Online Bidding System

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Online Bidding System

By

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN SOFTWARE ENGINEERING (BSSE).

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Project Overview

An online bidding system is a digital platform designed to facilitate the auction process over the internet, allowing users to place bids on various items or services in real time. This system provides a user-friendly interface for buyers and sellers to participate in auctions from anywhere, offering convenience and accessibility. It typically includes features such as user registration, user Bidding, user detail for bidding and add of new products. The platform ensures transparency and competitiveness by displaying current bids and remaining auction time. Online bidding systems are widely used in various industries, including real estate, art, collectibles, and industrial equipment, enhancing the efficiency and reach of traditional auction methods.

Dedication

Firstly, we dedicate our project to the creator Allah Almighty and dedicate to whom the world owes its existence Muhammad (Peace Be Upon Him) and dedicate this to our beloved parents, our extremely dedicated and generous teachers and supportive friends, their prayers always pave the way to success for us.

Acknowledgement

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Chapter 1

Introduction

Online bidding system is system where you can make a bid and make a bid on product. Online bidding system are digital marketplaces where buyers and sellers interact to trade goods and services.Unlike traditional auctions held in physical locations, online auctions take place virtually. Participants can bid on items, and the highest bidder wins the product or service.The process involves starting bids at a low price, which then incrementally increase based on market demand and popularity.

1.1 Product Purpose

Our main purpose for this project is people invest their money to get maximum profit and knowledge about our online trading system. Here all type of user can go and analyses the data of different field and get maximum profit for future investment.

1.2 Product Scope

This is an online Bidding website aimed at taking the auction to the finger tips of aspiring bidders there by opening up the doors of the "Online Bidding System'. This site also acts as an open forum where buyers and sellers can come together to sell their products. The site makes sure that the sellers get a fair deal and buyers get a genuine product. Some of the product which are high in market but much expensive to buy new, Our website allow you to buy used or new product by making bidding. Our website is for small and also for a Big sellers to sell their product through Bidding. our website allow user to bid on user used products, some home appliences such as microwave, computers, fridge etc can also be sell through our website. Allow users to create accounts, log in securely, and manage their profiles. Ensure the platform is mobile-friendly, allowing users to access and participate in auctions from their smartphones or tablets.

The Online Bidding System is a web-based application tailored to streamline online auctions and bidding processes. It serves as a platform for organizations or companies to conduct auctions for a variety of products or services in a straightforward and user-friendly manner. Administrators are granted access to a dedicated admin panel upon secure login, where they can oversee all aspects of the system. This includes managing product categories, adding, editing, or removing products available for bidding, monitoring bids placed on products, and administering user accounts. Additionally, administrators can configure system settings such as site title.

Technologically, the system leverages HTML, CSS (with Bootstrap for styling), and JavaScript (with jQuery for dynamic interactions) on the frontend, ensuring a visually appealing and responsive design. On the backend, PHP is utilized, following object-oriented programming principles for efficient code organization and maintainability. MySQL serves as the database management system, facilitating CRUD operations and user session management.

In the below table 1.1, it show the abriviation which is used in our decumentation.

Table 1.1: Abbreviations

Serial #	Abbreviation	Definition
1	SRS	Software Requirements Specification
2	UI	User Interface
3	API	Application Programming Interface.
4	HTTP	Hypertext Transfer Protocol.
5	SQL	Structured Query Language
6	URL	Uniform Resource Locator
7	B2C	Business to Customer

1.2.1 Existing System Description

The scope of this application to build a user friendly auctioning website, where user will be able to auctioned any product which is available nearby or anywhere in the world. By using Online Bidding system management system it will be easy for auctioneer to make an auction and time saving also. By making auction through this application will help to reach maximum of buyers bidding in local area. There will be a feature where bidder and seller can message each other. the user can have questions through AI chatbox where he/she will get their specified questions. here

1.2.2 Future System Usage Analysis

Using this online auction management system, bidders will be able to get connected to the specific sellers who will offer them necessary information and or give hand to sell their items to them. It will help save time and offer quality deliverables to the bidders by quick response and attention services. This system will replace the manual way of seeking items in the market and travelling long journeys just to get an item yet there are available items just in the neighborhood.

1.3 Objectives

The main objective of this project is as follows:

This portal gives selling/purchasing of product online, Any user have both type i.e. vendor and customer. If he/she sells the product then he/she is vendor and if he/she purchases the product then he/she is the customer, This website has bid history, The user can see the bid history. In this, there is a feedback from.Ensure product authenticity and create a safe online environment. Ensure product authenticity and create a safe online environment. Develop an auctioning site that accommodates any type of product

1.4 Problem Statement / Limitations

The search for items has always been a mind-chewing activity to most of people in country and in the whole globe. People are always on the go to their renown product supplier, or nearby market center or at times a local hackers, who goes on to supply

items and at times when he cannot get the item the buyer wants, mostly they give their hands to get them items and at times they mess and bring fake and quarks deliver stolen and bad items. This is because unqualified people offer delivery of items to customers. Due to the disparity of the buyers, cone-men have always taken the advantage to offer item delivery to the customers. Many fake items have found their way into the hands of the people, or buyers remain in the same condition of lack, as they don't get the right items from the sellers. Sometimes buyers struggle to find the right items, in failure, and they seek to get back to their homes. On the other hand, we have suppliers and business people who are qualified to supply and sell the items yet they have very few people who can come to them, more so in the same locality.

1.5 Proposed Solution

This web application system will be a online auction system which consists of the seller, buyer of consumer products. The admin web application will allow the online auction administrator to sell and buy the products through the desired person(administrator). In this the seller will post the product with the help of images and description of the product. The buyer have to select the product and bid accordingly.and the bidding will have a specific time limit which will be set by a seller of the product The buyer with the highest bid, the product will be sold to the bidder.

1.5.1 Administrator Module:

In an online bidding system, the administrator plays a crucial role in managing the platform. The administrator can manage every functionalities of the users.some of them are managing accounts, products, products approve etc. Here are the responsibilities of the administrator:

Authorization and Product Management:

Authorize Products for Auction: The administrator approves products to be auctioned. They set auction dates and minimum bid amounts for each product.

User Management: User Registration and Profiles: The system provides secure registration and profile management for all users.

Admin Dashboard: The administrator has full authority over the website, including the ability to delete fake or unwanted ads.

1.6 Intended Market of Product

A web based online bidding system platform is one that lets people bid and auction their goods online at good price. The platform provides the convenience of bidding from any location. In any industry, bidding is done on any kind of product, such as online car sales, home accessories etc. Online sale sets aside time and cash for the two purchasers and dealers. Sellers do not need to host a live event and buyer do not need to travel to take part in the auction or bidding. The fact to that you can compare prices online is the primary benefit of bidding online. Online bidding allows buyers to compare prices and conduct preliminary research on product quality. Online bidding platforms can be mobile- or web-based, allowing people to bid and auction goods or services conveniently

In the below Table 1.2, it show te administrator Module Responsibilities which we have in our project.

Table 1.2: Administrator Module Responsibilities

Responsibility	**Description**
Authorize Products for Auction	The administrator approves products to be auctioned. They set auction dates and minimum bid amounts for each product.
User Registration and Profiles	The system provides secure registration and profile management for all users.
Admin Dashboard	The administrator has full authority over the website, including the ability to delete fake or unwanted ads.

from any location. Bidding occurs across various industries, including advertising, real estate, car sales, and more.

1.7 Intended Users of Product

The intended users of the online budding system are individuals and businesses seeking a convenient and efficient platform for buying and selling products or services. This versatile system caters to a broad audience, encompassing consumers who want a seamless and secure online shopping experience, as well as vendors looking to establish an online presence and expand their customer base.

1.8 Software Process Model

The goal is to create a user-friendly online bidding system for a popular e-commerce platform. This system should allow seamless bid placement and provide real-time updates on the highest bid. The challenge lies in efficiently handling concurrent bids from numerous bidders while ensuring fairness and scalability

1.8.1 Introduction

our system lies on Agile model and its the the model for our online Bidding System. Agile allows for flexibility and accommodates changes throughout the development process. Stakeholders can provide feedback on early iterations, and adjustments can be made accordingly, ensuring that the final product meets the needs of users.

1.8.2 Agile Model

The Agile model and its sequential phases are given bellow.

1.8.3 Phases of the Agile Model:

1. **Concept** In the concept phase, stakeholders and product owners collaborate to outline the project's scope and priorities.The goal is to define the problem, understand user needs, and identify high-level requirements.

2. **Inception:** Once the concept is clear, the software development team is formed.

In the below table 1.3, its show the intended market and users of our online bidding system project.

Table 1.3: Intended Market and Users of Online Bidding Systems

Online Bidding System	**Intended Market**	**Users of the Product**
Auction Platforms	General consumers	Individual buyers, individual sellers
Real Estate Auction Platforms	Real estate professionals, investors	Real estate agents, property investors, homebuyers
Business-to-Business (B2B) Auctions	Companies and businesses	Procurement professionals, business owners, suppliers
Government Procurement Auctions	Government agencies, contractors	Government procurement officers, businesses, contractors
Art and Collectibles Auctions	Art collectors, galleries, enthusiasts	Art collectors, galleries, artists, buyers
Automotive Auctions	Auto dealers, individual sellers, buyers	Dealerships, individual sellers, car buyers
Freelancer Bidding Platforms	Freelancers and businesses seeking services	Freelancers, businesses, project managers
Domain Name Auctions	Individuals and businesses interested in domain names	Domain investors, businesses, individuals
Charity Auctions	Nonprofit organizations, donors	Donors, charity supporters, nonprofit organizations

Detailed planning occurs, including resource allocation, risk assessment, and initial architecture design.

3. **Iteration (Construction)** Iterations (often called sprints) are short timeframes (usually 1-3 weeks) where development occurs.During each iteration, the team builds, tests, and delivers a functional piece of the software. Regular feedback from stakeholders helps refine the product.

4. **Testing:** Testing is an ongoing process throughout the Agile model.Developers and testers collaborate to ensure quality and identify defects early. Automated testing is often used to maintain speed and reliability.

5. **Release** The product is almost ready for release. Final testing, documentation, and user training take place. The software is deployed to production servers.

1.8.4 Roles and Responsibilities

The "Roles and Responsibilities" heading outlines the specific duties and functions of key members within a team, such as the Product Owner, Developers, and Scrum Master. It defines their distinct tasks, areas of accountability, and the ways they contribute to the success of the project. This section ensures clarity in roles, facilitating efficient collaboration and effective workflow within the team.

1.8.4.1 Product Owner: As a Product Owner for an online bidding system using PHP, you will have a variety of responsibilities to ensure the successful development and deployment of the system.

- **Product Vision:** Define the product vision and roadmap.
- **Backlog Management:** Prioritize the product backlog.
- **Decision-Making:** Make key decisions regarding the product.
- **Stakeholder Management:** Manage stakeholders and ensure alignment.
- **Effective Communication:** Communicate effectively with stakeholders, engineering teams, and business units.
- **Customer-Centric Approach:** Understand customer needs and adjust the product accordingly.
- **Liaison Role:** Bridge between engineering and business teams.
- **Insights Sharing:** Provide insights to marketing and sales teams as needed.

1.8.4.2 Developers: As the Product Owner, working closely with developers is crucial to the success of your online bidding system project.

- **Programming:** Write code and develop features.
- **Testing:** Ensure quality by testing and debugging.
- **Collaboration:** Work closely with other team members.
- **Continuous Improvement:** Adapt and learn from feedback.

1.8.4.3 Scrum Master: As a Scrum Master, your role is to facilitate the Scrum process and ensure the development team adheres to Agile principles and practices.

- **Scrum Facilitation:** Conduct Scrum ceremonies (such as daily stand-ups, sprint planning, and retrospectives).
- **Coaching:** Act as a coach to the rest of the team.
- **Obstacle Removal:** Remove obstacles hindering team progress.
- **Process Improvement:** Continuously improve the team's processes.
- **Promote Collaboration:** Foster collaboration and self-organization within the team.

1.8.5 Development Tools

Using the right development tools can significantly enhance the efficiency and quality of your online bidding system project.

Agile Tools: To successfully implement Agile methodologies, it's essential to use tools that support the principles and practices of Agile development.

- **V-shape SDLC:** This model is an extension of the traditional Waterfall model. It emphasizes testing at each stage of the development process, following a sequential path similar to Waterfall
- **Iterative SDLC:** This development approach is similar to Agile but typically involves longer iteration cycles. In this model, the development process is broken down into smaller iterations or cycles
- **Spiral SDLC:** The Spiral model combines iterative development with risk analysis. It is particularly suitable for large and complex projects where risks need to be managed effectively.
- **Waterfall SDLC:** The traditional linear approach.The Waterfall model is well-suited for projects with clear and stable requirements, where changes are unlikely to occur once the project has started.

1.8.6 Timeline

Creating a detailed timeline for the development of your online bidding system is essential for tracking progress and ensuring that milestones are met.

Sprint 1 Duration: 8 weeks
Goals:

- Set up project infrastructure (version control, issue tracking, etc.).
- Define initial user stories and backlog.
- Implement user registration and authentication.
- Develop basic listing creation functionality.

Sprint 2 Duration: 8 weeks
Goals:

- Refine user stories and backlog based on feedback.
- Implement bidding mechanism.
- Add search and filtering functionality for listings.
- Begin integration of payment gateway.

Sprint 3 Duration: 10 weeks
Goals:

- Refactor code and address technical debt.
- Enhance user interface and user experience.
- Complete integration of payment gateway.
- Implement messaging and notifications.

Sprint 4 Duration: 12 weeks
Goals:

- Conduct user testing and gather feedback.
- Address bugs and issues identified during testing.
- Implement feedback from stakeholders.
- Prepare for deployment to staging environment.

Sprint 5 Duration: 7 weeks
Goals:

- Finalize deployment to production environment.
- Conduct user acceptance testing (UAT).
- Address any last-minute issues or adjustments.
- Prepare for official launch of the online bidding system.

Ongoing Duration: Continuous
Goals:

- Monitor system performance and user feedback.
- Regularly update and maintain the system.
- Iterate on features and enhancements based on user needs and market trends.
- Plan and execute periodic releases with new features and improvements.

1.8.7 Conclusion

Benefits of Agile

- **Flexibility:** Agile allows teams to adapt to changing requirements, market dynamics, and customer feedback.
- **Incremental Delivery:** Regular iterations lead to early and continuous product releases.
- **Collaboration:** Agile promotes close collaboration among team members, stakeholders, and end-users.
- **Transparency:** Regular ceremonies (such as daily stand-ups and retrospectives) ensure transparency and alignment.
- **Risk Mitigation:** Frequent testing and feedback reduce project risks.
- **Customer Satisfaction:** Delivering valuable features quickly enhances customer satisfaction.

Considerations

- **Team Commitment:** Agile requires active participation and commitment from all team members.
- **Learning Curve:** Teams transitioning to Agile may need time to adapt to new practices.
- **Scope Management:** Agile doesn't mean unlimited scope; prioritization is crucial.
- **Stakeholder Involvement:** Regular feedback from stakeholders is essential.
- **Balancing Documentation:** Agile emphasizes working software over extensive documentation, but some level of documentation is still necessary.

Success Factors

- **Empowered Teams:** Trust and empower your Agile team to make decisions.
- **Clear Product Vision:** Align the team with a well-defined product vision.
- **Iterative Improvement:** Continuously improve processes based on retrospectives.
- **Adaptability:** Be open to change and adjust as needed.

1.8.8 Process Model Introduction

developing an online bidding system, choosing an appropriate software process model is essential to ensure the successful planning, development, and deployment of the system. Different process models offer various approaches to project management, development, and quality assurance

1.8.9 Justification of Proposing the process model (For Example: Why Waterfall

1.8.10 Justification for Agile Model

Proposing the Agile model for developing an online bidding system using PHP can be justified for several reasons:

1. **Iterative and Incremental Development:** Agile emphasizes iterative and incremental development, which aligns well with the dynamic nature of online bidding systems. As requirements evolve and new features are identified, Agile allows for flexible adjustments and continuous delivery of value to users.

2. **Customer Collaboration:** Agile encourages frequent collaboration with stakeholders, including customers or end-users. In the context of an online bidding system, involving stakeholders throughout the development process ensures that the system meets their needs and preferences effectively. Continuous feedback loops enable quick adjustments based on user input.

3. **Adaptability to Changing Requirements:** Online bidding systems often face changing market demands, regulatory requirements, or technological advancements. Agile methodologies, such as Scrum or Kanban, enable teams to respond quickly to changes and prioritize work based on evolving business needs. This adaptability reduces the risk of delivering a product that becomes outdated or irrelevant.

4. **Early and Continuous Delivery:** Agile promotes early and continuous delivery of valuable software increments. By breaking down the development work into small, manageable chunks (e.g., user stories), teams can deliver working features to users sooner. For an online bidding system, this means that users can start benefiting from the system's functionality earlier in the development process.

5. **Focus on Quality:** Agile methodologies emphasize maintaining high-quality standards throughout the development lifecycle. Practices such as test-driven development (TDD), continuous integration (CI), and regular code reviews contribute to the reliability and stability of the system. In the context of an online bidding system, where security and reliability are crucial, Agile's focus on quality is particularly valuable.

6. **Cross-Functional Collaboration:** Agile promotes cross-functional collaboration within development teams, where individuals with different skills and expertise work together towards a common goal. For an online bidding system, this means that developers, testers, designers, and domain experts collaborate closely to deliver a well-rounded product that meets both technical and business requirements.

7. **Transparent and Visible Progress:** Agile methodologies provide transparency into the development process through practices such as daily stand-up meetings, sprint reviews, and burndown charts. This visibility allows stakeholders to track progress, identify potential issues early, and make informed decisions. For stakeholders of an online bidding system, having visibility into the development progress instills confidence and trust in the project's success.

In the Below Table 1.4, its shows the application of Agile Principle in online bidding system.

Table 1.4: Application of Agile Principles in Online Bidding Systems

Agile Principles	**Application in Online Bidding Systems**
Dynamic Requirements: Online bidding systems often face changing requirements due to market trends, user feedback, and competitive pressures. Agile's flexibility allows teams to adapt quickly, ensuring that the system remains relevant.	Agile methodologies enable online bidding system teams to accommodate changing requirements by facilitating quick adaptation to market trends, user feedback, and competitive pressures.
Incremental Delivery: Agile promotes incremental development and regular releases. Online bidding systems can benefit from delivering features incrementally, allowing users to start bidding sooner.	By adopting Agile practices, online bidding systems can deliver features incrementally, providing users with early access to bidding functionalities and enabling continuous improvements through regular releases.
Customer Collaboration: Agile emphasizes customer collaboration throughout the development process. For online bidding systems, involving users early and often ensures that the system meets their needs.	In online bidding systems, Agile principles encourage collaboration with users to gather feedback and refine features, ensuring that the system aligns with user expectations and preferences.
Risk Mitigation: Agile's iterative approach allows teams to identify and address risks early. In online bidding systems, risks may include scalability, security, and real-time updates.	Agile methodologies enable systematic risk identification and mitigation strategies in online bidding systems, addressing potential issues such as scalability, security vulnerabilities, and real-time processing requirements through iterative development and testing.
Feedback Loop: Agile ceremonies (such as daily stand-ups and sprint reviews) create a continuous feedback loop. This is crucial for refining bidding features, optimizing performance, and enhancing user experience.	Continuous feedback loops established through Agile ceremonies facilitate ongoing refinement of bidding features, performance optimization, and improvement of user experience in online bidding systems.
Adaptability to Market Trends: Online bidding platforms operate in a dynamic market. Agile enables teams to respond swiftly to emerging trends and user demands.	Agile methodologies empower online bidding system teams to respond promptly to evolving market trends and user demands, ensuring that the platform remains competitive and aligned with customer expectations.

