Bidbazaar

A web application for conducting online auctions

A Project presented to the National University in partial fulfillment of the requirement for The degree of Bachelor of Science (Hon's) in Computer Science & Engineering

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DECLARATION

We pledge that the project work titled **"Bidbazaar A web application for conducting online auctions"** being submitted in partial fulfillment for the degree of B.Sc. (Hon's) in Computer Science & Engineering is the original work carried out by me. It has not formed part of any other project work submitted for any degree or diploma, either in this or any other University.

_____

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APPROVAL

The Project " **Bidbazaar A web application for conducting online auctions** "- is submitted to the Department of Computer Science & Engineering, DIIT under the National University of Bangladesh in absolute fulfillment of the requirements for the degree of Bachelor of Science (Hon's) in Computer Science and Engineering and approved as to its style and content.

Examiner   Examiner

Safrun Nesa Saira   **Md. Imran Hossain**
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ACKNOWLEDGEMENTS

ABSTRACT

This project, An Online Auction System has three parts- Buyer interface, seller Interface, and admin interface. Seller Panel permits a seller to upload a product for sale and a Buyer bid on a particular product to buy. This system presents an online display of category products they want to sell or bid. There is an admin panel by which an admin can control the whole bidding system. Admin can approve products by the categories and also can control the registered buyers and sellers. There is a fixed delivery policy. After finishing the bidding process there is a notify system to notify the sellers and buyers. This is a fully dynamic system that can be easily operated by the system.

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CHAPTER 1
INTRODUCTION

1.1 Introduction

The online auction system is a web application where all products are displayed in different categories and a customer can bid for the selected category wised product without facing any problems. The online auction system deals between sellers and bidders. It provides users to sign up for this application and search for products, and manage their accounts. Each customer will have their account showing the username they have logged in. On the other hand, users can also see all product pages without having access to their accounts. Signed-up users will have to log in first then they can upload products on the site from their account and also can bid for other products which are not owned by them. Auctions have a long tradition in human history, having been recorded as early as 500 B.C. [10]. Users can edit their profile and see their uploaded products and bided products. The administration panel can approve products, update products, delete products, delete users, update and delete all ongoing bids, and can also see all the products, categories, users, and bids. All particular bids have limited time to finish. The first web-based auction was inaugurated in early 1995, by the Japanese company Aucnet which started with automobiles transactions [9]. The list of online marketplaces offering also auction-style transactions for individual buyers and sellers currently includes: Quicksales, Webstore, eBid, Online Auction, Overstock, WeBidz, CQout, uBid, ePier [13].

1.2 Project Aims

Our project aim is to develop an auction system that is friendly and accessible for individuals and businesses to buy and sell items securely. This system will offer a scalable platform that provides advanced search and filtering to make it easy for users to find desired items. Additionally, the system will include tools and resources for sellers to manage inventory, analyze data, and market products better. A secure system will also be to ensure the safe completion of transactions. Legal and regulatory will be considered the in the development process for compliance., the will continuously be improved on user feedback and industry to enhance the user experience and maintain in the online auction market.

1.3 Project Objectives

The main objectives of developing an Online Auction System include providing an online platform for conducting secure auctions, increasing accessibility to a wider audience, and streamlining the entire auction process. The system makes the auction more efficient, allowing the seller to reach a larger market, and buyers to bid from anywhere at any time. Ensuring the security and privacy of information, facilitating multiple payment methods, and ensuring timely delivery of products are key objectives of the. The project also aims to provide a user-friendly interface that enhances the user experience and supports navigation. [2] Furthermore, the system is set to be scalable to accommodate new features such as the integration of third-party payment gateways or support for

real-time bidding. Overall, the main objective of an auction system is to a reliable, efficient, and transparent online platform for conducting safe auctions while improving the user experience for both the seller and the buyer.

1.4 Why we select this project

There are several reasons why you may have chosen an online auction system as your final year project. Firstly, e-commerce is an increasingly popular and relevant area of business, and developing an online auction system can provide valuable experience in this field. Secondly, creating an online auction system can be a challenging technical project that allows you to develop your skills and knowledge in programming and software development. Additionally, there is potential for innovation in the online auction space, with new and exciting features being developed all the time. Finally, an online auction system has real-world applications and can be used by individuals and organizations to buy and sell goods. This provides a sense of purpose and meaning to the project, as you are creating something that has the potential to make a difference in the lives of others.

1.5 Features of our system

Admin Module
- Admin can manage buyer and seller
- Manage monitoring system
- Auction history
- Social media integrate
- Buyer and seller support
- Shipping & delivery system

Buyer module
- Bidding process
- Payment processing
- Messaging system
- Feedback & rating
- Search & filter
- watch list

Seller Module

- Item listing
- Messaging system with admin
- Manage product
- Buyer support
- Auction countdown
- Seller Bid Product

1.6 SDLC

While all software projects have to be professionally manned and developed, different techniques are appropriate for different types of system for example, games should always be developed using a series of prototypes whereas safety critical control Page 3 of 52 system require a complete and analyzable specification to be developed. You can't, therefore, say that one method is better than another. One of the basic notions of the software development process in SDLC models which stand for Software Development Life Cycle models. The most used, popular and important SDLC models are:

- Waterfall model
- Incremental Model
- Iterative Model
- Spiral Model
- V-Shaped Model
- Agile Model

1.7 Necessity of SDLC

Software developers follow some methodology which is step wise process to develop a project involving usage of programming language for a particular solution. It includes examining, designing, & Developing, testing, documenting. Implementing, and evaluating the complex subject of software engineering. Developers always try to reduce the risks. The longer a project runs, the more risk remains for getting bugs. That is why we need to follow some procedures that make our works easier and less risky. It's known as SDLC and that's why it necessary.

1.8 Software Development Life Cycle for Our Project

There are a number of SDLC methods renowned for regular development. As project can't be completed in one phase rather we need to develop it primarily and then it'll gradually learn we'll keep developing it for making it better, we're going to use Agile Method.

CHAPTER 2
BACKGROUND STUDY

2.1 Background of this project

Online auctions have become increasingly popular over the past few years to the convenience and accessibility they offer to both buyers and sellers. The concept of an online began in the mid-0s, with the major online auction site eBay, which was founded in 5. Since then, other online auction sites have emerged, in different niches and. An online auction allows users to bid on and purchase through the internet, the need for physical interaction between buyers and sellers. makes it for people to buy and sell items from anywhere in the world. Online auctions have been to offer a wider selection of items as compared to auctions. The success of the online auction depends on several factors including usability, security of, availability of resources for sellers and buyers, legal and regulatory compliance, and access to advanced search and filtering. [6] With the growing popularity of online auctions, there is a need to develop a system that caters to changing users and provides them with a seamless and efficient auction experience.

2.2 Existing system related to Online auction system

In our search, we found some online auction systems. However, we found that there were some limitations associated with those sites. Several sites, such as Proxibid[13], Bonanza[14] , Auctria[15] and others, are not user-friendly and are not available for Bangladeshi User.

2.3 Limitation of Existing System

When working on an online auction system project, it's important to consider the limitations of existing systems in order to identify areas where our project can make improvements. Here are some limitations of the existing system related to the online auction system we found:

- **Scalability:** Many existing systems may struggle to handle a large number of users and simultaneous auctions, leading to slow performance or crashes during peak times.
- **User Experience:** Some platforms might have complex or outdated user interfaces that make it difficult for users to navigate, bid, and manage their auctions effectively.
- **Transparency:** Lack of transparency in bidding processes or hidden fees can lead to mistrust among users and deter participation
- **Mobile Compatibility:** Some existing systems might not have optimized interfaces for mobile devices, limiting accessibility and convenience for users.
- **Limited Payment Options:** Limited payment methods could discourage potential bidders who prefer alternative payment options beyond what the platform offers.
- **International Reach:** Some platforms might lack international shipping options or currency support, limiting their appeal to a global audience.

2.4 Feasibility Study

Preliminary investigation examines project feasibility; the likelihood the system will be useful to the organization. The main objective of the feasibility study is to test the Technical, Operational and Economical feasibility for adding new modules and debugging old running system. All systems are feasible if they are given unlimited resources and infinite time. There are aspects in the feasibility study portion of the preliminary investigation:

- Technical Feasibility
- Operational Feasibility
- Economical Feasibility

2.5 Technical Feasibility

The technical issue usually raised during the feasibility stage of the investigation includes the following: Does the necessary technology exist to do what is suggested? Do the proposed equipment's have the technical capacity to hold the data required to use the new system? Will the proposed system provide adequate response to inquiries, regardless of the number or location of users? Can the system be upgraded if developed? [7] Are there technical guarantees of accuracy, reliability, ease of access and data security?

2.6 Operational Feasibility

User-friendly

Customer will use the forms for their various transactions i.e. for adding new routes, viewing the routes details. Also the Customer wants the reports to view the various transactions based on the constraints. These forms and reports are generated as user-friendly to the Client.

Reliability

The package wills pick-up current transactions on line. Regarding the old transactions, User will enter them in to the system. Security The web server and database server should be protected from hacking, virus etc.

Maintainability

The system called the ewheelz uses the 2-tier architecture. The 1st tier is the GUI, which is said to be front-end and the 2nd tier is the database, which uses My-Sql, which is the backend.

2.7 Economic Feasibility

The computerized system takes care of the present existing system's data flow and procedures completely and should generate all the reports of the manual system besides a host of other

management reports. It should be built as a web based application with separate web server and database server. This is required as the activities are spread throughout the organization customer wants a centralized database. [8] Further some of the linked transactions take place in different locations.

CHAPTER 3
METHODOLOGY

3.1 Methodology

Methodology is a set of rules, methods and principles that make a guideline to the developers to develop in a systematic way. In software development, there are methods. Every methodology is different by steps and systemic way. There are some methodologies are given in below:

- **Waterfall model**

The Waterfall model is a sequential software development approach involving distinct requirements, design, implementation, testing, deployment, and maintenance—progressing in a linear manner. It suits projects with stable requirements but lacks flexibility for changes and user feedback during development.

- **Incremental Model**

The Incremental Model is a software development approach where the project is divided into smaller segments, or increments, each delivering a portion of the final functionality. These increments are developed and tested separately, allowing for early releases and continuous improvement based on user feedback.

- **Iterative Model**

The Iterative Model is a software development approach involving repetitive cycles of development, where each iteration builds upon the previous one. It allows for gradual refinement of the software through regular feedback, accommodating changes and improvements at every stage.

