**CHAPTER ONE**

**INTRODUCTION**

This chapter will describe the context in which this investigation was launched, the description of difficulties that led to this study, and the Aim and Objectives of the study as a prologue to subsequent aspects of this study. Others include the significance of the research, the scope of the work, study limitations, and definitions of technical terminologies.

* 1. **Background of the Study**

The term auction comes from the Latin word for growth. A bidding and selling process in which products and services are offered for sale is known as an auction. There are several types of auctions, and each auction has its own set of rules. An auction can have numerous variations, such as a minimum and maximum price restriction, as well as time limits. Depending on the type of auction, bidders can participate remotely or in person. Remote auctions can be attended through phone, mail, or the Internet. (Sheharyar & Zeeshan, 2022)

A few decades ago, auctions were held in auction houses, with the auctioneer delegating bids, and this existing system necessitated the actual attendance of the bidders, resulting in a variety of limits. This resulted in the adoption of online auctioning, which allows auctions to be conducted through the Internet from anywhere in the world. Aaditya et al. (2022)

In recent times, internet marketing as a means for the exchange of goods and services for monetary gains has exponentially grown in size, and this trend as expected will continue in the incoming years and has been envisioned to bring great economic growth to the country, but with the internet comes negativity that goes as far as hampering the same service it aims to provide, With no specified rules governing the internet it leaves the buyers or sellers at the mercy of fraudsters and with no means of safely purchasing products or bargaining for the price of the product customers wish to purchase. Kokila et al. (2021).

Now, an online furniture auction system comes in by providing a convenient and safe means for obtaining products while also allowing for bidding. Bidding can be done anywhere with an internet connection to the website. This system enables users to put stuff for auction. The products will be accompanied by a description, selling price, and a visual presentation for the bidder to view. If the bidder is interested in the item, he or she will auction for it and then personally check it to approve it before concluding the transaction with the seller. Kokila et al. (2021).

Because of the dynamic nature of the internet, this system will function on it, and anybody may access it via cellphones, laptops, personal digital assistants, and a variety of other digital devices, which is a definite guarantee that the system will assist many individuals in the country and, in the future, the entire planet.

* 1. **Statement of the Problem**

The problem with the public furniture auction is that the participation of the general public is very limited. The auction process is faced with so many difficulties, which include time, planning of the auction event, and also the movement of items to be auctioned which can also lead to the damage of some fragile items.

**1.3 Aim and Objectives of the Study**

To develop an online furniture auction system.

**Objectives**

The objectives of the research work are as follows:

1. Users and product datasets will be generated upon registration on the site
2. Modern technologies like HTML, CSS, and JavaScript will be employed in front-end development, Python (Django) will be employed in the backend development coupled with an open-source relational database; MySQL will be employed as the backend technology.
3. Unit and Integration testing will be carried out to ensure the effectiveness and efficiency of the design making sure that the functionalities are error-free.

**1.4 Scope of the Study**

This online furniture auction system only allows for the auctioning of furniture and will accommodate only the buyers and sellers that are registered to participate in any of the auctioning processes. This system will bring benefits by replacing the manual method of searching for things in the market and traveling large distances merely to buy a few pieces of furniture, as well as saving time.

**1.5 Limitations of the Study**

Some of the limitations that may have influenced the conclusion of this research include:

**Finance** - The requirement for a typical functional personal computer unit to execute and debug the application software hampered the task's quick and simple progress

**Power:** The lack of a steady, efficient, and dependable power source was another key constraint for this project, as it suspended the work multiple times during the design and testing stages.

**Time** - Due to the school academic calendar, the time window allocated to complete this project was quite short, and it was carried out under pressure, causing the researcher to fail to include several required elements.

**1.6 Significance of the Study**

The main importance of this study is to improve the security of online furniture auctions by developing an online furniture auction system that is more secure, the study can help protect users and increase their confidence in using online auctions.

**1.7 Project Organization**

For ease of study and proper understanding of this project write-up, it is planned and organized into five chapters. The description of what each chapter contains is explained below:

**Chapter One: Introduction**

Chapter one contains an introduction to the write-up, the problem statement of the study, the aims and objectives of the study, the significance of the study, the scope and limitation of the study, and the organization of the report to create a clear picture of the project's direction.

**Chapter Two: Literature review**

This chapter describes the previous work projects and discusses the many contributions made in the field of research. It also examines the many strengths and limitations of the present systems. We also highlight the benefits of establishing the new system by highlighting its advantages.

**Chapter Three: Methodology and Design**

This chapter presents the research methodology used in the development of the system to facilitate an understanding and effective future implementation of the system and also the presentation of the results of system analysis and design.

**Chapter Four: System Implementation Evaluation**

The Chapter contains system design implementation and documentation, design of the system, output design, input design, and system requirements for implementation.

**Chapter Five: Summary, Conclusion, and** **Recommendation**

The chapter provides a summary of major findings, conclusions, and recommendations based on the study conducted.

**1.8 Definition of Terms**

1. **Online auction:** A type of auction that is held over the internet, allowing participants to bid on items remotely using a computer or other device.
2. **Furniture:** Furniture refers to movable objects intended to support various human activities such as seating, eating, and sleeping.
3. **Encryption:** The process of converting plaintext (readable data) into ciphertext (scrambled data) using an algorithm, in order to protect the confidentiality of the information being transmitted.
4. **Auction**: a sale of goods or services in which the highest bidder wins.
5. **Security**: Measures taken to protect against unauthorized access, misuse, or exploitation of a system or its resources.
6. **Authentication**: The process of verifying the identity of a user or device, typically through the use of a username and password or other credentials.
7. **Authorization**: The process of granting access to resources or actions to a user or device, based on their identity and the permissions associated with that identity.
8. **Access control**: the process of restricting access to a system or resource

**CHAPTER TWO**

**LITERATURE REVIEW**

1. **Introduction**

This chapter intends to reviews previous work projects and consider the many contributions made by others in this field of research. However, it also investigate the limitations and strengths of the current systems. The benefit of creating a new system and its advantages are also highlighted. Also relevant and pertinent literature were reviewed with the aim of getting in-depth knowledge about the concept and the terminologies used in both auction system and furniture.

1. **Literature Review**

Globibi (2020), Auction systems. Physical auction events has overtime been seen as tedious, resource and time consuming. Movement of auction items face the risk of damage, when moved to and fro the auction venue, have been designed to be capable of supporting large numbers of bidders in active auction. The auction system is oriented towards lot-based block auctions where a catalog of items is entered into the system in advance, and the auction takes place for a fixed period. Wireless (online) auction system are simple to use with the general user in mind. It eliminates the need for bidders to be present at the designated place for witnessing and participating in the process without any need to stick to the silent auction tables.

Furthermore, This technology developed using of Angular 6, Node JS and using MySQL for database . It involves product bidding in Realtime using websockets.

In conclusion, A bidder can participate in the process without any need to stick to silent auction table, there by enjoy nodding and socialize. Participate can have all bid updates which happens on our wireless bidding platform. And also upload their upload their valuable product/ items and they can auction for that product and once a user entered date is matched the campaign gets over and product is sold to the highest payer, The solution facilitates getting timely confirmation for the highest bids placed in the auction. The level of data management and information dissemination through our suggested solutions aim at pleasing everyone with their simplistic design and application. By organizing an online auction, it makes the auction event more fun and unique, participates can join from anywhere with an integrated application,

Sonali et al (2018). Online Auction fraud detection. Fraud, the e-commerce sites must be secure as they involve cash transactions, to the bidders those who loss up to a certain amount losing the money. the process of a safe overall online bidding would include complete check of the product that is to be auctioned and of the customer who wishes to take part.

Fraud detecting system is implemented to detect online auction fraud as thousands of new auction fraud are reported everyday. This system is featured by:

1. Blacklist: the list of customers or groups is often marked down for punishment or exclusion. They regarded as unacceptable or untrustworthy. One rule is been created by experts with years of experience to find if a user is fraud. The user is blacklisted to prevent the same user from bidding if the user has already done a fraud.
2. Selective labelling: the case will enter the queue which will be handled by human experts for further investigation by taking a value of benchmark as fraud score, if the fraud score is above certain threshold. The final result would be taken as either fraud or trustable once it is checked. .
3. User rating and complaint: there will be a user complain and reviews for every products bought. The buyers who have any issues while buying or selling product could register his/her complaints by using this. The first buyer who bought the product will let know if it is a genuine product or not by for someone who want to buy the product,

Furthermore, the technologies employed in developing this research include DBC, HTML, JAVA, JSP and Server Side Script with JSP and Database of Mysql are the languages and tools used. These tools are ideal for development of web application.

In conclusion, the online auction is a separate business representation of which the projects and products are sold all the way through price bidding. The online auction system consider a situation where input is specified one piece at an instance, and when receiving an input batch, the representation has to be modernized consistent with make prediction for the subsequent batch and data. The reputation systems used expansively by websites to identifying auction frauds, even though numerous of them make use of naive approaches. It has become essential to construct an online feature selection structure that would evolve dynamically to make available both at the optimal performance as well as the perception.

Bliss (2018). Online auction management system. Searching for likable items has always been a problem to many people around the world. There are some existing applications that allows users for bidding but the product that is not available in your local area, you cannot do inspection of the product that you are going buy. But online Auction application user will be able to bid for product that is available in his local area. Cone-men have traditionally benefited from the discrepancy of purchasers by providing item distribution to clients. People have come into contact with a lot of phony goods or purchasers continue to be in a state of scarcity because they don’t buy the appropriate goods from the sellers. When purchasers are unable to find the proper things, they occasionally try to return home. On the other hand, while we have suppliers and business owners who are qualified to provide and sell the goods, they have relatively few customers, especially within the same area.

In addition, Primary and secondary collection of data, mysql database for storing and retrieval of information.

In conclusion, data was gathered from literature reviews on emotional evaluations and research on the use of social media in learning and assessment. Editing, categorization, and interpretation were used to analyse.

S.Kokila et al (2021).online auction system. Some people spend a lot of money on transportation, using a lot of time both of which they may have at the end of the day receive the products they chose. Communities on , both domestically and internationally, are frantically searching for a solution or the appropriate person to deliver a response to them. these people eventually settle for goods or services from dishonest or who exploit desperate buyers by offering them bogus and illicit goods. Goods not available are bidded for, card decline.

Furthermore, Nearly 70% performance has been increased This online auction system lists the products to the registered users according to his location and so the bidders can bid to his nearby available products, html, css, javascript, Ajax, jQuery are developing tools used.

In conclusion, the interested bidders no longer need to be physically present at auction rooms thanks to online auction. The online product selection offered by the auction website gives bidders numerous options to choose the item of their choosing. Products are positioned based on their location. Online Auction system has made consumers more effective and their behavior and has driven business to a whole new level. The buyer can view the status on the website, and notified when they’ve won, and properly communicated to you.

Aaditya Patil (2022), online auction system, this online auction system only allows for the auctioning of household furniture, computer accessories, and mobile phones. This system only accommodates the buyers and sellers that are located within Zimbabwe. Only registered buyers and sellers participate in any of the auctioning process.

Furthermore, Technologies used include Node.js provides event-driven, non-blocking I/O model that makes it lightweight and efficient for realtime applications that runs on distributed devices, mongoDB used as the background database. Algorithm shows the flow of program that how it is being execution. It shows the successful working of the system. They are used for problem solving in the programming due to their simplicity to understand. Steps followed in the Algorithm – Step 1: Start Step 2: Input details for sellers and buyers (Email and Pass). Step 3: Login with credential and if right user gets the access to application. Step 4: After getting access seller can add products for bidding. Step 5: After creating account bidder can bid for products according to their choice. Step 6: when bidder win the bid they can contact seller for delivery of product. Step 7: Logout. Step 8: Stop.

In conclusion, Online auction system will give new approach and dimension to auction system Online auction system will give new approach and dimension to auction system Online Auction Portal is a new experience and has greatly impacted the lives of consumers in its short time of existence. Online auction portal has made consumers more effective and efficient in their behavior and has driven businesses to a new level, forcing many to make the necessary adjustments and changes to reach the new market of knowledgeable consumer.