In the Below Table 1.5, its shows the steps of the process Model for an online Bidding system.

Table 1.5: Steps of the Process Model for an Online Bidding System

Step	**Description**
1	Users browse through the system to explore available products or services.
2	Upon selecting items, users proceed to a streamlined and user-friendly checkout process.
3	Users input their shipping details and choose a payment method during the checkout process.
4	The system securely processes the payment through an integrated payment gateway, ensuring the confidentiality of financial information.
5	Following a successful transaction, users receive confirmation and digital receipts.
6	The system includes features like order tracking and notifications to enhance user experience.
7	Well-defined refund and return policies are implemented to address customer concerns.
8	Regular testing, compliance with legal regulations, and robust customer support contribute to a seamless and trustworthy online bidding experience for users.

1.8.11 Steps of Process Model

The process model for an online bidding system typically involves several key steps, ensuring a seamless and trustworthy experience for users. Firstly, users navigate through the system to explore a diverse range of available products or services. With an intuitive interface, they effortlessly browse through categories and listings, facilitated by smart search functionalities.

Upon finding items of interest, users proceed to a streamlined and user-friendly checkout process. Here, they input their shipping details and select a preferred payment method from a variety of options offered by the system. The system, equipped with robust security measures, then securely processes the payment through an integrated payment gateway, safeguarding the confidentiality of users' financial information.

Following a successful transaction, users are promptly provided with confirmation of their purchase and digital receipts for their records. This immediate feedback instills confidence and satisfaction in users, affirming the reliability of the system. To further enhance user experience, the system often incorporates features such as order tracking and notifications, allowing users to stay informed about the status of their purchases at every step of the process.

Additionally, well-defined refund and return policies are meticulously implemented to address any potential concerns or issues that users may encounter. Clear and transparent guidelines reassure users, fostering trust and loyalty towards the online bidding platform.

Chapter 2

SOFTWARE REQUIREMENTS SPECIFICATION

The Online Budding System aims to provide a comprehensive platform for individuals seeking mentorship or guidance in various fields. The software requirements for this system encompass a range of features to ensure a seamless and effective user experience. Firstly, the system should have a user-friendly interface accessible through web browsers, ensuring compatibility across different devices. User authentication and authorization mechanisms must be in place to guarantee the security and privacy of user data.

The system should support user profiles, allowing individuals to create accounts, specify their areas of interest, and search for potential mentors or mentees based on relevant criteria. A robust matching algorithm is essential to connect users with similar interests or expertise, enhancing the likelihood of productive and meaningful mentorship relationships.

Furthermore, the platform must facilitate communication between mentors and mentees, incorporating features such as messaging, video conferencing, and file sharing. To track the progress of mentorship engagements, the system should support goal-setting and progress monitoring tools. Additionally, a feedback and rating system will enable users to provide reviews and ratings, contributing to the credibility and reputation of mentors within the platform.

2.1 Introduction

The advent of the online budding system marks a significant evolution in the way individuals connect and collaborate in various domains. This innovative platform serves as a virtual nexus, facilitating the pairing of like-minded individuals or entities for mutual growth and development. Whether in the realms of mentorship, business partnerships, or skill exchange, the online budding system harnesses the power of digital connectivity to match individuals based on complementary needs and objectives. This dynamic approach transcends geographical boundaries, allowing for diverse and global collaborations. With its user-friendly interface and advanced algorithms, the online budding system not only streamlines the matchmaking process but also enhances the overall efficiency of collaborations. As we embrace this digital era, the online budding system emerges as a catalyst for fostering meaningful connections and driving synergistic relationships in an increasingly interconnected world.

2.1.1 Document Scope

The scope of an online budding system encompasses a comprehensive range of features and functionalities designed to facilitate and enhance the process of budding, fostering, and nurturing talent in various domains. This system aims to provide a platform where individuals can showcase their skills, connect with mentors, and engage in collaborative

projects to hone their abilities. The scope involves the creation of user profiles, showcasing portfolios, and the implementation of tools for effective communication and collaboration. Additionally, the system may include features such as skill assessments, personalized learning paths, and performance analytics to track the progress of budding talents. It extends its reach to diverse fields, including but not limited to arts, technology, education, and entrepreneurship. The online budding system aims to create a dynamic ecosystem that fosters creativity, skill development, and meaningful connections within a digital landscape.

2.1.2 Audience

The audience of an online budding system is diverse and spans across individuals with varied interests, skills, and aspirations. This innovative platform attracts budding talents, enthusiasts, and professionals looking to showcase their creative abilities, acquire new skills, and connect with like-minded individuals. From aspiring artists and musicians to writers, photographers, and entrepreneurs, the online budding system provides a virtual space for individuals to share their work, receive feedback, and collaborate on projects. Moreover, the audience includes mentors and industry experts who engage with the platform to discover emerging talents, offer guidance, and potentially collaborate on projects. The inclusive nature of these online budding systems fosters a vibrant and supportive community, encouraging individuals from different backgrounds to explore, learn, and grow together in their respective fields.

2.2 Functional Requirements

Login:

Authentication must be performed at the user level and check the valid user.

Browsing:

The user should be able to view items available for purchase.

Sell:

The user should be able to post an item for sale.

- The user should be able to set the initial bidding price.
- The user should be able to post a text description of the product.
- The user should be able to post images of the item.

Bidding on Items:

The user should be able to bid on items available for sale.

- Bidding details are available for individual users.

Searching for item:

The user should be able to search available items according to category. The user should be able to search available items according to title. The user should be able to search available items according to the seller.

ChatBox:

In this system we provide chatbox through which you can solve your any type of query

Adding new product category

In our system User seller and Admin can add new product category in our system.

2.3 Non-Functional Requirements

Non-functional requirements play a crucial role in shaping the overall performance and user experience of an online budding system. These requirements, while not directly related to specific functionalities, are essential for ensuring the system's effectiveness, reliability, and scalability. In the context of an online budding system, considerations must be given to factors such as performance, security, usability, and maintainability.

Reliability

The website shall always provide users with valid information.

Availability

The responsiveness of the website shall be high, and the website shall behave as per user actions. The response time and throughput time on the site shall be minimal.

Security

The website shall offer a secure login option to users to avoid unauthorized access to the system and information. Advanced encryption algorithms must be integrated into the site to prevent misuse of datasets.

Performance

The system should have a high-performance rate while executing.

2.3.1 Other Non-Functional Requirements (e.g.Legal,Platform etc.)

In addition to the functional requirements that dictate the core features and capabilities of an online budding system, various non-functional requirements play a crucial role in shaping the overall success and compliance of the platform. Legal requirements are paramount, necessitating adherence to data protection laws, privacy regulations, and intellectual property rights. Ensuring the system's compatibility with diverse platforms and devices is essential, as users may access the platform through various mediums. The online budding system must also prioritize security measures to safeguard sensitive user

In the below Table 2.1 its shows the Non functional Requirements.

Table 2.1: Non-Functional Requirement

Requirement	**Description**
Performance	The system should support a minimum of 1000 simultaneous users during peak bidding times without significant degradation in response time.
Security	User data, including personal and financial information, should be encrypted during transmission and storage. Access controls should be in place to restrict unauthorized access to sensitive data.
Usability	The user interface should be intuitive and user-friendly, with clear navigation and instructions. It should be accessible to users with disabilities.
Compatibility	The system should be compatible with major web browsers (Chrome, Firefox, Safari, and Edge) and support both desktop and mobile devices.
Maintainability	The codebase should be well-documented, modular, and designed to facilitate future updates and enhancements.

data, employing encryption protocols and secure authentication mechanisms. Scalability is another non-functional requirement, anticipating the potential growth in user base and data volume, and ensuring the system can seamlessly handle increased demand. Accessibility standards should be incorporated to guarantee inclusivity for users with disabilities, aligning with international accessibility guidelines. Furthermore, performance considerations such as response time and system availability are critical to providing a seamless user experience. In summary, a comprehensive approach to non-functional requirements, encompassing legal compliance, platform compatibility, security, scalability, accessibility, and performance, is essential for the robust and sustainable functioning of an online budding system.

2.4 Requirement Gathering Techniques Used

In an Agile model for developing an online bidding system using PHP, several requirement gathering techniques can be utilized to ensure the project's success. Here are some techniques commonly used in Agile environments:

1. **User Stories:** Agile teams often use user stories to capture requirements from the perspective of end-users. Each user story describes a specific feature or functionality from the user's point of view, including who the user is, what they want to accomplish, and why.

2. **Requirements Workshops:** Requirements workshops bring together stakeholders, developers, and users to collaborate on gathering and refining requirements. These workshops can take various forms, such as brainstorming sessions, interactive discussions, or design thinking workshops.

3. **Prototyping:** Prototyping involves creating visual representations or mockups of the online bidding system to gather feedback and validate requirements. Agile teams can use prototyping tools to quickly create interactive prototypes that stakeholders can interact with and provide feedback on.

4. **Interviews and Surveys:** Agile teams can conduct interviews with stakeholders, including users, customers, and subject matter experts, to gather requirements. Interviews provide an opportunity to delve deeper into stakeholders' needs, preferences, and pain points. Surveys can also be used to collect feedback from a larger audience.

5. **Observation:** Observing users as they interact with similar online bidding systems or conducting site visits to observe their workflows can provide valuable insights into their needs and behaviors.

6. **Story Mapping:** Story mapping is a collaborative technique that involves visualizing user stories on a timeline or map, organized by user activities or workflow steps. Story mapping helps Agile teams understand the end-to-end user journey and identify dependencies and priorities among different features or functionalities.

7. **Acceptance Criteria Definition:** Agile teams define acceptance criteria for each user story to clearly articulate the conditions that must be met for the story to be considered complete. Acceptance criteria serve as a checklist for validating whether the implemented functionality meets the user's expectations and requirements.

2.5 Time Frame

Developing an online bidding system using PHP/MySQLi involves several stages, each with its own time requirements:

1. **Planning and Requirements Gathering:** (1-2 weeks)
    - Define project scope, objectives, and key features.
    - Gather requirements from stakeholders and end-users.
    - Create a detailed project plan and timeline.
2. **Design and Prototyping:** (2-3 weeks)
    - Design the system architecture, database schema, and user interface.
    - Create wireframes and prototypes to visualize the system's functionality.
    - Review and iterate on the design based on feedback.

3. **Development:** (4-8 weeks)
    - Implement core functionality, including user authentication, product listing, bidding, and payment processing.
    - Develop administrative features for managing products, users, and bids.
    - Test each feature thoroughly to ensure functionality and security.
4. **Testing and Quality Assurance:** (2-4 weeks)
    - Conduct unit testing, integration testing, and system testing to identify and fix bugs.
    - Perform security testing to safeguard against vulnerabilities.
    - Validate system performance and scalability under load.
5. **Deployment and Launch:** (1-2 weeks)
    - Prepare for deployment to production servers, ensuring compatibility and performance.
    - Deploy the system to production environment and perform final checks.
    - Communicate launch to stakeholders and users, providing necessary training and support.
6. **Post-launch Optimization and Maintenance:** (Ongoing)
    - Monitor system performance and user feedback for areas of improvement.
    - Address any issues or bugs that arise post-launch.
    - Plan for future enhancements and updates based on user needs and market trends.

Chapter 3

SOFTWARE PROJECT PLAN

A software project plan is essential for successful software development. It provides a roadmap, ensuring that everyone involved understands the project's scope, tasks, timelines, and responsibilities.

3.1 Deliverables of the Project

The project deliverables for the online bidding system using PHP/MySQLi encompass various essential components. These include a comprehensive project plan detailing scope, objectives, timeline, resources, and team responsibilities. Additionally, a requirements document is crucial, outlining both functional and non-functional requirements. System design artifacts, such as architecture diagrams and technical specifications, form another vital deliverable. A prototype demonstrating key functionalities showcases feasibility. The actual implementation of the system using PHP/MySQLi constitutes a significant milestone. Comprehensive documentation, including user manuals and technical guides, facilitates usage and maintenance. A well-defined testing plan ensures system quality and reliability. Training materials enable end-users and administrators to effectively utilize the system. Data analysis reports provide insights for informed decision-making. A final report summarizes project outcomes, lessons learned, and future recommendations. The deployed system represents the culmination of development efforts, ready for deployment or implementation. A maintenance plan outlines ongoing support and maintenance activities to ensure the system's longevity and effectiveness.

1. **Project Plan:** A comprehensive document outlining the project scope, objectives, timeline, resources, and responsibilities.
2. **Requirements Document:** Specification of functional and non-functional requirements of the online bidding system.
3. **System Design Documents:** Detailed architecture, technical specifications, and design diagrams.
4. **Prototype or Proof of Concept:** A demonstration of key functionalities or a prototype to validate the system's feasibility.
5. **Software Code:** The developed codebase including backend, frontend, and any necessary scripts or APIs.
6. **User Documentation:** Manuals, guides, or tutorials for end-users on how to use the online bidding system.
7. **Testing Artifacts:**
    a. Test Plan: Outlining the testing strategy, approach, and resources.

b. Test Cases: Detailed scenarios and steps for testing different aspects of the system.

8. **Training Materials:** Resources for training administrators and users on system usage, maintenance, and best practices.
9. **Data Analysis Reports:** Reports summarizing data analysis and insights gained from the bidding system's usage.
10. **Final Report:** A comprehensive document summarizing the project objectives, achievements, challenges, and recommendations for future enhancements.
11. **Deployed Online Bidding System:** The finalized, tested, and ready-to-use online bidding system.
12. **Maintenance and Support Plan:** Guidelines and procedures for ongoing maintenance, support, and system updates.

In the Below Table 3.1, its shows the Deliverables of the online bidding system.

Table 3.1: Deliverables of the Online Bidding System Project

Deliverable	**Description**
Project Plan	Document outlining project scope, objectives, timeline, resources, and responsibilities of team members.
Requirements Document	Specification of functional and non-functional requirements of the online bidding system.
Design Documents	System architecture, technical specifications, and design diagrams for the online bidding system.
Prototype or Proof of Concept	Demonstrates feasibility or showcases key functionalities of the online bidding system.
Software Code	Implementation of the online bidding system, including scripts, applications, or programs.
Documentation	User manuals, installation guides, and technical documents for end-users or maintenance personnel.
Test Plan and Test Cases	Strategy, scenarios, and test cases to ensure the quality of the online bidding system.
Training Materials	Materials for training end-users or administrators on using the online bidding system.
Data Analysis and Reports	Reports, dashboards, or presentations summarizing data analysis findings and insights.
Final Report	Summary of project objectives, outcomes, lessons learned, and recommendations for future work.
Deployed System or Solution	Final product or solution ready for deployment or implementation.
Maintenance and Support Plan	Details on ongoing maintenance and support for the online bidding system.

3.2 Software Project Management Plan

The purpose of this software project plan is to provide a comprehensive overview of the development process for the online bidding system project. The online bidding system aims to create a user-friendly platform that enables users to participate in auctions, place bids on items or services, and facilitate transactions securely. This project plan outlines the key objectives, scope, stakeholders, deliverables, timelines, and resources required to achieve the project's goals effectively.

3.2.1 Project Overview

The online bidding system project involves the development of a web-based platform that facilitates transparent and efficient auctions for buying and selling goods and services. The platform will be built using PHP, a widely-used server-side scripting language, along with MySQL for database management. The system will enable users to create listings, place bids, and manage auctions seamlessly, providing a user-friendly and secure online auction experience.

3.2.2 Project Scope

Introduction The project aims to develop a comprehensive online bidding system using PHP, MySQL, HTML, CSS, and JavaScript. The system will provide a platform for users to participate in auctions for various products and services.

Features

- **User Registration and Authentication:** Allow users to register and log in securely to access the platform.
- **Listing Management:** Enable users to create, edit, and manage their listings for auction.
- **Bidding Functionality:** Allow users to place bids on listed items and view current bid status.
- **Auction Management:** Admin panel to manage auctions, including setting starting prices, auction durations, and closing bids.
- **User Feedback and Ratings:** Allow users to leave feedback and ratings for sellers based on their auction experiences.
- **Search and Filtering:** Provide search and filtering options to help users find specific items of interest.
- **Admin Dashboard:** Admin dashboard to monitor and manage user activity, listings, and transactions.
- **ChatBox:** if you have any query you can use ChatBox

Technical Requirements

- **Backend:** PHP for server-side scripting, MySQL for database management.
- **Frontend:** HTML, CSS, JavaScript for user interface design and interactivity.
- **Framework:** Utilize a PHP framework such as Laravel or CodeIgniter for rapid development and scalability.
- **Security:** Implement secure authentication, data encryption, and protection against common web vulnerabilities.
- **Scalability:** Design the system to handle a large number of concurrent users and listings efficiently.

Constraints

- **Time Constraints:** The project must be completed within a specified timeline to meet business objectives.
- **Budget Constraints:** Adhere to budget limitations and minimize unnecessary expenses.
- **Technical Constraints:** Ensure compatibility with existing infrastructure and technical requirements.

Deliverables

- Fully functional online bidding system deployed on a web server.
- User documentation and guides for registration, listing creation, bidding, and payment processes.
- Admin documentation for managing auctions, users, and transactions.
- Training materials for administrators and support staff.

3.2.3 Project Timeline

Project Timeline is the process of managing time of planning, Design, Development, Testing, Deployment and Post deployment.

3.2.3.1 Phase 1: Planning and Requirement Gathering Planning and requirement gathering is a critical phase in the development of an online bidding system. This phase ensures that the project has a clear direction and meets the needs of all stakeholders.

- **Duration:** 8 weeks

- **Tasks:**
  - Define project goals and scope.
  - Identify stakeholders.
  - Conduct requirement gathering.
  - Create project plan and allocate resources.

3.2.3.2 Phase 2: Design Create detailed designs and system architecture to guide development.

- **Duration:** 10 weeks
- **Tasks:**
  - Develop high-level system architecture.
  - Create detailed system design.
  - Design user interface and database schema.

3.2.3.3 Phase 3: Development Implement the features and functionalities of the online bidding system.

- **Duration:** 16 weeks
- **Tasks:**
  - Implement online bidding system.
  - Regularly test and iterate on code.

3.2.3.4 Phase 4: Testing Ensure the online bidding system functions correctly and meets quality standards

- **Duration:** 8 weeks
- **Tasks:**
  - Conduct unit testing, integration testing, and system testing.
  - Address and fix identified issues.

3.2.3.5 Phase 5: Deployment eploy the online bidding system into the production environment. Ensure all necessary configurations are in place for live operation. Minimize downtime and disruptions during deployment.