- **Spiral Model**

The Spiral Model is a software development approach combining iterative development with risk assessment and mitigation. It progresses through repeated cycles of planning, designing, building, and evaluating, incorporating risk analysis in each cycle to manage uncertainties effectively.

- **V-Shaped Model**

The V-Shaped Model is a software development process that emphasizes a strong connection between each development phase and its corresponding testing phase. It follows a linear path similar to the Waterfall model but places a significant emphasis on thorough testing and verification to ensure alignment with requirements at each step.

- **Agile Model**

The Agile Model is a flexible and iterative software development approach that prioritizes collaboration, customer feedback, and adaptability. It divides projects into short development cycles called sprints, promoting continuous improvement, frequent releases, and the ability to respond to changing requirements efficiently.

- **Rapid Application Development (RAD)**

Rapid Application Development (RAD) is a software development methodology that prioritizes rapid prototyping and iterative development. The goal of RAD is to deliver functional software quickly while allowing for flexibility in responding to changing requirements and user feedback. RAD emphasizes collaboration between developers, designers, and end-users to create applications that meet user needs effectively.

- **Rational Unified Process (RUP)**

The Rational Unified Process (RUP) is a software development process framework that provides guidelines, best practices, and a structured approach to software development. RUP is based on a set of proven principles and practices and is designed to be adaptable to various project sizes, complexities, and environments. It was initially developed by Rational Software Corporation, which is now part of IBM.

3.2 Agile Method

Agile software development describes a set of principles for software development under which requirements and solutions evolve through the collaborative effort of self-organizing cross-functional teams. It advocates adaptive planning, evolutionary development, early delivery, and continuous improvement, and it encourages rapid and flexible response to change. These principles support the definition and continuing evolution of many software development methods. [1] If we relate with the term 'agile' we can easily understand where it should be used. It can be implemented in all types of projects but its essence can only be extracted if we use it on bigger and complex projects. We can use agile when we can actually implement it for the success of the project or the nature of the project requires it Agile should not be used just as a run away from waterfall. We can use agile where the collaboration is highly important for the success of the project, where we have long term goals and no bound on the requirements, and agile can be well utilized where we have great power of either utilizing time as much as we want or resource as much as we want.

Figure 2.4: Agile Software Development Method

3.3 Why have We Chosen Agile?

The agile method anticipates change and allows for much more flexibility than traditional methods. Clients can make small objective changes without huge amendments to the budget or schedule. This Method saves money and time because the tests and approves the product at each step of development.

CHAPTER 4
SYSTEM SPECIFICATION

4.1 Software Requirements Specification (SRS)

The computerized system takes care of the present existing system's data flow and procedures completely and should generate all the reports of the manual system besides a host of other management reports. [9] It should be built as a web based application with separate web server and database server. This is required as the activities are spread throughout the organization customer wants a centralized database. Further some of the linked transactions take place in different locations.

4.2 Hardware Requirements

Hardware requirements refer to the physical components of a computer system that are necessary to run a particular software or program.

- Processor: Core i3 or upper
- Ram: 2GB or upper
- Hard Drive: 128GB or upper

4.3 Software Requirements

Software requirements refer to the specific operating system, software libraries, and programming languages that are required to run a particular program or application.

- IDE: Visual Studio Code
- UI: HTML5, CSS3, JavaScript, Bootstrap 5
- Backend Language: PHP
- Framework: Laravel
- Database: MySQL
- Web-browser: Google Chrome, Firebox, Safari and other HTML5 supported browser

4.4 Functional Requirements

Functional requirements describe the specific tasks and functions that a system or software application must be able to perform. These requirements define what the system or application should do in order to meet the needs of the users or customers.

- Registration and login system for buyers and sellers

- Listing of items for sale by sellers

- Bidding system allowing buyers to bid on items

- Automatic notification system for bids, updates and outbid notifications

- Payment processing system

4.5 Non Functional Requirements

Non-functional requirements describe the characteristics and qualities that a system or software application must possess, such as performance, security, reliability, and usability. On-functional requirements specify how well the system or application should perform its functions, rather than what those functions should be.

- Security features to protect against fraud and hacking attempts

- Reliability and availability of the system at all times

- Performance requirements to ensure quick response times and efficient usage of resources

- User-friendly interface and ease of use for both buyers and sellers

CHAPTER 5
DESIGN OF PROPOSED SYSTEM

5.1 Design Overview

First step of building a software is to design it on the basis of a design pattern. Here we use the MVC design pattern to design our software. Model View Controller is the most commonly used design pattern. Developers find it easy to implement this design pattern.

5.2 Module Description

An online auction system is a web-based platform that enables users to buy and sell goods or services through a bidding process. The system typically includes the following modules:

- User Management: This module allows users to create accounts, log in, and manage their profiles. It also includes features like password reset and account verification.

- Bidding Management: This module enables users to place bids on items they want to buy. It includes features like real-time bidding, automatic bidding, bid notifications, and bid history.

- Payment Management: This module handles payment processing and verification. It includes payment gateway integrations, transaction history, and refund management.

- Admin Management: This module allows the platform administrators to manage the overall system, including user accounts, item listings, and transactions. It includes features like user management, analytics, and reporting.

5.3 Design Issues

The framework navigation can be complex because it introduces new layers of abstraction and requires users to adapt to the decomposition criteria of MVC. Knowledge on multiple technologies becomes the norm. Developers using MVC need to be skilled in multiple technologies.

5.4 Workflow Diagram

A workflow diagram, also known as a process flowchart, is a visual representation of a process, workflow, or set of activities. It illustrates the sequence of steps, decisions, and interactions involved in completing a specific task or achieving a particular goal. Workflow diagrams help to understand, analyze, and communicate complex processes in a clear and visual manner.
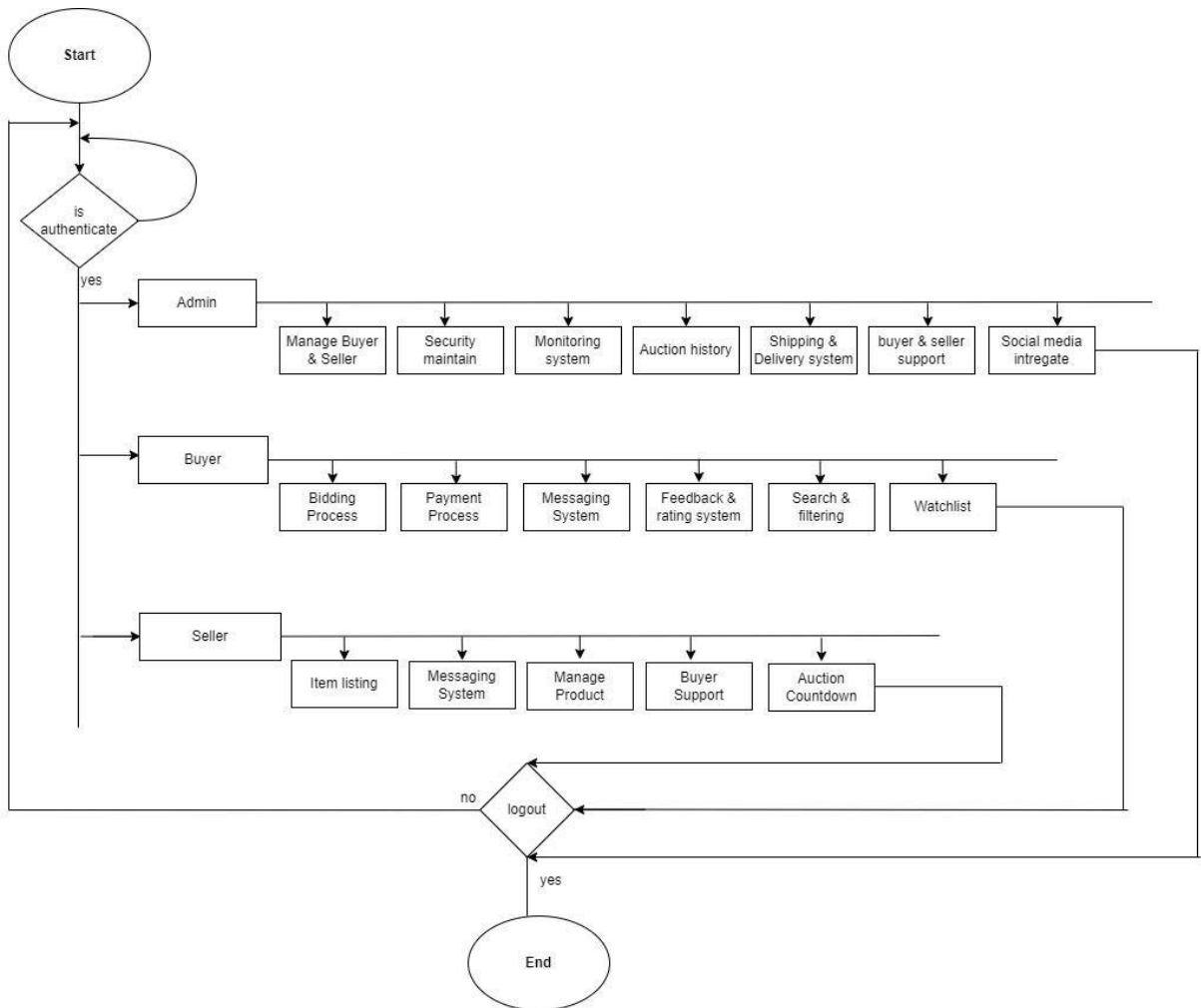

