

# **Online Vintage Item Auction Management System**

## **Project Report**



**Sri Lanka Institute of Information Technology**

**IT2080 Information Technology Project**

**Group ITP24\_B2\_W01**

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## Declaration

This project report is our original work and the content is not plagiarized from any other resource. References for all the content taken from external resources are correctly cited. To the best of our knowledge, this report does not contain any material published or written by third parties, except as acknowledged in the text.

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## **Abstract**

This project developed an online vintage auction management system to address the lack of specialized platforms tailored for the unique needs of vintage item auctions. The proposed solution serves as a centralized hub connecting auctioneers, bidders, vintage experts, and repair specialists in a seamless environment.

The system features comprehensive functionalities including user account management, listing creation, bidding mechanisms, auction automation, secure payment handling, and delivery tracking. It incorporates dedicated portals for each stakeholder group, ensuring efficient management of their respective roles and responsibilities.

A key highlight is the integration of a vintage expertise module, providing bidders access to educational resources and consultation services from field experts. The repair specialist module further enhances the platform's capabilities by offering restoration services for vintage items.

Leveraging modern technologies like React, Node.js, MongoDB, and RESTful APIs, the system ensures robust performance, scalability, and security. Agile software development principles guided an iterative and adaptive approach, enabling continuous incorporation of stakeholder feedback throughout the development lifecycle.

The proposed online vintage auction management system offers a comprehensive solution streamlining the entire auction process while fostering a vibrant community for vintage enthusiasts worldwide. Through its tailored features and seamless user experience, the platform aims to revolutionize the way vintage items are auctioned and traded in the digital landscape.

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# 1 Background

The online vintage auction market has witnessed substantial growth in recent years, driven by the increasing popularity of collecting and trading rare and valuable vintage items. However, existing platforms often lack specialized features and services tailored to the unique needs and challenges of the vintage auction community.

Our client for this project is Mrs. O.S Amarasinghe, a vintage item collector and auction enthusiast based in Uppsala, Sweden. As a newcomer to the vintage auction scene, her vision for this platform aligns with the growing demand among vintage enthusiasts globally, making her the ideal client for bringing this promising solution to fruition.

Traditional auction houses and online marketplaces offer limited functionality, failing to cater to the specific requirements of vintage enthusiasts, auctioneers, bidders, and other stakeholders involved in the intricate world of vintage item auctions. Key challenges faced include difficulties in finding knowledgeable experts for guidance, locating qualified repair specialists for restoration services, and navigating the complexities of bidding mechanisms and payment processes.

We are thrilled to collaborate with Mrs. Amarasinghe and help her passion and vision to deliver a refined, user-friendly web application connecting vintage enthusiasts worldwide. This project presents an exciting opportunity to explore and address the unique needs and challenges of vintage item auctions in the digital age.

In response to these challenges, the need for a comprehensive online vintage auction management system became apparent. By leveraging modern technologies and adopting industry best practices, our goal was to revolutionize the vintage auction experience, empowering stakeholders with the tools, resources, and expertise necessary to navigate this specialized market confidently and successfully.

## 2 Literature Review

### 2.1 LiveAuctioneers.com

In the item's domain, online vintage auction websites provide a unique interconnection of tradition, offering bidders unparalleled entry to a wide range of items from around the world with a seamless experience.

The literature review focuses on identifying key features and pros & cons of similar systems and considering implementing these systems to enhance operations and customer satisfaction. The review will include the details and comparison between our website & LiveAuctioneers which is a Similar system, the Advantages and disadvantages of that system, and a conclusion.

The art, antiques, jewelry, types of furniture, and whole vintage domain have transformed thanks to the rise of vintage auction websites which are reconsidering how individuals interact with the vintage auction domain marketplace specifying their needs and challenges. Considering the advantages of the LiveAuctioneers website,

Global reach- Allow collectors to find unusual vintage items that they might not find nearby easily. It increases the range of collectibles that collectors can purchase while it accesses the availability of the scope of the vintage domain.

Convenience: The main convenience of these online vintage websites is the ability to participate in auctions from anywhere around the world regardless of their location or time zone through internet-enabled devices.

Real-Time Bidding: This is the unprecedented and immersive experience of online auction sites compared to attending live traditional auctions. With the competitiveness of bidding, the feeling of winning and defeating their coveted items can engage with the spirit of bidding wars. It also gives an equal chance to auction and submit all bidders to give the items to the owner who deserves it.

Disadvantages of this LiveAuctioneers website are,

Authenticity concerns - Authenticity concerns are a major problem of most online websites. In LiveAuctioneers website also has this danger related to the authenticity of purchasing items.

Shipping costs and logistics - Foreign payment transactions on vintage websites may include extra costs and logistical challenges, especially regarding the responsibility of shipping and handling.

Technical issues - Bidding procedures may be sometimes negatively affected because of technological issues and connectivity problems. When a bidder faces these difficulties while they bid, it might hinder bidding and annoy consumers.

Considering the pros & cons of similar competitive websites, we can identify the differences between the systems and how to build our system by avoiding their shortcomings. With a seamless bidding system and specific modules for monitoring auctioneers, bidders, experts in vintage items, and repair specialists, it offers an all-in-one administration platform. When comparing other vintage auction websites and our website, there are some strategies to differentiate and set our website apart from other competitors like LiveAuctioneers.

As one of the special functionalities, we create a vintage expertise management system to contact vintage experts and get guidance for bidders to the best bidding experience. If there is a new person who would like to bid but never has experience, they also can take the knowledge and guidance from any vintage experts by making a booking for consultations. Also on our website, there is a blogging space integration for vintage experts, and vintage experts can share educational knowledge about vintage items including articles, research, and blogs related to vintage domains. After reading them bidders can choose a vintage expert according to their preferences. On the other hand, it is like targeting to attract potential clients and encourage them. Secondly, repair specialist management is another highlighted function when compared to the other websites. This function supplies a service to people or current bidders who need to repair their vintage items from a knowledgeable repair specialist who is in touch with this field. Users can search for them and contact them directly through a dedicated section of repair specialists based on their area of expertise. The platform ensures an improved user experience from bidding to item delivery with high-quality integrated customer care feedback systems, FAQs, and administrative features. Therefore, this website mainly focuses on being one of the best places for consumers of vintage items, providing one location for all their requirements and interests.

## 2.2 Bonhams.com

One of the biggest and oldest fine art and antique auction houses in the world is Bonhams. In addition to providing access to forthcoming auctions, catalogues, auction results, and specialized divisions featuring art, jewelry, vehicles, watches, and more, their website acts as a complete platform for both buyers and sellers. With a long history that dates back to 1793, Bonhams seamlessly blends history and contemporary technology to provide collectors and enthusiasts throughout the world a seamless auction experience.

The purpose of the literature study is to examine the key characteristics, advantages, and disadvantages of the Bonhams online auction platform in relation to other comparable platforms, including our website. Considering the advantages of the Bonhams website.

- **Global Reach:** Bonhams provides global reach through the Connect Platform, allowing collectors and clients worldwide to bid in auctions and purchase items directly to their location for storage.
- **Responsive customer Support:** Customer support services that are responsive to websites address consumers' questions, complaints, and technical problems in a timely and professional manner, ensuring a flawless online purchasing and browsing experience.
- **Secure Transactions:** With clear payment procedures, dependable delivery choices, and a safe and dependable platform for buying and selling valuables, the website guarantees secure transactions.
- **Auction Site:** Visitors have the option to register for auctions and get information about forthcoming sales, special collections, and site updates.

Disadvantages of this Bonhams website are,

- **Limited Accessibility:** The Bonhams website may not be available to everyone despite its worldwide reach because of problems with internet connectivity or technical limitations in some areas.
- **Absence of in-person involvement:** While the online version of the Bonhams website might not thrill and interest everyone to the same extent, some purchasers might miss the in-person interaction and experience of visiting live auctions.
- **Shipping cost:** Shipping cost can be high for purchasers from outside the country, particularly for bulky or delicate goods, which may discourage some prospective buyers from placing orders.

Considering the pros & cons about our website & bonhams, our system has specific modules for auctioneers, bidders, experts in vintage items and repair specialist. There is some different functionality in our website

Vintage expertise management is one of the special functionality of our system. In order to improve the bidding experience, the vintage expertise management system sought to link bidders with vintage specialists. The method enables novices to schedule consultations with professionals in order to obtain advice. The portal also has a blog area where vintage specialists may post informative articles on antique goods, helping bidders choose knowledgeable experts. The system's overall goal is to draw in and inspire potential customers by offering helpful tools and knowledgeable advice. Secondly, the prominent role that repair specialist management plays on a website, highlighting how it differs from

other platforms. This feature links users individuals or active bidders with experienced antique item repair professionals. Users may look up experts based on their area of knowledge in a certain sector and get in touch with them directly.

## 3 Aims and Objectives

### 3.1 Aim:

To become the premier online platform for vintage item auctions, fostering a vibrant community by connecting auctioneers, bidders, vintage items experts, and repair specialists in a seamless, healthy, and user-friendly environment for vintage item auctions.

### 3.2 Objectives:

- **Build a dedicated platform:**
  - Develop features and functionalities specifically tailored for vintage items and their unique characteristics.
  - Facilitate seamless interaction and communication between all stakeholder groups (auctioneers, bidders, experts, specialists).
  - Offer comprehensive user profiles, listing management, and bidding functionalities.
- **Empower newcomers:**
  - Create an educational platform within the system, offering resources and guides on vintage items, auctions, and best practices.
  - Implement intuitive user interfaces and clear instructions to encourage confident participation.
  - Facilitate mentorship opportunities connecting newcomers with experienced collectors and experts.
- **Enhance bidding experiences:**
  - Design transparent and secure bidding mechanisms, preventing manipulation and ensuring fair competition.
  - Offer multiple bidding options and real-time updates to improve user engagement and satisfaction.
  - Provide clear auction rules and dispute resolution mechanisms for a secure and trusted environment.
- **Integrate repair services:**
  - Establish a network of vetted and qualified repair specialists with diverse expertise in various vintage item categories.
  - Develop a user-friendly interface for users to easily connect with and request repair services.
  - Ensure transparency and trust by showcasing specialists' qualifications, reviews, and ratings.
- **Comprehensive Auctioneer and Bidder Profiles:**
  - Implement **comprehensive and customizable auctioneer profiles**, showcasing experience, reputation, and past auction history.
  - Provide **detailed bidder profiles**, including bidding history and interests.
  - Allow both auctioneers and bidders to personalize their profiles to build trust and credibility within the community.

- **Additional Focus:**
  - Develop a **comprehensive administrative management dashboard** to grant administrators full control over platform functionalities, user management, data analysis, and security settings.
  - Implement a **customer care portal** to handle user inquiries, resolve issues and offer support resources efficiently.



## 4 Solution Overview

We have identified 8 different Subcomponents in the system

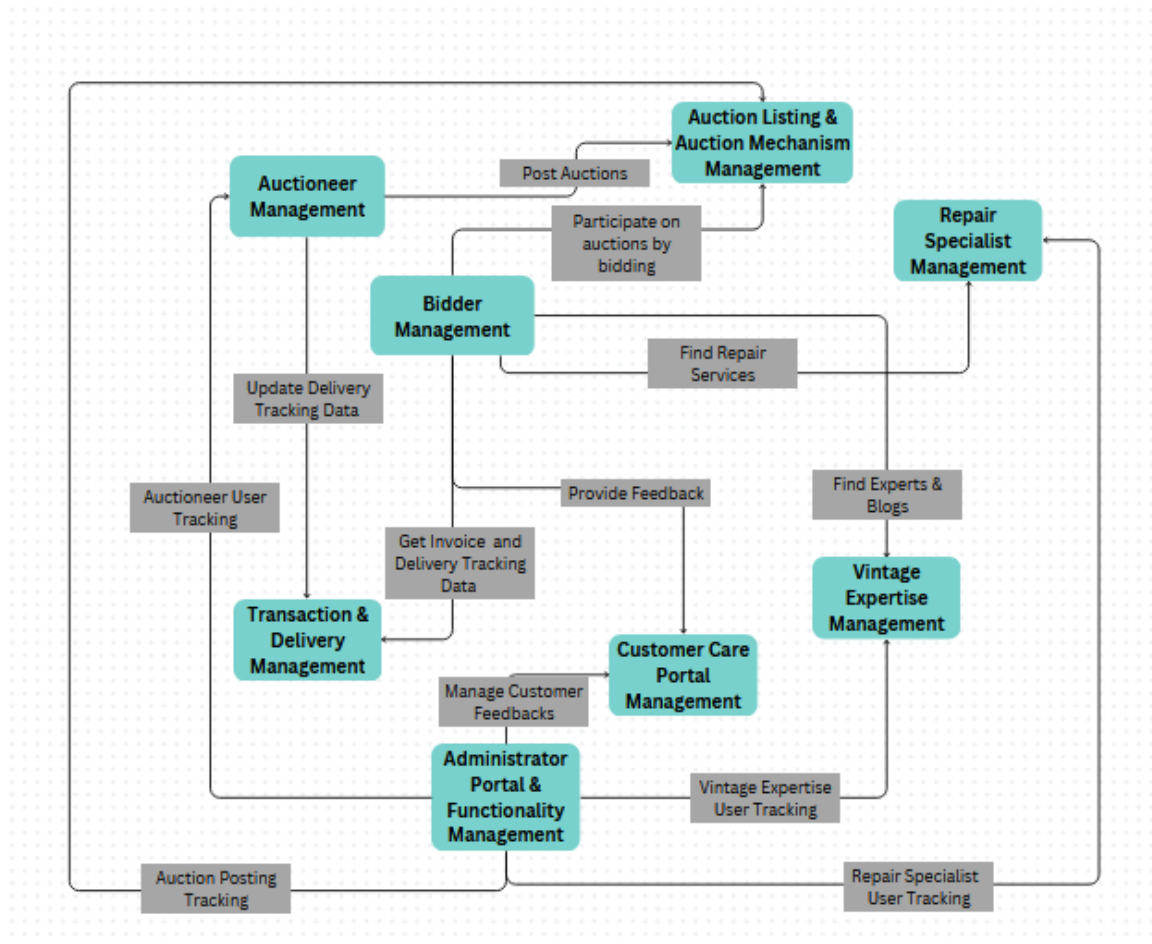


Figure 4-1-System Overview Diagram

### 4.1 Administrator Portal & Functionality Management

The admin portal in this system is the only platform for managing and tracking the operations of the platform. It is Designed for administrators to get interacted with auction & user management in an efficient way, furthermore this portal provides administrators tools to ensure the authenticity, security, and efficiency of the auction platform. Admins will be able to review and terminate auctions, analyze user engagement and financial metrics by generating reports, user data tracking & the admin account creation for scaling purposes. The admin portal plays one of the most critical roles in managing a fair and trustworthy auction environment for bidders.

## **4.2 The Customer care Portal Management**

The customer care portal management system facilitates efficient handling of customer feedback and FAQ management. It allows bidders to provide feedback regarding their auction experience, item quality or any customer suggestion or complaints via a user-friendly interface. Admin is provided an interface to manage all feedback submissions and to solve problems quickly. Admin generate the feedback report using bidder submitted feedback and create FAQ section using generated feedback report. For that, a search bar is implemented to facilitate quick retrieval of relevant FAQs. Admin should review, create, update, and delete FAQs in the resulting admin portal. This solution streamlines bidder support operation improves user experience and empowers usage admin to manage customer feedback and FAQs

## **4.3 Listing and Auction system Management**

The Listing and auction management function is a system that is designed to manage the listings and the listed auctions between the auction creators and the bidders. It empowers auction creators to showcase their prized vintage items through detailed listings to attract potential buyers and enhance the overall bidding experience. Meanwhile this function provides bidders with a transparent and engaging platform to discover and bid on the items they desire. Within the Auction and Listing Management system, the Auction System performs a crucial role in automating the closure of auctions once their designated durations have elapsed.

## **4.4 Auctioneer Management.**

In this auctioneer management functionality, it refers to the overall coordination of activities related to vintage items auctioned by the auctioneer. The auctioneer management functionality includes everything related to the account creation of the auctioneer. After registered auctioneers log into their auctioneer portal, they can view their profile data and information about their auction history such as highest bid received or the highest number of bidders using search and filter methods. And they can modify or delete their respective accounts if necessary. Lastly, auctioneers can generate auction summary reports using information such as winning bid prices for the respective auctions and details about winning bidders. This will supply informative data and analysis on the trends and outcomes of past auctions to the auctioneers.

## **4.5 Bidder Management System**

A bidder management system that will incorporate the ability to create user accounts, allowing bidders to sign up and save products to their Wishlist for later usage. The solution will also make it easier to view bidder user accounts and past bidding activity, giving users insightful information about their auction activity. To ensure data accuracy and personalized experiences, users will be able to change their information and choices. To further increase user control and flexibility, the system will include

Wishlist item removal and account closure. Lastly, the system will have the ability to produce bid summary reports, which will provide stakeholders with insightful data and analysis on bidding patterns and results.

#### **4.6 Vintage Expertise Management**

Vintage expertise management special and unique service supplies from our website when compared to the other similar competitive vintage auction websites. It is built up to enhance the user experience when interacting with vintage experts. Therefore, the main purpose of this function is to facilitate appropriate communication between bidders who are looking for advice or guidance on vintage items and vintage experts in the vintage industry.

To have a robust profile management system vintage experts can create their user account by providing the necessary information to register and can establish their bios that showcase their qualifications according to the path of the expertise. Expertise categorization such as furniture, jewelry, clothing, and arts has been supported to users to find blogs easily. Within the search bar, they can find blogs about their preferred field of vintage items.

Moreover, vintage experts have a blogging section to display their research guides, articles, and educational resources according to the areas they have expertise. It helps to attract potential clients, engage with bidders, and maintain vintage expert's credibility for our website. mainly .it encourages the bidders to seek knowledge by contacting vintage experts providing an attractive blogging space. Also, here after making a booking, they can directly communicate with vintage experts through email. All these functionalities give the outcome of a perfect vintage expertise management system.

#### **4.7 Payment and Delivery Handling System**

The payment and delivering handling system is a designed to manage financial transactions between our bidder and our auctioneer. The payment processing such as Credit cards and Debit cards handled in this system. After the bidder makes the payment, he can download his payment details pdf. The delivery system may use the Wins bidder email address and send each delivery process. such as your item on the way and item delivered.

## 5 Methodology

### 5.1 Software Development Life Cycle

A Software Development Lifecycle (SDLC) consists of different phases or models that guides the development process from planning to deployment. Each SDLC model represents a different approach to software development, with its own set of methodologies, processes, and best practices.

#### 5.1.a Method – Agile Software Development Methodology

Agile software development is a software development approach that emphasizes flexibility, feedback-driven development, customer satisfaction and collaboration. This agile software development methodology is focused on a short iterative software release cycle.

We have chosen to use Agile software development to ensure the success of our project due to several compelling reasons such as Continuous Feedback Loop, Timely Delivery of Key Features .Agile enables us to engage with users and stakeholders throughout the development process by regularly delivering increments of functionality This approach facilitates continuous feedback, ensuring that the auction platform meets the unique needs and expectations of vintage collectors, sellers, and administrators. By prioritizing features based on their value to users, Agile allows us to focus on delivering the most critical aspects of the auction platform early in the development process. As a summary and justification, we have adopted Agile software development for our online vintage auction management system project to leverage its flexibility, feedback-driven approach, and emphasis on delivering value to users efficiently.

#### 5.1.b Tools & Technologies

*Table 5-1-Tools and Technologies*

Tools	Technologies
<b>Redux</b> - Global state management	<b>React JS</b> - JavaScript (JS) Library for building Frontend
<b>Figma</b> - UI/ Prototyping & Wireframes	<b>Node.js</b> - JS runtime environment
<b>Postman</b> - API testing & Deployment	<b>Express.js</b> - Framework for web applications using Node.js
<b>VsCode</b> - Integrated Development Environment	<b>MongoDB Atlas</b> - The fully managed cloud database service MongoDB Atlas is offered by MongoDB and provides a scalable and adaptable way to store and query data without having to worry about maintaining infrastructure.
<b>Vite</b> - React Application build tool	
<b>Heroku</b> - Application Deployment	

**GitHub:** GitHub is a web-based version control system that allows for collaboration, code review, and project management. It is popular for hosting repositories and sharing code. The reason for using GitHub is that it provides the student resource pack for student developers.

