

# ACKNOWLEDGMENT

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## **Abstract**

"Find Events" is a web-based platform designed to address the fragmented and disorganized nature of event announcements within the college ecosystem. The portal serves as a centralized hub for listing, discovering, and managing inter- and intra-college fest events, resolving the common issue of students missing opportunities due to scattered information across various social media channels. The system is built on a modern web architecture, featuring a REST API backend and a decoupled frontend, ensuring a responsive and accessible user experience across all devices.

The platform defines distinct user roles—including general users, college representatives, and administrators—each with specific permissions to ensure structured and secure interaction. Key functionalities include public browsing of events with advanced search and filtering capabilities, a "save event" feature for registered users with automated email reminders, and a robust, multi-stage verification process for colleges and their representatives. College representatives are empowered to post and manage events, while a comprehensive admin dashboard provides administrators with oversight and control over colleges, representatives, and event listings. By centralizing event information and streamlining communication, "Find Events" aims to enhance student engagement, improve participation rates, and provide a single source of truth for all campus-related activities.

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## List of Abbreviations

SRS	Software Requirements Specification
MVP	Minimum Viable Product
UI	User Interface
API	Application Programming Interface
OTP	One-Time Password
CRUD	Create, Read, Update, Delete
HTTPS	Hypertext Transfer Protocol Secure

# Chapter 1

## Introduction

In the contemporary college environment, students are faced with a multitude of events, from academic seminars to cultural fests. However, information regarding these events is often decentralized, scattered across social media platforms like Instagram and WhatsApp, leading to information overload and missed opportunities. This disorganization makes it difficult for students to find comprehensive event details and for organizers to reach their target audience effectively.

"Find Events" is a comprehensive web portal designed to address this challenge. The purpose of this platform is to serve as a centralized system for listing and discovering inter- and intra-college fest events. The system aims to facilitate public browsing, allow registered users to save events of interest, and provide a controlled, verified channel for college representatives to post and manage their events. The scope of the system includes a robust event listing with search and filter functionality, role-based permissions for different user types, a verification workflow for colleges and their representatives, and an email-based notification system for event reminders.

### 1.1 Motivation

The development of the "Find Events" portal is motivated by several key challenges prevalent in the current system of college event management:

- **Information Fragmentation:** Event details are scattered across numerous platforms, making it difficult for students to get a complete and reliable overview of upcoming activities.
- **Inefficient Communication:** The reliance on informal channels means that critical updates, announcements, and event details may be overlooked, creating a disconnect between organizers and students.
- **Low Student Engagement:** When students are unaware of events, participation rates suffer, leading to lost opportunities for learning, networking, and community building.
- **Administrative Overhead for Organizers:** Managing multiple social media accounts and communication channels for various events is time-consuming and inefficient for event organizers.
- **Poor User Experience:** Existing college websites often suffer from difficult navigation, outdated content, and a lack of mobile responsiveness, frustrating users who are trying to find information.

"Find Events" aims to solve these problems by creating a dedicated, user-friendly, and centralized ecosystem that simplifies the discovery and management of college events for all stakeholders.

# Chapter 2

## Literature Study

The background study for "Find Events" focuses on analyzing existing event management platforms and the common challenges associated with college-specific portals. This analysis helps to identify gaps in the market and formulate an optimized approach that directly addresses the needs of students and college administrators.

### 2.1 Existing Techniques

Several platforms offer event management and listing services, though they often cater to a general audience or provide a broad suite of features not specifically tailored for the academic environment.

- **General Event Platforms (e.g., Eventbrite):** These platforms provide powerful tools for ticketing, registration, and promotion. However, they are not designed for the specific ecosystem of inter- and intra-college events and lack features like college-specific verification and student-centric navigation.
- **Campus-Specific Management Software (e.g., Localist, CampusGroups):** These are more specialized solutions that offer centralized calendars, student engagement tools, and integration with campus systems. They often provide features for managing various campus activities, from academic schedules to student organization meetings. While powerful, they can be complex and may be more than what is needed for a simple, discoverable listing of fests and cultural events.
- **Social Media:** Platforms like Instagram and Facebook are widely used for event promotion due to their vast reach. Organizers create event pages, post updates, and use targeted ads to engage students. This leverages existing user habits but contributes to the problem of information fragmentation and lacks a centralized, searchable repository.

### 2.2 Limitations

Current systems for college event discovery and management exhibit several key limitations that "Find Events" is designed to overcome:

- **Disorganized and Fragmented Data:** The most significant issue is the lack of a central repository. Event information is spread across various websites and social media, making it difficult for students to find and track events of interest.
- **Information Overload and Poor Navigation:** Many university websites are overloaded with content and suffer from complex navigation, which frustrates users and makes finding specific event information a challenge.
- **Lack of a Vetted and Official Source:** Information on social media may be incomplete or unofficial. There is no dedicated platform that ensures event listings are posted by verified representatives of the colleges, leading to potential misinformation.
- **No Dedicated Student-Focused Ecosystem:** General platforms are not built specifically for students. They lack the context of college-specific filters (e.g., inter-college vs. intra-college), verified college pages, and a trusted environment for student engagement.
- **Ineffective Notification Systems:** Students often rely on remembering to check various pages for updates. A lack of a centralized "save" feature with automated reminders means students can easily forget about events they were interested in attending.

By addressing these limitations, "Find Events" provides a unique and necessary solution tailored specifically to the needs of the college community.

# Chapter 3

## Proposed Work

### 3.1 Requirement Analysis

#### 3.1.1 Introduction

Requirement analysis is the foundational phase for the "Find Events" project, defining the functional and non-functional requirements of the platform. The system is designed as a responsive web application to serve as the primary portal for discovering and listing college fest events. This phase ensures that the final product aligns with the needs of its intended users and operates within its defined constraints.

#### 3.1.2 Objectives

The primary objectives of the "Find Events" platform are:

1. To provide a centralized and easily searchable database of inter- and intra-college events.
2. To establish a formal verification process for colleges and their representatives to ensure the authenticity of event postings.
3. To offer a simple and intuitive interface for all users to browse, filter, and view event details.
4. To allow registered users to save events and receive timely email notifications.
5. To equip administrators with a dashboard to manage the platform's users and content effectively.

#### 3.1.3 Stakeholders

The system involves the following key stakeholders (user classes) :

- **Visitor:** Any user who is not logged in. They can browse, search, and view events.
- **User:** A registered and logged-in user. They have all the capabilities of a Visitor, plus the ability to save events to their dashboard and receive notifications.
- **College:** An institutional account, approved by the Admin. A verified college can manage its profile and approve/verify its own College Representatives.
- **College Representative (Rep):** A user who has been verified by a College. Only verified Reps can post and manage events on behalf of their college.
- **Admin:** The platform administrator who has full oversight. The Admin can approve colleges, manage users and representatives, remove events, and view platform analytics.

#### 3.1.4 System Overview

"Find Events" is a web-based responsive system designed with a modern architectural approach, featuring a REST API backend and a decoupled frontend. This ensures flexibility, scalability, and a consistent user experience across both desktop and mobile web browsers. The platform's core function is to connect students with events through a trusted and centralized interface.