Figure 5.4: Workflow Diagram

5.5 Use case diagram

A use case diagram is a type of Unified Modeling Language (UML) diagram that depicts the interactions between various actors (users or external systems) and the system under consideration. Use case diagrams are often used to capture the functional requirements of a system by illustrating the different ways users or external entities interact with the system to achieve specific goals.
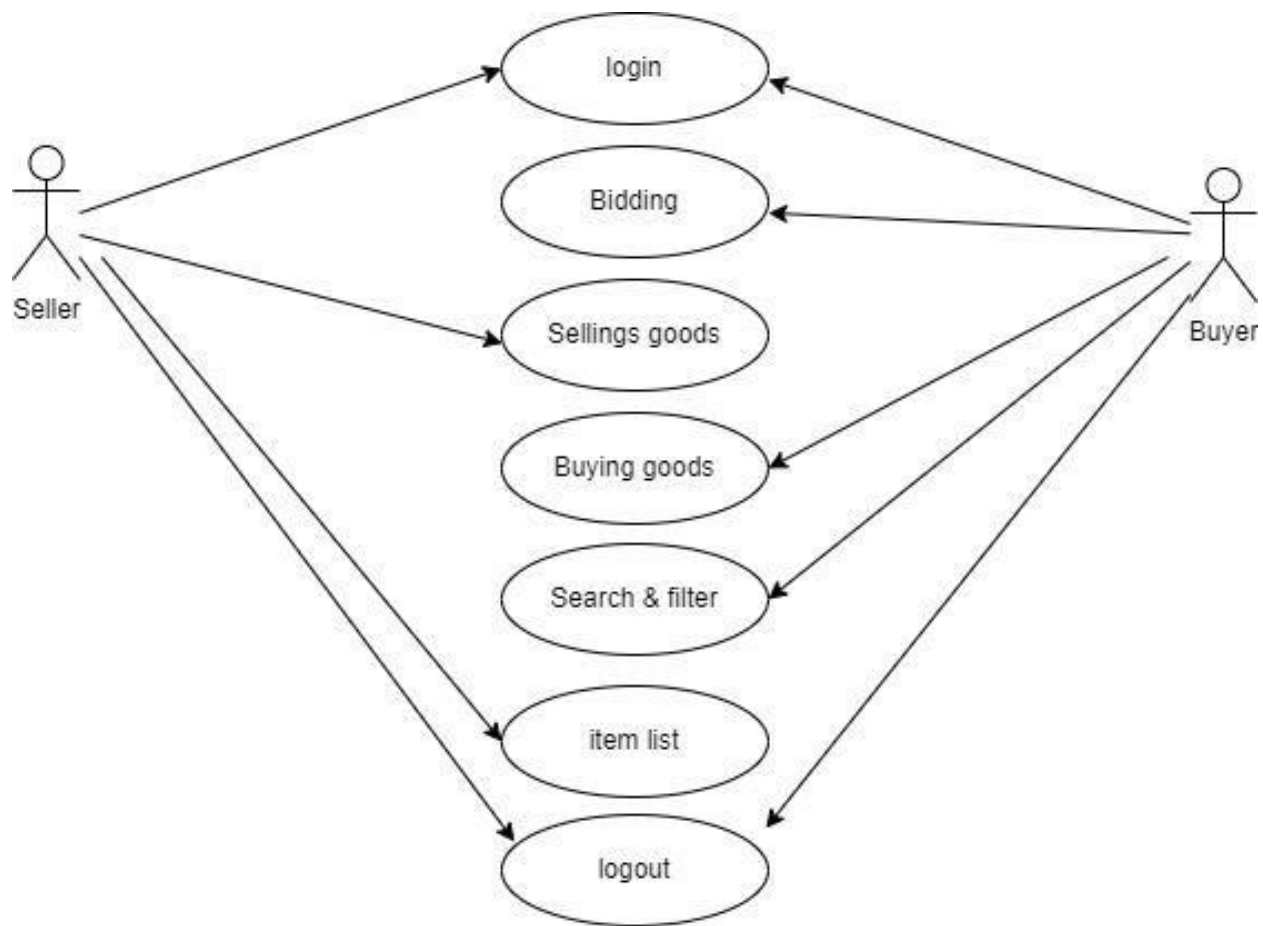

Figure 5.5: Use case Diagram

5.6 Data Flow Diagram (DFD)

A data flow diagram (DFD) is a diagram that describes the flow of data and the process that change data throughout a system It's a structured analysis and design tool that can be used for flow charting in place of or in association with information. The DFD reviews the current system, prepare input and output specification, specifies the implementation plan etc. Using any convention's DFD rules or guidelines, the symbols depict the four components of data flow diagrams.

• **External Entity**: An outside system that sends or receives data, communicating with the system being diagrammed. They are the sources and destinations of information entering or leaving the system. They might be an outside organization or person, a computer system or a business system. They are also known as terminators, sources and sinks or actors. They are typically drawn on the edges of the diagram.

• **Process**: Any process that changes the data, producing an output. It might perform computations, or sort data based on logic, or direct the data flow based on business rules. A short label is used to describe the process, such as "Submit payment."

• **Data Store**: Files or repositories that hold information for later use, such as a database table or a membership form. Each data store receives a simple label, such as "Orders".

• **Data Flow**: The route that data takes between the external entities, processes and data stores. It portrays the interface between the other components and is shown with arrows, typically labeled with a short data name, like "Billing details."

5.6.1 DFD Level 0

A Level 0 Data Flow Diagram (DFD) provides an overview of the high-level processes and interactions within a system. It represents the major processes, data flows, and external entities in a system, without going into the finer details of sub processes.
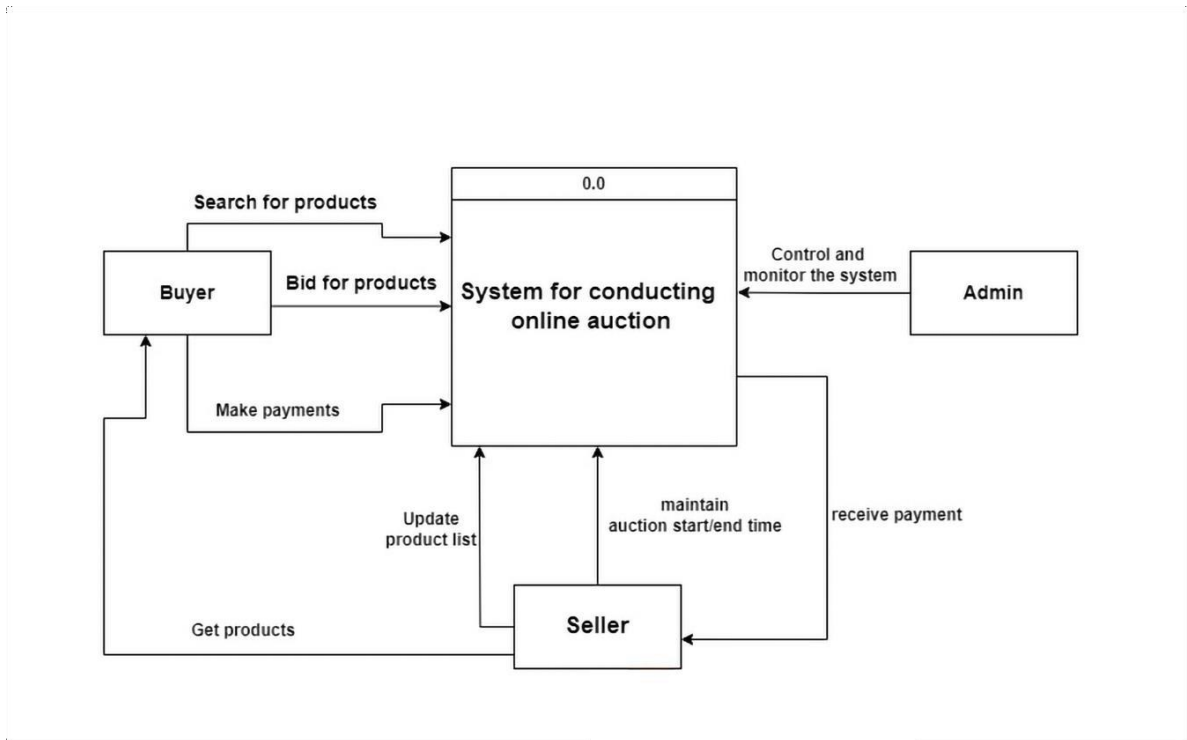

Figure 5.6.1: DFD Level 0

5.6.2 DFD Level 1

A Level 1 Data Flow Diagram (DFD) provides a more detailed view of a specific process from the Level 0 DFD. It breaks down the major process from the Level 0 DFD into sub-processes, showing the interactions between these sub-processes, external entities, and data stores.
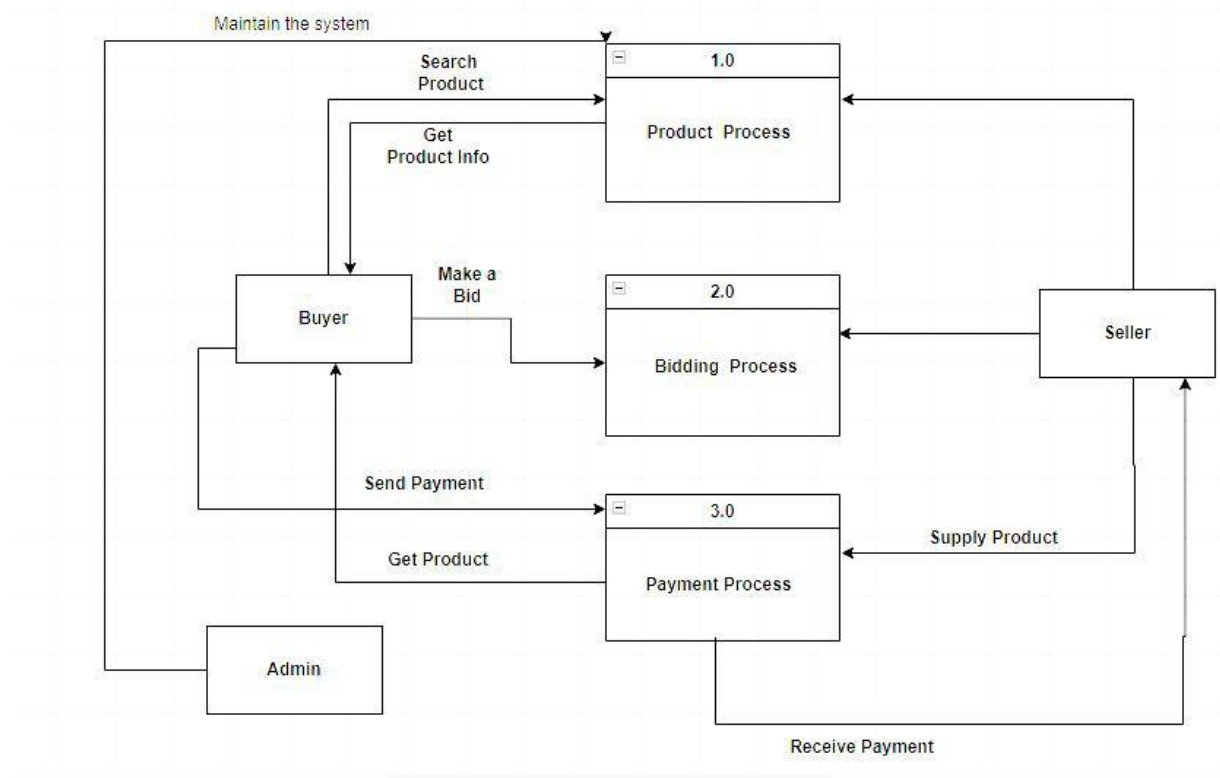