**Redux:** Redux is an open-source JavaScript library primarily used for managing application state in complex web applications. It is commonly associated with React applications. It is particularly popular in large-scale applications where managing state across multiple components and complex interactions becomes challenging. While it introduces some overhead due to its setup and boilerplate code, it provides significant benefits in terms of state management and predictability.

**Postman:** Postman is an API development tool that is used to design, test, and debug APIs more efficiently. It provides an interface for sending HTTP requests to a server, receiving responses, and inspecting the results without a frontend. This ultimately helps developers to save time and ensure the quality of their APIs.

**Vite:** Vite offers a modern and efficient development experience for building web applications, with a focus on speed, simplicity, and extensibility.

**Figma:** Figma is a cloud-based, versatile, and collaborative design tool that is widely used by designers and design teams for creating user interfaces, prototypes, and interactive designs.

**VS Code:** Visual Studio Code is a versatile and powerful code editor that caters to the needs of individual developers, teams, and organizations across various programming languages and platforms. Its extensive features, customizability, and strong community support make it our choice for development.

**Heroku:** Heroku provides a powerful platform for deploying and managing web applications, offering ease of use, scalability, flexibility, and a wide range of features to support modern development workflows.

**MERN (Mongo DB, Express, React, Node):** MongoDB, Express.js, React.js, and Node.js form the MERN stack, providing a comprehensive solution for building full-stack web applications. The MERN stack is known for its flexibility, performance, and scalability. Since we are a group of beginner developers who are focusing on building a real-time application, the MERN stack is the best choice for us because of its supportive community and Realtime nature.

### 5.1.c Gantt Chart

Table 5-2-Gantt chart

	Week 01	Week 02	Week 03	Week 04	Week 05	Week 06	Week 07	Week 08	Week 09	Week 10	Week 11	Week 12
definitions and requirement analysis												
planning												
Page UI design												
Database designing												
Coding the structure												
development												
testing												
Launching the web application												

### 5.1.d Work Breakdown Structure

Table 5-3-Work Breakdown Structure

Student Id	Tasks
<b>IT22305350 - Rajapakse P.H.Y. L</b>	<ul style="list-style-type: none"> <li>Listed single auction page with Bidding mechanism User interface development and report generation functionality.</li> <li>Listed single auction page Back-End development.</li> <li>Home page User Interface development.</li> <li>Listed Auction items page Front-End development with search functionality.</li> <li>Listed Auction items page Back-End development.</li> <li>Creating database.</li> <li>Implementing the create, update, read, delete Functions for the Auctioneer and the Bidder with search functionality.</li> <li>Methodology introduction</li> <li>Requirement gathering and analysis in methodology.</li> <li>Design in methodology.</li> <li>Function overview diagram.</li> <li>Listing and Auction management system</li> </ul>
<b>IT22886354- Nirasha F</b>	<ul style="list-style-type: none"> <li>Vintage expert's portal user interface development.</li> <li>Vintage expert's back-end development.</li> <li>Implementing the create, update, read, and delete Functions for the Vintage experts</li> </ul>

	<ul style="list-style-type: none"> <li>with search and invoice-generating functionality.</li> <li>• Creating database.</li> <li>• LiveAuctioneers.com website in literature review.</li> <li>• Vintage expertise management.</li> </ul>
<b>IT22306418- Madinu V.G.A</b>	<ul style="list-style-type: none"> <li>• Customer care portal User Interface Development</li> <li>• Customer care portal Back-End Development</li> <li>• Implementing the create, Update, Read, Delete Functions for the admin and bidder with search and report generating functionality.</li> <li>• Traditional Auctions in Literature review.</li> <li>• Customer care portal management.</li> <li>• Creating database</li> </ul>
<b>IT20633004- L.R.S.L Nissanka</b>	<ul style="list-style-type: none"> <li>• Notify the items detail to winning bidder.</li> <li>• Winning bidder can check the details and access the payment method.</li> <li>• Generate the payment details report.</li> <li>• Auctioneer can manage that data. Implementing the create, Update, Read, Delete Functions.</li> <li>• Creating database.</li> <li>• Winners inform and winners notify user interface development.</li> </ul>
<b>IT22005144-Tharuka R.M.S</b>	<ul style="list-style-type: none"> <li>• Repair Specialist portal user interface development.</li> <li>• Repair Specialist back-end development</li> <li>• Implementing the create, update, read, delete Functions for the Repair specialist with search and invoice generating functionality</li> <li>• Maintenance in methodology</li> <li>• Repair specialist management</li> </ul>
<b>IT22326522- Perera W.P.M.A.N</b>	<ul style="list-style-type: none"> <li>• Auctioneer portal user interface development.</li> <li>• Auctioneer portal back-end development.</li> <li>• Implementing the create, delete, update and read functions for the auctioneer with search and report generating functionality.</li> <li>• Creating database.</li> <li>• Deployment in methodology.</li> <li>• Auctioneer Management.</li> </ul>

<b>IT22320582- Jayasundara D.W.S</b>	<ul style="list-style-type: none"> <li>• Bidder portal user interface management.</li> <li>• Bidder portal Back-End development.</li> <li>• Implementing the create, delete, update and read functions for the bidder with search and report generating functionality.</li> <li>• Creating the database.</li> <li>• Testing in methodology.</li> <li>• Bidder management.</li> </ul>
<b>IT22332608 - Liyanage M.I.H</b>	<ul style="list-style-type: none"> <li>• Admin portal User Interface Development</li> <li>• Admin portal Back-End Development</li> <li>• Implementing the create, Update, Read, Delete Functions for all the users and Auctions &amp; provide relevant charts &amp; Reports.</li> <li>• Creating the database.</li> <li>• Client Background</li> <li>• Problems and Motivations</li> <li>• Tools &amp; Technologies</li> <li>• Aims &amp; Objectives</li> <li>• System Overview Diagrams</li> <li>• Administrator Portal &amp; Functionality Management</li> </ul>



## **6 The Structure of the Report**

### **Introduction**

This section provides a comprehensive overview of the initial challenges identified and the corresponding solutions devised to address them. Additionally, it outlines the scope of the product, evaluates the current system utilized by the client, and provides insights into the overall system structure.

### **Methodology**

The methodology section offers insights into the approaches and strategies employed to develop the system. It utilizes design ER diagrams, activity diagrams, and use case diagrams to articulate the requirement analysis and system design.

### **Conclusion**

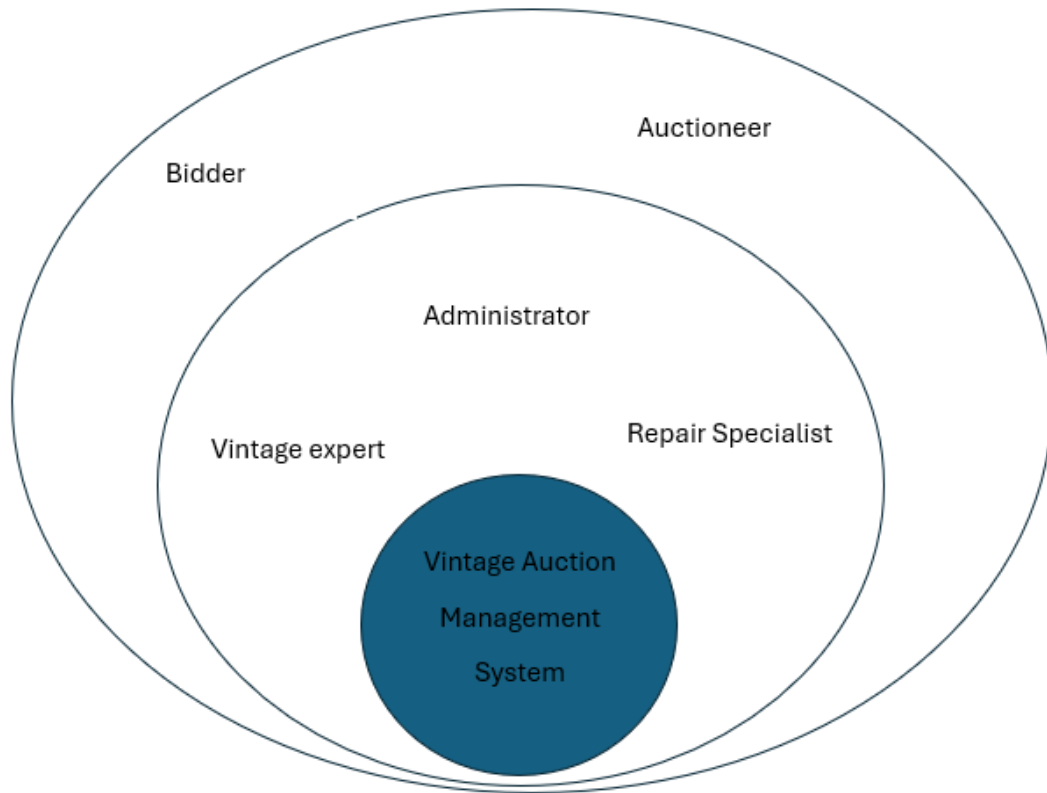
This section underscores the suitability of the proposed system for implementation by demonstrating how it fulfills all essential goals and objectives. It serves as the final justification for the adoption of the proposed system.

## **7 Git Repository Link**

<https://github.com/Movin21/RelicRoom.git>

## 8 Chapter 2 - Requirements

### 8.1 Stakeholder Analysis



*Figure 8-1-Stake Holder Analysis*

### 8.2 Requirement Analysis

#### 8.2.a Auctioneer Management

##### Stake Holders:

1. Auctioneer

##### User Stories:

- As an auctioneer, I want to manage my respective user profile so that I can view my data, update my profile, and delete my profile.
- As an auctioneer, I want to view my auction history to view the highest bids I have received and the highest number of bidders I got for my auctions.
- As an auctioneer, I want to generate an auction summary report to get an idea about the details of my auctioned items, their respective winning bid prices, and their winning bidders' details.

### **Functional Requirements:**

- Create – create registration/account for auctioneers  
Generate auction summary report.
- Read – View respective user profile data.  
View auction history like the highest bids received and the highest number of bidders got for respective auctions.  
View details of auctioned items, their respective winning bid prices, and their winning bidders' details from the summary report.
- Update –Update respective user profiles.
- Delete – Delete respective user profiles.
- Special functionality – Search function with a filtering property.  
Generate auction summary report.

### **Non-Functional Requirements:**

- Security - Only authorized personnel can do auctions.
- Usability -Simple and easy user interface
- Accuracy - The details of winning bids and bidders should be accurate.
- Scalability – The system can handle an increasing number of auctioneers at the same time without generating any errors.
- Data Integrity - ensure that data which entered into the system.

### **Technical Requirements:**

- Access control - ensuring that only authorized auctioneers can access the auctioneer portal.
- Data quality - ensure that data which entered into the system.
- Platform - Compatible with all browsers.
- Cloud storage - Auctioneers can access their portal from anywhere, on any device.
- Backup database – The system should have backup plans so that the Auctioneers' data can be safe.

## **8.2.b Bidder Management**

### **Stakeholder:**

- Bidder

### **User Stories:**

- As a bidder, I want to place bids and track my bidding activity so that I can effectively participate in auctions.

- As a bidder, I want to easily search for and find relevant vintage item listings so that I can bid on items I'm interested in.

#### **Functional requirements:**

- Create - Create bidder user accounts, and add an item to the wishlist.
- Read – View respective bidder user accounts and view previous bidding history.
- Update - Update respective user information or preferences
- Delete – Close respective bidder user accounts and remove an item from the wishlist.
- Generate bid summary report.

#### **Non - Functional requirements:**

- User friendliness requirement
- Performance requirement
- Reliability requirement
- Maintainability requirement
- Security requirement

#### **Technical Requirements:**

- User authentication
- User information or preferences management
- User interface friendliness
- Communication

### **8.2.c Vintage Expertise Management**

#### **Stakeholders:**

- Vintage expert
- Bidder

#### **User Stories:**

- As a vintage expert, I want to create a user account so that I can establish my presence within the Vintage Expertise platform.
- As a vintage expert, I want to share educational resources like articles or guides related to my expertise to attract potential clients and establish recognition within the system, encouraging user engagement and consultations,
- As a vintage expert, I want to manage my profile information such as name, contact details, and expertise areas

### **Functional requirements:**

- Users can register as vintage experts with a username and password and profile information.
- Experts can upload their credentials and certifications.
- Experts can edit and update their profile information.
- Experts can select and update their areas of expertise from predefined categories.
- Users can search for experts based on categories of expertise.
- Experts can create, edit, and delete blog posts within the system.
- Users can view expert blog posts and leave comments.
- Users can contact experts via email or phone number provided in their profiles.
- Experts receive notification when a booking is created and can respond to user's inquiries.

### **Non – functional requirements:**

- User experience - User-friendly interface for profile management
- Security - Secure authentication and data storage

### **Technical requirements:**

- Technology Stacks
- APIs and libraries
- Scalability

## **8.2.d Repair Specialist Management**

### **Stakeholders:**

- Repair specialist.
- Developer

### **User stories**

- As a repair specialist, I want to easily register on the platform and create a detailed list that showcases my skills and expertise in repairing vintage items, so I can attract potential clients effectively.
- As a repair specialist, I want to connect easily with the customer give valuable instructions, and consult the customer very well on how to repair the vintage items. So that I can satisfy the customer well.

### **Functional requirements:**

- Provide a registration interface for repair specialists to sign up on the platform and collect necessary information during registration such as name, contact details, skills, experience, and certifications.
- Repair specialists can create a profile and manage their profiles.
- Repair specialists can add, edit, or delete their profiles including skills, experience, and certifications.
- Repair specialists can maintain a list specifying their specialization and experiences.
- Implement a search option to enable users to find specialists based on their specialization, skills, and experiences.

- Repair specialists can consult with the customer and answer the customer's questions.

### **Non-functional requirements:**

- User experience
- Security
- Scalability
- Technical requirements:
- Web interface
- Database
- Communication channels

## **8.2.e Transaction and Delivery Management**

### **Stakeholders:**

- Transaction manager

### **User Stories:**

- As a transaction manager, if someone wins the item, then we (the seller) send an email containing payment details, item details, and the winning price. He can access the payment method. After payment, he can download the details of the item along with the documents and the winning price.
- As a delivery manager, after payment, we (the seller) inform every delivery process using the buyer's registered email address. Then by using a web application to register buyer and seller email addresses, they can chat about every delivery process and issue.

### **Functional requirements:**

- If the buyer wins the items he can access the payment method and after payment, he can download the payment record document.
- Buyer can read and delete payment details on their dashboard
- Buyer can read and delete their winning items list
- Buyer can read every item delivered and processing
- If the seller is the owner of the items, he can read edit, delete, and update that the buyer of the items wins,
- The winning item owner can read wins buyer's email and send an email. That email has a payment method access link
- The seller can delete every unnecessary payment, shipping, and invoice details

## **8.2.f Listing and Auction System Management**

### **Stakeholders:**

- Vintage Auctioneer

### **Functional Requirements:**

Create:

- Allow authenticated users to create new auctions by providing the necessary details.

Read:

- Users can view details of existing auctions including title, description, current highest bid, and other relevant information.

Update:

- Auction creators can update certain details before the start, such as title, description, starting price, bid increment, and end date.

Delete:

- Auction creators can delete auctions entirely, removing associated data like bids and participant information.

Generates Reports:

- The system generates reports on auction metrics like the number of auctions created, total bids, highest bids, and most active bidders.

## **8.2.g Customer Care Portal Management**

### **Stakeholders:**

- Administrator

### **User Story 1:**

- As an administrator, I want to be able to review and terminate inappropriate auctions so that I can maintain a fair and trusted platform.

### **User Story 2:**

- As an administrator, I want insights into user engagement and platform performance so that I can optimize operations.

### **Functional Requirements:**

Create:

- Ability to create multiple admin accounts

Update:



- Verify and update user profile information to maintain authenticity

Delete:

- Terminate auctions that violate policies

Retrieve:

- Review auction listings and user information
- Track user engagement metrics like registered users and ongoing auctions
- Generate financial and user analytics reports

### **Non-Functional Requirements:**

- The admin portal should have high availability with a minimum 99.9% uptime
- All admin functions should be completed in under 2 seconds for good response times
- The portal data should be securely encrypted for privacy

### **Technical Requirements:**

- The admin portal will be built using ReactJS
- It will connect to a MongoDB database to store and retrieve data
- It will integrate with authentication systems like OAuth for access control
- It will use tools for analytics and reporting

### **Non-Functional Requirements:**

- Usability Requirement.
- Performance Requirement.
- Security Requirement.
- Reliability Requirement.
- Scalability Requirement.

### **Technical Requirements:**

- Web-Based Interface.
- Access control.
- File Storage.
- Authentication Service.

### 8.3 Requirement Modeling

#### 8.3.a IT22332608 – Liyanage M.I.H

#### Epic-Admin Portal Management

Table 8-1-Requirement Modeling – Admin portal Management

Feature	User Story Id	User Story	Tasks
Review and Terminate Auctions	111	“As an admin, I want to view all ongoing auctions so that I can review them.”	<b>Task 1:</b> Implement a section to display all ongoing auctions with details.  <b>Task 2:</b> Add filtering and search capabilities for auctions.
	112	“As an admin, I want to flag auctions for review based on criteria so that I can take appropriate action.”	<b>Task 1:</b> Define criteria for flagging auctions (e.g., Inappropriate items, manipulative behavior)  <b>Task 2:</b> Implement functionality to flag auctions based on criteria
	113	“As an admin, I want to terminate flagged auctions after review so that only authentic listings remain.”	<b>Task 1:</b> Implement functionality to terminate/delete flagged auctions
User Account Management	121	“As an admin, I want to search and filter users across categories so that I	<b>Task 1:</b> Implement search and filter for users by criteria like

		can manage accounts effectively”	username, email, activity
	122	“As an admin, I want to view and modify user account details so that I can take required actions.”	<b>Task 1:</b> Display user profile details in admin view  <b>Task 2:</b> Allow updating of user account status between active & terminate
	123	“As an admin, I want to permanently terminate user accounts for violations so that platform integrity is maintained.”	<b>Task 1:</b> Implement account termination and deletion functionality  <b>Task 2:</b> Anonymize or purge deleted user data as per privacy regulations
Financial and User Analytics generation	131	“As an admin, I want to generate financial reports so that I can analyze revenue metrics.”	<b>Task 1:</b> Implement report generation for financial metrics like revenue, commissions  <b>Task 2:</b> Allow export of financial reports in PDF or other formats
	132	“As an admin, I want to generate user engagement reports so that I can track platform growth.”	<b>Task1:</b> Implement report generation for user metrics like user counts by category  <b>Task 2:</b> Allow export of user

			engagement reports in PDF or other formats
Administrator Account Management	141	“As a admin, I want to create multiple administrator accounts securely so that responsibilities can be shared.”	<p><b>Task 1:</b> Implement secure admin account creation process with strong passwords</p> <p><b>Task 2:</b> Ensure admin account creation is not publicly accessible</p>

**8.3.b IT22306418– Madinu V G A**

**Epic- Customer Care Portal Management.**

*Table 8-2-Requirement Modeling – Customer Care Portal*

<b>Feature</b>	<b>User Story Id</b>	<b>User Story</b>	<b>Tasks</b>
Bidder Reviews Management	211	"As a bidder, I want to provide my feedback, complaints and suggestions according to the system, so that I can help to improve the system."	Task 1: Design and implement feedback submission form.

