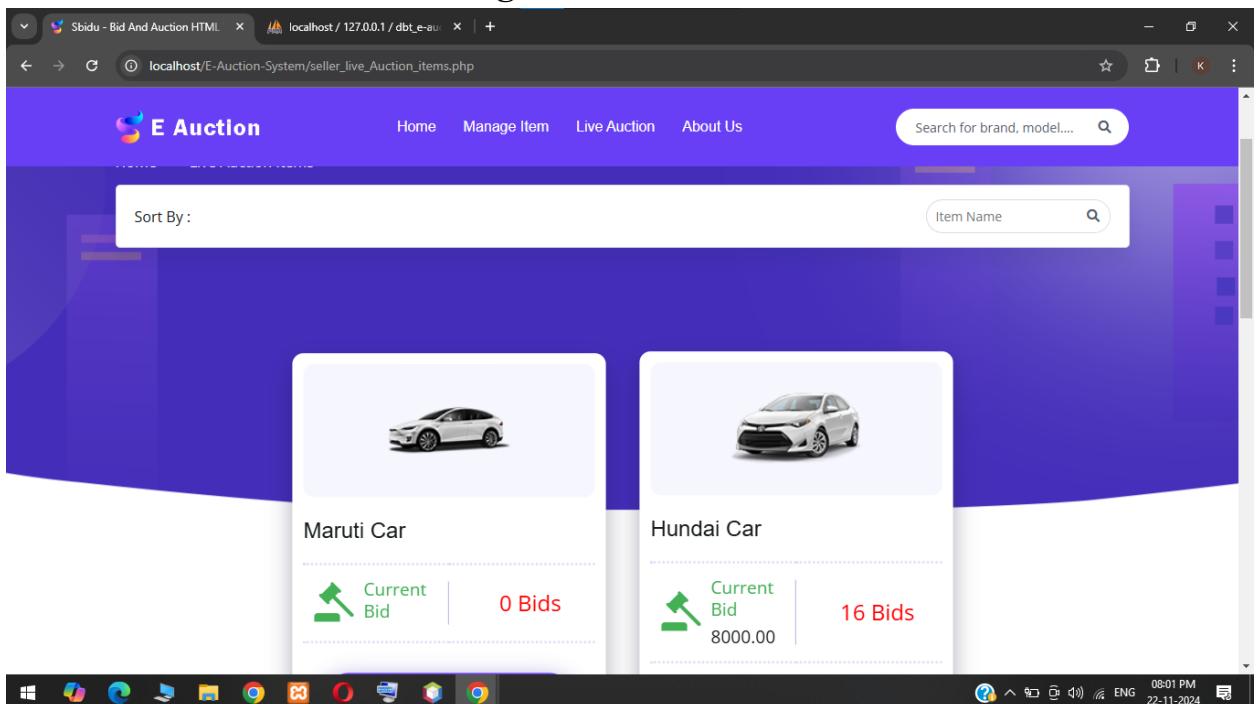
- Admin Dashboard-> User Registration Page