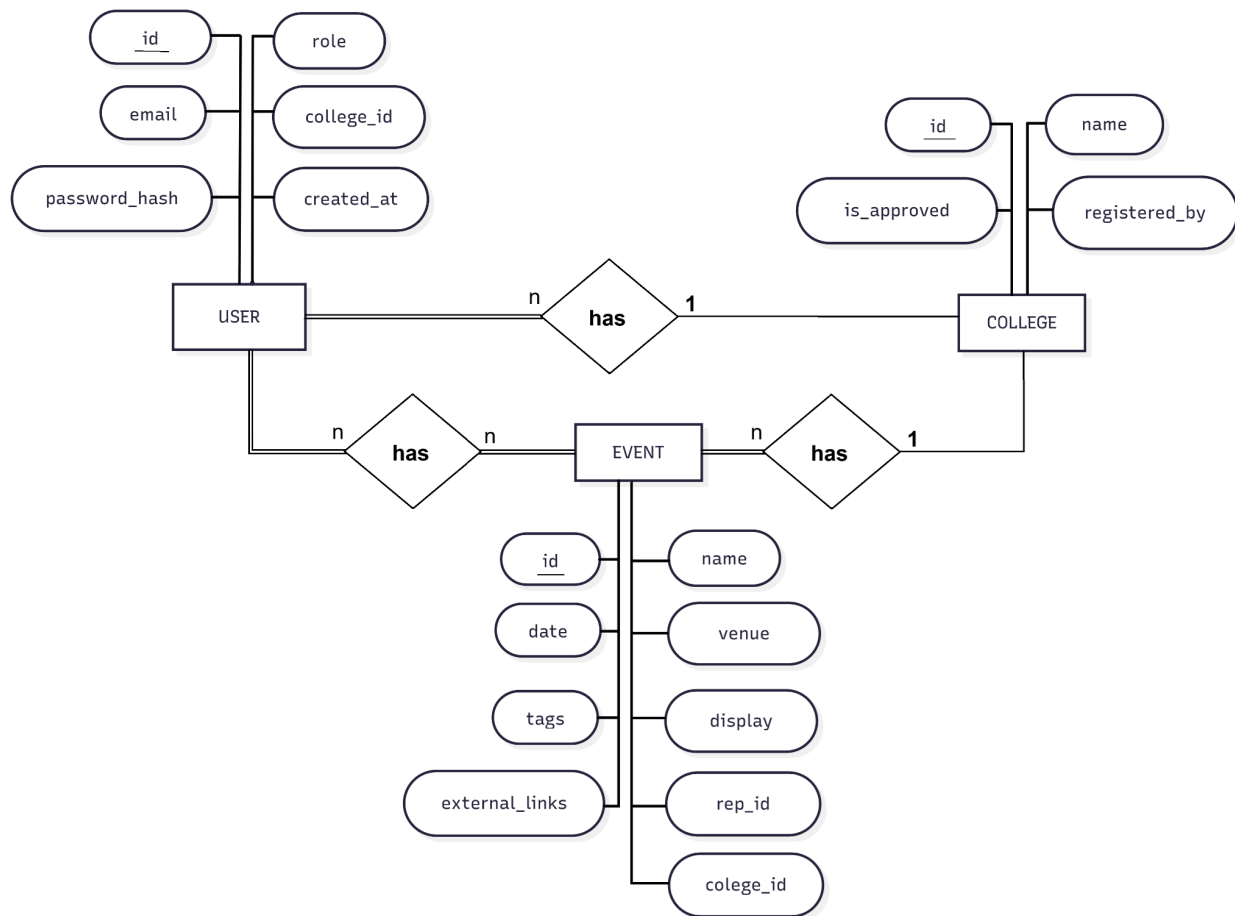


## 3.2 Database Design

The system will use a relational database model to store information about users, colleges, events, and their relationships. The core entities include:

- **Users:** (UserID, Name, Email, Password, Role)
- **Colleges:** (CollegeID, Name, Email, VerificationStatus, UserID)
- **Representatives:** (RepID, UserID, CollegeID, VerificationStatus, PrivilegeExpiryDate)
- **Events:** (EventID, Name, Date, Venue, Price, Tags, Description, ImageURL, RegistrationLink, RepID, DisplayStatus)
- **SavedEvents:** (SavedID, UserID, EventID)

**Figure 3.1: Find Events Entity-Relationship Diagram (ERD)**



### 3.3 Workflow Design

Key system workflows include:

- **College Verification Workflow:** A user with a college email applies to register their institution. The application is sent to the Admin dashboard for approval. Once approved, the user's role is elevated to "College".
- **Representative Verification Workflow:** Any registered user can apply to become a representative for a specific college. The request appears on that college's dashboard. The verified college user can then approve the request, granting the applicant "Representative" privileges for a set duration (e.g., 2 months).
- **Event Posting Workflow:** A verified Representative logs in and accesses the event creation form. They fill in all required details (name, date, venue, tags, etc.) and submit the event. The event becomes publicly visible on the platform. After the event date passes, its display status is automatically set to false.

### 3.4 User Interface Design

The user interface will be clean, intuitive, and responsive. Key pages and components include :

- **Homepage:** Displays the latest and featured events.
- **Events Page:** A comprehensive listing of all events with powerful search and filtering tools (by college, tags, price, etc.).
- **Event Details Page:** A dedicated page for each event with all relevant information, including description, images, and an external registration link.
- **User Dashboard:** For logged-in users, this page lists their saved events.
- **College/Representative Dashboard:** Allows verified colleges and reps to manage their profiles, verification requests, and event postings.
- **Admin Dashboard:** A backend interface for the administrator to manage the platform.
- **Hamburger Menu:** Navigation options will dynamically change based on the user's role (Visitor, User, Rep, etc.).

### 3.5 Technology Integration

The platform will be built using the following technologies and interfaces :

- **Architecture:** Decoupled frontend and a RESTful API backend.
- **Communication Protocol:** HTTPS for secure data transmission.
- **Software Interfaces:** Integration with an external email service provider for sending OTPs and event reminder notifications.

### 3.6 Functional Requirements

The functional requirements of the "Find Events" platform are as follows :

1. **Event Viewing and Searching:**
  - All users shall be able to search for events.
  - The system shall provide filters for college, tags, price, and other attributes.
  - All users shall be able to view the full details of any public event.
2. **User Account and Event Saving:**
  - Users shall be able to register, log in, and log out of their accounts.
  - Logged-in users shall be able to save events to a personal dashboard.
  - The system shall send email notifications to users for their saved events as the event date approaches.

3. **College Application and Verification:**
  - A user with a valid college email shall be able to apply to have their institution added to the platform.
  - The system shall require email verification via OTP for college applications.
  - The Admin shall be able to approve or reject college applications from the admin dashboard.
4. **College Representative Verification:**
  - Any user shall be able to request to become a representative for a verified college.
  - The verified college shall be able to approve or reject representative requests from their dashboard.
  - Representative privileges shall automatically expire after a predefined period (e.g., 2 months).
5. **Event Posting:**
  - Only verified college representatives shall be able to post events.
  - The event creation form shall include fields for name, date, venue, price, tags, external registration link, and images.
  - The system shall automatically hide events after their date has passed by setting a display attribute to false, rather than deleting the record.
6. **Admin Dashboard:**
  - The Admin shall be able to view and manage all colleges, representatives, and events.
  - The Admin shall have the ability to remove representatives and events.
  - The Admin shall be able to view basic analytics (e.g., total event count, active colleges).