	212	"As an admin, I want to view all that response, so that I can manage them."	Task1: Display all the submitted forms with their relative labels in the customer care portal.
	213	"As an admin, I want to delete the bidder's feedback, suggestion, complaints, so that I can delete unnecessary reviews."	Task1: Implement delete functionality to delete unnecessary details.
	214	"As an admin, I want to response to bidder's reviews, so that I can collect more ideas about our system from bidders."	Task1: Implement a button. Providing communication between admin and bidder via email.
Feedback Report Generation	221	"As an admin, I want to generate feedback reports, so that I can analyze all the submitted reviews. "	Task1: Implement report generation for bidder reviews.
FAQ Management	231	"As a bidder, I want to review the FAQ section, so that I can find answers to common questions."	Task1: Design and implement feedback submission form.
	232	"As an admin, I want to update FAQs, so that I can manage the FAQs."	Task1: Implement update functionality to update FAQ section.
	233	"As an admin, I want to delete FAQs, so I can delete unnecessary FAQs."	Task 1: Implement delete functionality to delete FAQs regarding the feedback report.

	234	“As a bidder, I want to search for FAQs, so that I can find relevant question easily.”	Task 1: Implement search functionality to search FAQs.
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## Epic - Listing and Auction System Management

Table 8-3-Requirement Modeling – Listing and Auction Management

Feature	User Story Id	User Story	Tasks
Auction Browsing	311	“As a bidder I want to view all ongoing auctions so that I can decide which items to bid on.”	<p><b>Task 1:</b> Implement a listing page for displaying all the auctions with details.</p> <p><b>Task 2:</b> Fetch active auctions data from the database.</p> <p><b>Task 3:</b> Add categories and search functionality for listed auctions.</p>
Item Listing	321	“As an auctioneer, I want to list a new item for auction so that I can sell it to the highest bidder.”	<p><b>Task 1:</b> Design and implement user interface for item listing form.</p> <p><b>Task 2:</b> Implements backend functionality to store item details in the database.</p> <p><b>Task 3:</b> Validate item information entered by the user.</p> <p><b>Task 4:</b> Add option to upload images of the item.</p>
Manage Auctions		“As an auctioneer, I want to be able to manage my active listings, so that I	<p><b>Task 1:</b> Create a dashboard for auctioneers to view all their active listings.</p> <p><b>Task 2:</b> Implement functionality to edit listing details such as title, description, and starting bid.</p>



	331	can update information or end auctions as needed.”	<b>Task 3:</b> Allow auctioneers to end auctions early if needed, removing the listing from active auctions.
Single Auction Viewing	341	“As a bidder, I want to view a single auction with details so that I can get a full understanding of the item and its auction parameters.”	<b>Task 1:</b> Design user interface for displaying details of a single auction, including item name, description, images <b>Task 2:</b> Fetch data for the selected auction from the database.
	342	"As a bidder, I want to see the starting bid price of the auction so that I know the minimum amount required to place a bid.”	<b>Task 1:</b> Display auction details starting bid, current bid, bid history, and remaining time.
	343	“As a bidder, I want to see the remaining time left for the auction so that I can plan when to place my bid before it ends.”	<b>Task 1:</b> Display auction remaining time with real time update.
Bidding for Auction	351	“As an auction bidder, I want to place a bid on an item currently up for auction.”	<b>Task 1:</b> Design user interface for placing bids on an auction. <b>Task 2:</b> Implement backend functionality to process bid submissions. <b>Task 3:</b> Validate bid amount and ensure it meets minimum bid requirements. <b>Task 4:</b> Update bid history and current bid amount in real-time.
Auction Report Generation		“As an administrator, I want to generate reports on every auction so that I can analyze auction	<b>Task 1:</b> Generate report that compiles data on each auction, including bidding

	361	performance and gather insights for decision-making”	activity, final sale prices, and duration.
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### 8.3.d IT22320582 – Jayasundara D.W.S

#### Epic- Bidder Management

*Table 8-4-Requirement Modeling – Bidder Management*

Feature	User Story Id	User Story	Tasks
Bidder user account management	411	“As a new bidder, I want to register for the website so that I can start bidding and access the website's services.”	<b>Task 1:</b> Design user registration page for bidders.  <b>Task 2:</b> Implement backend create function for account creation by signing up.
	412	"As a registered bidder I want to view my user information so that I can review my user account.”	<b>Task 1:</b> Design user account display interface.  <b>Task 2:</b> Implement backend read function for user information retrieval.
	413	"As a registered bidder I want to update my user information so that I can change details if necessary.”	<b>Task 1:</b> Design a button option and user account update interface.  <b>Task 2:</b> Implement backend update function for

			updating user information.
	414	"As a registered bidder I want to close my user account so that I can discontinue my participation from the platform if necessary."	<b>Task 1:</b> Design a button option for close account in bidder user account.  <b>Task 2:</b> Implement backend delete function for account termination.
Wishlist management	421	"As a bidder I want save my favorite items while browsing items so that I can find them easily later."	<b>Task 1:</b> Design user interface named Wishlist for saving favorite items.  <b>Task 2:</b> Implement backend create function for adding items to the Wishlist.  <b>Task 3:</b> Implement search functionality to search items in the Wishlist.
	422	"As a bidder I want to view my Wishlist so that I can review them."	<b>Task 1:</b> Implement backend read function for Wishlist items retrieval.

	423	<p>“As a bidder I want to remove items from my Wishlist so that I can delete unnecessary items.</p>	<p><b>Task 1:</b> Design a delete button for each item in the Wishlist.</p> <p><b>Task 2:</b> Implement backend delete function for remove items.</p>
Bidding history management	431	<p>“As a bidder I want to view my bidding history so that I can take decisions in future biddings.”</p>	<p><b>Task 1:</b> Design user interface for display bidding history.</p> <p><b>Task 2:</b> Implement backend read function for bidding history retrieval.</p>
	432	<p>"As a bidder I want to generate a bid summary report so that I can review my won bids."</p>	<p><b>Task 1:</b> Design a button option for generating reports in the user account interface.</p> <p><b>Task 2:</b> Implement mechanisms for generating reports in PDF format.</p>

### Epic-Auctioneer Management

Table 8-5-Requirement Modeling – Auctioneer Management

Feature	User Story Id	User Story	Tasks
Auctioneer account creation management	511	"As an unregistered auctioneer I want to register to this system so that I can access as an auctioneer."	<b>Task 1:</b> Implement registration page for the unregistered auctioneers.  <b>Task 2:</b> Store auctioneer details in the database.
	512	"As a registered auctioneer I want to login to the system so that I can start posting auctions."	<b>Task 1:</b> Implement login page for the registered auctioneers.  <b>Task 2:</b> Validate the login credentials of the auctioneers.
Auctioneer user profile management	521	"As an auctioneer I want to view respective auctioneer user data so that I can manage user profile."	<b>Task 1:</b> Design a user interface for auctioneer profile.  <b>Task 2:</b> Display all respective

			auctioneer profile data.
	522	"As an auctioneer I want to update the profile so that I can manage user profile."	<p><b>Task 1:</b></p> <p>Design a button option to update the details.</p> <p><b>Task 2:</b> Implement Update functionality to update the auctioneer details.</p>
	523	"As an auctioneer I want to delete the profile so that I can terminate the user account if necessary."	<p><b>Task 1:</b></p> <p>Design a button option to delete the account.</p> <p><b>Task 2:</b> Implement Delete functionality to delete the auctioneer details.</p>
Auction history management	531	"As an auctioneer I want to view all respective auctions so that I can take required actions."	<p><b>Task 1:</b></p> <p>Create a dashboard for auctioneers.</p> <p><b>Task 2:</b></p> <p>Implement a section to display all auctions with details.</p>

	532	"As an auctioneer I want to search my auction history so that I can review them."	<p><b>Task 1:</b> Create a search field.</p> <p><b>Task 2:</b> Implement search functionality to search all auctions.</p> <p><b>Task 3:</b> Implement search functionality to search for ongoing auctions.</p> <p><b>Task 4:</b> Implement search functionality to search for expired auctions.</p>
	533	"As an auctioneer I want to filter my auction history so that I can view the ongoing and expired auctions."	<p><b>Task 1:</b> Create filter tabs.</p> <p><b>Task 2:</b> Implement filter functionality to search all auctions.</p> <p><b>Task 3:</b> Implement filter functionality to search for ongoing auctions.</p>

			<b>Task 4:</b> Implement filter functionality to search for expired auctions.
Auction summary report generation.	541	"As an auctioneer I want to generate an auction summary report so that I can analyze my auction growth."	<b>Task 1:</b> Design a button option for generating reports.  <b>Task2:</b> Implement report generation for expired auctions category.  <b>Task 3:</b> Allow export of user engagement reports in PDF or other formats.



### 8.3.f IT22886354– Nirasha F

#### Epic- Vintage Expertise Management

Table 8-6-Requirement Modeling – Vintage Expert Management

Feature	User Story Id	User Story	Tasks
Vintage expert's account creation management	611	“As an unregistered vintage expert, I want to register to this system so that I can access it as a vintage expert.”	<p><b>Task 1:</b> Implement a registration page for the unregistered vintage experts.</p> <p><b>Task 2:</b> Validate user input data when they give necessary data as an unregistered vintage expert.</p> <p><b>Task 3:</b> Store user registration information in the database.</p>
	612	“As a registered vintage expert, I want to log into the system, so that I can establish my presence within the Vintage Expertise platform.”	<p><b>Task 1:</b> Implement the login page for the registered vintage experts.</p>
Vintage experts' user profile management	621	“As a vintage expert, I want to create and customize my profile, so that I manage user profile.”	<p><b>Task 1:</b> Develop a profile creation form by allowing uploading the profile picture.</p> <p><b>Task 2:</b> Implement a bio section including</p>

			input fields for areas of expertise, and experience.
	622	"As a vintage expert, I want to update the profile information, so that I can manage the respective user profile."	<b>Task 1:</b> Implement Update functionality to update the vintage expert's details.
	623	"As a vintage expert, I want to delete the profile so that I can terminate the user account if necessary."	<b>Task 1:</b> Implement the Delete functionality to delete the vintage expert details.
Search and filter functionality	631	"As a bidder, I want to search for vintage experts based on expertise categories.	<b>Task 1:</b> Implement search functionality with integrating filtering options for expertise categories.
Blogging Platform integration	641	"As a vintage expert, I want to create and publish articles and resources on the blogging platform, So that I can display blog articles.	<b>Task 1:</b> Develop a blogging platform including implementation of article creation functionality.  <b>Task 2:</b> Enable publishing of blog articles.

	642	"As a vintage expert, I want to edit the blog articles, so that I can edit blog articles at any time."	<b>Task 1:</b> Implement Update functionality to update the blog articles.
	643	"As a vintage expert, I want to delete the blog article so that I can remove my articles at any time."	<b>Task 1:</b> Implement the Delete functionality to delete blog articles.
	644	"As a bidder, I want to view vintage expert blogs, so that I can refer them, and it helps them to choose a vintage expert to get guidance."	<b>Task 1:</b> Integrate the blog viewing functionality for bidders to refer to those blogs.
Consultation booking	651	"As a bidder, I want to make bookings for consultations with vintage experts, so that I can communicate with vintage experts through email."	<b>Task 1:</b> Implement a "make an appointment" button, providing the facility to communicate between expert and bidder.
Invoice generation	661	"As a vintage expert, I want to send an invoice for bookings so that I can inform to bidder of all details of the booking."	<b>Task 1:</b> Generate an invoice with the scheduled time, name, and email and send it to the bidder's email.

### 8.3.g IT22005144 – Tharuka R.M.S

#### Epic- Repair specialist Management

Table 8-7-Requirement Modeling – Repair Specialist Management

Feature	User Story Id	User Story	Tasks
Repair specialist's account creation management	711	“As an unregistered repair specialist, I want to register to this system so that I can access it as a repair specialist.”	<p><b>Task 1:</b> Implement a registration page for the unregistered repair specialist.</p> <p><b>Task 2:</b> Validate user input data when they give necessary data as an unregistered repair specialist.</p> <p><b>Task 3:</b> Store user registration information in the database.</p>
	712	“As a registered repair specialist, I want to log into the system, so that I can establish my presence within the repair specialist platform	<p><b>Task 1:</b> Implement the login page for the registered repair specialist.</p>
Repair Specialist's user profile management	721	“As a repair specialist, I want to create and customize my profile, so that I can	<p><b>Task 1:</b> Develop a profile creation form by</p>

		manage user profile."	allowing uploading the profile picture.  <b>Task 2:</b>  Implement a bio section including input fields for their specialization, and experience.
	722	"As a repair specialist I want to update the profile information, so that I can manage the respective user profile."	<b>Task 1:</b> Implement Update functionality to update the repair specialist's details.
	723	"As a repair specialist, I want to delete the profile so that I can terminate the user account if necessary."	<b>Task 1:</b> Implement the Delete functionality to delete the repair specialist details.
Search and filter functionality	731	"As a bidder, I want to search for repair specialist based on specialization.	<b>Task 1:</b>  Implement search functionality with integrating filtering options for vintage specialization.
Listing platform integration	741	"As a repair specialist, I want to create and publish special list on the listing platform,  So that I can display my specialization	<b>Task 1:</b>  Develop a listing platform including implementation of article creation functionality.  <b>Task 2:</b>

		and experiences in the list.	Enable publishing of list.
	742	"As a repair specialist, I want to edit the list, so that I can edit list at any time."	<b>Task 1:</b> Implement Update functionality to update the list.
	743	"As a repair specialist, I want to delete the list so that I can remove list at any time."	<b>Task 1:</b> Implement the Delete functionality to delete the list.
	744	"As a bidder, I want to view repair specialist list, so that I can refer them, and it helps them to choose a repair specialist to get guidance."	<b>Task 1:</b> Integrate the list viewing functionality for bidders to refer to those lists.
Consultation Booking	751	"As a bidder, I want to make bookings for consultations with repair specialist, so that I can communicate with repair specialist through email.	<b>Task 1:</b> Implement a "make an appointment" button. providing the facility to communicate between repair specialist and bidder.
Invoice generation	761	"As a repair specialist, I want to send an invoice for bookings so that I can inform to bidder	<b>Task 1:</b> Generate an invoice with the scheduled time, name, and

		of all details of the booking.”	email and send it to the bidder’s email.
--	--	---------------------------------	--

**8.3.h IT20633004 – L.R.S.L.Nissanka**

**Epic- Transaction & Delivery Management**

*Table 8-8-Requirement Modeling – Delivery Tracking Management*

Feature	User Story Id	User Story	Tasks
inform the items details	811	“As a Delivery and payment manager . i want to to see last 3 wins bidder details. and iform the winnig details.”	<b>Task 1:</b> Implement the section to display wnis bidder details.  <b>Task 1:</b> Implement the button to each last 3 bidder inform items .
winning notification	812	“As a Delivery and payment manager I want to if some bidder wins the items bidder side display payment notification.”	<b>Task 1:</b> Implement the pop up windows to display wnis items, bidder details and do the payment.
		“As a Delivery and payment manager I want after click the payment button	<b>Task 1:</b> Implement the section display the bidder ,items

Payment	813	display the already add bidder details and do the payment.”	details and do the payment. <b>Task 2:</b> Implement the section if payment successful generate a report.
successful payment notification	814	“As a Delivery and payment manager .I want after success full payment detail can view the auctioneer and strat delivery process and Manage that details.”	<b>Task 1:</b> Implement the section Store the success full payment details. <b>Task 2:</b> Implement the buttons to manage details.
Delivery process	815	“As a Delivery and payment manager. I want create payment button status change button in the auction site. Such as processing or delivered. bidder can view the that button.”	<b>Task 1:</b> Implement the section to change payment button status



## 9 Chapter 3 – Design & Development

### 9.1 System Overview Diagram

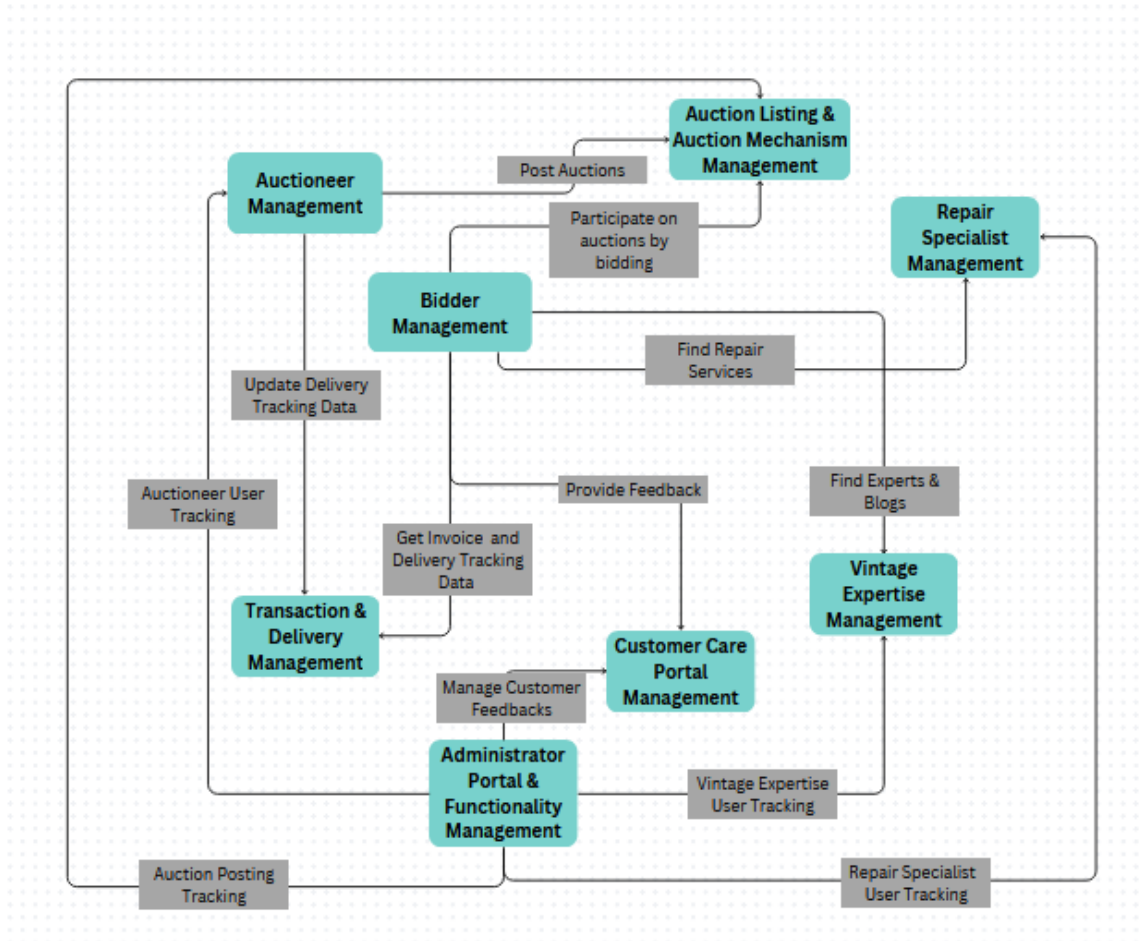


Figure 9-1-System Overview Diagram

9.2 Primary Stakeholder's Access to the System

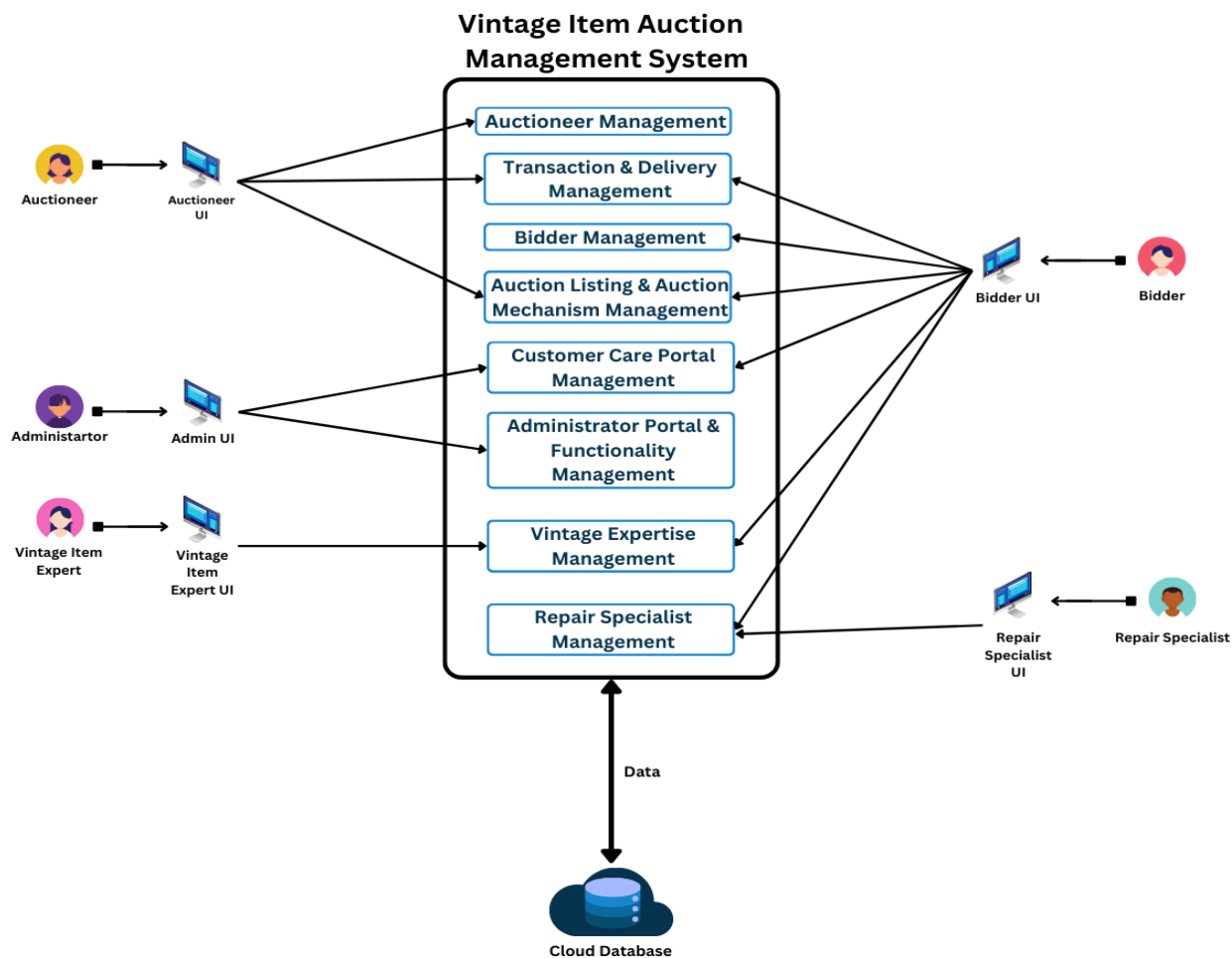


Figure 9-2-Primary stakeholder analysis.

