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BidCraft: Online Bidding Platform

Software Requirements Analysis Document (RAD)

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Contents

| | | |
|----------|--|-----------|
| 1 | Introduction | 2 |
| 1.1 | Purpose of the System | 2 |
| 1.2 | Scope of the System | 2 |
| 1.3 | Objective and success criteria of the project | 3 |
| 1.4 | Definitions and Acronyms and abbreviations | 3 |
| 1.5 | References | 3 |
| 1.6 | Overview | 4 |
| 2 | Overall System Description | 4 |
| 2.1 | Product Perspective | 4 |
| 2.2 | Product Function | 5 |
| 2.3 | User Profiles | 5 |
| 2.4 | Constraint | 6 |
| 2.5 | Assumption and Dependencies | 7 |
| 2.5.1 | Assumption | 7 |
| 2.5.2 | Dependencies | 7 |
| 3 | Specific Requirement | 8 |
| 3.1 | Overview | 8 |
| 3.2 | Functional Requirement | 9 |
| 3.2.1 | Requirement 1 (User Visits as Guest or public user) | 9 |
| 3.2.2 | Requirement 2 (User Registration and Authentication) | 9 |
| 3.2.3 | Requirement 3 (Listing Products) | 9 |
| 3.2.4 | Requirement 4 (Interactive Interface) | 10 |
| 3.2.5 | Requirement 5 (Language Accessibility) | 10 |
| 3.2.6 | Requirement 6 (Bidding System) | 10 |
| 3.2.7 | Requirement 7 (Search and Filter Options) | 10 |
| 3.2.8 | Requirement 8 (Product Categories) | 11 |
| 3.2.9 | Requirement 9 (User Engagement) | 11 |
| 3.2.10 | Requirement 10 (Security Measures and Warranty) | 11 |
| 3.2.11 | Requirement 11 (User Profiles and Ratings) | 11 |
| 3.2.12 | Requirement 12 (Q&A Option) | 12 |
| 3.3 | Non Functional Requirement | 12 |
| 3.3.1 | Usability | 12 |
| 3.3.2 | Reliability | 12 |
| 3.3.3 | Performance | 12 |
| 3.3.4 | Supportability | 13 |
| 3.3.5 | Implementation | 13 |
| 3.3.6 | Security | 13 |
| 3.3.7 | Scalability | 13 |
| 3.3.8 | Testability | 13 |
| 3.3.9 | Maintainability | 13 |
| 3.4 | System Models | 14 |
| 3.4.1 | Scenarios | 14 |
| 3.4.2 | Use cases | 15 |
| 3.4.3 | Use case model | 20 |
| 3.4.4 | Dynamic Model | 21 |
| 3.4.5 | Interfaces | 24 |
| 4 | Supporting Information | 26 |

1 Introduction

1.1 Purpose of the System

BidCraft: Online Bidding Platform is an innovative web-based platform designed to revolutionize the way individuals and businesses engage in online auctions. This platform provides a user-friendly interface, enabling seamless participation in auctions, bid placement, and efficient management of listings. BidCraft aims to create a dynamic and engaging online marketplace where users can discover unique items, competitive pricing, and a variety of bidding strategies. With its intuitive design and robust features, BidCraft offers a seamless experience for both buyers and sellers, fostering transparency, trust, and excitement in the online auction process. Moreover, BidCraft continually evolves by incorporating user feedback and integrating cutting-edge technologies, ensuring a constantly improving platform tailored to meet the evolving needs of its users.

1.2 Scope of the System

The scope of the **BidCraft Online Bidding Platform** encompasses various aspects related to its functionality, features, target audience, and intended usage. Here's an outline of the scope:

I. Functionality:

- Online Auction Management: Facilitating the creation, management, and monitoring of auctions.
- Allowing users to place bids on items within auctions.
- User Authentication and Profiles: Managing user accounts and profiles securely.
- Notifications: Sending alerts for bid updates, auction status changes, and other relevant events.
- Payment Integration: Integrating secure payment methods for transactions between buyers and sellers.

II. Features:

- User-Friendly Interface: Intuitive design to enhance user experience and ease of navigation.
- Search and Discovery: Tools for users to discover items of interest easily
- Reporting and Analytics: Providing insights into auction performance, bidder behavior, and listing effectiveness.
- Secure Transactions: Implementing robust security measures to protect user data and financial transactions.

III. Target Audience:

- Individual Consumers: People interested in finding unique items or securing deals through online auctions.
- Businesses: Entities looking to sell surplus inventory, unique products, or specialized goods through an online platform.
- Auction Enthusiasts: Individuals who enjoy participating in bidding and collecting items of interest.

IV. Intended Usage:

- **Buying and Selling:** Providing a platform for users to buy and sell items through the auction format.
- **Participation and Engagement:** Encouraging active participation and engagement among users through bidding and interaction.
- **Community Building:** Fostering a community of buyers and sellers who share common interests in unique items and auctions.
- **Convenience and Efficiency:** Offering a convenient and efficient alternative to traditional auction formats, accessible from anywhere with an internet connection.

Overall, the scope of BidCraft is to provide a comprehensive online auction platform that facilitates smooth transactions, fosters engagement, and offers a dynamic marketplace for users to discover, bid, and sell a wide range of items.

1.3 Objective and success criteria of the project

The primary objectives of BidCraft include:

- Creating a user-friendly online bidding platform that caters to users of all experience levels.
- Facilitating seamless auctions for a diverse range of products and services.
- Attracting a broad user base of both sellers and buyers through innovative features.
- Ensuring secure and transparent transactions to build trust among users.
- Implementing features for efficient bid management and comprehensive auction tracking.
- Providing a dynamic marketplace for unique and in-demand items to captivate users.
- Enhancing user engagement through interactive bidding features and personalized recommendations.

1.4 Definitions and Acronyms and abbreviations

Here some Definitions and Acronyms and abbreviations that i use in my project

- **Rapid Application Development (RAD)** is a software development methodology that prioritizes rapid prototyping and iterative development over traditional planning processes.
- **Unified Modeling Language (UML)** is a standardized modeling language used in software engineering to visually represent a system's architecture, design, and implementation.

