Auction Management System

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System Requirements Specification

1. Introduction

Auction management system is a web-based application with the objective of buying and selling products through e-bidding. Users can list their products for auction or participate in ongoing bids. Sellers name a starting price and when a bid is placed, duration will allotted by the seller. Bidders bid against other bidders and when the auction ends, the highest bidder wins the auction and pays for the item (with credit card or PayPal).

Previously ,Auction costs time and money for both buyers and sellers. Buyers need to travel to participate in the auction while sellers need to set up a live event. Products need to be moved to one central location for an auction to be held. But with the availability of an online auction system this leads to no cost for the above factors.

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2. User Requirements

The system shall enable the users to interact with themselves, each user should be able to Register , Login , View history of the auctions , there is three types of users:

- Bidder : who should be able to visit the site, scan and search for the products he want, and whatever he likes from the site, choose it and bid on them, and with other competitors, the bidder with the largest bidding get the product.

- Seller : who should be able to start auction and offer his own item.

- Admin : who should be able to moderate other users and accepts the auction requests.

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3. Functional Requirements

1. Login	
Description	The system shall allow users to register and create an account using their email address and password. The system shall also allow users to login to the system using their registered email address and password.
Inputs	- E_mail. – Password.
Source	User.
Pre-Conditions	Data validation.
Post-Conditions	None.
Output	Navigate to the home page.

2. Start Auction	
Description	The system shall allow auctioneers to create auctions and manage them.
Inputs	- Item name. - Lowest bid. - Details. - Duration.
Source	Seller.
Pre-Conditions	Admin approves the item to be auctioned.
Post-Conditions	Bidders should participate (Place Bid) in the auction that the seller started.
Output	Generate the item's Auction Form.

3. Place Bid	
Description	The system shall allow users to bid on auctions. The user shall provide the following details to place a bid.
Inputs	Bid Amount.
Source	Bidder.
Pre-Conditions	- Auction Validation. - Bidder is logged in.
Post-Conditions	- Place a bid that is higher than the currently highest bid on this item.
Output	new highest bid amount.

4. View History	
Description	The system shall provide an auction history feature where users can view their bidding and purchase history.
Inputs	Item.
Source	Auctions database.
Pre-Conditions	- Auction started.
Post-Conditions	None.
Output	- Display Auction History.

5. Confirm Payment	
Description	The system shall provide a payment system where bidders can make payments for their purchases. The payment system shall be secure and reliable.
Inputs	- Payment amount. - Payment Method.
Source	Bidder
Pre-Conditions	Bidder has the highest bid (won the Auction).
Post-Conditions	Payment Authentication.
Output	Payment details.

6. Confirm Auction Request	
Description	The system admin can confirm items to be auctioned from the sellers.
Inputs	- Auction Request.
Source	Seller.
Pre-Conditions	Auctioneer send request to start Auction.
Post-Conditions	Request should be approved or denied.
Output	Admin Reply.

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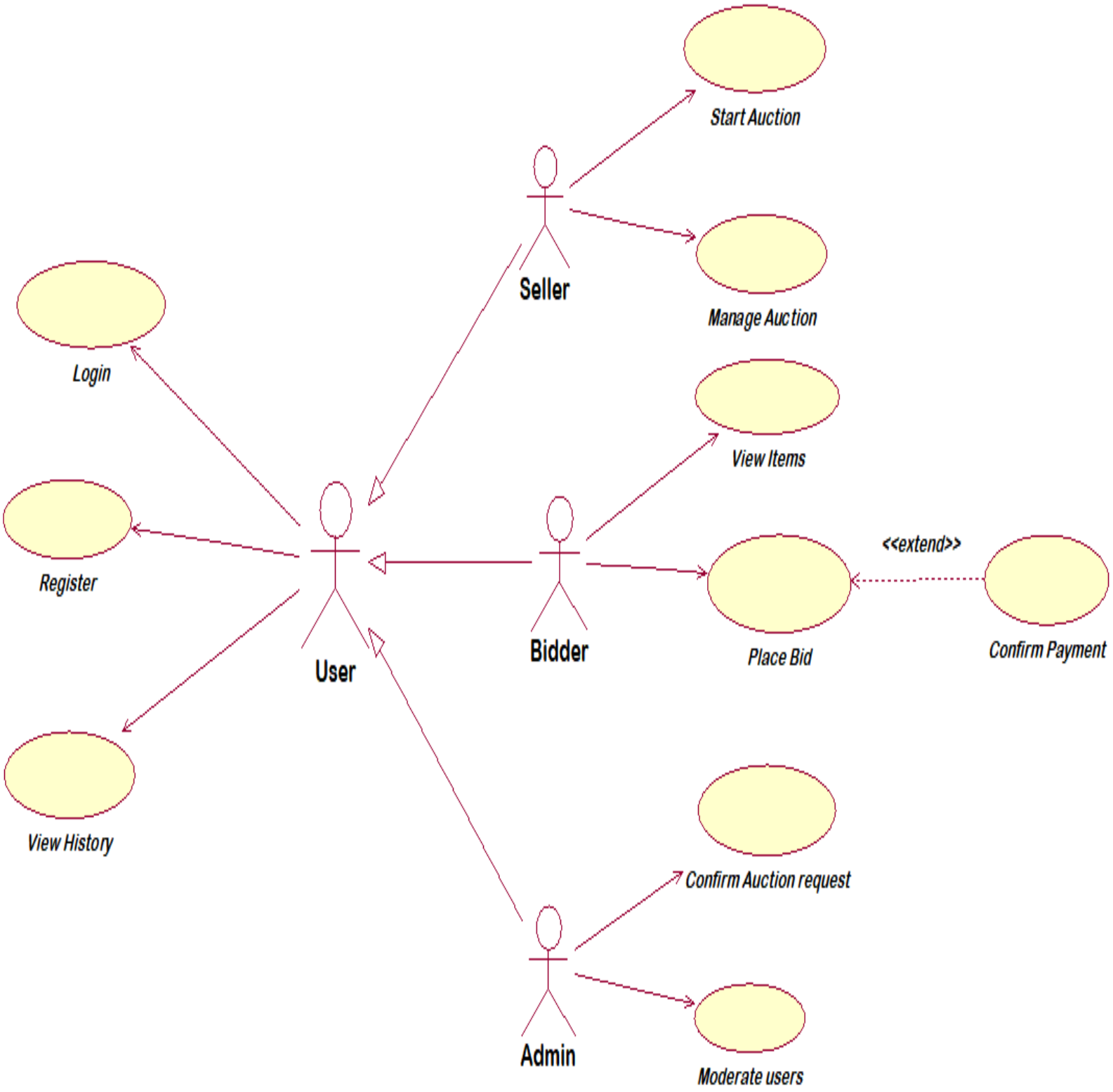
4. Non-Functional Requirements

Requeirement	Description
1. Maintainability	The system is easy to maintain with clear documentation and up to date without giving error in any stage of the system.
2. Security	The system guarantees the privacy, availability, and safety of all data and transactions and it secures sensitive information and provides methods for network security, authentication, and encryption.
3. Reliability	The system guarantees to be always available and has redundancy , backup and system recovery.
4. Usability	The system is easy ,simple, clear, and straightforward to use and it provides clear instructions and feedback.
5. Availability	The system is available and accessible 24/7 to ensure that bidders can participate in the auction at any time.
6. Scalability	The system guarantees the ability to handle an increasing number of bidders, items and transactions as the auction grows in size.

Use Case Diagram



Sequence Diagram

Place Bid: