ONLINE AUCTION SYSTEM

A Project Report

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BY

PAL KRISHNA RAMASARE

Seat No:3025266

Under the esteemed guidance

Mrs. AMRIN NAAZ SHOAIB MOHAMMED

Designation (ASSISTANT PROFESSOR)

DEPARTMENT OF INFORMATION TECHNOLOGY

SKC JR. & DEGREE COLLEGE

(Affiliated to the University of Mumbai)

VASAI (W), 401202

MAHARASHTRA

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PRN No.: 2022016400385226

Roll No.: TIT - 41

Student Name: PAL KRISHNA RAMASARE

Project Title: ONLINE AUCTION SYSTEM

Guide: Mrs. AMRIN NAAZ SHOAIB MOHAMMED

Signatures

Student: .....

Guide: .....

Coordinator: .....

Date: .....

ABSTRACT

An Online Auction System is a web-based platform that facilitates buying and selling of products through a bidding mechanism. It enables sellers to list items for auction, while buyers place bids in real-time, with the highest bidder winning the auction at the end of the bidding period. This system enhances accessibility, transparency, and efficiency compared to traditional auctions by allowing users to participate from anywhere with an internet connection.

Key features include user authentication, product listing, bidding management, automatic bid increments, payment integration, and real-time notifications. The system ensures fairness by enforcing bidding rules and preventing fraudulent activities. It leverages secure payment gateways and encryption techniques to protect user data and financial transactions.

The implementation of an online auction system improves market efficiency, expands the customer base for sellers, and offers a competitive yet convenient platform for buyers. This system can be widely applied to e-commerce, collectibles, real estate, automobiles, and various other industries. Future advancements may integrate artificial intelligence (AI) for price predictions and blockchain technology for enhanced security and transparency.

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to everyone who contributed to the successful completion of this project on the Online Auction System.

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This project has been a great learning experience, and I sincerely acknowledge everyone who contributed, directly or indirectly, to its successful completion.

DECLARATION

I hereby declare that the project report titled "ONLINE AUCTION SYSTEM" is my original work and has been completed as part of SKC DEGREE COLLEGE requirements. This project has been developed through my personal efforts, research, and dedication, with guidance and support from MRS. AMRIN NAAZ SHOAIB MOHAMMED

I affirm that this work has not been previously submitted to any institution or organization for any degree, diploma, certification, or publication. Any references, materials, or insights borrowed from other sources have been duly acknowledged and cited within the report.

I take full responsibility for the authenticity and integrity of the work presented in this project**.**

PAL KRISHNA RAMASARE

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SYNOPSIS

Introduction

In today's digital era, online auctions have revolutionized the way goods and services are bought and sold. An **Online Auction System** is a web-based platform that enables users to participate in auctions remotely, eliminating the limitations of traditional, physical auction houses. This system provides a dynamic, competitive environment where sellers can list products for bidding, and buyers can place bids in real-time, with the highest bidder winning the item at the end of the auction period.

The primary objective of an online auction system is to offer **a secure, transparent, and efficient** platform for conducting auctions. It enhances accessibility by allowing users to bid from anywhere, promotes fair competition, and ensures seamless transactions through integrated payment gateways. Additionally, it includes essential features such as **user authentication, product management, bidding history tracking, automated bid increments, and real-time notifications** to improve user experience.

Online auction systems are widely used in various industries, including **e-commerce, antiques and collectibles, real estate, automobiles, and industrial equipment**. With advancements in technology, modern auction platforms are integrating **artificial intelligence (AI) for price prediction** and **blockchain technology for enhanced security and transparency**.

This system not only benefits sellers by expanding their customer reach but also provides buyers with a convenient and competitive marketplace to acquire products at the best possible prices. As online commerce continues to grow, online auctions are becoming an essential component of the digital marketplace, redefining traditional buying and selling methods.

The **Online Auction System** is an advanced digital platform that empowers users to participate in **virtual auctions**, facilitating seamless buying and selling of goods. Designed to **replicate, enhance, and modernize** traditional auction methods, this system offers **real-time competitive bidding, robust security measures, intuitive user registration, and efficient item management**.

By providing a **transparent, accessible, and user-friendly** marketplace, the platform ensures a smooth and engaging auction experience. It enables **sellers to showcase and list their products effortlessly**, while **buyers can place bids dynamically** in a **secure and competitive** environment. This project is dedicated to **delivering an innovative, efficient, and seamless** auction system that revolutionizes the way users interact in the digital marketplace.

Type of Project

This project is a web-based application developed as a prototype under the simulated organization name “AuctionHub Inc.” It is designed to replicate a real-world online auction platform, offering an interactive, user-friendly, and highly secure environment for buying and selling through real-time bidding.

The system is built using modern frontend and backend technologies, ensuring a seamless and responsive user experience. The frontend provides an intuitive interface for users to navigate auctions, place bids, and manage their accounts efficiently. The backend is responsible for handling core functionalities such as user authentication, bid processing, data encryption, fraud detection, and transaction security.

Key features of the platform include:

- ✅ Real-time auctions with live bid updates
- ✅ User authentication and role management (buyers & sellers)
- ✅ Secure payment gateway integration for safe transactions
- ✅ Automated bidding system (proxy bidding) for convenience
- ✅ Advanced data encryption to protect user information
- ✅ Mobile-friendly, cross-device compatibility
- ✅ Admin panel for monitoring auctions and managing users

The platform is accessible from any device with a web browser, supporting seamless participation from desktops, tablets, and mobile phones. By integrating robust security protocols and scalable architecture, this system ensures a reliable, efficient, and fair auctioning experience for all users.

Technologies Used

To ensure a robust, scalable, and interactive auction experience, the AuctionHub Inc. platform integrates various modern technologies for frontend design, backend processing, database management, and real-time bidding.

✅ Frontend Technologies:

- HTML5, CSS3, JavaScript – Used for creating a responsive and visually appealing user interface.
- Bootstrap/React.js (Optional Enhancement) – Can be incorporated for improved UI components and faster rendering.

✅ Backend Technologies:

- PHP, Node.js – Used for handling server-side logic, user authentication, auction processing, and data management.
- Express.js (Optional with Node.js) – Helps streamline API requests for a more efficient backend.

✅ Database Management:

- SQL (MySQL/PostgreSQL) – Manages user records, item listings, bid history, and transaction logs securely.
- MongoDB (Optional Alternative) – Can be used for a NoSQL, flexible, and scalable data storage solution.

✅ Real-Time Bidding & Auction Tracking:

- JavaScript & WebSockets – Ensures instant bid updates and live auction monitoring, providing a smooth real-time bidding experience.
- Socket.io (for Node.js) – Enhances bid synchronization between multiple users.

✅ Additional Enhancements:

- Payment Integration (PayPal, Stripe, Razorpay, etc.) – For secure and seamless transactions.
- Security Measures (JWT Authentication, OAuth, HTTPS, Data Encryption) – Protects user credentials and transactions.
- Admin Dashboard (PHP/Node.js + AdminLTE or React Dashboard) – For auction management, user monitoring, and fraud detection.

By leveraging these technologies, the Online Auction System ensures a fast, secure, and user-friendly environment for buyers and sellers, optimizing performance and reliability.

Objective

The **Online Auction System** aims to deliver a **secure, efficient, and user-friendly** platform for conducting online auctions. The key objectives of the project include:

1️⃣ Developing an Intuitive User Interface

- Design a **clean, responsive, and easy-to-navigate** interface that enhances user experience.
- Provide well-structured menus for **browsing auction listings, placing bids, and managing transactions effortlessly**.

2️⃣ Implementing Secure Registration and Authentication

- Ensure **encrypted login mechanisms** (e.g., **hashed passwords, JWT authentication**).
- Define **user roles** (e.g., buyers, sellers, admins) with appropriate access control.
- Implement **multi-factor authentication (MFA)** for enhanced security.

3️⃣ Facilitating Real-Time Bidding

- Enable **live auction tracking** with instant bid updates using **WebSockets and JavaScript**.
- Implement **automatic bid increments** and **proxy bidding** for a seamless experience.
- Ensure **bid confirmation notifications** to keep users informed.

4️⃣ Ensuring Transparency

- Display **detailed bid history, auction rules, and item descriptions** for users.
- Prevent fraudulent activities with **IP tracking, bid validation, and anti-bot protection**.
- Provide an **audit log for admins** to monitor suspicious activities.

5️⃣ Supporting Buyer-Seller Communication

- Integrate **messaging features** for direct communication between buyers and sellers.
- Enable **real-time notifications** (email/SMS) for bid status updates, auction reminders, and transaction alerts.
- Provide a **rating and feedback system** to enhance trust among users.

6️⃣ Integrating a Secure Payment Gateway

- Implement **safe and reliable online payment options** (e.g., **PayPal, Stripe, Razorpay**).
- Ensure **end-to-end encryption** for financial transactions.
- Provide **refund and dispute management** features for transaction security.

By meeting these objectives, the **Online Auction System** ensures a **seamless, transparent, and highly secure** digital auction environment, enhancing user engagement and trust.

Modules

To ensure a secure, efficient, and interactive auction experience, the Online Auction System is divided into the following key modules:

1️⃣ User Registration and Authentication

- 🔹 Users register with secure, encrypted passwords and email verification.
- 🔹 Three user roles: Admin, Buyer, and Seller, each with specific access controls.
- 🔹 Multi-factor authentication (MFA) for enhanced security.
- 🔹 OAuth integration (Google, Facebook) for quick sign-in.

2️⃣ Product Listing Module

- 🔹 Sellers can upload item details with descriptions, images, categories, and set starting bids.
- 🔹 Admins review, approve/reject listings to ensure compliance with platform policies.
- 🔹 Option to set reserve prices (minimum price required to sell).
- 🔹 Advanced search and filter options for easy item discovery.

3️⃣ Auction Management

- 🔹 Handles all active, upcoming, and completed auctions.
- 🔹 Tracks highest bids in real-time and dynamically updates auction status.
- 🔹 Provides countdown timers to indicate time remaining.
- 🔹 Admins can extend or cancel auctions if necessary.

4️⃣ Bidding Module

- 🔹 Registered users can place live bids, with the highest bid updated instantly.
- 🔹 Automatic bid increment (proxy bidding) for user convenience.
- 🔹 Anti-sniping feature to prevent last-second bid manipulations.
- 🔹 Real-time notifications for outbidding alerts.

5️⃣ Payment Processing

- 🔹 Secure payment gateway integration (e.g., PayPal, Stripe, Razorpay).
- 🔹 Ensures funds are securely transferred to sellers after auction closure.
- 🔹 Escrow system (optional) to hold payments until buyer confirms product receipt.
- 🔹 Supports multiple payment methods (credit/debit cards, UPI, net banking).

6️⃣ Notification System

🔹 Sends real-time alerts for bid updates, auction status, and winner announcements.
🔹 Users receive email and SMS notifications for critical updates.
🔹 Customizable notification settings for user preferences.

7️⃣ Admin Dashboard

🔹 Admins can monitor auctions, manage users, and review reports.
🔹 Fraud detection tools to identify suspicious bidding behavior.
🔹 Provides detailed analytics on platform activity, user engagement, and transaction history.
🔹 Dispute resolution system for handling complaints.

8️⃣ Feedback & Review System

🔹 Users can rate and review buyers and sellers post-transaction.
🔹 Helps build trust and credibility within the platform.
🔹 Flagging/reporting system for fraudulent users or scam listings.

Additional Enhancements:

✅ Mobile Compatibility: Fully responsive UI for web and mobile users.
✅ Dark Mode Support: User-friendly interface with customizable themes.
✅ Blockchain Integration (Future Scope): Secure and transparent transaction tracking.
✅ AI-based Price Prediction: Suggests optimal bid amounts based on past trends.

This modular design ensures that the Online Auction System is scalable, secure, and efficient, providing a seamless experience for all users.

1. Introduction

In recent years, online auction systems have emerged as a significant component of the digital marketplace, revolutionizing the way goods and services are bought and sold. These platforms facilitate a dynamic environment where sellers can reach a global audience and buyers can engage in competitive bidding, ultimately driving prices to their market value. The evolution of online auction systems reflects broader trends in e-commerce, influenced by advancements in technology, changes in consumer behavior, and shifts in market dynamics.

