A PROJECT REPORT

on

FreelanceFinder

(Discovering Opportunities, Unlocking Potential)

by

RAYAPUDI ANIL KUMAR **(22FE1A4243)**

PAPPULA VIJAY **(22FE1A05C7)**

PALAPARTHI MANISHA **(22FE1A05C3)**

PARASA LAHARI **(23FE5A4206)**

Under the guidance of

Ganesh M

TABLE OF CONTENTS

ABSTRACT

FreelanceFinder is a modern freelancing platform developed under the name **ALPHA Works**, designed to streamline and enhance the way clients and freelancers connect, collaborate, and complete projects. Built using the MERN stack (MongoDB, Express.js, React.js, Node.js), the platform provides a secure, scalable, and intuitive environment for managing freelance work across various industries. Clients can effortlessly post diverse projects—ranging from creative tasks to complex technical assignments—while freelancers can explore, bid, and showcase their expertise through interactive portfolios. The platform offers real-time communication tools, secure project submission workflows, and a structured feedback system to foster trust and transparency. An integrated admin dashboard ensures platform integrity and oversees smooth user interactions. With automation-driven processes, a responsive user interface, and modular architecture, FreelanceFinder empowers individuals to build lasting professional relationships and achieve successful project outcomes, all within a collaborative digital workspace tailored for efficiency, flexibility, and growth.

INTRODUCTION

FreelanceFinder (ALPHA Works) is an innovative freelancing platform developed to streamline the way clients and freelancers connect and collaborate. By offering a user-friendly interface and automated workflows, the platform allows clients to post diverse projects and freelancers to bid on them based on their skills and interests. It addresses key challenges in traditional freelancing systems by focusing on simplicity, security, and transparency in every interaction. The platform is designed to reduce communication gaps, eliminate manual delays, and provide a structured environment where both parties can work efficiently toward shared goals.

Built using the **MERN stack**—MongoDB, Express.js, React.js, and Node.js—FreelanceFinder offers a robust and scalable infrastructure that supports real-time communication, secure authentication, dynamic project tracking, and efficient file sharing. Freelancers can create detailed profiles, showcase their portfolios, and submit work directly through the platform, while clients have access to intuitive tools for project management, messaging, reviewing proposals, and giving feedback. The system ensures role-based access control and data integrity, offering a seamless experience from initial contact to project completion.

With its responsive design, modular architecture, and admin-level oversight, FreelanceFinder empowers users across creative, technical, and business domains to manage freelance engagements with confidence. The platform ensures smooth collaboration, fosters professional growth, and promotes a trusted environment for digital work in today's fast-paced gig economy. Real-time updates, notification systems, and smart analytics make FreelanceFinder a future-ready solution, well-suited to adapt to the evolving needs of the remote work ecosystem.

MODULE DESCRIPTION

1. Project Overview

Purpose:

The purpose of **FreelanceFinder (ALPHA Works)** is to provide a seamless, secure, and scalable platform where clients and freelancers can efficiently connect, collaborate, and complete projects. It aims to solve common issues found in traditional freelancing systems, such as lack of transparency, communication barriers, and inefficient workflows. The project's goal is to foster a trusted digital workspace where clients can find the right talent, and freelancers can access meaningful work opportunities across various domains.

Features:

- **User Registration & Authentication:** Separate account creation for clients and freelancers with secure login using JWT.
- **Project Posting & Bidding:** Clients can post detailed project listings; freelancers can browse and place bids.
- **Freelancer Profiles:** Freelancers can create profiles showcasing their skills, portfolios, and previous work.
- **Real-time Communication:** Integrated chat system for seamless communication between clients and freelancers.
- **Project Submission & Review:** Freelancers can submit work, and clients can approve, request revisions, and provide ratings.
- **Admin Dashboard:** Admins monitor platform activity, ensure security, and manage reported issues.
- **Notification System:** Real-time alerts for bids, messages, project updates, and feedback.
- **Responsive UI:** Mobile-friendly interface using Bootstrap and Material UI for optimal user experience.

2. Architecture

Frontend:

The frontend of **FreelanceFinder (ALPHA Works)** is built using **React.js**, a component-based library that supports dynamic user interfaces and seamless data rendering. The UI is styled using **Bootstrap** and **Material UI**, ensuring responsive design and accessibility across devices. **Axios** is used for making HTTP requests to the backend APIs. The application uses React Router for page navigation and context or state management hooks (like useState, useContext) to handle user sessions, form data, and UI state. The frontend provides role-specific views and forms tailored for freelancers, clients, and admins.

Backend:

The backend is developed using **Node.js** and the **Express.js** framework, which provides a lightweight, modular, and fast environment for server-side development. RESTful APIs are implemented to handle user authentication, project creation, bidding, messaging, and administrative actions. The backend includes middleware for token-based authentication (using JWT), request validation, error handling, and access control. Controllers manage the logic for each route, ensuring separation of concerns and clean code organization.

Database:

The platform uses **MongoDB** as the database, a NoSQL system suitable for flexible and scalable data storage. Mongoose is used as the ODM (Object Data Modeling) library to define schemas and manage interactions. Key collections include:

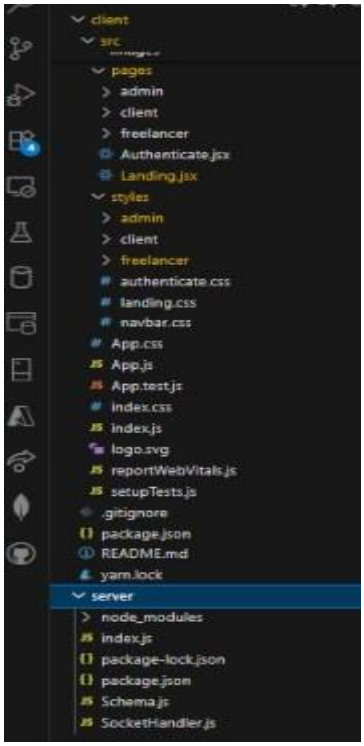
- users: Stores client and freelancer profiles
- projects: Contains project details, statuses, and assigned users
- bids: Tracks proposals and offers from freelancers
- messages: Stores chat histories between users
- reviews: Captures feedback and ratings for completed projects

The database is optimized for quick access and supports relational referencing where needed (e.g., linking users to projects or reviews). Environment variables securely store the MongoDB connection URI.