- **Duration:** 6 weeks
- **Tasks:**
  - Prepare for system deployment.
  - Deploy system to production.

3.2.3.6 Phase 6: Post-Deployment & Maintenance

- **Duration:** Ongoing
- **Tasks:**
  - Monitor system performance.
  - Address post-deployment issues.
  - Provide ongoing maintenance and support.

3.2.4 Resources

Human Resources

- **Project Manager**: Responsible for overall project management, coordination, and communication with stakeholders.
- **Development Team**: Cross-functional team consisting of:
  - PHP Developers
  - Frontend Developers (HTML/CSS/JavaScript)
  - Database Administrators (MySQL)
  - Quality Assurance/Testers
- **Scrum Master**: Facilitates Agile ceremonies, removes impediments, and ensures adherence to Scrum principles.
- **Product Owner**: Represents stakeholders, defines product vision, and prioritizes backlog items.
- **UI/UX Designer**: Designs user interface and user experience for the online bidding system.
- **Technical Writers**: Create user documentation, admin guides, and training materials.

Infrastructure

- **Development Environment**: Workstations/laptops with necessary software tools and development environments (e.g., IDEs, version control systems).
- **Testing Environment**: Servers or cloud-based platforms for testing and quality assurance.
- **Production Environment**: Web hosting services or dedicated servers for deploying the live online bidding system.
- **Collaboration Tools**: Project management tools (e.g., Jira, Trello), communication tools (e.g., Slack, Microsoft Teams), version control systems (e.g., Git, SVN).

Budget

- **Personnel Costs**: Salaries, benefits, and other expenses associated with hiring and retaining team members.
- **Infrastructure Costs**: Costs related to purchasing or renting hardware, software licenses, and hosting services.
- **Training Costs**: Expenses for training team members and stakeholders on using the online bidding system.
- **Miscellaneous Costs**: Any other project-related expenses, such as travel, marketing, or legal fees.

3.2.5 Risks

Identifying and managing risks is crucial to the success of any project, including the development of an online bidding system.

Technical Risks specific technical risks that you might encounter when developing an online bidding system

- **Scalability Issues**: The online bidding system may experience performance issues as the number of users and listings grows, leading to slow response times and system crashes.
- **Security Vulnerabilities**: The system may be vulnerable to hacking, data breaches, or unauthorized access, compromising user information and transaction security.
- **Compatibility Issues**: Compatibility issues may arise with different web browsers, devices, or operating systems, affecting the user experience and functionality of the system.
- **Third-party Integration Problems**: Integration with payment gateways, shipping services, or other third-party APIs may encounter technical challenges or disruptions, impacting transaction processing and functionality.

Operational Risks

- **User Adoption**: Low user adoption rates or engagement levels may occur if the online bidding system fails to meet user expectations, resulting in underutilization of the platform and reduced revenue.
- **Regulatory Compliance**: Failure to comply with legal and regulatory requirements related to online auctions, data privacy, and consumer protection laws may lead to fines, legal action, or reputational damage.
- **Transaction Disputes**: Disputes between buyers and sellers over auction outcomes, payment issues, or item quality may arise, resulting in customer dissatisfaction and damage to the platform's reputation.

Project Management Risks

- **Scope Creep**: Changes to project scope, requirements, or deliverables may occur without proper management, leading to delays, budget overruns, and reduced project quality.
- **Resource Constraints**: Inadequate resources, such as skilled personnel, budget, or time, may hinder project progress and limit the team's ability to deliver the online bidding system on schedule and within budget.
- **Communication Breakdown**: Poor communication and collaboration among team members, stakeholders, or external partners may result in misunderstandings, delays in decision-making, and misalignment of project goals.

3.2.6 Conclusion

In conclusion, the development of the online bidding system, as outlined in the software project plan, has been a significant endeavor marked by both successes and challenges. By adhering to the structured approach laid out in the project plan, we have been able to effectively navigate through various phases of the project lifecycle, ultimately delivering a robust and functional online bidding platform.

One of the key strengths of the software project plan was its comprehensive nature, providing a detailed roadmap that guided us through the initiation, planning, execution, monitoring, and closure phases of the project. This structured approach enabled us to define clear objectives, allocate resources efficiently, and establish realistic timelines and milestones.

Moreover, the project plan facilitated effective communication and collaboration among team members, stakeholders, and project sponsors. Regular progress meetings, status reports, and milestone reviews ensured that everyone remained aligned with project goals and objectives throughout the development process.

Additionally, the risk management strategies outlined in the project plan proved invaluable in mitigating potential threats and uncertainties that could have derailed the project. By identifying and addressing risks proactively, we were able to minimize disruptions and maintain project momentum, ultimately safeguarding the project's success.

However, despite the strengths of the software project plan, we encountered several challenges along the way. Adapting to unforeseen changes in requirements, technology, and market dynamics required a degree of flexibility and agility that, at times, tested the resilience of our project team. Moreover, resource constraints and competing priorities occasionally impacted our ability to adhere strictly to the planned timeline and scope.

Looking ahead, there are several opportunities for improvement and refinement based on our experiences with the online bidding system project. Conducting a comprehensive post-implementation review will enable us to identify lessons learned, best practices, and areas for optimization that can inform future projects and initiatives. Additionally, incorporating feedback from end-users and stakeholders will be critical in driving continuous improvement and enhancing the functionality and usability of the online bidding platform.

In conclusion, the successful completion of the online bidding system project, as outlined in the software project plan, underscores the importance of careful planning, effective communication, and proactive risk management in achieving project objectives. While there were challenges along the way, the dedication, teamwork, and strategic approach demonstrated by the project team have paved the way for a successful outcome that meets the needs and expectations of our stakeholders.

In the Below Table 3.2, its shows the software project plan.

Table 3.2: Software Project Plan

Task	**Responsible Party**
Project Planning	Project Manager
Define Project Goals and Scope	Project Manager
Identify Stakeholders	Project Manager
Requirement Gathering	Business Analyst
Create Project Plan	Project Manager
Allocate Resources	Project Manager
System Architecture Design	System Architect
Detailed System Design	System Designer
Design User Interface	UI/UX Designer
Design Database Schema	Database Architect
Implementation	Development Team
Testing	QA Team
Unit Testing	Development Team
Integration Testing	QA Team
System Testing	QA Team
Address Identified Issues	Development Team
Prepare for Deployment	DevOps Team
Deploy System to Production	DevOps Team
Monitor System Performance	Operations Team
Address Post-Deployment Issues	Development Team
Provide Ongoing Maintenance and Support	Support Team

3. Project Planning

In implementing an online bidding system using the Agile model, the project plan will emphasize iterative development cycles, frequent stakeholder collaboration, and adaptability to changing requirements. The plan will entail breaking down the development process into short sprints, each lasting a few weeks, during which specific features and functionalities of the system will be developed, tested, and delivered. Continuous feedback from stakeholders will be incorporated into each sprint, allowing for rapid adjustments and improvements. The Agile project plan will prioritize delivering high-value features early, ensuring that the system remains flexible and responsive to evolving market needs. Daily stand-up meetings, regular sprint reviews, and retrospectives will facilitate communication, transparency, and continuous improvement throughout the project lifecycle.

3.2 Schedule In the Agile model, the schedule for developing an online bidding system in PHP will be structured into iterative sprints, typically lasting two to four weeks each. The project will commence with a sprint 0, focused on project setup, initial planning, and defining the product backlog. Subsequent sprints will involve development, testing, and delivery of prioritized user stories from the backlog. Each sprint will begin with a sprint planning meeting, where the team selects user stories for implementation based on their priority and estimated effort. Daily stand-up meetings will be held to review progress, identify any obstacles, and adjust the plan as needed. At the end of each sprint, a sprint review will be conducted to demonstrate completed work to stakeholders and gather feedback, followed by a sprint retrospective to reflect on what went well and areas for improvement. This iterative approach allows for flexibility, responsiveness to change, and continuous delivery of value to stakeholders throughout the project.

3.3 Resource Allocation

In the Agile model, resource allocation for developing an online bidding system in PHP follows a dynamic and collaborative approach. A cross-functional team comprising PHP developers, frontend developers proficient in HTML, CSS, and JavaScript, database administrators, quality assurance specialists, graphic designers, and technical support staff is assembled. The team members collectively participate in all phases of the project, contributing their expertise and collaborating closely to achieve project objectives. Resources are allocated iteratively based on the priorities defined in the product backlog, with team members taking on tasks according to their skills and availability. Continuous communication and coordination among team members ensure efficient utilization of resources and effective progress towards project milestones. Additionally, the Agile framework promotes flexibility, allowing for adjustments in resource allocation as project requirements evolve and new insights are gained throughout the development process.

4. Risk Management

Effective risk management for an online budding system involves a comprehensive approach to identify, assess, and mitigate potential threats. This includes implementing robust cybersecurity measures to safeguard user data and financial transactions, regularly updating security protocols to stay ahead of evolving threats, and monitoring for unusual or suspicious activities. Additionally, the implementation of stringent authentication and authorization processes helps prevent unauthorized access. A well-defined contingency plan should be in place to address potential disruptions, such as server failures or cyberattacks, ensuring business continuity.Continuous monitoring, data encryption, user education on security practices, and adherence to industry compliance standards are critical elements in building a resilient risk management framework for an online budding system.

4.1 Risk Identification

In the Agile model, risk management for developing an online bidding system in PHP involves identifying, assessing, and mitigating potential risks throughout the iterative development process. The project team, comprising stakeholders, developers, and other relevant members, collaboratively identifies risks during regular sprint planning meetings, daily stand-ups, and retrospectives. Risks are categorized based on their impact and likelihood, with a focus on those that could hinder project progress or compromise

the system's functionality, security, or quality. Mitigation strategies are then devised and implemented iteratively, with an emphasis on addressing high-priority risks early in the development cycle. Continuous monitoring and adaptation ensure that new risks are identified and managed effectively as the project progresses, thereby minimizing disruptions and maximizing the likelihood of project success.

4.2 Risk Assessment

In the Agile model, risk assessment for developing an online bidding system in PHP involves evaluating potential threats and uncertainties that could impact project objectives, timeline, and quality. Risks are identified through collaborative efforts within the project team, including stakeholders, developers, and subject matter experts, leveraging techniques such as brainstorming, scenario analysis, and historical data review. Each identified risk is then assessed based on its likelihood of occurrence and potential impact on the project. Risks with high probability and significant impact are prioritized for mitigation or contingency planning, while lower-priority risks may be monitored or accepted with appropriate mitigation measures in place. The Agile approach allows for ongoing risk assessment and adjustment as new information emerges and project conditions evolve, ensuring that potential threats are addressed proactively to minimize their impact on project success.

4.3 Risk Mitigation

In the Agile model, risk mitigation for developing an online bidding system in PHP involves a proactive and iterative approach to addressing potential threats to project success. Identified risks are analyzed to determine appropriate mitigation strategies, which may include measures such as frequent testing, modular development, and continuous integration to mitigate technical risks. Additionally, collaborative planning and communication within the Agile team help mitigate risks associated with requirements volatility and stakeholder alignment by enabling rapid adaptation to changing priorities and feedback. Regular sprint reviews and retrospectives provide opportunities to identify and address emerging risks early in the development process, while ongoing monitoring and adjustment ensure that mitigation efforts remain effective throughout the project lifecycle. This iterative and adaptive approach to risk mitigation in the Agile model helps minimize the impact of potential threats and increases the likelihood of project success.

5. Quality Management

In the Agile model, quality management for developing an online bidding system in PHP is integrated throughout the iterative development process to ensure that the delivered product meets or exceeds stakeholder expectations. Quality management begins with the establishment of clear acceptance criteria for each user story or feature, allowing for continuous validation and verification of deliverables during sprint reviews. Automated testing, including unit tests, integration tests, and acceptance tests, is leveraged to detect defects early and ensure code stability and functionality. Additionally, regular code reviews and pair programming promote code quality and knowledge sharing among team members. Continuous integration and deployment practices enable rapid feedback loops and facilitate the early detection and resolution of integration issues. Throughout the project, a focus on collaboration, transparency, and continuous improvement fosters a culture of quality and drives ongoing refinement of processes and practices to deliver a

high-quality online bidding system.

5.1 Quality Objectives

In adopting the Agile model for the development of an online bidding system in PHP, the quality objectives are multifaceted and dynamic. They encompass not only the functionality and performance of the system but also the user experience, security, and maintainability. Quality objectives include achieving high customer satisfaction through regular delivery of valuable features, ensuring system stability and reliability through rigorous testing and continuous integration, enhancing security measures to protect user data and transactions, and optimizing the system's scalability and maintainability for future growth and enhancements. Additionally, fostering a collaborative and transparent environment within the Agile team promotes effective communication, knowledge sharing, and alignment with stakeholder expectations, ultimately contributing to the overall quality and success of the online bidding system.

5.2 Quality Assurance Activities

In the Agile model, quality assurance activities for developing an online bidding system in PHP are integrated into every stage of the project lifecycle to ensure the delivery of a high-quality product. Quality assurance begins with the establishment of clear acceptance criteria for user stories, enabling continuous validation of features during sprint reviews. Automated testing, including unit testing, integration testing, and acceptance testing, is employed to detect defects early and ensure code stability and functionality. Additionally, continuous integration practices facilitate the rapid detection and resolution of integration issues, ensuring that the system remains stable and reliable throughout development. Regular code reviews and pair programming promote code quality and knowledge sharing among team members, while frequent retrospectives provide opportunities to reflect on and improve the team's processes and practices. By embedding quality assurance activities into the Agile development process, the team can deliver a robust and reliable online bidding system that meets or exceeds stakeholder expectations.

6. Communication Plan In implementing an online bidding system in PHP using the Agile model, the communication plan is pivotal for ensuring effective collaboration and alignment among project stakeholders. The plan outlines regular communication channels and activities, including daily stand-up meetings, sprint planning sessions, sprint reviews, and retrospectives, to facilitate transparent and open communication within the Agile team. Additionally, frequent updates and progress reports are shared with stakeholders to keep them informed about the project's status, achievements, and upcoming milestones. A centralized communication platform, such as a project management tool or collaboration software, is utilized to streamline communication and document important decisions and discussions. By fostering a culture of communication and collaboration, the communication plan enables the Agile team to respond quickly to changes, address challenges, and deliver a successful online bidding system that meets stakeholder needs and expectations.

6.1 Stakeholder Communication

In the Agile model for developing an online bidding system in PHP, stakeholder communication activities are essential for ensuring their active involvement and alignment

with project objectives. Regular stakeholder meetings, including sprint reviews and demos, are conducted to provide updates on project progress, demonstrate newly implemented features, and gather feedback. Additionally, feedback channels such as email, chat platforms, or dedicated feedback sessions are established to enable stakeholders to express their concerns, share insights, and propose changes throughout the development process. Transparent reporting on project status, risks, and impediments is also provided to stakeholders through status reports, dashboards, or other communication tools. By fostering open and transparent communication with stakeholders, the Agile team can ensure their needs are understood and addressed, leading to the successful delivery of an online bidding system that meets their expectations.

6.2 Team Communication

In the Agile model for developing an online bidding system in PHP, team communication activities are central to fostering collaboration, transparency, and efficiency within the development team. Daily stand-up meetings are held to provide updates on individual progress, discuss any obstacles or challenges, and coordinate tasks for the day. Sprint planning sessions are conducted to collectively prioritize and allocate user stories for development during each sprint. Throughout the sprint, frequent communication via chat platforms, video conferencing, or in-person discussions facilitates real-time collaboration and problem-solving among team members. Regular sprint reviews and retrospectives provide opportunities for the team to reflect on their work, celebrate achievements, and identify areas for improvement. By maintaining open lines of communication and promoting a culture of collaboration, the Agile team can effectively work together to deliver a high-quality online bidding system that meets project goals and stakeholder expectations.

7. Change Management

In the Agile model for developing an online bidding system in PHP, change management activities are integral to efficiently addressing evolving requirements and adapting to shifting priorities throughout the project. Change requests are captured and evaluated during sprint planning meetings or through continuous stakeholder engagement channels. Each proposed change is assessed for its impact on project scope, timeline, and resources, and prioritized based on its alignment with project goals and overall value to stakeholders. The Agile team collaboratively discusses and approves changes, ensuring that they are documented, communicated, and incorporated into upcoming sprints as needed. Regular retrospectives provide opportunities for the team to reflect on the effectiveness of change management processes and identify opportunities for improvement. By embracing change and maintaining flexibility, the Agile team can respond effectively to new insights, feedback, and market demands, ultimately delivering a successful online bidding system that meets evolving stakeholder needs.

7.1 Change Control Process

In the Agile model for developing an online bidding system in PHP, the change control process involves several key activities to ensure that changes are effectively managed while maintaining project momentum and quality. When a change request arises, it is captured and documented, detailing the nature of the change, its impact on project scope, timeline, and resources, and the rationale behind it. The change request is then reviewed and evaluated by the Agile team during sprint planning meetings or through continuous

stakeholder engagement channels. The team assesses the feasibility and implications of the change, considering factors such as available resources, project priorities, and stakeholder needs. If the change is deemed necessary and feasible, it is prioritized and incorporated into the product backlog for consideration in upcoming sprints. Throughout the change implementation process, clear communication channels are maintained to keep stakeholders informed about the status and impact of the change. By following this structured change control process, the Agile team can effectively manage changes while minimizing disruptions and maintaining project focus and quality.

7.2 Version Control

In the Agile model for developing an online bidding system in PHP, version control is crucial for managing changes to the codebase, facilitating collaboration among team members, and ensuring the stability and integrity of the software. Utilizing a distributed version control system such as Git, the development team maintains a central repository containing the project's codebase, allowing for seamless collaboration and coordination. Each developer works on a separate branch of the repository, enabling them to work independently on features or fixes without affecting the main codebase. Regularly scheduled code reviews and pull requests are conducted to ensure code quality, consistency, and adherence to coding standards before merging changes into the main branch. Additionally, automated tests are run to validate changes and prevent regressions. By leveraging version control effectively, the Agile team can streamline development processes, track changes accurately, and maintain a stable and reliable online bidding system throughout its lifecycle.

8. Documentation

8.1 Project Documentation

Develop and maintain:

Requirements documentation

Design documentation User manuals

Developer documentation

8.2 Knowledge Transfer

Conduct knowledge transfer sessions for team members.

Ensure documentation is accessible and up-to-date.

9. Project Closure

9.1 Formal Acceptance

Obtain formal acceptance from stakeholders.

Ensure all deliverables meet agreed-upon standards.

9.2 Lessons Learned

Conduct a project review meeting.

Document lessons learned for future projects.

10. Appendix

Include any additional information, charts, or diagrams relevant to the project.

11. Approval

This Software Project Management Plan is hereby approved by:

[M.Uzair] [21/oct/2023]

[Syed Inam] [20/jan/2024]

3.3 Managerial Process

The managerial process of the online budding system project involves a systematic approach to planning, organizing, executing, and controlling various aspects of the project to ensure its successful completion. The first phase typically involves project initiation, where the project's objectives, scope, and feasibility are defined. This is followed by detailed planning, where tasks, resources, and timelines are carefully outlined. The project manager plays a crucial role in organizing the project team, assigning responsibilities, and establishing communication channels.

