G H Patel College of Engineering & Technology

(A Constituent College of Charutar Vidya mandal University) V.V.Nagar

DEPARTMENT OF INFORMATION TECHNOLOGY

Mini Project Report

on

Alumni Association Platform: Bridging the Gap Between Alumni and Opportunities

Submitted By

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CERTIFICATE

This is to certify that the Mini Project Report submitted entitled **"Alumni Association Platform: Bridging the Gap Between Alumni and Opportunities"** has been carried out by **Rohit Chhipa (12202080501049) , Siddharth ka. Patel (12202080501055), Vivek Parmar(12202080501067)** under the guidance of **"Dr. Hetal Chudasama"** in partial fulfillment of the requirements for the Degree of Bachelor of Engineering in Information Technology at G H Patel College of Engineering & Technology, CVM University, Vallabh Vidyanagar during the academic year 2024-25.

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ABSTRACT

This report details the design, development, and initial evaluation of the **Alumni Association Platform** – a web-based application aimed at reconnecting former students and fostering a robust professional networking community within the institution's alumni network. The platform features a modern, responsive frontend developed using React.js and Tailwind CSS. With the complete frontend already in place, the focus now shifts to implementing a secure and scalable backend using Express.js and MongoDB. The backend will manage critical functionalities such as user authentication, profile management, event scheduling, messaging, and real-time notifications. This report outlines the system analysis, design methodology, module specifications, and a clear implementation plan for the upcoming development phase. Ultimately, the platform seeks to enhance alumni engagement, streamline event management, and support effective networking.

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1 INTRODUCTION

1.1 PROBLEM STATEMENT

In today's digital era, alumni frequently lose touch with both their institution and each other, leading to missed opportunities for professional networking and collaboration. Existing solutions—such as generic social media groups or outdated alumni directories—often fail to provide a centralized, secure, and interactive environment tailored to the unique needs of an institutional alumni community. There is a clear necessity for a dedicated platform that reconnects alumni while offering features for news sharing, event management, career opportunities, and mentorship.

1.2 PROJECT OVERVIEW

BookMosaic is a web-based application designed to provide personalized book recommendations and a streamlined book purchasing experience. Built using modern technologies like React.js for the frontend, Tailwind CSS for styling, Express.js for the backend, and MongoDB for data storage, the platform caters to book enthusiasts, students, and retailers. It incorporates AI/ML algorithms to analyze user behavior and trending data, offering tailored book suggestions. Key features include user authentication, category-based browsing, a secure payment gateway, and downloadable PDF books post-purchase. The app boasts an intuitive interface with pages like Home, Category, Profile, Wishlist, Cart, and more, ensuring a delightful user experience.

1.3 AIM & OBJECTIVE OF THE PROJECT

Aim:

To develop a user-centric web application that effectively reconnects alumni and facilitates networking, event coordination, and community engagement.

Objectives:

- **Responsive Design:** Develop a visually appealing and responsive interface using React.js and Tailwind CSS.

- **Secure Backend Integration:** Implement robust backend services with Express.js and MongoDB for user authentication, profile management, and event handling.

- **Event & News Management:** Enable the creation, management, and real-time notification of events and news updates.

- **Enhanced Networking:** Provide a comprehensive messaging system and discussion forums for effective peer-to-peer communication.

- **Scalability & Security:** Ensure that the platform is scalable and maintains high standards of data security and integrity.

2 SYSTEM ANALYSIS

2.1 MOTIVATION

The motivation behind the Alumni Association Platform is to bridge the communication gap between alumni and the institution. By providing a centralized portal, the platform aims to facilitate continuous engagement, enable networking opportunities, support event management, and create a space for sharing achievements and news, ultimately fostering a strong and supportive alumni community.

2.2 LITERATURE STUDY

Existing alumni networks and professional social platforms—such as LinkedIn and traditional alumni directories—highlight the importance of secure, interactive, and tailored environments. However, many current systems fall short in offering dedicated event management, real-time notifications, and a user-friendly experience. These insights have guided the design of our platform, ensuring the integration of modern web security practices, intuitive UI design, and a scalable backend architecture to support ongoing community engagement.

3 DESIGN : ANALYSIS & METHODOLOGY

3.1 REQUIREMENT ANALYSIS

Functional Requirements:

- **User Registration & Authentication:** Secure sign-up/login with email verification and password encryption.
- **Profile Management:** Allow alumni to create, update, and personalize their profiles.
- **Event Management:** Enable creation, viewing, and registration for events.
- **News & Updates:** Provide a dynamic news feed for institutional announcements and alumni achievements.
- **Messaging System:** Facilitate direct messaging and group discussions among users.
- **Notification System:** Deliver real-time alerts regarding events, messages, and news updates.