Min-young lee et al (2016). Segmenting auction consumers, The significant growth in online auction retailing forces auction retailers to develop more tailored strategies for their target consumer groups. To this end, this study identified auction consumer segments based on consumer characteristics (i.e., compulsive buying behaviour, impulsive buying behaviour, variety-seeking tendency, price sensitivity, and risk consciousness).

Furthermore, data collection was done via *online questionnaire* making use of a pre-recruited panel from a commercial online survey company, *Segmentation analysis* In order to achieve the goal of this study, a cluster analysis was performed to identify groups of online auction customers based on consumer characteristics. *Identification of online auction consumer* segments Prior to conducting the cluster analysis, five constructs for consumer characteristics (i.e., compulsive buying behaviour, impulse buying behaviour, variety-seeking tendency, price sensitivity and risk consciousness) were refined and confirmed through an explanatory factor analysis. *Measurement* this study adapted existing measurement scales for testing in an online auction context. The measurement scales included: (a) consumer characteristics, (b) shopping behaviour, and (c) demographic characteristics. Consumer characteristics were measured for five constructs: compulsive buying behaviour, impulse buying behaviour, variety-seeking tendency, price sensitivity, and risk consciousness.

In conclusion, Limitations of the study, which provide the basis of future research, should be acknowledged. Future studies can conduct cross-cultural analyses in auction behaviour and consumer characteristics. These future studies can include several important variables such as product type, auction type, and number of bidding and amount of bidding in a given period. As another limitation, the data were collected using non-probabilistic methods and thus the sample may not be representative of the general consuming public. Given that the Internet does not offer yet a mechanism for random selection, future research should recruit respondents from diverse media to increase generalizability.

**2.3 Summary of Related Literature Reviews**

|  |  |  |
| --- | --- | --- |
| **Author & Year** | **Title & Description** | **Merit and Demerits** |
| Globbi et al. (2020) | Auction system.  This project aims to achieve web-based auctioning system | Bidder can join the auction.  Final-year students have to register on the site themselves which implies that anyone can register on the site and the allocation process is not automated. |
| Sonali et al (2018) | Online auction fraud detection system to ensure secure commercial sit for cash transaction. | Validates and verifies the product and customers.  Construction of an online feature construction of an online feature that would make available both at optimal performance as well as perception. |
| Bliss (2018) | Online Auction Management System.  Auction application that enables the customer bid for product within their location. | Products displayed for your view are products nearest to you as per your location for easy inspection.  Products within your location might not be what you might like or want. |
| S.Kokila et al (2021) | Online Auction System.  This system enables customers bid for product of their choosing and also notifies them once they have won the bidding. | No physical presence is required as such customers experience a more convenient way of carrying out transactions.  Payment options such as Debit Cards may malfunction and be declined.  Unavailable goods may be bid for. |
| Patil (2022) | Online auction system.  This system only allows buyers and sellers located in a particular environ and only registered ones | Business transaction more efficient and effective.  Only for registered auction buyers and seller within a local area. |

**2.4 Description of the current system**

An auction system is a method of selling goods or services in which buyers bid on items or lots, and the highest bidder wins the auction. The current auction system can be conducted in various ways, including:

1. Traditional auctions: This is the most common type of auction and is conducted in person or live online. The auctioneer starts the bidding at a low price and gradually increases the price until there are no more bids. The last bidder wins the auction.
2. Reverse auctions: In this type of auction, the buyer sets a maximum price they are willing to pay and multiple sellers bid to provide the goods or services at the lowest possible price.
3. Online auctions: This type of auction is conducted via the internet, and buyers can bid on items from anywhere in the world. Online auctions can be either traditional or reverse auctions.
4. Sealed bid auctions: In this type of auction, all bidders submit a sealed bid, and the highest bid wins the auction.
5. Dutch auctions: In this type of auction, the auctioneer starts with a high price and gradually lowers the price until a bidder is willing to pay the current price.

In most cases, the current auction systems are based on a bidding process where a seller lists an item or a lot and buyers bid on it, with the highest bid winning the auction.

It is important to note that auction systems can be used for various purposes like buying and selling goods, real estate, art, etc.

**2.4.1 Problems Inherent in** **the Current System**

There are several potential problems that may arise in a furniture auction system, including:

1. Lack of transparency: Without proper oversight and regulations, there may be opportunities for fraud or manipulation.
2. Limited access: Auctions may not be accessible to everyone, particularly those who live in remote areas or who have mobility limitations.
3. Limited selection: Auctions may not have a wide variety of items available for bid.
4. Price volatility: Prices at auction can fluctuate greatly, making it difficult for buyers to know if they are getting a good deal.
5. Limited inspection: Buyers may not have the opportunity to fully inspect an item before placing a bid, which could lead to disappointment or disputes if the item is not as described.
6. Shipping and handling difficulties: Furniture is a bulky item, it can be costly and difficult to ship, especially if it is fragile or oversized.

It's worth noting that these problems may be overcome by proper regulations and oversight of the auction process, and by using online auction platforms that provide more flexibility and accessibility to buyers and sellers.

**2.5 Analysis of the proposed furniture auction system**

An analysis of a furniture auction system would involve evaluating various factors such as the types of furniture being sold, the number of bidders participating, the bidding process and rules, and the overall efficiency and effectiveness of the system. Additionally, it would be important to consider the target market and demographic for the auction, as well as any potential competition in the industry. Other factors that could be analyzed include the cost and logistics of buying and selling the furniture, and the overall financial performance of the auction system. An analysis of an auction system would involve evaluating various factors such as the types of items being sold, the number of bidders participating, the bidding process and rules, and the overall efficiency and effectiveness of the system. Additionally, it would be important to consider the target market and demographic for the auction, as well as any potential competition in the industry. Other factors that could be analyzed include the cost and logistics of buying and selling the items, and the overall financial performance of the auction system. Other factors that could be evaluated include the reputation of the auction house, the fees charged to buyers and sellers, and the security measures in place to protect both parties during the transaction. Additionally, an analysis could also include a review of the auction's website and online platform to ensure they are user-friendly, easily navigable, and provide a smooth experience for all parties involved.

**2.5.1 Advantages of the proposed system**

1. Competitive pricing: Auctions can lead to competitive bidding among buyers, which can drive up the price of the items being sold. This can be beneficial for sellers, as it can result in them receiving a higher price for their furniture than they would through traditional sales channels.
2. Speed: Auctions can be a quick way to sell furniture, as the process can be completed in a matter of days or weeks, rather than the months it can take to sell furniture through traditional channels.
3. Large audience: Auctions can attract a large number of buyers, which can increase the chances of selling the furniture quickly and for a good price.
4. Specialized audience: Some auctions are specialized and attract specific type of buyers for specific type of furniture, this can be beneficial for sellers with unique or high-value items.
5. Efficiency: An auction system can be more efficient than traditional sales channels, as it allows buyers and sellers to interact directly, rather than relying on intermediaries.
6. Liquidation: Auction is a good way for liquidating large amount of furniture in one go, this can be beneficial for businesses that are closing or downsizing, as it allows them to dispose of their inventory quickly and efficiently.

**CHAPTER THREE**

**METHODOLOGY AND DESIGN**

**3.1 Introduction**

A methodology is a rigorous study or inquiry, particularly to unearth new facts or information; thus, research methodology should be good enough to enable the achievement of the specified objectives, which are achievable using specific components, such as data collection and design procedures, and system modeling (use case, activity, and class diagrams). This chapter provides the input/output specifications as well as the system requirements for developing an online furniture auction system.

**3.2 Methods of Data Collection**

Before constructing any system, it is necessary to collect data and facts about the existing system in order to comprehend what is going on. Three approaches were used in this study.

1. Observation of the Work Environment
2. Interview
3. Documentation

**3.2.1 Observation of the Work Environment**

This strategy was used to collect information and data for this study by observing how the manual system functioned. Detailed inspection revealed the most obvious weaknesses in the present system. The setting in which the observation is made can be altered in a variety of ways when using the observational technique.

**3.2.2 Interview**

The primary goal of utilizing interviews as a data-gathering strategy is to get information comprehensively and rigorously. The researcher visited certain auctioning firms and obtained valid information based on the questions the researcher presented.

**3.2.3 Documentation**

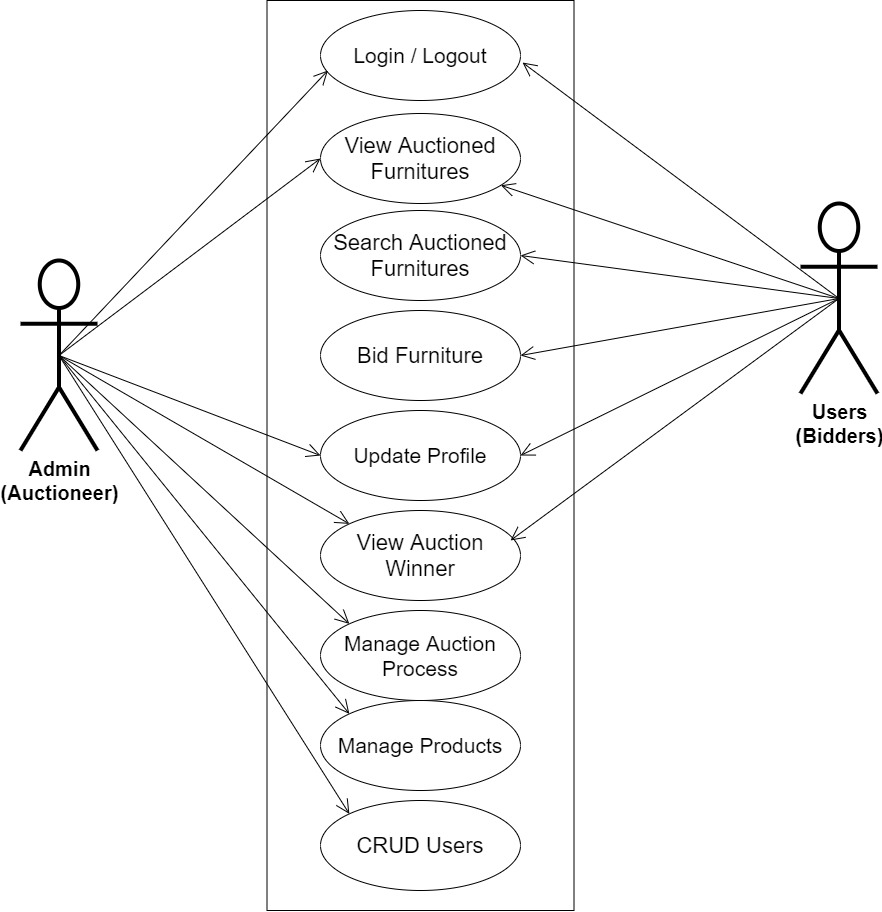
Secondary data gathering includes documentation. Journals, manuals, previous work, publications, and other sources are used in this manner. This data-gathering strategy is chosen because it allows for comparison with previous research. This includes the internet, which is a tool for data collection. The internet was utilized to research complex or unclear problems.

**3.3 System Modeling**

A system model is a conceptual model that describes and portrays a system. A system is any interaction between a collection of components that collaborate to achieve a shared goal. Visual models of object-oriented software-intensive systems may be constructed using a set of visual notation techniques contained in the Unified Modeling Language, which was used to develop this modern system. Use case diagrams, class diagrams, and activity diagrams are among the UML diagrams used in this new design.