3.Folder Structure

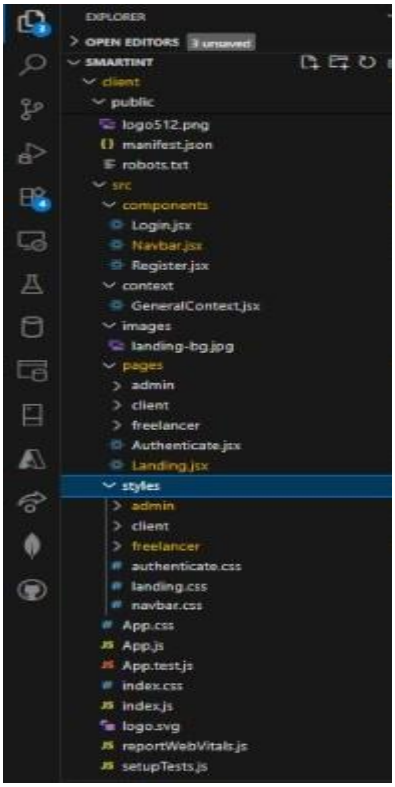
Client (React Frontend):

The client folder contains all the source code related to the frontend built with React. It follows a modular structure to separate UI components, pages, services, and static assets.



Server (Node.js Backend):

The server folder contains backend logic, route handlers, controllers, models, and middleware necessary to power the API.



4.Setup Instructions

Prerequisites:

Before setting up the project, ensure the following software is installed on your system:

- Node.js (v18 or higher)
- MongoDB (local or MongoDB Atlas cloud setup)
- npm (comes with Node.js) or yarn
- Git (for cloning the repository)
- Code editor (e.g., VS Code)

Installation:

Follow the steps below to set up the project locally:

1. **Clone the Repository:**

   git clone https://github.com/Lahari1421/FreelanceFinder.git

2. **Navigate to the Project Directory:**

   cd Alpha-works

3. **Install Frontend Dependencies:**

   npm install

4. **Install Backend Dependencies:**

   cd server

   npm install

5. **Setup Environment Variables:**
   - Create a **.env** file in the server directory and add the following:

     MONGO_URI=your_mongodb_connection_string

     JWT_SECRET=your_jwt_secret_key

     PORT=5000

6. **Start the Backend Server:**

   cd server

   npm start

7. **Start the Frontend Server:**

   cd client

   npm start

Once both servers are running, open http://localhost:3000 in your browser to access the application.

6. API Documentation

This section outlines the key RESTful API endpoints exposed by the backend of FreelanceFinder (ALPHA Works). All protected routes require a valid JWT token passed via the Authorization header.

Endpoint Overview

Endpoint	Method	Description	Auth
/auth/register	POST	Register client/freelancer	No
/auth/login	POST	Authenticate user and return token	No
/projects	GET	Fetch all projects	Yes
/projects	POST	Create a new project (clients)	Yes
/bids/:projectId	POST	Submit a bid on a project	Yes
/messages/:userId	GET	Retrieve chat messages	Yes
/review/:projectId	POST	Leave review after completion	Yes

7. Authentication & Authorization

FreelanceFinder (ALPHA Works) uses JWT (JSON Web Token) for secure, stateless authentication and authorization across the platform. The implementation ensures that only authenticated users can access protected routes and perform specific actions based on their assigned roles.

Key Concepts:

- **JWT (JSON Web Token)**
  Used for securing API endpoints. Tokens are generated upon successful login and include user identity and role in the payload.
- **TOKEN STORAGE**
  Once the user logs in, the JWT token is securely stored in the browser's localStorage on the client side for subsequent requests.
- **Protected Routes**
  Middleware on the backend validates incoming tokens for all protected endpoints. Unauthorized requests without valid tokens are denied access.
- **Role-Based Access Control (RBAC)**
  Users are assigned specific roles during registration (client, freelancer, or admin). Each role has access to specific features and routes:

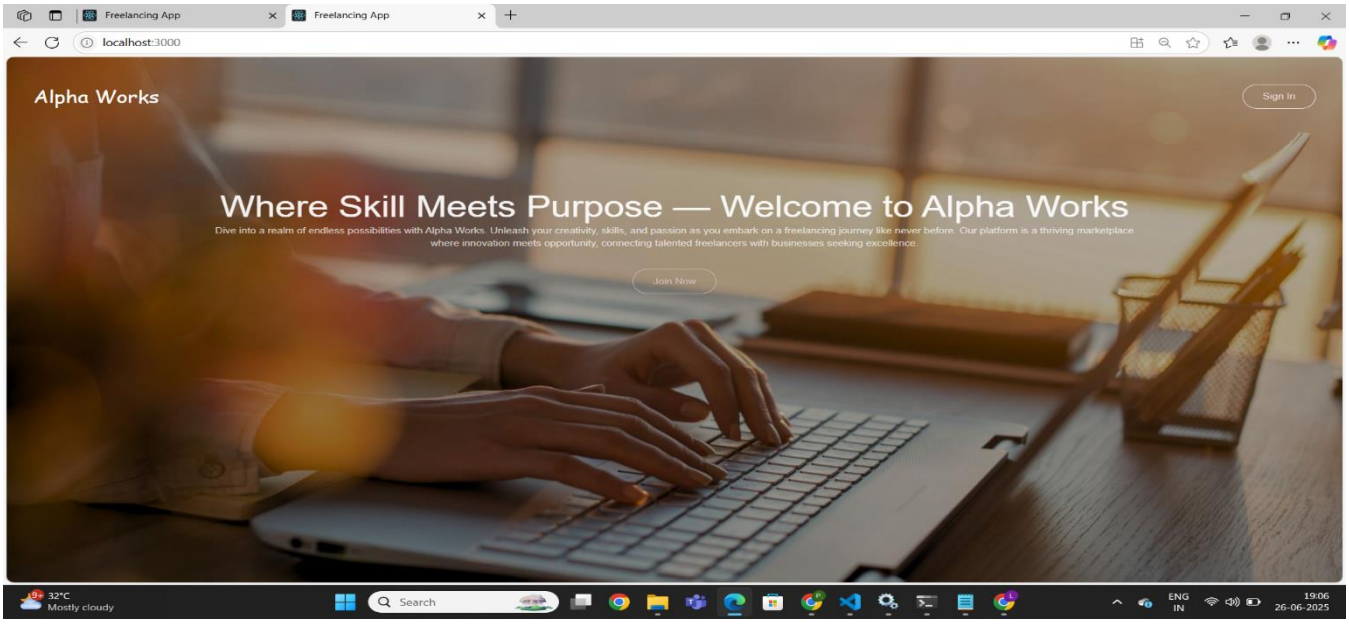
- Clients: Can post projects, review freelancers, manage bids
- Freelancers: Can browse projects, submit bids, chat with clients
- Admins: Can oversee the entire platform, moderate content, and handle issues