Execution is the phase where the actual work of the project takes place. In the context of an online budding system, this may include developing the platform, implementing features, and integrating various components. Effective leadership, coordination, and monitoring are essential during this stage to ensure that the project stays on track and meets its objectives.

Controlling the project involves regular monitoring and assessment of progress against the planned schedule. This allows for the identification of any deviations or issues, which can then be addressed promptly. Communication within the team and with stakeholders is crucial to maintaining transparency and managing expectations.

Throughout the managerial process, risk management is also a key consideration. Anticipating potential challenges, identifying risks, and implementing strategies to mitigate them are essential to minimize disruptions and ensure the project's success. The managerial process is iterative, with feedback and lessons learned from each phase informing adjustments and improvements as the project progresses. Overall, a well-executed managerial process is fundamental to the efficient and effective delivery of an online budding system project.

3.3.1 Management Objectives and Priorities

The management objectives and priorities of the online budding system project revolve around creating a seamless and user-friendly platform for facilitating mentorship and knowledge exchange. The primary goal is to design and implement a robust system

that connects experienced mentors with budding individuals seeking guidance in various fields. The management team aims to prioritize user experience, ensuring an intuitive interface that promotes easy navigation and accessibility for both mentors and mentees. Additionally, the project focuses on scalability to accommodate a growing user base and evolving needs. Timely and effective communication channels, as well as robust security measures, are integral priorities to foster a trustworthy and secure environment for mentorship. Furthermore, the project management emphasizes continuous improvement, incorporating feedback loops to enhance the platform's features and functionalities based on user input. By aligning with these objectives, the online budding system aspires to foster meaningful connections, encourage knowledge transfer, and ultimately contribute to the professional and personal growth of its users.

3.3.2 Assumptions and Constraints

The assumptions and constraints of an online budding system project are critical considerations that shape its development and implementation. Assumptions are the factors believed to be true but not guaranteed, while constraints are the limitations that may impact the project. One assumption for the online budding system could be that users possess basic internet literacy and access. This assumption may influence the system's design and user interface. Additionally, an assumption might be that the target audience has a certain level of interest in online plant shopping. Constraints could include budgetary limitations, affecting the extent of features and functionalities that can be incorporated into the system. Technical constraints, such as compatibility with various devices and browsers, may also be present. Regulatory compliance and legal constraints, such as adhering to plant import/export regulations, can impact the system's operations. Balancing these assumptions and constraints is crucial for the successful development and deployment of an online budding system. Regular assessments and adjustments should be made throughout the project to ensure alignment with the evolving landscape of user needs and external factors.

3.4 Project Risk Management

The project risk management for the online budding system involves a comprehensive approach to identify, assess, and mitigate potential risks that may impact the successful completion of the project. One of the key risks could be related to technology, where unforeseen technical challenges or system failures may arise during the development or implementation phases. To address this, the project team should conduct thorough testing and have contingency plans in place. Another potential risk is scope creep, where the project requirements may expand beyond the initially defined scope. To mitigate this, a robust change control process should be established to evaluate and approve any changes to the project scope. Additionally, external factors such as market changes or regulatory requirements could pose risks, necessitating continuous monitoring and adaptation of the project plan. Communication breakdowns within the project team or with stakeholders may also present risks, highlighting the importance of clear and open communication channels. Regular risk assessments, ongoing monitoring, and a proactive risk response strategy are crucial components of effective project risk management for the online budding system, ensuring that the project stays on track and delivers the desired outcomes.

Risk Management Plan

The Risk Management Plan for the online budding system project is a crucial component aimed at identifying, assessing, and mitigating potential risks that may impact the successful execution of the project. The first step involves a comprehensive risk identification process, wherein potential threats and uncertainties are identified across various project dimensions, including technology, resources, and external factors. Common risks such as technical glitches, resource constraints, and changes in regulatory requirements will be thoroughly evaluated.

Once risks are identified, a thorough risk analysis will be conducted to assess their potential impact and likelihood. This analysis will enable the project team to prioritize risks based on their significance and develop appropriate mitigation strategies. For instance, contingency plans will be established to address technical issues, and resource allocation strategies will be in place to manage potential workforce shortages.

Continuous monitoring and regular risk reviews will be integral to the risk management plan. This ongoing process will allow the project team to adapt and adjust mitigation strategies as the project progresses and new risks emerge. Additionally, open communication channels will be established to encourage team members to report potential risks promptly.

Furthermore, the project will incorporate a risk response strategy that includes both proactive and reactive measures. Proactive measures involve risk avoidance, mitigation, or transfer, while reactive measures focus on developing contingency plans to address unforeseen issues as they arise.

Overall, the Risk Management Plan for the online budding system project will serve as a dynamic and integral tool in ensuring the project's success by systematically addressing and managing potential challenges throughout its life cycle.

Purpose Risk Identification:

Purpose: Identify potential risks that could affect the project, such as technical, operational, financial, or legal issues.

Benefits: Enables proactive planning to address potential problems before they escalate.

2. Risk Assessment:

Purpose: Evaluate the identified risks in terms of probability, impact, and severity.

Benefits: Prioritize risks based on their likelihood and potential consequences on the project.

3. Risk Mitigation:

Purpose: Develop strategies to minimize or eliminate the impact of identified risks.

Benefits: Helps in creating contingency plans and risk responses to handle adverse situations effectively.

4. Monitoring and Control:

Purpose: Continuously monitor risks throughout the project lifecycle.

Benefits: Ensures that the risk management plan remains relevant and adaptable to changing circumstances.

5. Communication:

Purpose: Facilitate communication about risks among project stakeholders.

Benefits: Enhances transparency and enables informed decision-making regarding risk response strategies.

6. Resource Allocation:

Purpose: Allocate resources for risk mitigation activities.

Benefits: Ensures that adequate resources are available to address potential risks as they arise.

Example Risks for an Online Bidding System:

Technical Risks: Server crashes during peak bidding times.

Security Risks: Data breaches leading to compromised user information.

Operational Risks: Payment processing failures leading to transaction issues.

Market Risks: Low user adoption affecting revenue projections.

Regulatory Risks: Non-compliance with bidding regulations leading to legal issues.

*Components of a Risk Management Plan:

Risk Identification Methodology: Techniques used to identify risks. Risk Assessment Criteria: Parameters used to assess risks. Risk Response Strategies: Actions to mitigate or respond to identified risks. Risk Monitoring and Reporting Procedures: Processes for ongoing risk evaluation and reporting mechanisms. Responsibilities: Roles and responsibilities of team members regarding risk management.

Ultimately, the risk management plan aims to anticipate potential obstacles and establish measures to ensure the successful execution of the online bidding system project while minimizing the impact of unexpected challenges.

3.4.0.1 Roles and Responsibilities Project Manager:

Role: Overall responsibility for project success and risk management. **Responsibilities:**

Risk Planning: Develop a risk management plan outlining strategies and procedures.

Risk Identification: Encourage team members to identify risks and manage the risk register.

Risk Analysis: Assess the impact and probability of identified risks.

Risk Response: Develop and implement risk mitigation plans.

Risk Monitoring: Regularly review and update risk registers and communicate changes to stakeholders.

Resource Allocation: Ensure sufficient resources for risk mitigation efforts.

2. Risk Management Team:

Role: Assists the project manager in identifying, assessing, and mitigating risks.

Responsibilities:

Risk Identification: Actively participate in identifying potential risks.

Risk Analysis: Provide input into assessing the severity and probability of risks.

Risk Response: Contribute to developing and executing risk response plans.

Risk Monitoring: Monitor risks within their domain and report updates to the project manager.

3. Technical Team:

Role: Focuses on technical aspects that may pose risks to the project. **Responsibilities:**

Identify Technical Risks: Highlight potential system failures, security vulnerabilities, or scalability issues.

Assess Impact: Evaluate how technical risks might affect project timelines or system functionality.

Implement Mitigation Measures: Propose and implement solutions to address technical risks.

4. Quality Assurance/Testing Team:

Role: Focuses on ensuring the system functions correctly and meets quality standards.

Responsibilities:

Identify Testing Risks: Highlight potential testing failures or inadequate test coverage.

Assess Impact: Evaluate how testing issues could impact the overall system reliability.

Execute Mitigation Measures: Ensure comprehensive testing and validation protocols to mitigate testing risks.

5. Legal/Compliance Team (if applicable):

Role: Ensures the project complies with relevant laws and regulations.

Responsibilities:

Identify Regulatory Risks: Highlight legal risks associated with bidding processes or data handling.

Assess Impact: Evaluate potential legal consequences and liabilities.

Mitigate Compliance Risks: Ensure the project adheres to legal requirements and mitigate risks through appropriate measures.

6. Stakeholders:

Role: Have an interest in the project's success and may be impacted by its risks.

Responsibilities:

Risk Communication: Provide input regarding potential risks and their impact from their perspective.

Risk Acceptance: Acknowledge and accept certain risks based on their implications and feasibility of mitigation.

3.4.1 Risk Management Activities

The risk management activities for an online budding system project involve a systematic approach to identifying, assessing, and mitigating potential threats that could impact the successful completion of the project. The first step is to conduct a thorough risk assessment, which includes identifying all possible risks that could arise throughout the project lifecycle. These risks may include technical challenges, resource constraints, changes in requirements, and external factors such as market fluctuations or regulatory changes. Once identified, these risks are assessed in terms of their probability and potential impact on the project objectives.

Following the assessment, a risk mitigation plan is developed to address the identified risks. This plan may involve preventive measures to reduce the likelihood of certain risks occurring and contingency plans to minimize the impact if they do materialize. For instance, if there is a risk of delays due to technical issues, the project team may implement a parallel development approach or allocate additional resources to expedite the resolution.

Regular monitoring and communication are crucial aspects of risk management. The project team should continually assess the status of identified risks, monitor new emerging risks, and update the risk management plan accordingly. This involves tracking key risk indicators, maintaining open communication channels within the team, and conducting periodic reviews to ensure the effectiveness of the risk mitigation measures.

In addition to proactive risk management, a reactive approach is also essential. This involves promptly addressing unforeseen risks as they arise and adapting the risk management plan as needed. Continuous learning from past experiences and incorporating feedback into future projects contribute to an organization's overall risk management

maturity.

Ultimately, an effective risk management strategy ensures that the project team is well-prepared to navigate uncertainties and challenges, increasing the likelihood of successful project delivery within the defined scope, schedule, and budget.
In the Below Table 3.3, its shows the Risk Management Activities for the Online Bidding System Project.

Table 3.3: Risk Management Activities for the Online Bidding System Project

Risk Management Activity	**Description**
Risk Identification	Identification of potential risks that could impact the project, such as technical challenges, stakeholder conflicts, or resource constraints.
Risk Assessment	Evaluation of the likelihood and impact of identified risks to prioritize them based on their severity.
Risk Mitigation Planning	Development of strategies and actions to minimize the probability or impact of identified risks. This may involve contingency planning, resource allocation, or risk avoidance measures.
Risk Monitoring	Ongoing monitoring of identified risks throughout the project lifecycle to track their status and trigger mitigation actions as necessary.
Risk Response	Execution of planned responses to address identified risks when they occur, including implementing contingency plans, reallocating resources, or adjusting project timelines.
Risk Communication	Regular communication with stakeholders about project risks, including updates on risk status, mitigation efforts, and any changes to the risk landscape.
Lessons Learned	Documentation of lessons learned from risk management activities to inform future projects and improve risk management processes.

Chapter 4

FUNCTIONAL ANALYSIS AND MODELING

4.0.1 User Stories

The Online Bidding System is a web-based platform designed to facilitate efficient and secure bidding processes for potential buyers. In this project, we aim to create a minimalistic yet effective system that allows users to participate in online auctions.

4.0.1.1 Bidders

- Register: Bidders can create accounts to participate in auctions.
- Browse Items: Bidders can view available items up for auction.
- Place Bids: Bidders can place bids on items they are interested in.
- Receive Notifications: Bidders receive real-time notifications about their bids and auction updates.
- Track Auctions: Bidders can monitor ongoing auctions in real-time.

User Story	**Description**
Register	Bidders can create accounts to participate in auctions.
Browse Items	Bidders can view available items up for auction.
Place Bids	Bidders can place bids on items they are interested in.
Receive Notifications	Bidders receive real-time notifications about their bids and auction updates.
Track Auctions	Bidders can monitor ongoing auctions in real-time.

4.0.1.2 Sellers

- Manage Listings: Sellers can create and manage item listings.
- Track Auctions: Sellers monitor auctions related to their listed items.

User Story	**Description**
Manage Listings	Sellers can create and manage item listings.
Track Auctions	Sellers monitor auctions related to their listed items.

User Story	Description
User Management	Admins manage user accounts, ensuring system integrity.
Auction Management	Admins oversee auctions, ensuring fairness and transparency.
Bid Management	Admins handle bids and resolve any conflicts.

4.0.1.3 Admin

- User Management: Admins manage user accounts, ensuring system integrity.
- Auction Management: Admins oversee auctions, ensuring fairness and transparency.
- Bid Management: Admins handle bids and resolve any conflicts.

4.0.1.4 Assumptions

- Users have stable internet connections for real-time updates.
- Eventual consistency is acceptable for notifications and analytics.
- Item management system is already available.
- The system supports Business-to-Customer interactions.

4.0.2 Individual Actor Use Cases

In an online bidding system developed in PHP, buyers engage in bidding for personal goods, real estate properties, automobiles, and art and collectibles, while sellers utilize the platform to auction off their items, ranging from personal belongings to artwork and inventory from small businesses or real estate listings.

4.1 Individual and full use case Diagram:

Bidder:

In the Figure 4.1, it show that the Bidder have three use cases View Bids, place Bid, View Item Listing.

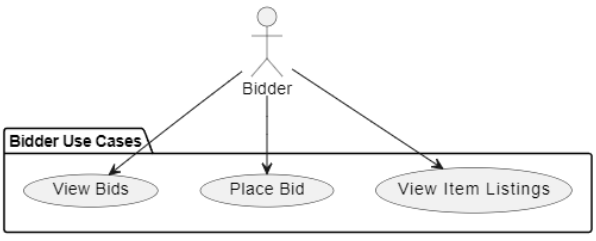

Figure 4.1: Bidder Use Case

Seller:

In Figure 4.2, its show that the Seller have two functionalities, Manage Listing and Create listing.

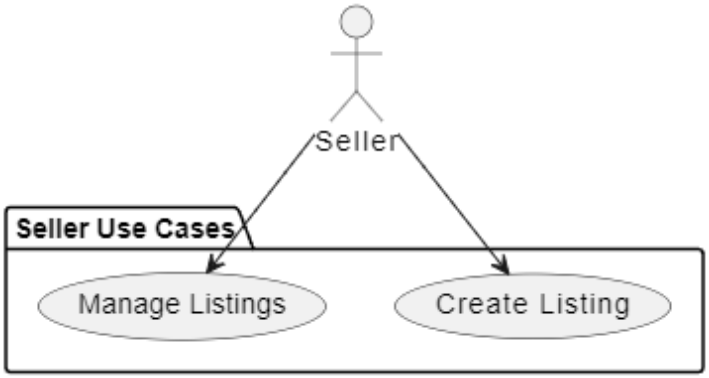

Figure 4.2: Seller Use case

Use Case Diagram:

In Figure 4.3, The following shows that the seller, admin and Bidder can have the fowing access which are given in the Fig.

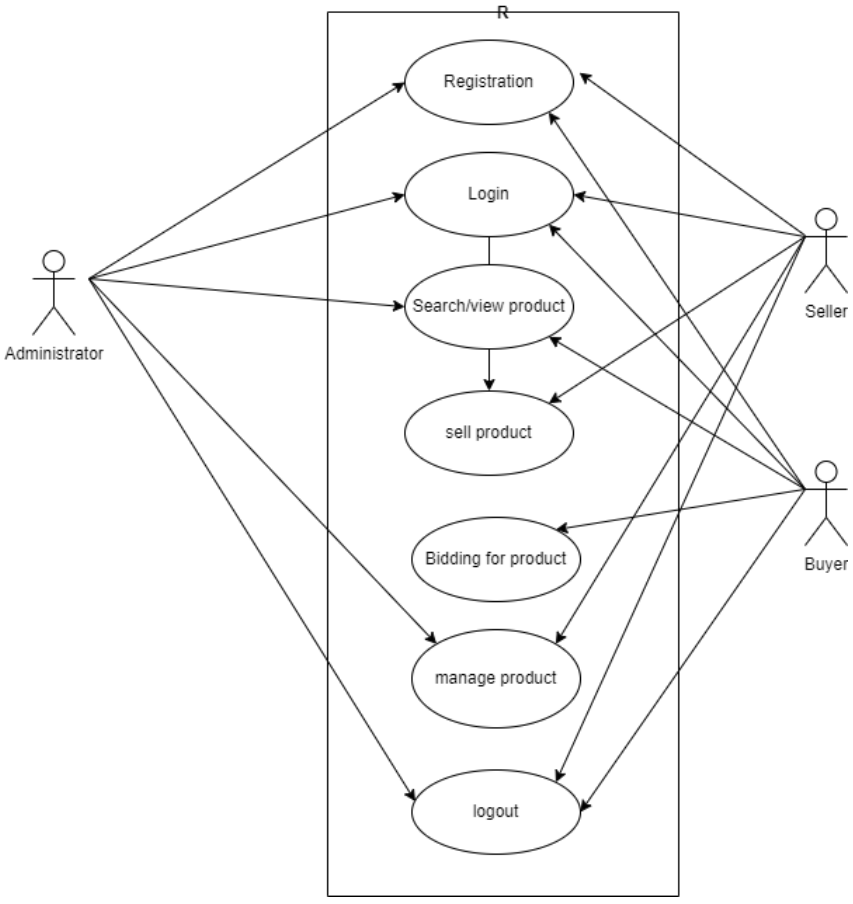

Figure 4.3: Use Case Diagram

4.2 Functional Modeling

4.2.1 Functional Requirements

- Bidding System: Implement a system that allows bidders to view available items, place bids, and retrieve information on the current highest bid.
- Real-time Updates: Provide real-time updates on the highest bid, allowing bidders to know if they have been outbid.
- Bidding Duration: Assume that each item's bidding duration is managed separately.
- Analytics and Reporting: Track bidding activity, bid history, and overall system performance.

4.2.2 Non-Functional Requirements

- Scalability: Design the system to handle 100 million registered users and 20 million daily active users.
- Performance: Ensure API response time is less than 300 ms.
- Consistency: Limit conflicts on concurrent bids to 0.5% for the same item.
- Availability: Critical services (user registration/authentication, bidding, and auctions) should have 99.9% availability.
- Analytics and Reporting: Support features for tracking user activity and system performance.
- Open Standards and Cloud Agnostic Solutions: Design solutions based on open standards for portability and modularity.

4.2.3 Data Flow Diagram:

In the figure 4.4, The customer have to make bid and then proceed to the contact with admin.