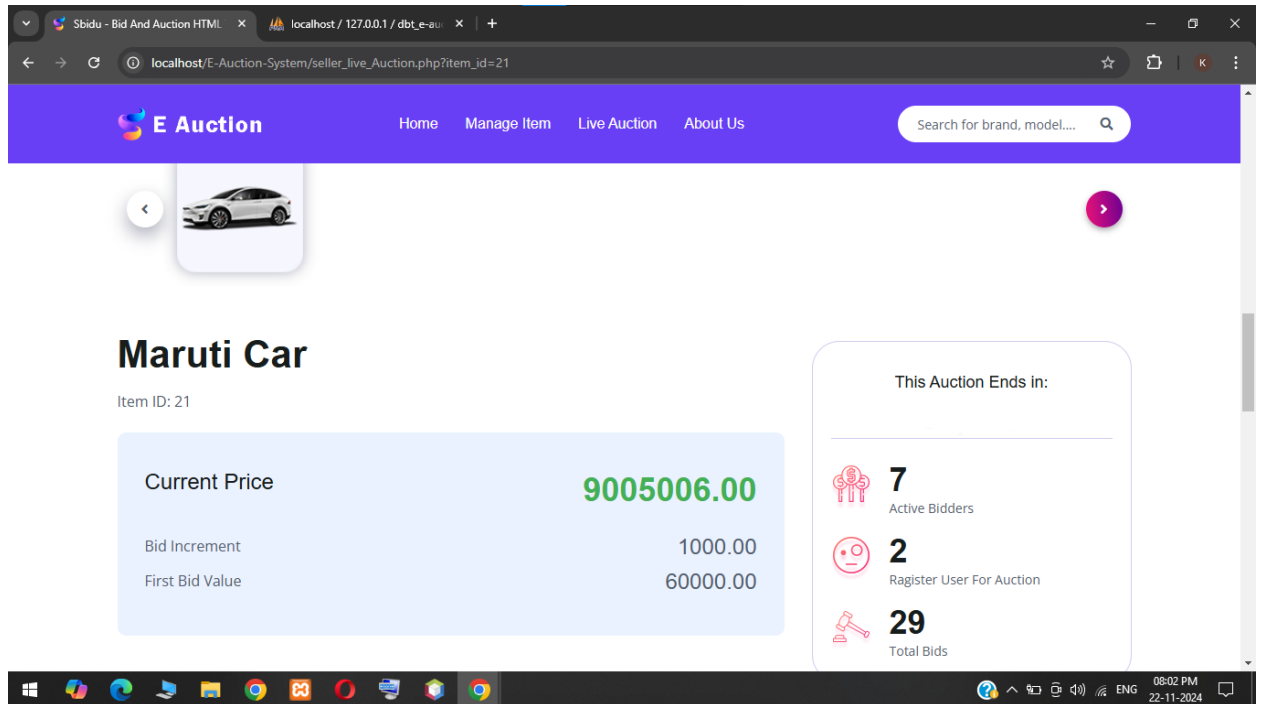
- **Seller -> Mange Item Page**



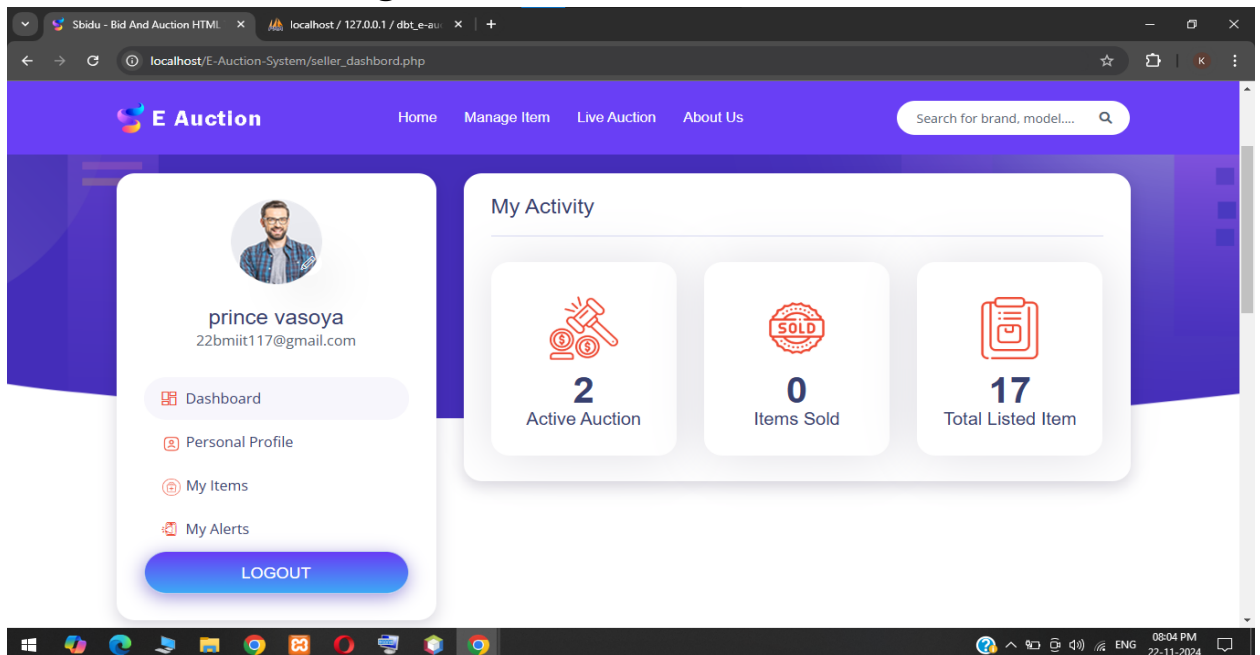
- **Seller ->Live Auction Items Page**



- **Seller ->Live Auction Page**



- **Seller ->Dashboard Page**



## Chapter 7: Testing

### 7.1 Test cases

Test Case ID	Test Case	Inputs	Expected Output	Actual Output	Status
TC1	Verify Login Functionality	Username: testuser Password: Test@1234	User is redirected to the dashboard	User is redirected to the dashboard	Pass
TC2	Verify Registration Functionality	Name, email, password, phone, DOB, etc.	User account is created, and email OTP is sent	User account is created, and email OTP is sent	Pass
TC3	Forgot Password Functionality	Registered email address	Email OTP is sent and redirected to the forgot password page	Email OTP is sent and redirected to the forgot password page	Pass
TC4	Add Auction Item	Item details	Item is listed with a "pending" status	Item is listed with a "pending" status	Pass
TC5	Add Auction Item Without Proof	Item details without proof of authenticity	Item is not accepted, error message displayed	Item is not accepted, error message displayed	Pass
TC6	Place Bid	Bid value for a live auction	Bid is placed	Bid is placed	Pass
TC7	Payment Processing	Payment details for EMD	Payment is successful, and confirmation is shown	Payment is successful, and confirmation is shown	Pass

<b>TC8</b>	Verify Auction Winner	Auction ends with the highest bid	Winner is determined and notified	Winner is determined and notified	Pass
<b>TC9</b>	Registration with Duplicate Email	Name, email (already registered), password	"Email already exists" error is displayed	Winner is determined and notified	Pass
<b>TC10</b>	Access Admin Panel as Non-Admin	Login as a bidder or seller	"Access denied" error is displayed	As Expected	Pass
<b>TC11</b>	Attempt to Bid Without EMD Payment	Bidding on an auction without paying EMD	"You must pay the EMD to participate in the auction"	As Expected	Pass
<b>TC12</b>	Reserve Price Not Met	First bid below the reserve price	Auction does not start	As Expected	Pass

## **Chapter 8: Future Enhancement**

- Future enhancements could include adding mobile app support, Bid Status Notification, Item Delivery and integration with social media for auction promotion.

## **Chapter 9: Conclusion**

- The E-Auction Management System is a web-based platform facilitating antique item auctions between sellers and bidders across India. It automates the auction process, including item listing, bidding, payments, and refunds, with admin oversight for smooth transactions.

## **Chapter 10: Bibliography**

- Razor pay API Document
- Previous Project Documents
- GitHub
- ThemeForest for Template Integration