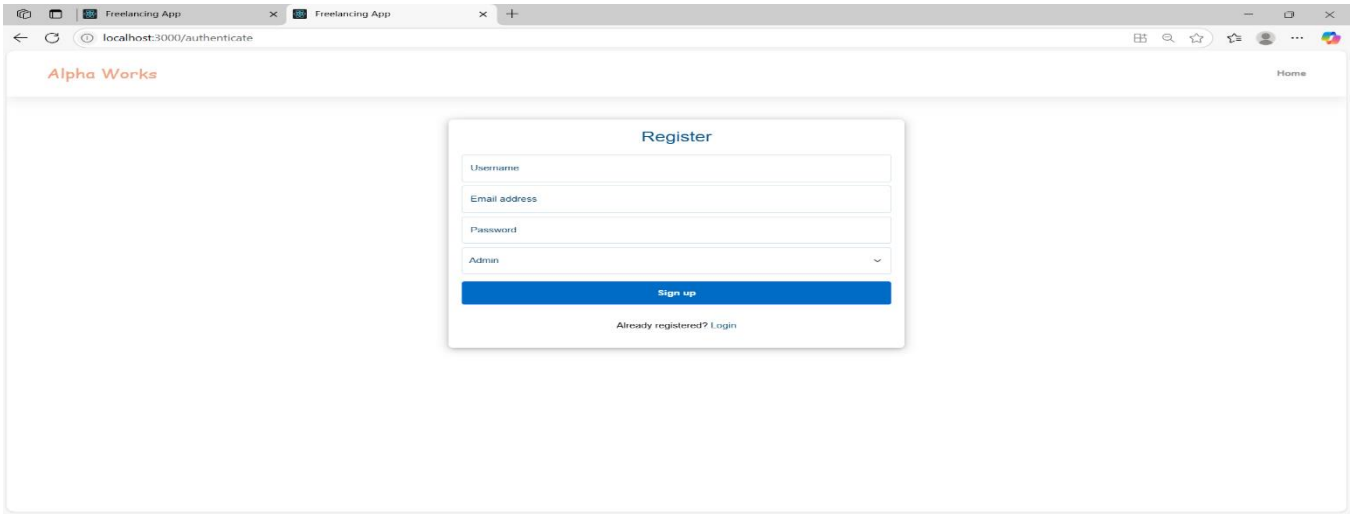
- **Authorization Headers:**

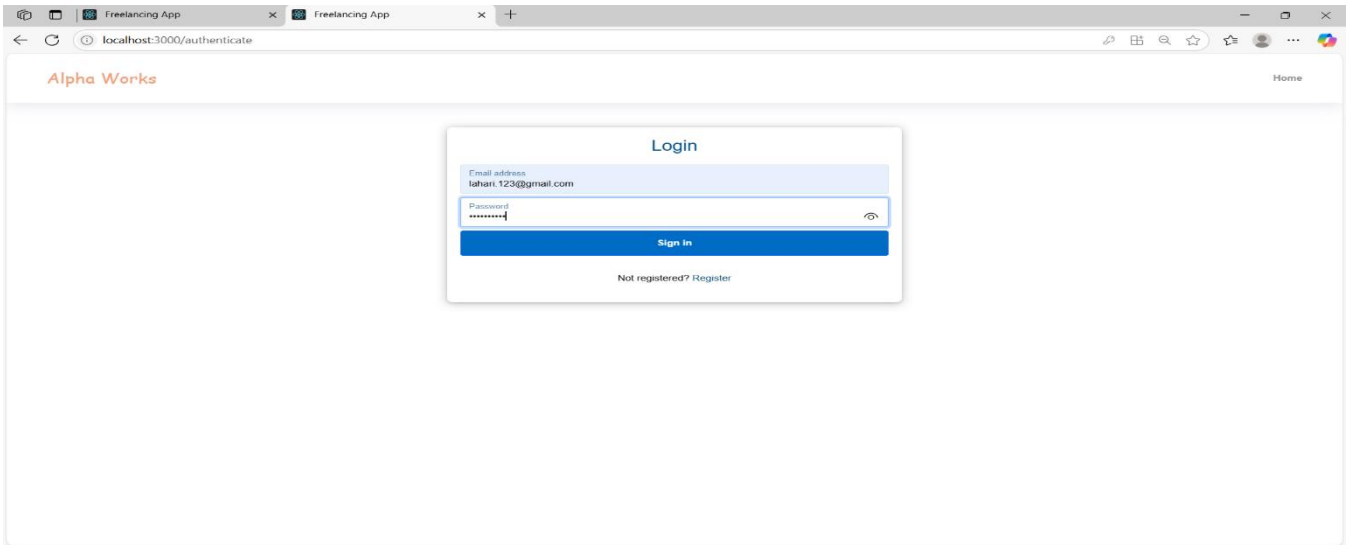
  This token-based system ensures a secure, scalable, and flexible way to manage user sessions and permissions throughout the application.