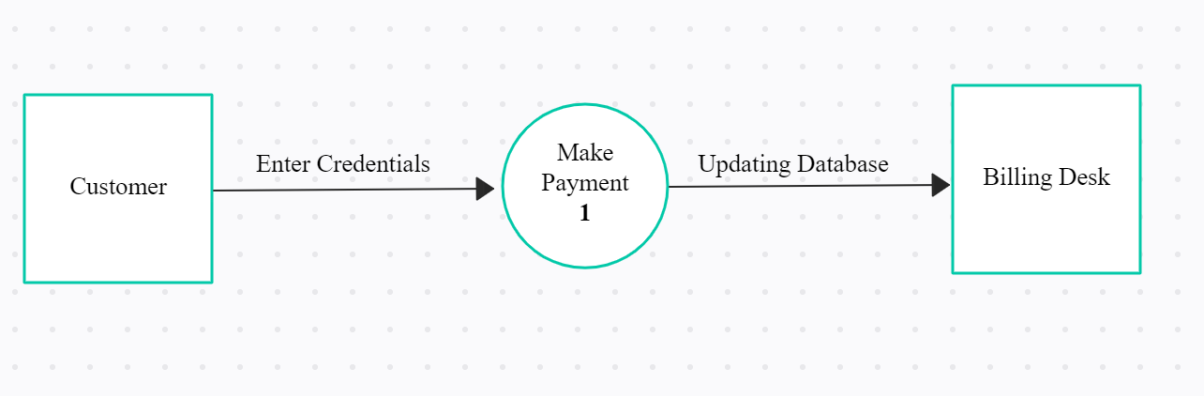

Figure 4.4: DFD Level 0

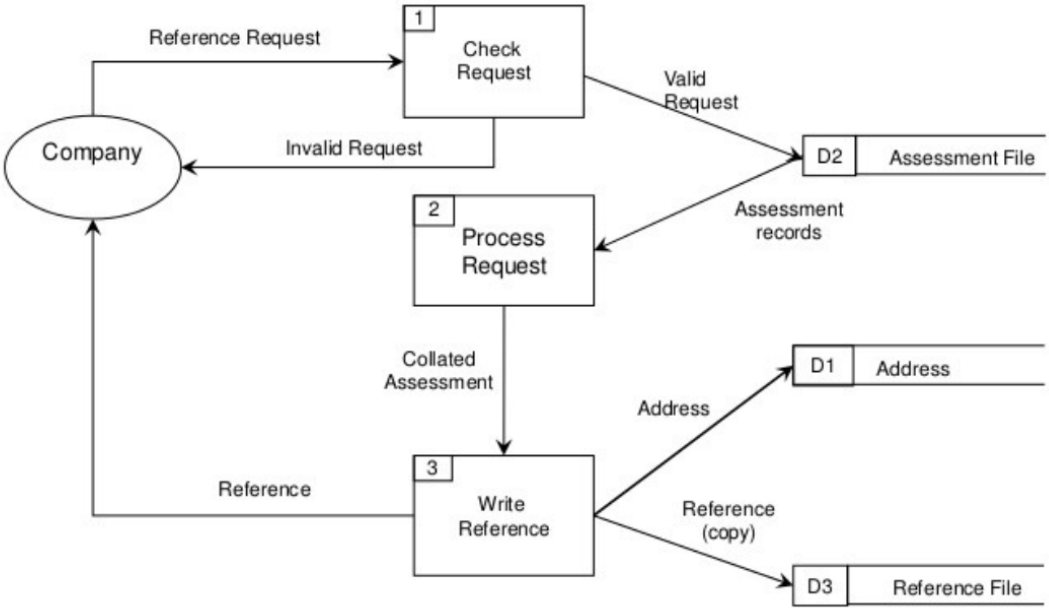

Figure 4.5: DFD Level 1

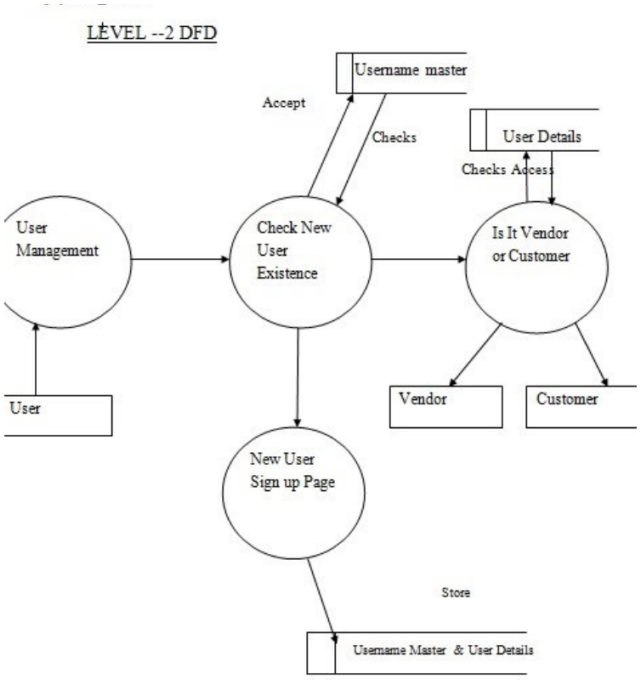

Figure 4.6: DFD Level 2

Chapter 5

SYSTEM DESIGN

The online bidding system is designed to facilitate auctions for various items. Users can register, browse items, place bids, and monitor the status of their bids.

5.1 System Components

1. **Frontend:**
   - HTML/CSS for the user interface.
   - JavaScript for client-side interactivity.
2. **Backend:**
   - PHP for server-side scripting.
   - MySQL for the database.

5.2 Database Design

1. **Users Table:**
   - `user_id`
   - `username`
   - `email`
   - `password`
   - `...` (other relevant user information)
2. **Items Table:**
   - `item_id`
   - `item_name`
   - `description`
   - `start_price`
   - `current_price`
   - `start_time`
   - `end_time`
   - `status` (active/inactive)
3. **Bids Table:**
   - `bid_id`

- `item_id`
- `user_id`
- `bid_amount`
- `bid_time`

In Figure 5.1, the structure diagram show that our bidding system have the following structure

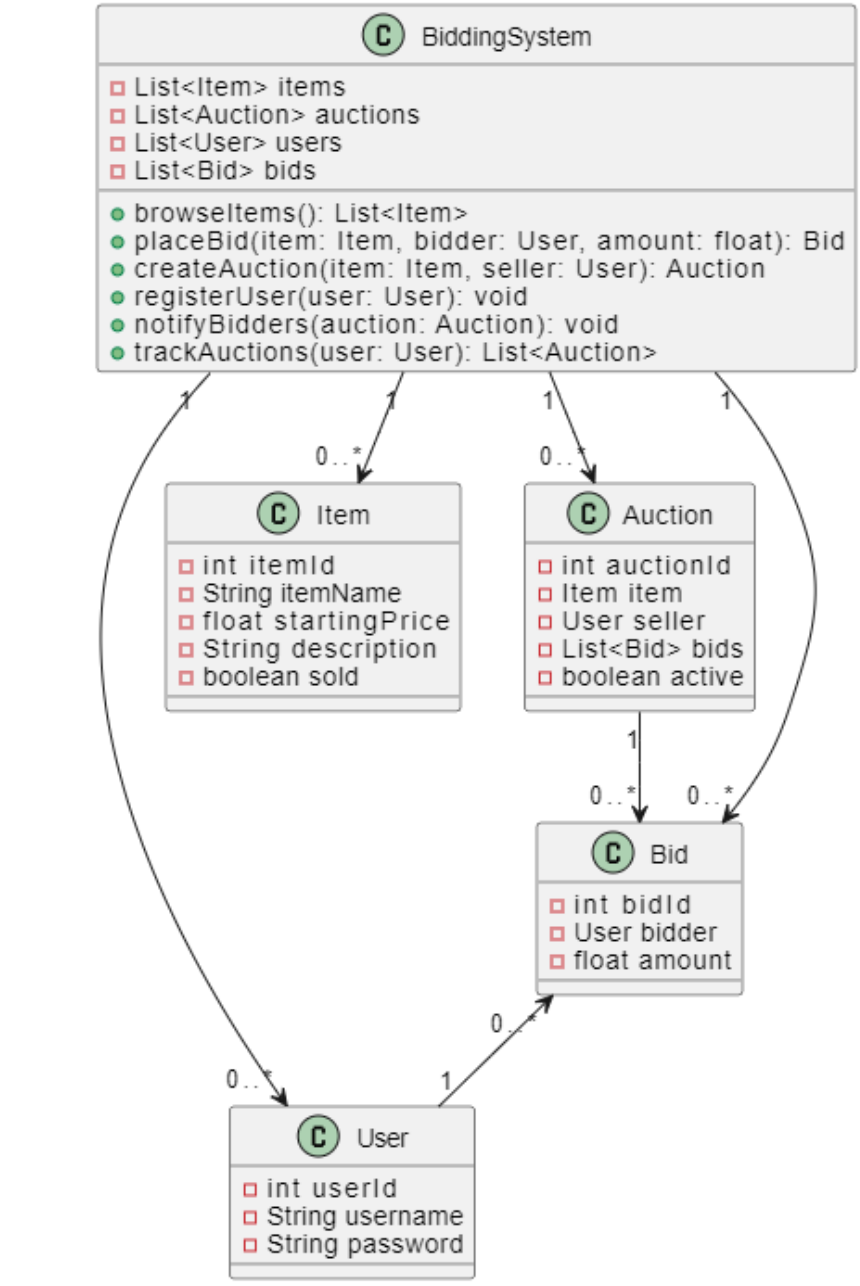

Figure 5.1: Structure Diagram

In Figure 5.2, Users are the participants in the bidding system. They have attributes such as userId, username, password, email, and address. Items represent the products or services being auctioned on the platform. Each item has attributes such as itemId, itemName, description, startingPrice, currentPrice, sellerId, and status. Bids represent the offers made by users on items. Each bid has attributes such as bidId, itemId, userId, bidAmount, and bidTime.

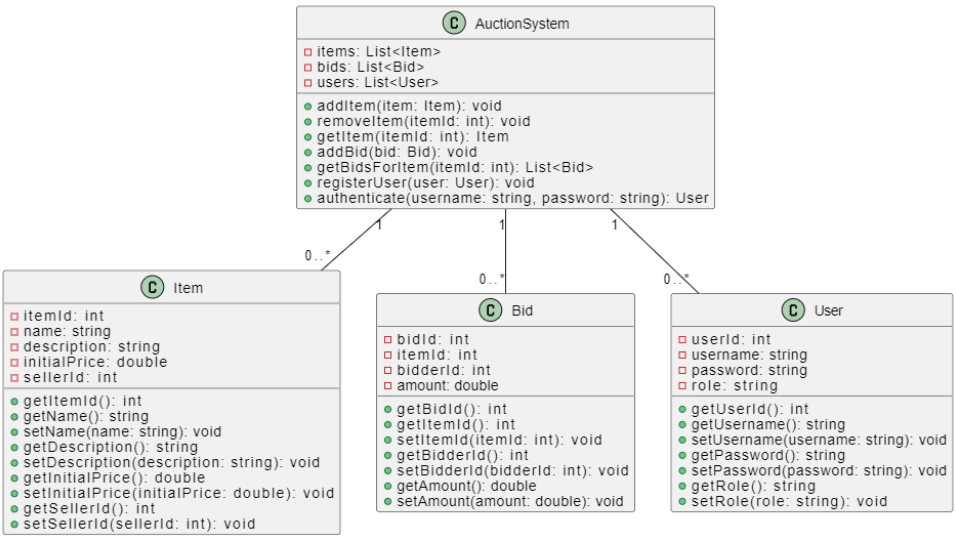

Figure 5.2: Class Diagram

In a Figure 5.3, A Deployment Diagram of an online bidding system illustrates the physical deployment of software components across various nodes.

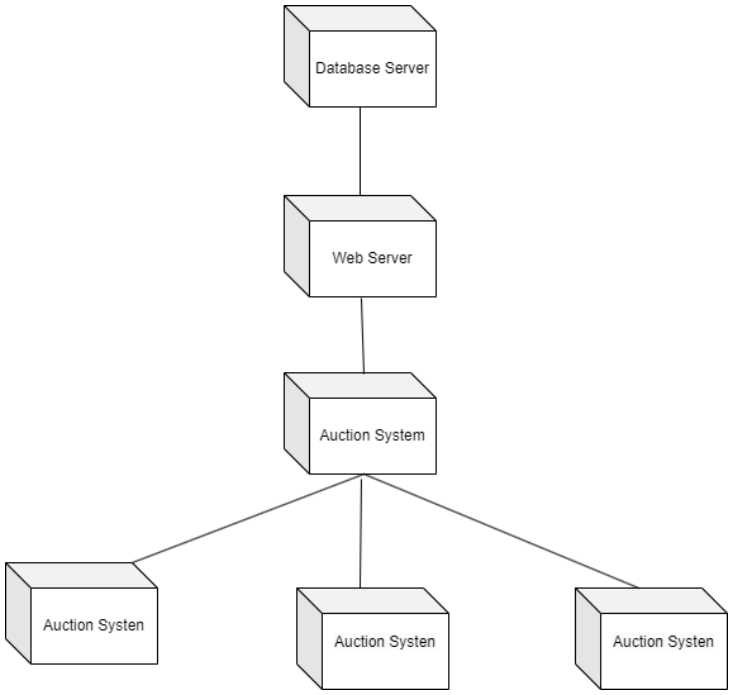

Figure 5.3: Deployment Diagram

In Figure 5.4, A behavior diagram, such as a sequence diagram, can illustrate the interaction between various components of an online bidding system

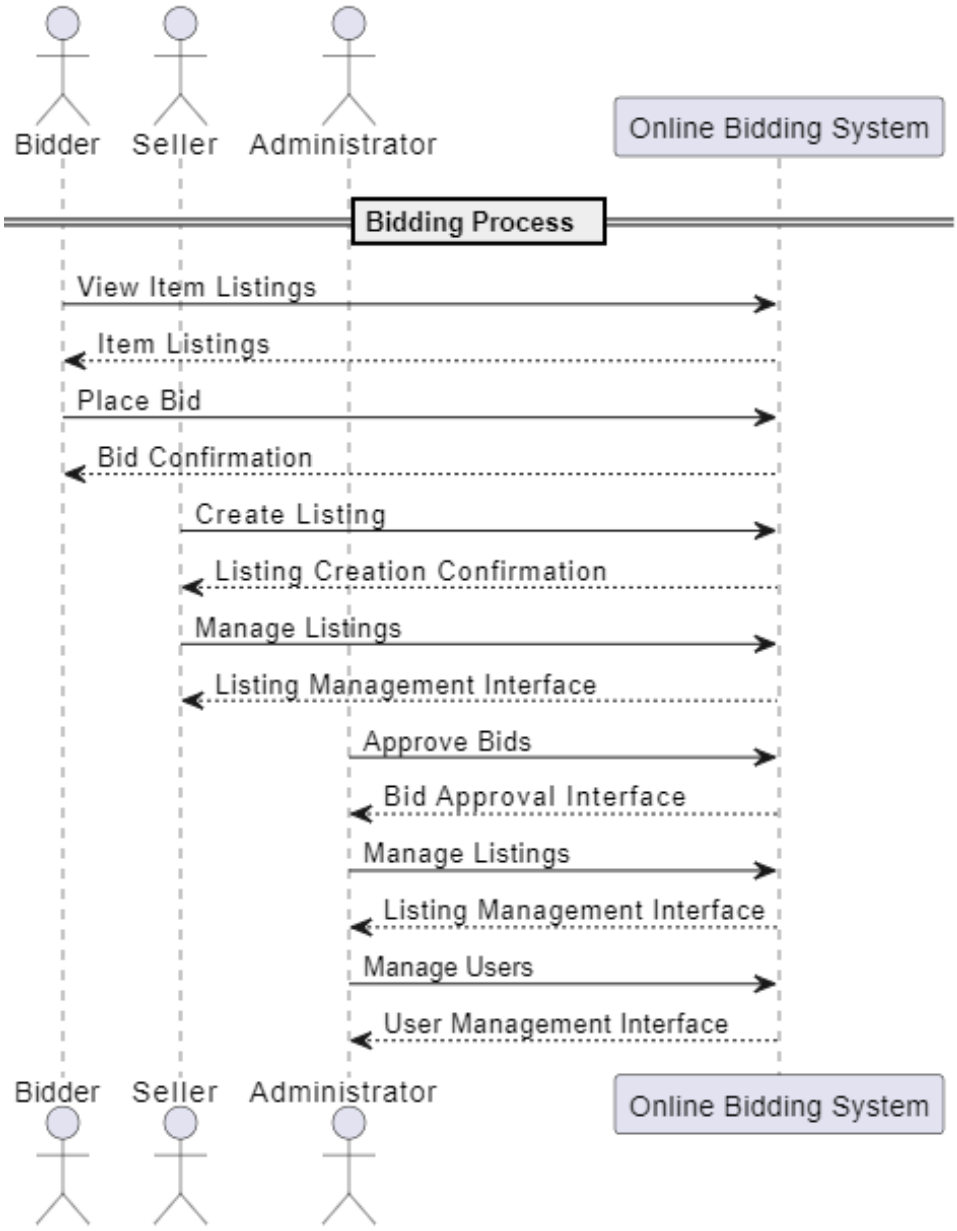

Figure 5.4: Behaviour Diagram

In a Figure 5.5, An Activity Diagram can illustrate the flow of activities within the online bidding system.

