Project Charter

Project Name: BID YOUR WAY

Capstone Clark University

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1. Project Background
   1. Problem/Opportunity Description

Online auction platforms have become increasingly popular due to their convenience and accessibility, allowing users to participate in auctions from anywhere in the world. Still, a number of these platforms face significant challenges that have an impact on both the user experience and the effectiveness of their operations.

Firstly, a lot of the platforms that are currently in use lack an easy-to-use interface. It can be difficult for users to manage their accounts, make effective bids, and navigate the auction process. Secondly, a lot of platforms have inefficient bid and user management. Maintaining and managing a lot of bids and users at once can be challenging for administrators. This results in delays and inconsistencies, making the platform less responsive to users’ needs.

Given these challenges, there is a great chance to create a cutting-edge online auction platform that solves these problems. By offering a user-friendly interface, efficient bid and user management, and automated task handling, the platform will enhance both user satisfaction and administrative efficiency. This will result in a smoother auction process, increased user trust, and higher engagement.

* 1. Benefits

The platform will provide specific benefits to each key user group:

**For Bidders:** With simple bid management, instant notifications, and real-time bidding updates, bidders will have a seamless, user-friendly experience. This guarantees that they can actively participate in auctions, never miss an opportunity, and be updated on the status of their bids.

**For Sellers:** Effective tools to handle auction listings, track bids, and confirm payments will be beneficial to Sellers. They won't need to perform as much manual oversight because they will receive automated notifications that will provide them with real-time insights into the auction's progress.

**For Admins:** Administrators will have access to a broad dashboard that allows them to manage users (Sellers and bidders), validate transactions, and maintain platform security. The admin can maintain platform efficiency and promptly address issues with task automation and real-time monitoring, resulting in more streamlined operations and a dependable auction process.

The investment produces strategic returns in the form of improved efficiency using task automation and effective user management, which minimizes the need for manual administration employees. Through premium services or auction commissions, the platform may be able to make money. This money could then be used to support company goals like digital innovation projects and platform improvements.

If the project is not undertaken, the organization may continue to experience inefficiencies in auction management, leading to user frustration and lower engagement. Which will increase administrative workload and reduce the overall effectiveness of auction operations.

* 1. Goals

The primary goals of our online auction platform are:

• To design a user interface that is responsive and easy to use so that   
 Sellers, bidders, and admins can all navigate the system with ease.

• To create effective tools for managing bids and users so that Sellers can run   
 their business with ease and bidders can participate without any trouble.

• To reduce manual labor and increase platform efficiency for all user roles by   
 automating tasks and notifications.

• To create a powerful admin dashboard that will allow auction activities to be   
 managed and monitored in real time, facilitating a seamless workflow for   
 Sellers and admins.

* 1. Stakeholders and Clients

Key Stakeholders Involved:

Product Manager: The professor’s role is to oversee the project’s academic integrity, provide expert feedback, and ensure that the project meets its educational objectives

Sellers: They will use the platform to create and manage auctions and need to support the project's implementation for seamless operations.

Bidders: They are the primary users of the platform, directly affected by its functionality, and their engagement is crucial for success.

Admins: Responsible for overseeing platform operations and ensuring smooth user and auction management.

Departments Involved:

IT Department: Required for technical support, deployment, and ongoing maintenance of the platform.

Legal Team: To ensure data protection and compliance with regulations.

1. Project Scope
   1. Objectives

• Offer bidders a straightforward interface so they can quickly look through   
 auctions, submit bids, and get real-time bid updates.

• Give seller the tools they need to effectively manage their auction listings,   
 keep an eye on bidding activity, and communicate with bidders.

• Give admin a feature-rich dashboard so they can keep an eye on the platform,   
 manage users and auctions, and make sure everything runs smoothly with task   
 automation and real-time notifications.

Make sure the platform works well on all kinds of devices, including desktop,   
 tablet, and mobile ones.