### 9.3 Entity Relationship Diagram

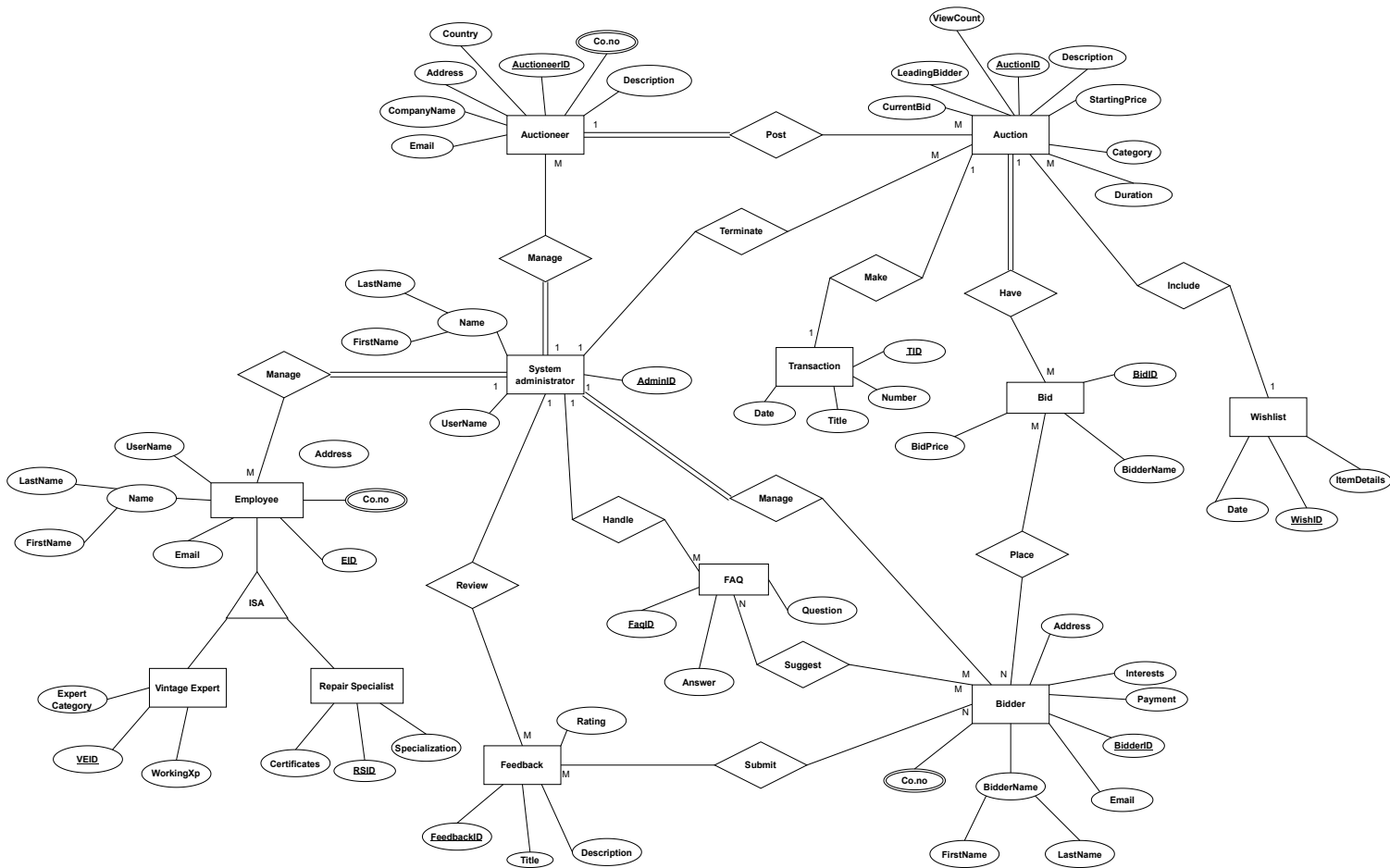


Figure 9-3-ER Diagram

### 9.4 Network Diagram

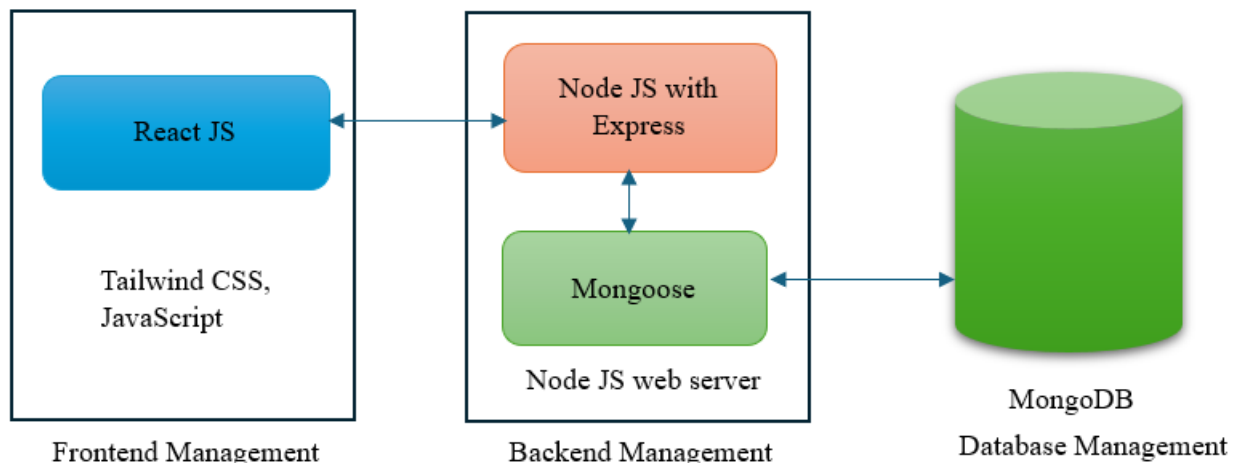


Figure 9-4-Network Design Chart

## 9.5 Use Case Diagrams

### 9.5.a Auctioneer Use case Diagram

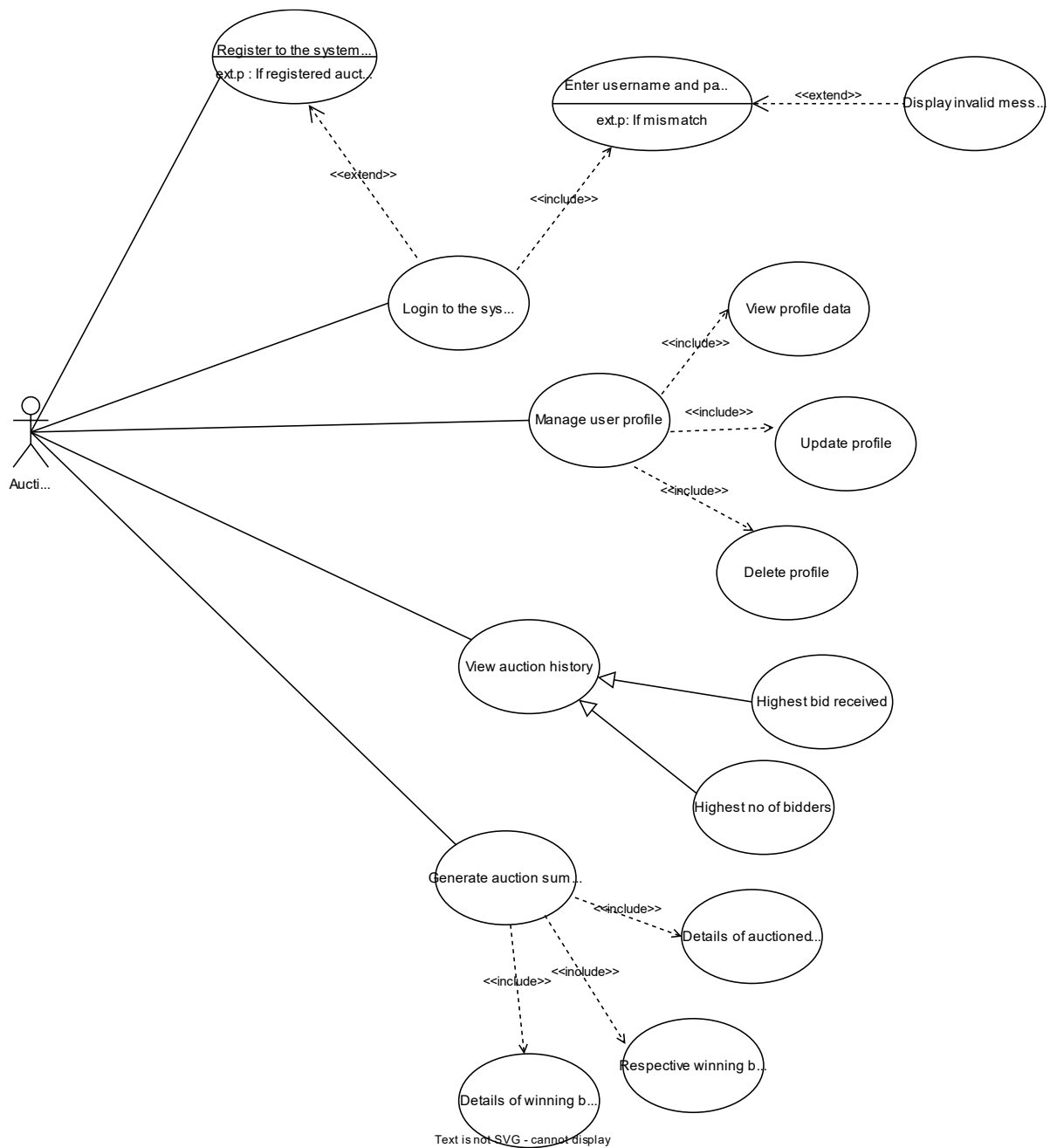


Figure 9-5-Use Case Diagram – Auctioneer Management

### 9.5.b Bidder Use case Diagram



Figure 9-6-Use Case Diagram – Bidder Management

### 9.5.c Vintage Expertise Management

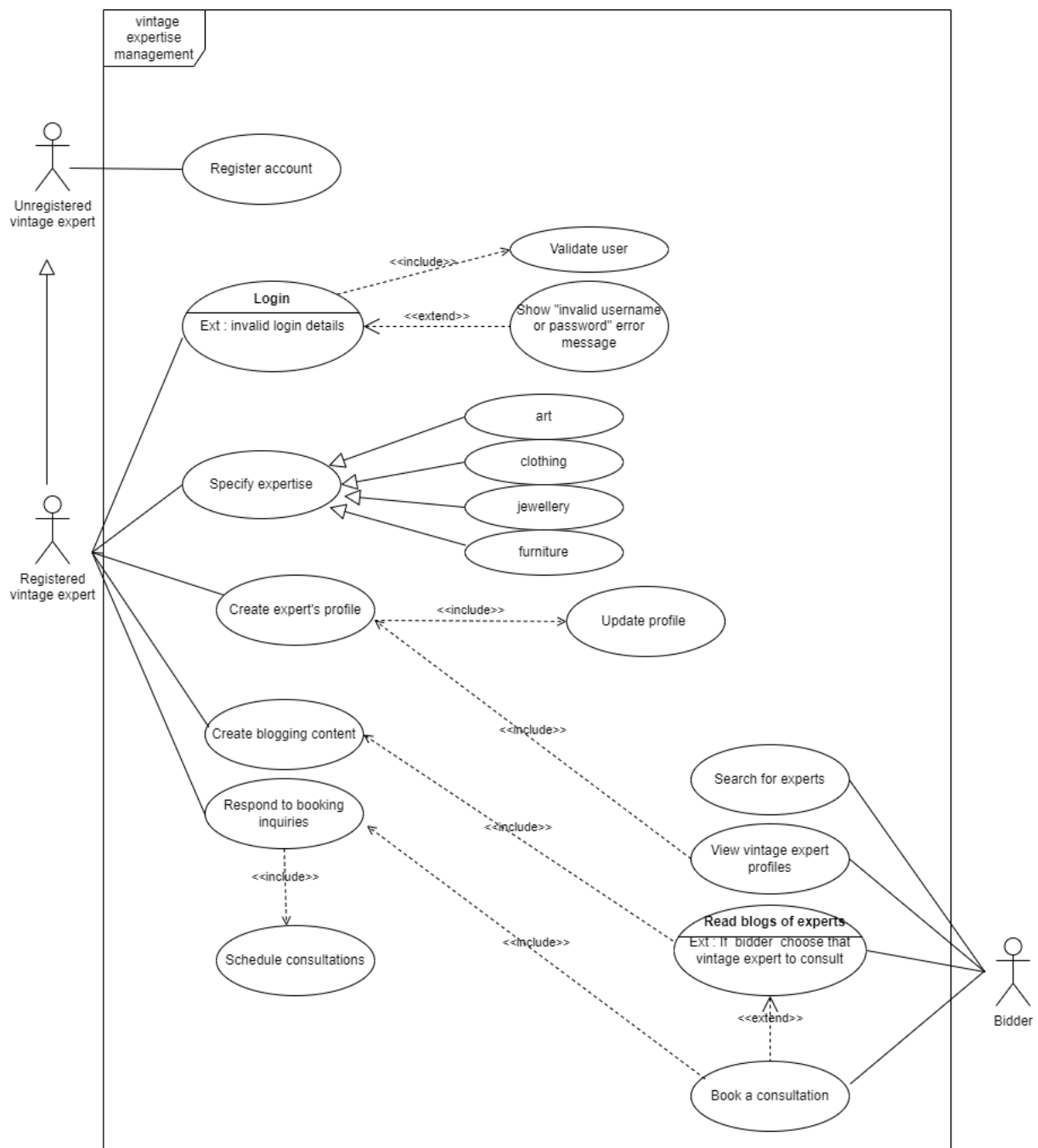


Figure 9-7-Use Case Diagram – Vintage expert management.