USER INTERFACE

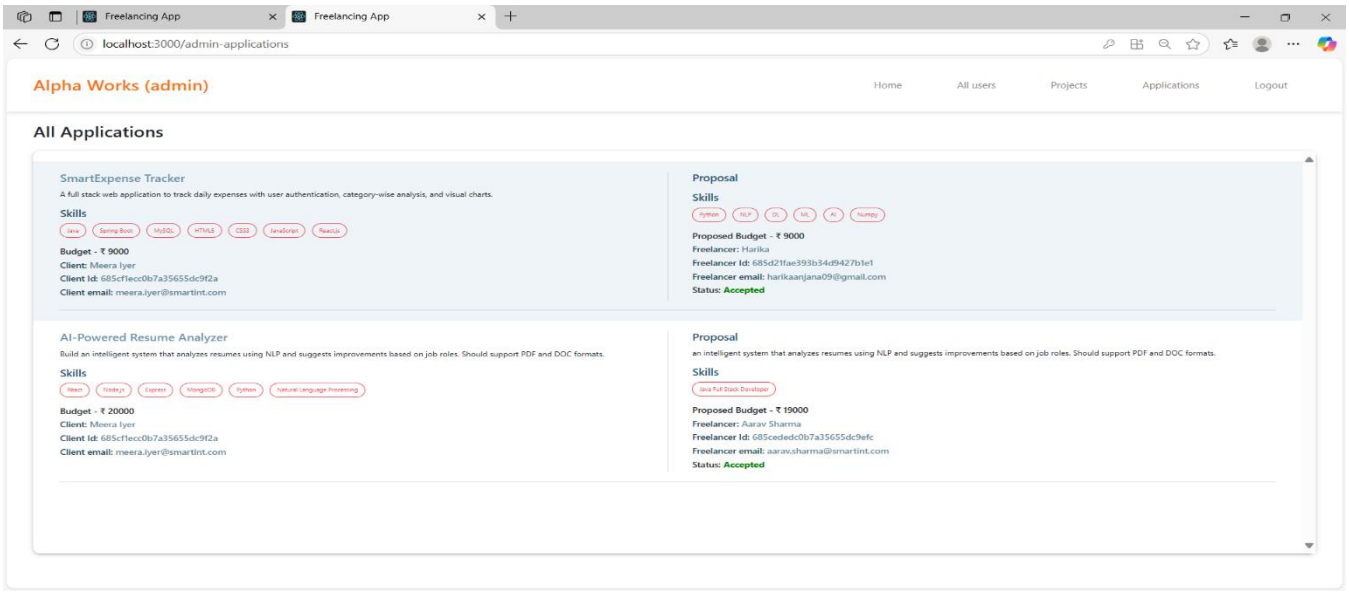
USER VIEW: -

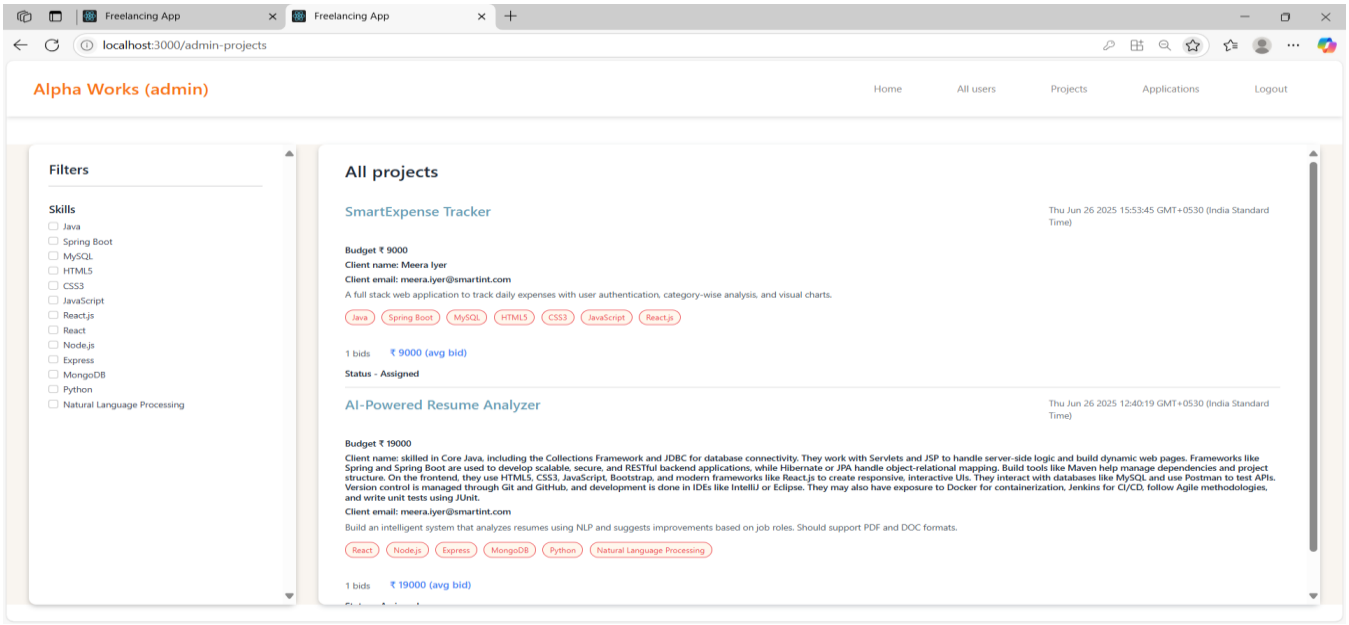


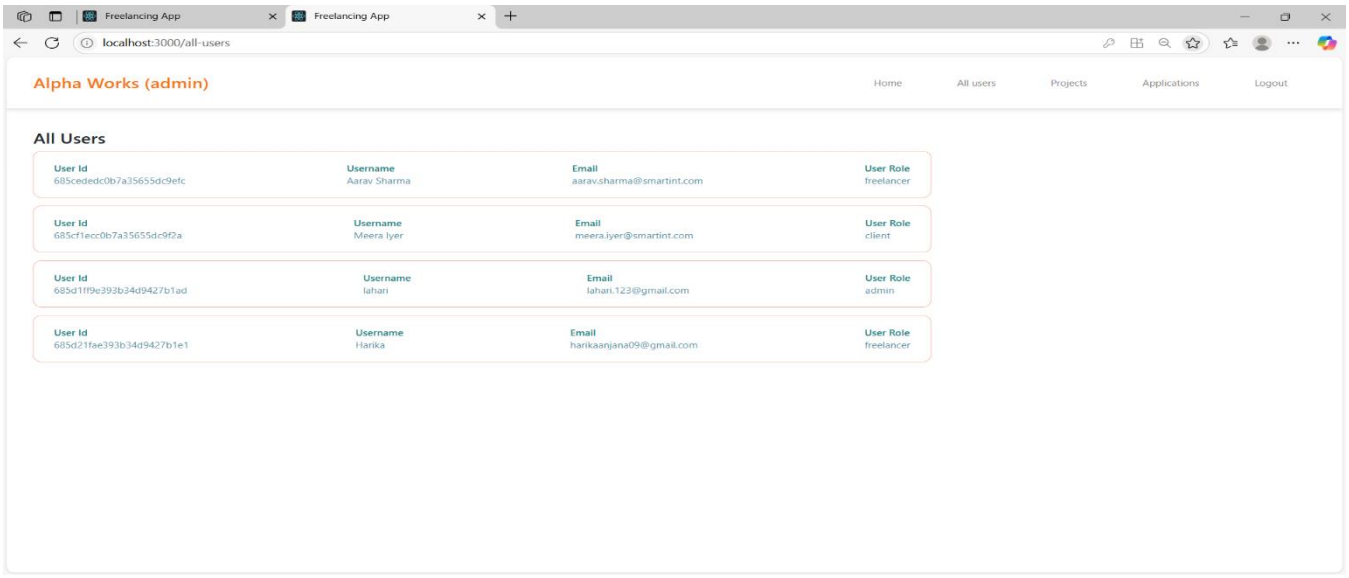




ADMIN VIEW: -


Freelancing App
localhost:3000/admin-applications
Alpha Works (admin)
Home
All users
Projects
Applications
Logout
All Applications
SmartExpense Tracker
A full stack web application to track daily expenses with user authentication, category-wise analysis, and visual charts.
Skills
Java
Spring Boot
MySQL
HTML5
CSS3
JavaScript
React.js
Budget - ₹ 9000
Client: Meera Iyer
Client Id: 685cf1ecc0b7a35655dc9f2a
Client email: meera.iyer@smartint.com
Proposal
Skills
Python
NLP
DL
ML
AI
Numpy
Proposed Budget - ₹ 9000
Freelancer: Harika
Freelancer Id: 685d21fae393b34d9427b1e1
Freelancer email: harikaanjana09@gmail.com
Status: Accepted
AI-Powered Resume Analyzer
Build an intelligent system that analyzes resumes using NLP and suggests improvements based on job roles. Should support PDF and DOC formats.
Skills
React
Node.js
Express
MongoDB
Python
Natural Language Processing
Budget - ₹ 20000
Client: Meera Iyer
Client Id: 685cf1ecc0b7a35655dc9f2a
Client email: meera.iyer@smartint.com
Proposal
an intelligent system that analyzes resumes using NLP and suggests improvements based on job roles. Should support PDF and DOC formats.
Skills
Java Full Stack Developer
Proposed Budget - ₹ 19000
Freelancer: Aarav Sharma
Freelancer Id: 685cededc0b7a35655dc9efc
Freelancer email: aarav.sharma@smartint.com
Status: Accepted


Freelancing App
localhost:3000/admin-projects
Alpha Works (admin)
Home
All users
Projects
Applications
Logout
Filters
Skills
Java
Spring Boot
MySQL
HTML5
CSS3
JavaScript
React.js
React
Node.js
Express
MongoDB
Python
Natural Language Processing
All projects
SmartExpense Tracker
Thu Jun 26 2025 15:53:45 GMT+0530 (India Standard Time)
Budget ₹ 9000
Client name: Meera Iyer
Client email: meera.iyer@smartint.com
A full stack web application to track daily expenses with user authentication, category-wise analysis, and visual charts.
Java
Spring Boot
MySQL
HTML5
CSS3
JavaScript
React.js
1 bids
₹ 9000 (avg bid)
Status - Assigned
AI-Powered Resume Analyzer
Thu Jun 26 2025 12:40:19 GMT+0530 (India Standard Time)
Budget ₹ 19000
