
Student Job Platform (Bangladesh)

Project Overview

The **Student Job Platform** is a web and mobile application built using the MERN stack. It connects students and local individuals in Bangladesh by enabling them to offer or complete small tasks at an affordable price. This platform not only meets a local need but also serves as a hands-on project to learn software development from scratch.

Project Purpose

This project has a dual purpose:

- **Practical Application:** To provide a reliable, affordable solution for students and individuals in Bangladesh to connect and complete tasks.
- **Educational Experience:** To offer hands-on training in full-stack development following the MVC architecture, using agile methodologies. This aligns with the CSE470 Software Engineering course objectives, emphasizing real-world software development practices.

Key Definitions

- **Requirement:** An expected action or capability that the software must fulfill.
- **Feature:** A specific functionality that helps meet a part of a requirement.

Contextual Examples

- **Requirement:** Customers (task posters) can post tasks and receive bids.
 - **Features:**
 - Display tasks in an organized list.
 - Allow customers to post new tasks with detailed descriptions, deadlines, and budgets.
 - Enable students to view and bid on tasks.
 - Provide an interface for task posters to review and select bids.

Requirements and Features

In line with project guidelines, the platform will include at least five key requirements, each comprising multiple features:

Requirement 1: User Management

- **Feature 1.1:** User registration using email or social login.
- **Feature 1.2:** Secure authentication and login system.
- **Feature 1.3:** Profile creation and editing.
- **Feature 1.4:** Password recovery and user verification.

Requirement 2: Task Posting and Bidding

- **Feature 2.1:** Task creation with title, description, deadline, and budget.
- **Feature 2.2:** Ability for task posters to edit or delete their tasks.

- **Feature 2.3:** A bidding system allowing students to apply for tasks.
- **Feature 2.4:** An interface for task posters to review bids and select a candidate.

Requirement 3: Payment and Transaction Management

- **Feature 3.1:** Integration with secure payment gateways (e.g., bKash, Nagad, Rocket).
- **Feature 3.2:** An escrow system to secure payments until task completion.
- **Feature 3.3:** Transaction history for both service providers and task posters.
- **Feature 3.4:** A system for handling refunds and dispute management.

Requirement 4: Communication and Notification

- **Feature 4.1:** In-app messaging between task posters and students.
- **Feature 4.2:** Email notifications for task updates and bid statuses.
- **Feature 4.3:** Push notifications for real-time task updates.
- **Feature 4.4:** A live chat interface for direct communication.

Requirement 5: Admin Panel and Monitoring

- **Feature 5.1:** An admin dashboard for overall user and task management.
- **Feature 5.2:** Monitoring and verification of financial transactions.
- **Feature 5.3:** Dispute resolution tools for task-related conflicts.
- **Feature 5.4:** Reporting and analytics for platform performance and user behavior.

Tech Stack

- **Frontend:** React.js
- **Backend:** Node.js with Express.js
- **Database:** MongoDB
- **Authentication:** Firebase, Auth0, or a custom JWT-based system
- **Deployment:** Vercel/Netlify for frontend; AWS/DigitalOcean for backend

Project Constraints

- **Architecture:** The project must strictly follow the MVC architecture.
- **Development:** The application must be developed from scratch without relying on pre-built codebases for major functionalities.
- **Local Focus:** The platform is designed exclusively for the Bangladesh market.
- **Methodology:** Development will adhere to agile practices, including regular sprint reviews.
- **Library Usage:** External libraries can be used to assist development but should not replace core features.

Project Process and Methodology

Following the guidelines from the CSE470 project outline, the development process will incorporate agile methodologies:

- **Agile Development & Scrum:**
 - The project will be divided into **four sprints** (each lasting two weeks).
 - Each sprint will focus on distinct sets of features, ensuring incremental progress.

- **Sprint Breakdown:**
 - **Sprint 1:** Project setup, basic UI/UX design, and implementation of user authentication.
 - **Sprint 2:** Development of task posting, bidding system, and enhancements in user management.
 - **Sprint 3:** Integration of payment gateways and transaction management.
 - **Sprint 4:** Development of the admin panel, testing, bug fixes, and final deployment.
- **Version Control:**
 - Code will be maintained in a GitHub repository with a structured branch strategy.
 - Regular commits and sprint-end code pushes will ensure progress tracking.
- **Collaboration:**
 - If working in a team, each member's contributions will be tracked with individual branch management and regular sprint reviews.

Conclusion

The **Student Job Platform** not only provides a valuable service for students and local individuals in Bangladesh but also serves as an excellent educational tool for applying full-stack development skills. By following the MVC architecture and agile methodologies, the project meets the rigorous standards set out in the CSE470 project outline while delivering a practical, user-focused solution.

Feel free to adjust or expand upon any section to best match your project vision and requirements.