* 1. Deliverables

**Objective 1** – Bidder Account Features and Functionalities

|  |  |
| --- | --- |
| Project Deliverable | Work Products/Description |
| User Authentication | Secured user login functionality |
| Participate in a bidding event | Option to enable user to participate in a bid |
| View my past auctions | Option to view the past activities of the user |
| Edit Profile | Edit, modify profile like contact info etc. |
| Notification through Email | Notify the users about payment details through Email |

**Objective 2** – Seller Account Features and Functionalities

|  |  |
| --- | --- |
| Project Deliverable | Work Products/Description |
| User Authentication | Secured user login functionality |
| Create an auction | Option to enable user to host a bid |
| Edit/ modify an auction | Option to enable seller to modify/delete an auction |
| View my auctions | Option to view past auctions |
| Pay the commission | Option to submit the payment proofs of the commission to be paid |
| Edit Profile | Edit, modify profile like contact info etc. |

**Objective 3** – Admin Account Features and Functionalities

|  |  |
| --- | --- |
| Project Deliverable | Work Products/Description |
| User Authentication | Secured user login functionality |
| Engagement Dashboard | Dashboard to view the user engagement stats |
| Success rate Dashboard | Dashboard to view the stats of the auctions and the success rate |
| User activation/deactivation | Option to enable/disable certain users (both sellers, bidders) |

* 1. Out of Scope

The following are out of scope for this project:

* + - * **Payment processing or verification systems:** Neither payment transactions nor integration with external payment gateways will be managed by the platform.
      * **Advanced fraud detection** **or** **risk management systems:** There will be no implementation of sophisticated fraud detection or risk management systems pertaining to auction activities.
      * **Advanced User Authentication**: We won't include user account verification that goes beyond simple authentication. The platform will not use third-party services (such as email or SMS verification) to confirm the identities of users.
      * **Internationalization or multilingual support** as the focus is currently on a single-language platform, internationalization or multilingual support will not be included in the initial project phase.
      * **Mobile app development**: It is not included, but the platform will be designed to be responsive for mobile web browsers.

1. Project Plan
   1. Approach and Methodology

Agile development methodology will be used for the project, enabling iterative development and regular stakeholder feedback. The following stages will be included in the strategy

• **Requirements Gathering**: Engaging with stakeholder’s bidders, Sellers,   
 and admins to gather requirements and expectations.

• **Design**: Producing user interface wireframes and prototypes with an emphasis   
 on functionality and user experience.

• **Development**: Using cutting-edge web technologies like Node.js for the backend   
 and React for the front, the platform is being built.

• **Testing**: Conducting testing to ensure the platform is robust and meets all   
 requirements.

• **Deployment**: Launching the platform in a live environment with continuous   
 monitoring and support.

* 1. Project Timeline

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| --- | --- | --- | --- | --- |
| ID | Task Name | Start | Finish | Duration |
| 1 | Gathering Requirements | 09/2/2024 | 09/8/2024 | 1 week |
| 2 | Planning | 09/9/2024 | 09/15/2024 | 1 week |
| 3 | UI/UX Research and Designs | 09/16/2024 | 09/22/2024 | 1 week |
| 4 | Wireframing | 09/23/2024 | 09/29/2024 | 1 week |
| 5 | Define User Stories  Create Workflow Diagrams  Technical Specifications & Task Allocation | 09/30/2024 | 10/06/2024 | 1 week |
| 6 | Backend Development  Setting up DB  User Authentication | 10/7/2024 | 10/13/2024 | 1 week |
| 7 | Frontend Development – Part 1  Landing page  Login page for both admin and the users | 10/14/2024 | 10/20/2024 | 1 week |
| 8 | About Us Page  Home Page  Leaderboard Page | 10/21/2024 | 10/27/2024 | 1 week |
| 9 | Frontend Development – Part 2  Seller and bidder profile page  Create auction for an item webpage (Seller)  Leaderboard Page  Auctions Page | 10/28/2024 | 11/3/2024 | 1 week |
| 10 | Auction Item Detail Page  Create New Auction Page  View My Auctions Page  Dashboard  User Profile Page | 11/4/2024 | 11/10/2024 | 1 week |
| 11 | Develop Responsive UI Components  Backend side implementation of Auction & Bid Management  Enable Notifications | 11/11/2024 | 11/17/2024 | 1 week |
| 12 | Integrate Frontend with Backend | 11/18/2024 | 11/24/2024 | 1 week |
| 13 | Product Testing | 11/25/2024 | 12/01/2024 | 1 week |
| 14 | Final Deployment & Go Live | 12/02/2024 | 12/05/2024 | 4 Days |

* 1. Success Criteria

The following standards will be utilized for evaluating the project's success:

Successful completion of all defined features within the timeline. Positive feedback from users during testing and post-launch. High levels of user engagement and satisfaction. Efficient administrative management as indicated by user performance metrics on the dashboard.