Online auctions operate on a principle similar to traditional auction houses, where items are put up for bidding and sold to the highest bidder. However, the digital format introduces unique elements that enhance both accessibility and efficiency. Key features of online auction systems include real-time bidding, automated processes for handling bids and payments, and sophisticated algorithms for managing auction dynamics and user interactions.

The evolution of online auction systems also highlights the role of regulatory frameworks and ethical considerations. As online platforms continue to grow, ensuring compliance with legal standards and addressing issues such as market manipulation and privacy concerns are essential for sustainable development.

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Online auction systems offer a range of benefits that contribute to their widespread adoption. For sellers, these platforms provide an efficient means to reach a broader audience, often without the geographical limitations of traditional auctions. Sellers can auction items ranging from rare collectibles and high-value assets to everyday goods, maximizing their potential market reach and achieving optimal sale prices through competitive bidding. For buyers, online auctions present an opportunity to acquire unique items and secure deals at potentially lower prices than those available through fixed-price sales.

1.1 Background of the Project:

In the modern digital age, the internet has revolutionized the way goods and services are traded, creating new opportunities for buyers and sellers across the globe. One such innovation is the concept of online auctions, which have transformed the traditional auction process by making it more accessible, efficient, and dynamic.

Online auctions, which provide a lively and convenient substitute for conventional in-person auctions, have become one of these technologies' most well-known means of conducting business. Online auction platforms make the auction process more accessible and efficient by utilizing the web to allow people to participate in competitive bidding from almost anywhere in the globe.

There is an online bidding system that permits users to participate in internet auctions of various products. This system is devoid of the need for presence thereby enabling participants to participate in auctions from wherever they frequent. This has led to a boom in online auctions for individuals as well as businesses that want to buy or sell items through competitive bidding.

The purpose of this project is to develop a comprehensive Online Auction System that facilitates the auction process for users by providing a secure, user-friendly platform where products can be listed for bidding, and potential buyers can place their bids in real-time. The system aims to streamline the auction process by automating tasks such as bid placement, auction timing, and notifications, all while ensuring the integrity and security of transactions.

In this project, we are going to cover what an auction system is and the necessary features you will need when creating one with web development (HTML, CSS, JAVASCRIPT, PHP). The systems will also include an extensive user, product and bid database that would facilitate transparent and reliable auction mechanism.

The development of these online auction system comes at the time that e-commerce and online marketplaces are in substantial demand, proving how much value digital platforms add to spreading trade and competition effortlessly. The initiative is to establish the platform public and easily approachable along with being scalable in case required for business applications. This approach is a positive step toward making auctions more competitive, secure, and easily accessible in the digital age, as more and more companies and individuals rely on online marketplaces for purchasing and selling goods.

1.2 Scope of the Project:

The project will design, develop and integrate a full-fledged web application for the Online Auction System where users can list products as well as compete in bids. The main point of interest in this project is to create a safe and convenient platform, which allows reducing the number of transactions between buyers and sellers while minimizing human participation. The project scope typically is made up of the following components.

- **Frontend Development:** In frontend development the focus is on improving user experience as photographer need to see photo that they take in a easy, clean and navigable manner with responsive design 8. This design is focused on user experience and accessibility with HTML, CSS and JavaScript ensuring the site looks clean. Users also found it easier to register and log in, search products, place bids or follow the auctions they took part.
- **Backend development:** While working on the back end, PHP is for building a good quality scalable and dependable system that ensures efficient controlling of server-side processes. The backend with be responsible for the key features like bidding processing, auction scheduling, user authentication et cetera and more specifically a secure channel between all these(relatively) important functions. It shall ensure the safe connection of data in between client side and performance at managing auction related operations.
- **Database management:** User account, product categories list, bid history and auction result will be saved to MySQL database for database management. Critical to maintaining the integrity of data and for ensuring smooth user-system interaction.
- **Auction Management:** Sellers will have the ability to list products with a starting bid price, auction duration, and other relevant details. The system will manage the auction lifecycle, including bid placement, real-time bid updates, notifications to users when they are outbid, and automatic closure of auctions once the bidding period ends.
- **Admin Dashboard:** An admin dashboard will be developed to provide administrators with the tools to manage the overall system. Admins will be able to monitor user activities, manage auctions, review bids, and handle user accounts.
- **Invoicing and Payment Handling:** After the auction is completed, the system will generate an invoice for the winning bidder, outlining the final bid amount and any additional charges. The invoicing system will provide a transparent view of transactions, enabling users to track their purchases and payments.

1.3 Objectives of the Project

1. **User-Friendly Interface**: Develop an intuitive and accessible user interface that allows users to easily navigate the auction system, register, and participate in auctions.
2. **Real-Time Bidding:** Implement a real-time bidding system where users can place and update bids instantly, reflecting changes in the highest bid and auction status dynamically.
3. **Comprehensive User Management:** Implement user account management features that allow users to register, log in, manage their profiles, and view their auction history.
4. **Scalable System Architecture:** Design the system to be scalable, capable of handling a large number of concurrent users and auctions without performance degradation.
5. **Secure Transactions:** Ensure that all financial transactions within the system are secure, protecting users' personal and financial data using encryption and other security measures.
6. **Robust Backend Integration**: Ensure seamless integration between the frontend and backend, with efficient data handling and real-time updates through technologies like WebSocket or similar.

2. LITERATURE REVIEW

The literature on online auction systems encompasses various aspects, including system design, user experience, security measures, and economic implications. Researchers have explored different auction formats, such as English auctions, Dutch auctions, and sealed-bid auctions, each with its own set of advantages and challenges. Additionally, the impact of online auctions on market efficiency, seller strategies, and buyer behavior has been extensively studied.

(ALDAEJ, 2019) In contemporary times, the online web-based auction system has emerged as a highly sought-after element within the electronic marketplace. This document will present a practical case study aimed at illustrating effective methodologies for the analysis and design of an online web-based auction system. The proposed Online Web-Based Auction System (OAS) has been developed and executed utilizing UML to depict the architectural framework, alongside Microsoft Access 2010 and the ASP.NET programming language. Within the proposed OAS, UML provides various diagrams that facilitate the seamless updating and addition of new functionalities, including use case, sequence, and class diagrams, as well as user interfaces. This system is designed to assist bidders in placing bids swiftly, thereby enhancing their likelihood of securing a successful bid by recommending a bid price, while also enabling sellers to maximize their profits. Furthermore, the tools employed in the analysis and implementation phases of the proposed OAS offer significant advantages for supporting system development.

(Sarfaraz, Chakrabortty, & Essam, 2021) This paper introduces a blockchain-based framework for open-bid auctions, utilizing a tree structure instead of conventional blockchain to improve efficiency. By incorporating Elliptic Curve Cryptography (ECC) and a dynamic cryptographic accumulator, the framework aims to enhance security, privacy, and overall performance. this paper proposes a blockchain-based framework for open-bid auctions that incorporates cryptographic methods. The framework proposes an innovative method by substituting the conventional blockchain architecture with a tree structure to enhance operational efficiency.

(Weinberg & Davis, 2005) Before eBay became a titan of e-commerce, it was the leading consumer-to-consumer online auction marketplace, boasting 104.8 million members. By Q4 2004, Forrester Research estimated over $52 billion in sales on its platform, significantly surpassing Craigslist. In Q1 2004, eBay's net revenues surged 59% to $69 million, with GAAP net income soaring 92% year-over-year. Despite existing research focusing on eBay's aggregate seller feedback, there is limited exploration of the impact of individual auction reviews on consumer decision-making.

(Rinkesh Patel) This research relates to two primary areas: agent-based online auction systems and trust management in e-commerce. One notable effort in this field is BiddingBot, introduced by Ito and colleagues, which supports cooperative bidding but still requires users, rather than agents, to make bidding decisions. Ogston and Vassiliadis developed a peer-to-peer agent-based auction system for continuous double auctions, demonstrating that peer-to-peer auctions can achieve price convergence similar to centralized auctions. Collins and his team presented a multi-agent system for contract negotiation, which could serve as a testbed for online auctions. However, their system may face issues like bid secrecy, non-repudiation, and bid manipulation. While these projects show the potential of agent-based online auctions, they lack the necessary security mechanisms to prevent misuse. Consequently, it remains challenging to encourage users to adopt existing agent-based approaches for practical use.

(Aljaf, 2016) The Latin term auctus, which means "I increase," is where the word "auction" originates. It explains how items are sold through a competitive bidding procedure to the highest bidder. During an auction, bidders increase the item's price until the highest bid is reached. Different auction rules and conditions apply, and the competitive dynamics of bidding may result in a significantly higher ultimate sale price. Auctions are typically held in auction houses or other specially designated locations where vendors display their goods and bidders cast their bids. The auctioneer, who conducts the bidding and closes the deal, usually charges sellers a fee.

(Narra, 2005) The aim of this project was to create an auction platform that is scalable, resilient, and secure utilizing cutting-edge technologies. This project involves creating, building, and putting into operation an auction system. The report will contain an in-depth analysis of the system design, the database design, and the implementation.

Usually, in an auction, such as one for selling artwork, the auctioneer establishes a relatively modest starting price. The price is raised gradually until only one bidder is interested in purchasing the item, and the method of increasing the price can differ. In my model, a bidder who withdraws at a certain price point has the ability to join again at a higher price. The emergence of E-commerce technologies on the Internet has revolutionized the ability to place bids from the convenience of one's home in a way never experienced before.

(Pandian, Are, Sandeep, & Reddy, 2020) An auction conducted through the website, which serves as a massive marketplace for sellers and bidders with great potential. This project involves a web Auction System with two categories: customer interface and administrator interface. The project involves designing and implementing an online auction system. This tactic showcases an online display of premium products available for purchase or promotion. There is a supervisory board through which an administrator can oversee the entire funding system. The administrator will approve items based on their categories and can also manage the registered users. The examination is conducted initially for the case study. Moreover, the anticipation to understand the operational workings within the web house.

(P. Ezhilchelvan, 2001) The article presents a system design and suggests a structure for reliable online auctions on the Internet, ensuring scalability and service integrity. The current auction services mainly depend on a central auction server. With the rise in popularity and use of online auctions, a centralized approach is inherently limited in terms of scalability. Additionally, various countries have distinct financial regulations and may use varied methods for processing payments. Ensuring local market independence necessitates decentralization as a crucial and feasible necessity. The paper introduces a system architecture and a framework for implementing the architecture with fault-tolerance in mind.

(Dawn G. Gregg, 2004) The study involves creating a tool to gather auction information, analyze data, and place bids for users on eBay, Amazon, or Yahoo auctions. The prototype system additionally has a rule-based system that gives precise suggestions to users by analyzing the latest auction information and utilizing decision rules from previous research on auctions. Simulation tests and an experiment involving

20 research participants making actual purchases are utilized to confirm the effectiveness of the Auction Advisor system.Online auctions are demonstrating their effectiveness as a feasible option in the C2C and B2C market. Online auction participants face challenging decisions when it comes to selecting items to bid on, as well as deciding when and where to sell their own items, given the thousands of new items available for auction daily.

(Wann-Yih Wu, 2015) This paper aims to create a theoretical framework and method to study how the various components of online auction strategy interact and impact online bidder satisfaction. This research uses the standard normal distribution function to create a theoretical framework that aligns with the prospect theory. The empirical approach to investigating the interconnection entails a widespread field study. The empirical research gathered firsthand information from customers who have participated in bidding on online auction websites. Our theoretical model findings suggest that online bidders are more likely to use a bidding strategy focused on higher prices at the start of an auction. Moreover, we discovered the best approach for online auction strategy to decide how resources should be allocated. The findings from the practical investigation back the importance of price and hedonic value as mediators in the connection between quality strategy and satisfaction of online bidders.