1.5 References

References

- [1] Kissflow : <https://kissflow.com/application-development/rad/rapid-application-development/>
- [2] Tutorialspoint : <https://www.tutorialspoint.com/uml/index.htm>
- [3] Lucid : <https://www.lucidchart.com/pages/>

1.6 Overview

The BidCraft Online Bidding Platform is a new way to do auctions on the internet. It's easy to use for both people selling things and people buying things. You can find cool stuff, bid on it, and see how the bidding is going in real-time. BidCraft is all about making sure everyone feels safe and can trust the process. It's like a fun online market where you can find unique items and enjoy bidding on them. And the best part is, BidCraft is always getting better thanks to feedback from users and new technology. So get ready to have fun bidding and discovering amazing things with BidCraft!

2 Overall System Description

2.1 Product Perspective

The product perspective of the BidCraft project is to provide a client-to-client e-commerce platform where a user can buy and sell products by making a bid. On this platform, registered users can list their old or new products, setting a minimum selling price and a specified time range. Other registered users can then place bids on the product. After the designated period, the person with the highest bid will be the successful buyer. The platform will be accessible in English and include an interactive interface for posting, bidding, and a secure payment system. Additionally, we will maintain user profiles to allow buyers to provide ratings, enhancing the trustworthiness of sellers. The platform will also feature a Q&A option, allowing users to inquire about products, and sellers can respond to these queries. A search option will assist buyers in finding specific products, while a filter system will enable users to narrow down their search based on price ranges. Furthermore, product categories will be available, offering a convenient way for users to locate specific types of products in one place.

In the long term, our commitment is to enhance the security and services offered on the platform continually. To ensure the authenticity of product categories, quality, and sellers, we have established and managed a dedicated team responsible for meticulously verifying products. The listing process is conducted by our team members, instilling confidence in buyers to place bids with trust. As a client-to-client application, our platform currently does not facilitate delivery or doorstep services. However, we have a dedicated team in place to efficiently manage these aspects. Additionally, a comprehensive warranty is provided, categorizing products into two types: BidCraft Verified and Unverified. We provide a warranty on verified products. Our assurance is to deliver 100% security, reliable services, and products of verified quality to the buyers.

The platform will cater to two distinct user types: public users and registered users. Public users will have the capability to view products and navigate the site, while registered users will enjoy a more comprehensive set of features. Registered users will be able to enlist products, place bids, provide feedback, upvote or downvote products, and engage in communication through contact/chat functionalities. In the long term, our vision includes the establishment of specialized staff roles to enhance user experience. This will involve a dedicated team for product verification, technicians to address warranty-related and other technical concerns, as well as delivery personnel responsible for ensuring the seamless delivery of purchased products to buyers.

Overall Bybid is a buyer-to-buyer e-commerce site. The platform is committed to providing a secure and trustworthy environment for buyers and sellers, with a focus on product authenticity, quality assurance, and reliable services. As the platform evolves, we strive to continually improve security measures and overall service quality to meet the needs of our users.

2.2 Product Function

The function of the product of the **BidCraft** project is to provide a client-to-client e-commerce platform that facilitates buying and selling through a bidding system. Key features and functionalities include:

- **Listing Products:** Registered users can list their new or old products on the platform, specifying a minimum selling price and a designated time range for the bidding process.
- **Bidding System:** Other registered users can place bids on listed products within the specified time frame. The person with the highest bid at the end of the period becomes the successful buyer.
- **Language Accessibility:** The platform will be accessible in English, ensuring a broader user base.
- **Interactive Interface:** The platform features an interactive interface for posting products, placing bids, and facilitating secure payments.
- **User Profiles:** Maintaining user profiles enhances trustworthiness, allowing buyers to provide ratings for sellers.
- **Q&A Option:** Users can inquire about products through a QA option, enabling sellers to respond to queries.
- **Search and Filter Options:** A search option assists buyers in finding specific products, while a filter system enables users to narrow down their search based on price ranges and product categories.
- **Product Categories:** Products are categorized for easy navigation, offering users a convenient way to locate specific types of products.
- **Security Measures:** Continuous enhancement of security measures and services to ensure the authenticity of product categories, quality, and sellers. A dedicated team verifies products to instill confidence in buyers.
- **Warranty:** Products are categorized as BidCraft Verified and Unverified, with a warranty provided for verified products to guarantee their quality.
- **User Types:** The platform caters to two user types: public users and registered users, each with varying degrees of access and functionality.
- **User Engagement:** Registered users can provide feedback, upvote or downvote products, and engage in communication through contact/chat functionalities.
- **Future Vision:** The long-term vision includes the establishment of specialized staff roles to enhance user experience, such as dedicated teams for product verification, technical support, and delivery personnel.

2.3 User Profiles

- **Public Users:** Public users on the BidCraft platform have the freedom to explore the offerings without the need for registration. They can effortlessly browse through product listings, access general information about the platform, and explore various product categories. While they can gain insights into the available products, public users cannot enlist items, place bids, or engage in direct interactions.

- **Registered Users:** In contrast, registered users on the BidCraft platform enjoy a more robust and interactive experience. By creating an account, they gain the ability to enlist their products for sale, complete with detailed descriptions and images. These users can actively participate in the marketplace by placing bids on listed items, providing valuable feedback on transactions and product quality, and engaging in direct communication with other users through contact/chat functionalities. The registered user status unlocks a range of features, fostering a dynamic and engaging environment for buying and selling within the BidCraft community.
- **Staff:** Staff members will play a crucial role in product verification and overall platform management. They will ensure the accuracy of product information, maintain quality standards, and contribute to the smooth operation of the platform. Additionally, they are responsible for preventing the listing of illegal items, thereby upholding the integrity and legality of the marketplace.
- **Technicians:** Technicians will be responsible for addressing warranty-related concerns and handling technical issues. Their expertise will contribute to resolving product-related queries and ensuring customer satisfaction with the technical aspects of the platform. They play a vital role in maintaining the functionality and reliability of BidCraft's systems.
- **Delivery Personnel:** Delivery personnel will be tasked with the responsibility of updating product locations after a successful sale. Their role is vital in ensuring that the products reach the buyers promptly and efficiently. They play a crucial role in the post-sale process, contributing to a seamless and satisfactory experience for both buyers and sellers on the BidCraft platform.