Client name: skilled in Core Java, including the Collections Framework and JDBC for database connectivity. They work with Servlets and JSP to handle server-side logic and build dynamic web pages. Frameworks like Spring and Spring Boot are used to develop scalable, secure, and RESTful backend applications, while Hibernate or JPA handle object-relational mapping. Build tools like Maven help manage dependencies and project structure. On the frontend, they use HTML5, CSS3, JavaScript, Bootstrap, and modern frameworks like React.js to create responsive, interactive UIs. They interact with databases like MySQL and use Postman to test APIs. Version control is managed through Git and GitHub, and development is done in IDEs like IntelliJ or Eclipse. They may also have exposure to Docker for containerization, Jenkins for CI/CD, follow Agile methodologies, and write unit tests using JUnit.
Client email: meera.iyer@smartint.com
Build an intelligent system that analyzes resumes using NLP and suggests improvements based on job roles. Should support PDF and DOC formats.
React
Node.js
Express
MongoDB
Python
Natural Language Processing
1 bids
₹ 19000 (avg bid)


Freelancing App
localhost:3000/all-users
Alpha Works (admin)
Home
All users
Projects
Applications
Logout
All Users
User Id
685cededc0b7a35655dc9efc
Username
Aarav Sharma
Email
aarav.sharma@smartint.com
User Role
freelancer
User Id
685cf1ecc0b7a35655dc9f2a
Username
Meera Iyer
Email
meera.iyer@smartint.com
User Role
client
User Id
685d1ff9e393b34d9427b1ad
Username
lahari
Email
lahari.123@gmail.com
User Role
admin
User Id
685d21fae393b34d9427b1e1
Username
Harika
Email
harikaanjana09@gmail.com
User Role
freelancer

TESTING

Testing is a crucial phase of the development process to ensure the functionality, performance, and reliability of the FreelanceFinder platform. Both manual and automated testing methods were employed to validate the frontend and backend components.

Manual Testing:

- **Frontend:**
  Conducted using various user roles (freelancer, client, admin) to verify correct rendering of pages, input validation, and user interactions (login, project bidding, message exchange, etc.).
- **Backend:**
  Used **Postman** to test all API endpoints with valid and invalid inputs to ensure proper request/response handling and error management.
- **Responsiveness:**
  Manually tested the UI across different screen sizes (mobile, tablet, desktop) to ensure a consistent and responsive user experience.