**3.3.1 Use Case Diagrams**

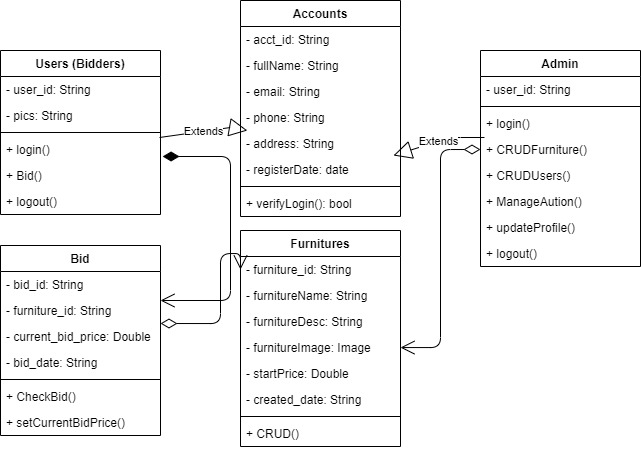
Use cases are collections of interactions between the system and the user. Use case diagrams are used to graphically depict a system's functionality in terms of its actors, goals (represented as use cases), and dependencies among those use cases.



**Fig 3.1 System Use Case Diagram**

**3.3.2 Class Diagrams**

The Unified Modeling Language (UML) class diagram is an implementation of an independent perspective of how the system interface would look, with each class having its own set of attributes and demonstrating how they interact with one another. Class diagrams employ the Unified Modeling Language standards to visually portray a given system's static structure and composition (UML).



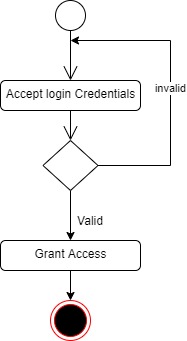
**Fig 3.2 System Class Diagram**

**3.3.3 Activity Diagrams**

An activity diagram, like a flowchart or a data flow diagram, visually illustrates a series of events or the flow of control in a system, but it acts more like an enhanced version of both.

**Login**

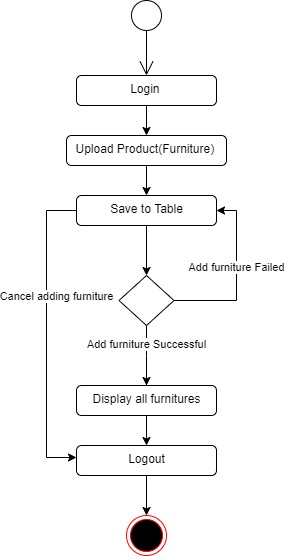
The process for gaining access to the system is depicted in the diagram below; the email address and password must be accurate to gain access.



**Fig 3.3.1 Login Activity Diagram**

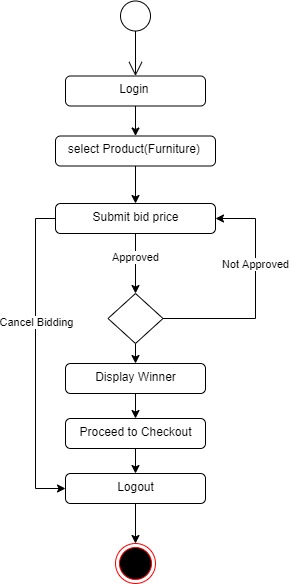
**Adding Furniture**

The process for adding furniture for auctioning is depicted below, to add furniture one has to be authenticated and must have proper authorization.



**Fig 3.3.2 Adding Furniture Activity Diagram**

**Bidding**

The process for bidding for furniture during auctioning is depicted below, to bid for furniture one has to be authenticated and must check the availability of the furniture.

**Fig 3.3.3 Bidding Furniture Activity Diagram**

**3.4 Database Design**

Input specification is the logical explanation of how data is stored in the computer's memory. SQL standards are vital for guaranteeing that structured data is uniform and independent of applications due to the flexibility experienced when using the system, as well as the simplicity of accessing and reading the data and ensuring applicability throughout the internet. The following are some of the input specifications used in this project effort.

1. Users Table: contains basic information about all system users.
2. Furniture Table: contains every system-saved furniture information.
3. Bid Table: contains every system-saved biding information

**Table 3.1 Users Input Specification Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field Name** | **Data Type** | **Null** | **Key** | **Length** | **Description** |
| user\_id | Varchar | No | PK | 32 | Unique string for identifying users |
| email | Varchar | No |  | 100 | User email address |
| password | Varchar | No |  | 128 | User Password |
| full\_name | Varchar | No |  | 60 | User full name |
| phone | Varchar | No |  | 20 | User type (student/others) |
| address | Varchar | No |  | 200 | User contact address |
| pics | Varchar | No |  | 100 | User profile picture |

**Table 3.2 Furniture Input Specification Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field Name** | **Data Type** | **Null** | **Key** | **Length** | **Description** |
| furniture\_id | Varchar | No | PK | 32 | Unique string for bids |
| furnitureName | Varchar | No |  | 60 | Furniture Name |
| furnitureDesc | Varchar | No |  | 100 | Furniture description |
| furnitureImage | Varchar | No |  | 100 | Furniture image |
| startPrice | Double | No |  | 128 | Furniture starting price |
| created\_date | Date | No |  | 20 | Registered date |

**Table 3.3 Bid Input Specification Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field Name** | **Data Type** | **Null** | **Key** | **Length** | **Description** |
| bid\_id | Varchar | No | PK | 32 | Unique string for bids |
| furniture\_id | Varchar | No |  | 60 | Primary key for the furniture |
| current\_bid\_price | Varchar | No |  | 100 | Current bid price |
| bid\_date | Varchar | No |  | 128 | Bidding date |

**3.5 Output Design**

This declares and displays the outcome of the given input. This automated system's output is dependent on its input. The output specification is listed below.

**Table 3.4 Users** **output design table**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **User\_id** | **Email** | **Password** | **Full\_name** | **phone** | **address** | **pics** |
| XXXX | XXXX | XXXX | XXXX | XXXX | XXXX | 833 No Image Available Stock Photos and Images - 123RF |
| XXXX | XXXX | XXXX | XXXX | XXXX | XXXX | 833 No Image Available Stock Photos and Images - 123RF |
| XXXX | XXXX | XXXX | XXXX | XXXX | XXXX | 833 No Image Available Stock Photos and Images - 123RF |
| XXXX | XXXX | XXXX | XXXX | XXXX | XXXX | 833 No Image Available Stock Photos and Images - 123RF |

**Table 3.5 Furniture** **output design table**

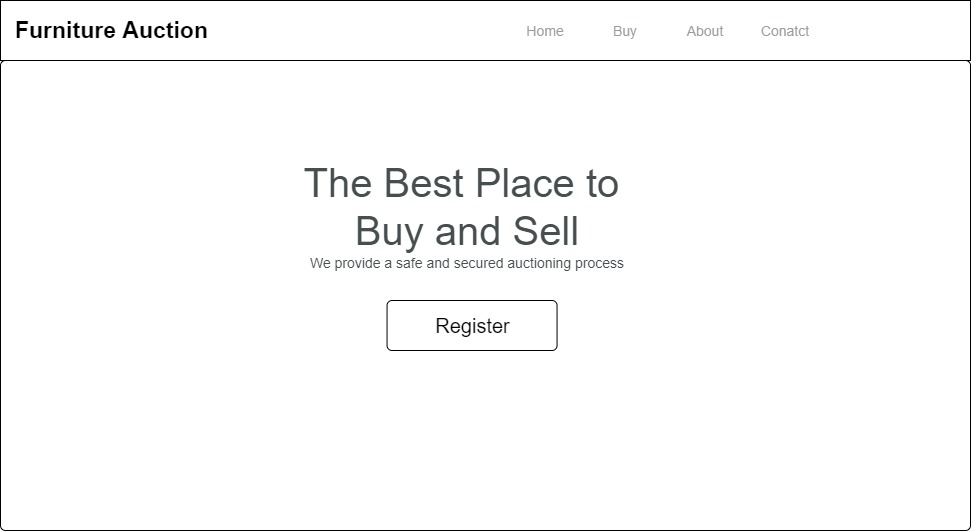
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Furniture\_id** | **FurnitureName** | **FurnitureImage** | **FurnitureDesc** | **StartPrice** | **Created\_date** |
| XXXX | XXXX | XXXX | XXXX | XXXX | XXXX |
| XXXX | XXXX | XXXX | XXXX | XXXX | XXXX |
| XXXX | XXXX | XXXX | XXXX | XXXX | XXXX |
| XXXX | XXXX | XXXX | XXXX |  | XXXX |

**Table 3.6 Bid** **output design table**

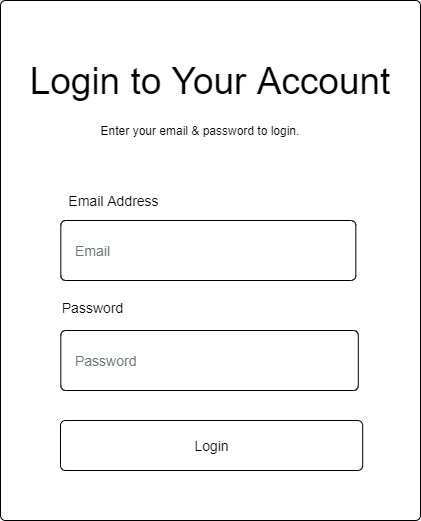
|  |  |  |  |
| --- | --- | --- | --- |
| **Bid\_id** | **Furniture\_id** | **Current\_bid\_price** | **Bid\_date** |
| XXXX | XXXX | XXXX | XXXX |
| XXXX | XXXX | XXXX | XXXX |
| XXXX | XXXX | XXXX | XXXX |
| XXXX | XXXX | XXXX | XXXX |

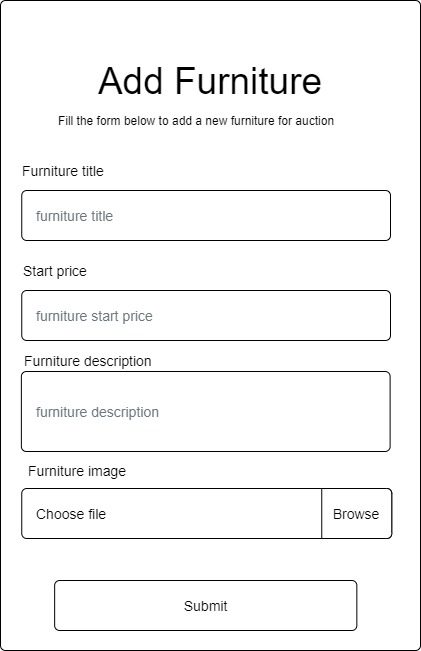
**3.6 Input & User Interface Design**

This is a graphic depiction of the system interface; it will be designed to be user-friendly, responsive, and visually beautiful. Furthermore, it will be fully secured, thus authentication will be required to see various levels of the information. To help with the designs, a mid-fidelity wireframing program called Draw.io is employed.



**Fig 3.6.1 Furniture Auction Home Page**



**Fig 3.6.2 User Login Screen**

**Fig 3.6.3 Add Furniture Screen**

**3.7 System Requirement**

Every piece of software generated has predefined system requirements that it must fulfill in order to function properly. The system requirements, on the other hand, are the bare minimum of hardware and software required for the system's intended operation.

**3.7.1 Hardware Requirement**

System Hardware Requirement Include:

1. Minimum of 2 GB of RAM (Random Access Memory).
2. Minimum of Intel Dual core processor.
3. Minimum of 250GB HDD (Hard Disk Drive).

**3.7.2 Software Requirement**

The software requirements include:

1. At least windows 7 OS (Operating System).
2. Vs. Code IDE installation.
3. Browsers include Chrome and Firefox.

**3.8 Choice of Programming Language**

This research work will be a web-based application and will be implemented on a relational database system (SQLite). HTML (hypertext markup language), CSS (cascading style sheet), and JavaScript for the frontend development while Django (Python) will be employed for the backend programming.

**CHAPTER FOUR**

**SYSTEM IMPLEMENTATION EVALUATION**

**4.1 Introduction**

This section provides a comprehensive explanation of the implementation process for the new system, highlighting its efficiency and effectiveness. It presents practical instances of the functional aspects of the system and outlines the steps involved in its implementation.