Non-Functional Requirements:

- **Performance:** Ensure rapid page loading (under 2 seconds) and support a high number of concurrent users.
- **Security:** Implement robust encryption and secure APIs to protect sensitive data.
- **Usability:** Design an intuitive and easy-to-navigate interface.
- **Scalability:** Build the backend to support an expanding user base and growing data volume.
- **Reliability:** Aim for high availability and minimal downtime.

3.2 SYSTEM ARCHITECTURE

The platform is built on a client-server model:

- **Client Layer:** Developed using React.js and styled with Tailwind CSS to deliver a modern, responsive interface.
- **Server Layer:** To be implemented with Express.js, providing RESTful API endpoints for operations such as user authentication, profile management, and event

processing.

- **Data Layer:** MongoDB will serve as the primary database for storing user profiles, event details, messages, and news content.
- **Integration Layer:** RESTful APIs ensure seamless communication between the frontend and backend, facilitating real-time data exchange.

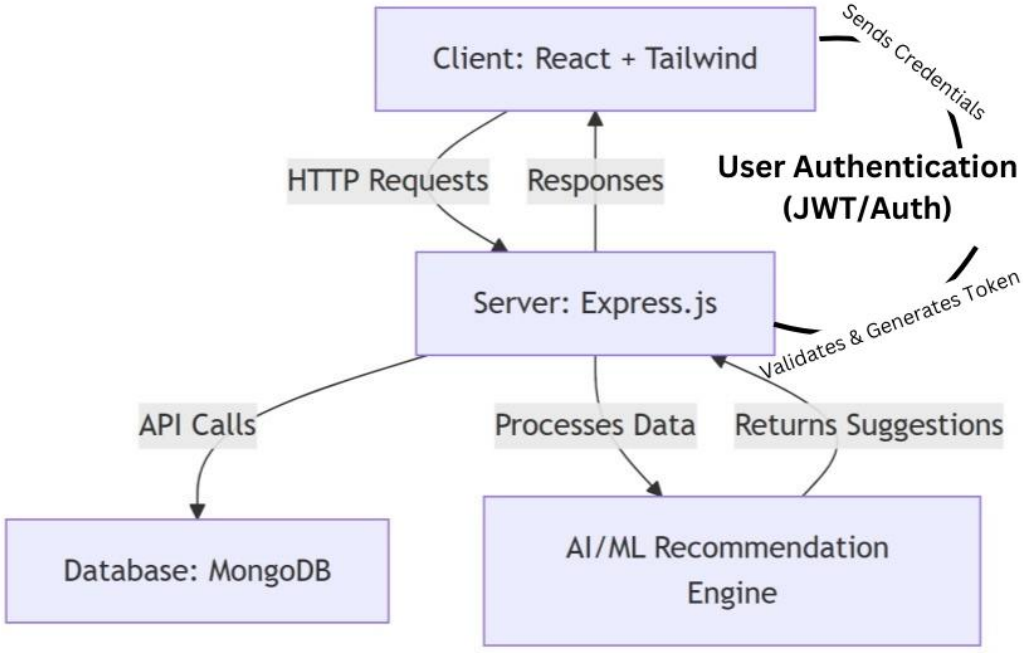

Figure-1 System Architecture

3.3 MODULE SPECIFICATION

- **User Management Module:**

Handles registration, login, profile updates, and password management.

- **Event & Notification Module:**

Allows alumni to create, manage, and register for events while providing real-time notifications.

- **Content and News Management Module:**

Manages publication of institutional news, alumni stories, and announcements.

- **Networking & Messaging Module:**

Provides tools for direct messaging, discussion forums, and group communications among alumni.

3.4 Timeline Chart

Project Definition Approval: Initiated on [Start Date]; project scope and objectives were defined and approved.

Frontend Development: Completed between [Date Range] with all pages (Home, Profile, Events, News, Messaging) fully designed and implemented.

Database & API Design: Initial schema design in MongoDB for users, events, and messages has been completed.

Backend Development: Scheduled to commence on [Upcoming Date] with a focus on secure API implementation and integration with the frontend.

3.5 UML Diagram

The UML diagram includes:

• **Use Case Diagrams:** Illustrating key functionalities such as user registration, login, alumni profile viewing, job/internship applications, event management, news publishing, query posting, alumni responses, job postings, messaging, and system administration tasks like user management, spam removal, and system maintenance.