2.4 Constraint

Certainly! When implementing the BidCraft project, various constraints should be taken into account. These may include:

Time Constraints: There might be deadlines or timeframes within which the project needs to be completed. Balancing the desired features with the available time is essential for successful implementation.

Budget Constraints: The availability of financial resources may limit the extent of features, development time, and overall project scope. Careful budgeting is crucial to ensure the project stays within financial constraints.

Technological Constraints: Compatibility issues, limited support for certain technologies, or dependencies on third-party services may pose challenges during development. The chosen technologies should align with the project's goals and constraints.

Regulatory and Compliance Constraints: Adherence to legal regulations and industry standards, especially in areas such as user data protection and financial transactions, is critical. Non-compliance could lead to legal issues and reputational damage.

Resource Constraints: The availability of skilled personnel, both in terms of developers and support staff, may influence the pace and success of the project.

Scalability Constraints: The platform should be designed with scalability in mind to accommodate growth in user base and increasing data volume. Using the OOPs concept we try to make it scalable.

User Experience Constraints: Balancing feature richness with simplicity and usability is essential. User experience constraints involve ensuring that the platform is intuitive and user-friendly to meet the expectations of a diverse user base.

Security Constraints: Building a secure platform is paramount. Constraints related to data security, encryption standards, and compliance with security best practices need to be addressed to safeguard user information and transactions.

Testing and Quality Assurance Constraints: Limited testing resources and time constraints can impact the thoroughness of testing.

Environmental Constraints: Consideration of the platform's environmental impact, such as energy consumption and server resource usage, is increasingly important in today's eco-conscious landscape.

Language constraint: The platform will be in English, it will be important to ensure that the platform is accessible to users who are not fluent in either language.

Legal Constraints: The project will be subject to local laws and regulations, it will be important to ensure that the platform complies with all relevant laws and regulations.

By identifying and addressing these constraints early in the planning and development phases, the BidCraft project can navigate potential challenges more effectively and increase the likelihood of successful implementation.

2.5 Assumption and Dependencies

2.5.1 Assumption

- There will be no unexpected difficulties with the application's backend, which might cause substantial delays or even failure in development.
- There will be no schedule conflicts or time limits during the development process, which might adversely impact the project's timeframe.
- The device that will run the program must fulfill the minimal hardware requirements.
- To use the program without interruptions, the user must have access to a reliable internet connection.
- The user will have basic computer literacy and be able to navigate and use the platform's features effectively.
- Users will be able to accurately and clearly articulate their questions and problems, which will allow other users to provide helpful and relevant answers.

2.5.2 Dependencies

Front-end dependencies (React JS):

- `react`
- `react-dom`
- `react-scripts`
- `axios` (for HTTP requests)
- `react-router-dom` (for routing)
- `material-ui` (for UI components)
- `material-ui/icons` (for icons)
- `styled-components` (for CSS-in-JS)

Back-end dependencies (FAST API)

- **Database Connection:** A dependency to establish and manage connections to a database. This can include functions or classes for connecting to the database, executing queries, and handling transactions.
- **Authentication:** Dependencies for handling user authentication, including functions or classes to verify user credentials, generate tokens, and manage session data.
- **Authorization:** Dependencies to enforce access control and permissions. This can include functions or classes to check if a user has the necessary permissions to access certain resources or perform specific actions.
- **Data Validation:** Dependencies for validating incoming data against predefined schemas or constraints.
- **Logging:** Dependencies for logging application events and errors. This can include functions or classes to configure logging settings, format log messages, and store log entries in different destinations (e.g., files, databases, or external services).
- **Caching:** Dependencies for caching frequently accessed data to improve performance.
- **External Services Integration:** Dependencies for integrating with external services or APIs. This can include functions or classes to make HTTP requests, handle responses, and manage API authentication and authorization.
- **Configuration Management:** Dependencies for managing application configuration settings. This can include functions or classes to load configuration files, parse environment variables.
- **Dependency Injection:** Dependencies for injecting dependencies into endpoint functions or other components.
- **Request Rate Limiting:** Dependencies for limiting the rate of incoming requests to prevent abuse or excessive resource consumption.

3 Specific Requirement

3.1 Overview

BidCraft is an innovative online bidding platform designed to revolutionize the e-commerce auction experience. It provides a dynamic environment where users can effortlessly buy and sell a wide range of products through an engaging bidding system. Sellers can list their items, setting minimum prices and auction durations, while buyers can place bids in real-time, fostering an exciting and competitive atmosphere. With a user-friendly interface and robust security measures, BidCraft ensures a seamless and trustworthy marketplace for all participants. It not only prioritizes user satisfaction but also promotes transparency and reliability through features like user ratings, Q&A options, and product categorization. BidCraft is not just a platform; it's an evolving ecosystem driven by user feedback and cutting-edge technology, constantly striving to enhance the online auction experience for everyone involved.

3.2 Functional Requirement

3.2.1 Requirement 1 (User Visits as Guest or public user)

- ID : 0001
- Name: User Visits as Guest
- Description : Public users on the BidCraft platform have the freedom to explore the offerings without the need for registration. They can effortlessly browse through product listings, access general information about the platform, and explore various product categories. While they can gain insights into the available products, public users cannot enlist items, place bids, or engage in direct interactions. Also they can sign up in this site to shift them from public to registered user.
- Priority: HIGH
- Reference: This requirement supports the system's functionality of allowing users to explore the platform's content without registration, providing a transparent and user-friendly interface, and promoting user engagement through the Sign-Up option.

3.2.2 Requirement 2 (User Registration and Authentication)

- ID : 0002
- Name: User Registration and Authentication
- Description : The system needs to ensure safe user authentication, allowing registered users to sign in using their email address and password. Once logged in successfully, users will gain access to their customized dashboard and all features related to their user role. Also in Authentication process and data need to keep secret from all other even from system developers.
- Priority: HIGH
- Reference: This requirement is critical for ensuring user account security, maintaining user privacy, and delivering personalized user experiences.

3.2.3 Requirement 3 (Listing Products)

- ID : 0003
- Name: Listing Products
- Description : Registered users can create listings for products they want to sell. Also, Sellers must specify a minimum selling price and a designated time range for bidding.
- Priority: HIGH
- Reference: This requirement is critical for ensuring user listing product and it the core element of this platform.

