

Project Report: Notes

Project Overview

- **Project Name:** Notes
 - **Brief Description:**
A minimalist and user-friendly web application for creating, managing, and organizing personal notes. It includes support for reminders and aims to enhance productivity for students and working professionals.
 - **Main Features:**
 - Create, update, and delete notes
 - Set reminders for important notes
 - Easy-to-use interface
 - Planned support for flashcards
 - **Target Users:**
 - Students
 - Working professionals
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Technical Stack

- **Frontend:** EJS (Embedded JavaScript Templates)
 - **Backend:** Node.js with Express.js
 - **Database:** MongoDB (hosted via MongoDB Atlas)
 - **Authentication:**
 - JWT (JSON Web Tokens) for session management
 - bcryptjs for password hashing
 - **External Services:** MongoDB Atlas
 - **Deployment Platform:** Currently not deployed
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Functionality

- **User Roles:**
 - Single user role (authenticated user)

- **Core Functionalities:**
 - CRUD operations on notes
 - User registration and login
 - Secure note storage and retrieval
 - **Special Features:**
 - Reminders for notes
 - Private note storage ensuring user data privacy
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Learning Outcomes

- Mastered server-side rendering using **EJS**
 - Gained hands-on experience with **MongoDB** and **Mongoose**
 - Implemented secure **user authentication and authorization** using JWT and bcrypt
 - Learned how to structure and maintain a modular **Express.js backend**
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Challenges Faced

- Managing JWT tokens securely
 - Structuring and maintaining MongoDB schemas
 - Ensuring proper authentication and route protection
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Future Improvements

- Add support for **flashcards**
 - Refactor frontend using **React.js** for better user experience
 - Introduce a **word note structure** and **handwritten note support**
 - Implement **cloud storage** with size limits per user
 - Add **password recovery** and **account deletion** features
 - Enable **note sharing** between users
 - Add **export/import** functionality for notes (PDF, markdown, etc.)
 - Add trash and archive option and birthday reminders
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Contributors

Vinay Nain – Project Lead & Fullstack Developer

- Architected the entire application and led backend development using Node.js and Express
 - Implemented authentication system with JWT and bcrypt
 - Managed MongoDB integration and schema design
 - Oversaw overall project planning and feature roadmap
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Aryan – Frontend Developer

- Designed and implemented the user interface using EJS and CSS
 - Worked on form validation, templating, and UI responsiveness
 - Collaborated on UX improvements for note creation and reminders
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Manpreet – Database & API Development

- Designed and optimized MongoDB schemas using Mongoose
 - Developed and tested RESTful APIs for note operations
 - Handled reminder logic, indexing, and database performance tuning
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Dipesh – Testing & Documentation

- Conducted end-to-end testing and bug tracking across all app features
- Conducted app for any errors and usability