(Varnika Tyagi, 2020) This research focuses on developing an online bidding system with live auctions, enhanced by an improvised sorting technique. Online auctions, digital versions of traditional auctions, involve multiple bidders competing for items, with the highest bid winning. These auctions can feature various goods, last from one to ten days, and are accessible worldwide. Security is crucial in these systems, which have become essential to modern business models. The study introduces an optimized approach to live auctions, improving efficiency and the overall bidding experience.

(Wang Jyun-Cheng, 2007) This study addresses the issue of opportunistic abuse within online auction systems, specifically targeting the weaknesses in their overly simplistic reputation systems. To establish a foundation and identify the core challenges, we began by reviewing previous research on online auctions and their recommendation systems. We summarized key findings and contributions from this research, focusing on

recommendation systems. Additionally, we explored relevant aspects of social network analysis, which is employed to assess user behaviour. It is important to note that our discussion also includes an examination of recommendation systems

(FAWEHINMI OLATUNJI BOLU, 2020) This research was driven by the need to create a software platform for studying autonomous bidding strategies in simulated auctions for procuring goods, with the objective of developing a bidding agent that can effectively manage uncertainties. The study utilized an attitude-based agent to explore how different attitudes and behaviors can influence the dynamic assessment of prices under varying criteria and scenarios. A fuzzy logic technique was incorporated to make auction outcome decisions and adjust the agent's bidding strategy based on the criteria and market conditions. While the framework successfully implemented fuzzy logic in product auctions, it fell short in handling linguistic terms that describe individual bidder preferences using fuzzy triangle numbers, focusing only on the bidder's attitude.

(Goyal, Kundnani, & Gupta, 2023) This paper examines the security challenges encountered by online auction systems and offers strategies to mitigate these risks. The research approach involved a comprehensive review of existing literature on the subject. The study's key findings indicate that online auction systems frequently face security threats such as hacking, phishing, and fraud, which can have significant negative impacts on both buyers and sellers. The study concludes that improving security measures in online auction systems can enhance user trust and participation, leading to increased revenue. It also discusses the implications for the industry and suggests areas for future research.

(Khadge & Kulkarni, 2016) Machine learning is widely used for its ability to accurately predict outcomes from data. The internet has enhanced the popularity of online auctions by making processes more convenient and efficient. eBay, a major online auction platform, generates extensive data daily. Analyzing this data with machine learning algorithms helps predict auction item prices, benefiting buyers and sellers by optimizing profits. Understanding auction outcomes can also address price variability influenced by factors such as starting price, seller rating, and item visibility.

(Swarnim Shekhar, 2022) In this report, we outline plans for incorporating an AI auctioneer into the website, designed to handle the auction of luxury items and those requiring prompt attention. This AI auctioneer will autonomously manage the entire auction process, including initiating, concluding, and announcing winners in real-time. Furthermore, the website will utilize a continuously updated database to support a user-friendly recommendation system driven by machine learning methods.

(Lee, Wang, & Niyato, 2013) This paper addresses the need for efficient resource and cost management in cloud-based Internet applications by proposing a real-time group auction system for cloud instances. The system, based on a combinatorial double auction, aims to improve resource allocation and financial outcomes for both cloud users and providers. It includes a distributed algorithm using a group formation game to determine resource trades based on cooperative decisions. The resource allocation problem is formulated as a binary integer programming issue, with a heuristic algorithm providing a nearly optimal solution.

3. REQUIREMENTS AND ANALYSIS

3.1 Problem Definition

In the realm of online auctions, inefficiencies, outdated technologies, and a lack of integrated solutions often hinder the smooth operation and growth of auction platforms. These challenges create significant issues for various online auction sites, including those focused on general goods, niche collectibles, and high-value items.

The main concerns can be outlined as follows:

1. **Inefficient Bidding Processes:** Many auction platforms still rely on outdated and cumbersome bidding systems, which can be slow, prone to errors, and frustrating for users. These inefficiencies can lead to missed bids, delayed transactions, and a suboptimal user experience.
2. **Customization Obstacles:** Auction platforms frequently face difficulties in adapting to the diverse needs of sellers and buyers. Existing systems may lack sufficient flexibility and customization options, making it challenging to align the auction experience with the specific requirements of different user segments.
3. **Data Integration Issues:** Ensuring accurate and timely bid updates, user information, and transaction details across different components of the auction platform can be challenging. Problems and errors often arise when data must be manually inputted or updated, especially in large-scale auctions with high volumes of participants.
4. **Security Concerns:** Inadequate security measures can put users' data and financial information at risk, compromising the confidentiality and integrity of transactions. This can lead to security breaches, loss of user trust, and potential legal ramifications.
5. **Limited Accessibility and Reach**: Many current auction systems fail to reach a broad audience due to barriers in accessibility, reducing participation and limiting market potential. This is particularly problematic for specialized auction platforms that need to attract a niche audience.
6. **Scalability Challenges**: As auction platforms grow, they often struggle with scalability issues, resulting in slower performance, system crashes, and an overall decline in user satisfaction. This can hinder the platform’s ability to handle large numbers of users and transactions simultaneously.

3.2 Requirements Specification

Requirement analysis is the process of identifying the software, hardware, and functional requirements necessary for creating the online auction system. This procedure involves collecting and evaluating stakeholder needs, defining specific requirements, confirming them with stakeholders, and overseeing these requirements during the development cycle.

Software Requirements:

Operating System: The operating system serves as the interface between user applications and the system kernel. The online auction system is designed to run optimally on modern operating systems, including Windows 10 or later versions, macOS, and popular Linux distributions. This ensures compatibility with a wide range of hardware and enhances performance, security, and support for contemporary technologies.

Programming Language and Framework:

Front-End Technologies:

- **HTML5**: HTML5 is used to structure the content of web pages, organizing elements such as auction listings, user profiles, and bidding interfaces.
- **CSS**: CSS is used to style the content of the web pages, controlling the appearance of HTML elements like fonts, colors, and layout to ensure a visually appealing and user-friendly interface.
- **JavaScript**: JavaScript is employed to add interactivity to the web pages, handling dynamic features such as real-time bidding updates, form validation, and interactive elements.

Back-End Technologies:

- PHP: PHP is the core backend technology used for server-side scripting, processing form data, handling sessions, and communicating with the database.
- MySQL: MySQL is the relational database management system (RDBMS) used to manage complex data relationships efficiently, including user profiles, auction listings, bids, and transaction records.

Build and Dependency Management:

Composer: Composer is used for managing PHP dependencies, ensuring consistent project configurations and facilitating the integration of third-party libraries.

Hardware Requirements

- **Processor:** Intel i5 2.5 GHz up to 3.5 GHz (or AMD equivalent) for handling multiple tasks simultaneously.
- **Memory:** Minimum 8GB RAM to support the execution of multiple applications and manage large datasets effectively.
- **Secondary Storage:** Minimum 256GB SSD or HDD to store the database, application files, and logs.
- **Network Connectivity:** Reliable internet connection with a bandwidth of ~10 Mbps to 375 Mbps for smooth data transfer between client and server.

3.3 Planning and Scheduling

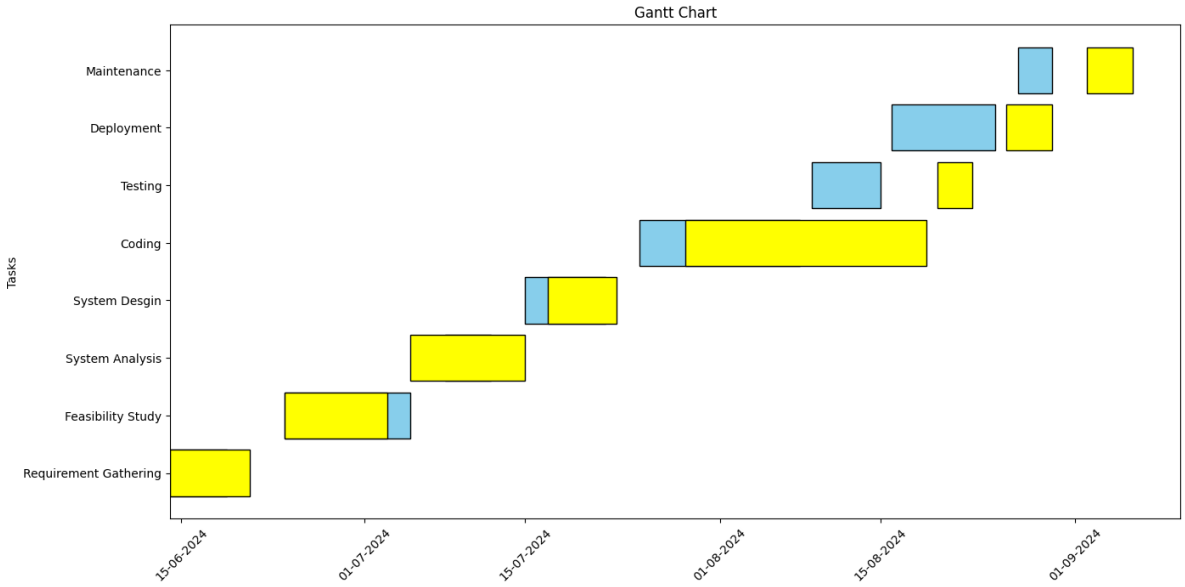
Project Planning and Scheduling are essential for the successful implementation and timely completion of an online auction system. Effective planning starts by defining the project scope, which includes key features such as user registration, item listing, bidding mechanisms, payment processing, and auction tracking. Establishing clear objectives, such as ensuring secure transactions, providing real-time bid updates, and offering a user-friendly interface, guides the development process and helps measure project success.

Scheduling coordinates stakeholder efforts and ensures the project adheres to set deadlines. By aligning the development timeline with the project's goals, scheduling helps manage complexity and ensures that all critical aspects of the system are addressed. Proper project planning and scheduling are crucial for navigating the project's challenges and achieving a successful outcome within the defined constraints.

Gantt Chart:

A Gantt chart is a visual representation of the project schedule, showing the start and end dates for each task along with their dependencies. It is a powerful tool for tracking progress, identifying potential delays, and ensuring that the project stays on schedule.

Sr.No	Task	Plan Date	End Date	Actual Date	End Date	No. of working Days
1	Requirement Gathering	14-06-2024	19-06-2024	14-06-2024	21-06-2024	6
2	Feasibility Study	24-06-2024	05-07-2024	24-06-2024	03-07-2024	8
3	System Analysis	08-07-2024	12-07-2024	05-07-2024	15-07-2024	7
4	System Desgin	15-07-2024	22-07-2024	17-07-2024	23-07-2024	5
5	Coding	25-07-2024	08-08-2024	29-07-2024	19-08-2024	16
6	Testing	09-08-2024	15-08-2024	20-08-2024	23-08-2024	4
7	Deployment	16-08-2024	25-08-2024	26-08-2024	30-08-2024	6
8	Maintenance	27-08-2024	30-08-2024	02-09-2024	06-09-2024	5


Gantt Chart
Tasks
Maintenance
Deployment
Testing
Coding
System Desgin
System Analysis
Feasibility Study
Requirement Gathering
15-06-2024
01-07-2024
15-07-2024
01-08-2024
15-08-2024
01-09-2024

4. System Design

4.1 Data Design (Table Design)

The SQL database plays a vital role in the Online Auction System's backend by storing, organizing, and accessing data related to users, auction listings, bids, payments, transactions, and other auction-related information in a structured manner. This database is created with tables that have rows and columns to organize and manage key data for auction operations. It supports essential tasks such as adding new auction listings, retrieving bid information, updating user profiles, processing payments, and removing completed auctions, ensuring smooth system operations.

The database structure is carefully designed to maintain data accuracy, facilitate secure transactions, and adhere to data privacy regulations, enhancing the system's dependability and efficiency. The SQL database improves user experience, simplifies auction management processes, and supports informed decision-making by providing a centralized data storage for all auction-related activities.