### 3.7 Non-Functional Requirements

The non-functional requirements of the "Find Events" platform include :

1. **Performance:** The system should support at least 1000 concurrent users without significant degradation in performance.
2. **Security:** The system must implement secure OTP email verification for college registration and enforce role-based access control for all actions.
3. **Maintainability:** The backend shall be built with a modular REST architecture to facilitate easy updates and maintenance.
4. **Portability:** The web application must be responsive and fully accessible from modern desktop and mobile browsers (Chrome, Firefox, Edge).

## 3.8 Flow Diagrams

Figure 3.2: Data Flow Diagram (DFD) Level 0

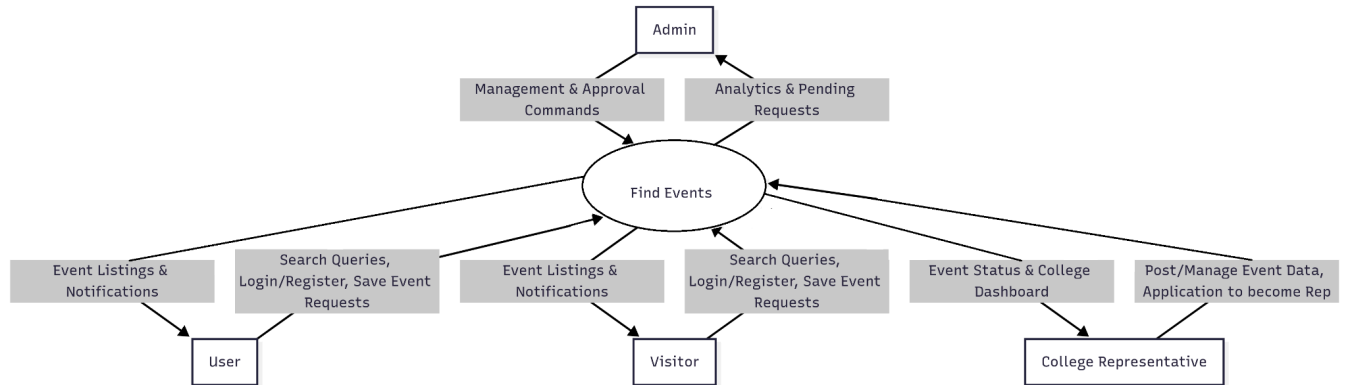
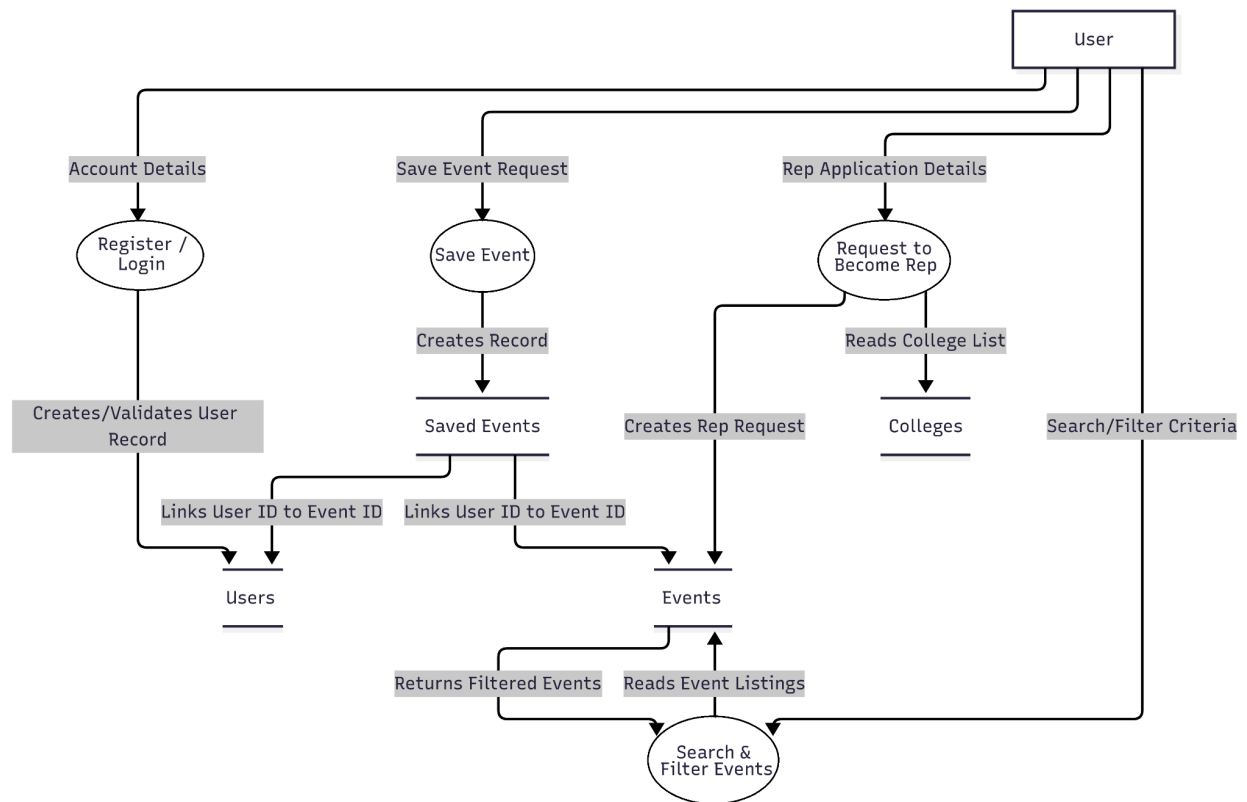
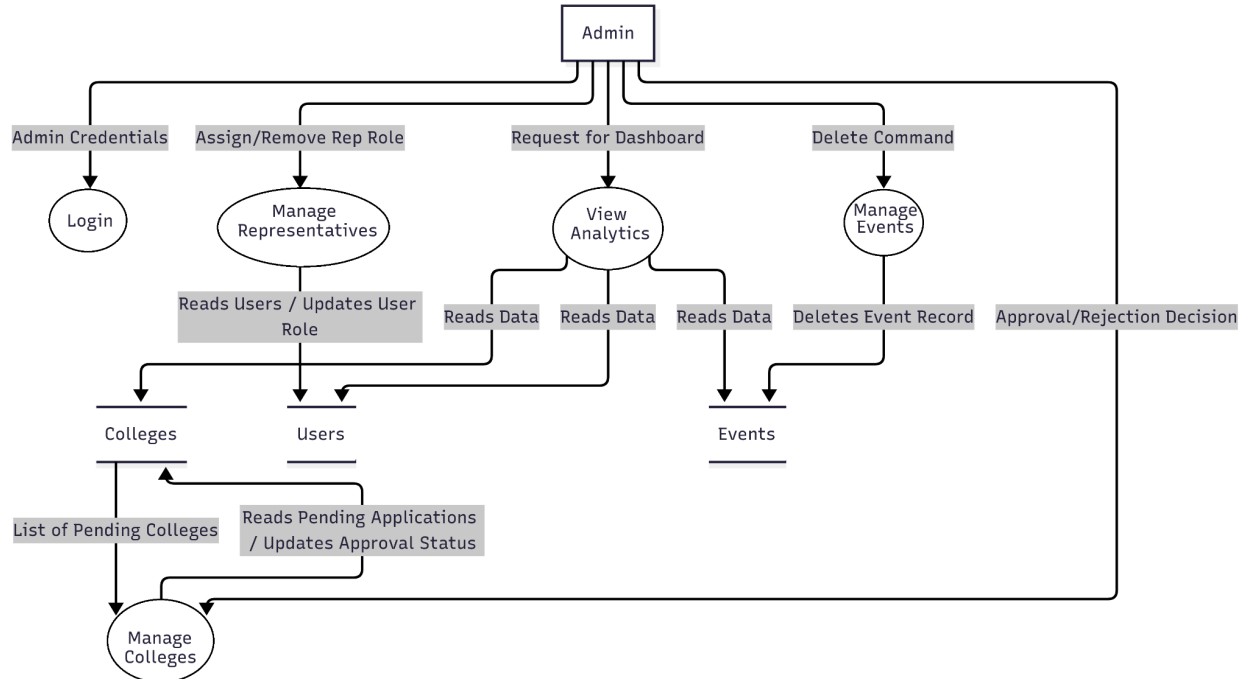