Figure 5.6.2: DFD Level 1

5.6.3 DFD Level 2

A Level 2 Data Flow Diagram (DFD) provides an even more detailed view of the processes from the Level 1 DFD. It breaks down the sub-processes from the Level 1 DFD into finer details, showing the interactions between these sub-processes, external entities, and data stores. Level 2 DFDs continue to provide a structured visual representation of the flow of data and activities within a specific process.
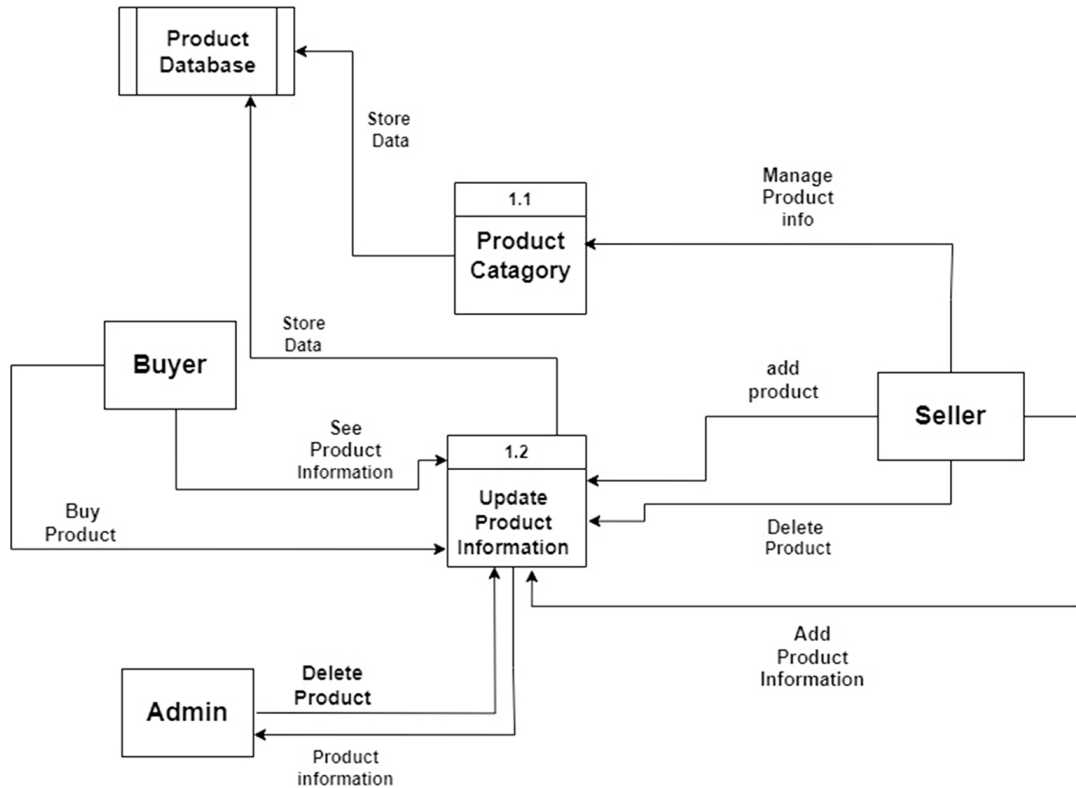

Figure 5.6.3: DFD Level 2

5.7 Flow chart

A flowchart is a visual representation of a process or workflow that uses various shapes, symbols, and arrows to depict the sequence of steps, decisions, and interactions involved in completing a task or achieving a goal. Flowcharts are commonly used to document, analyze, and communicate processes in a clear and easy-to-understand manner.
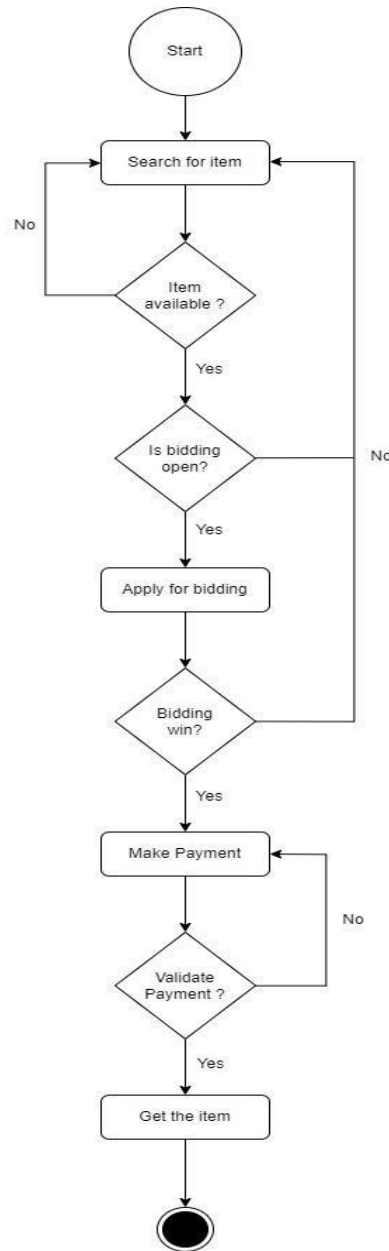

Figure 5.7: Flow Chart

5.8 Entity Relationship (ER) Diagram

An Entity-Relationship (ER) diagram is a visual representation of the relationships among entities in a database. ER diagrams are used to model the logical structure of a database and illustrate how different entities are related to each other. They are commonly used in database design to ensure that the database schema accurately reflects the real-world entities and their associations.
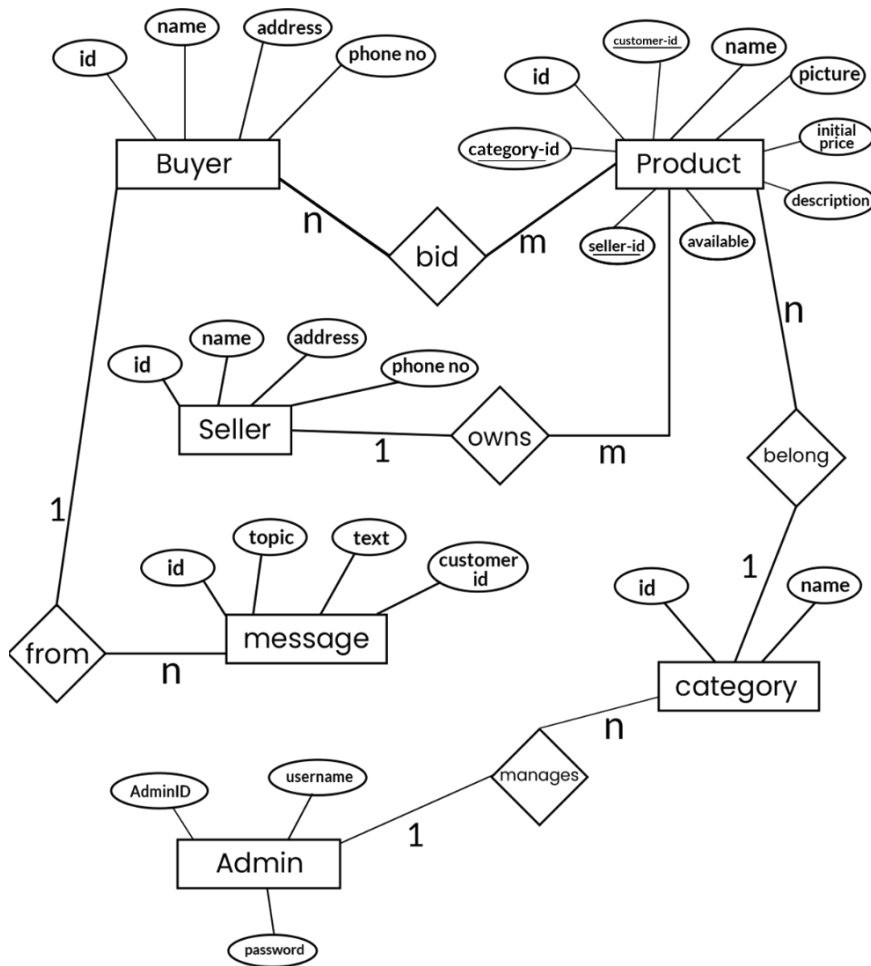