3.2.4 Requirement 4 (Interactive Interface)

- ID : 0004
- Name: Interactive Interface
- Description : The platform should provide an intuitive interface for users to post products, place bids, and make secure payments.
- Priority: HIGH
- Reference: Interactive interfaces enhance user engagement and usability, fostering seamless interaction and intuitive navigation within software applications.

3.2.5 Requirement 5 (Language Accessibility)

- ID : 0005
- Name: Language Accessibility
- Description : The platform must support the English language for all user interactions.
- Priority: HIGH
- Reference: Language accessibility broadens software usage by accommodating diverse linguistic audiences, facilitating global reach and inclusivity in user engagement and comprehension.

3.2.6 Requirement 6 (Bidding System)

- ID : 0006
- Name: Bidding System
- Description : Registered users can place bids on listed products within the specified time frame. The highest bidder at the end of the auction period wins the item.
- Priority: HIGH
- Reference: The feature ensures fair competition and efficient transaction management, optimizing user experience and fostering trust in the bidding process within auction software.

3.2.7 Requirement 7 (Search and Filter Options)

- ID : 0007
- Name: Search and Filter Options
- Description : The platform should allow users to search for products based on keywords and filter results by price range and category.
- Priority: LOW
- Reference: Enhances user convenience and efficiency by enabling targeted product discovery and streamlined navigation within the platform, optimizing the shopping experience.

3.2.8 Requirement 8 (Product Categories)

- ID : 0008
- Name: Product Categories
- Description : Products should be organized into categories for easy navigation.
- Priority: LOW
- Reference: The feature ensures efficiency by enabling targeted product discovery and streamlined navigation within the platform.

3.2.9 Requirement 9 (User Engagement)

- ID : 0009
- Name: User Engagement
- Description : Registered users can provide feedback on transactions. Users should be able to upvote/downvote products and engage in communication through chat functionalities.
- Priority: MEDIUM
- Reference: Fosters transparency, trust, and community engagement by empowering users to share feedback, rate products, and communicate directly through integrated chat features, enriching the overall user experience.

3.2.10 Requirement 10 (Security Measures and Warranty)

- ID : 0010
- Name: Security Measures and Warranty
- Description : The platform must implement security measures to protect user data and transactions. Warranties should be provided for verified products to guarantee quality.
- Priority: HIGH
- Reference: Keeps user information safe and ensures reliable purchases, giving peace of mind and confidence in product quality through verified warranties.

3.2.11 Requirement 11 (User Profiles and Ratings)

- ID : 0011
- Name: User Profiles and Ratings
- Description : Users should be able to create profiles to enhance trust. Buyers should be able to rate sellers based on their experiences.
- Priority: HIGH
- Reference: When users create profiles and rate sellers, it helps everyone trust each other more. It makes buying and selling safer and more reliable.

3.2.12 Requirement 12 (Q&A Option)

- ID : 0012
- Name: Q&A Option
- Description : Users can ask questions about listed products. Sellers should be able to respond to inquiries to provide additional information.
- Priority: MEDIUM
- Reference: Letting users ask questions about products helps them understand better. Sellers can answer these questions to give more details, making it easier for buyers to decide if they want to buy something.

3.3 Non Functional Requirement

3.3.1 Usability

- The platform must have an intuitive and user-friendly interface.
- The platform should be accessible to users with varying degrees of technical expertise.
- The platform should support the use of Bangla language for better understanding by non-technical users.
- The platform should have easy-to-follow instructions and prompts to help users navigate and perform tasks.

3.3.2 Reliability

- The platform should be highly reliable, with minimal downtime or outages.
- The platform should have a system for regular backups of data to ensure no data is lost.
- The platform should be designed with a fail-safe mechanism to prevent the loss of user data.

3.3.3 Performance

- The platform must be highly responsive and have fast load times.
- The platform must be able to handle a large volume of users simultaneously.
- The responsiveness of Mermot will not be affected by online connectivity but fetching details for the links will require a stable internet connection.
- Fetching details should ideally be done in less than 3 seconds on a 4G connection.
- Apart from the user's connection downtimes, Meramot's user-specific information should be synchronized to the cloud 99 percent of the time.
- The platform should provide real-time updates on the status of user requests.

3.3.4 Supportability

- The platform should provide multiple channels for user support, including email, live chat, and phone support.
- The platform should provide a comprehensive and easily accessible user manual or help section.
- The platform should be designed to handle user requests in a timely and efficient manner.

3.3.5 Implementation

- The platform should be implemented using modern web technologies and frameworks.
- The platform should be scalable and able to handle future growth and expansion.
- The platform should be easy to maintain and update as needed.

3.3.6 Security

- The platform must be highly secure and protect user data and personal information from unauthorized access and breaches.
- The platform should be designed with secure communication protocols to protect user data in transit.
- The platform should provide multi-factor authentication and other security features to prevent unauthorized access to user accounts.

3.3.7 Scalability

- The platform should be designed to scale easily to accommodate growing numbers of users and service providers.
- The platform should be able to handle a large volume of user requests without impacting performance.

3.3.8 Testability

- The platform should have a robust testing and quality assurance process to ensure that it is functioning properly.
- The platform should be tested thoroughly before deployment to ensure that it meets all functional and non-functional requirements.
- The platform should be tested regularly to identify and address any issues or bugs that arise.

3.3.9 Maintainability

- The platform should be designed to be easily maintained and updated as needed.
- The platform should have a clear and well-documented codebase.
- The platform should have a system for tracking and addressing bugs and issues in a timely manner.

- The code's cyclomatic complexity should not exceed 7. No method in any object may include more than 500 lines of code.

3.4 System Models

3.4.1 Scenarios

3.4.1.1 Exploring System: Guest users are free to explore the offerings of BidCraft. Upon visiting the platform, they can effortlessly browse through product listings, gaining insights into available items and their categories. Users can navigate through various sections of the website, exploring diverse product categories and accessing general information about the platform's features. This initial exploration phase allows users to familiarize themselves with BidCraft's offerings and discover potential items of interest.