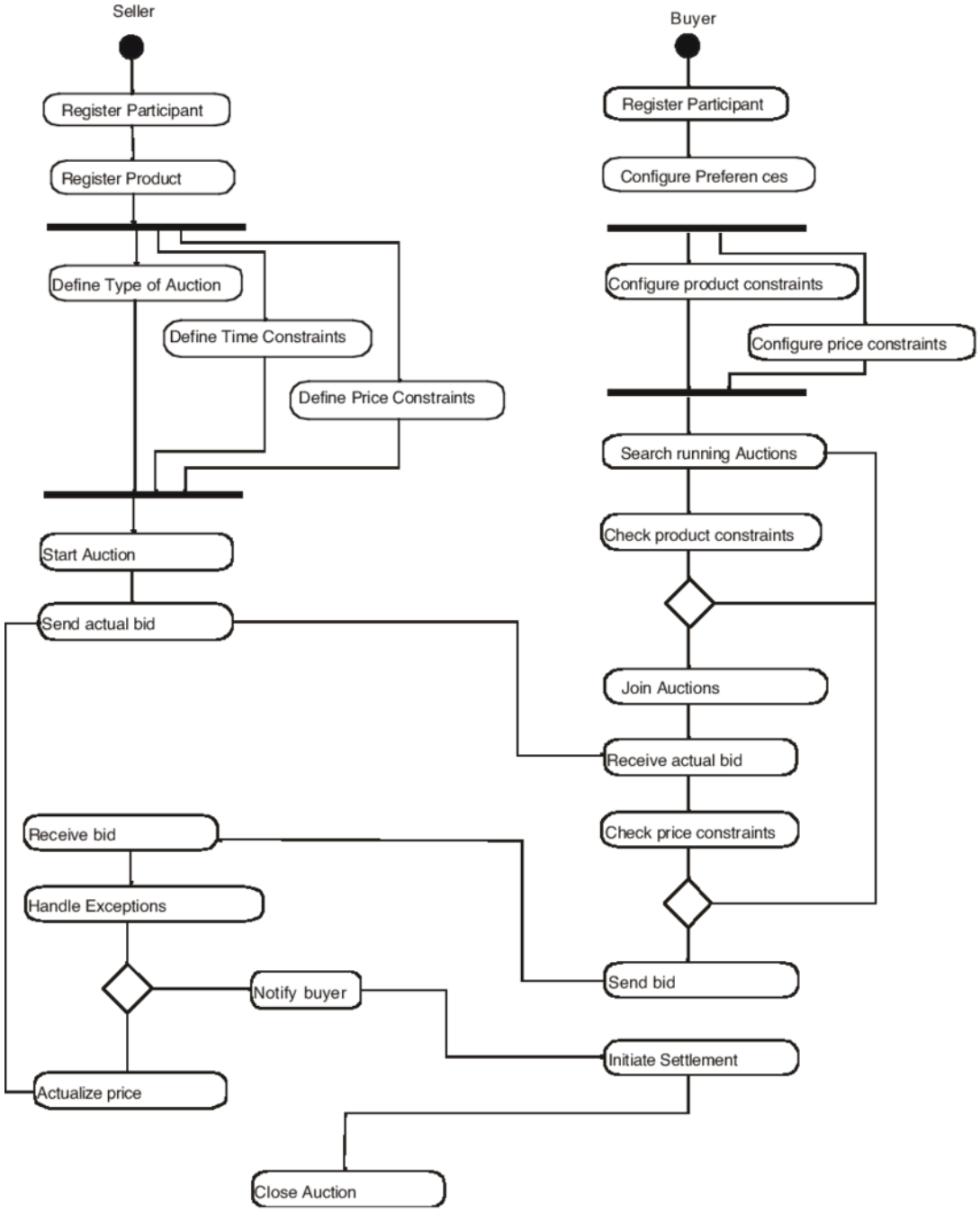

Figure 5.5: Activity Diagram

In Figure 5.6, A Communication Diagram illustrates the interactions between various components of an online bidding system.

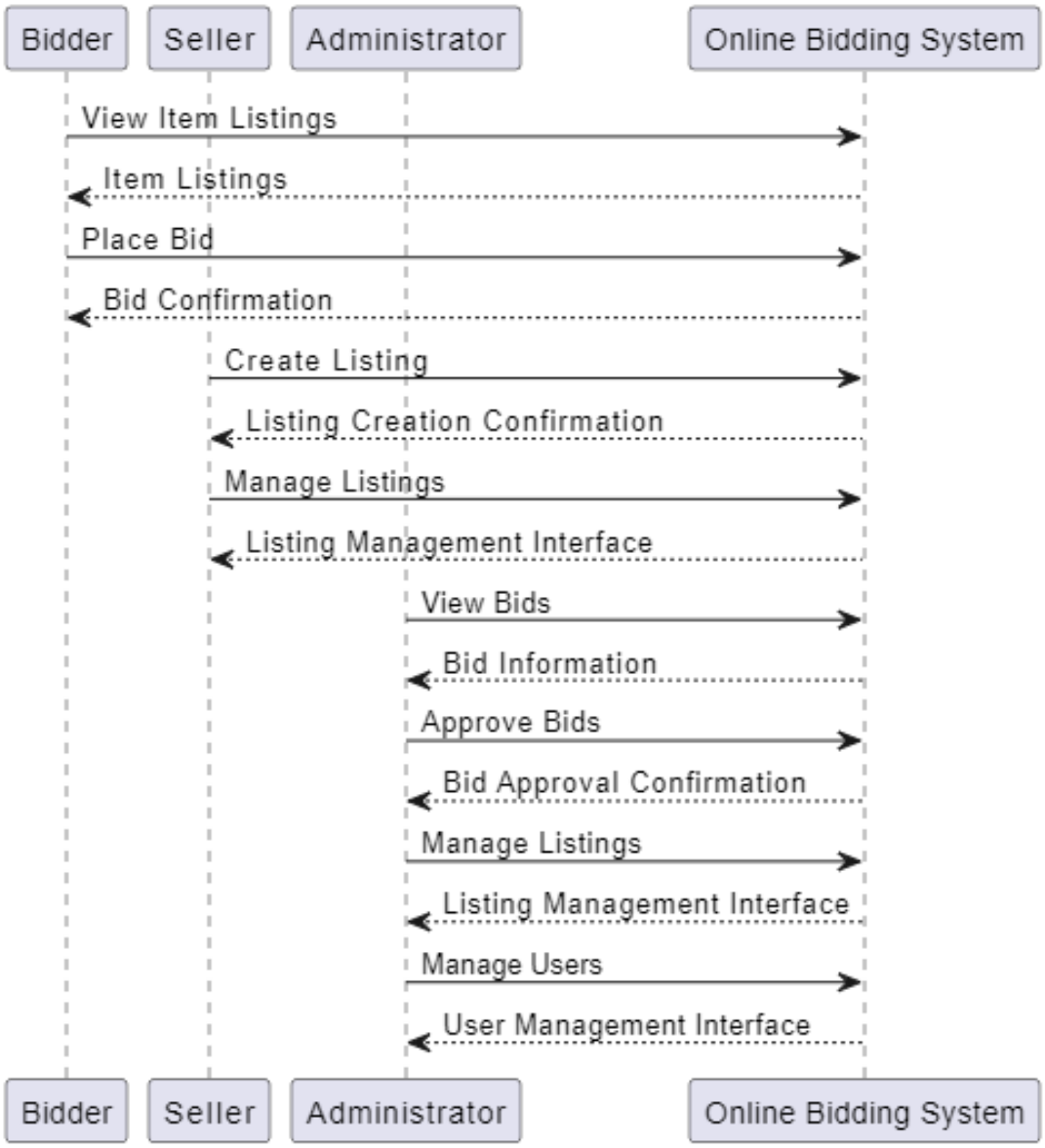

Figure 5.6: Communication Diagram

In a Figure 5.7, A Sequence Diagram illustrates the sequence of interactions between various components of an online bidding system.

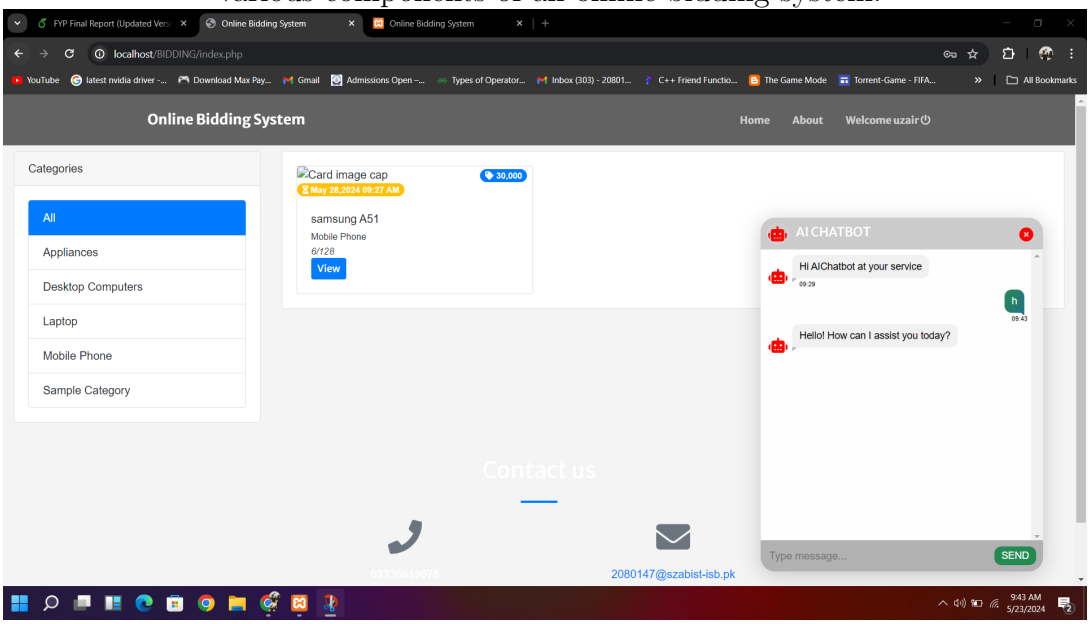

Figure 5.7: Sequence Diagram

In the Figure 5.8, A sequence diagram can also represent the process of a user logging into the system.

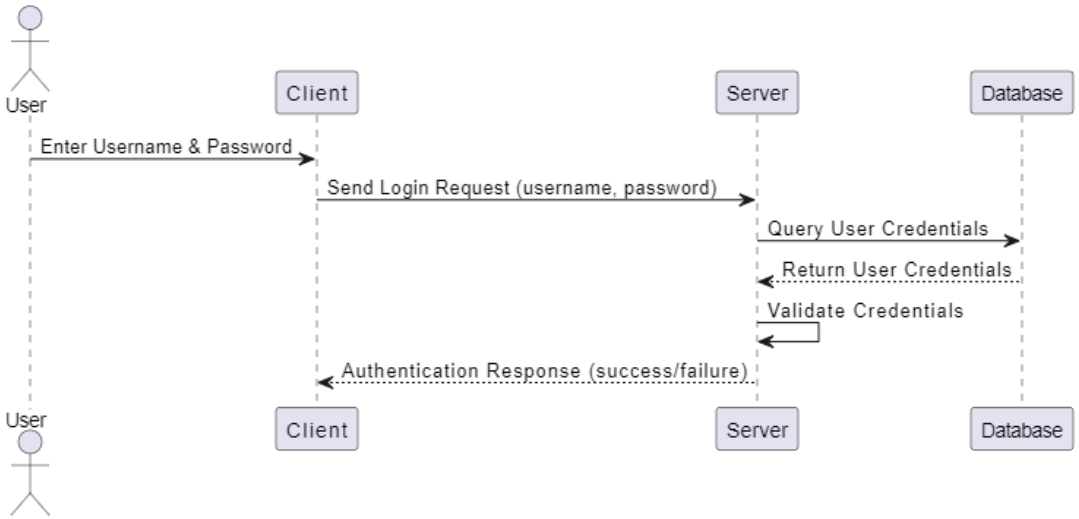

Figure 5.8: Login Diagram

In the Figure 5.9, The user clicks on the logout button.The client sends a logout request to the web server.The web server forwards the logout request to the application server.The application server updates the user's status to "logout" in the database.The database server confirms the update to the application server. The application server sends a logout confirmation to the web server. Finally, the web server returns the logout confirmation to the client.

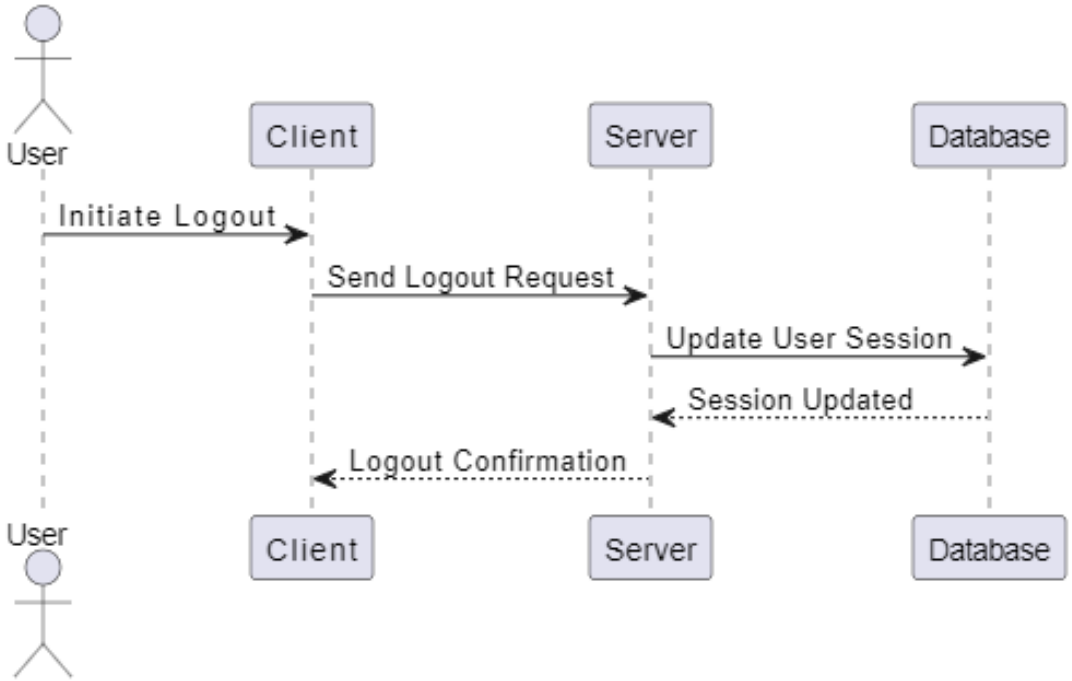

Figure 5.9: Logout Diagram

Chapter 6

SYSTEM INTERFACE AND PHYSICAL DESIGN

System Interface

System interface refers to the interaction points between different components or systems within a software application or between multiple software applications. It defines how these components communicate, exchange data, and interact with each other to achieve specific functionalities or tasks. System interfaces can include user interfaces (UI) for interaction with end-users, application programming interfaces (APIs) for communication between software modules or systems, and hardware interfaces for connecting software with physical devices or external systems.

Key aspects of system interfaces include:

- User Interface (UI): The interface through which users interact with the software application, including graphical user interfaces (GUIs), command-line interfaces (CLIs), or voice-controlled interfaces.
- Application Programming Interface (API): The interface that defines the methods, protocols, and data formats for communication between software components or systems. APIs enable integration, interoperability, and extensibility of software applications.
- Hardware Interface: The interface between software and physical hardware components, such as sensors, actuators, storage devices, or network devices. Hardware interfaces facilitate data input, output, and control operations in software applications.

6.1 System Components

An online bidding system typically consists of several components that work together to facilitate the bidding process.

Homepage

- Logo and branding
- Navigation menu
- Search bar
- Featured auctions
- Latest news or announcements

Auction Listing Page

- List of ongoing auctions
- Filter options
- Sorting functionality

Auction Details Page

- Product image
- Product description
- Current bid price
- Bid button
- Bidding history

User Profile Page

- User information
- Bidding history
- Payment information

In Figure 6.1, main user interface where user can view their latest bids

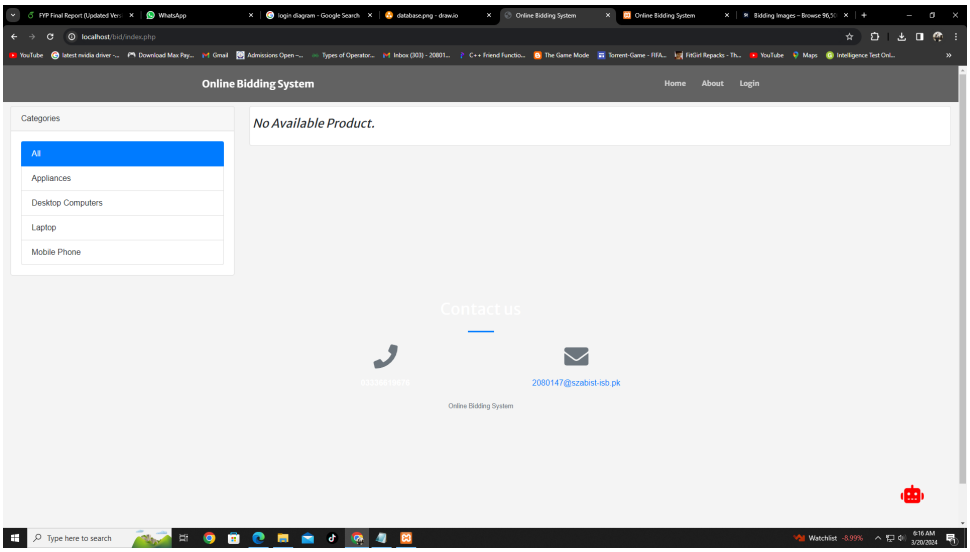

Figure 6.1: User Interface

Sign In Interface Represents the interface for the sign-in process. sign In(username: String, password: String): boolean: Method to sign in a user with the provided username and password. Returns true if the sign-in is successful, false otherwise

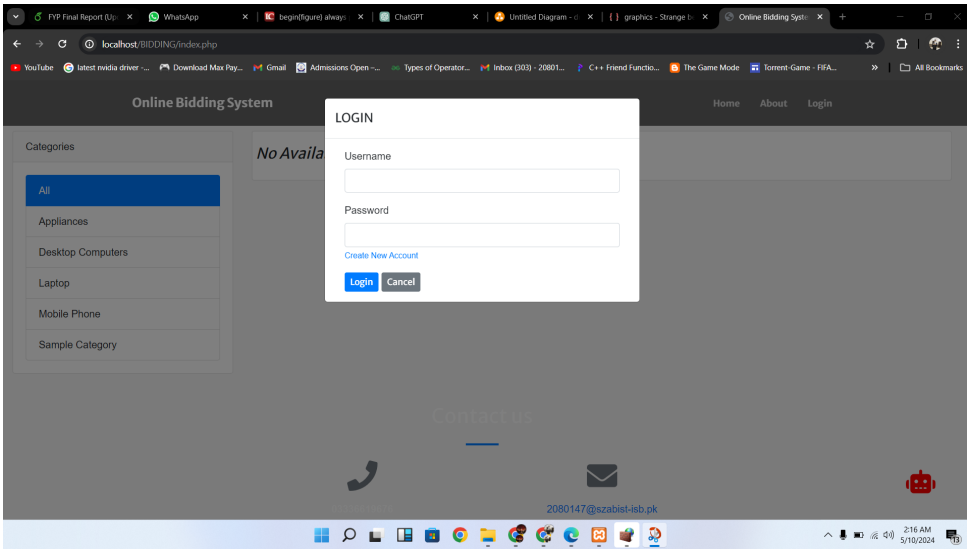

Figure 6.2: Sign In interface

In this Figure 6.3 This is for user and bidder UI where user and bidder create account and make a convient way to make Bid.