Figure 5.8: Entity Relationship (ER) Diagram

5.9 Sequence Diagram

A sequence diagram is a type of Unified Modeling Language (UML) diagram that illustrates the interactions and order of messages exchanged between different objects or components within a system. Sequence diagrams are commonly used to depict the dynamic behavior of a system, showing how objects collaborate to accomplish specific tasks or scenarios.
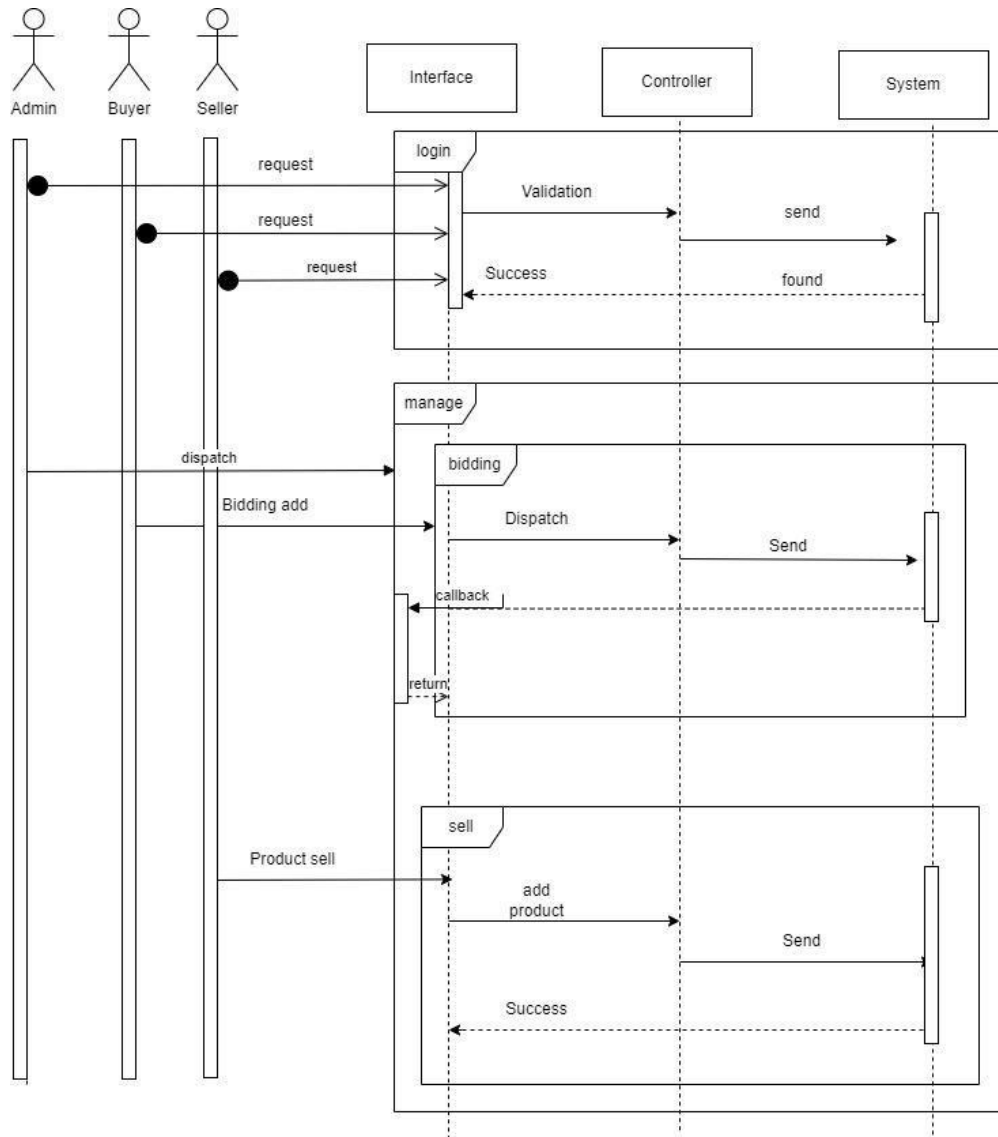

Figure 5.9: Sequence Diagram

CHAPTER 6
IMPLEMENTATION

6.1 Common Features

6.1.1 Sign-up Form

A sign-up form is a tool used to gather user information like name, email, and password, facilitating account creation on websites and services.
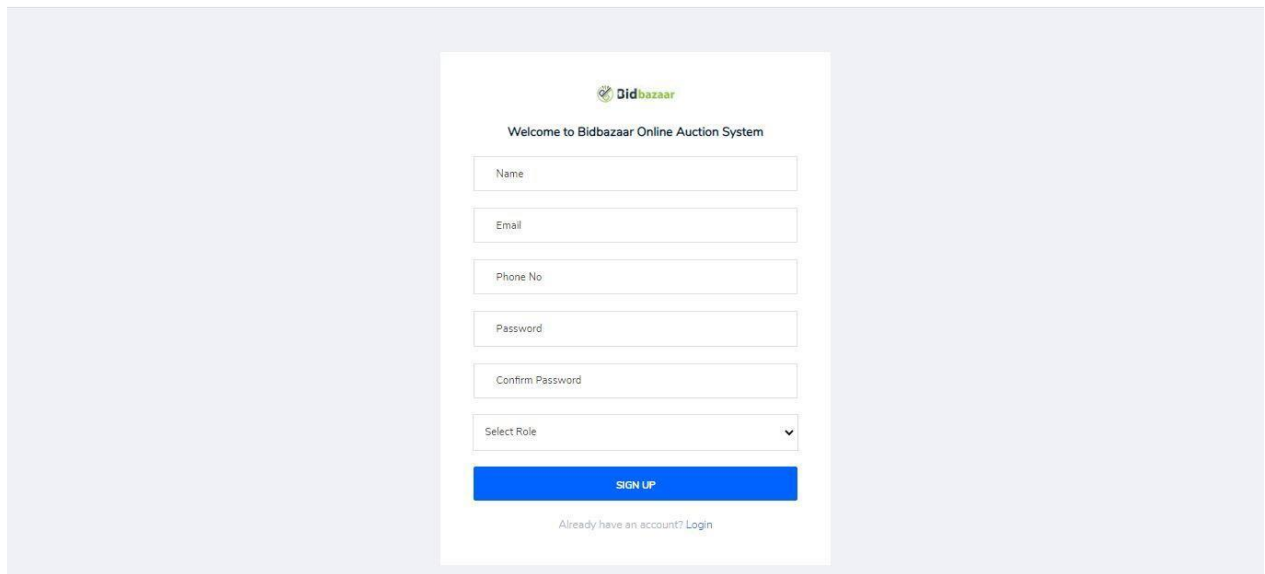

Figure 6.1.1: Sign-up form

6.1.2 Log-in Form

A login form is a tool that enables users to access secure accounts by entering their credentials, typically a username and password, on websites or applications.
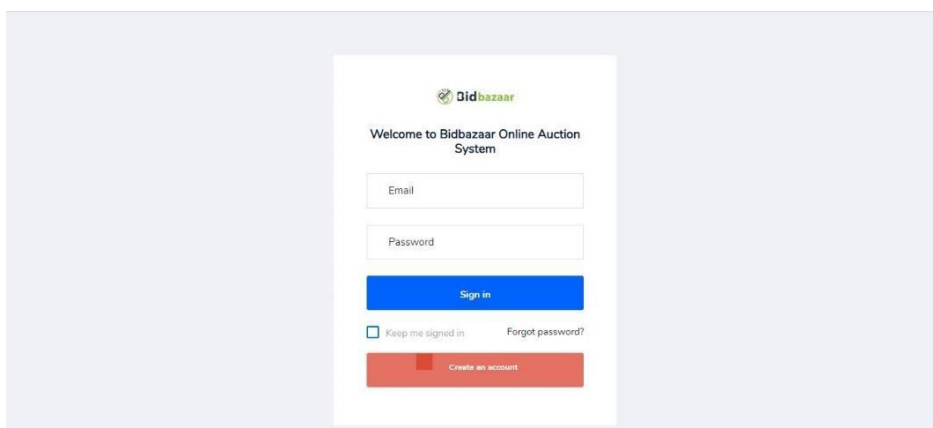

Figure 6.1.2: Sign-up form

6.1.3 Profile Update

The profile update option in our online auction system allows you to manage your personal information and preferences. You can edit your contact details, update your shipping address, and choose communication preferences. Keeping your profile up-to-date ensures a smooth and tailored experience while participating in auctions and receiving notifications about your bids and wins.
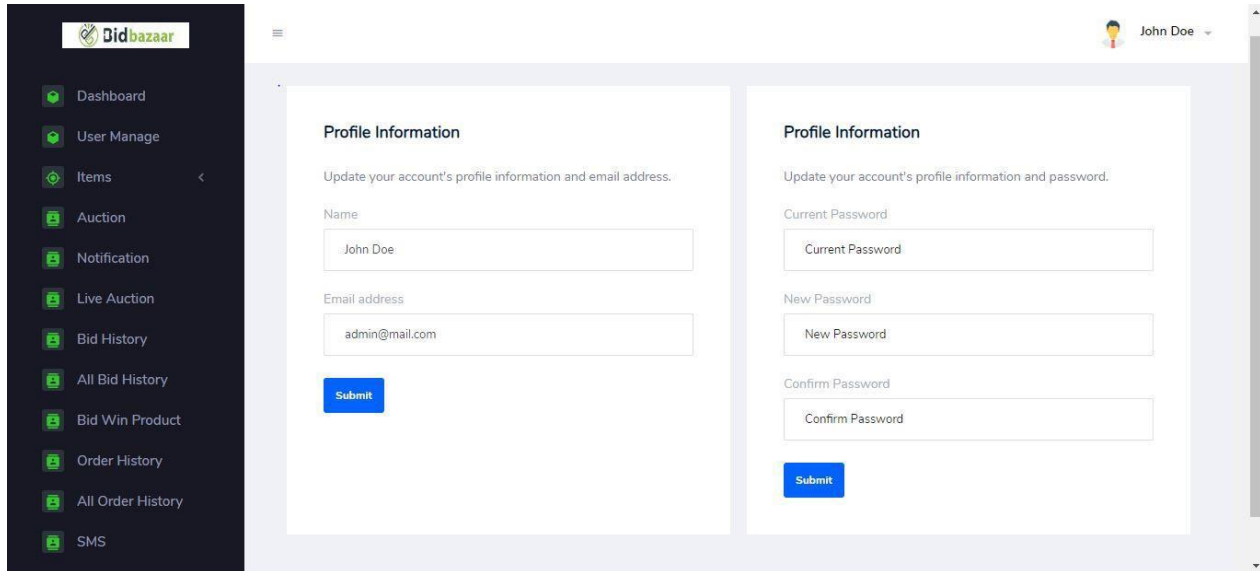
Figure 6.1.3: Profile Update

6.2 Admin Module

The admin module provides administrators with comprehensive control over the online auction platform. It enables the management of user accounts, item listings, and bids. Admins can monitor and moderate auctions, handle disputes, and ensure the platform's smooth operation. Additionally, the module offers insights through analytics, aiding in informed decision-making for optimal system performance.

6.2.1 Dashboard

The dashboard in our system provides users with a snapshot of their auction-related actions. It offers a quick view of ongoing bids, won items, and active listings. This helps users stay informed about their engagement and make informed decisions while navigating the platform.