* 1. **System Testing and Evaluation**

Testing the developed system is crucial for several reasons. One key purpose is to uncover any potential flaws within the system and devise appropriate solutions. In this project, a combination of unit and integration testing was employed to verify the effectiveness and efficiency of the design, ensuring that the new system fulfills its functional requirements without any errors.

**Unit Testing**

This part examines specific units or single components of the system individually to confirm that specific phases function properly and without problems.

**Integration Testing**

Integration testing was performed on the software, wherein all components were brought together and operated as a unified system. The objective of this testing was to validate the connectivity and proper integration of the various parts, ensuring seamless collaboration among the units.

**4.3 System Installation**

In order to use the proposed application on any computer system, the following steps need to be taken:

1. Make sure, pip, pipenv, and python3 or greater are installed on the system.
2. Copy your project folder to any location of your choice.
3. Open project folder in Visual Studio Code
4. On the terminal run “pipenv install -r requirements.txt”
5. On the terminal run “python manage.py runserver”
6. Open any browser on the system example Chrome, Microsoft Edge, or Mozilla Firefox.
7. On the address bar, type <http://127.0.0.1> and press the enter key the site should be loaded.

**4.4 Security Measures**

The application has a public scope, allowing all users to access the available information. However, certain functionalities are restricted to the auction admin, such as uploading the product for auctions, creating staff accounts, and managing the auction process. Access to these restricted functionalities is protected by passwords, ensuring that only authorized individuals can access the admin pages. Additionally, certain functionalities within the application may be restricted based on the specific user type, providing tailored access and permissions as needed.

**4.6 Sample Outputs**

These describe and give the pictorial representation of the program or software; it shows and gives a clear understanding of the design, and displays all the interfaces.

**4.6.1 Homepage**

The image provided illustrates the homepage, which serves as the initial page and serves as a gateway to navigate and explore the various sections and functionalities of the website.

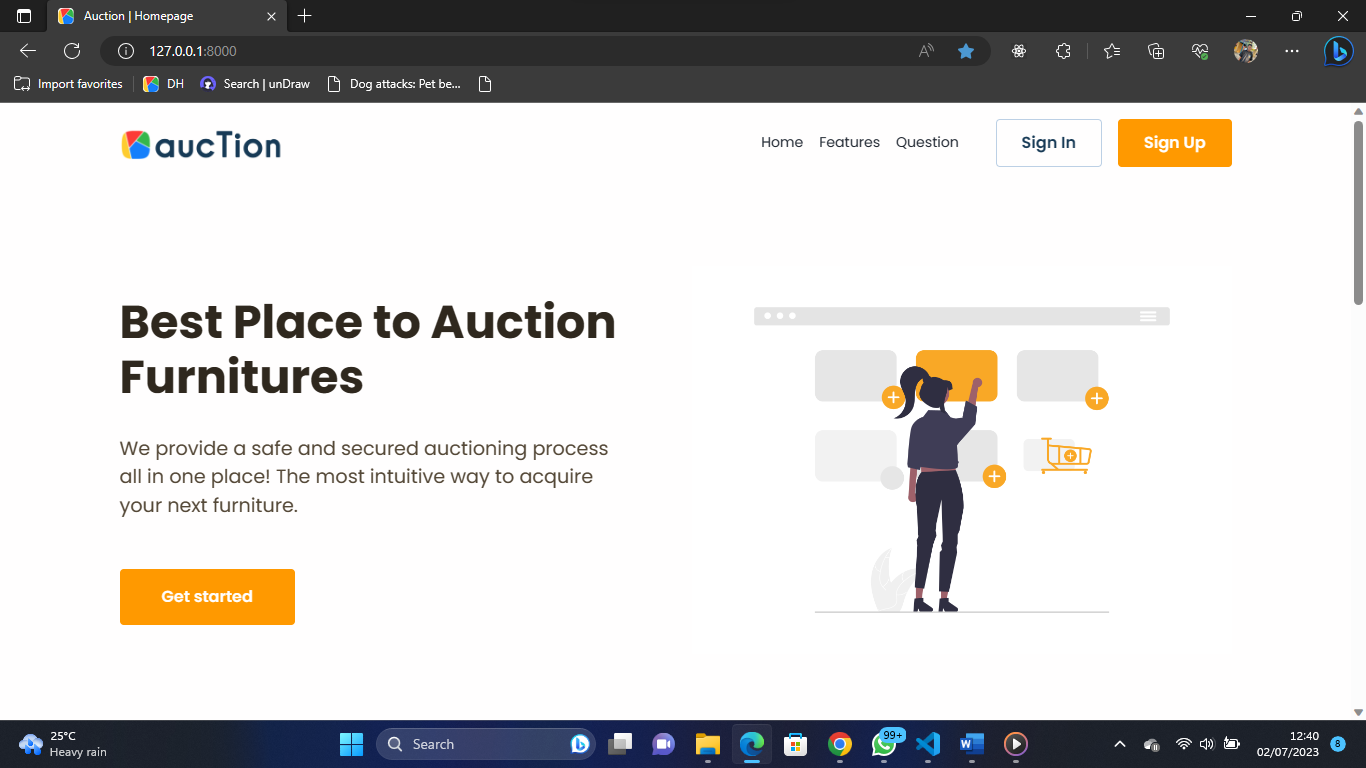


Fig 4.6.1: Homepage

**4.6.2 User Login**

This is a page that grants users (auctioneers, and bidders) access to the system only if the correct credentials are provided.

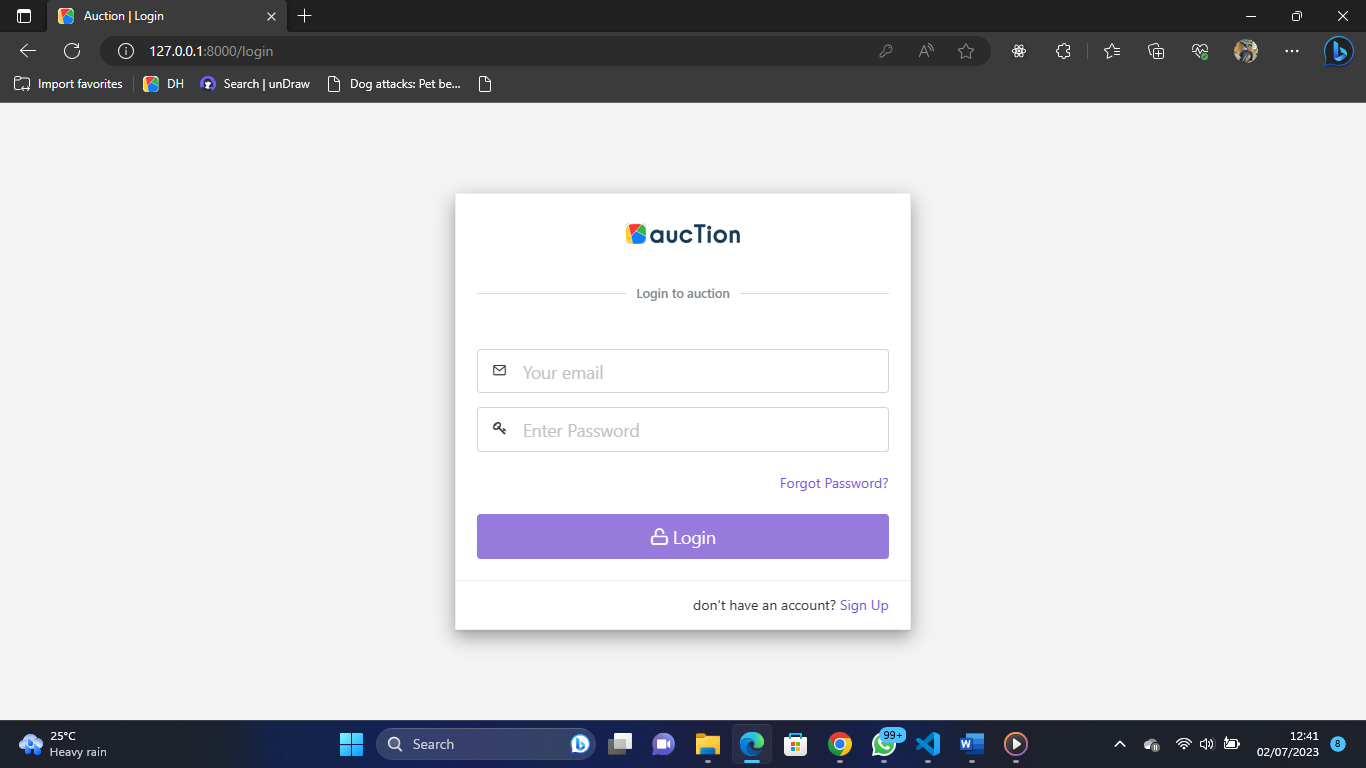


Fig 4.6.2: User Login

**4.6.3 Admin Dashboard**

This is the admin dashboard, the sidebar shows the available functionality for the administrator

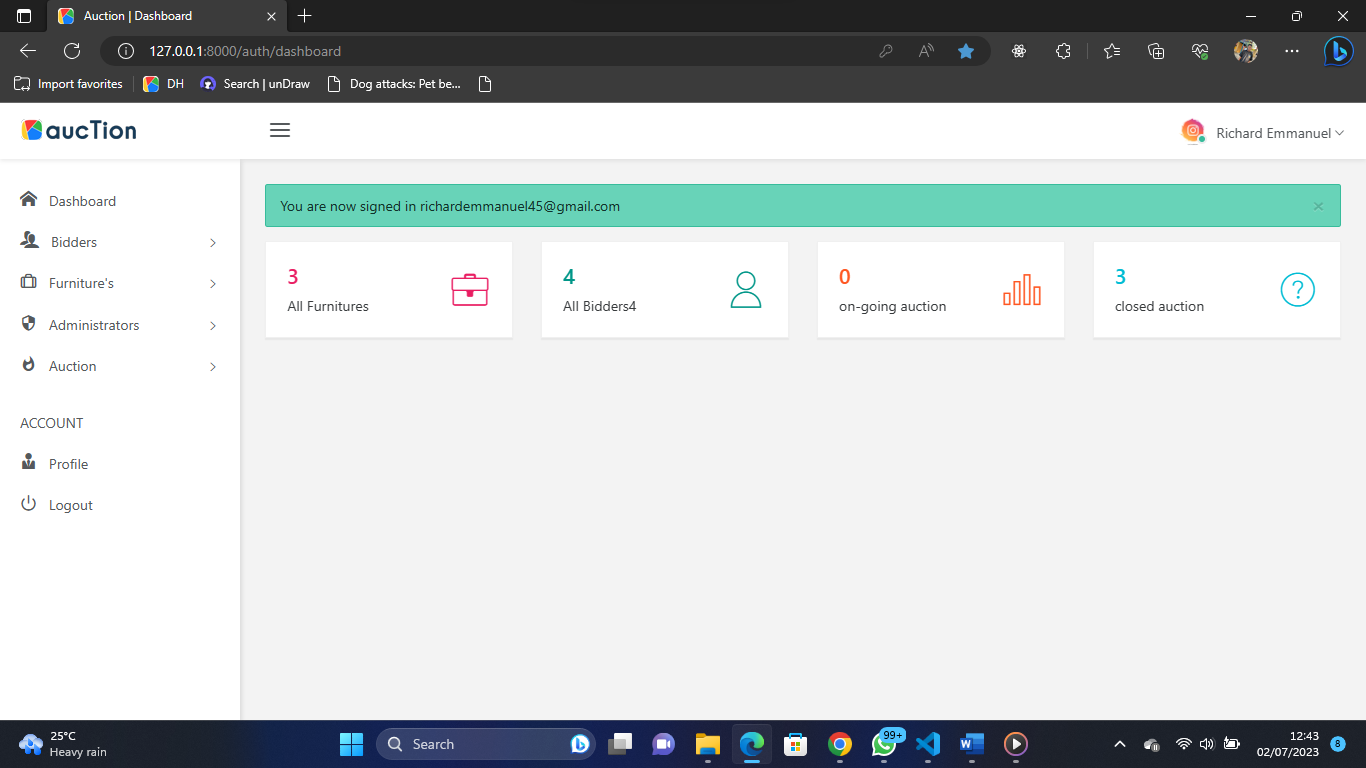


Fig 4.6.3: Admin Dashboard

**4.6.4 Create a Bidder Account**

This is the page where the admin can create an account for the bidder, it is done through a form.