* 1. Issues and Policy Implications

• Security: Ensure secure communication between the React frontend and Node.js   
 backend, particularly in handling auction data and user information.

• User Adoption: Ensuring users bidders and auctioneers adopt the new platform   
 can be challenging. Effective marketing and training materials will be necessary.

• Data Privacy: The platform must comply with data protection regulations to   
 protect user information.

* 1. Risk Management Plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Risk Factor** | **Probability (H-M-L)** | **Impact (H-M-L)** | **Description** | **Risk Management Action** |
| Lacking required skills | M | H | A lack of required skills within the project team can hinder the development process, leading to delays, poor quality deliverables, and an inability to meet project objectives. | Involves assessing team skills early, providing training, hiring external experts to fill gaps, and fostering mentorship or peer learning to ensure skill development across critical areas. |
| Inadequate testing can lead to bugs | M | H | Inadequate testing can result in undetected bugs or system failures, which may disrupt the platform's functionality, compromise user experience, and damage the platform's reputation. | By creating a comprehensive testing strategy, using automated tools, allocating dedicated time for testing, and employing a bug tracking system to quickly identify and resolve issues before deployment. By following these we can prevent this risk. |
| Stakeholder Misalignment | M | M | Occurs when the objectives, expectations, or priorities of key stakeholders are not in sync. This can lead to conflicts, delays, or a lack of cohesive direction for the project | Includes establishing clear communication channels, involving stakeholders in decision-making, defining project scope, conducting regular reviews, and implementing a conflict resolution process to quickly address and prevent misalignment. |
| Budget constraints | L | M | Budget constraints can limit the resources available for project development, such as technology tools, skilled personnel, or extended timelines. This may lead to compromised quality, reduced features. | Prioritizing core features first, regularly monitoring project expenses against the budget to identify overruns, exploring cost-effective solutions like open-source tools, and setting aside a contingency fund to manage unexpected costs or delays while maintaining project quality. |
| Delays in Project Timelines | M | H | Can occur due to various reasons such as resource shortages, unforeseen technical challenges, or miscommunication, leading to extended deadlines. These delays can disrupt the planned release, increase costs, and reduce stakeholder confidence. | Creating a well-planned schedule with realistic timeframes, implementing regular progress monitoring and status updates, incorporating buffer time for unforeseen issues, and ensuring efficient resource management with clear role assignments to avoid bottlenecks. |

• Security: Ensure secure communication between the React frontend and Node.js   
 backend, particularly in handling auction data and user information.

• User Adoption: Ensuring users bidders and Sellers adopt the new platform   
 can be challenging. Effective marketing and training materials will be necessary.

• Data Privacy: The platform must comply with data protection regulations to   
 protect user information.

* 1. Service Transition

**User Training:** To educate Sellers and admin with the new system, provide training materials and sessions.

**Escalation Paths:** A dedicated technical support team will be trained on the platform’s functionality to handle escalations. Any critical issues, such as system downtimes or data-related problems, will be escalated to the technical development team.

**Support Mechanisms:** Establishing a help desk or other support system to aid users during the transition period is one way to provide support.

**Notification of Support Teams:** Service teams (such as the IT Helpdesk) will be notified in advance of the anticipated workload, and additional resources will be allocated to handle any spikes in support requests.

* 1. Options Analysis

The MEAN and MERN stacks are both powerful options for web application development, but they differ primarily in their frontend frameworks. MEAN uses Angular, a comprehensive framework that offers features like two-way data binding and dependency injection, providing a structured approach to building single-page applications (SPAs). This can result in a steeper learning curve for developers new to Angular. In contrast, MERN employs React, a lightweight library focused on building user interfaces. React’s component-based architecture allows for greater flexibility and reusability, making it easier for developers to create dynamic and responsive UIs. This ease of use generally results in a gentler learning curve, especially for those already familiar with JavaScript.