Figure 6.2.1: Dashboard

6.2.2 User Manage

The User Manage section in the admin module empowers administrators to oversee user accounts efficiently. It enables account creation, modification, and suspension if necessary. Administrators can also view user activity logs to ensure platform security and proper conduct, fostering a safe and user-friendly auction environment.
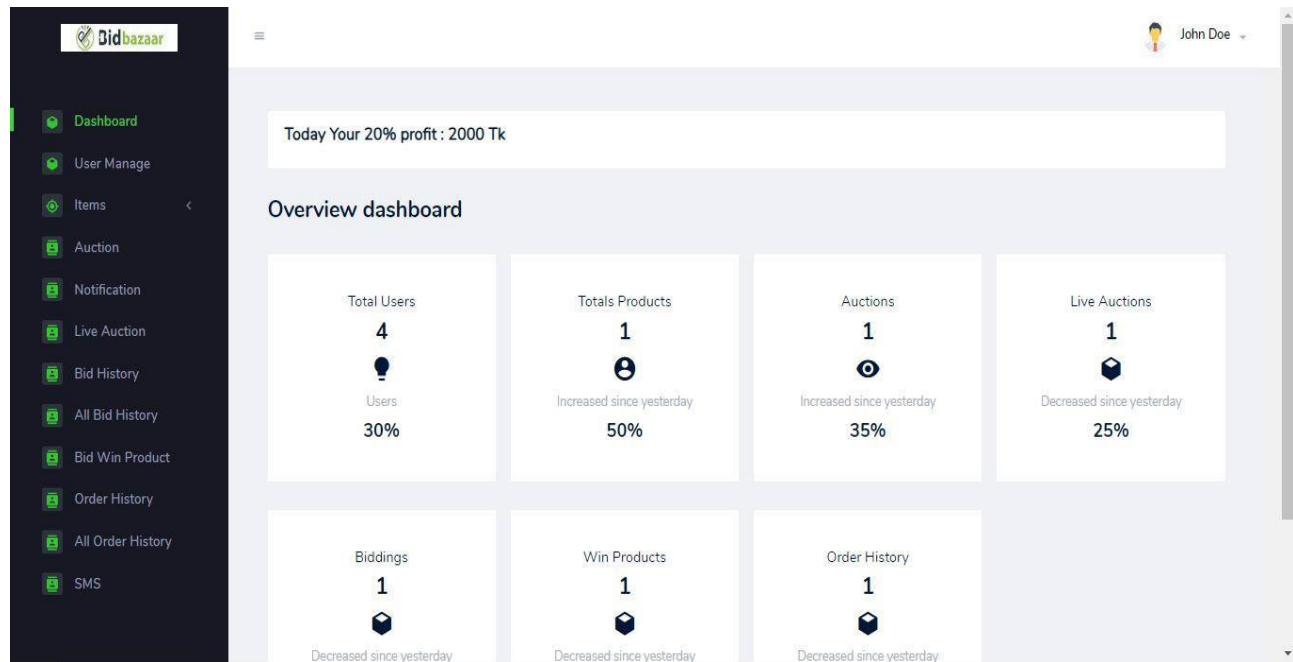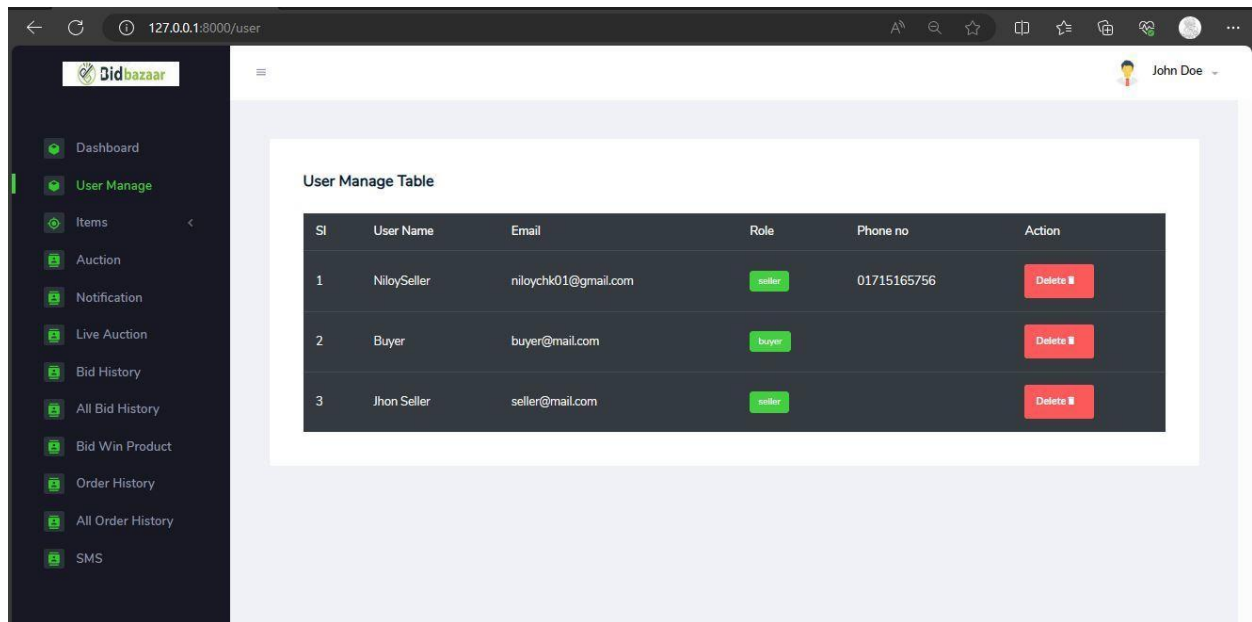

Figure 6.2.2: User Manage

6.2.3 All Bid History

The All Bid History module provides users with a comprehensive record of bidding activities. It displays a chronological list of bids placed on various items, along with corresponding bid amounts and timestamps. This feature allows users to track their bidding progress, monitor competitors, and assess bidding trends. By offering transparent insights into past bidding behavior, the module enhances user engagement and informed decision-making during auctions.
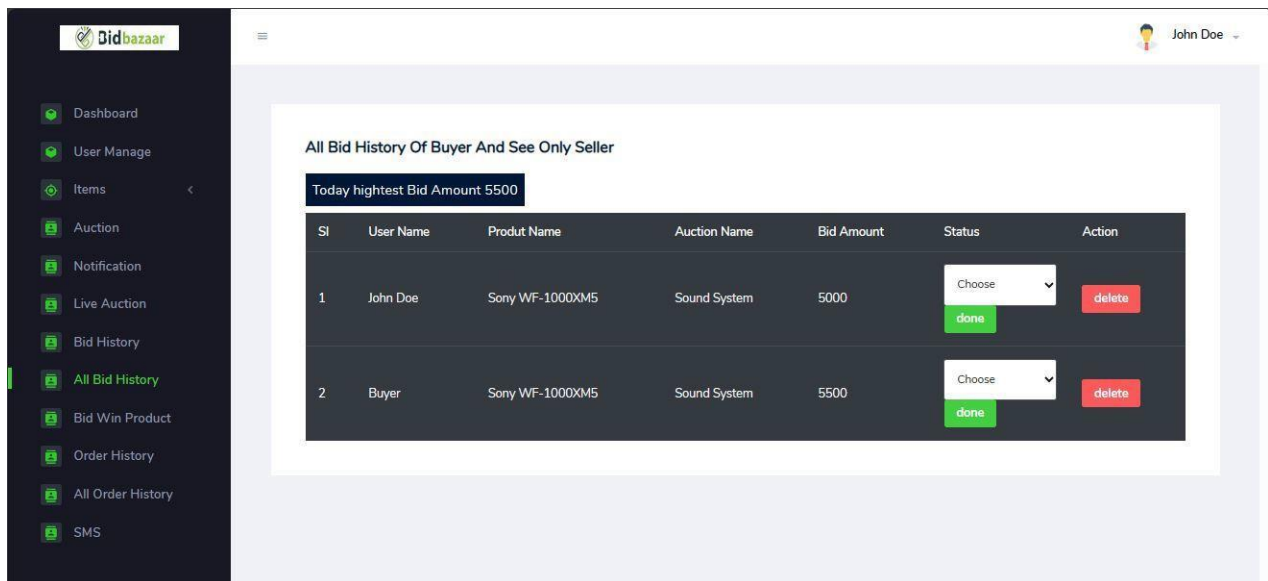
Figure 6.2.3: All Bid History

6.3 Buyer Module

The Buyer Module of our system is designed to cater to the needs of individuals looking to purchase items within the online auction system. It facilitates seamless browsing of available listings, enabling buyers to place bids on items of interest. Upon winning an auction, buyers can access payment and checkout options to complete their purchases securely. The module ensures a user-friendly buying experience by providing all the necessary tools and information for successful transactions.

6.3.1 Live Auction

Our live auction feature redefines excitement, bringing the thrill of in-person bidding to our online platform. Through real-time streaming, users can participate in dynamic auctions, placing bids as the action unfolds. The intuitive interface displays current bid amounts, countdowns, and allows instant bidding, creating an immersive experience. With secure payment gateways and instant updates on bid status, our live auctions provide a captivating way to secure unique items and enjoy the intensity of traditional auctions from the comfort of your own space.
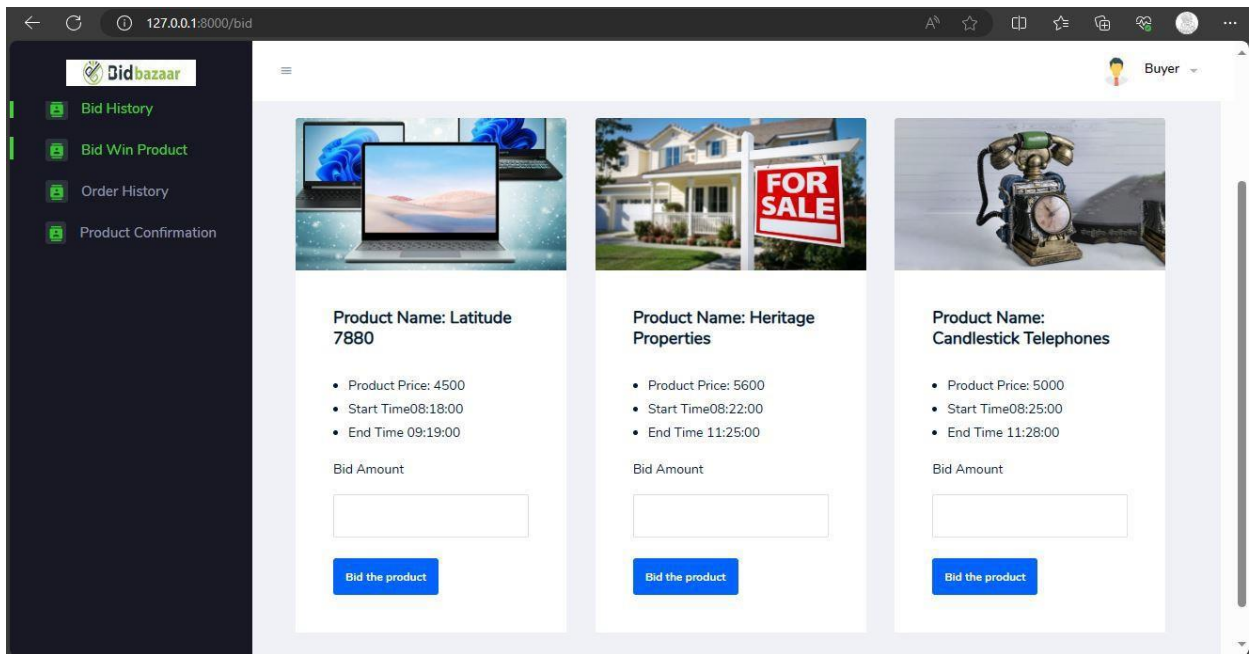
Figure 6.3.1: Live Auction