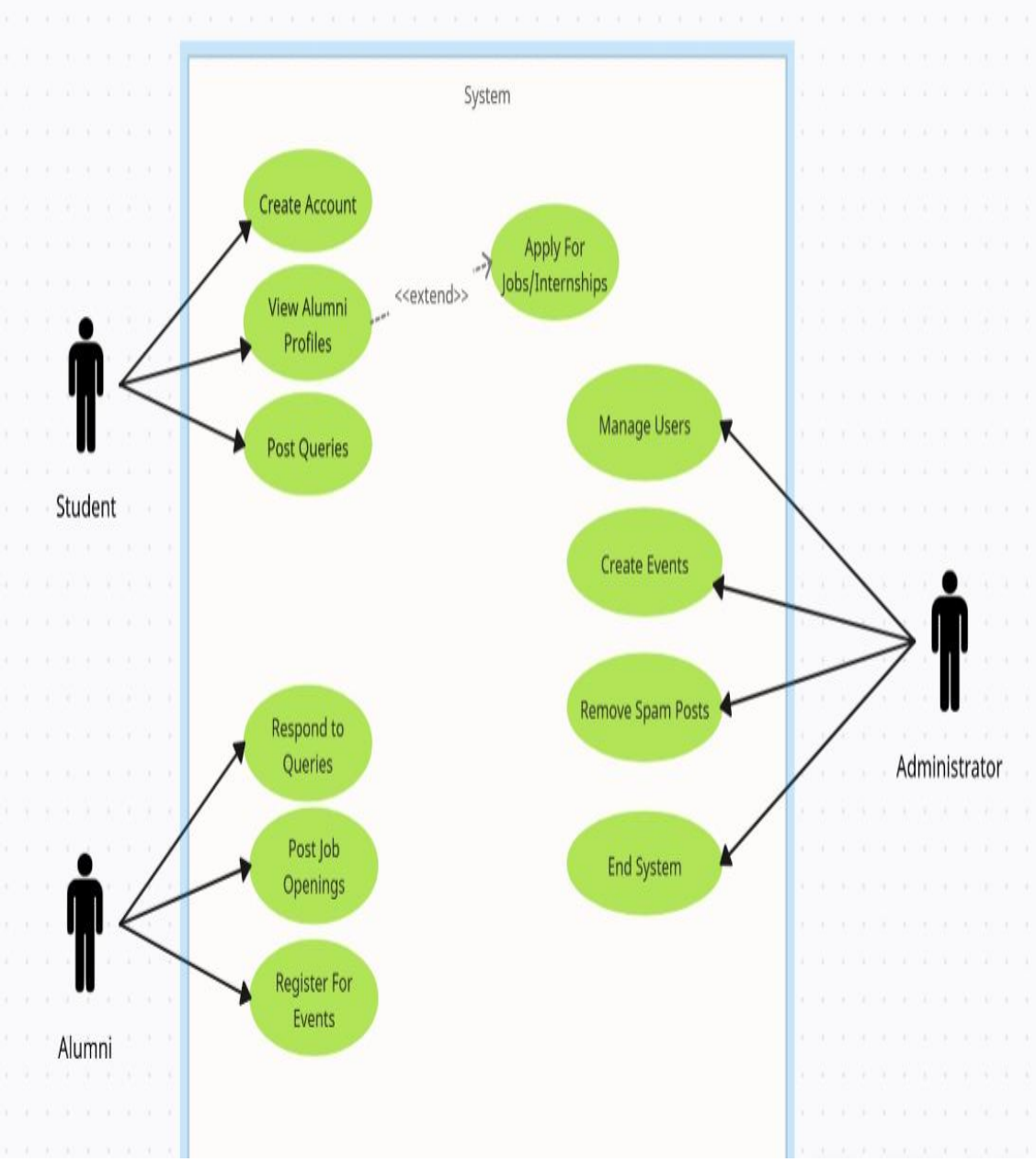

Figure-2 Use Case Chart

- **Class Diagrams:** Illustrating the relationships among **User, Event, JobPosting, Alumni, Student, and Admin** entities, showcasing user roles, event participation, job applications, and administrative management within the system.