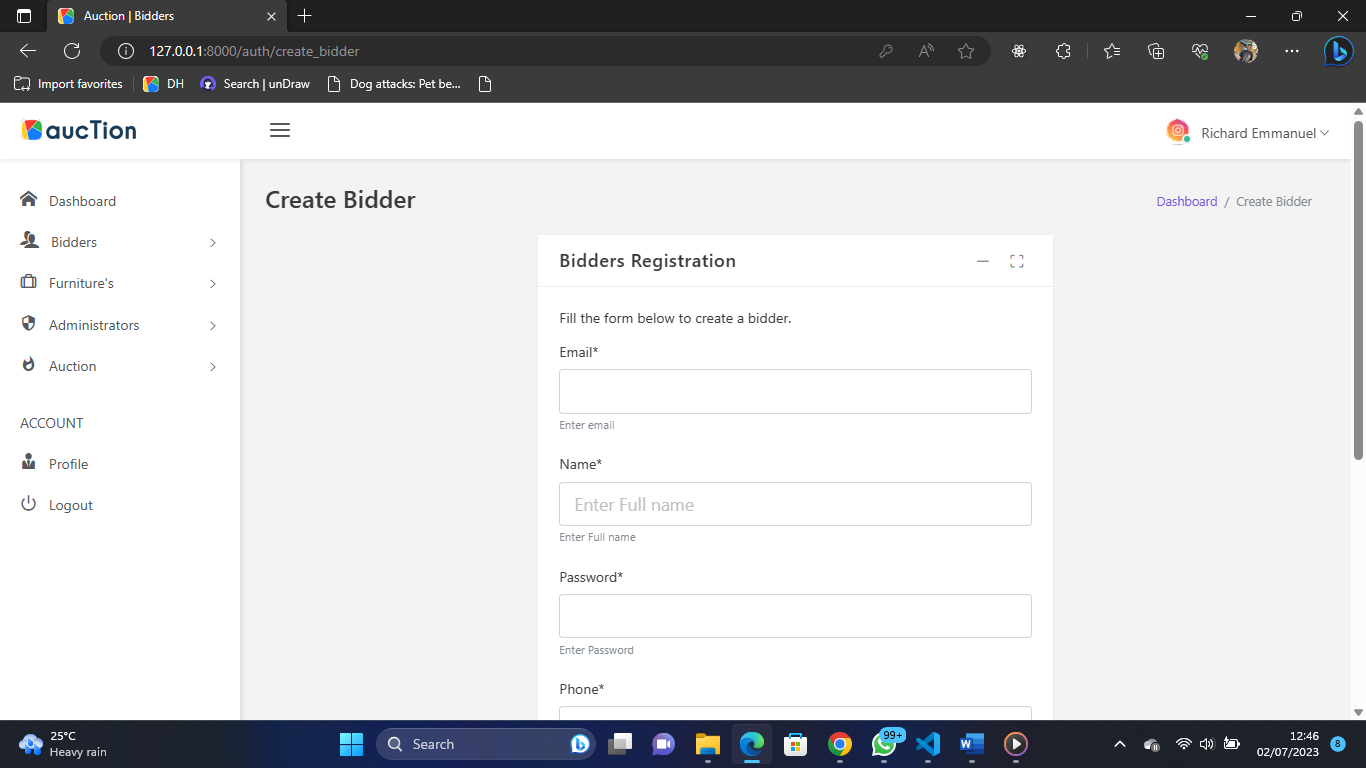


Fig 4.6.4: Create a Bidder Account

**4.6.5 Manage Bidder’s Account**

This is the page where the admin can effectively manage each bidder’s account

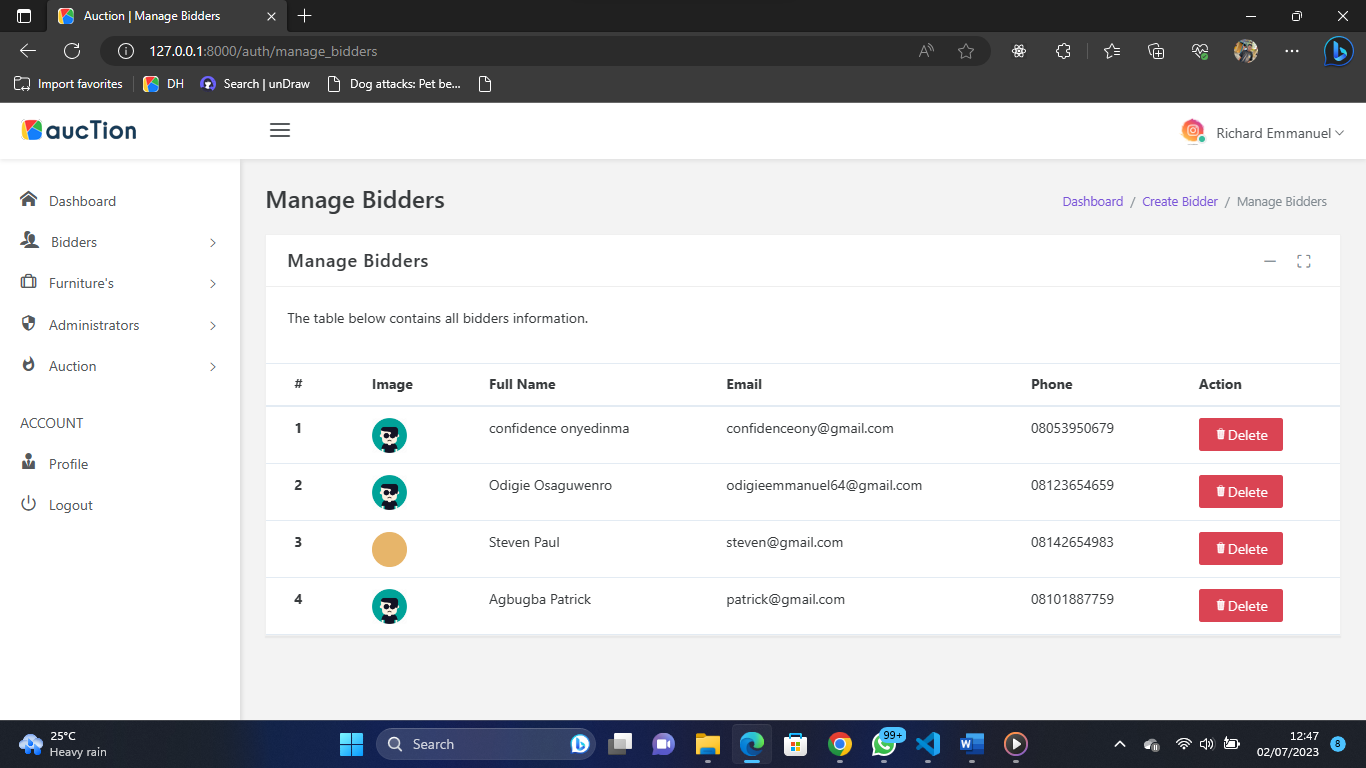


Fig 4.6.5: Manage Bidder’s Account

**4.6.6 Upload Furniture**

The admin can upload the furniture for bidding by filling out the form in this page correctly.