List of Tables with Attributes and Constraints:

The following is the list of tables used in the project of "Online Auction System". **Database Name:** Auction

Table name: users

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	**id**	int(11)			No	*None*		AUTO_INCREMENT	Change Drop More
2	**username**	varchar(50)	utf8mb4_general_ci		No	*None*			Change Drop More
3	**email**	varchar(100)	utf8mb4_general_ci		No	*None*			Change Drop More
4	**password**	varchar(255)	utf8mb4_general_ci		No	*None*			Change Drop More
5	**id_proof**	longblob			No	*None*			Change Drop More
6	**reg_date**	timestamp			No	current_timestamp()			Change Drop More

Table name: auctions

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	name	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
3	description	text	utf8mb4_general_ci		No	None			Change Drop More
4	start_datetime	datetime			No	None			Change Drop More
5	end_datetime	datetime			No	None			Change Drop More
6	initial_bid_price	decimal(10,2)			No	None			Change Drop More
7	images	longtext	utf8mb4_bin		Yes	NULL			Change Drop More
8	created_at	timestamp			No	current_timestamp()			Change Drop More
9	created_by	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
10	creator_id	int(11)			Yes	NULL			Change Drop More

Table name: bids

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	auction_id	int(11)			Yes	NULL			Change Drop More
3	user_id	int(11)			Yes	NULL			Change Drop More
4	bid_amount	decimal(10,2)			Yes	NULL			Change Drop More
5	bid_time	timestamp			No	current_timestamp()			Change Drop More

Table name: payments

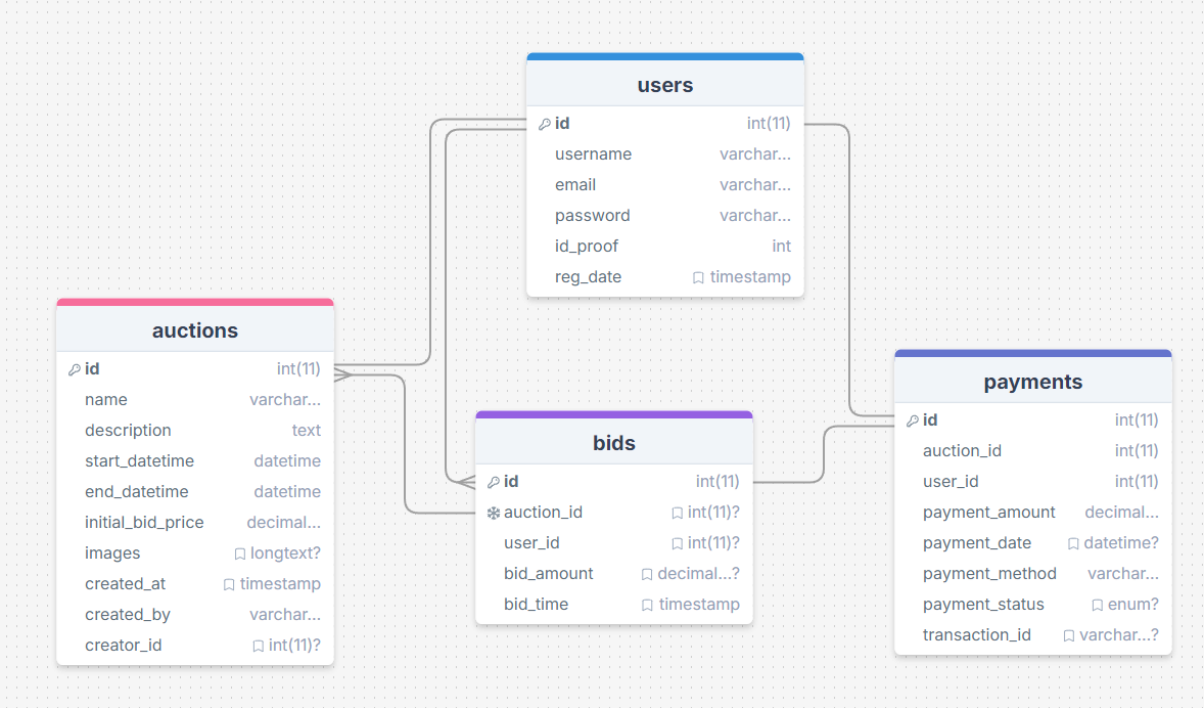
#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	auction_id	int(11)			No	None			Change Drop More
3	user_id	int(11)			No	None			Change Drop More
4	payment_amount	decimal(10,2)			No	None			Change Drop More
5	payment_date	datetime			Yes	current_timestamp()			Change Drop More
6	payment_method	varchar(50)	utf8mb4_general_ci		No	None			Change Drop More
7	payment_status	enum('pending', 'completed', 'failed')	utf8mb4_general_ci		Yes	pending			Change Drop More
8	transaction_id	varchar(100)	utf8mb4_general_ci		Yes	NULL			Change Drop More

4.1.1 Schema Design

Designing a robust database schema for an Online Auction System (OAS) involves several essential principles to ensure data consistency, security, and performance. Understanding the system requirements, such as various user roles (buyers, sellers, admins) and their respective data access levels, is the first critical step. Entity-Relationship Diagrams (ERDs) help visualize key entities like Users, Auctions, Bids, Payments, and their relationships, which is crucial for schema planning.

Normalization is applied to minimize data redundancy and maintain data integrity, typically adhering to Third Normal Form (3NF). This means breaking down tables into smaller, logical entities with each piece of data being atomic, avoiding partial and transitive dependencies, and ensuring that non-key attributes depend solely on the primary key. For example, the Bids table must depend on both the Auction and User keys to prevent anomalies.

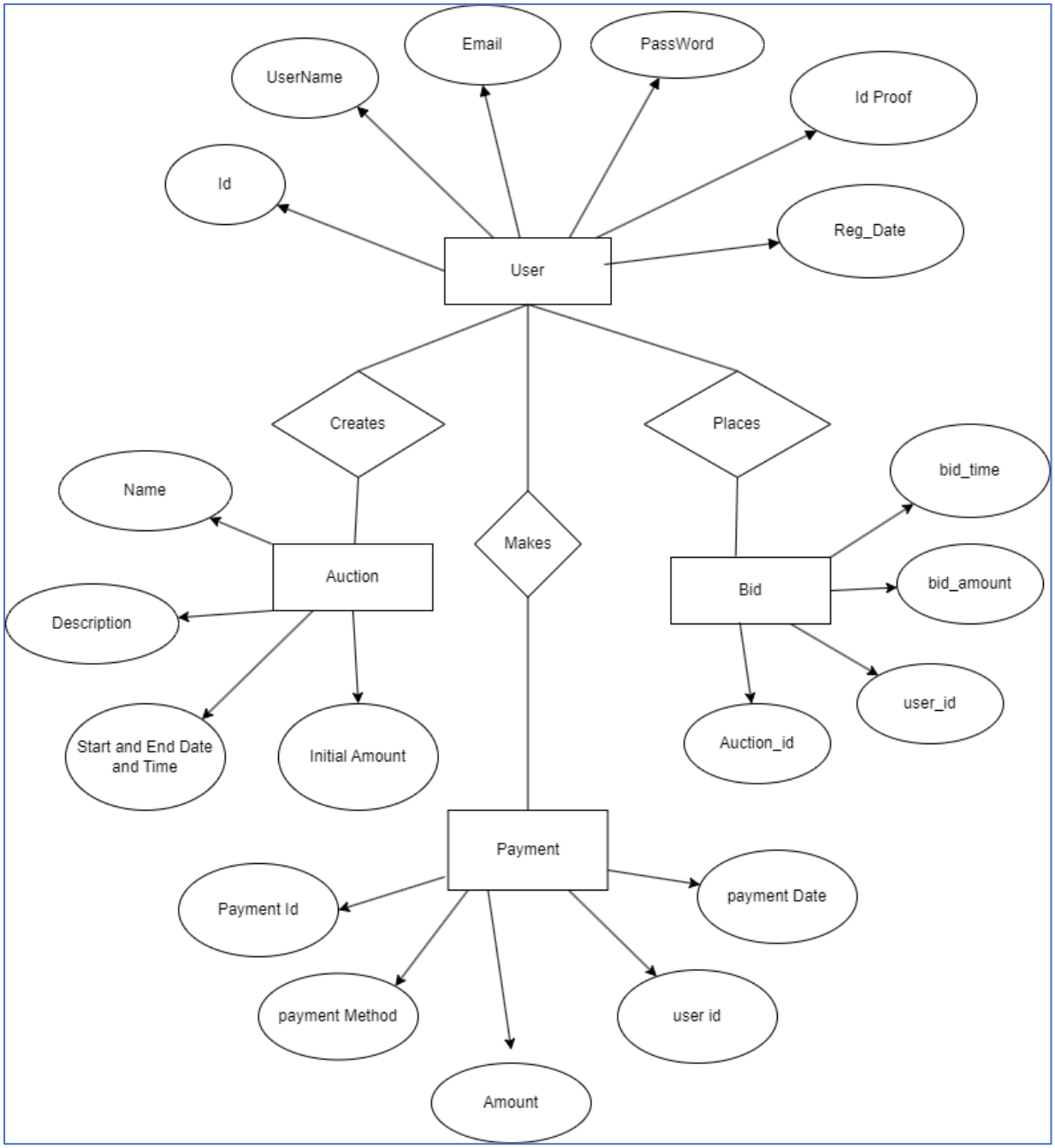
Maintaining data integrity is crucial, and this can be achieved by using constraints (such as NOT NULL, UNIQUE, and CHECK) to enforce valid data entries. Validation rules should be applied at both the application and database levels to ensure that user inputs meet the system's criteria (e.g., bid amounts must be higher than the current highest bid).



4.2 Diagrams

Design diagrams are essential tools in the Online Auction System (OAS) development process, facilitating the visualization, planning, and implementation of the database architecture. They provide clear and organized representations of the system's structure, processes, and interactions between different entities, ensuring that all stakeholders understand the flow and relationships within the system. Below is an overview of the key diagrams and their related to this project:

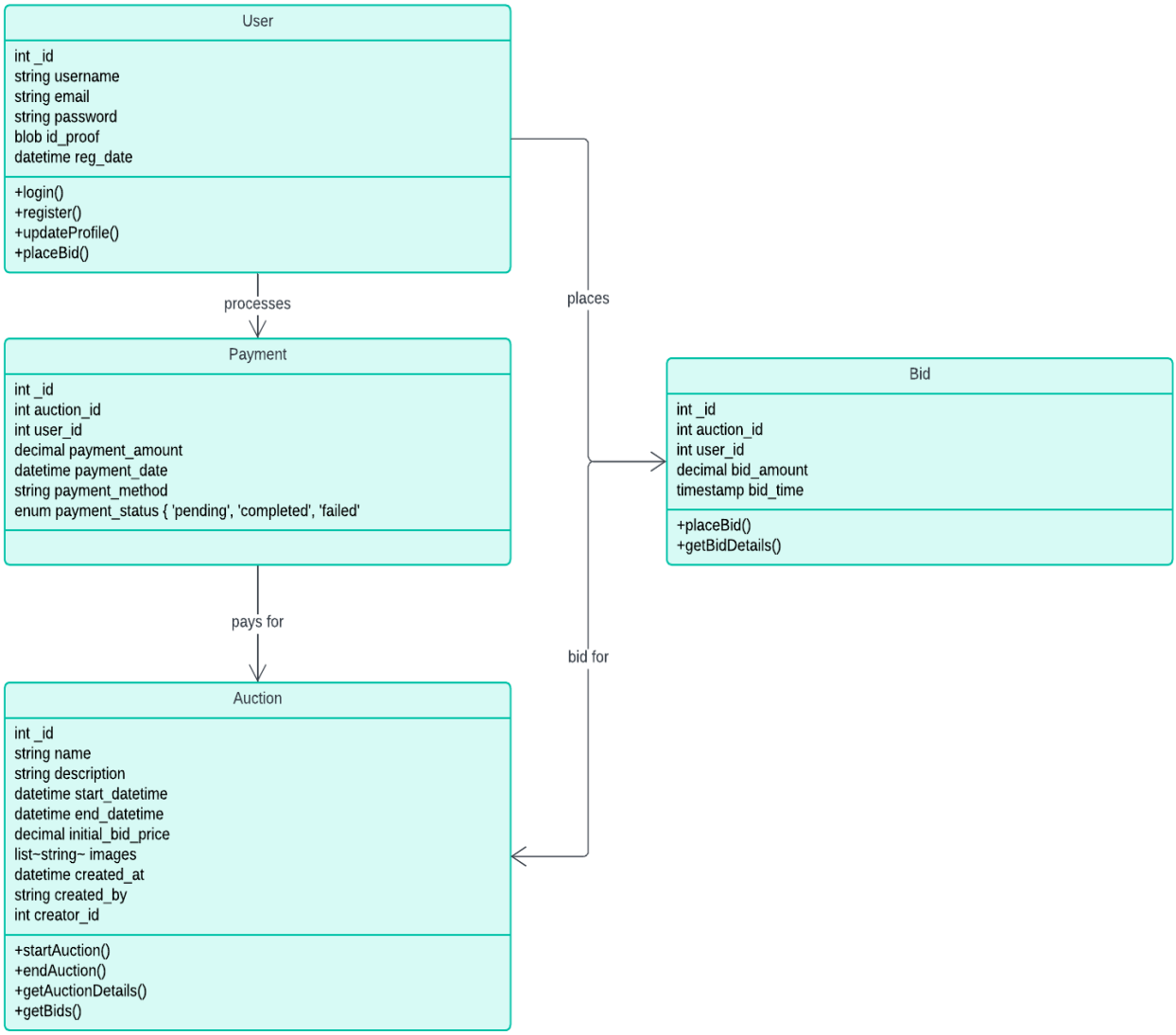
4.2.1 E-R Diagram



4.2.2 Class Diagram:

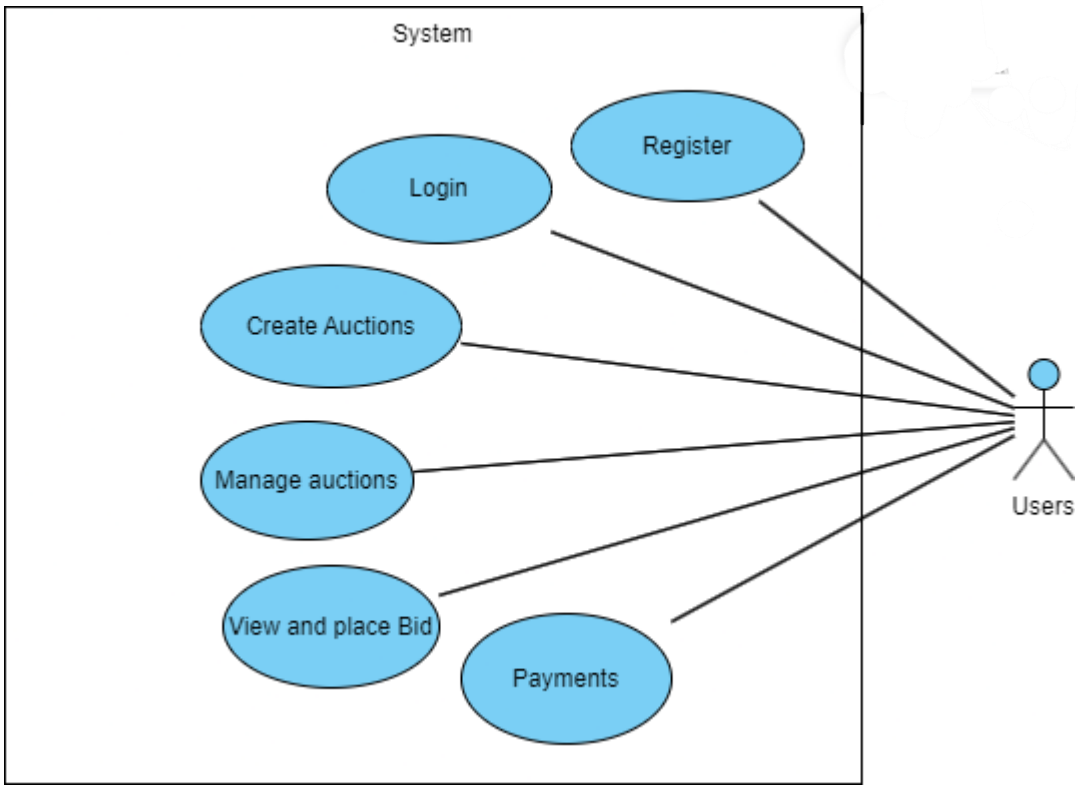
A class diagram represents the static structure of the online auction system, illustrating the key classes, their attributes, methods, and relationships. It provides a blueprint for the system's object-oriented design, helping developers understand the system's architecture and how different components interact.

This is the class Diagram representing The Users, Auctions, Bids And Payments Classes.