Automated Testing (Planned / Partial):

- **Frontend(React):**
  Integration of **Jest** and **React Testing Library** was initiated to test components like forms, buttons, and API responses.
- **Backend(Node.js+Express):**
  Planned to integrate **Mocha**, **Chai**, and **Supertest** to automate endpoint testing and simulate various edge cases.

• Key Areas Tested:

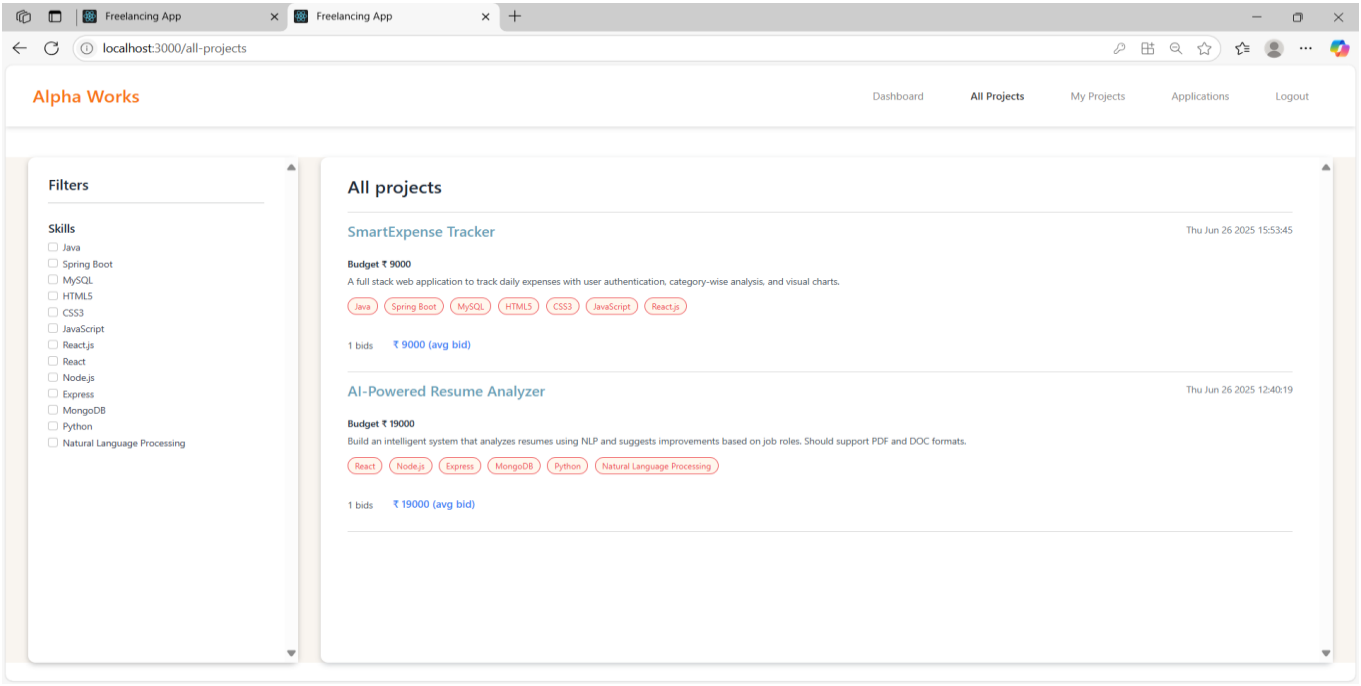
- User registration and login with proper validation
- Project creation, listing, and bidding flows
- Role-based access control for pages and APIs
- Chat and messaging logic
- Error and alert handling in both UI and server