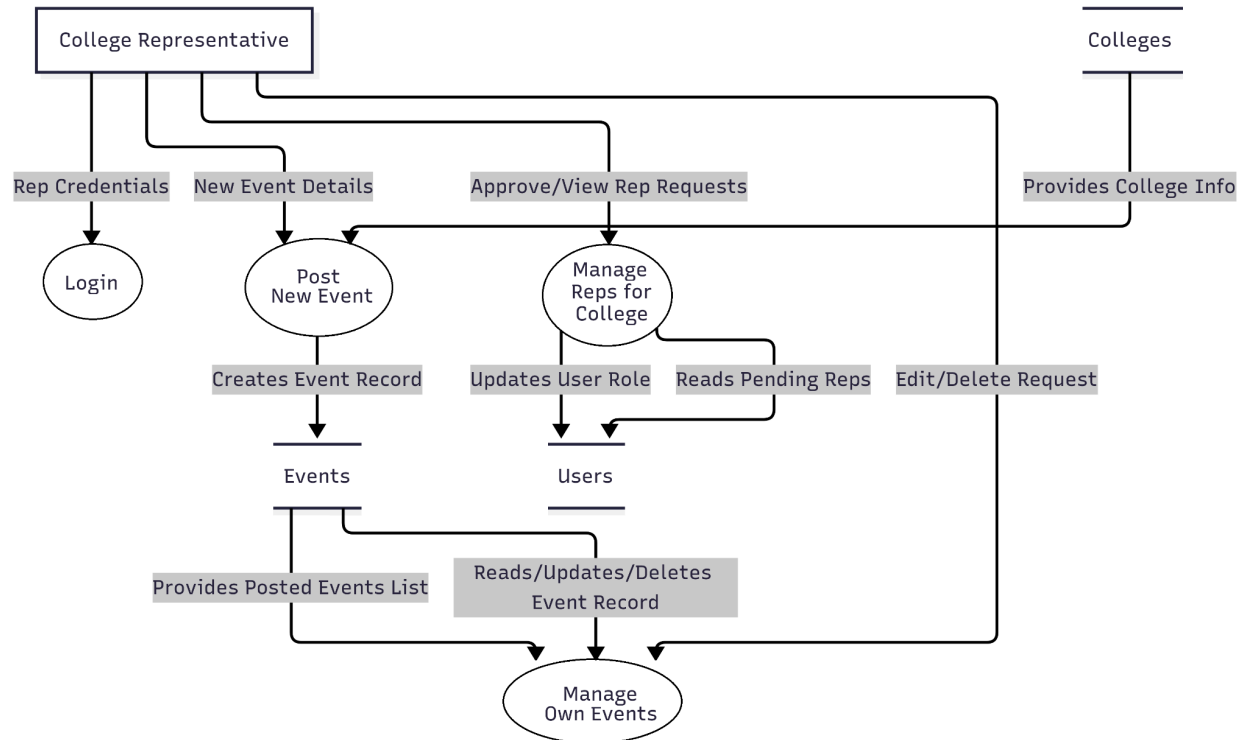
Figure 3.3: Data Flow Diagram (DFD) Level 1 - User



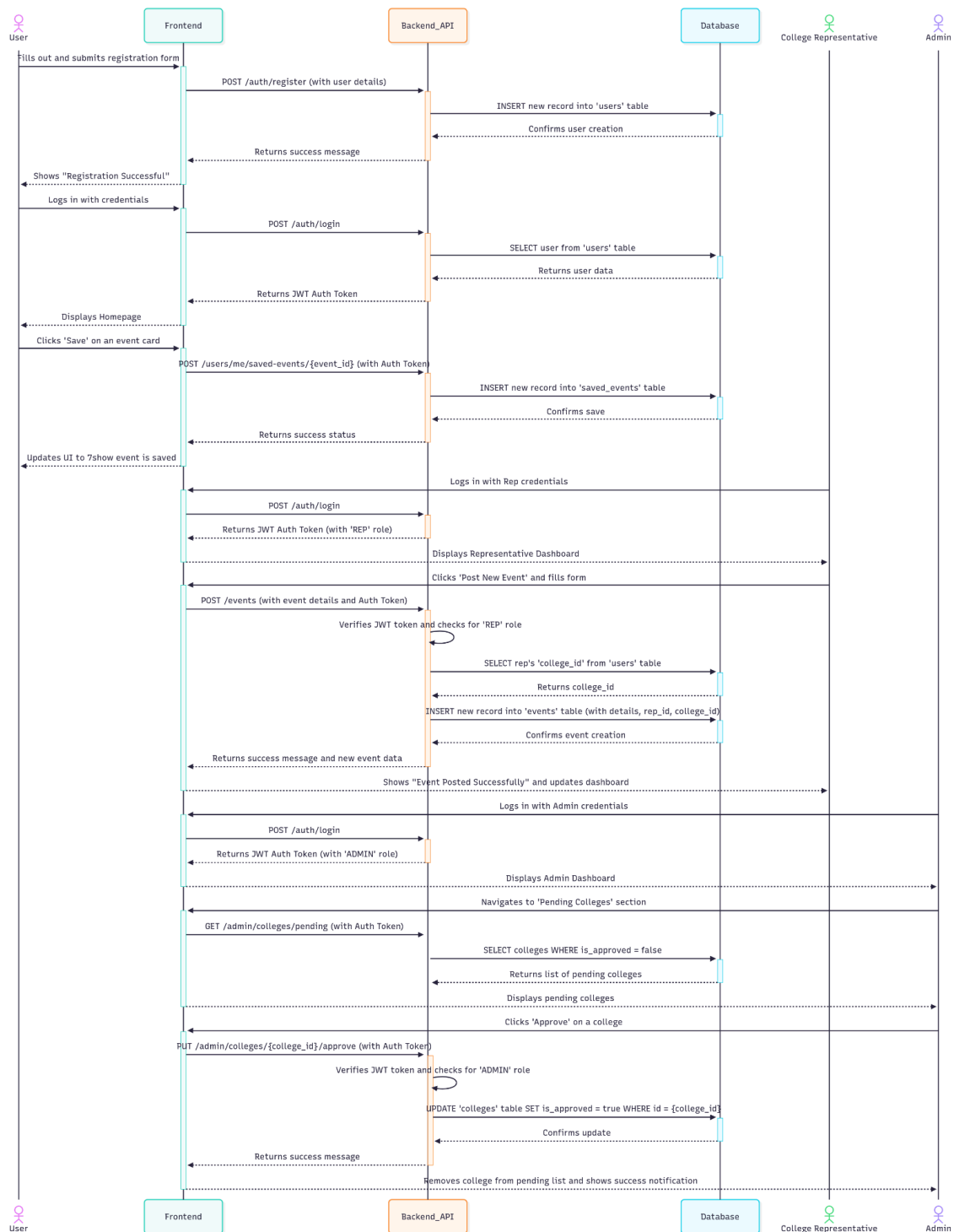
**Figure 3.4: Data Flow Diagram (DFD) Level 1 - Admin**