3.4.1.2 Sign up and Log in: When attempting to perform a specific action, such as listing an item for sale or placing a bid, users are prompted by the system to either sign up for a new account or log in to an existing one. If not logged in already, users are directed to the login page where they input their credentials, typically an email address and password. Upon successful authentication, users gain access to their accounts and can proceed with their intended actions, whether it involves listing a product for sale or making a purchase. This login procedure ensures that only authorized users can participate in transactions on the platform, fostering security and trust within the BidCraft community.

3.4.1.3 Listing a Product: When a register user (assume his name is Hridoy) wants to sell her product on BidCraft. He/She creates a listing, specifying the minimum selling price and a one-week auction duration. He/She uploads high-quality images of the camera and writes a detailed description highlighting its features and condition.

3.4.1.4 Placing a Bid: Assume Tahsin (registered user) is interested in buy a listing product and decides to place a bid. He navigates to the listing, reads the description, and enters his bid amount. He can see real-time updates on the bidding process and receives notifications if someone outbids him.

3.4.1.5 Q&A: In this scenario, a registered user on BidCraft utilizes the platform's Q&A feature to inquire about a product listed by another user. Promptly, the seller responds, providing comprehensive information that addresses the buyer's queries and assists them in making an informed purchasing decision. This interaction showcases the effectiveness of BidCraft's Q&A functionality in facilitating transparent communication between users, fostering trust, and enhancing the overall user experience.

3.4.1.6 Exploring Product Categories: A user (named Sakib) is searching for a gift for his friend's birthday a camera. He uses the search and filter options to narrow down his choices, selecting the "Electronics" category and setting a price range. He quickly finds a camera that fits his budget and preferences.

3.4.1.7 Rating a Seller: After successfully winning an auction, a user receives the purchased item in excellent condition and is satisfied with the transaction. They proceed to leave positive feedback and a rating for the seller, acknowledging their prompt shipping and accurate product description. Else if receives the purchased item in fair condition and is unsatisfied with

the transaction. They proceed to leave negative feedback and a rating for the seller, acknowledging their inaccurate product description.

3.4.1.8 Engaging with Other Users: An enthusiastic user actively participates in BidCraft's community discussions, sharing expertise and insights while learning from fellow members. They contribute to chat forums, exchanging valuable information and expanding their knowledge base within their area of interest.

3.4.1.9 Technical Support Request: Encountering an issue during the payment process for a successful bid, a user reaches out to BidCraft's technical support team for assistance. The team promptly addresses the problem, ensuring a smooth resolution and maintaining the platform's reliability for seamless transactions.

3.4.2 Use cases

3.4.2.1 Guest Sign Up

Actor

- Guest User

Entry Condition

- Guest user want to registration and has a valid email account.

Flow of Event

- User navigates to the BidCraft signup page.
- User fills out the signup form, providing their email address and creating a password.
- User submits the signup form.
- BidCraft sends a verification email to the provided email address.
- User clicks on the verification link in the email or input verification code.
- BidCraft verifies the user's email address and activates their account

Exit Condition

- User registered and redirected to the BidCraft login page to log in with their newly created credentials.

3.4.2.2 Login

Actor

- User
- Stuff
- Delivery man

Entry Condition

- Already having registered.

Flow of Event

- Clicks to the Login button.
- Enters Email Address and Password.
- Submits for authentication and authorization.
- Redirects to the Landing page.

Exit Condition

- Successfully logged in.

3.4.2.3 Listing a Item

Actor

- Register User
- Stuff

Entry Condition

- User Logged-In to the System.

Flow of Event

- Goes to the Home page/
- Clicks to the create a new listing button.
- Give the name of the product and select category's.
- Place a min amount of bid and set time of bidding
- Enters description of the product.
- Uploads necessary photos.
- Makes post by clicking Post button.
- This post list in pending for stuff verification
- Stuff verified it and make a successful listing

Exit Condition

- Makes a successful post.

3.4.2.4 Listing a new item

Actor

- Register User
- Stuff

Entry Condition

- User Logged-In to the System.

Flow of Event

- Goes to the Home page/
- Clicks to the create a new listing button.
- Give the name of the product and select category's.

- Place a min amount of bid and set time of bidding
- Enters description of the product.
- Uploads necessary photos.
- Makes post by clicking Post button.
- This post list in pending for stuff verification
- Stuff verified it and make a successful listing

Exit Condition

- Makes a successful post.

3.4.2.5 Edit Profile

Actor

- User

Entry Condition

- Logged-in to the system.

Flow of Event

- Clicks to the Profile button.
- In the Profile Section, click to Edit Profile.
- Edits required information.
- Provides password to update info.
- Submits for updating information.

Exit Condition

- Successfully Updates profile or leaves without changing.

3.4.2.6 Edit Post

Actor

- User

Entry Condition

- Logged-in to the system and already having a posted.

Flow of Event

- Clicks to the post.
- Makes necessary edit.
- Clicks on update button.

Exit Condition

- Successfully Updates post or leaves without changing.

3.4.2.7 Q&A

Actor

- User
- Stuff

Entry Condition

- Logged-in to the system.

Flow of Event

- User navigates to the product listing page.
- User submits a question about the product using the Q&A feature.
- Seller or stuff receives the question notification and provides a response.
- BidCraft notifies the user of the seller's response.
- User views the response and decides on further action.

Exit Condition

- User find her answer or get help and support.

3.4.2.8 Placing a Bid

Actor

- User

Entry Condition

- Logged-in to the system.

Flow of Event

- User navigates to the product listing page.
- User locates the "Place Bid" button associated with the product.
- User enters their bid amount in the provided field that must be greater than last bid amount.
- User confirms the bid.
- BidCraft updates the bid status and notifies the user if they've been outbid.

Exit Condition

- User successfully place the bid.

3.4.2.9 Search Posts

Actor

- User
- Stuff
- Guest or Public user

Entry Condition

- User need finding desired product.

Flow of Event

- Clicks on search bar.
- Writes searching keywords.
- May choose categories and range of price.
- Clicks search icon.
- Shows the expected posts.

Exit Condition

- User find her desired product.

3.4.2.10 Rating

Actor

- User

Entry Condition

- User need finding desired product.