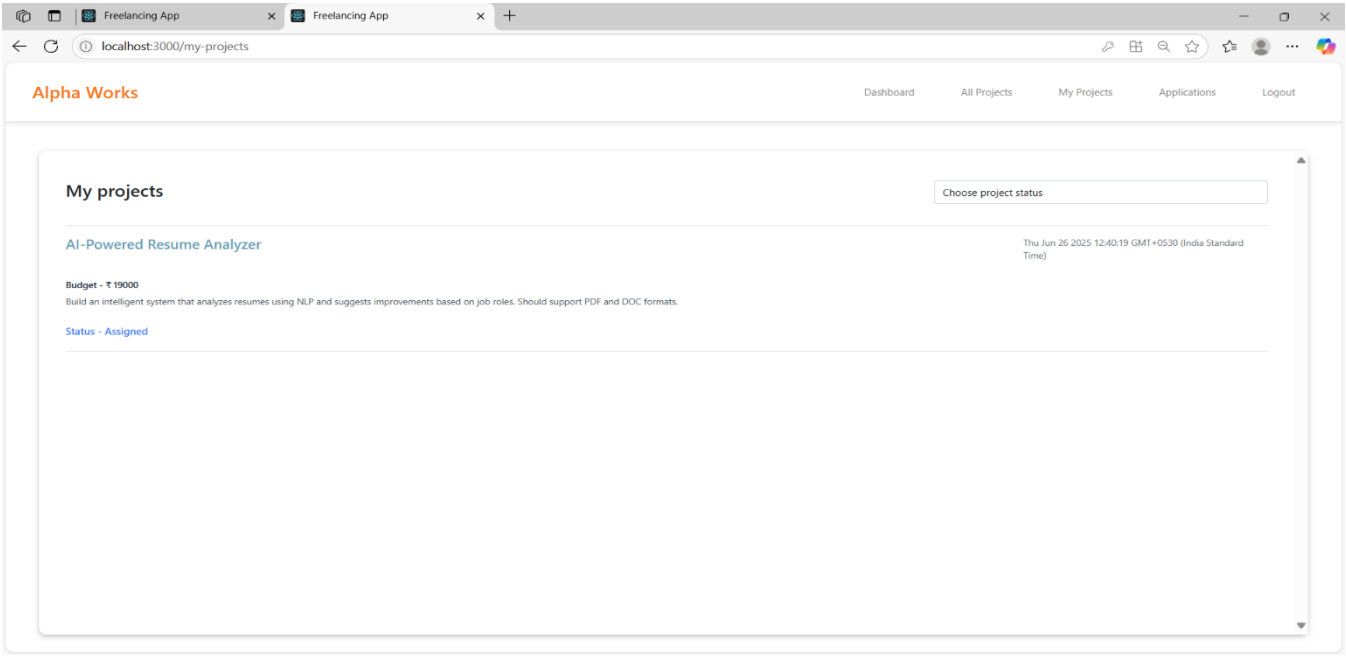
RESULT

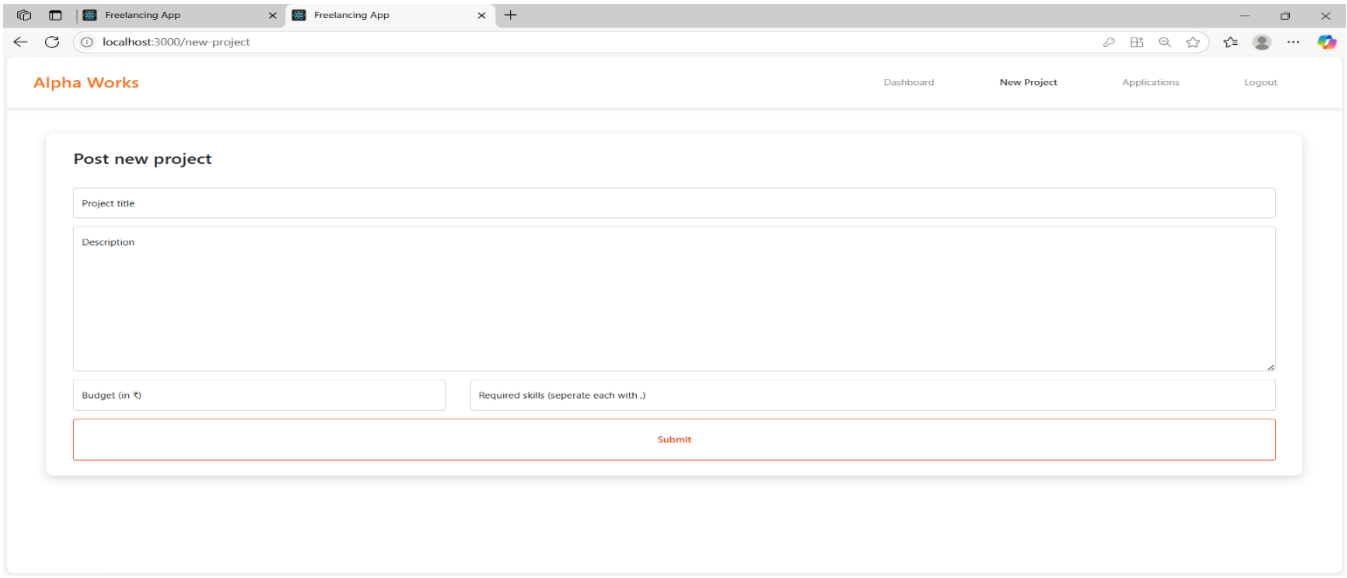
To demonstrate the functionality and user experience of **FreelanceFinder (ALPHA Works)**, a working demo and key UI screenshots have been provided:

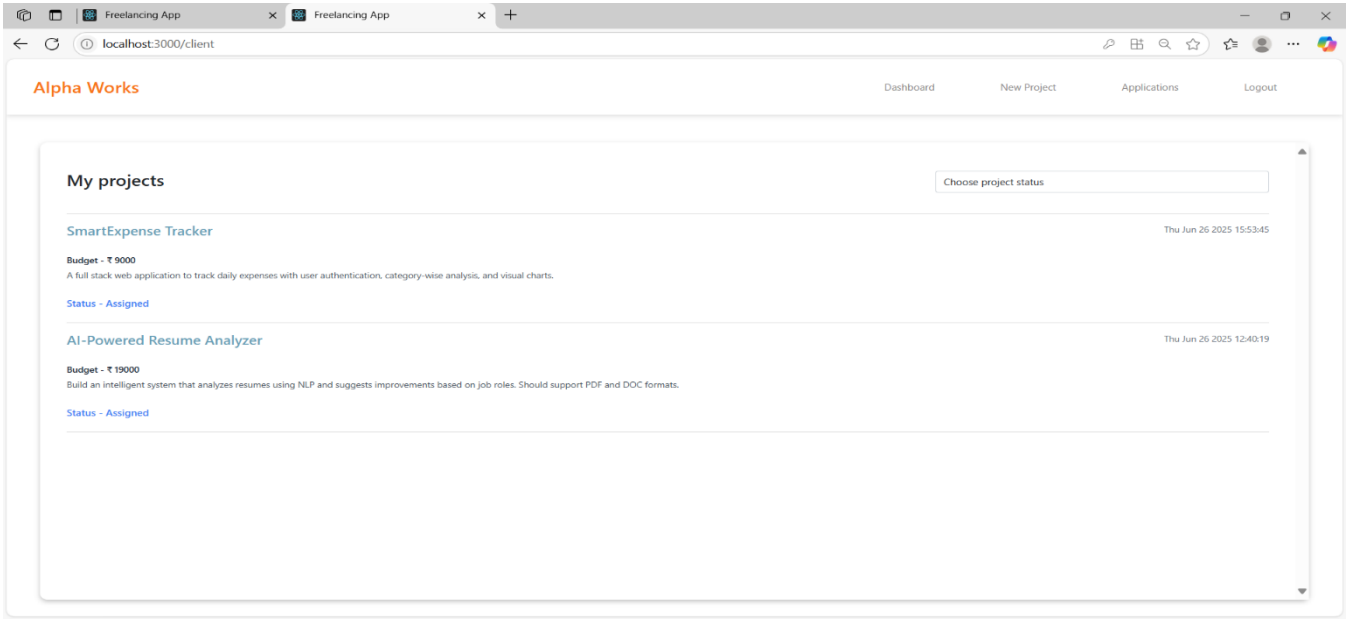
- **Live Demo: Demo-Video**
- **GitHub Link: Freelance-Finder**