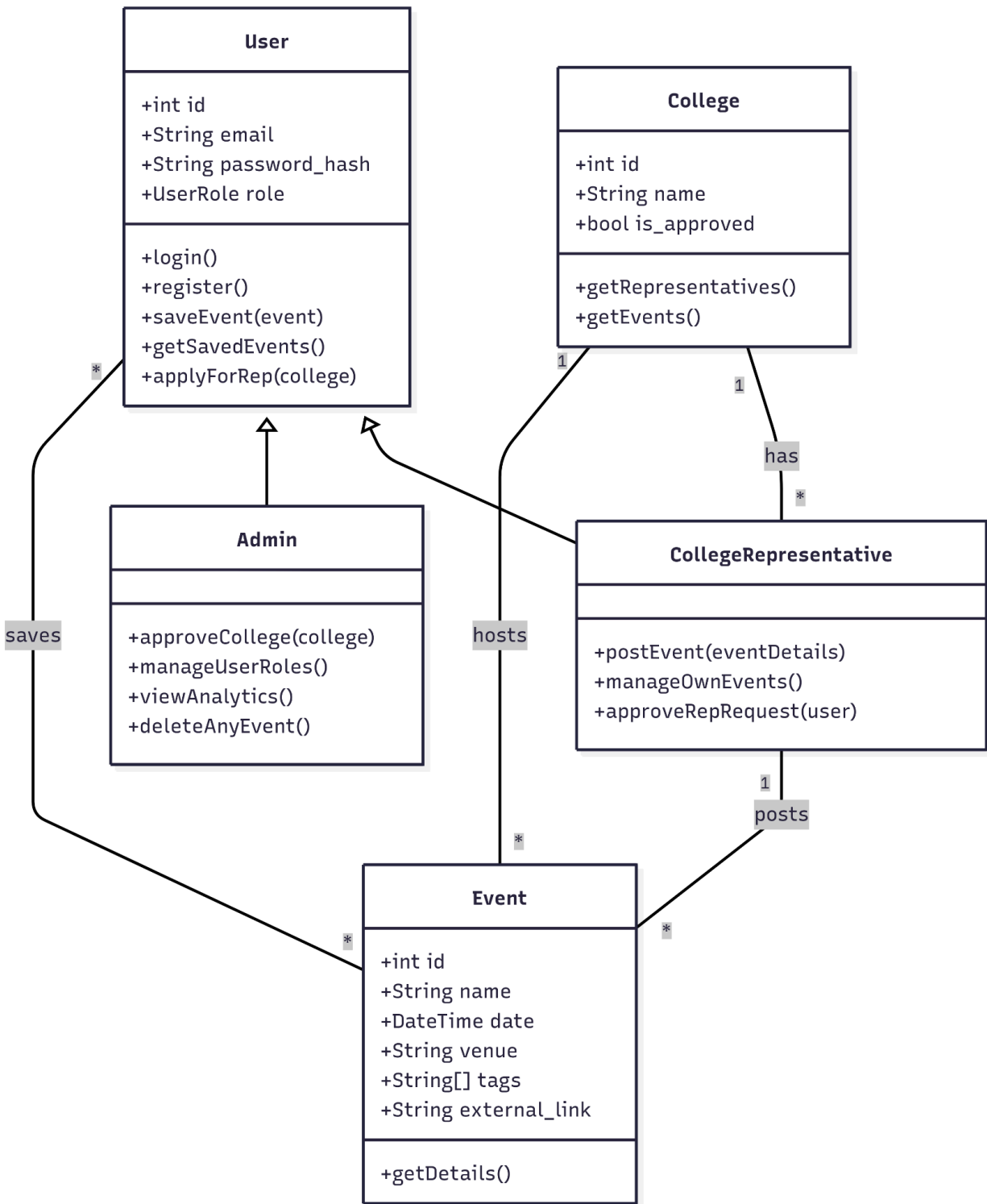
**Figure 3.5: Data Flow Diagram (DFD) Level 1 - Rep**