6.3.2 Bid Win Product

Within the pages of our project book, the "Bid Win Product" module shines as a dedicated space highlighting the fruits of our triumphant auction engagements. Here, we invite you to explore an array of won items, each elegantly showcased with vivid descriptions and captivating imagery. Relive the exhilaration of securing these treasures as you revisit the winning bid amounts. Seamlessly integrated payment avenues and shipment monitoring further enhance this module, encapsulating the essence of our post-auction journey.
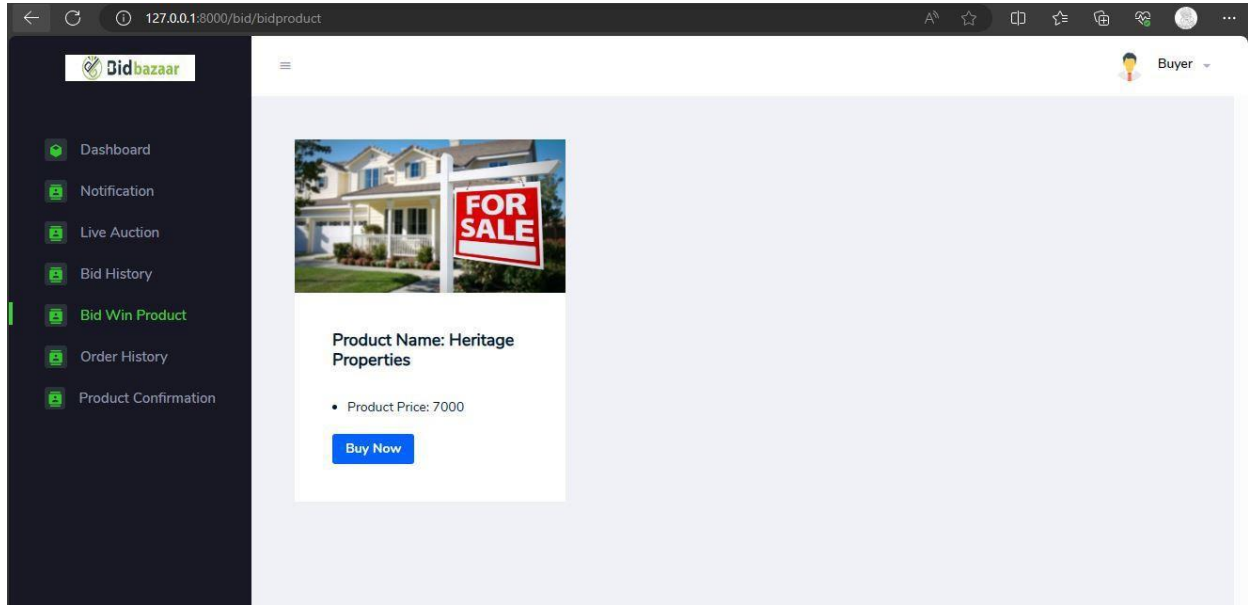
Figure 6.3.2: Bid Win Product

6.3.3 Payment Gateway

Our payment gateway, a cornerstone of our system, offers a secure and streamlined transaction process. It acts as the digital bridge that facilitates seamless payments for auction items. By integrating various payment methods and ensuring encryption, it safeguards sensitive financial information. This gateway empowers users to complete purchases confidently, enhancing the overall efficiency and trustworthiness of our platform.
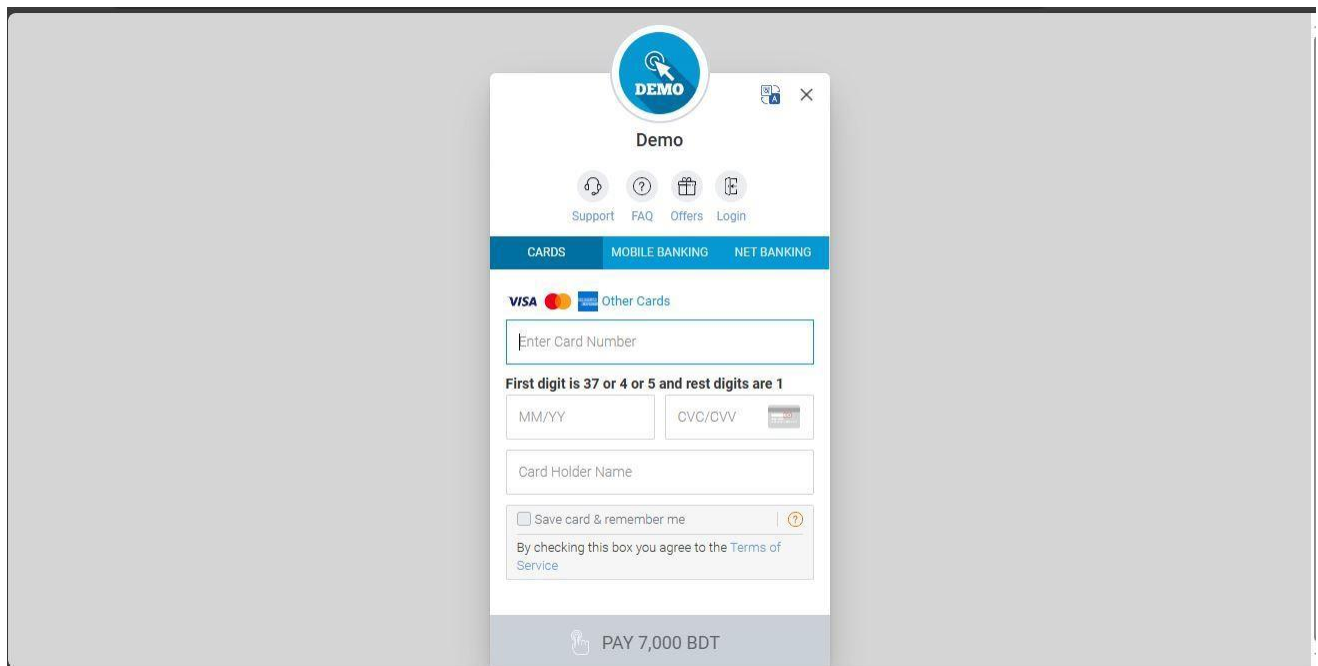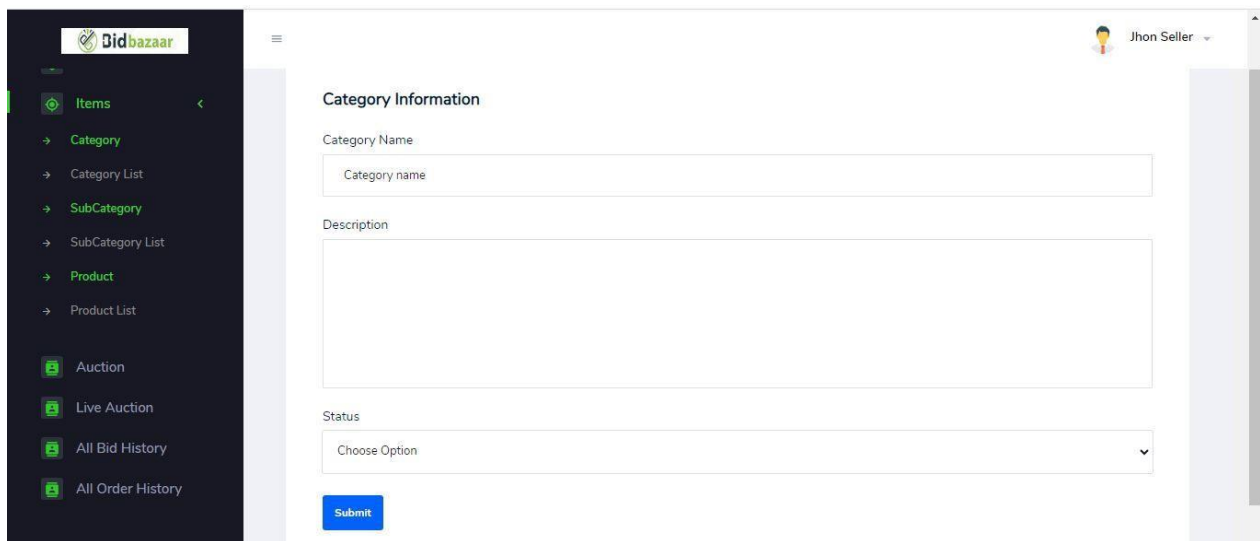
Figure 6.3.3: Payment Gateway

6.4 Seller Module

The "Seller Module" of our system embodies empowerment within our system. Sellers engage with ease, showcasing items through detailed listings enriched with descriptions and visuals. They monitor bids in real time, adapting strategies for optimal outcomes. Post-auction, the module assists in managing transactions, ensuring seamless payments and smooth shipping processes. With insights into item performance, the "Seller Module" is a comprehensive toolkit for sellers, nurturing success throughout the auction journey.

6.4.1 Category List

In our system, the "Category List" module empowers sellers to categorize their items efficiently. Sellers can select appropriate categories for their listings, enhancing visibility for potential buyers. By accurately classifying items and providing clear descriptions, sellers optimize the discoverability of their offerings. This module streamlines the process of aligning products with relevant categories, ensuring effective presentation and increased engagement from interested buyers.