### 9.5.d Repair Specialist Use case Diagram

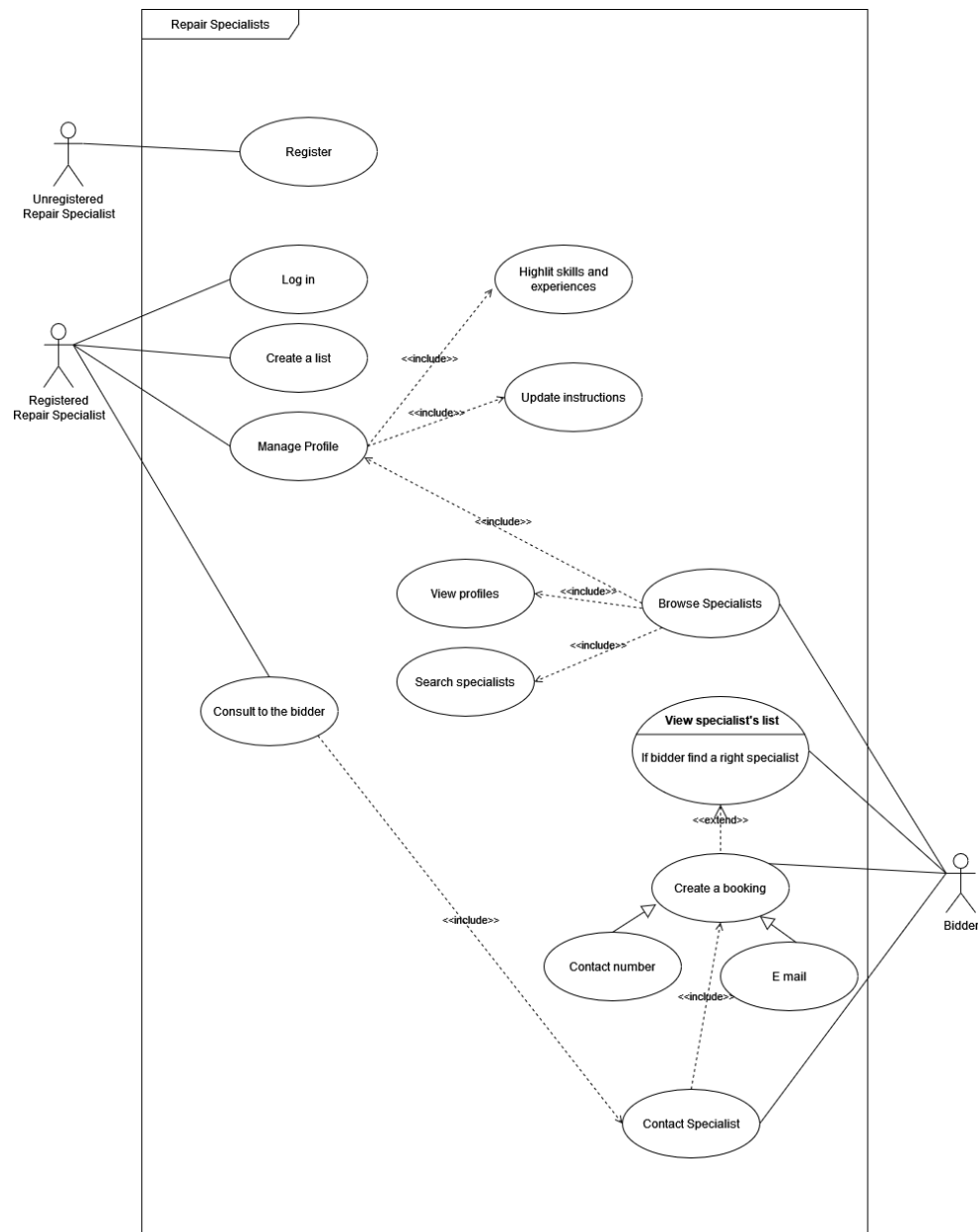


Figure 9-8-Use Case Diagram \_Repair Specialist Management

### 9.5.e Listing and Auction Management Use case Diagram

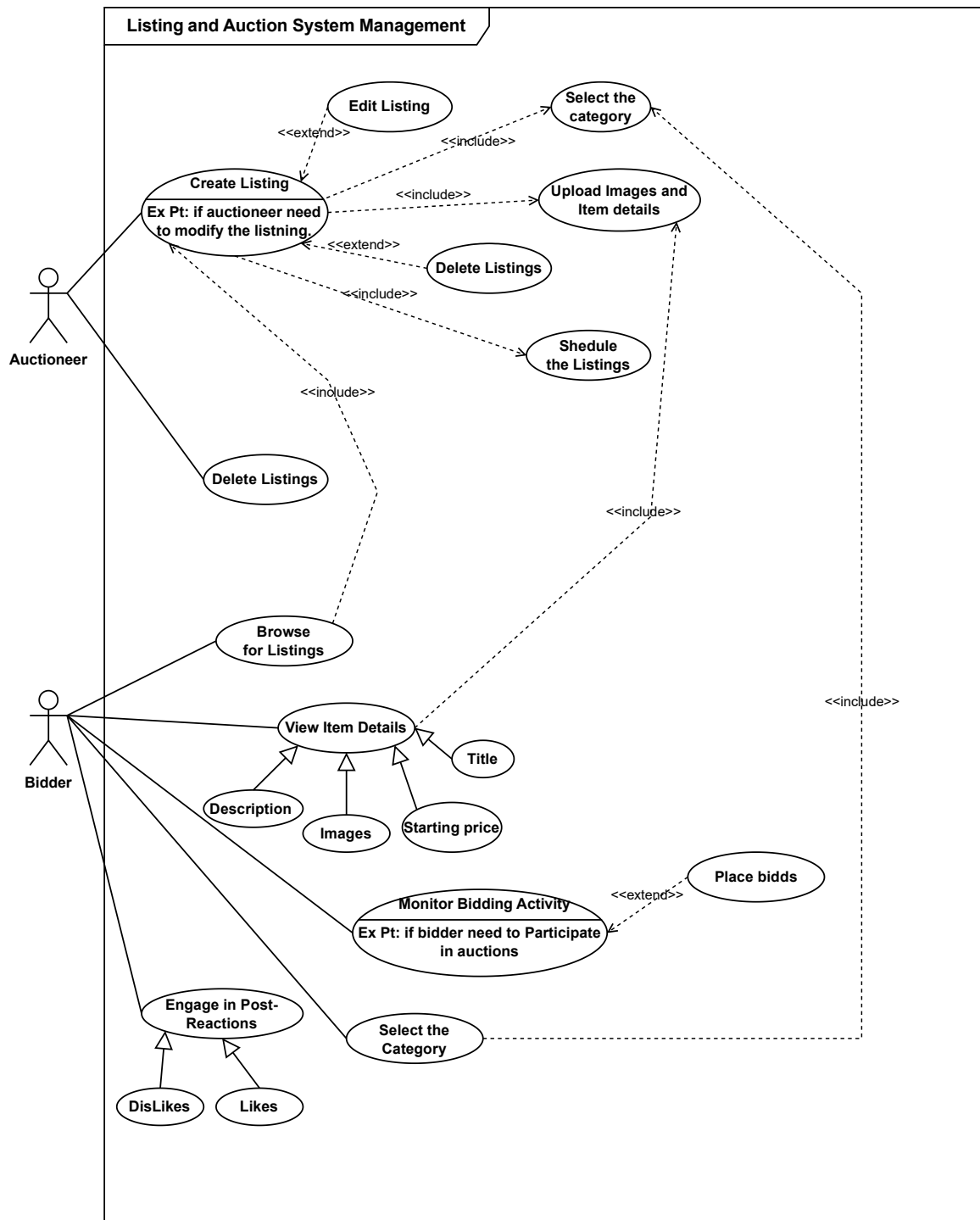


Figure 9-9-Use Case Diagram – Auction Listing Management



### 9.5.f Admin Portal Use case Diagram

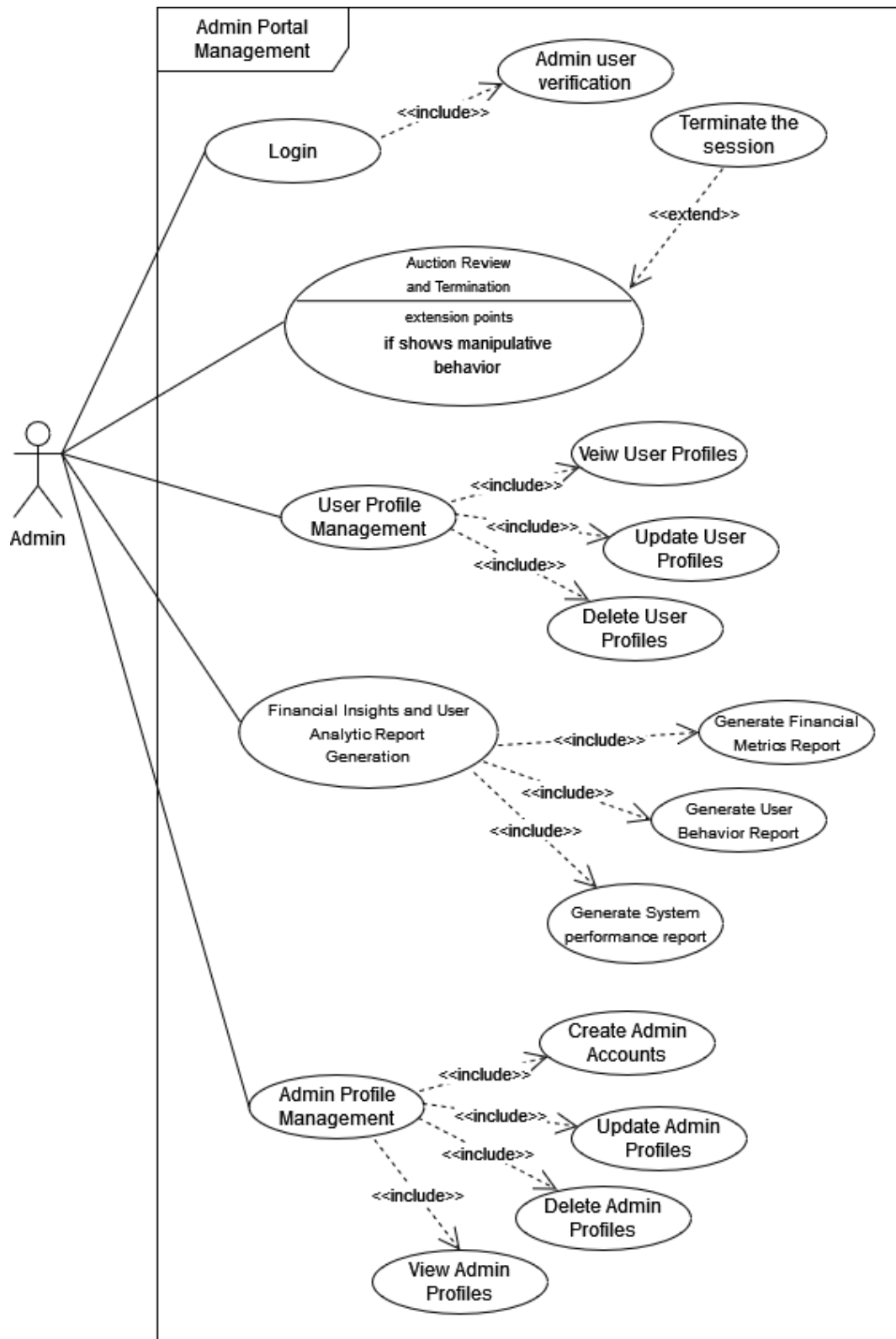
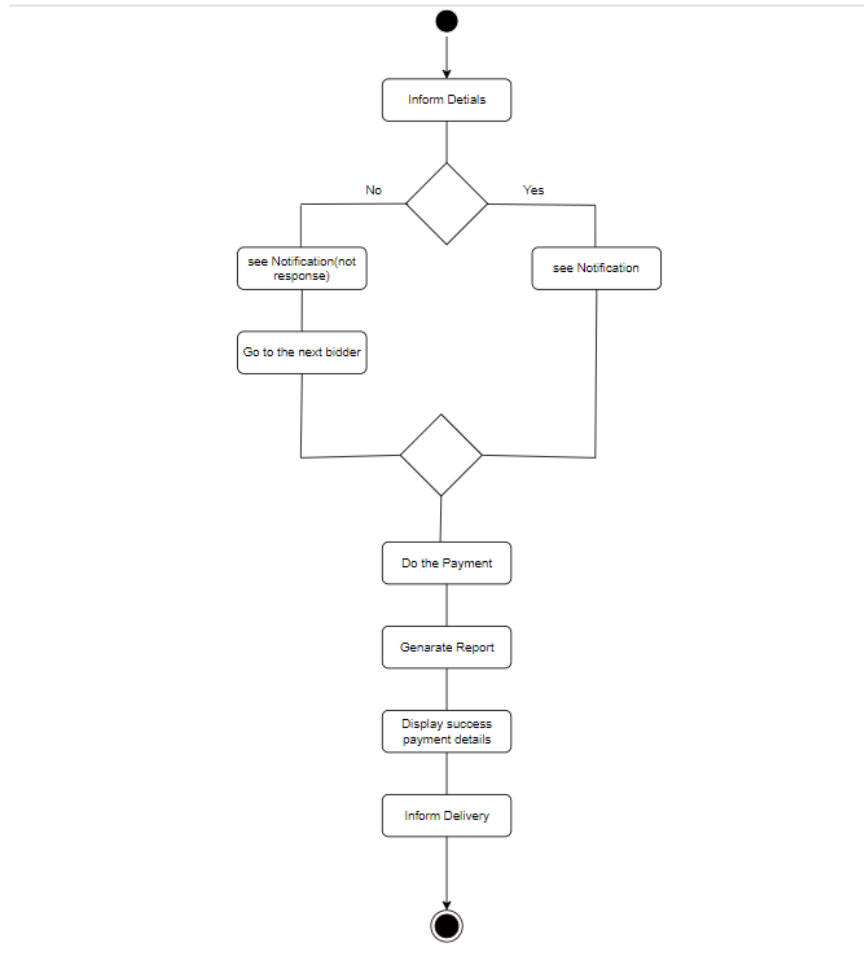