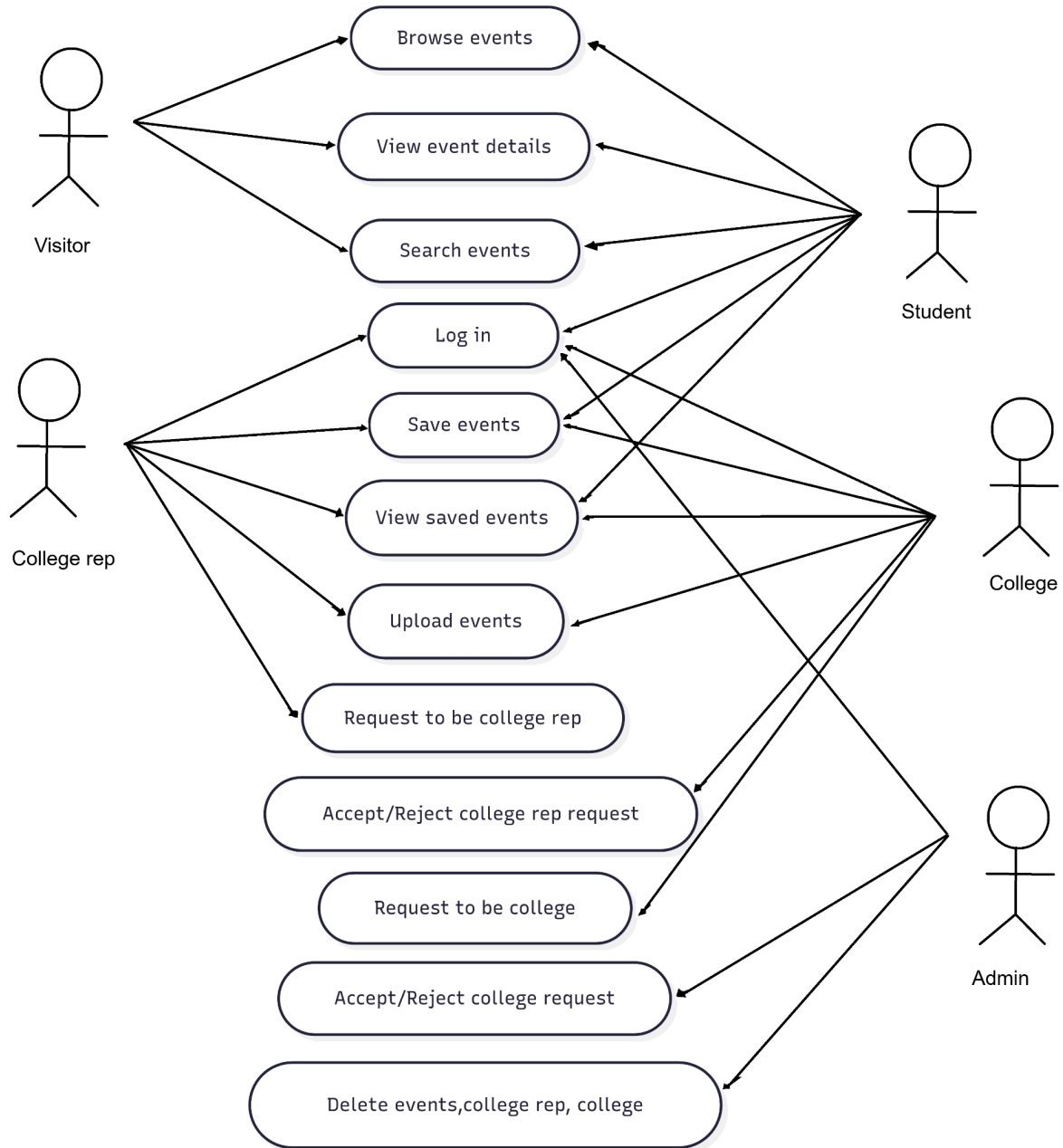
**Figure 3.6: Sequence Diagram**



**Figure 3.7: Class Diagram**



**Figure 3.8: Usecase Diagram**





# Chapter 4

## Software Testing and Analysis

Software testing is a critical phase to ensure that the "Find Events" platform operates effectively, securely, and reliably. Given the different user roles and workflows, a comprehensive testing strategy is required to validate all aspects of the system.

### 4.1 Types of Testing

This section outlines the various types of testing that will be applied to the "Find Events" platform.

#### 4.1.1 Functional Testing

Functional testing will ensure that all features work as specified in the requirements. Key areas to test include:

- **User Authentication:** Verify login, registration, and logout functionality for all user roles.
- **Verification Flows:** Test the complete workflow for college application and approval, as well as representative application and approval.
- **Event Management:** Ensure verified representatives can create, update, and manage events correctly. Test that events are displayed publicly and hidden after expiry.
- **Search and Filter:** Verify that the search and filter functions return accurate results.
- **Event Saving and Notifications:** Confirm that logged-in users can save events and that email reminders are sent correctly.

#### 4.1.2 Usability Testing

Usability testing will assess the platform's user-friendliness and intuitive navigation. Feedback will be gathered from representative users (students, college staff) to identify any areas of confusion and improve the overall user experience.

#### 4.1.3 Performance Testing

Performance testing will evaluate the platform's speed and scalability. The system will be tested under simulated load conditions to ensure it can handle the target of 1000 concurrent users and that page load times remain within acceptable limits.

#### 4.1.4 Security Testing

Security testing will identify potential vulnerabilities. This includes testing for common web application vulnerabilities, ensuring that role-based access controls are properly enforced (e.g., a general user cannot access the admin dashboard), and verifying the security of the OTP implementation.

## 4.2 Sample Test Cases

Below are sample test cases for key functionalities of "Find Events".

### 4.2.1 Test Case 1: User Registration and Event Saving

- **Objective:** Verify that a new user can register, log in, and save an event.
- **Steps:**
  1. Navigate to the registration page.
  2. Enter valid user details and submit the form.
  3. Verify that the user is successfully created and logged in.
  4. Navigate to an event details page.
  5. Click the "Save Event" button.
  6. Navigate to the user dashboard and verify that the event is listed.
- **Expected Result:** The user is created, can log in, and the saved event appears correctly in their dashboard.

### 4.2.2 Test Case 2: College and Representative Verification Flow

- **Objective:** Ensure the end-to-end verification process for colleges and representatives functions correctly.
- **Steps:**
  1. Register a new user with a college email domain.
  2. As this user, submit a "Become College" application.
  3. Log in as Admin and approve the college application.
  4. Log out and register a second new user.
  5. As the second user, submit a "Become Representative" request for the newly approved college.
  6. Log in as the first user (now a College admin) and approve the representative request.
- **Expected Result:** The college is approved by the Admin, and the representative is subsequently approved by the College admin. The second user now has representative privileges.

# Chapter 5

## Conclusion and Future Scope

### 5.1 Conclusion

"Find Events" is a platform designed to address a clear and persistent need within the academic community: a centralized, reliable, and user-friendly system for managing and discovering college events. By replacing the current fragmented approach of using disparate social media channels, the platform offers a structured environment that benefits all stakeholders. Students gain a single point of access to discover opportunities, while college representatives and administrators are provided with tools that streamline the process of event promotion and management. The implementation of role-based permissions and verification workflows ensures the integrity and authenticity of the information presented. With its responsive design and focus on core functionalities, "Find Events" is positioned to significantly enhance student engagement and simplify event coordination across campuses.

### 5.2 Future Scope

Looking ahead, "Find Events" has significant potential for expansion and innovation. The following enhancements are envisioned for future versions of the platform :

- **Direct Event Registration:** Integrate a feature to allow users to register for events directly through the portal, rather than relying solely on external links. This would provide a more seamless user experience and give organizers better data.
- **OAuth-Based Login:** Implement third-party login options (e.g., Google, Facebook) to simplify the registration and login process for users.
- **Advanced Analytics:** Expand the admin dashboard to include more refined analytics, such as event popularity, user engagement metrics, and trends over time, to help colleges make data-driven decisions about their event strategies.

# Appendix

## A. Details of Operating Environment

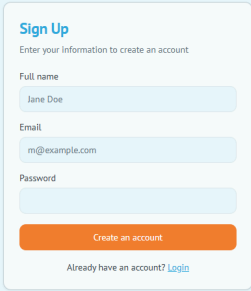
The "Find Events" platform is designed to operate in the following environment :

- **Client:** A modern web browser (e.g., Chrome, Firefox, Edge) on a desktop or mobile device.
- **Server:** A standard web server capable of running the RESTful API backend.
- **Database:** A relational database management system.
- **External Services:** An email service provider for handling OTP and notification delivery.

## B. Glossary

- **Event:** A fest, competition, seminar, or other activity organized by a college or a department within a college.
- **Tag:** A label used for categorizing and filtering events (e.g., coding, quiz, dance, music).
- **Display Attribute:** A flag in the database that controls the visibility of an event on the public-facing site. It is used to hide expired events without deleting them from the system.

## C. User Interface Mockups



The mockup shows a 'Sign Up' form centered on a light blue background. The form is a white card with a light blue border. It contains the following elements: a title 'Sign Up' in blue, a subtitle 'Enter your information to create an account' in gray, three input fields for 'Full name' (containing 'Jane Doe'), 'Email' (containing 'm@example.com'), and 'Password', an orange 'Create an account' button, and a link 'Already have an account? [Login](#)' at the bottom.