Flow of Event

- User completes a transaction, such as winning a bid or purchasing a product.
- BidCraft prompts the user to leave a rating and feedback for the seller.
- User selects a rating (e.g., star rating) based on their satisfaction with the transaction.
- User optionally provides written feedback detailing their experience with the seller.
- BidCraft updates the seller's rating and feedback on their profile.

Exit Condition

- Give rating successfully.

3.4.2.11 Payment and Buy

Actor

- User

Entry Condition

- User need to win the bid.

Flow of Event

- User receives notification of winning the bid.
- BidCraft prompts the user to proceed with payment for the item.
- User clicks on the payment option provided.
- BidCraft redirects the user to a secure payment gateway.
- User enters their payment details and confirms the transaction..

Exit Condition

- Payment done successfully.

3.4.3 Use case model



Figure 1: Use Case Diagram

3.4.4 Dynamic Model

3.4.4.1 Sequence Diagram

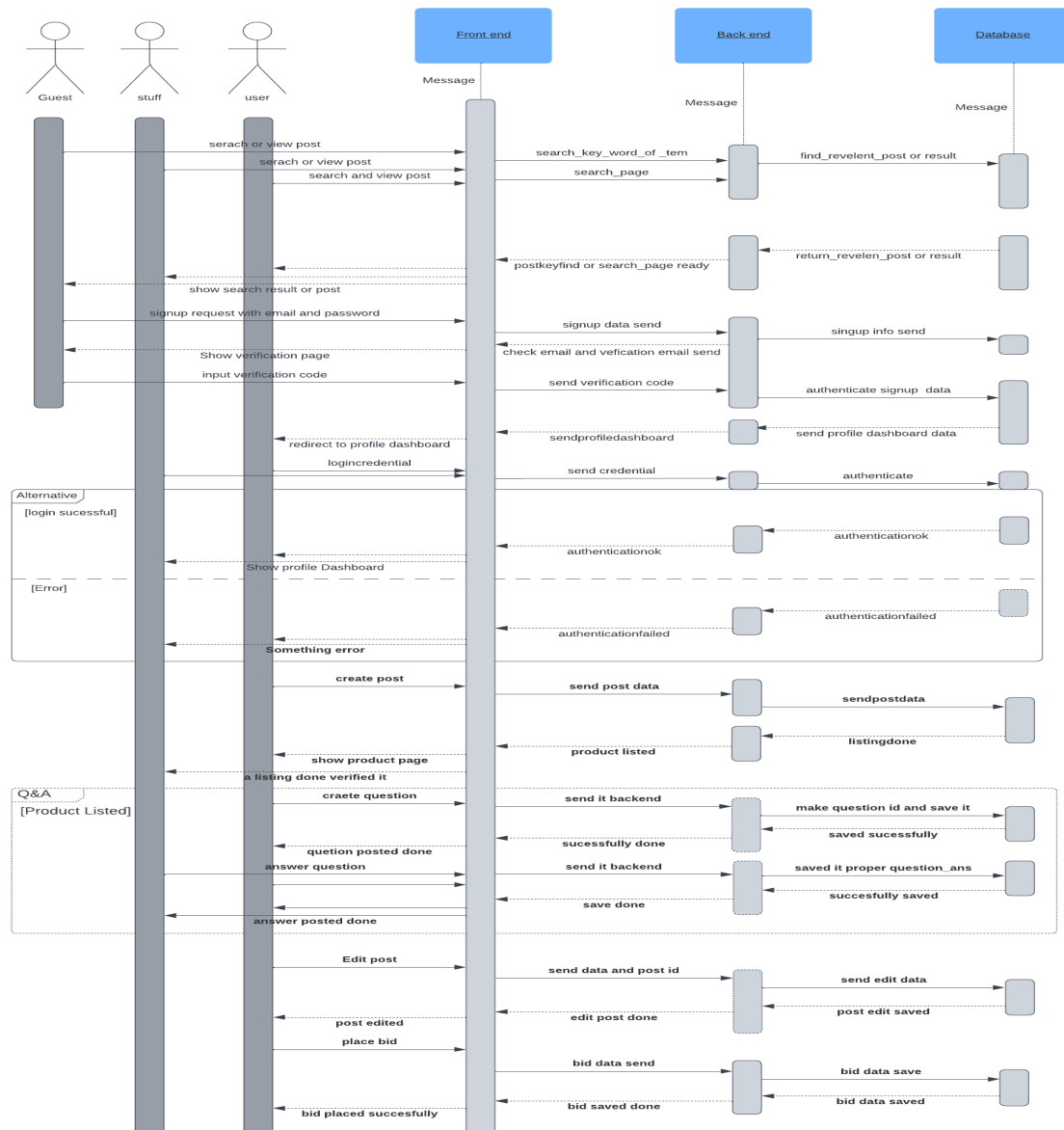


Figure 2: Sequence Diagram

3.4.4.2 Activity Diagram

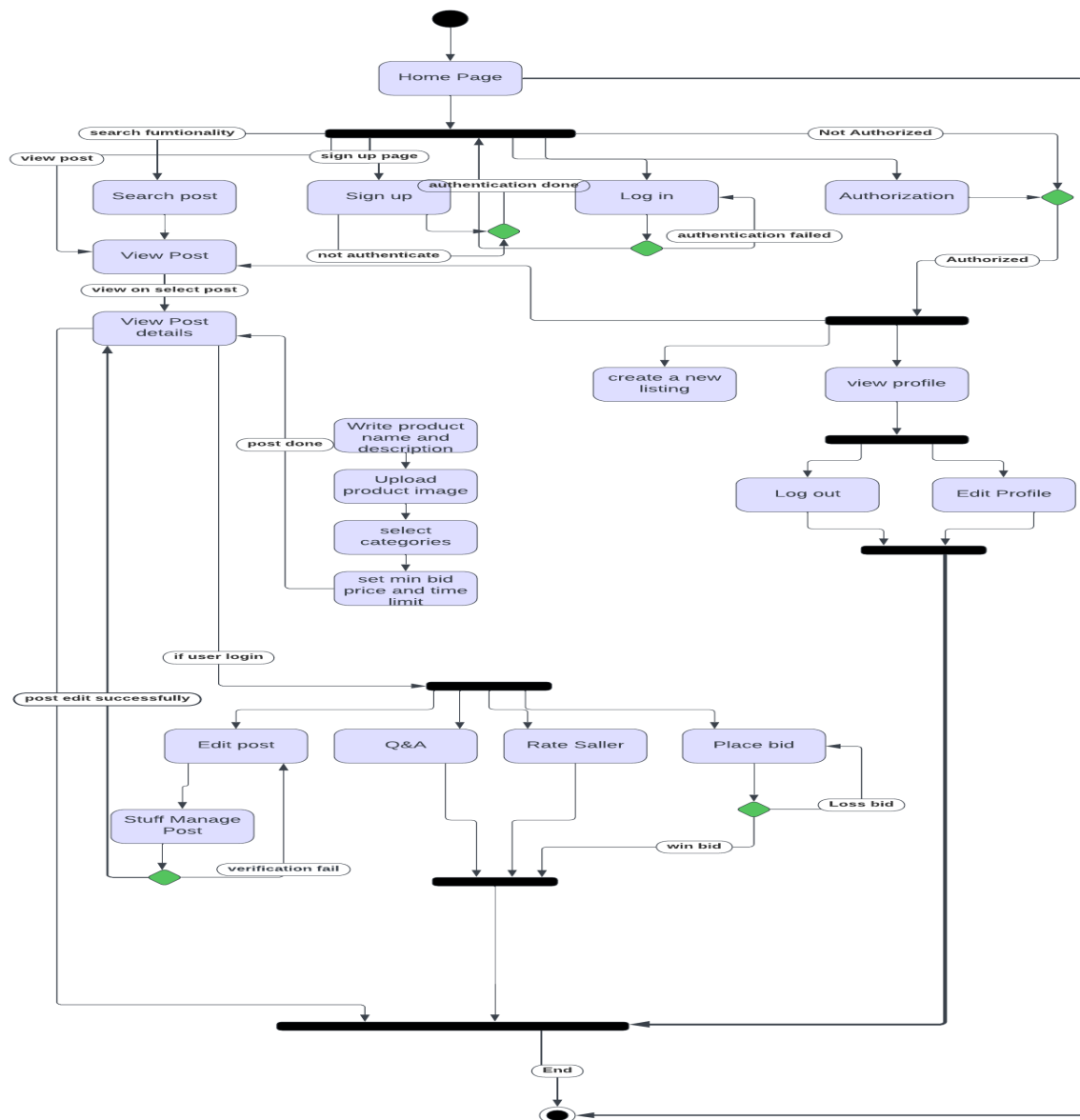


Figure 3: Activity Diagram

3.4.4.3 State Diagram

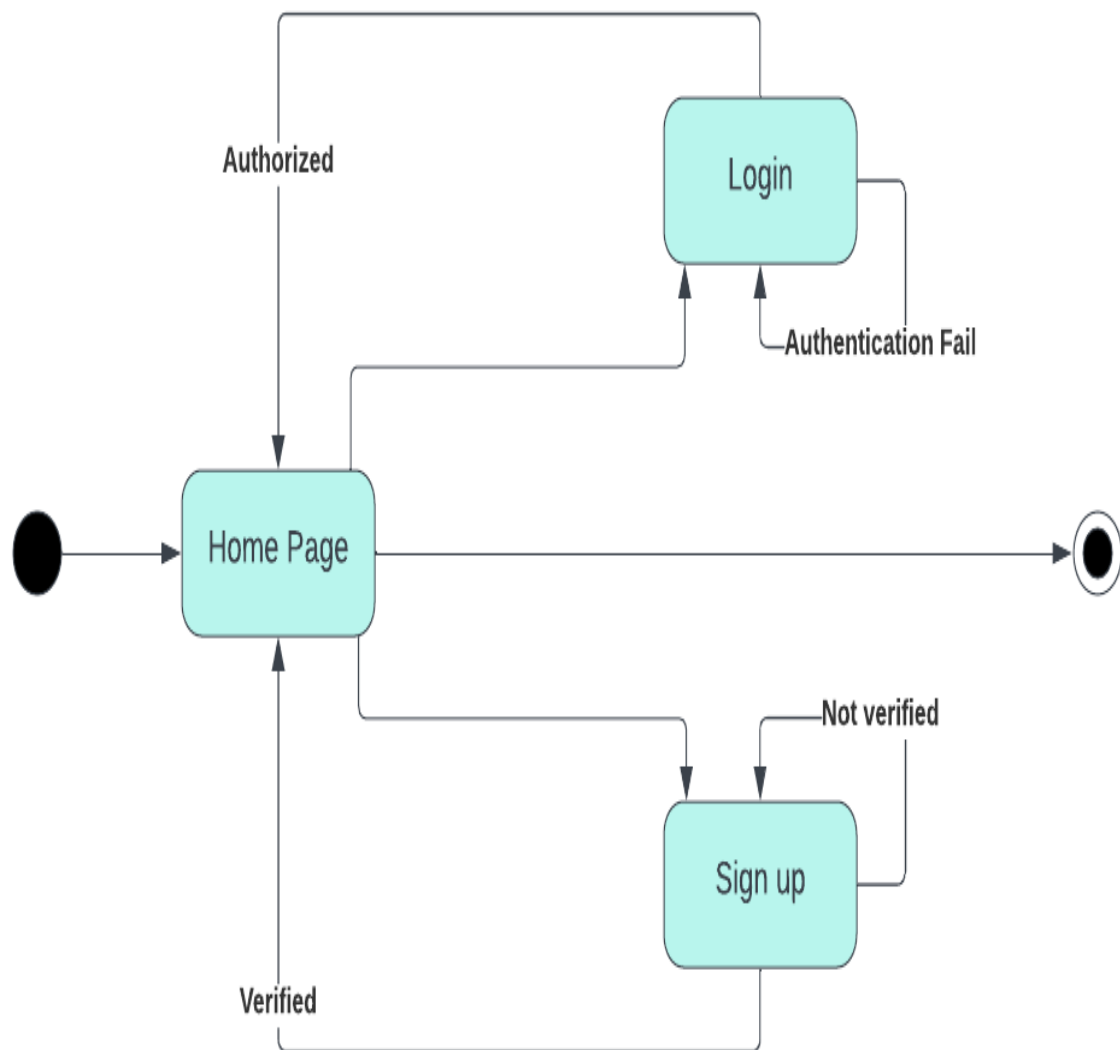