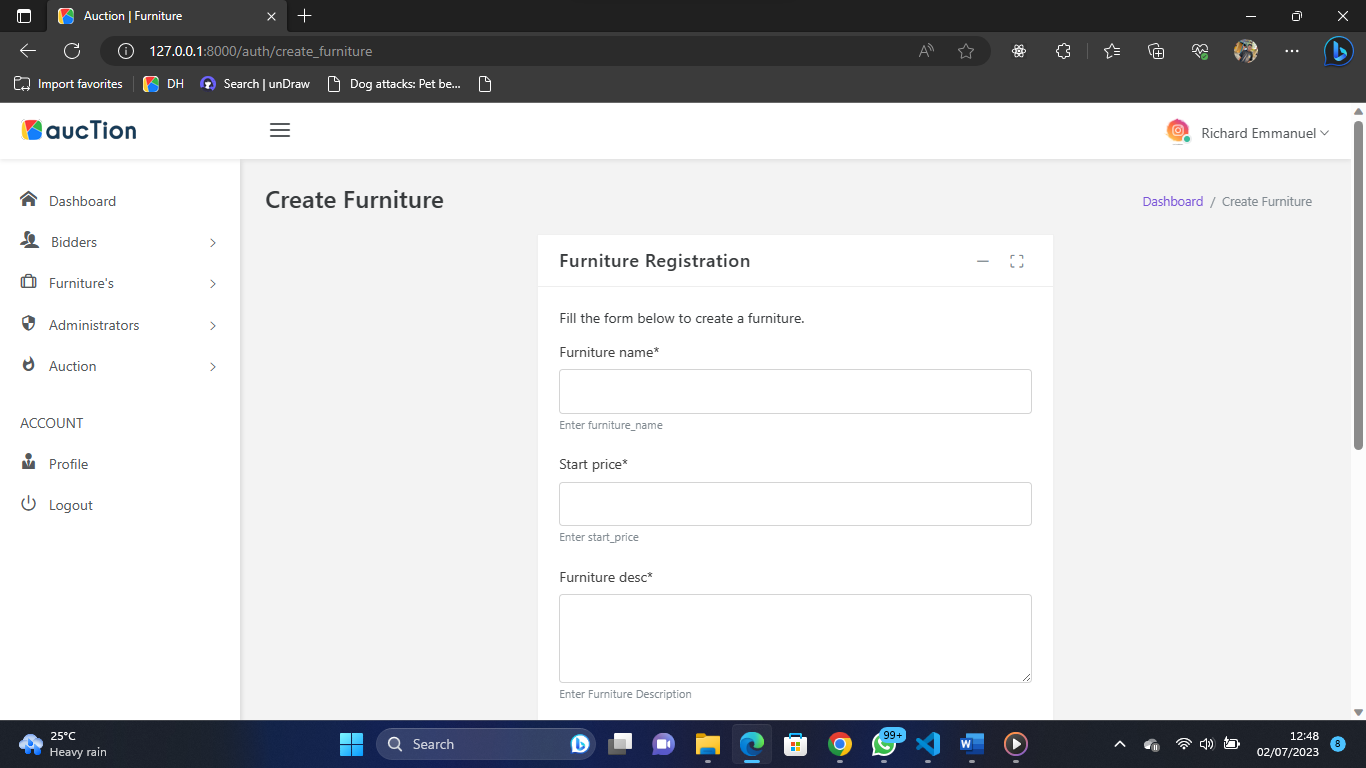


Fig 4.6.6: Upload Furniture

**4.6.7 Manage Furnitures**

This is the page where the admin can effectively manage each uploaded furnitures

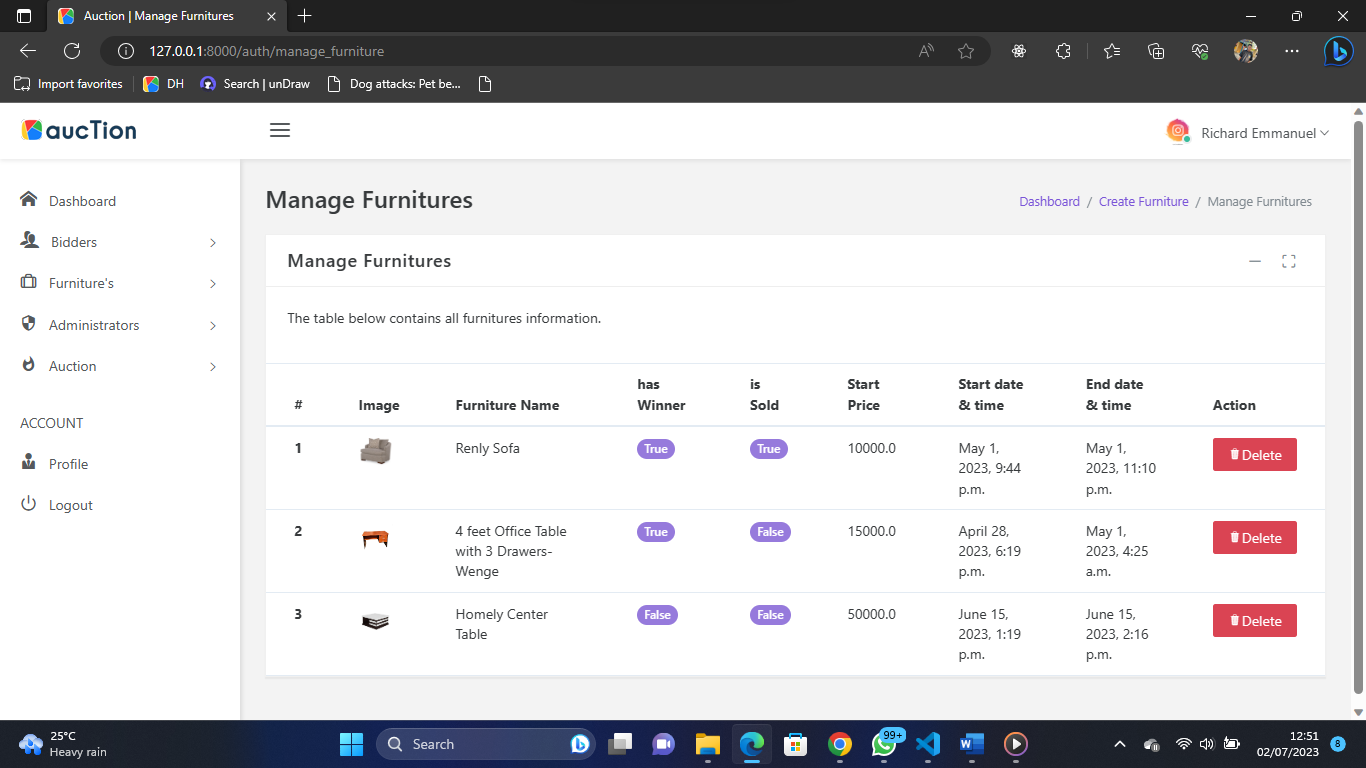


Fig 4.6.7: Manage Furniture’s

**4.6.8 Create an Admin Account**

This is the page where the admin can create staffs account for managing the auction process

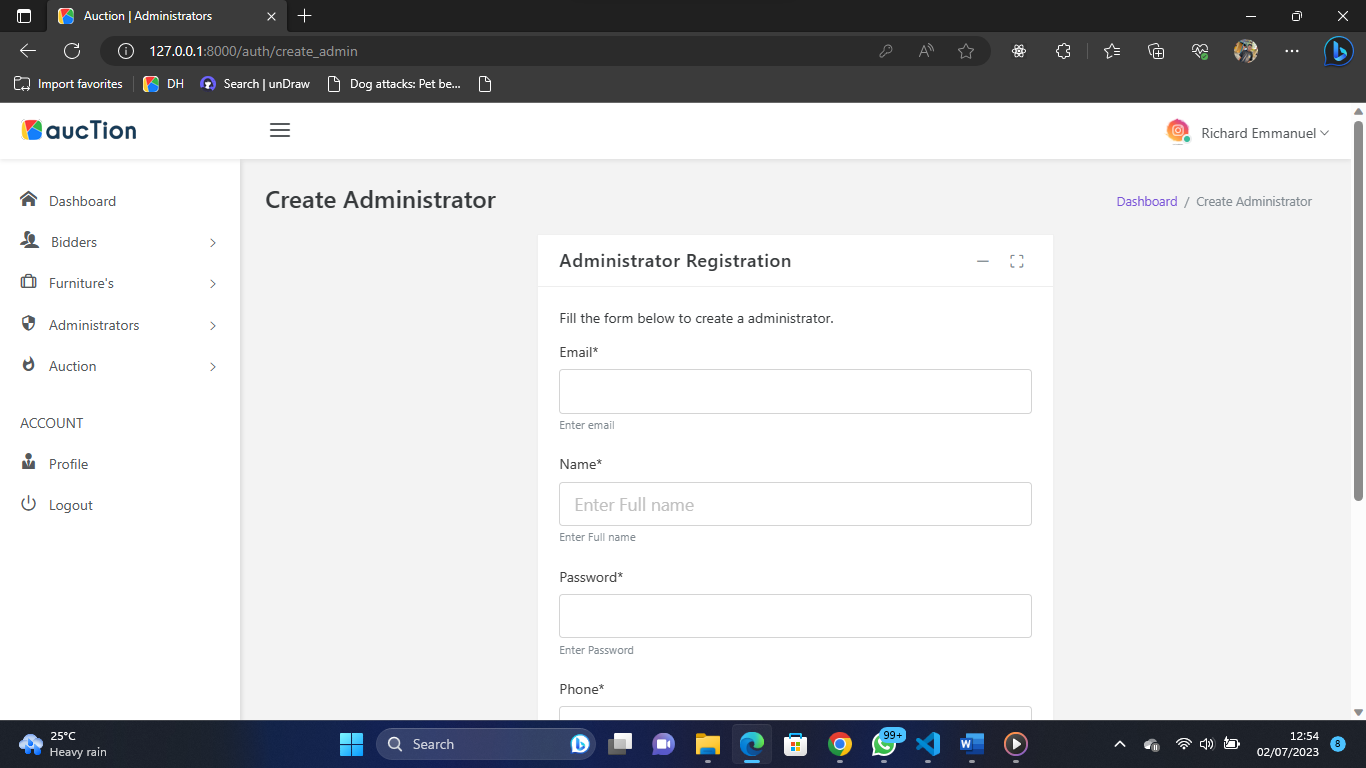


Fig 4.6.8: Create an Admin Account

**4.6.9 Manage Administrators**

The admin can use this page to make changes or modifications to the staff accounts

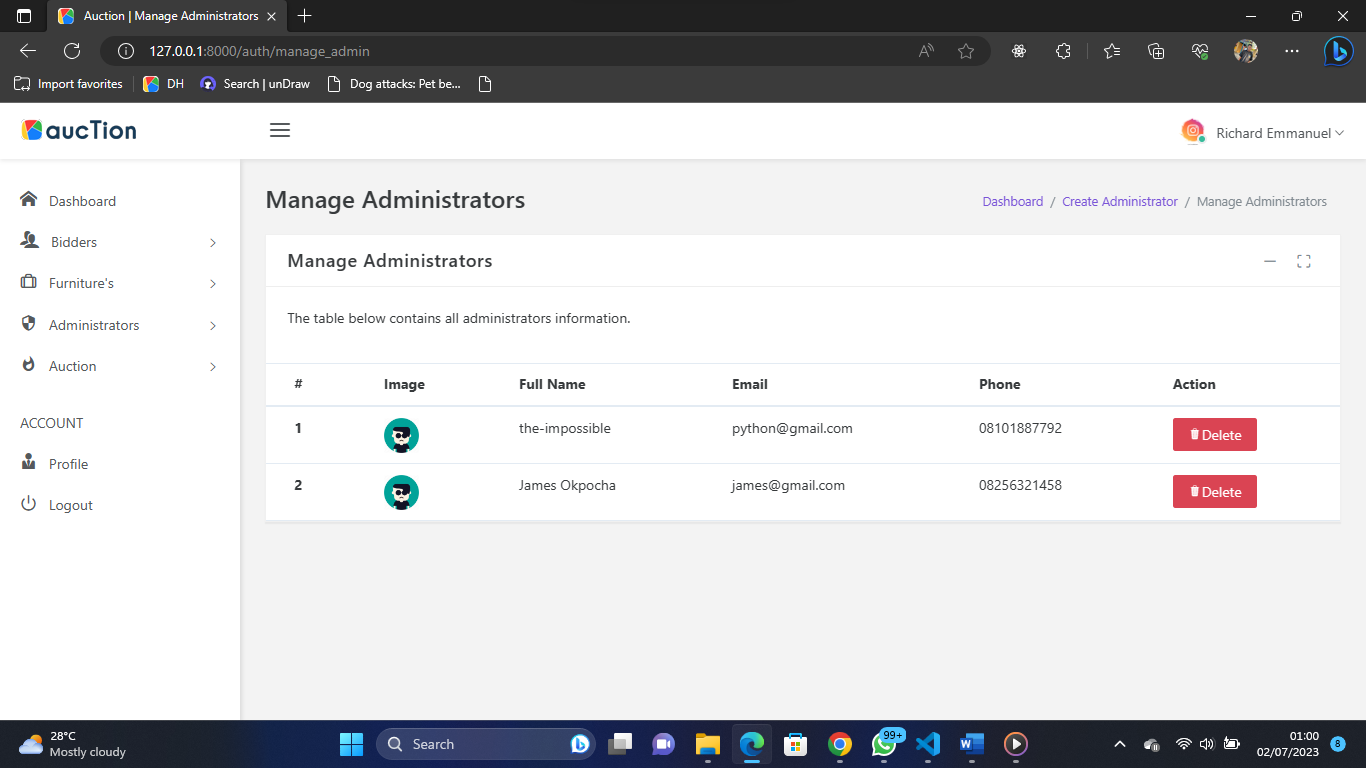


Fig 4.6.9: Manage Administrators

**4.6.9.1 Bidder’s Dashboard**

This is the bidder’s dashboard, the sidebar shows the available functionality for the bidder

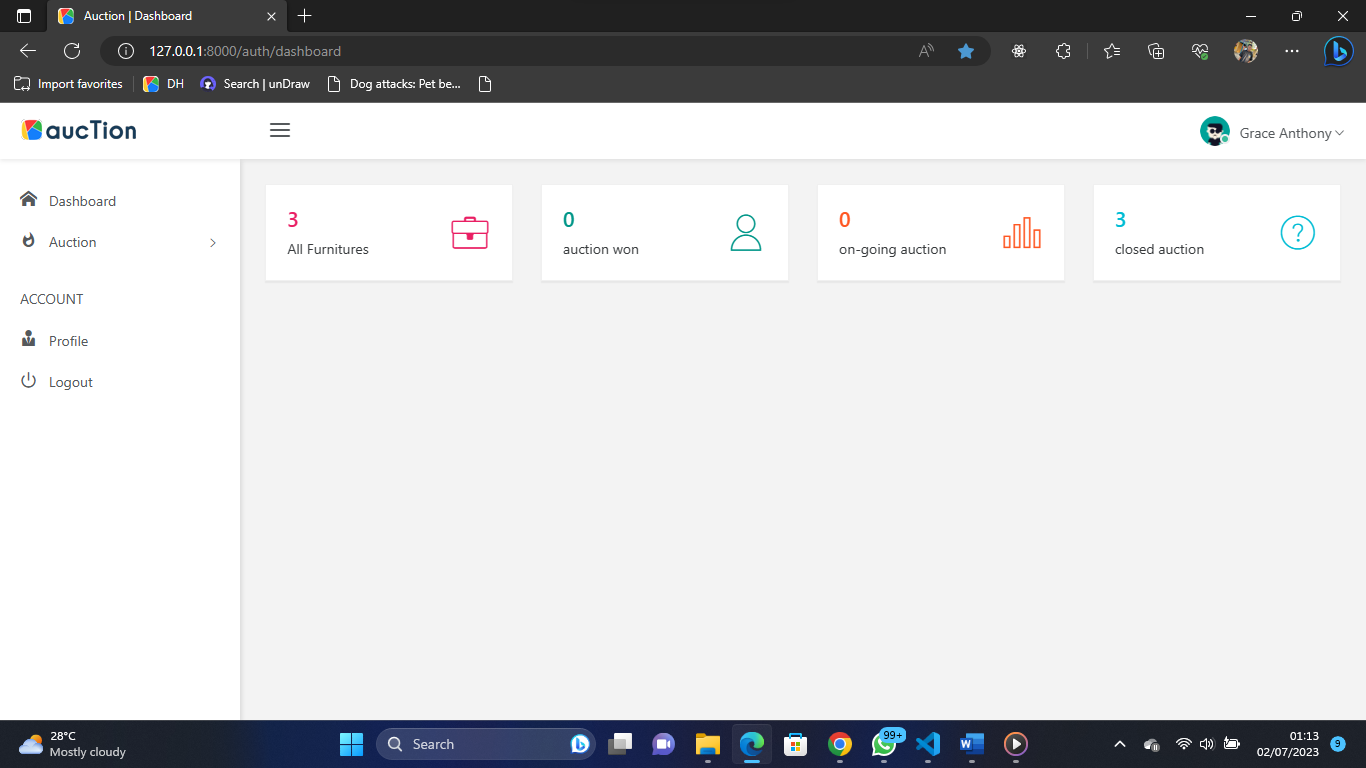


Fig 4.6.9.1: Bidder’s Dashboard

**4.6.9.2 on-Going Auction**

Bidders can see which product are been auctioned currently and bid for them as well