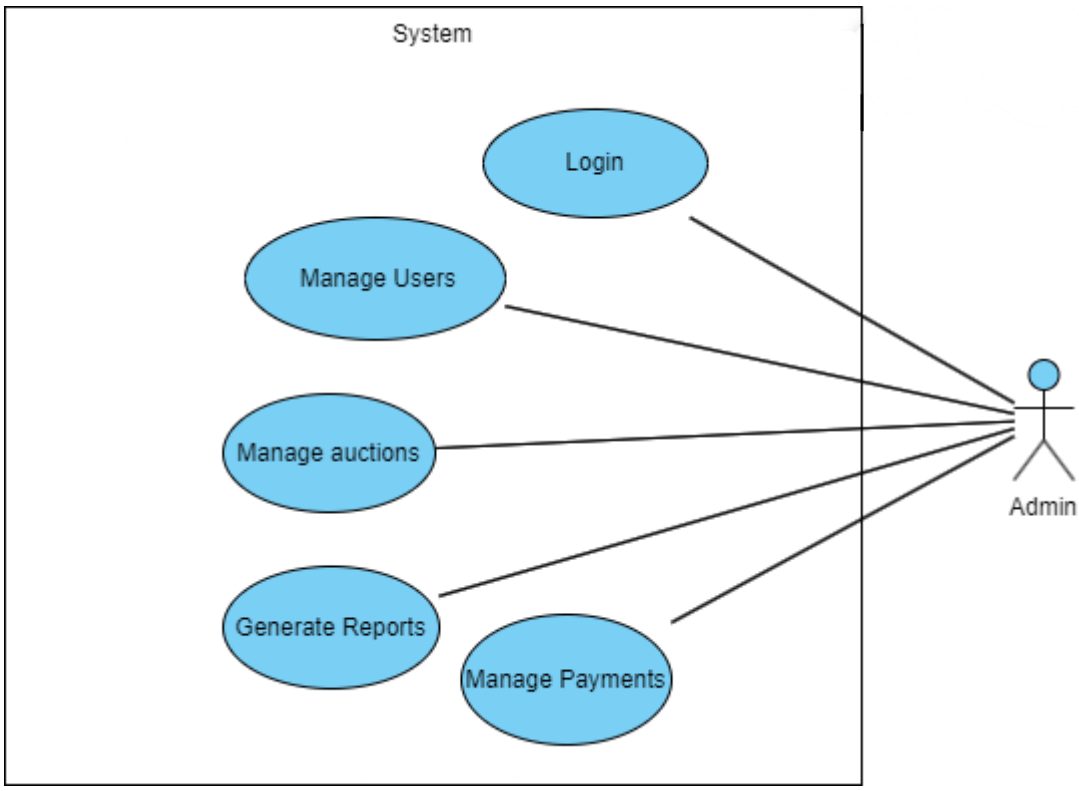


4.2.3 Use Case Diagram:

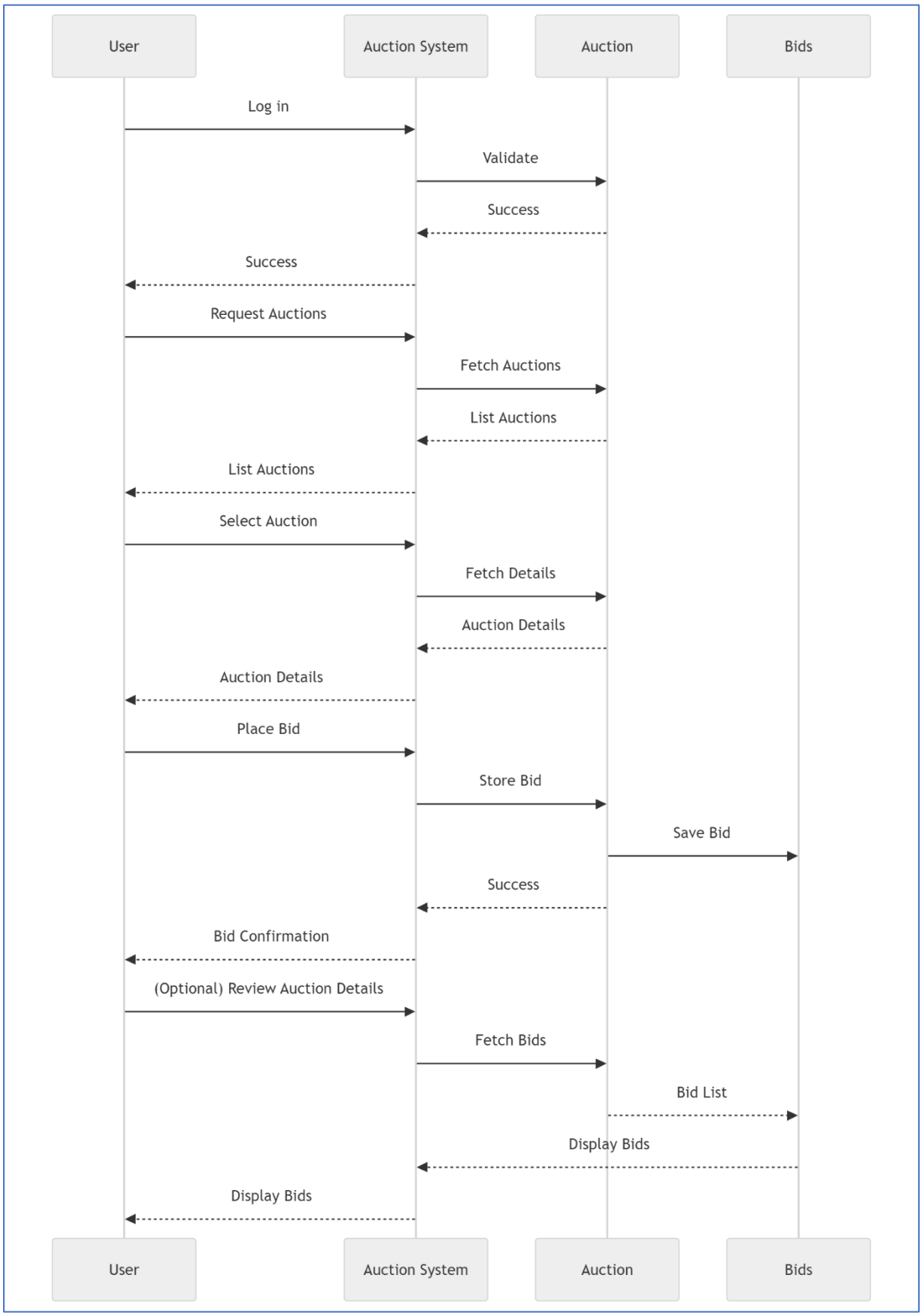
User



Admin



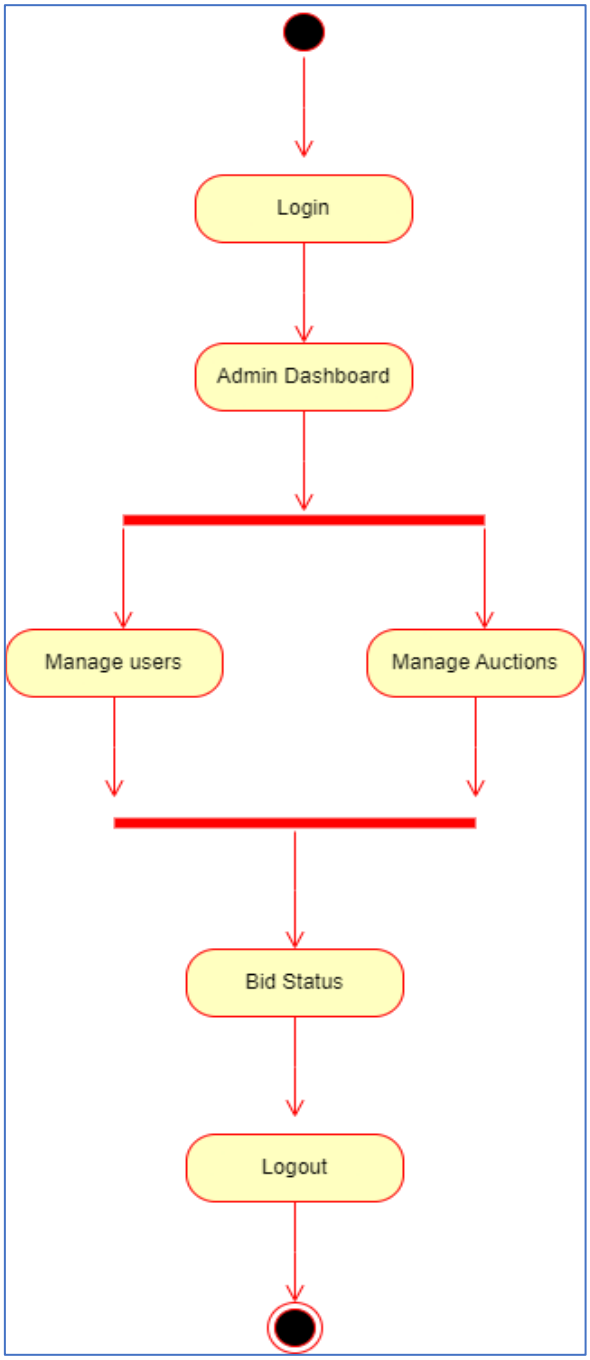
4.2.4 Sequence Diagram



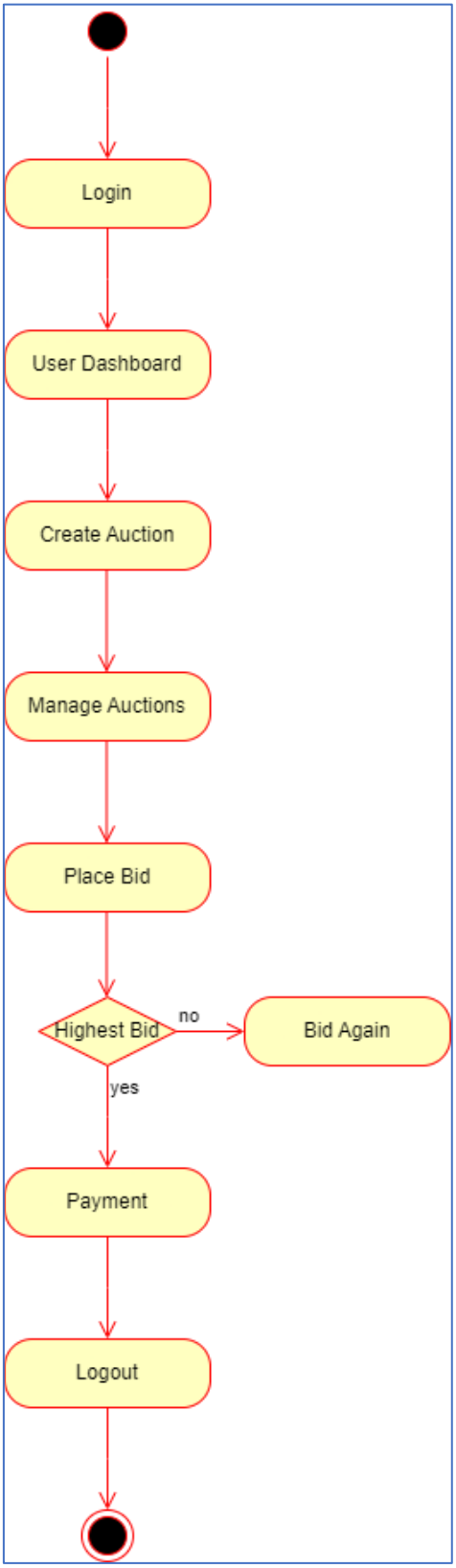
4.2.5 Activity Diagram:

An Activity Diagram for an online auction system represents the workflow of various processes involved, detailing the sequence of activities and decision points. Here's how you might illustrate processes such as user registration, auction creation, and bidding:

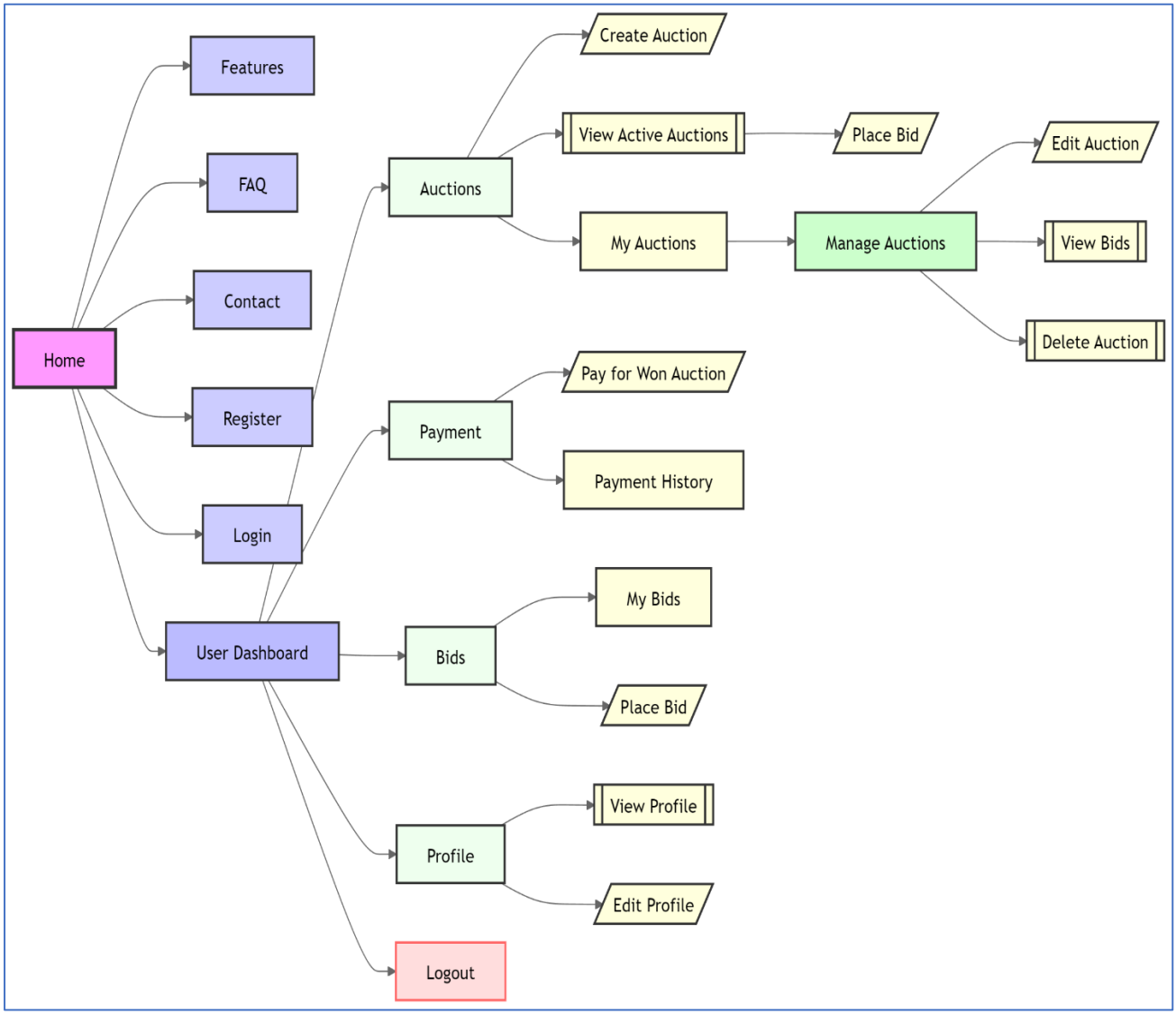
Admin Activity Diagram



User Activity Diagram



4.2.6 Menu Tree



4.3 User interface design

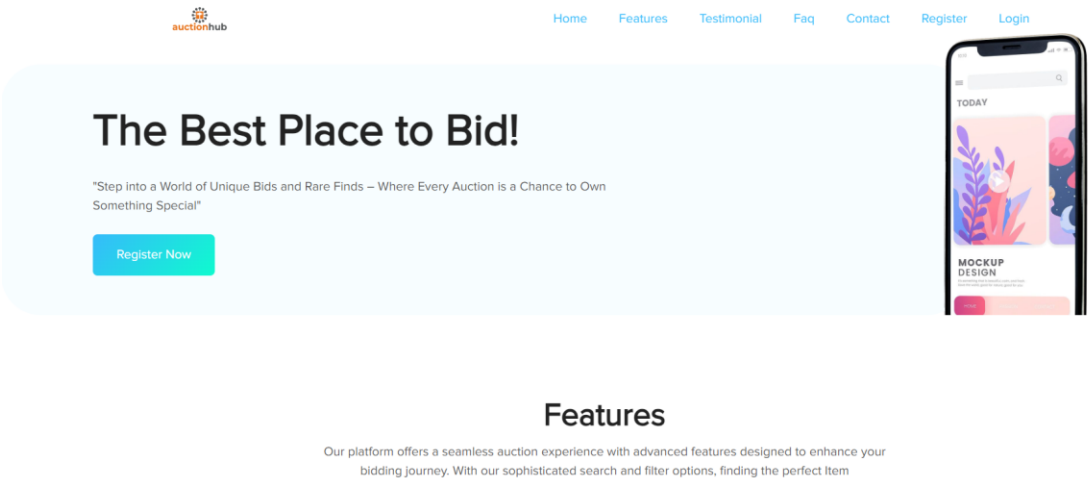
Designing a user interface (UI) for an online auction system should prioritize simplicity, ease of use, and security. The UI must be intuitive, allowing various users—such as buyers, sellers, and administrators—to navigate effortlessly and perform their tasks without confusion. Key elements like clean navigation menus, consistent design patterns, and responsive layouts are essential to enable users to place bids, list items, and manage auctions efficiently.

Accessibility is another important consideration. Features like adjustable text sizes, high-contrast modes, and keyboard navigation should be included to ensure the system is usable by people with varying abilities, improving inclusivity and user satisfaction.

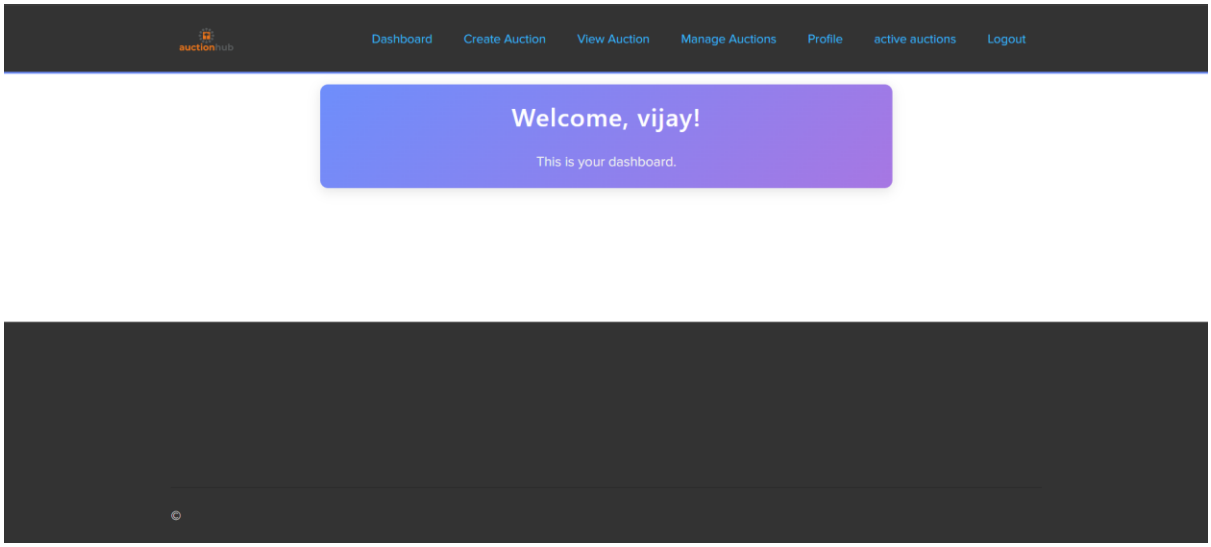
Security is crucial in an auction system, where financial transactions and personal information are handled. The interface must include secure access controls, clear feedback mechanisms (such as notifications, error messages, and status updates), and clear instructions to guide users through each stage of the bidding and selling process.