Figure 9-10-Use Case Diagram – Admin Portal Management

## 9.6 Activity Diagrams

### Transaction and Delivery Management



*Figure 9-11-Activity Diagram – Delivery Tracking Management*

## Auction Listing & Auction Mechanism Management

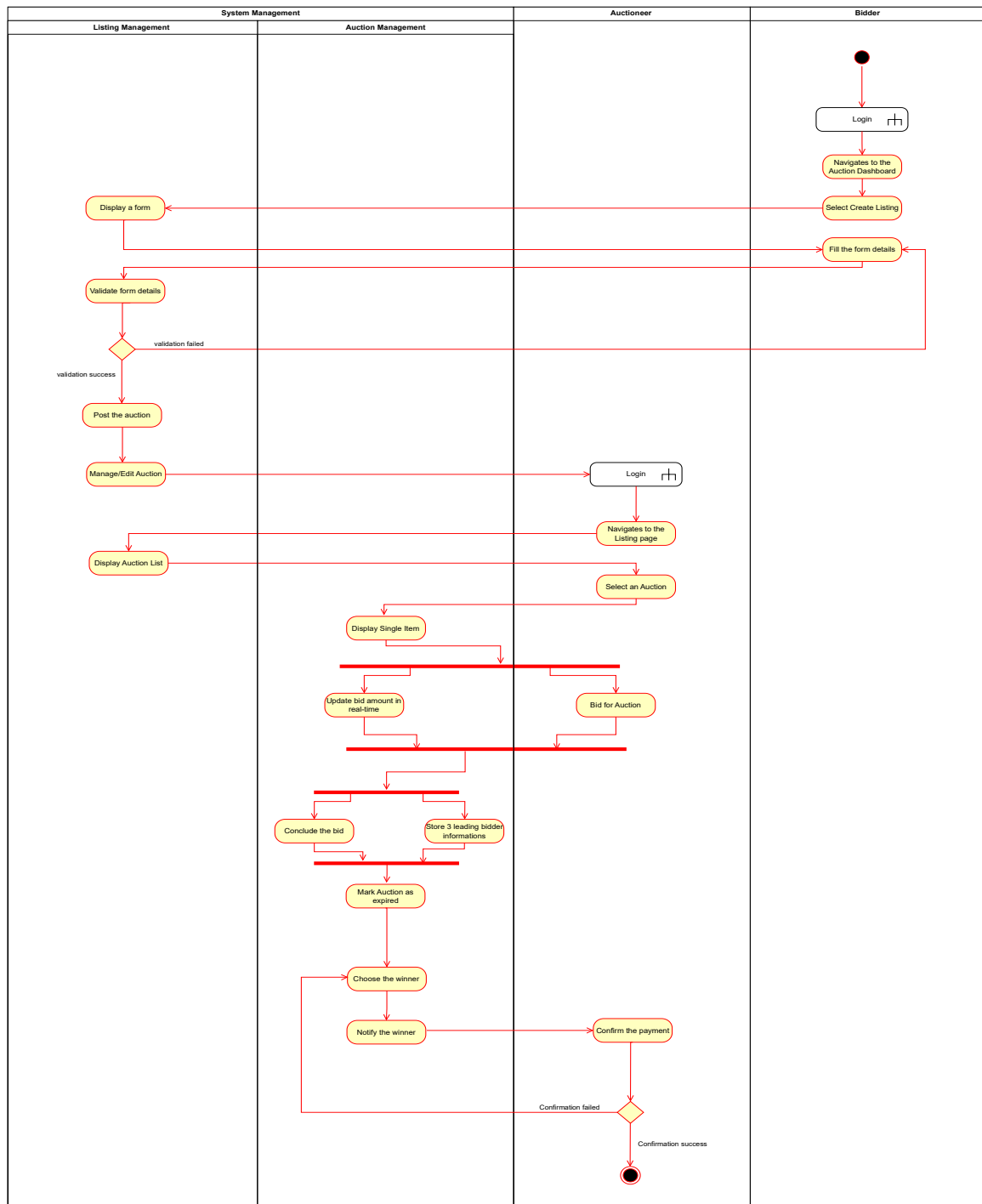


Figure 9-12-Activity Diagram -Auction Listing Management

## Bidder Management

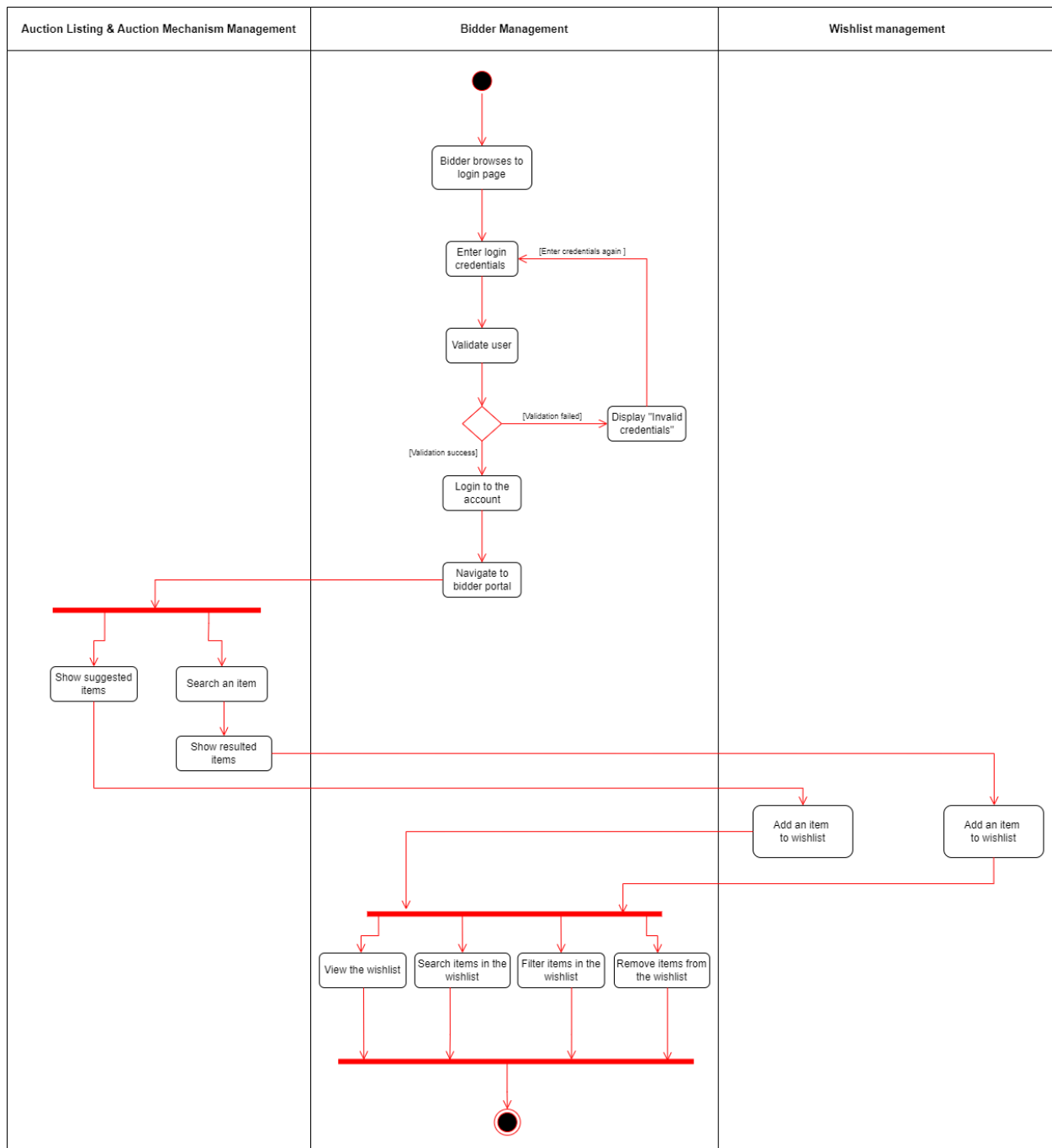


Figure 9-13-Activity Diagram – Bidder Management

## Auctioneer Management

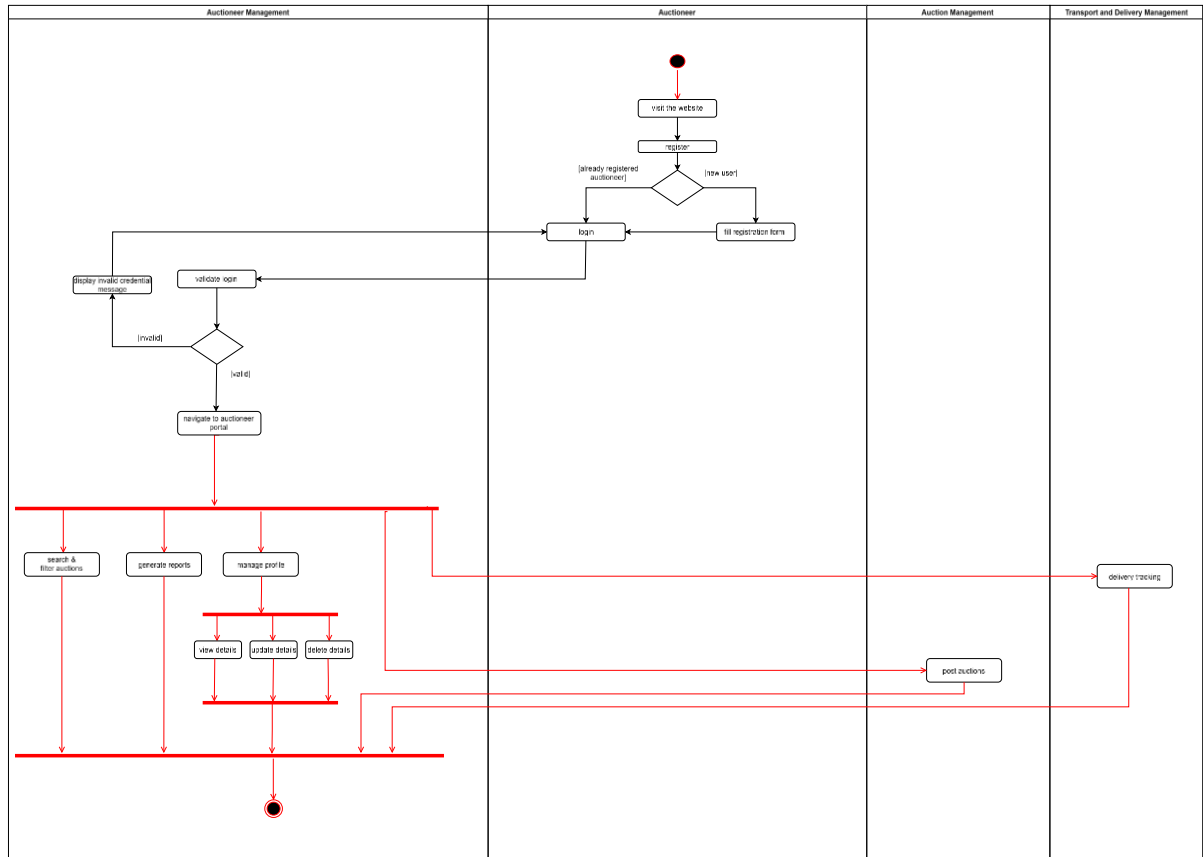


Figure 9-14-Activity Diagram – Auctioneer Management

## Repair Specialist Management

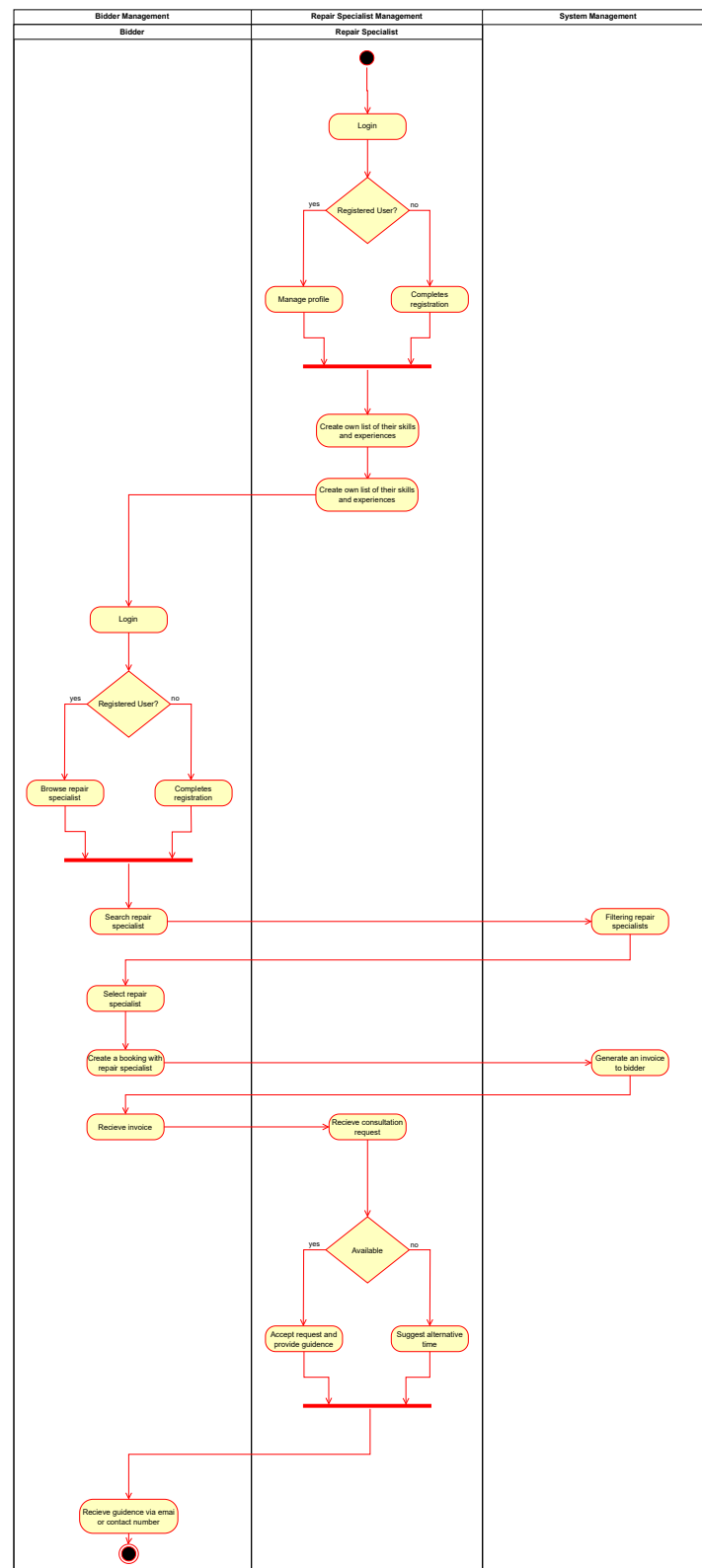


Figure 9-15-Activity Diagram – Repair Speaclist Management

## Vintage Expert Management

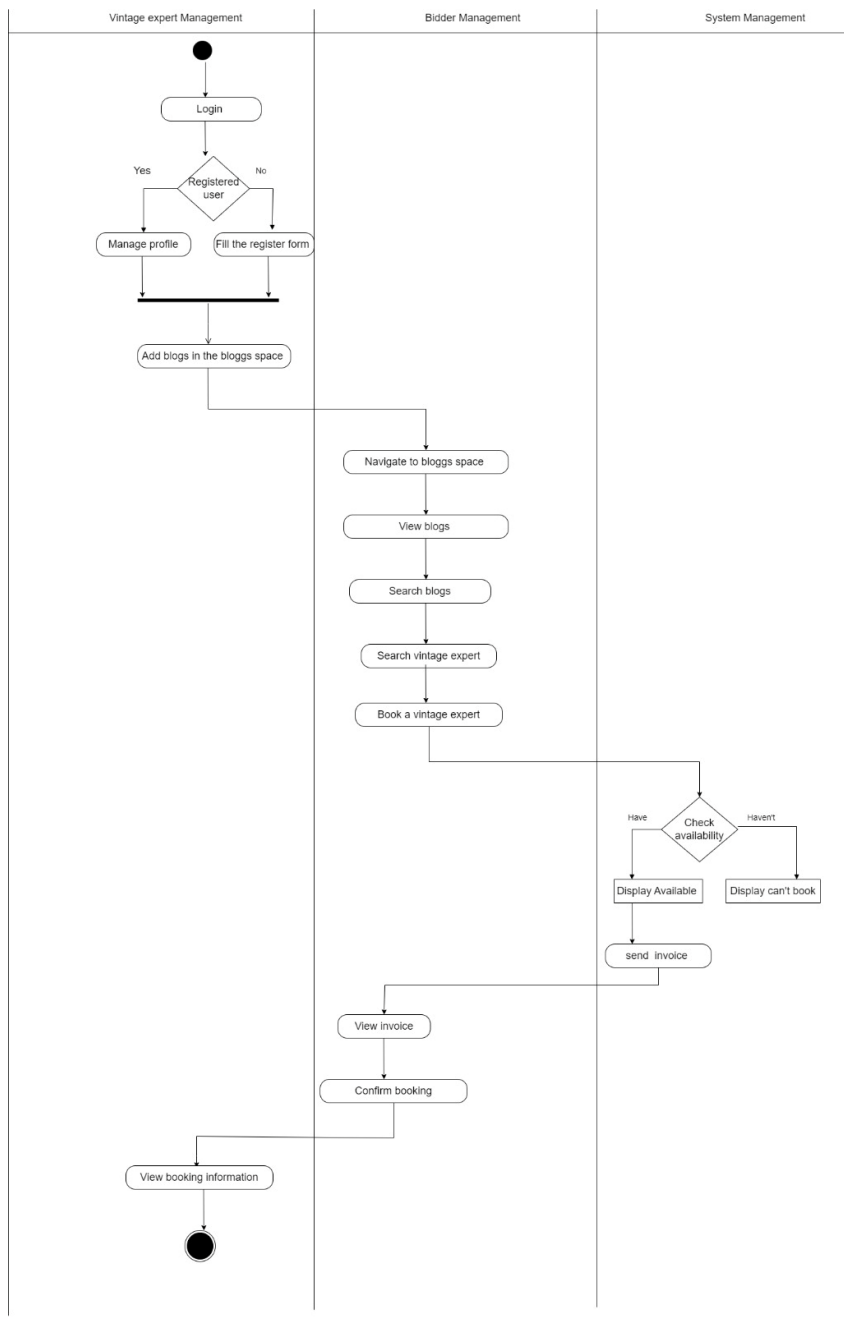


Figure 9-16-Activity Diagram – Vintage Expert Management

## Customer Care Portal Management

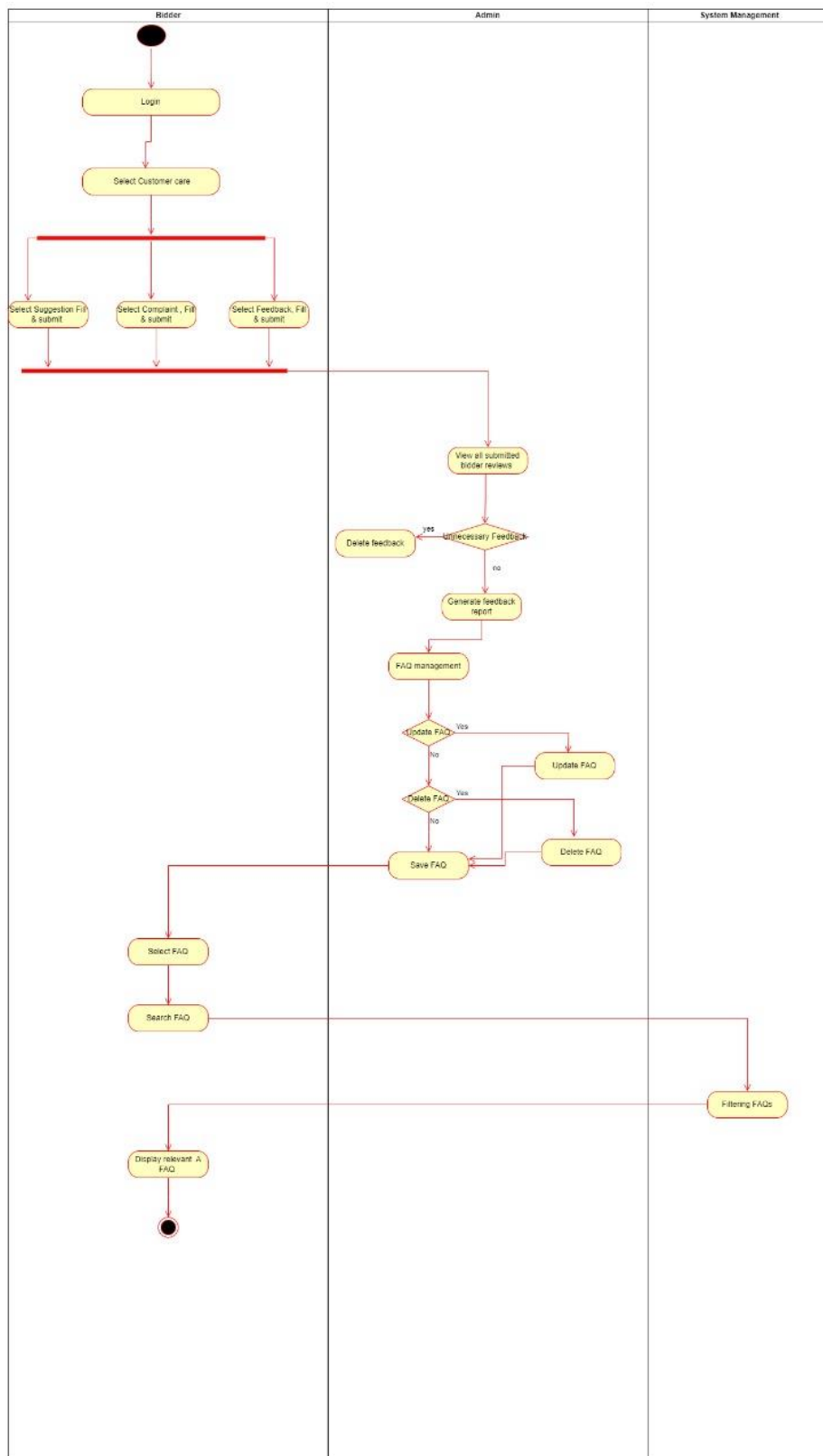


Figure 9-17-Activity Diagram – Customer Care Management



## 9.7 Sequence Diagrams

### Administrator Portal & Functionality Management

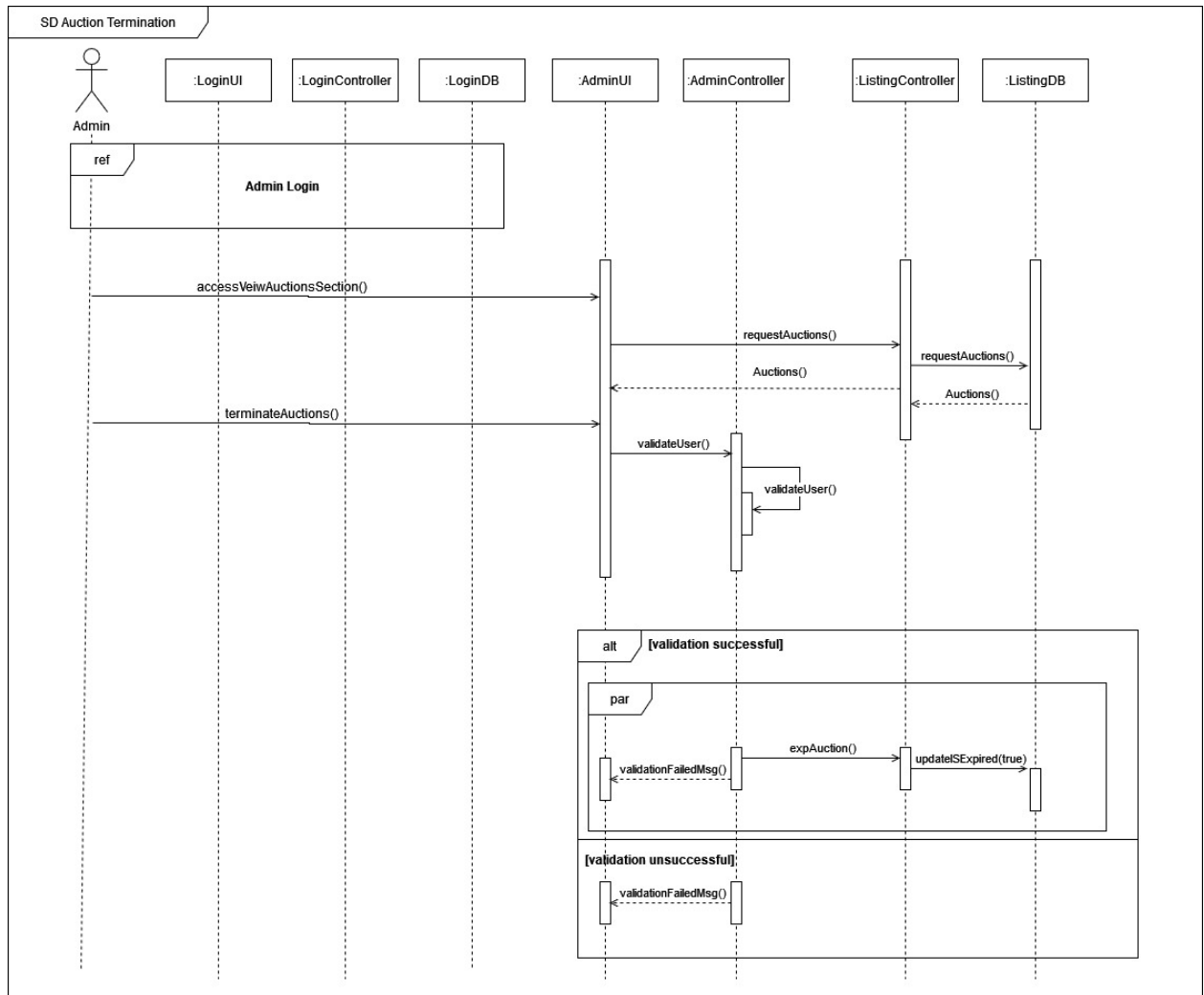


Figure 9-18-Sequence Diagram -Admin Portal Management

## Auction Listing & Auction Mechanism Management

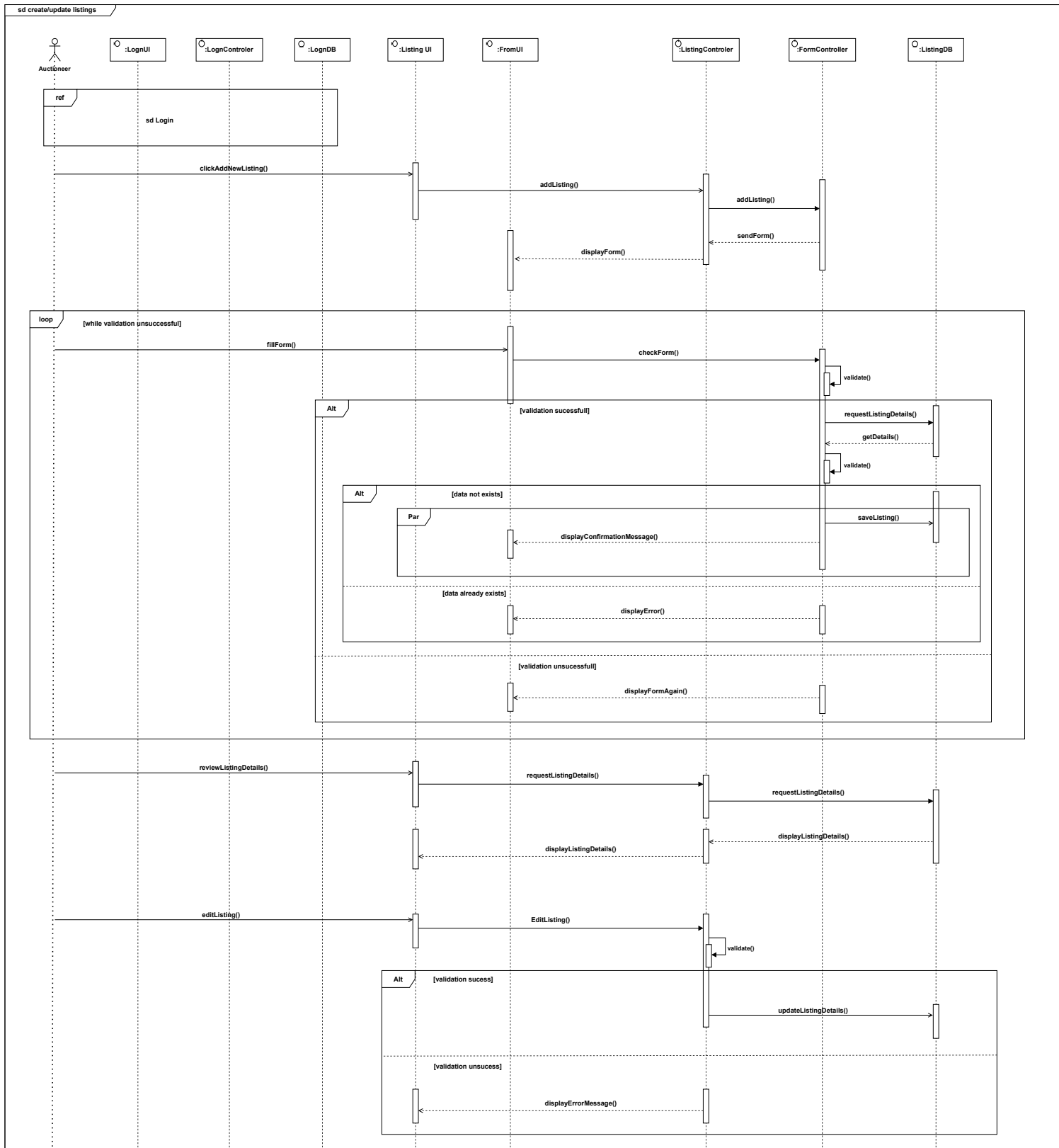


Figure 9-19-Sequence Diagram – Auction Listing Managements

## Transaction and Delivery Management

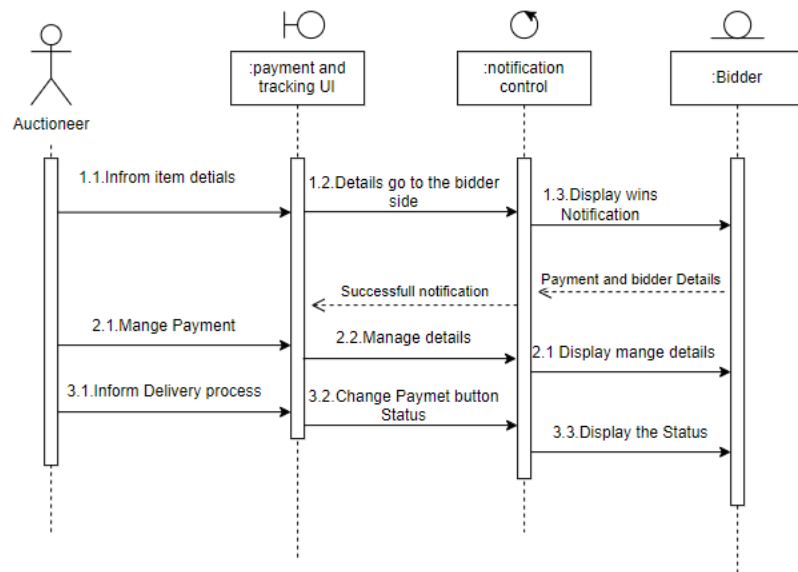


Figure 9-20-Sequence Diagram – Transaction And Delivery Management

## Customer Care Portal Management

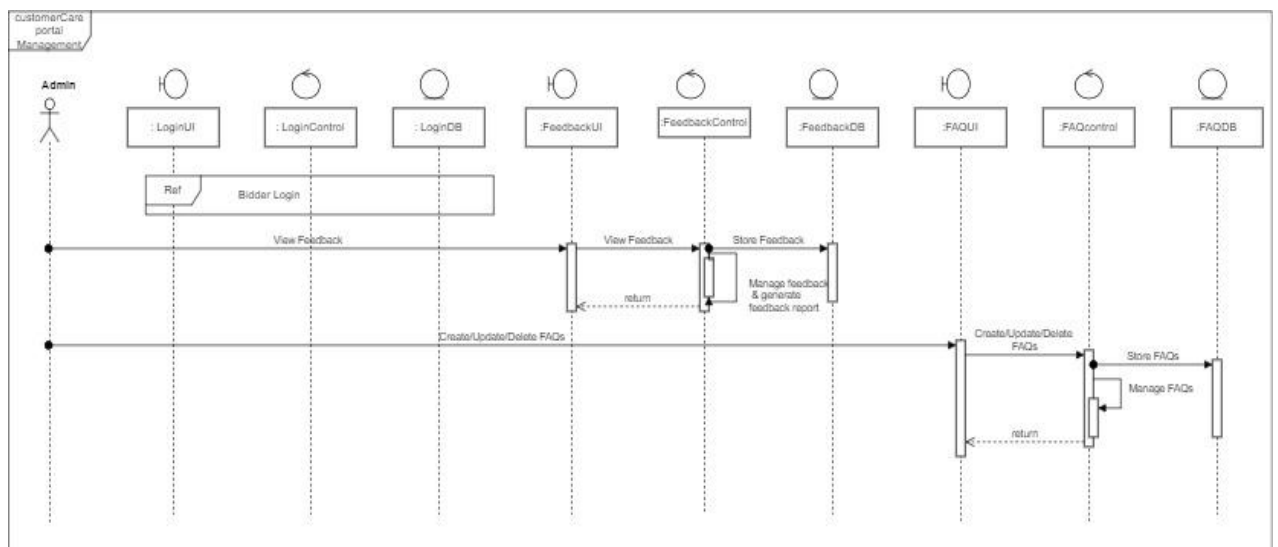
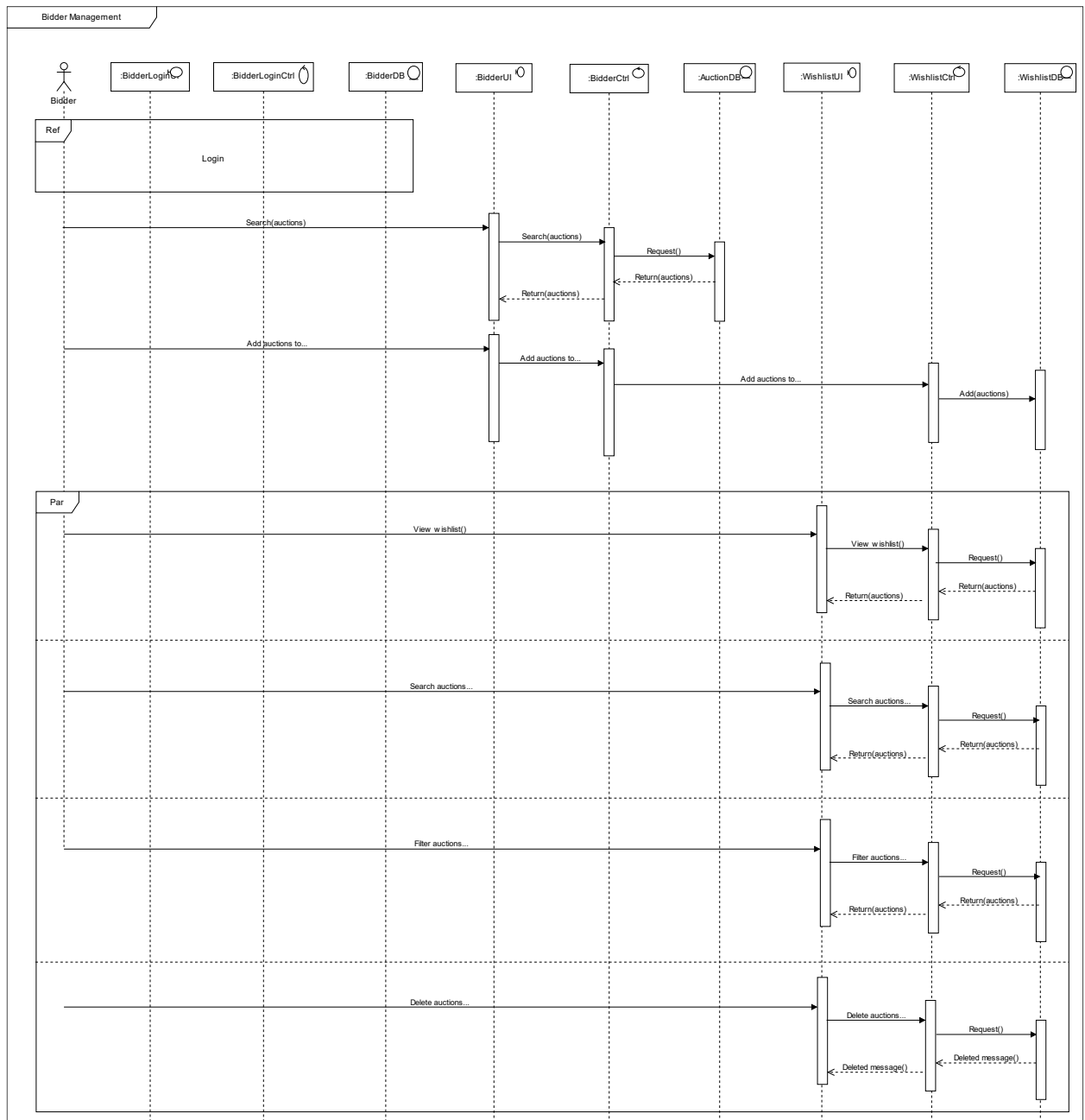


Figure 9-21-Sequence Diagram - Customer Care Management

## Bidder Management



Text is not SVG - cannot display

Figure 9-22-Sequence Diagram – Bidder Management

## Auctioneer Management

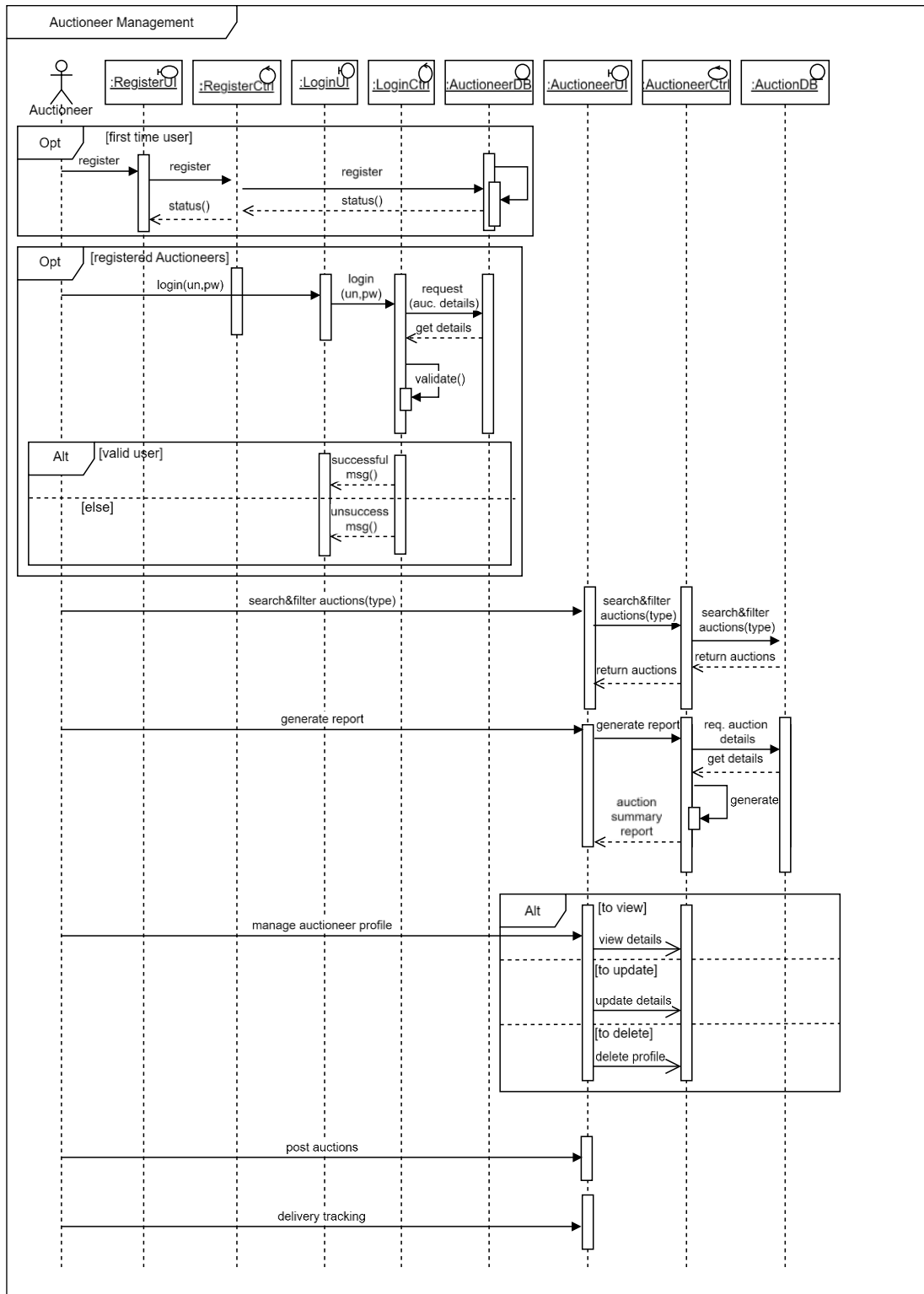