Figure 6.4.1: Category List

6.4.2 All Bid History

From the seller's viewpoint, the "All Bid History" module offers valuable insights into the bidding journey for your listed items. This tool allows you to track all bids made on your products, providing a comprehensive record of bidder engagement. By accessing bid history data, you can gauge the popularity and demand for your offerings, enabling informed decisions on future listings. This module empowers sellers to understand bidder behavior, optimize pricing strategies, and tailor their approach for successful auctions.
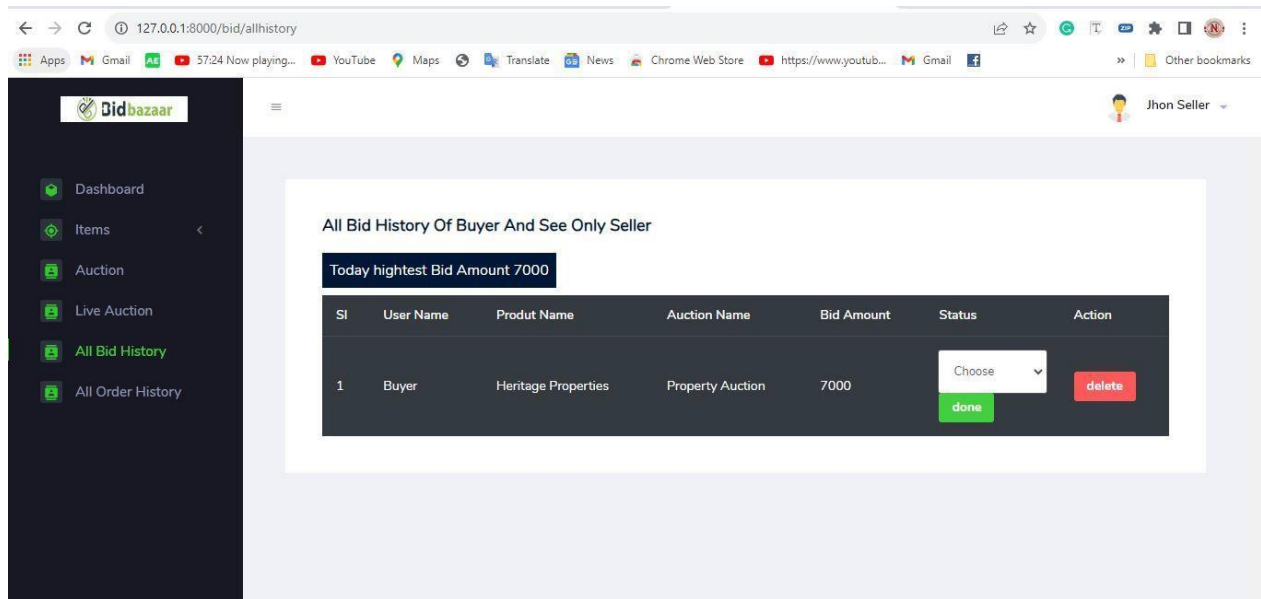

Figure 6.4.2: All Bid History

CHAPTER 7
CONCLUSION

7.1 Conclusion

An online auction system is an efficient way of buying and selling goods or services through the Internet. It allows for wider reach, convenience, and increased competition, resulting in fair prices for both buyers and sellers. [1]

The conclusion of an online auction system largely depends on the specific goals and objectives of the organization implementing it. However, some general conclusions can be drawn:

Increased Efficiency: An online auction system saves time and resources compared to traditional auction methods. The process of bidding, payment, and delivery is streamlined, making it easier for both buyers and sellers.

Increased Reach: With an online auction system, participants can bid from anywhere in the world, opening up new markets for sellers and providing more choices for buyers.

Increased Competition: Online auction systems increase competition, resulting in fair prices for both buyers and sellers. This can lead to increased profitability for sellers and cost savings for buyers.

Improved Transparency: Online auction systems provide transparency throughout the bidding process, ensuring that all participants have access to the same information. This increases trust and can lead to better long-term relationships between buyers and sellers.

Overall, an online auction system can be an effective way to conduct auctions, providing a range of benefits to both buyers and sellers.

7.2 Limitations of our system

Regrettably, despite our intentions, the implementation of certain features within our system has encountered limitations.

- **Feedback System:** Despite our intentions, the implementation of a feedback system for users could not be realized as initially envisioned.
- **Category and Sub-category Product System:** Efforts to establish a meticulous categorization of products into categories and sub-categories from the buyer's perspective faced challenges in full implementation.
- **Shipping System from the Seller Side:** Our endeavor to create a robust shipping system for sellers encountered complexities, preventing its successful integration.

While these features were pursued to enhance user experience and platform functionality, their complete implementation remains pending. We remain dedicated to refining our system and exploring avenues for potential improvements in the future.

7.3 Business Prospect

The business prospects associated with an auction system encompass favorable avenues for businesses, buyers, and sellers, characterized by expanded market reach, streamlined sales processes, equitable pricing mechanisms, and heightened customer engagement. Sellers stand to realize profits from product sales within the system. Notably, the administrator also participates in this revenue model, receiving 20% of the seller's profit as a contribution to platform maintenance and development. This symbiotic approach underscores the viability of the auction system as a mutually beneficial platform for all stakeholders involved.

7.3 Future Enhancement

Our commitment to continuous improvement drives our focus on addressing the limitations we have encountered. We envision several potential enhancements that could significantly elevate our system's functionality and user experience:

1. Comprehensive Feedback Mechanism: A robust and user-friendly feedback system remains a top priority for us. We aim to design and implement a comprehensive feedback mechanism that empowers users to provide insights into their experiences, thus fostering better interaction and trust within the platform.

2. Refined Categorization System: We are actively exploring ways to overcome the challenges of implementing a detailed categorization system for products. Our goal is to provide buyers with a seamless and efficient way to navigate items through intuitive categories and sub-categories, enhancing the overall shopping experience.

3. Streamlined Shipping Integration: The development of a robust shipping system from the seller's perspective is a focal point. We are working towards seamless integration with trusted shipping partners, ensuring hassle-free and reliable delivery options for sellers and buyers alike.

4. Enhanced Mobile Accessibility: Recognizing the importance of mobile devices in today's digital landscape, we aspire to enhance the mobile accessibility of our platform. This includes optimizing the user interface and experience for various devices, ensuring a consistent and enjoyable experience regardless of the user's choice of device.

5. Dynamic Pricing Strategies: We are exploring the incorporation of dynamic pricing strategies, which will allow sellers to adapt their pricing based on real-time market trends and demand. This will provide a competitive edge to sellers and enhance the diversity of our product offerings.

These future enhancements reflect our dedication to addressing the limitations we have encountered, while continually striving to elevate our system's performance and user satisfaction. As we move forward, our commitment to innovation and user-centric design remains unwavering.

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APPENDIX

Source Code

Admin Module:

Dashboard:

```php
<?php

namespace App\Http\Controllers;

use App\Events\AuctionHistory;
use App\Models\Auction;
use App\Models\Category;
use App\Models\Product;
use App\Models\User;
use App\Models\UserAuctionHistory;
use Carbon\Carbon;
use Illuminate\Http\Request;
use Illuminate\Support\Facades\Auth;
use RealRashid\SweetAlert\Facades\Alert;

class AuctionController extends Controller
{
    public function index()
    {
        $auction_info =
Auction::select(['id','auction_title','live_auction_date','live_auction_start_time','live_auction_end_time'])-
>get();
        return view('backend.auction.index',compact('auction_info'));
    }
    public function create()
```

```php
    $sellers = User::select(['id','role','name'])->where('role','buyer')->get();

    $categorys = Category::select(['id','name'])->get();

    $products = Product::select(['id','product_name'])->get();

    return view('backend.auction.create',compact('categorys','products','sellers'));

}

public function store(Request $request)

{

    // dd($request->all());

    Auction::updateOrCreate([

        'auction_title'=>$request->auction_title,

        'category_id'=>$request->category_id,

        'product_id'=>$request->product_id,

        'live_auction_date'=>$request->live_auction_date,

        'live_auction_start_time'=>$request->live_auction_start_time,

        'live_auction_end_time'=>$request->live_auction_end_time,

        'reverse_price'=>$request->reverse_price,

        // 'minimum_bid'=>$request->minimum_bid,

        // 'bid_increment'=>$request->bid_increment,

        'buy_now_price'=>$request->buy_now_price,

        'auction_status'=>$request->auction_status,

        // 'admin_status'=>$request->admin_status,

        'description'=>$request->description,

        'terms'=>$request->terms,

        'buy_now_item'=>$request->buy_now_item,

    ]);

    Alert::success('Auction Added Successfully');

    //event fire/trigger/dispatch

    $user = Auth::user();

    event(new AuctionHistory($user));
```

```
   return redirect()->route('auction.index');

}


public function view($id)

{

   return view('backend.auction.view');

}


public function edit($id)

{

   $auction_edit = Auction::find($id);

   $sellers = User::select(['id','role','name'])->where('role','buyer')->get();

   $categorys = Category::select(['id','name'])->get();

   $products = Product::select(['id','product_name'])->get();

   return view('backend.auction.edit',compact('auction_edit','sellers','categorys','products'));

}


public function update(Request $request)

{

   Auction::find($request->id)->update([

      'auction_title'=>$request->auction_title,

      'category_id'=>$request->category_id,

      'product_id'=>$request->product_id,

      'live_auction_date'=>$request->live_auction_date,

      'live_auction_start_time'=>$request->live_auction_start_time,

      'live_auction_end_time'=>$request->live_auction_end_time,

      'reverse_price'=>$request->reverse_price,

      'minimum_bid'=>$request->minimum_bid,

      'bid_increment'=>$request->bid_increment,
```

```php
            'buy_now_price'=>$request->buy_now_price,

            'auction_status'=>$request->auction_status,

            'admin_status'=>$request->admin_status,

            'description'=>$request->description,

            'terms'=>$request->terms,

'buy_now_item'=>$request->buy_now_item,

        ]);

        Alert::success('Auction Updated Successfully');

        return redirect()->route('auction.index');

    }


    public function distroy($id)

    {

        $auctions = Auction::find($id);

        $auctions->delete();

        Alert::success('Auction Deleted Successfully');

        // Toastr::success('Module deleted Successfully');

        return redirect()->route('auction.index');

    }


    public function notification()

    {

        $auction_histroy = UserAuctionHistory::select("*")->whereDate('created_at', Carbon::today())->get();

        // dd($auction_histroy);

        return view('backend.notification.index',compact('auction_histroy'));

    }
```