A well-designed UI in an online auction system will enhance the overall user experience, reduce the learning curve for new users, and increase engagement. By optimizing the design for usability and security, the system can ensure smoother transactions, higher user retention, and a seamless auction experience for all participants.

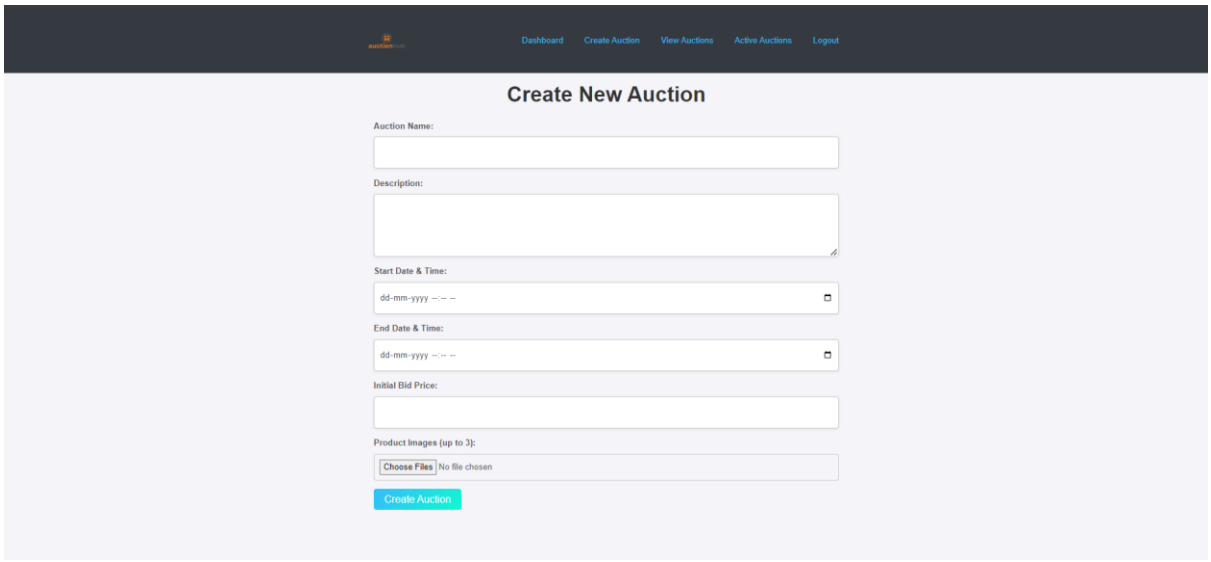
Home Page:



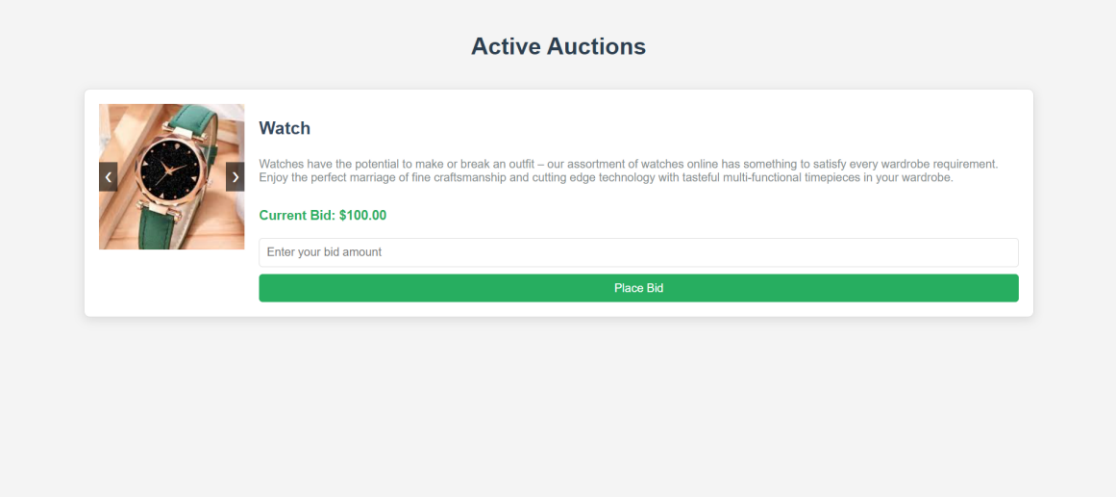
User Dashboard



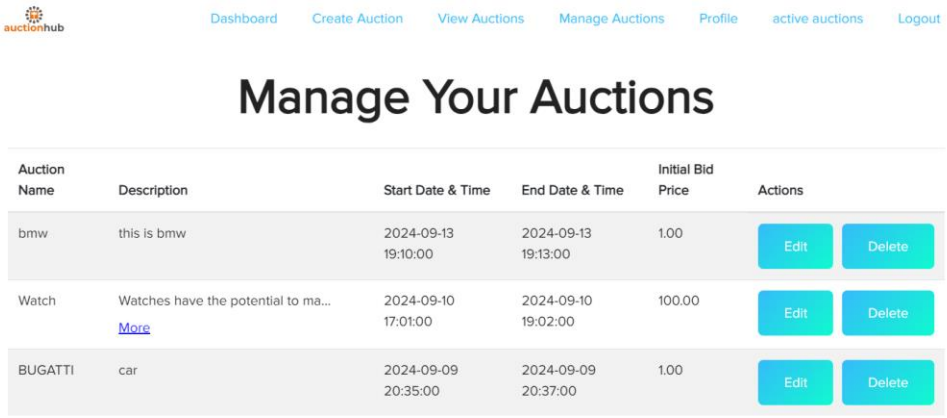
Create Auction

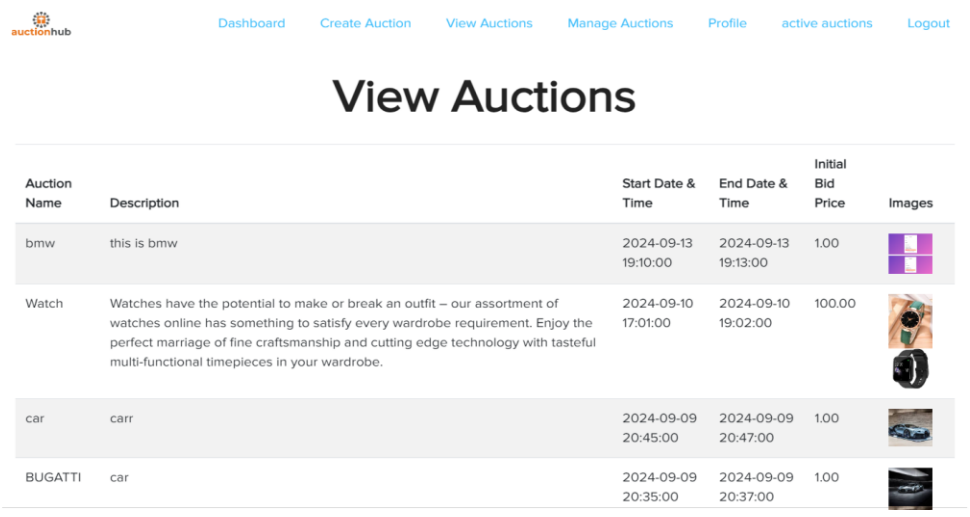


Active Auctions:



Manage Auctions





5. IMPLEMENTATION AND TESTING

5.1 Code

System coding involves implementing the online auction system based on its design and requirements. Key considerations include selecting the appropriate programming languages and frameworks, writing clean and modular code, ensuring security protocols are in place, handling data securely, performing extensive testing, and documenting the code comprehensively. Collaboration among developers, iterative testing, seamless deployment, and continuous improvement are critical components for building and maintaining a successful online auction system.

Code:

Register.php:

```
<?php

include '../database/config.php';

$message = '';

if ($_SERVER["REQUEST_METHOD"] == "POST") {

    $username = mysqli_real_escape_string($conn, $_POST['username']);

    $email = mysqli_real_escape_string($conn, $_POST['email']);

    $password = mysqli_real_escape_string($conn, $_POST['password']);

    $confirm_password = mysqli_real_escape_string($conn, $_POST['confirm_password']);

    $id_proof = $_FILES['id_proof'];

    // Check if email already exists

    $checkEmailQuery = "SELECT email FROM users WHERE email = ?";

    $stmt = mysqli_prepare($conn, $checkEmailQuery);

    if ($stmt) {

        mysqli_stmt_bind_param($stmt, "s", $email);

        mysqli_stmt_execute($stmt);
```

```
        mysqli_stmt_store_result($stmt);
        if (mysqli_stmt_num_rows($stmt) > 0) {
            $message = "<div class='alert alert-danger'>Email already exists!</div>";
        } elseif ($password !== $confirm_password) {
            $message = "<div class='alert alert-danger'>Passwords do not match!</div>";
        } else {
            // Hash the password
            $hashed_password = password_hash($password, PASSWORD_DEFAULT);
            // Handle file upload
            $upload_dir = '../uploads/id_proofs/';
            $file_name = basename($id_proof['name']);
            $upload_file = $upload_dir . $file_name;
            // Check if upload directory exists, if not, create it
            if (!file_exists($upload_dir)) {
                mkdir($upload_dir, 0777, true);
            }
            // Check for file upload errors
            if ($id_proof['error'] === UPLOAD_ERR_OK) {
                // Move the uploaded file to the specified directory
                if (move_uploaded_file($id_proof['tmp_name'], $upload_file)) {
                    // Insert user into database with file path
                        $insertQuery = "INSERT INTO users (username, email, password, id_proof)
VALUES (?, ?, ?, ?)";
                    $stmtInsert = mysqli_prepare($conn, $insertQuery);
                    if ($stmtInsert) {
```

```
                    mysqli_stmt_bind_param($stmtInsert, "ssss", $username, $email, $hashed_password, $file_name);
                    if (mysqli_stmt_execute($stmtInsert)) {
                        $message = "<div class='alert alert-success'>Registration successful! <a href='login.php'>Login here</a></div>";
                    } else {
                        $message = "<div class='alert alert-danger'>An error occurred. Please try again later.</div>";
                    }
                    mysqli_stmt_close($stmtInsert); // Close the insert statement
                } else {
                    $message = "<div class='alert alert-danger'>Error preparing statement for user insertion.</div>";
                }
            } else {
                $message = "<div class='alert alert-danger'>Error moving uploaded file.</div>";
            }
        } else {
            $message = "<div class='alert alert-danger'>Error uploading file: " . $id_proof['error'] . "</div>";
        }
    }
    mysqli_stmt_close($stmt); // Close the email check statement
} else {
    $message = "<div class='alert alert-danger'>Error preparing statement for email check.</div>";
```

```
    }
    mysqli_close($conn);
}
?>
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Register</title>
    <style>
        body {
            font-family: Arial, sans-serif;
            background: linear-gradient(135deg, #6f42c1, #f06ecb);
            display: flex;
            justify-content: center;
            align-items: center;
            height: 100vh;
            margin: 0;
        }
        .register-container {
            background-color: #fff;
            padding: 30px;
            border-radius: 10px;
```

```
    box-shadow: 0px 10px 30px rgba(0, 0, 0, 0.1);
    width: 100%;
    max-width: 400px;
    text-align: center;
    box-sizing: border-box; /* Ensures padding is included in width */
}
.register-container h2 {
    margin-bottom: 20px;
    font-size: 24px;
    color: #333;
}
.form-group {
    margin-bottom: 15px;
    text-align: left;
}
.form-group label {
    display: block;
    font-weight: bold;
    margin-bottom: 5px;
    font-size: 14px;
}
.form-group input {
    width: 100%;
    padding: 10px;
```

```
    border-radius: 5px;
    border: 1px solid #ccc;
    font-size: 14px;
    box-sizing: border-box;
}
.btn-primary {
    background: linear-gradient(90deg, #ff7c7c, #ffbb77);
    border: none;
    color: white;
    padding: 12px 20px;
    width: 100%;
    font-size: 16px;
    border-radius: 5px;
    cursor: pointer;
}
.btn-primary:hover {
    background: linear-gradient(90deg, #ff6b6b, #ffae66);
}
.forgot-password {
    margin-top: 15px;
}
.alert {
    padding: 15px;
    margin-bottom: 20px;
```

```
            border: 1px solid transparent;
            border-radius: 4px;
        }
    </style>
</head>
<body>
    <div class="register-container">
        <h2>Register</h2>
        <?php if (!empty($message)): ?>
            <?php echo $message; ?>
        <?php endif; ?>
        <form action="register.php" method="POST" enctype="multipart/form-data">
            <div class="form-group">
                <label for="username">Username:</label>
                <input type="text" id="username" name="username" class="form-control" required>
            </div>
            <div class="form-group">
                <label for="email">Email:</label>
                <input type="email" id="email" name="email" class="form-control" required>
            </div>
            <div class="form-group">
                <label for="password">Password:</label>
                <input type="password" id="password" name="password" class="form-control"
required>
            </div>
```

```
        <div class="form-group">
            <label for="confirm_password">Confirm Password:</label>
                <input type="password" id="confirm_password" name="confirm_password" class="form-control" required>
        </div>
        <div class="form-group">
            <label for="id_proof">ID Proof (Image or PDF):</label>
                <input type="file" id="id_proof" name="id_proof" class="form-control" accept=".jpg, .jpeg, .png, .pdf" required>
        </div>
        <button type="submit" class="btn btn-primary btn-block">Register</button>
    </form>
        <p class="text-center mt-3">Already registered? <a href="login.php">Login here</a></p>
  </div>
</body>
</html>
```