Figure 9-23-Sequence Diagram – Auctioneer Management

## Repair Specialist Management

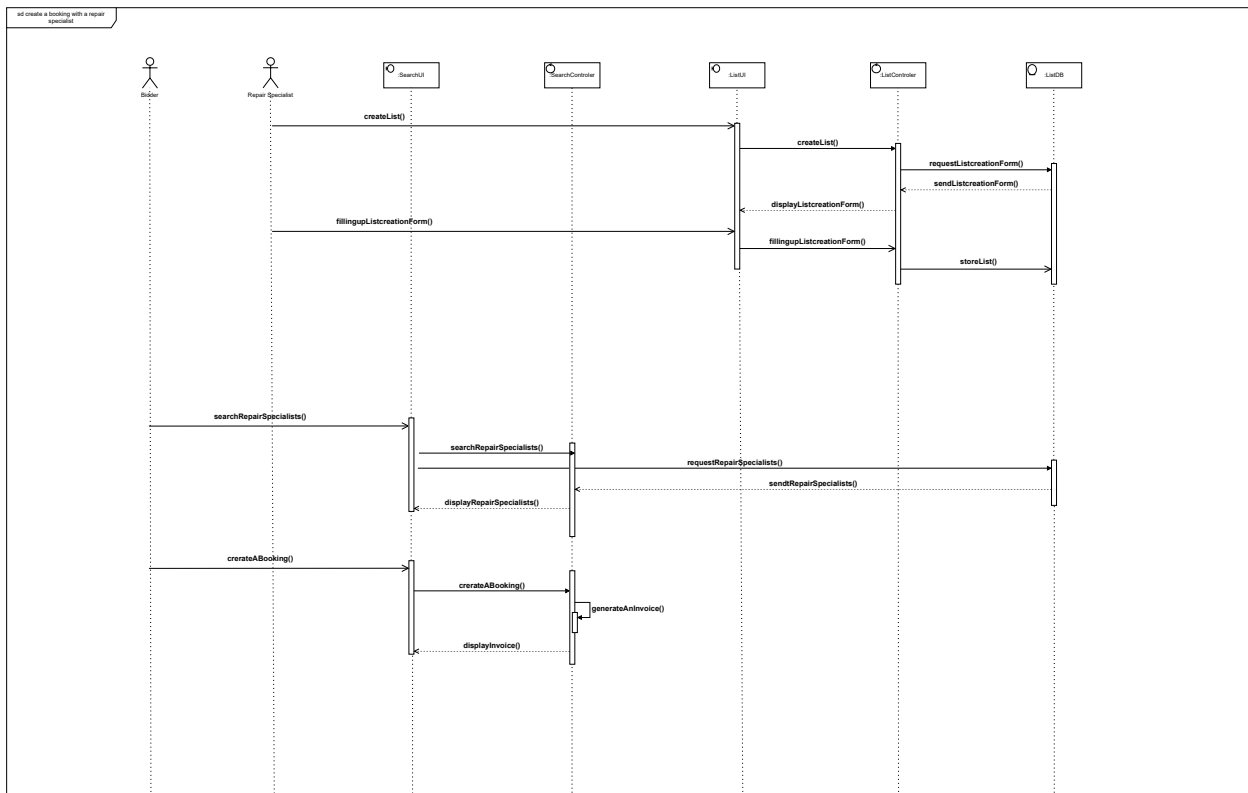


Figure 9-24-Sequence Diagram – Repair Specialist Management

## Vintage Expertise Management

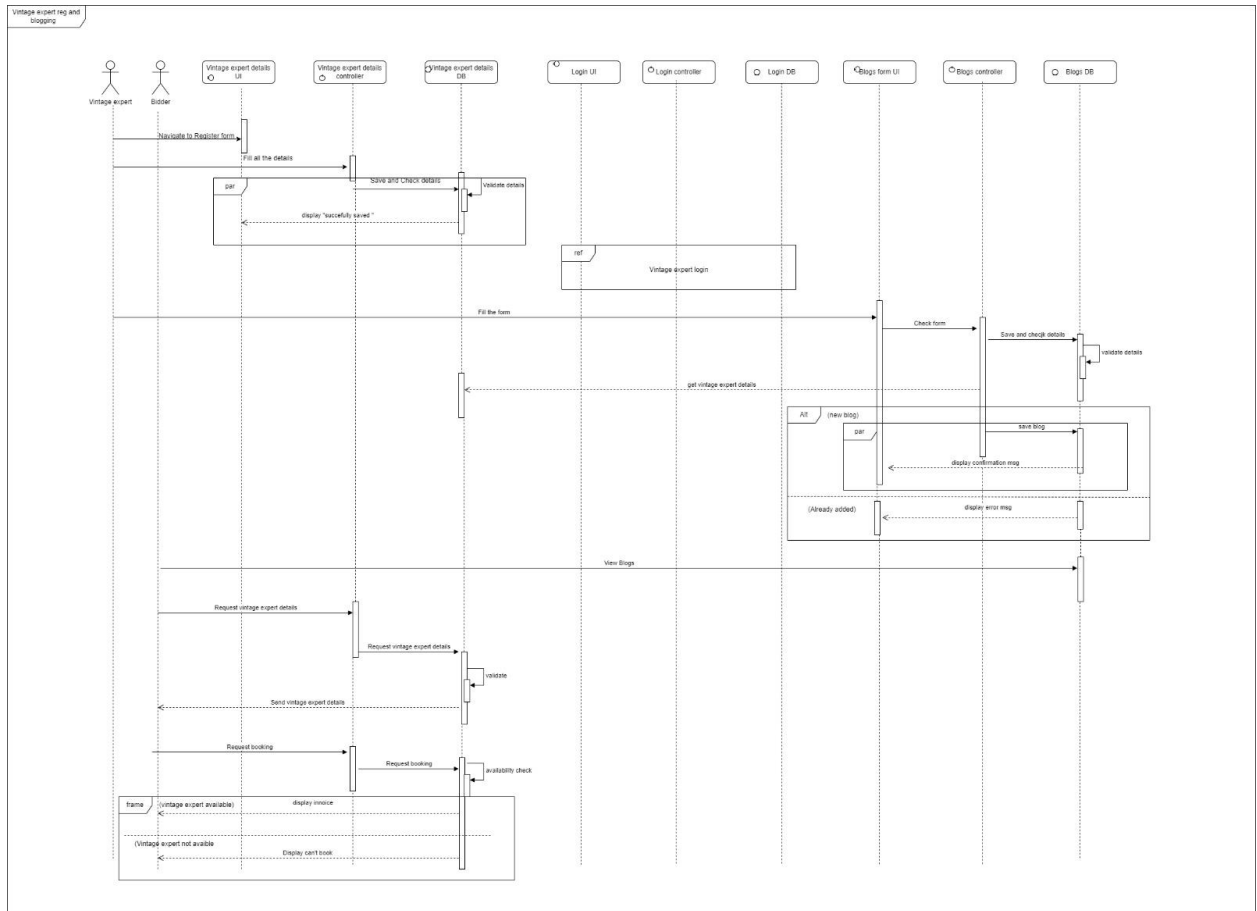


Figure 9-25-Sequence Diagram – Vintage Expert Management

## 10 Chapter 4 – Testing

Table 10-1-Test Cases & Results

Test ID	Test Input	Expected Output	Result	Description
T001	Administrator accesses user profile for review	Administrators can view and verify user information accurately.	Pass	Verifying that the administrators can view and verify user details
T002	Administrator accesses auctions for review	Administrators can view and verify auctions accurately.	Pass	Verifying that the administrators can view and verify auctions
T003	Administrator can update their profile without providing password	Should display an error Message.	Fail	Form Validation error
T004	Bidder views the bidding history	Bidder can view the bidding history accurately.	Pass	Verifying that the bidders can view the bidding history with respective auction item details.
T005	Bidder filters bidding history category wisely	Bidder can filter the bidding history accurately.	Pass	Verifying that the bidders can filter the bidding history with respective auction item details.
T006	Bidder saves auction items to the Wishlist	Bidder can save auction items and view the items in the Wishlist.	Pass	Verifying that the bidders can save auction items and view the items in the Wishlist.
T007	Repair specialist accesses user profile for review	Repair specialist can view and verify user information accurately	Pass	Verifying that the repair specialist can view and verify user details accurately before proceeding with any repairs or services.



