

Project Report

Abstract

This project focuses on building a full-stack web application integrating both frontend and backend functionalities. The objective is to design and implement a scalable solution that allows vendor and firm management, product handling, and seamless communication between client and server.

Introduction

The project was initiated to create a structured and efficient platform for managing firms, vendors, and their respective products. The motivation behind this work is to provide businesses with a centralized system to handle data storage, retrieval, and management in a reliable manner.

Tools Used

1. **Frontend**: React.js for building user interface components. 2. **Backend**: Node.js with Express.js for server-side logic. 3. **Database**: MongoDB for storing vendor, firm, and product information. 4. **Other Tools**: Multer for file handling, JWT for authentication, and Fetch API for client-server communication.

Steps Involved in Building the Project

1. Requirement analysis and system design. 2. Setting up backend with Express.js and MongoDB. 3. Implementing authentication and authorization using JWT. 4. Creating RESTful APIs for firm and product management. 5. Designing frontend using React.js with reusable components. 6. Integrating frontend with backend through Fetch API calls. 7. Testing the application for error handling and performance.

Conclusion

The project successfully demonstrates how modern web technologies can be integrated to build a robust, user-friendly, and secure management system. It provides a foundation for further enhancements such as role-based access control, advanced reporting features, and deployment to cloud platforms.