Figure C.1: Register page of FindEvents website

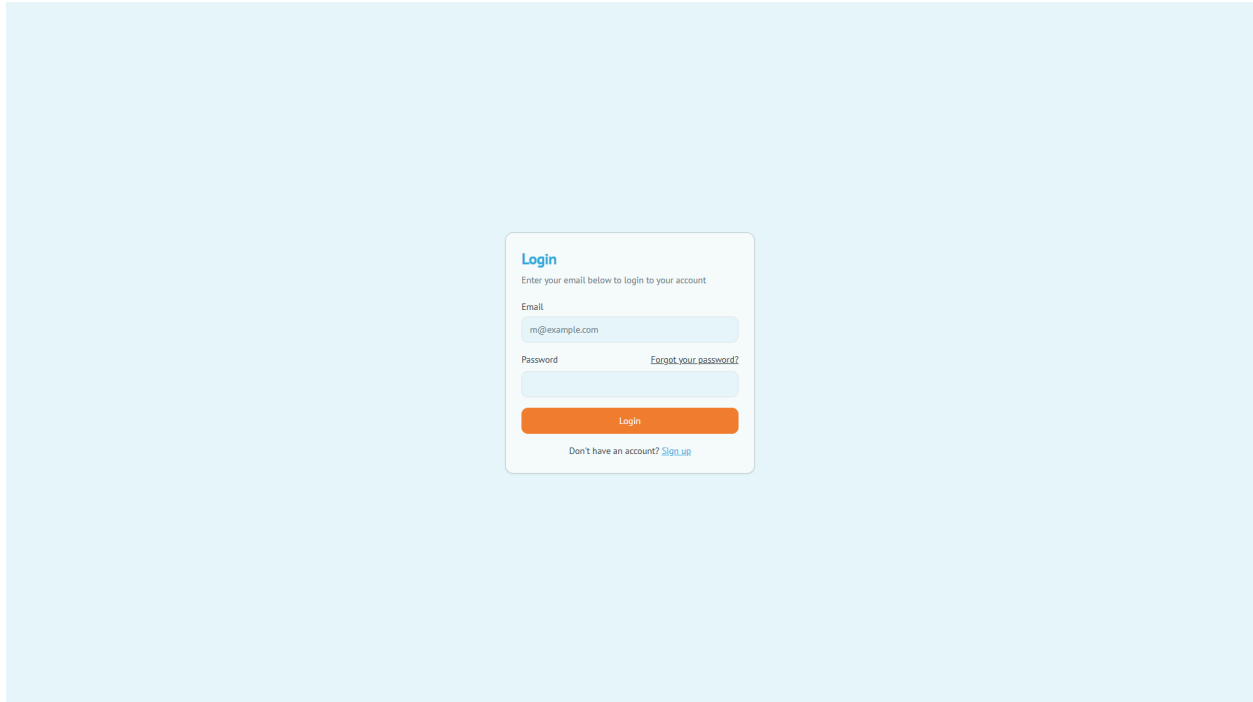


Figure C.2: Login page of FindEvents website

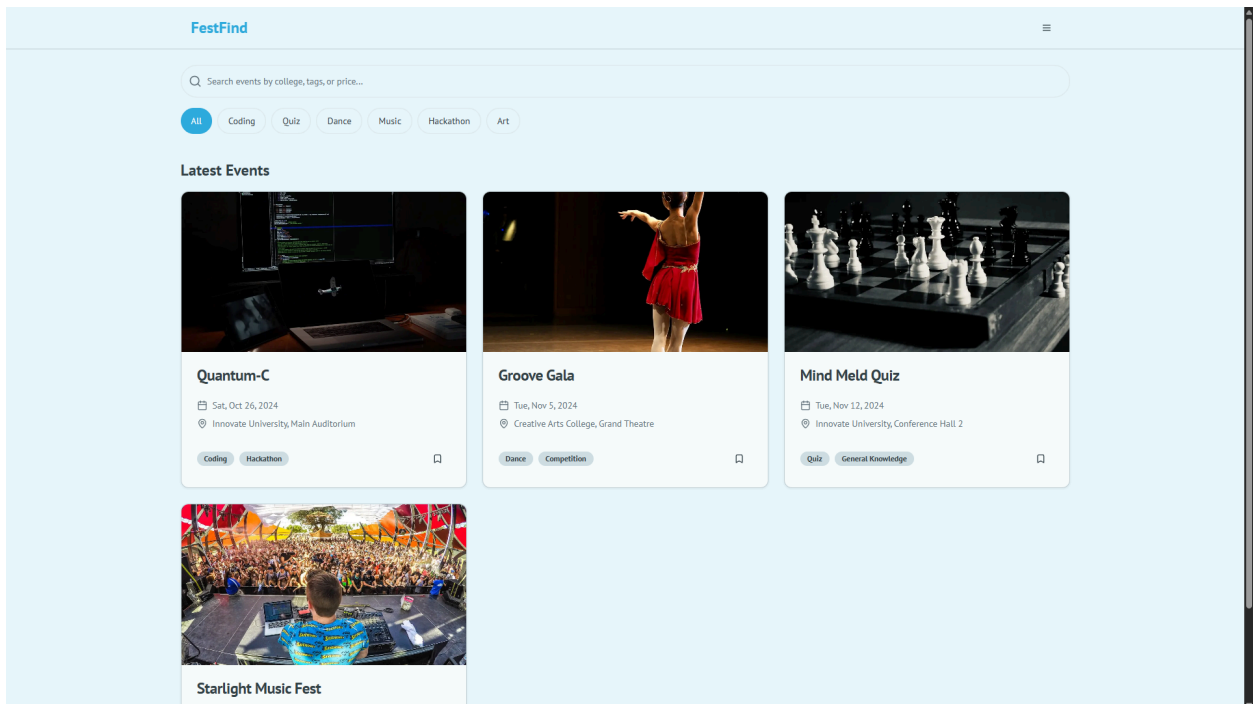


Figure C.3: Home page of FindEvents website

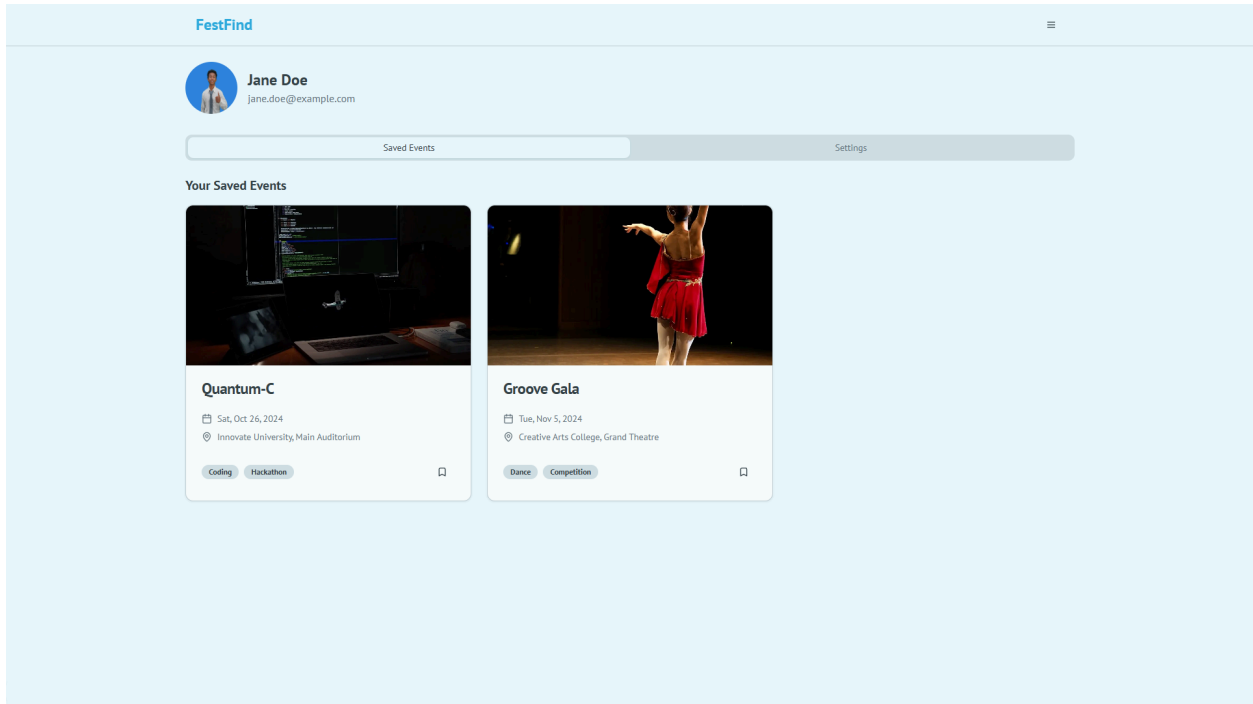