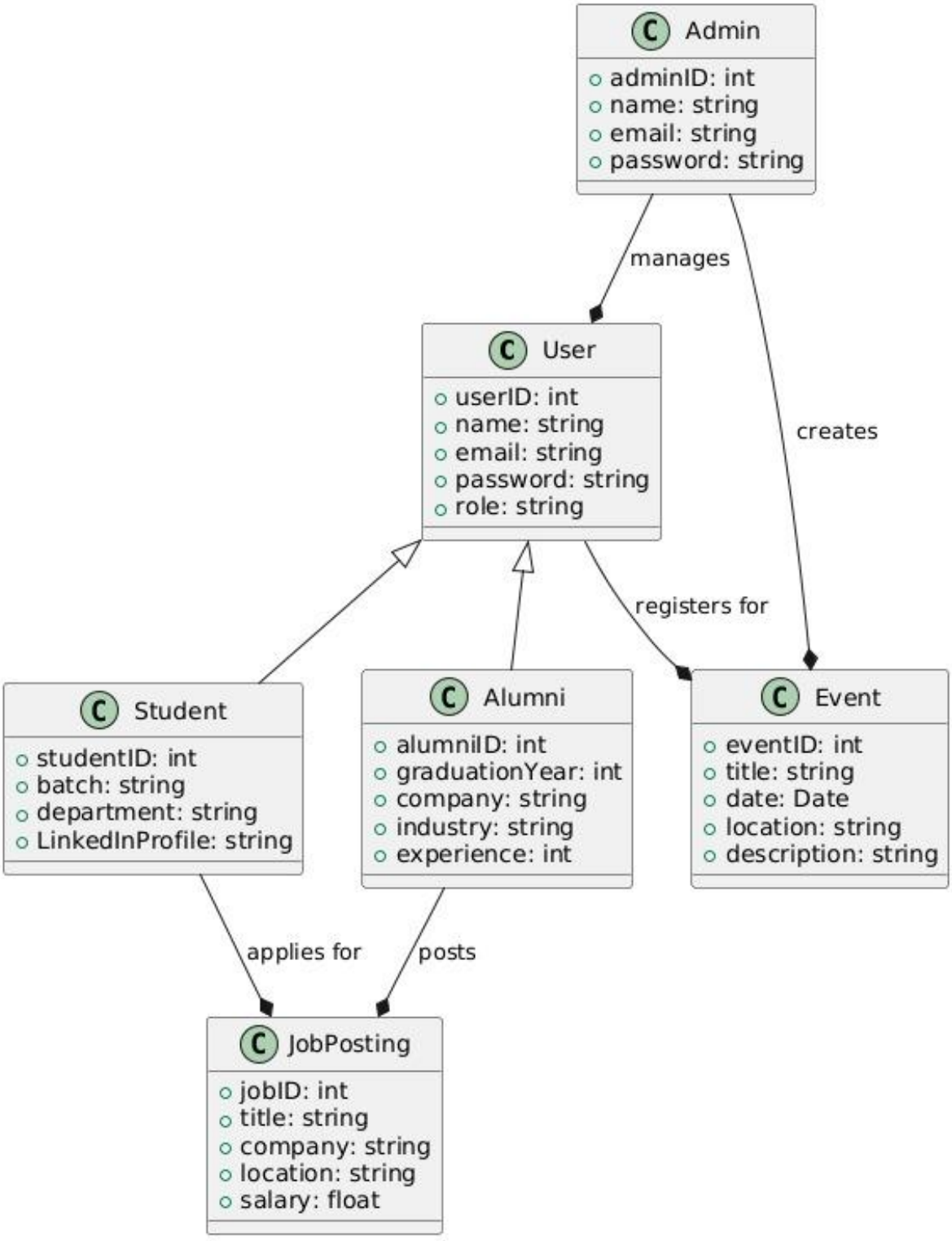

Figure-3 Class Diagram

4. IMPLEMENTATION

4.1 System Flow

1. **User Interaction:**
   - Alumni register or log in via the secure frontend interface.

2. **Profile & Content Access:**
   - Upon authentication, users access their profiles, view events, and read news updates.

3. **Event & Messaging Operations:**
   - Users can create events, register for existing ones, and communicate through the messaging system.

4. **Backend Processing:**
   - The frontend communicates with backend APIs (under development) for data validation, storage, and real-time updates.

5. **Notifications:**
   - Real-time alerts are dispatched for new events, messages, and content updates.

4.2 Current Results and Future Work

- **Frontend Success:**
  The fully implemented frontend delivers a modern, responsive, and user-friendly experience.

- **Backend Transition:**
  The project is now transitioning to backend development to implement secure API endpoints and integrate MongoDB for data management.

- **Future Enhancements:**
  Plans include advanced notification systems, personalized content recommendations through AI/ML integration, and comprehensive security testing to ensure data integrity and user privacy.

5. Conclusion

The Alumni Association Platform is poised to revolutionize how alumni reconnect and engage with their institution and each other. With a complete frontend and a clear roadmap for robust backend development, the platform will offer a secure, interactive, and scalable solution for alumni networking, event management, and community engagement. Future phases will focus on backend integration, advanced feature enhancements, and extensive testing to deliver a comprehensive and dependable system.