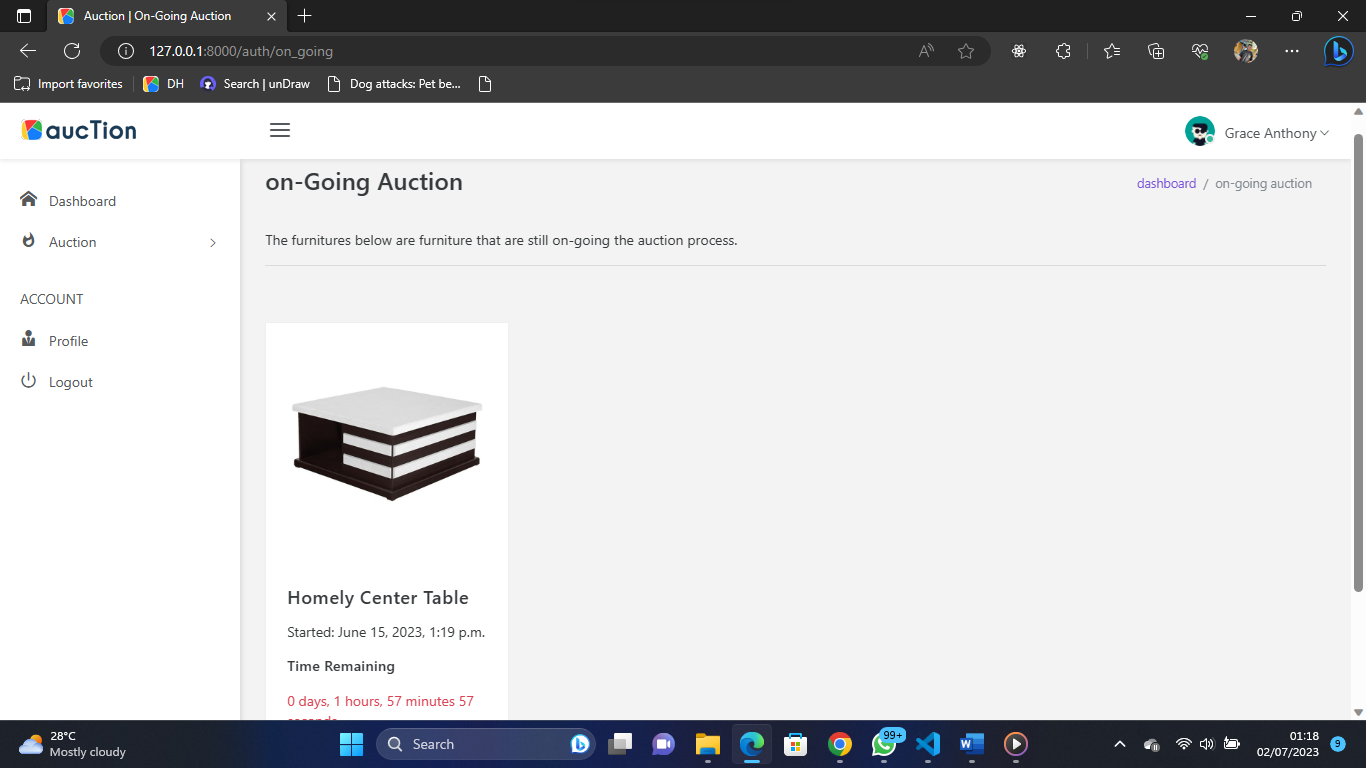


Fig 4.6.9.2: on-Going Auction

**4.6.9.3 Bid Furniture**

Bidder can use this page to bid for the product and receive other bidder bids in real-time.

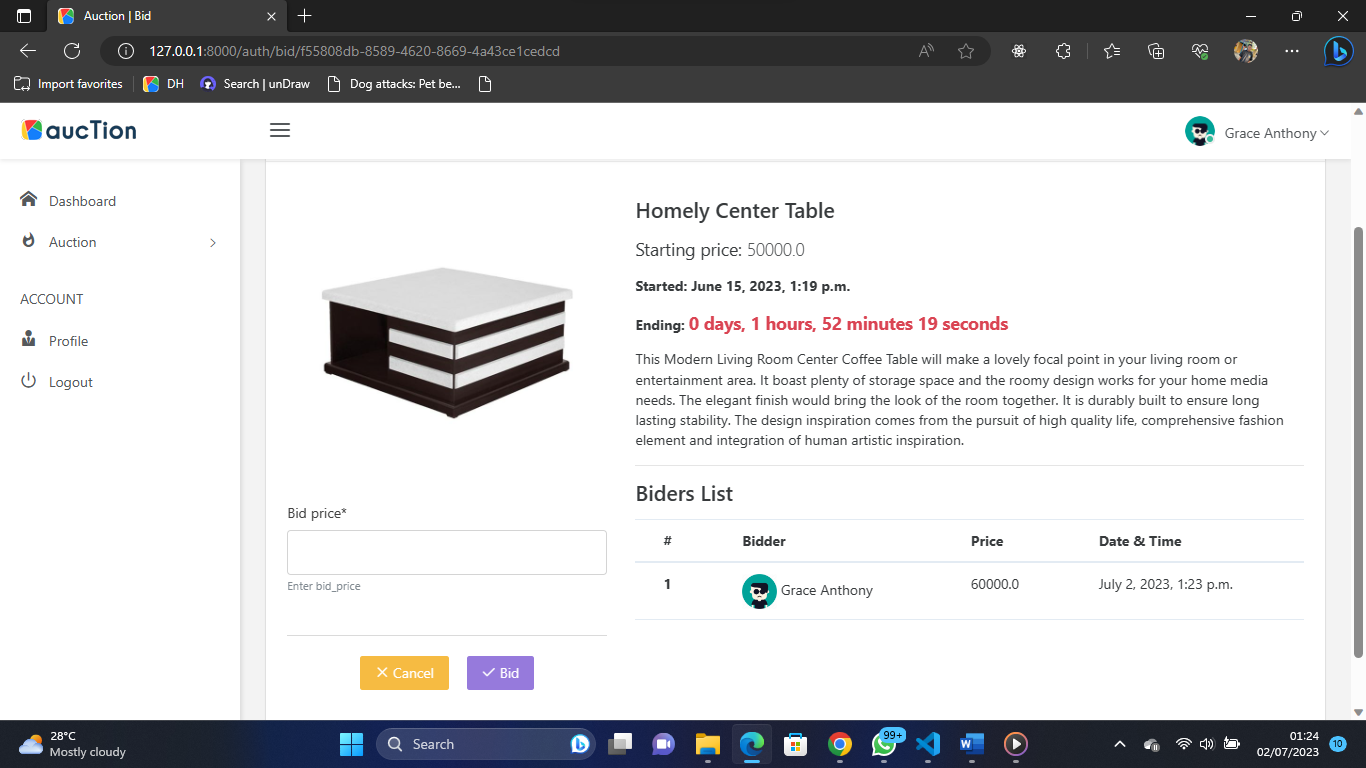


Fig 4.6.9.3: Bid Furniture

**4.6.9.4 View Auction Winners**

Bidders can view previous auction winner’s details

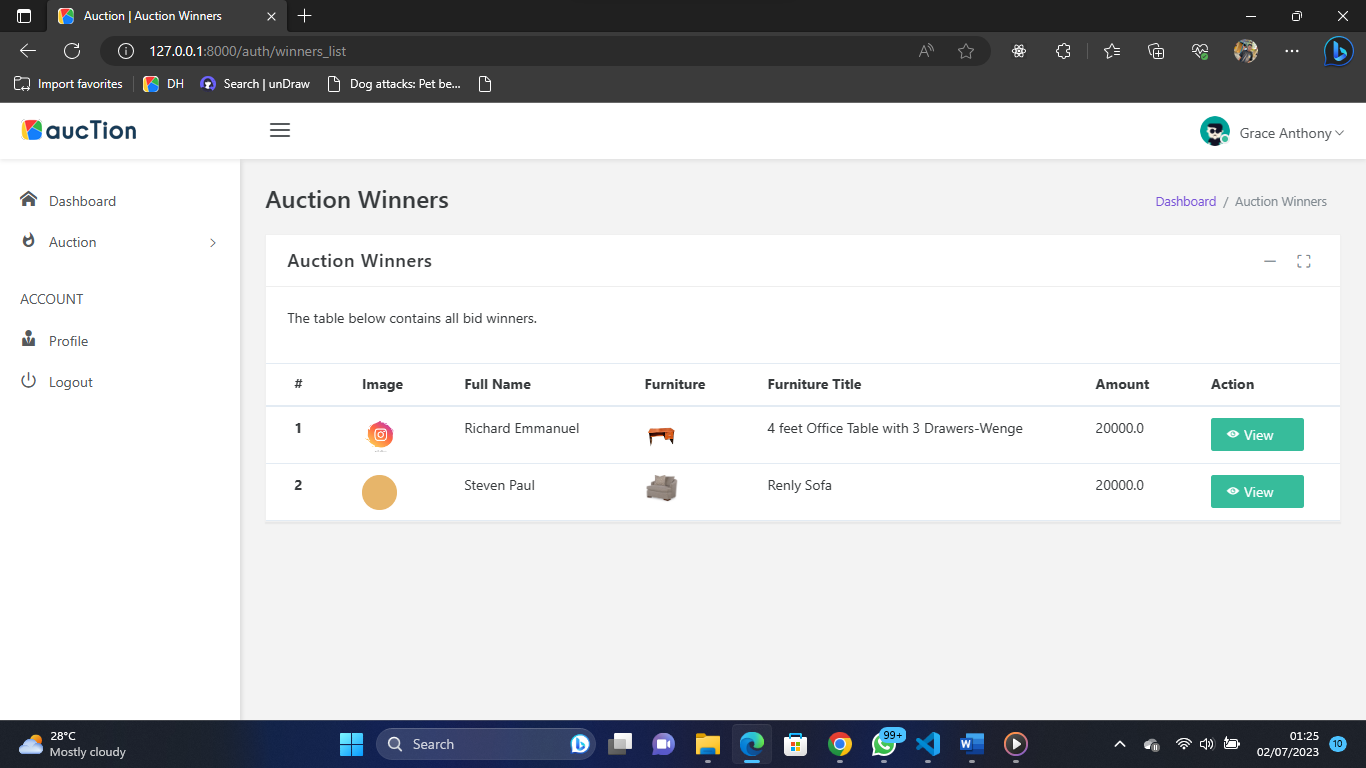
****

Fig 4.6.9.4: View Auction Winners

**CHAPTER FIVE**

**SUMMARY CONCLUSION AND RECOMMENDATION**

**5.1 Summary**

The study focuses on the implementation of an online furniture auction system, which offers a convenient and secure platform for buyers and sellers to engage in bidding and purchasing furniture items. With the growth of Internet marketing, the need for a reliable and regulated online auction platform becomes essential to counter fraudulent activities. The proposed system allows users to auction products, accompanied by descriptions and visual presentations. Participants can bid from anywhere with the internet. The system aims to address the limitations of traditional auctions, such as limited public participation and logistical challenges. It utilizes modern technologies and testing procedures to ensure efficiency, effectiveness, and error-free functionality.