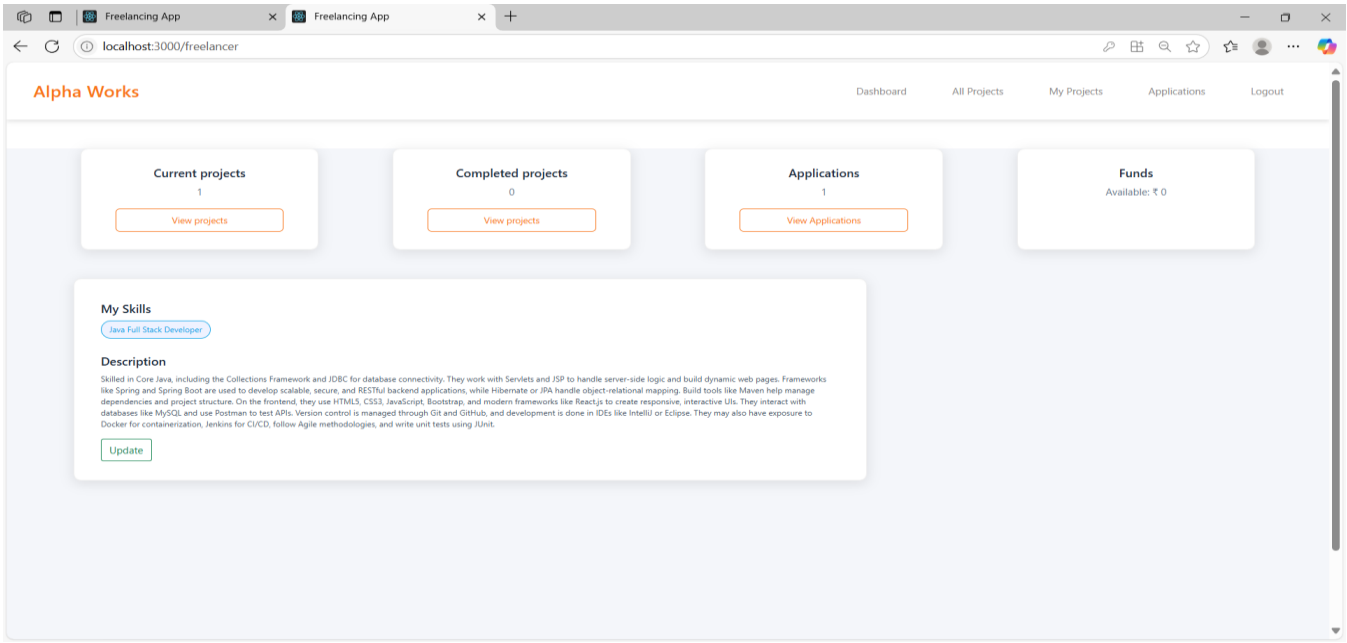
Sample Screenshots:






Freelancing App
Freelancing App
localhost:3000/new-project
Alpha Works
Dashboard
New Project
Applications
Logout
Post new project
Project title
Description
Budget (in ₹)
Required skills (seperate each with ,)
Submit


Freelancing App
Freelancing App
localhost:3000/client
Alpha Works
Dashboard
New Project
Applications
Logout
My projects
Choose project status
SmartExpense Tracker
Thu Jun 26 2025 15:53:45
Budget - ₹ 9000
A full stack web application to track daily expenses with user authentication, category-wise analysis, and visual charts.
Status - Assigned
AI-Powered Resume Analyzer
Thu Jun 26 2025 12:40:19
Budget - ₹ 19000
Build an intelligent system that analyzes resumes using NLP and suggests improvements based on job roles. Should support PDF and DOC formats.
Status - Assigned


Freelancing App
Freelancing App
localhost:3000/freelancer
Alpha Works
Dashboard
All Projects
My Projects
Applications
Logout
Current projects
1
View projects
Completed projects
0
View projects
Applications
1
View Applications
Funds
Available: ₹ 0
My Skills
Java Full Stack Developer
Description
Skilled in Core Java, including the Collections Framework and JDBC for database connectivity. They work with Servlets and JSP to handle server-side logic and build dynamic web pages. Frameworks like Spring and Spring Boot are used to develop scalable, secure, and RESTful backend applications, while Hibernate or JPA handle object-relational mapping. Build tools like Maven help manage dependencies and project structure. On the frontend, they use HTML5, CSS3, JavaScript, Bootstrap, and modern frameworks like ReactJs to create responsive, interactive UIs. They interact with databases like MySQL and use Postman to test APIs. Version control is managed through Git and GitHub, and development is done in IDEs like IntelliJ or Eclipse. They may also have exposure to Docker for containerization, Jenkins for CI/CD, follow Agile methodologies, and write unit tests using JUnit.
Update

FUTURE ENHANCEMENTS

To enhance the performance, usability, and scalability of FreelanceFinder (ALPHA Works), the following improvements are planned:

1. **Implement real-time WebSocket-based chat** for faster and smoother communication between clients and freelancers.
2. **Integrate secure payment gateways** like Stripe and PayPal for streamlined transactions and escrow functionality.
3. **Enable project milestone tracking** to help clients and freelancers manage deadlines and deliverables efficiently.
4. **Build a cross-platform mobile application** using React Native for improved accessibility and mobile usability.
5. **Develop an AI-powered project recommendation engine** to match freelancers with relevant opportunities.
6. **Introduce in-app notifications** for real-time alerts on bids, messages, project updates, and reviews.
7. **Add admin-level analytics and reporting tools** to monitor platform activity and performance.
8. **Implement a robust freelancer verification system** to ensure quality and trust across the platform.
9. **Create a dynamic reputation scoring algorithm** based on reviews, ratings, and project success history.
10. **Enhance form validation and error handling** across all modules to improve data accuracy and user experience.

CONCLUSION

FreelanceFinder (ALPHA Works) is a comprehensive full-stack web application designed to bridge the gap between freelancers and clients through a secure, scalable, and user-friendly platform. By leveraging the **MERN stack**—MongoDB, Express.js, React.js, and Node.js—the system offers dynamic functionality such as project posting, bidding, real-time communication, and secure user authentication.

The platform successfully addresses the common pain points of traditional freelancing systems by ensuring transparency, simplifying workflows, and enabling seamless collaboration. With dedicated dashboards for clients, freelancers, and admins, FreelanceFinder empowers users to efficiently manage their engagements and grow within the gig economy.

As the application continues to evolve, planned enhancements such as real-time chat, mobile integration, and payment processing aim to elevate the platform into a fully-featured freelancing ecosystem. **FreelanceFinder** demonstrates not only technical proficiency in full-stack development but also thoughtful design tailored to real-world needs in the digital work landscape.