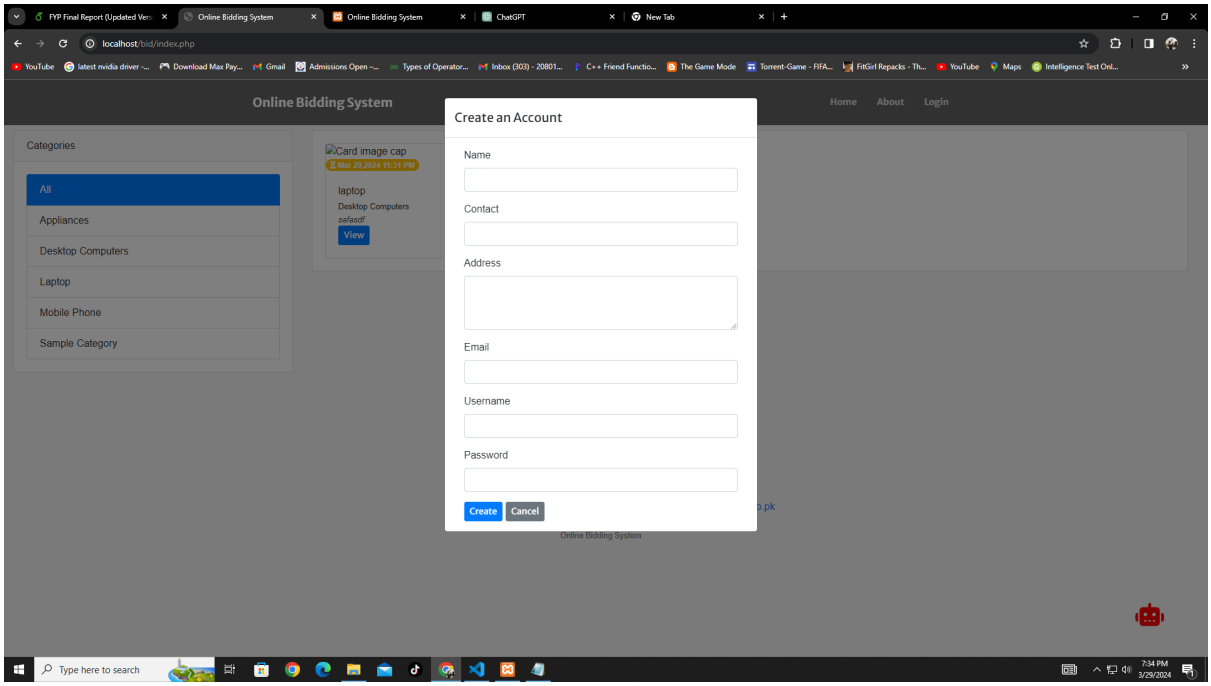

Figure 6.3: Sign-Up Interface

In Figure 6.4, The Main menu where user can get the latest Bidders products and seller can post their.

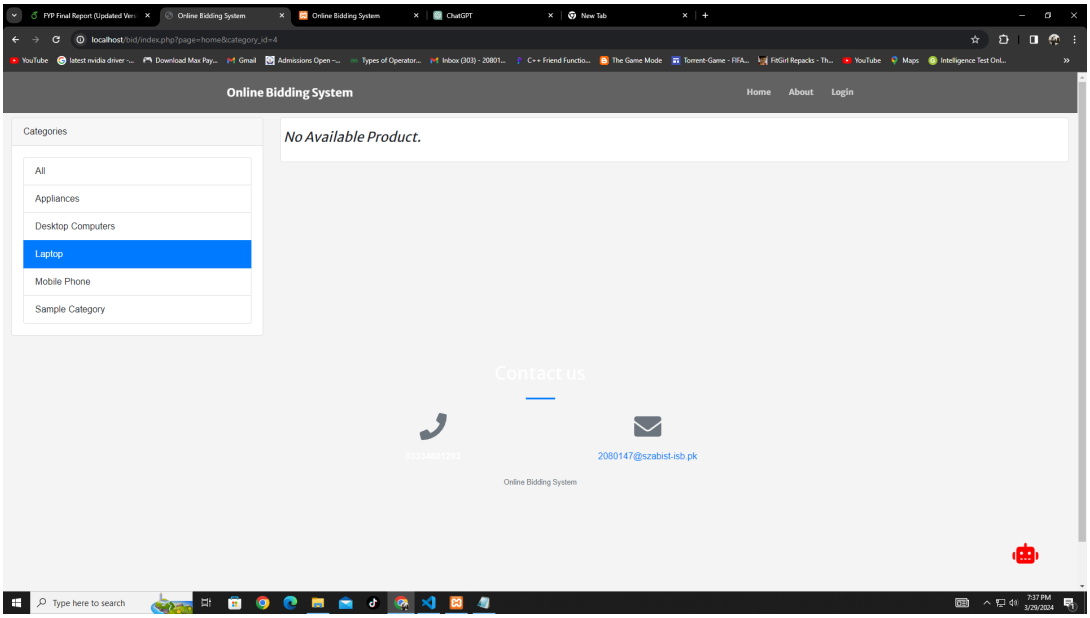

Figure 6.4: Main Menu Interface

In figure 6.5, user table where all created account can be seen and every detail can be seen.

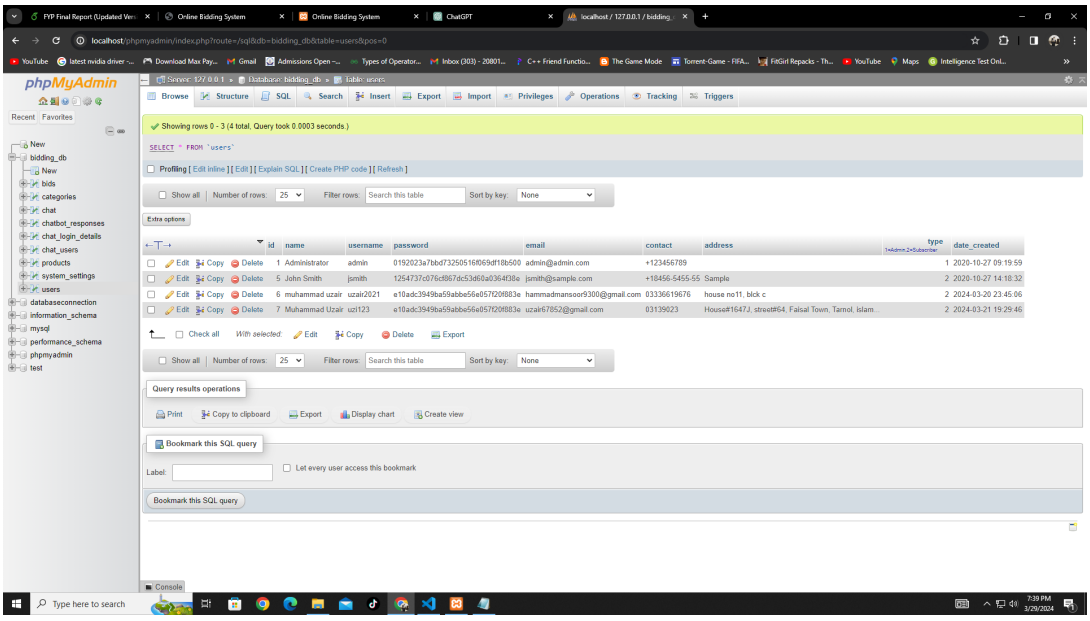

Figure 6.5: User Table

In the Figure 6.6, The Admin Table where admin details can be shown.

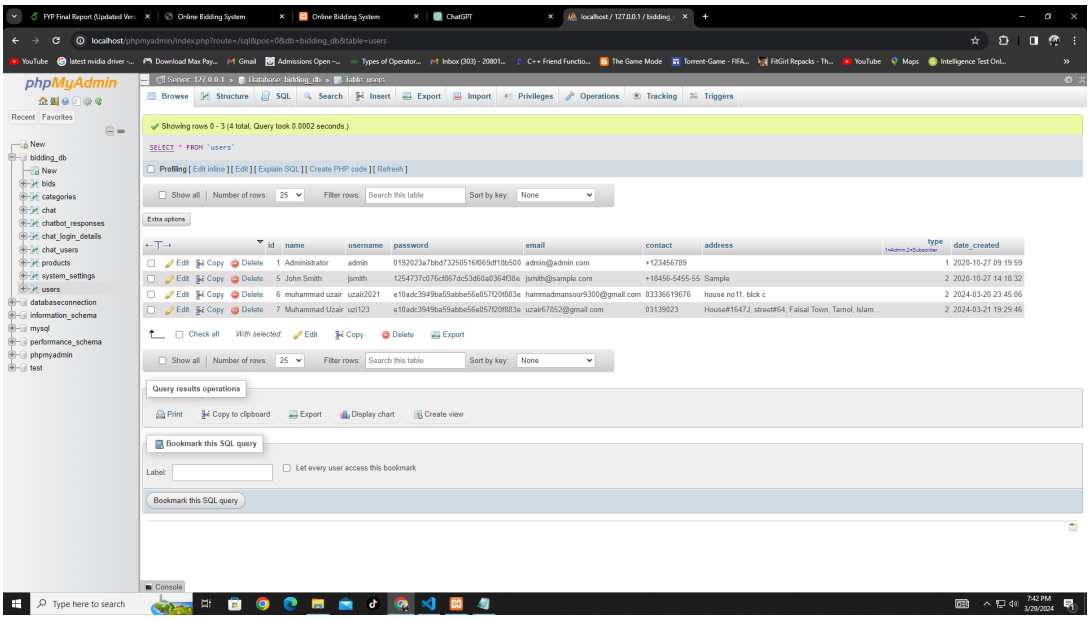

Figure 6.6: Admin Table

In the Figure 6.7, The Product details table where user product details can be seen.

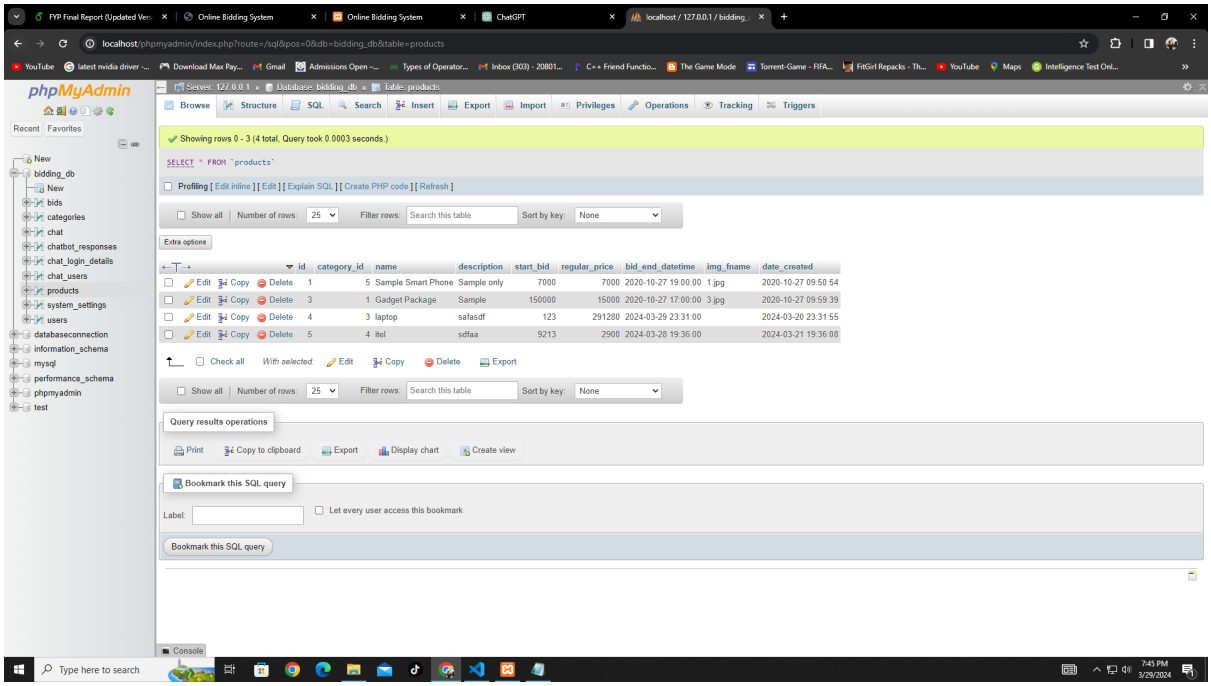

Figure 6.7: Product Table

In Figure 6.8, the chat user table here is the names and chat of user is stored.

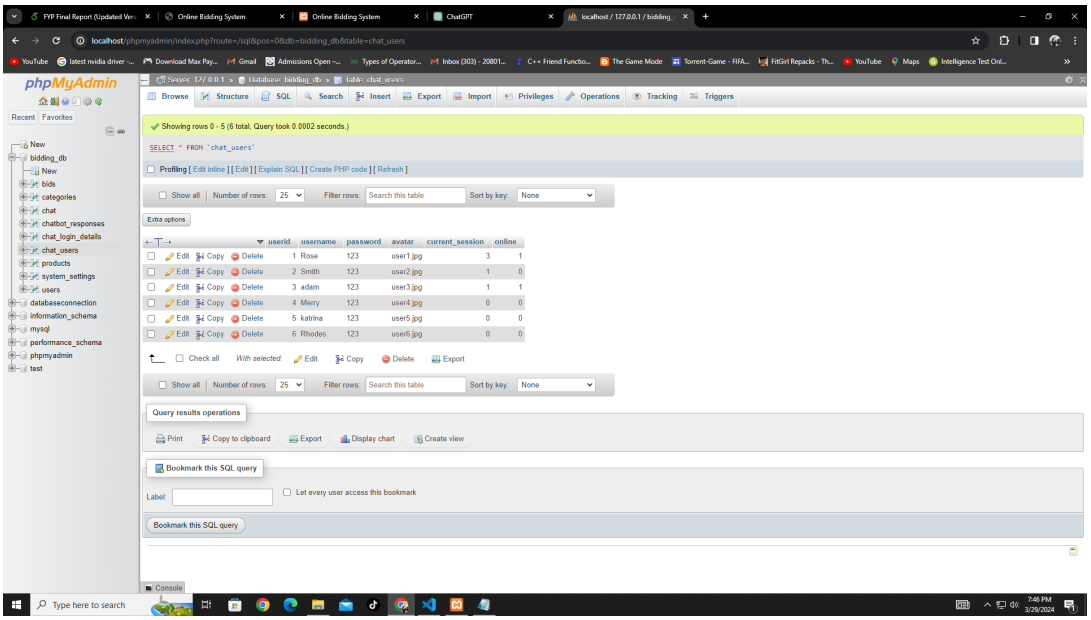

Figure 6.8: Chat User Table

In Figure 6.9, This is the catogeries tables where all catergeroies which is created in website can be seen in the picture.

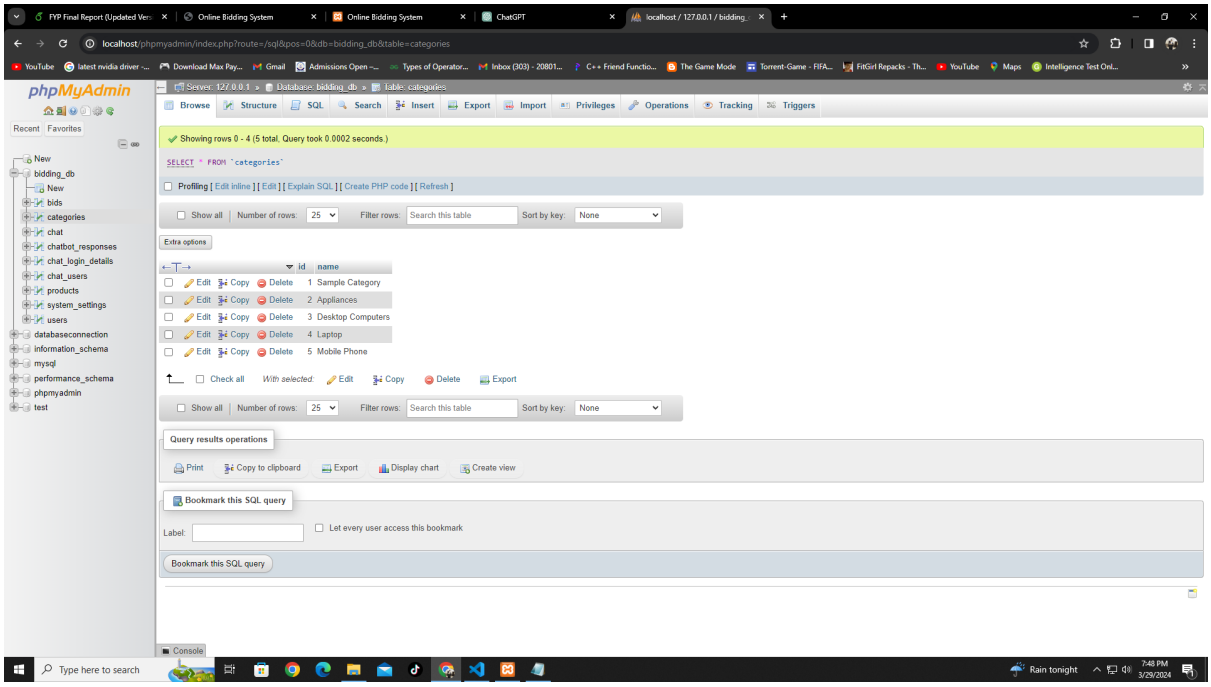

Figure 6.9: Categories Table

Chapter 7

TEST PLAN

The test plan outlines the testing approach, objectives, resources, and schedule for the online bidding system.A test plan outlines the approach, resources, and schedule required for the testing phase of a software development project. The primary objective of a test plan is to ensure that the software meets its quality standards, functions as expected, and is free of defects before release. It serves as a roadmap for the testing process, detailing test objectives, test strategies, test scenarios, test cases, and the resources needed for testing. The test plan is essential for guiding the testing team throughout the testing phase and ensuring that all aspects of the software are thoroughly tested. It helps in identifying potential risks, managing resources effectively, and ensuring the quality and reliability of the software product.

7.1 Levels of Tests for Testing Software

Testing software involves various levels of testing to ensure its quality and reliability. These levels of testing are designed to systematically evaluate different aspects of the software at different stages of development. following are the steps which are given below:

Verify User Registration Functionality

The objective is to verify that users can register successfully on the online bidding system.

Validate Product Creation and Auction Settings

The objective is to ensure that products can be created and that auction settings are configured correctly.

Test the Bidding Process

The objective is to test the bidding process to ensure that users can place bids on products successfully.

Assess Admin-Side Features

The objective is to assess admin-side features such as managing categories, products, and users.

7.1.1 Test Environment Setup

Local Web Server Setup

- Set up a local web server (e.g., XAMPP).

- Create a database named `bidding_db`.
- Import the provided SQL file.

7.1.2 Performance Metrics

API Response Time

- Target: < 300 ms.

Consistency

- $< 0.5\%$ conflicts on concurrent bids.

Availability

- 99.9% for critical services (User Register/Auth, Bidding, Auction).

Analytics and Reporting

- Track user activity and system performance.

Assumptions

- Stable internet connections for real-time updates.
- Eventual consistency in notifications and analytics.
- Business-to-Customer model.

7.1.3 Unit Testing

Unit testing involves testing individual units or components of the software independently. In the context of an online bidding system, unit testing would involve testing individual functions or methods to ensure they produce the expected output.

7.1.4 Integration Testing

Integration testing involves testing the integration of different units or components to ensure they work together as expected. In the online bidding system, integration testing would ensure that various modules such as user authentication, bidding functionality, payment processing, etc., integrate seamlessly.

7.1.5 System Testing

System testing involves testing the complete system to ensure it meets the specified requirements. In the case of the online bidding system, system testing would involve testing the entire system including user interfaces, databases, servers, and network components to ensure they function correctly together.