**5.2 Conclusion**

In conclusion, the development of an online furniture auction system presents a valuable solution to the limitations and challenges faced by traditional auction methods. By providing a convenient and secure platform, this system offers users the opportunity to participate in bidding and purchasing furniture items from anywhere with an internet connection. The study holds significance in improving the security and trustworthiness of online furniture auctions. This system not only simplifies the process for buyers and sellers but also enhances the overall user experience by enabling efficient product browsing, bidding, and transaction completion. With its potential to revolutionize the furniture auction industry, the online furniture auction system holds promise for the future and can contribute to the growth of e-commerce platforms.

**5.2 Recommendation**

Based on the study conducted on the online furniture auction system, the following recommendations are suggested to enhance its effectiveness and address potential areas of improvement:

1. Enhanced Security Measures: Implement robust security protocols, such as encryption and multi-factor authentication, to safeguard users’ personal information and financial transactions from potential cyber threats and fraud.
2. Mobile Accessibility: Develop a mobile application for the online furniture auction system to cater to users who prefer to access the platform through their smartphones and other portable devices, thereby expanding their reach and accessibility.
3. Customer Support: Provide prompt and efficient customer support services to address any user inquiries, technical issues, or disputes arising during the auction process. This can foster trust and confidence among users.
4. Expand Product Categories: Consider diversifying the types of products available for auction beyond furniture, allowing for a wider range of items to be bought and sold on the platform, thereby attracting a broader user base.
5. Real-Time Updates: Incorporate real-time notifications and updates to keep users informed about the status of ongoing auctions, successful bids, and any changes in the auction schedule.
6. Continuous Testing and Upgrades: Regularly conduct testing and quality assurance to identify and resolve any potential bugs or glitches. Keep the system up-to-date with the latest technological advancements to ensure optimal performance.

By incorporating these recommendations, the online furniture auction system can evolve into a more reliable, secure, and user-friendly platform, fostering growth in the e-commerce sector and providing users with a seamless online auction experience.

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**APPENDIX**

**Views.py**

from django.shortcuts import render, redirect, reverse

from django.http import HttpResponseRedirect, Http404, HttpResponse

from django.contrib.auth import authenticate, login, logout

from django.views.generic import ListView, DetailView, CreateView, UpdateView, DeleteView, TemplateView

from django.contrib import messages

from django.contrib.messages.views import SuccessMessageMixin

from django.contrib.auth.mixins import LoginRequiredMixin

from django.views import View

from django.urls import reverse\_lazy

from django.utils import timezone

# Create your views here.

from Auction\_auth.forms import \*

from Auction\_auth.models import \*

import stripe

# stripe.api\_key = "sk\_test\_51L5Xs6GCAqCizi1RncjTC84yc0J7jaecLFB5gj07ZDNWCREFyEylsunXTltlQleL3lWzEcLsqIFCInvn6wGYu2Xa00cIHRZjMz"

stripe.api\_key = "sk\_test\_51N3J38JRcgaZzMZKtuOJjMLXMMpKNqcKfdaKDtlPfYLHIpKNnMAVg1gxyHf15ImRFZyVficIsw4JhI9jQs5lOpyP00Sr3TtdN5"

class HomePageView(TemplateView):

    template\_name = "frontend/index.html"

class DashboardPageView(LoginRequiredMixin, TemplateView):

    template\_name = "backend/dashboard.html"

    def get\_context\_data(self, \*\*kwargs):

        context = super().get\_context\_data(\*\*kwargs)

        context["furniture"] = Furniture.objects.all().count()

        context["biders"] = User.objects.filter(is\_staff=False).count()

        context["on\_going"] = len(

            [on\_going for on\_going in Furniture.objects.all() if timezone.now() < on\_going.end\_date\_and\_time])

        context["closed"] = len(

            [on\_going for on\_going in Furniture.objects.all() if timezone.now() > on\_going.end\_date\_and\_time])

        if not self.request.user.is\_staff:

            context["won"] = Furniture.objects.filter(

                sold\_to=self.request.user).count()

        return context

class LoginPageView(View):

    def get(self, request):

        return render(request, 'backend/auth/login.html')

    def post(self, request):

        email = request.POST.get('email').strip()

        password = request.POST.get('password').strip()

        if email and password:

            user = authenticate(request, email=email, password=password)

            if user:

                if user.is\_active:

                    login(request, user)

                    messages.success(request, f"You are now signed in {user}")

                    nxt = request.GET.get('next', None)

                    if nxt is None:

                        return redirect('auth:dashboard')

                    return redirect(self.request.GET.get('next', None))

                else:

                    messages.warning(

                        request, 'Account not active contact the administrator')

            else:

                messages.error(request, 'Invalid login credentials')

        else:

            messages.error(request, 'All fields are required!!')

        return redirect('auth:login')

class LogoutView(LoginRequiredMixin, View):

    def post(self, request):

        logout(request)

        messages.success(

            request, 'You are successfully logged out, to continue login again')

        return redirect('auth:login')

class RegisterPageView(SuccessMessageMixin, CreateView):

    model = User

    form\_class = AccountCreationForm

    template\_name = "backend/auth/register.html"

    success\_message = "Registration Successful you can now login"

    def get\_success\_url(self):

        return reverse("auth:login")

class CreateBidderPageView(SuccessMessageMixin, LoginRequiredMixin, CreateView):

    model = User

    form\_class = BiddersCreationForm

    template\_name = "backend/bidders/create\_update\_bidder.html"

    success\_message = "Registration Successful bidders can login to their account now! "

    def get\_context\_data(self, \*\*kwargs):

        context = super().get\_context\_data(\*\*kwargs)

        context["type"] = 'Create'

        return context

    def get\_success\_url(self):

        return reverse("auth:create\_bidder")

class ManageBiddersPageView(LoginRequiredMixin, ListView):

    template\_name = "backend/bidders/manage\_bidders.html"

    def get\_queryset(self):

        return User.objects.filter(is\_staff=False, is\_superuser=False).order\_by('-date\_joined')

class DeleteBidderView(SuccessMessageMixin, LoginRequiredMixin, DeleteView):

    model = User

    success\_message = 'Deleted Successfully!'

    success\_url = reverse\_lazy('auth:manage\_bidders')

class EditBidderView(SuccessMessageMixin, LoginRequiredMixin, UpdateView):

    model = User

    template\_name = "backend/bidders/create\_update\_bidder.html"

    form\_class = BiddersUpdateForm

    success\_message = 'Updated Successfully!'

    def get\_context\_data(self, \*\*kwargs):

        context = super().get\_context\_data(\*\*kwargs)

        context["type"] = 'Update'

        return context

    def get\_success\_url(self):

        return reverse("auth:manage\_bidders")

class ManageAdminPageView(LoginRequiredMixin, ListView):

    template\_name = "backend/admin/manage\_admin.html"

    def get\_queryset(self):

        return User.objects.filter(is\_staff=True, is\_superuser=False).order\_by('-date\_joined')

class EditAdminView(SuccessMessageMixin, LoginRequiredMixin, UpdateView):

    model = User

    template\_name = "backend/admin/create\_update\_admin.html"

    form\_class = UpdateAdminForm

    success\_message = 'Admin Account Updated Successfully!'

    def get\_context\_data(self, \*\*kwargs):

        context = super().get\_context\_data(\*\*kwargs)

        context["type"] = 'Update'

        return context

    def get\_success\_url(self):

        return reverse("auth:manage\_admin")

class DeleteAdminView(SuccessMessageMixin, LoginRequiredMixin, DeleteView):

    model = User

    success\_message = 'Admin Account Deleted Successfully!'

    success\_url = reverse\_lazy('auth:manage\_admin')

def is\_over(furniture\_id):

    now = timezone.now()

    end\_date\_and\_time = Furniture.objects.get(

        furniture\_id=furniture\_id).end\_date\_and\_time

    if now > end\_date\_and\_time:

        return True

    return False

**Homepage**

{% extends 'base.html' %}

{% load static %}

{% block title %}Homepage{% endblock title %}

{% block head %}{% include 'partials/head.html' %}{% endblock head %}

  {% block body %}

    <!-- ===============================================-->

    <!--    Main Content-->

    <!-- ===============================================-->

    <main class="main" id="top">

      {% block nav %} {% include 'partials/nav.html' %} {% endblock %}

      <section class="pt-7">

        <div class="container">

          <div class="row align-items-center">

            <div class="col-md-6 text-md-start text-center py-6">

              <h1 class="mb-4 fs-9 fw-bold">Best Place to Auction Furnitures</h1>

              <p class="mb-6 lead text-secondary">We provide a safe and secured auctioning process<br class="d-none d-xl-block" />all in one place! The most intuitive way to acquire<br class="d-none d-xl-block" />your next furniture.</p>

              <div class="text-center text-md-start">

                <a class="btn btn-warning me-3 btn-lg" href="{% url 'auth:register' %}" role="button">Get started</a>

              </div>

            </div>

            <div class="col-md-6 text-end"><img class="pt-7 pt-md-0 img-fluid" src="{% static 'frontend/assets/img/hero/auction.png' %}" alt="" /></div>

          </div>

        </div>

      </section>

      <!-- ============================================-->

      <!-- <section> begin ============================-->

      <section class="pt-5 pt-md-9 mb-6" id="feature">

        <div class="bg-holder z-index--1 bottom-0 d-none d-lg-block" style="background-image:url({% static 'frontend/assets/img/category/shape.png' %});opacity:.5;">

        </div>

        <!--/.bg-holder-->

        <div class="container">

          <h1 class="fs-9 fw-bold mb-4 text-center"> Powered Features</h1>

          <div class="row">

            <div class="col-lg-3 col-sm-6 mb-2"> <img class="mb-3 ms-n3" src="{% static 'frontend/assets/img/category/icon1.png' %}" width="75" alt="Feature" />

              <h4 class="mb-3">Great UI/UX experience</h4>

              <p class="mb-0 fw-medium text-secondary">Good user interface and user experience,</p>

            </div>

            <div class="col-lg-3 col-sm-6 mb-2"> <img class="mb-3 ms-n3" src="{% static 'frontend/assets/img/category/icon2.png' %}" width="75" alt="Feature" />

              <h4 class="mb-3">Highly Secured</h4>

              <p class="mb-0 fw-medium text-secondary">Your informations are safe with us</p>

            </div>

            <div class="col-lg-3 col-sm-6 mb-2"> <img class="mb-3 ms-n3" src="{% static 'frontend/assets/img/category/icon3.png' %}" width="75" alt="Feature" />

              <h4 class="mb-3">High-end Performance</h4>

              <p class="mb-0 fw-medium text-secondary">Great in terms of speed.</p>

            </div>

            <div class="col-lg-3 col-sm-6 mb-2"> <img class="mb-3 ms-n3" src="{% static 'frontend/assets/img/category/icon4.png' %}" width="75" alt="Feature" />

              <h4 class="mb-3">Secured Payment Gateway</h4>

              <p class="mb-0 fw-medium text-secondary">Our payment option is top-notch.</p>

            </div>

          </div>

          <div class="text-center"><a class="btn btn-warning mt-5" href="{% url 'auth:register' %}" role="button">SIGN UP NOW</a></div>

        </div><!-- end of .container-->

      </section>

      <!-- <section> close ============================-->

      <!-- ============================================-->

      <!-- ============================================-->

      <!-- <section> begin ============================-->

      <section class="py-md-11 py-8" id="superhero">

        <div class="bg-holder z-index--1 bottom-0 d-none d-lg-block background-position-top" style="background-image:url({% static 'frontend/assets/img/superhero/oval.png' %});opacity:.5; background-position: top !important ;">

        </div>

    {% block script %}{% include 'partials/script.html' %}{% endblock script %}

  {% endblock body %}