5.2 Testing Approach and Test Cases

Test Cases: - Test cases are detailed instructions outlining how to test specific functionalities of the online auction system. They describe the steps to be followed, the inputs to be used, and the expected results. Each test case is designed to verify that a particular feature or aspect of the system works as intended.

Test Data: - Test data includes the inputs, parameters, or values used during testing. It consists of both valid and invalid data to assess how the system behaves under different conditions. Proper test data helps in evaluating the robustness and reliability of the system.

Test Results: - Test results are the outcomes observed when executing a test case. They indicate whether the system performed as expected and help identify any issues or defects. Analyzing test results is crucial for verifying the correctness of the system and for troubleshooting any problems.

Testing Approaches

Testing approaches are systematic methods used to verify and validate the software. They guide the planning and execution of testing activities and ensure that the software meets its requirements, functions correctly, and is free of defects. Common testing approaches include:

1. Manual Testing: Manual testing involves human testers executing test cases and interacting with the software as an end user would. Testers observe, evaluate, and report issues based on their expertise and experience.

Types: Manual testing includes functional testing, usability testing, exploratory testing, and ad-hoc testing.

2. Black Box Testing: Black box testing focuses on testing the functionality of the software without knowledge of its internal code structure. Testers examine inputs and outputs to validate if the software behaves correctly.

Types: Functional testing, usability testing, and acceptance testing are common black box testing methods.

3. White Box Testing: White box testing examines the internal code structure and logic of the software. Testers use knowledge of the code to design test cases that verify specific code paths.

Types: White box testing includes unit testing and code coverage analysis.

4. Integrated Testing: integrated testing is a software testing approach that checks how different components or modules of a software application work together when integrated. It ensures that these components interact correctly, data flows smoothly between them, and dependencies are managed effectively. Integrated testing helps identify and resolve integration-related issues to ensure the software functions as a cohesive unit.

1. Manual Testing

Index	Test Case	Test Data	State	Input Values	Results
1.	The values for email and Password should match	Entered wrong email and Password	Invalid	abc@gmail.com & 12345	Show Error Message
2.		Right email and password	Valid	vijay@gmail.com & 123	Input is accepted and redirectedto dashboard
3.	All fields must have values	Username field empty	Invalid	None	Message “please Fill out this field”.
4.		Both fields are given	Valid	vijay@gmail.com& 123	Input is accepted and redirectedto given page

2. Blackbox Testing

Index	Test case	Test Data	Input Values	Result
1.	User Registration	Valid user information	User providesvalid registration details.	Successful Registration
2.	Create Auction	Input Valid Data	Auction Name, Date, time, Initial amount etc	Auction Successfull y Listed
3.	Security Access Control	Unauthorized access attempts	Unauthorized user attempts admin actions	Unauthorized access is denied.
4.	Error Handling	Invalid inputs and scenarios	Invalid data and scenarios are tested.	System handleserrors gracefully.

3. Whitebox Testing

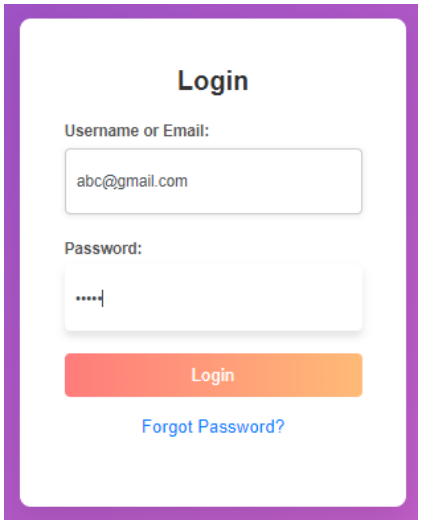
Index	Test Case	Test Data	Input Values	Result
1.	User Registration Validation	Valid and Invalid user inputs.	Valid: Correct email and password; Invalid: Wrong email format, Not same in confirm password.	Validate and handle user input data appropriately.
2.	User input Data Validation	Valid and Invalid User input data	Valid: Correct bid amount and item details; Invalid: Bid too low, missing details	Validate Input data and handle errors effectively.
3.	Security Access Control Logic	Access control scenarios	Attempt unauthorized actions as a user.	Ensure proper access control and security measures.
4.	Error Handling Logic	Trigger error conditions	Simulate errors (e.g., server downtime, database issues)	Verify that errors are handled and logged correctly

4. Integrated Box Testing

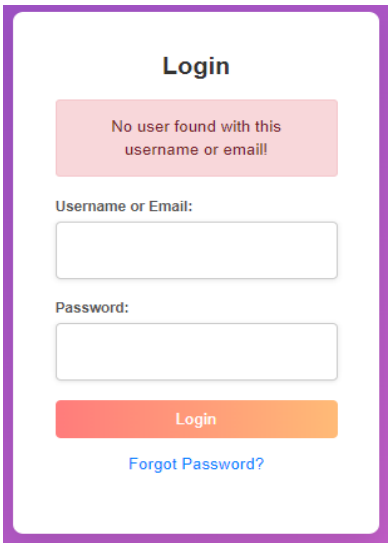
Index	Test Cases	Test Data	Input Values	Result
1.	User Registration and Login	Valid user registration data	User registers and logs in withvalid credentials.	User successfully registers and logs in.
2.	User Bid Placement	Valid and Invalid bid data	User places a bid with valid and invalid amounts	Valid bids are accepted; invalid bids are rejected with appropriate messages.
3.	Security Access Control Logic	User and admin access control scenarios	Unauthorized access attemptsby users and admin.	Unauthorizedaccess is denied, and access controlworks.
4.	Error Handling	Triggering error conditions and handling of exceptions	Introduce errorsin different scenarios.	Verify that errors are handled and logged correctly. Errors are handled gracefully, and system logs errors.

5.3 Image of Validations

1st Test case

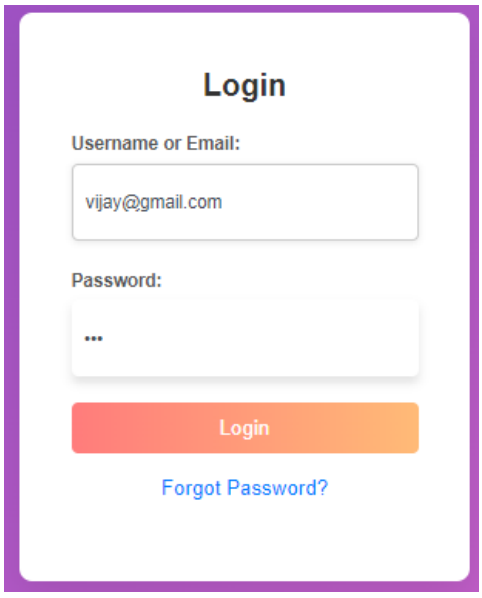


Login Page



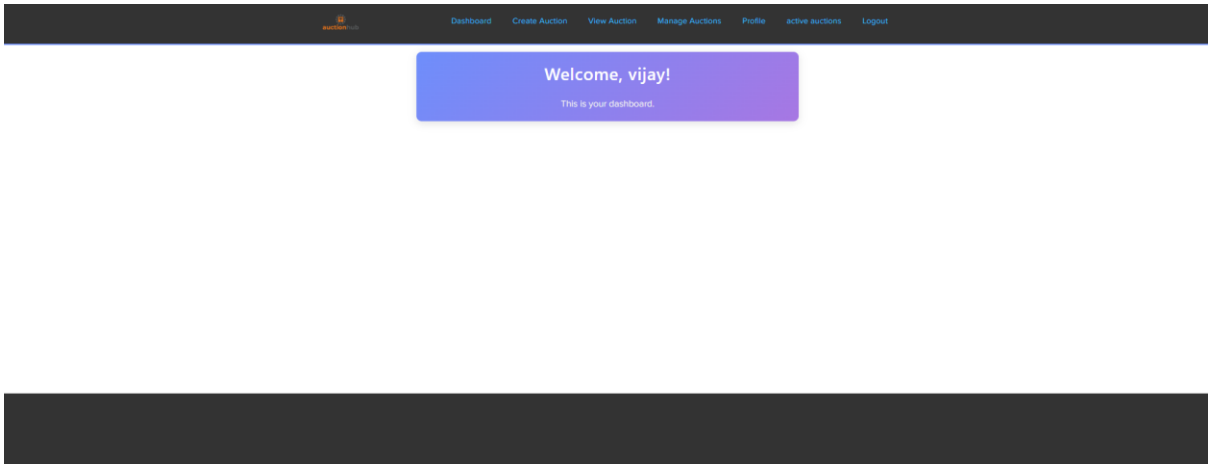
Error Message

2nd Test Case

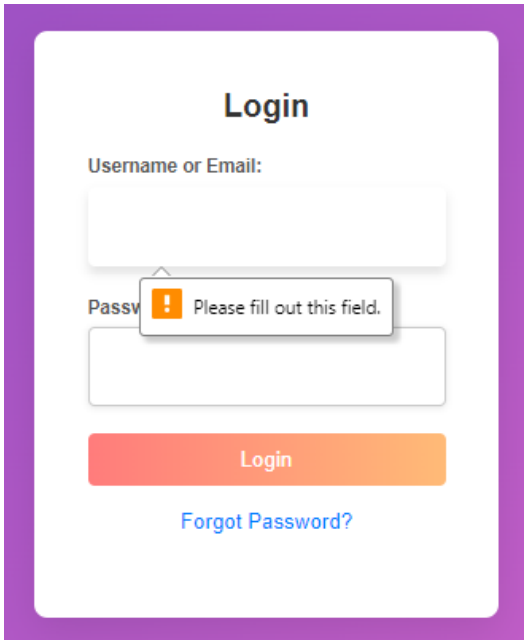


Login page

Redirected To Dashboard



3Rd Test Case



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