T008	Repair specialist submits a repair specialist form with valid information	Repair request is successfully submitted and saved in the system	Pass	Verifying that the repair specialist can submit repair requests with valid information, and the system properly saves the request for further processing.
T009	User searches for repair specialists by name "John"	List of repair specialists with names containing "John" is displayed	Pass	Verifying that the search function correctly filters and displays repair specialists whose names match the search query "John".
T010	Auctioneer can access user profile for review	Auctioneer can view, update, delete the user information	Pass	Verifying that the auctioneer can view, update, delete the user information and verify user details accurately.
T011	Auctioneer can view the posted auction history	Auctioneer can view the posted auction history accurately.	Pass	Verifying that the auctioneers can view the posted auctions with details.
T012	Auctioneer filters posted auctions as ongoing and expired auctions.	Auctioneer can filter the posted auctions accurately.	Pass	Verifying that the Auctioneer can filter their posted auctions as ongoing and expired auctions.
T013	Vintage expert accesses user profile for review.	Vintage experts can view and verify user information accurately .	Pass	Verifying that the vintage expert can view and verify user details accurately before providing guidance and appointments.
T014	A vintage expert can update their profile without providing the password.	Should display an error Message.	Fail	Form Validation error.
T015	Vintage expert submits a vintage expert registration form with valid information	Vintage expert is successfully submitted and saved in the system.	Pass	Verifying that the vintage expert can refer the appointments with valid information. and that the system properly saves the request for further processing.
T016	Vintage expert creates a new blog post on his	The blog post is successfully published	Pass	The blog post is successfully published and visible to respective vintage experts.

	respective blog section.	and visible in his remaining blog list.		
T017	Vintage expert edits a blog post to correct a typo.	The edited blog post reflects the correction and is updated.	Pass	The expert successfully corrected a typo in the blog post, and the updated version displays the correction, confirming the functionality works as expected.
T018	Auctioneer post a new auction by entering the valid data in the input fields	The auction is successfully listed in the auction page with all the details.	Pass	Ensuring that the bidders can view and listed auctions in the listing page
T019	Bidder bid for a specific item by entering the valid bid amount.	Bid amount and the bidder's name will be update in the single auction page in real time.	Pass	This test case verifies the real-time bidding functionality on a single auction page
T020	Bidder submit the feedback form without valid information	Should display an error Message.	Fail	Form Validation error
T21	Auctioneer inform the items auction details to wins bidder.	The inform is successfully publish wins bidder side.	Pass	The auctioneer get the wins bidder details and inform that details to wins bidder.
T21	Bidder see the wins Notification and do the payment.	The bidder fill the payment form and do the payment.	Pass	The bidder fill the payment form and do the payment and that details display auctioneer side.

## **11 Chapter 5 – Evaluation & Conclusion**

### **11.1 Evaluation**

The evaluation criteria outlined cover key aspects like feasibility, requirements completeness, appropriate technical specifications, functionality, usability, security, cross-platform compatibility, and user acceptance testing. These measures seem comprehensive for assessing the system's effectiveness and quality.

1. **Functionality Testing:** System and integration testing were conducted to verify that all user stories and requirements were correctly implemented. The test cases like T004, T005, T006 for bidder management and T011, T012 for auctioneer management indicate that core functionalities were successfully tested.
2. **Usability Testing:** The user interface and user experience were evaluated through techniques like heuristic analysis and user testing. Potential issues related to complexity, consistency, and navigation were examined. However, specific details of the usability test findings are not provided.
3. **Security Testing:** Comprehensive security testing was performed, focusing on aspects like secure logins and routing. Test cases like T003 and T014 validated form validations related to passwords.
4. **Browser & Device Testing:** Cross-browser compatibility across modern browsers and responsiveness on mobile and desktop devices were tested. Specific results are not mentioned.
5. **User Acceptance Testing:** Key user requirements were tested on a staging environment, and feedback from test users was iteratively incorporated until acceptance criteria were met. Details of the user feedback are not provided.
6. **Project Planning and Timelines:** A high-level project plan and timelines were defined, with milestones and deliverables outlined, facilitating effective planning and delivery within constraints.

### **11.2 Conclusion**

The evaluation criteria and testing approaches outlined in the document seem comprehensive and appropriate for assessing the quality, usability, security, and user acceptance of the proposed online vintage auction management system.

Based on the test cases provided, it appears that the core functionalities related to bidder management, auctioneer management, and secure authentication were successfully implemented and tested. The usability testing and cross-platform compatibility testing also seem to have been conducted, although specific findings are not detailed.

The emphasis on user acceptance testing and the iterative incorporation of user feedback is a positive aspect, as it helps ensure that the system meets the acceptance criteria and user expectations before final deployment.

The project planning and timelines, if well-executed, would have facilitated effective management of milestones and deliverables, increasing the chances of successful delivery within the given constraints.

Overall, the evaluation measures and testing approaches appear to be comprehensive and align with the aim of developing a user-friendly and efficient online platform for vintage item auctions. While specific details of the test results and user/expert feedback are not provided, the outlined evaluation criteria and the successful implementation of core functionalities suggest that the objectives have been largely met,

and the aim of fostering a seamless and vibrant community for vintage item auctions has been achieved to a significant extent.

## 12 References

- [1] M. K. Sharma, "A Study of SDLC to Develop Well-Engineered Software," *International Journal of Advanced Research in Computer Science*, vol. 8, no. 3, pp. 520-525, 2017.
- [2] H. a. M. S. Rohil, "Analysis of Agile and Traditional Approach for Software Development,," *International Journal of Latest Trends in Engineering and Technology*, vol. 1, no. 4, pp. 1-3, 2012.
- [3] O. J. N. & S. Dieste, "Understanding the Customer: What Do We Know about Requirements Elicitation?," *IEEE Software Magazine*, vol. 25, no. 10.1109/MS.2008.53, pp. 11-13, 2008.
- [4] Mojtaba Shahin ,Muhammad Ali Babar, Liming Zhu, "Continuous Integration, Delivery and Deployment: A Systematic Review on Approaches, Tools, Challenges and Practices," *IEEE Access*, pp. 3909 - 3943, 22 March 2017.
- [5] IEEE, "version control systems," *IEEE Software*, pp. 108-109, 06 september 2005.
- [6] U. o. Huston, "Software Testing".
- [7] M. Shahin, "Continuous Integration, Delivery and Deployment: A Systematic Review on Approaches, Tools, Challenges and Practices," 2017.
- [8] D.Spinellis, "Version control systems," p. 109, 2005.
- [9] E. Digital, "Mastering CI/CD: Best Strategies and Examples for Effective Implementation," 2023.

## 13 Appendix A - Contribution

Table 13-1-Contribution to the project

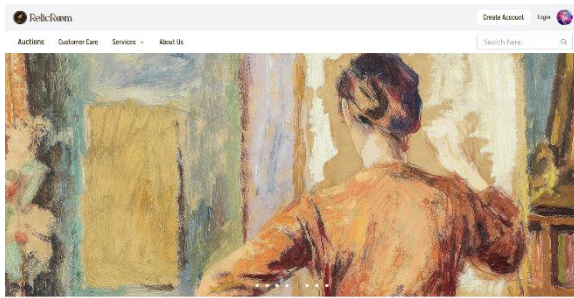
Student Id	Tasks
IT22305350 - Rajapakse P.H.Y. L	<ul style="list-style-type: none"> <li>• Listed single auction page with Bidding mechanism User interface development and bidding mechanism functionality development.</li> <li>• Creating database.</li> <li>• Listed single auction page, listed all auction items page and auction dashboard Back-End development.</li> <li>• Home page User Interface development.</li> <li>• Listed Auction items page Front-End development with search and sort functionality and incrementing the view count functionality.</li> <li>• Implementing the separate auction dashboard for auctioneers to manage their auctions by posting, updating, and deleting auctions.</li> <li>• Report generation for each single auction user interface and functionality development.</li> <li>• Creating the mobile responsiveness of each page of the listing and auction management function.</li> <li>• Methodology introduction</li> <li>• Requirement gathering and analysis in methodology.</li> <li>• Design in methodology.</li> <li>• Listing and auction management system function overview diagram.</li> </ul>

<b>IT22886354- Nirasha F</b>	<ul style="list-style-type: none"> <li>• Vintage expert's portal user interface development.</li> <li>• Vintage expert's back-end development.</li> <li>• Implementing the create, update, read, and delete Functions for the Vintage experts with search and invoice-generating functionality.</li> <li>• Creating database.</li> <li>• LiveAuctioneers.com website in literature review.</li> <li>• Vintage expertise management.</li> </ul>
<b>IT22306418- Madinu V.G.A</b>	<ul style="list-style-type: none"> <li>• Customer care portal User Interface Development</li> <li>• Customer care portal Back-End Development</li> <li>• Implementing the create, Update, Read, Delete Functions for the admin and bidder with search and report generating functionality.</li> <li>• Traditional Auctions in Literature review.</li> <li>• Customer care portal management.</li> <li>• Creating database</li> </ul>
<b>IT20633004- L.R.S.L Nissanka</b>	<ul style="list-style-type: none"> <li>• Notify the items detail to winning bidder.</li> <li>• Winning bidder can check the details and access the payment method.</li> <li>• Generate the payment details report.</li> <li>• Auctioneer can manage that data. Implementing the create, Update, Read, Delete Functions.</li> <li>• Creating database.</li> <li>• Winners inform and winners notify user interface development.</li> </ul>
<b>IT22005144-Tharuka R.M.S</b>	<ul style="list-style-type: none"> <li>• Repair Specialist portal user interface development.</li> <li>• Repair Specialist back-end development</li> <li>• Implementing the create, update, read, delete Functions for the Repair specialist with search and invoice generating functionality</li> <li>• Maintenance in methodology</li> <li>• Repair specialist management</li> </ul>

<b>IT22326522- Perera W.P.M.A.N</b>	<ul style="list-style-type: none"> <li>• Auctioneer portal user interface development.</li> <li>• Auctioneer portal back-end development.</li> <li>• Implementing the create, delete, update and read functions for the auctioneer with search and report generating functionality.</li> <li>• Creating database.</li> <li>• Deployment in methodology.</li> <li>• Auctioneer Management.</li> </ul>
<b>IT22320582- Jayasundara D.W.S</b>	<ul style="list-style-type: none"> <li>• Bidder portal user interface management.</li> <li>• Bidder portal Back-End development.</li> <li>• Implementing the create, delete, update and read functions for the bidder with search and report generating functionality.</li> <li>• Creating the database.</li> <li>• Testing in methodology.</li> <li>• Bidder management.</li> </ul>
<b>IT22332608 - Liyanage M.I.H</b>	<ul style="list-style-type: none"> <li>• Admin portal User Interface Development</li> <li>• Admin portal Back-End Development</li> <li>• Implementing the create, Update, Read, Delete Functions for all the users and Auctions &amp; provide relevant charts &amp; Reports.</li> <li>• Creating the database.</li> <li>• Client Background</li> <li>• Problems and Motivations</li> <li>• Tools &amp; Technologies</li> <li>• Aims &amp; Objectives</li> <li>• System Overview Diagrams</li> <li>• Administrator Portal &amp; Functionality Management</li> </ul>



# 14 Appendix B -UI



## List Your Auctions Today!

Unlock the potential of your items by listing them in our auction platform. Reach eager buyers and maximize your profits. Start your auction journey now!

[Get Register](#)



### Recommended auctions

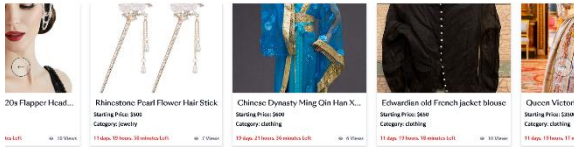
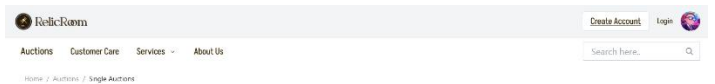


Figure 14-1-Home Page



## Attributed to Robert Griffier (London circa 1675-1727)

34 Views

Category art

Posted Date: 4/10/2024, 7:47:50 PM

Starting At: \$4000

Current Bid: \$40007

Leading bidder: Vasas

Auction closes in:

02 17 30 47  
DAYS HOURS MINUTES SECONDS

[Place Bid](#) [Add to Wishlist](#)

### Item Description:

**Buysers Obligations**

ALL BIDDERS MUST AGREE THAT THEY HAVE READ AND UNDERSTOOD BONHAMS' CONDITIONS OF SALE AND AGREE TO BE BOUND BY THEM, AND AGREE TO PAY THE BUYERS PREMIUM AND ANY OTHER CHARGES MENTIONED IN THE NOTICE TO BIDDERS. THIS AFFIRMS THE BIDDERS LEGAL RIGHTS.

If you have any complaints or questions about the Conditions of Sale, please contact your nearest client services team.

**Buysers' Premium and Charges**

For all Sales categories, buyer's premium excluding Cars, Motorbikes, Wine, Whisky and Coins & Metal sales, will be as follows:

**Buysers' Premium Rates**

20% on the first \$40,000 of the hammer price;  
2% of the hammer price of amounts in excess of \$40,000 up to and including \$500,000;  
20% of the hammer price of amounts in excess of \$500,000 up to and including \$4,500,000;  
and 14.5% of the hammer price of any amounts in excess of \$4,500,000.

VAT at the current rate of 20% will be added to the Buyer's Premium and charges excluding Artists Resale Right.

**Payment Notices**

For payment information please refer to the sale catalog.

**Shipping Notices**

For information and estimates on domestic and international shipping as well as export licences please contact Bonhams Shipping Department.

Figure 14-3-Single Auction Page

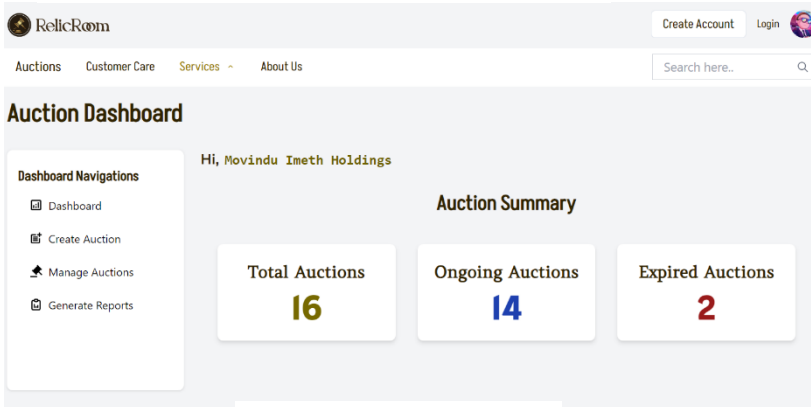


Figure 14-2-Auction Dashboard

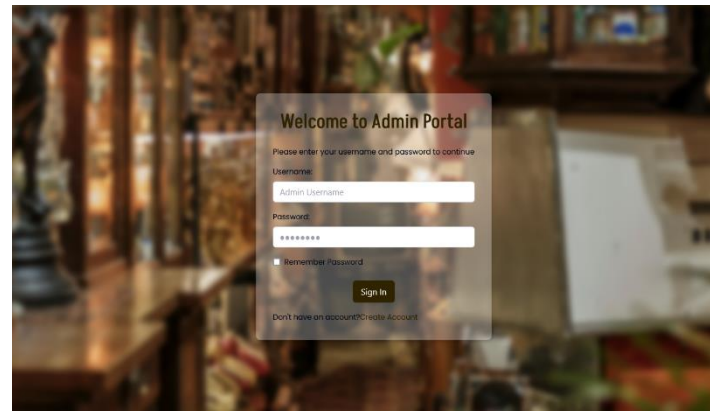


Figure 14-4-Admin Login

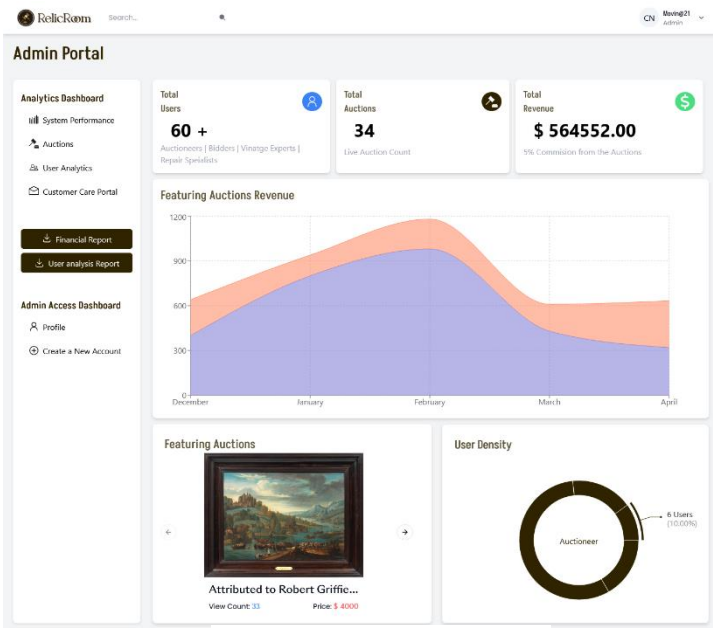


Figure 14-6-Admin Dashboard

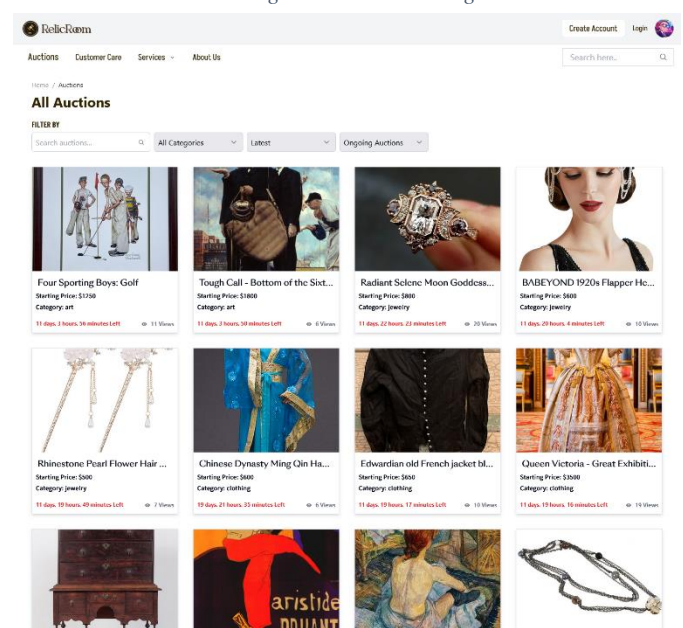


Figure 14-5-Listing Page