In terms of performance, MEAN benefits from Angular’s efficient data handling, which can optimize larger applications with complex interactions, though it may lead to heavier initial loading times. MERN’s React provides granular control over rendering, enabling faster response times, particularly in applications with frequent dynamic content updates. Both stacks enjoy strong community support, but MERN has a more extensive ecosystem due to React’s popularity, which offers numerous third-party libraries and resources. Ultimately, the choice between MEAN and MERN will depend on the specific needs and preferences of developers regarding structure, flexibility, and performance.

1. Technical Features

Seller: Need to put all bank information to register

Post Auctions

Set start Time and End Time of Auction

Need to Pay commission

Can View the bidding process

Bidder: Bid on items

Can view list of items available to bid

Can view the leaderboard of all bidders for that item

Gets notification in mail about the payment for item

He gets all bank details of seller in email

Admin:

Can delete or hold both seller and bidder accounts

Will have a dashboard where he can view all admins and users work

Has a graphical view of all sales happened till date

|  |  |  |  |
| --- | --- | --- | --- |
| ROLE | NAMES & CONTACT INFORMATION | RESPONSIBILITIES | TIME (600 hours) |
| Executive Sponsor | Sufyan Almajali | * Serve as ultimate authority / responsibility for the project * Provide strategic direction and guidance * Approve changes to scope * Identify and secure funding | 36 hours |
| Project Sponsor | Sufyan Almajali | * Make business / approach decisions for the project * Participate in key activities * Make resources available * Approve work products, address issues, and approve change requests | 36 hours |
| Project Manager | Poorna Sai | * Report to and receive direction from sponsors * Manage, review, and prioritize project work plans * Provide status reports * Manage project team * Recommend changes, escalate issues, and mitigate risks | 135 hours |
| Project Team and Members | Poorna Sai  Anvith Paturu  Surya Sindhu  Sravan Kumar | Participate in project activities, including planning, implementation of deliverables, and quality control | 540 hours per resource  Total Team hours = 2160 hours |
| Advisors and Resources | Krishna Sai | Assist the team in defining project objectives, milestones, and deliverables. Help establish realistic timelines and identify key performance indicators (KPIs) | 36 hours |

1. Project Budget

Buffer costs = 10% 0f the total operational cost (i.e. $20,152.455)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Resource** | **Quantity** | **Unit Price (USD)** | **Cost per Hour (USD)** | **Hours/Day** | **Hours/Month** | **1-Month Expenses (USD)** | **3-Month Expenses (USD)** | **Total Price (USD)** |
| **Ongoing costs** | | | | | | | | |
| Resource 1 | 1 | - | 60 | 9 | 270 | $16200 | $48600 | $48600 |
| Resource 2 | 1 | - | 60 | 9 | 270 | $16200 | $48600 | $48600 |
| Resource 3 | 1 | - | 60 | 9 | 270 | $16200 | $48600 | $48600 |
| Resource 4 | 1 | - | 60 | 9 | 270 | $16200 | $48600 | $48600 |
| **One-time costs** | | | | | | | | |
| Laptops and Devices | 4 | $1,200 | - | - | - | - | - | $4,800 |
| Office Supplies | - | - | - | - | - | $200 | $600 | $600 |
| Resource Hiring Costs | 4 | 1500 | - | - | - | - | - | $6,000 |
| Software licenses | 4 | $200 | - | - |  | - | - | $800 |
| Miscellaneous Costs | - | - | - | - | - | $200 | $600 | $600 |
| **Others** | | | | | | | | |
| Office Room Rent | 1 | $1,200 | - | - | - | $1,200 | $3,600 | $3,600 |
| Broadband Connections | 4 | $100 | - | - | - | $400 | $1,200 | $1,200 |
| AWS EC2 Instances | 3 | $0.0416 | $0.0416 | 24 | 730 | $91.44 | $274.32 | $274.32 |
| Databases | 2 | $0.041 | $0.041 | 24 | 730 | $59.86 | $179.58 | $179.58 |
| Storage (S3) | 1 TB | $0.023 | $0.023 | - | - | $23.55 | $70.65 | $70.65 |
| Utilities | - | $200 | - | - | - | $200 | $600 | $600 |
| **Total** | | | | | | $67141.85 | $201424.55 | $201524.55 |

1. Appendix A- Additional Information