Figure 4: State Diagram User login and sign up

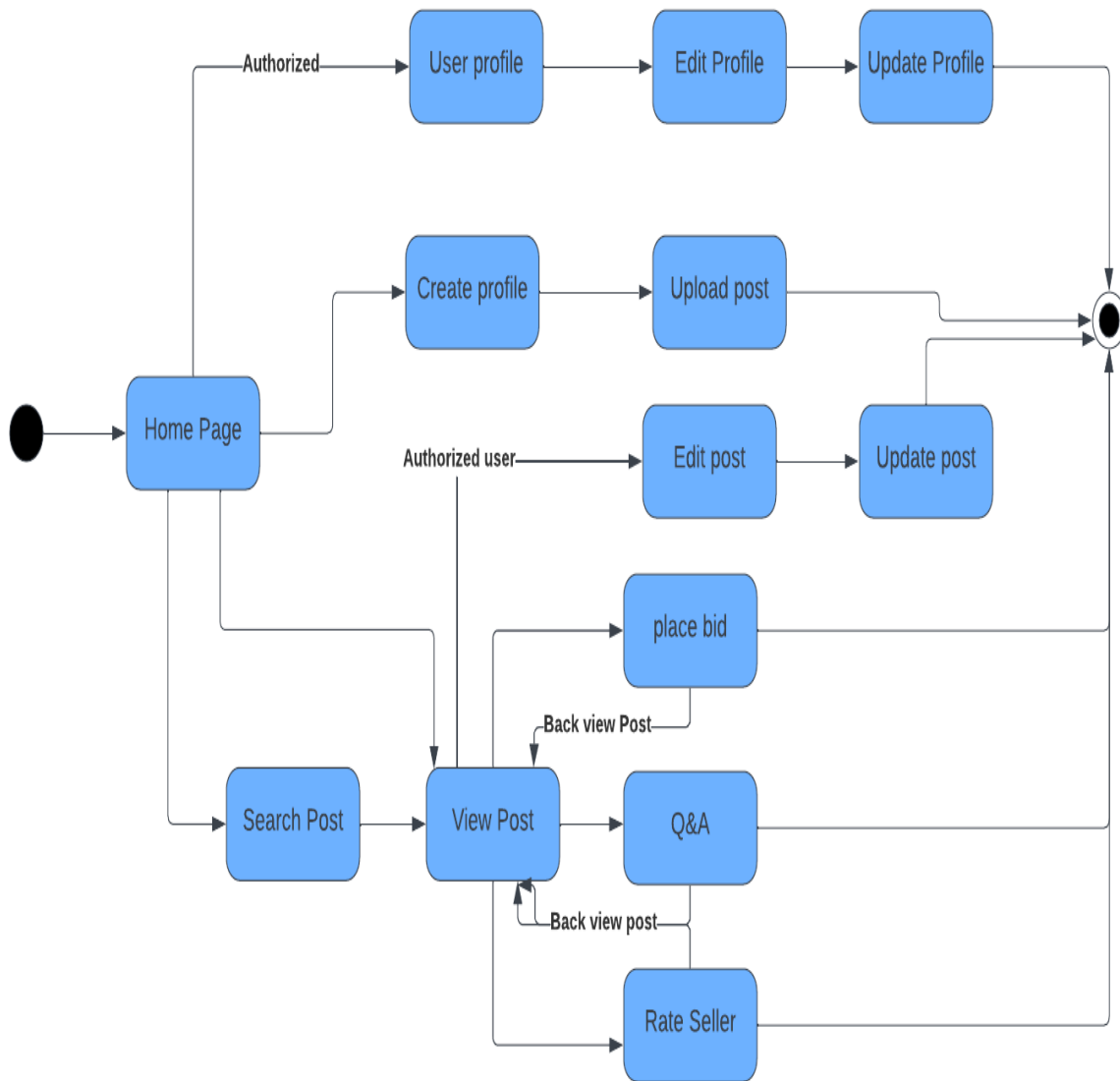


Figure 5: State Diagram User Activity

3.4.5 Interfaces

3.4.5.1 User Interface The Bidcraft project's user interface adheres to established design conventions, incorporating various components with careful consideration. The anticipated screens in the Bidcraft user interface, to the best of our understanding, are outlined below. However, it's important to note that these may evolve as per evolving requirements.

1. Sign up

- Username or Email:
- Password:
- Confirm Password:
- Full Name (Optional):
- Date of Birth (Optional):
- Gender (Optional):

- Phone Number:
- Address (Optional):
- Terms of Service Agreement:
- Submit Button

2. **Log in**

- Username or Email:
- Password:
- Forgot Password? (Link):
- Submit Button

3. **Home Page**

- User post
- Search bar:
- Create post:
- View Profile.

4. **User Profile Page**

- User Info
- Profile edit button.

5. **Create Post**

- Description:
- Min Price:
- Image of product
- Categories:
- Time limit Set Option
- Post button

6. **Product Show**

- Item description, Image, Highest Bid amount and Bid end date.
- Show Q&A about this project.
- Seller review

3.4.5.2 Software Interface

Software Environment

- Chrome Dev 112 (112.0.5594.1) or Higher
- Firefox 111.0 or higher
- Safari 13.1.2 or higher

Operating System

- Windows 7 or higher
- Any version of MacOS
- Any Version of Linux Kernel Based OS

3.4.5.3 Hardware Interface

Performance requirements: We considered the hardware capabilities of the devices that users will use to access the app, and ensured that the app's performance requirements are appropriate for a range of devices. The app works on any devices having at least 2GB of RAM.

Compatibility: We tested the app's compatibility on different hardware configurations and operating systems to ensure that it can be accessed by as many users as possible. The app is compatible in any OS e.g. MacOS, Ubuntu, POPOS, Windows etc.

Accessibility: We designed the app to be accessible to users with different needs, such as users with visual impairments or mobility impairments, by incorporating special hardware, such as screen readers or alternative input devices.

4 Supporting Information

This document does not require additional references from external sources. All diagrams included herein were crafted using the LucidChart Online Diagram maker [3].