7.2 Test Management Process

Test management is a crucial aspect of the software testing process, ensuring that testing activities are planned, monitored, and controlled effectively throughout the software development lifecycle.

7.2.1 Design the Test Strategy

Designing the test strategy involves defining the approach to be used for testing the software. This includes determining what types of tests will be performed, the order in which they will be conducted, and the resources required.

7.2.2 Test Objectives

Test objectives define what needs to be achieved through testing. In the case of the online bidding system, test objectives could include ensuring that users can register, login, place bids, make payments, etc., without any errors.

7.2.3 Test Criteria

Test criteria define the conditions that must be met for a test to be considered successful. This could include criteria such as response times, error rates, and system stability.

7.2.4 Resource Planning

Resource planning involves identifying the resources needed for testing, including personnel, hardware, software, and any other necessary resources.

7.2.5 Plan Test Environment

Planning the test environment involves setting up the environment in which the testing will take place. This includes setting up test servers, databases, and any other necessary infrastructure.

7.2.6 Schedule and Estimation

Scheduling and estimation involve determining the timeline for testing and estimating the time and effort required for each phase of testing.

7.3 Test Cases

Test cases are detailed descriptions of scenarios or conditions under which a tester will determine whether an application, software system, or one of its features works as it should. Each test case includes preconditions, inputs, execution steps, expected results, and post-conditions, providing a systematic approach to testing. These test cases serve as a guide for testers, ensuring that all aspects of the software are thoroughly examined, and they help to identify defects or deviations from expected behavior. Well-written test cases are essential for effective testing, ensuring that software meets its requirements and functions reliably.

7.3.1 Test Case 1

7.3.1.1 Test Method This specifies the method that will be used to execute the test case. It could be manual testing or automated testing.

7.3.1.2 Test Case Description This describes the specific scenario that will be tested. For example, "Test user registration functionality."

7.3.1.3 Test Case Data This includes the input data that will be used for the test, as well as the expected output.

7.3.1.4 Test Case Report This includes the results of the test, including any errors or issues that were encountered.

In the context of an online bidding system, a sample test case could be:

Test Case 1: User Registration

Test Method: Manual testing

Test Case Description: Test the user registration functionality to ensure that users can register successfully.

Test Case Data:

- Input:

  Username: testuser

  Email: testuser@example.com

  Password: 123456

- Expected Output:

  User is registered successfully and can log in.

Test Case Report:

- Result: Pass
- Comments: User was registered successfully and was able to log in using the provided credentials.

7.4 Bugs Report

The main bug report is that we can not recieve any type of email or message when the buyer win the bidding. It is because we are using local Host, so of that reason we are unable to recieve the messages or email notification.

Chapter 8

User Manual

8.1 Description

Introduction

Welcome to the Online Bidding System user manual. This document provides guidance on using the online bidding system developed using PHP. The system allows users to list items for bidding, place bids on items, and manage bidding activities.

Getting Started

To access the online bidding system, follow these steps:

1. Open your web browser and navigate to the URL provided by the system administrator.
2. You will be directed to the homepage of the online bidding system.

User Registration

If you are a new user, you need to register to use the system. Follow these steps to register:

1. Click on the "Register" or "Sign Up" button on the homepage.
2. Fill out the registration form with your details, including username, email, and password.
3. Click on the "Register" button to create your account.
4. Once registered, you can log in using your credentials.

Item Listing

To list an item for bidding, follow these steps:

1. Log in to your account using your username and password.
2. Click on the "List Item" or "Sell Item" button.
3. Fill out the item details, including item name, description, starting bid, and bidding duration.
4. Click on the "List Item" button to add the item to the bidding list.

Bidding Process

To place a bid on an item, follow these steps:

1. Browse the list of items available for bidding.
2. Click on the item you want to bid on to view the item details.
3. Enter your bid amount in the provided field.
4. Click on the "Place Bid" button to submit your bid.
5. You will be notified if you are outbid by another user.

Managing Bids

You can manage your bids by following these steps:

1. Log in to your account.
2. Go to the "My Bids" or "Bidding History" section.
3. Here, you can view the items you have bid on, the current bid amount, and the status of your bids.
4. You can increase your bid amount or withdraw your bid if desired.

Account Management

You can manage your account settings by following these steps:

1. Log in to your account.
2. Go to the "My Account" or "Account Settings" section.
3. Here, you can update your profile information, change your password, or delete your account if needed.

Troubleshooting

If you encounter any issues while using the online bidding system, please try the following troubleshooting steps:

- Ensure that you are using a compatible web browser.
- Check your internet connection.
- Clear your browser's cache and cookies.
- If the issue persists, contact technical support for assistance.

Technical Support

For technical assistance or any questions related to the online bidding system, please contact our technical support team:

- Email: mail to:2080147@szabist-isb.pk
- Phone: 03336619676

8.2 System Usage Steps (with screenshots)

In Figure 8.1 represents our main menu page of user end

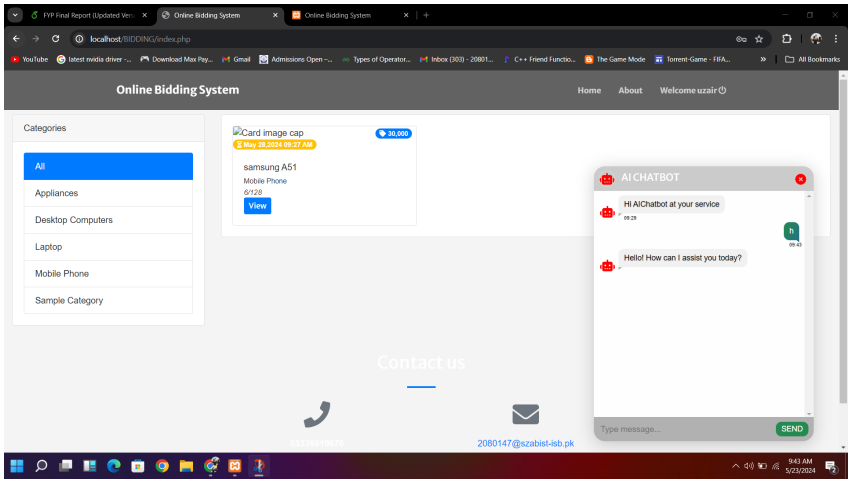

Figure 8.1: Main menu

In Figure 8.2 it is our first step to sign up to register account and if you have already done it than simply login

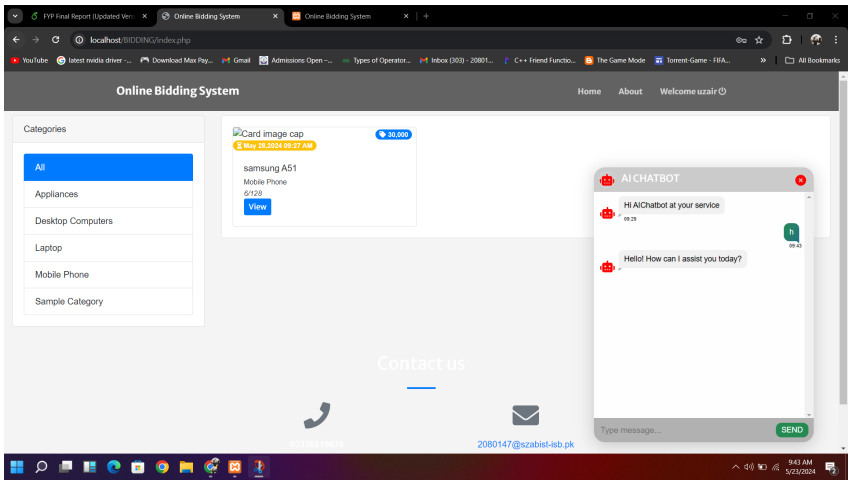

Figure 8.2: sign up

In Figure 8.3, there is a product and you just have to click on view button

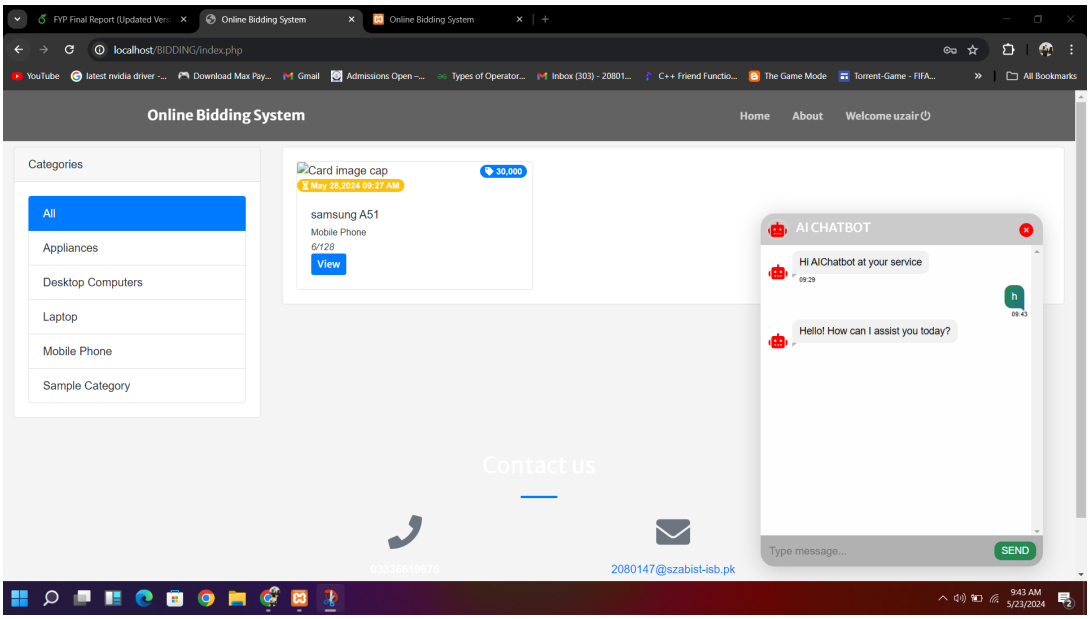

Figure 8.3: Bidding page

After click on View button its display information about the product as shown in the Figure 8.4.

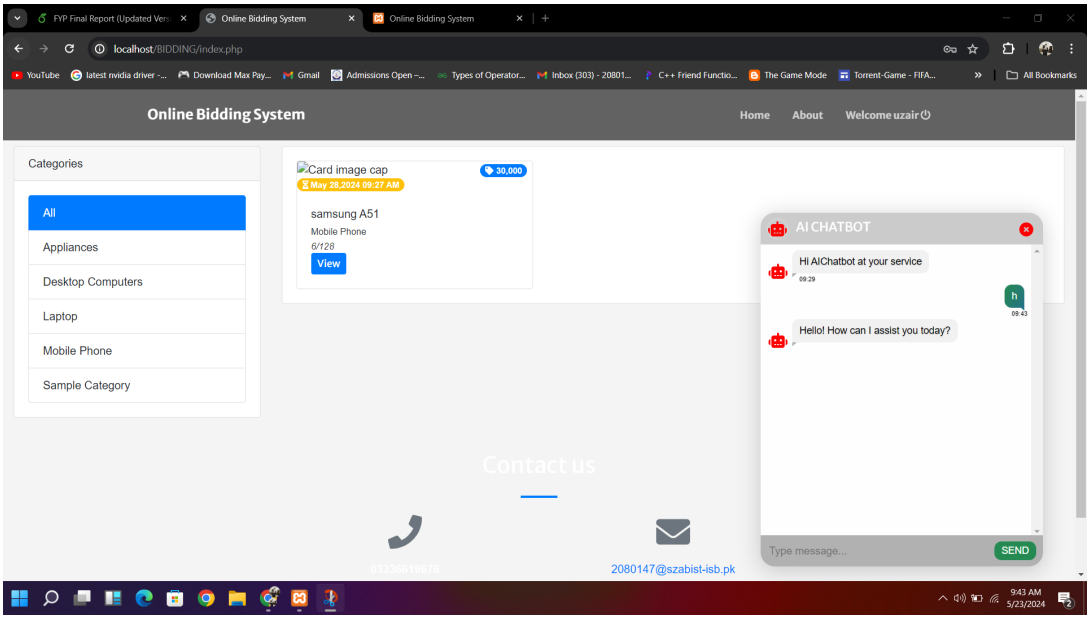

Figure 8.4: Product Information

In the above Figure 8.4, it shows the product information and if you like the product then proceed to Bidding By clicking on a bid Button and give your highest Possible Bidding and If you win the highest Bidding than the product will be your. so in the bellow Fig it will show the Bid information where You will have to apply for Bidding. So In Figure 8.5 You will simply give your highest Bidding price for the specific product.

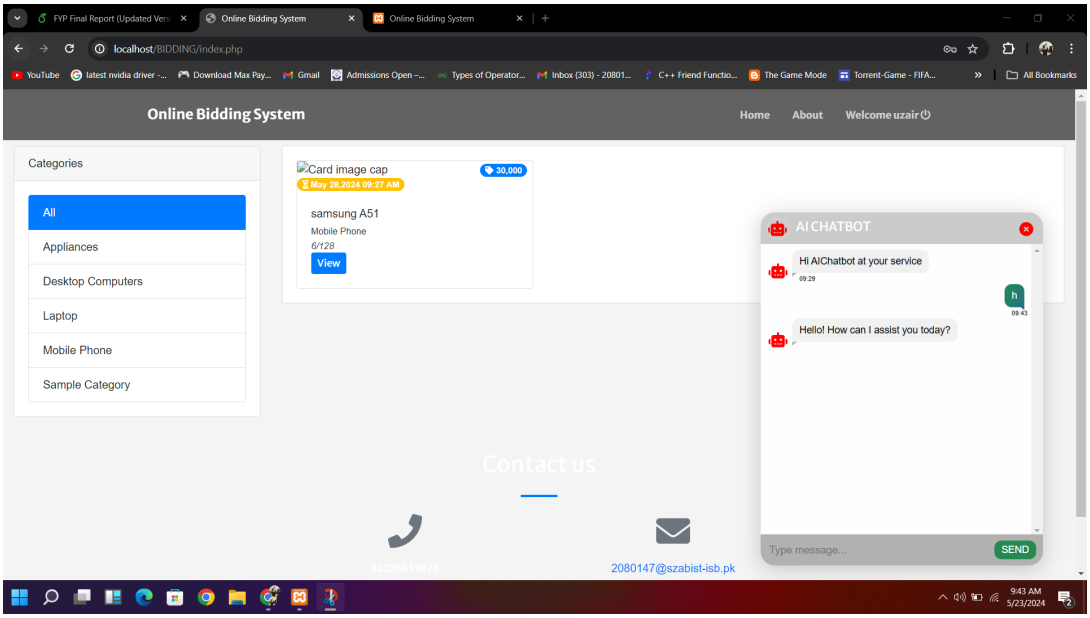

Figure 8.5: Bid amount

If user Have any query about the Bidding website than user can have their answers through our Chat Box

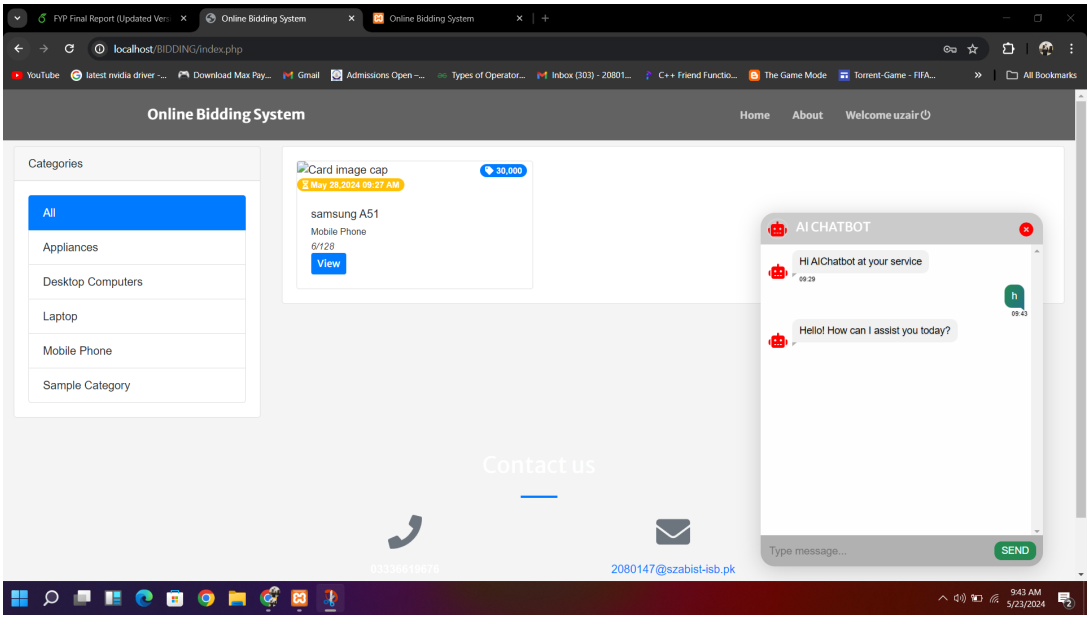

Figure 8.6: ChatBox

Chapter 9

REPORTS

9.1 Introduction

This section provides an overview of the various reports generated within the online bidding system. These reports are crucial for analyzing the performance of the system, tracking user activities, and ensuring transparency and efficiency in the bidding process.

9.2 Total Reports

The total reports section aggregates all the reports generated by the system. It provides a comprehensive overview of all the data collected, including user activities, bid details, and auction outcomes. This report is essential for overall system analysis and decision-making.

9.3 Area Wise Report

The area-wise report categorizes data based on geographical locations. This helps in understanding the distribution and participation of users from different regions. Key metrics in this report include:

- Number of users per area
- Number of bids per area
- Total revenue generated per area
- Popular items in different regions

9.4 Report 1: User Activity Report

This report focuses on the activities of users within the bidding system. It includes:

- User registration details
- Login and logout times
- Items bid on by each user
- Winning bids and amounts
- Frequency of user participation in auctions

This report helps in monitoring user engagement and identifying active users.

9.5 Report 2: Auction Performance Report

This report provides insights into the performance of individual auctions. It includes:

- Number of bids per auction
- Highest and lowest bid amounts
- Time taken for an auction to close
- Comparison of starting and final bid amounts
- Revenue generated from each auction

This report is crucial for assessing the effectiveness of auctions and identifying trends in bidding behavior.

9.6 Conclusion

The reporting functionality in the online bidding system using PHP is designed to provide detailed insights into various aspects of the system. By analyzing these reports, administrators can make informed decisions to improve user experience, optimize auction processes, and enhance overall system performance.

Chapter 10

CONCLUSION

10.1 Conclusion

The Online Bidding System is designed to provide a convenient platform for users to list items for bidding and place bids on items of their interest. With its user-friendly interface and robust functionality, the system aims to streamline the bidding process and ensure a seamless experience for both buyers and sellers.

Thank you for choosing the Online Bidding System!

10.2 Future Work

Our future work is to start selling non Bidding Products Because of Both Bidding and non Bidding users are available in market

our system is already have strong privacy but to make more Strong we have to make our AI that can detect scammers, fake ids, and make our system secure.

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