Figure C.4: Profile page of FindEvents website

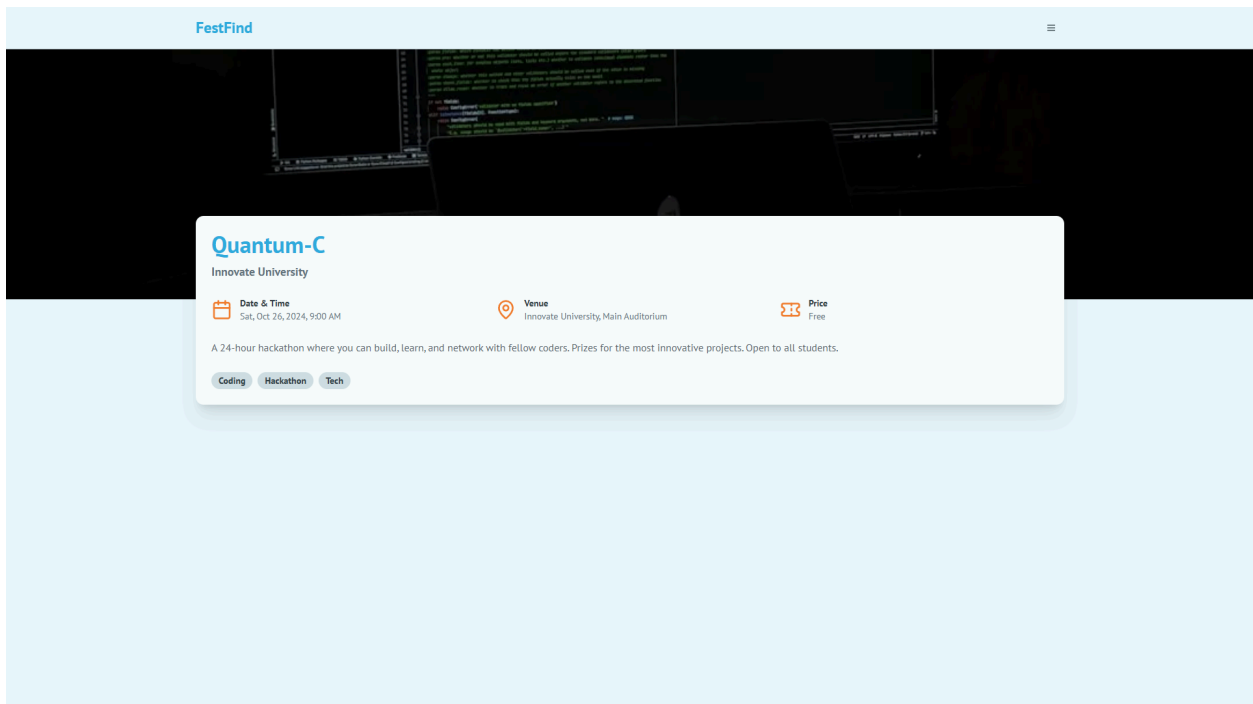


Figure C.5: Event page of FindEvents website

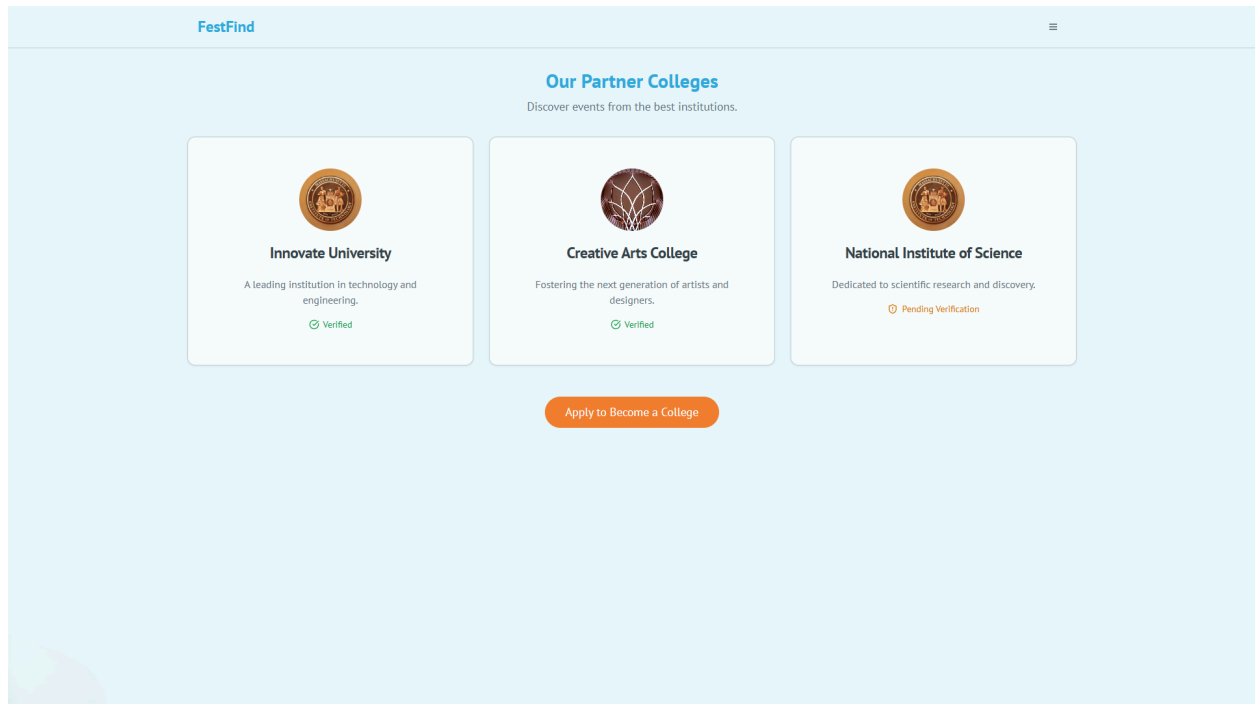


Figure C.6: College page of FindEvents website

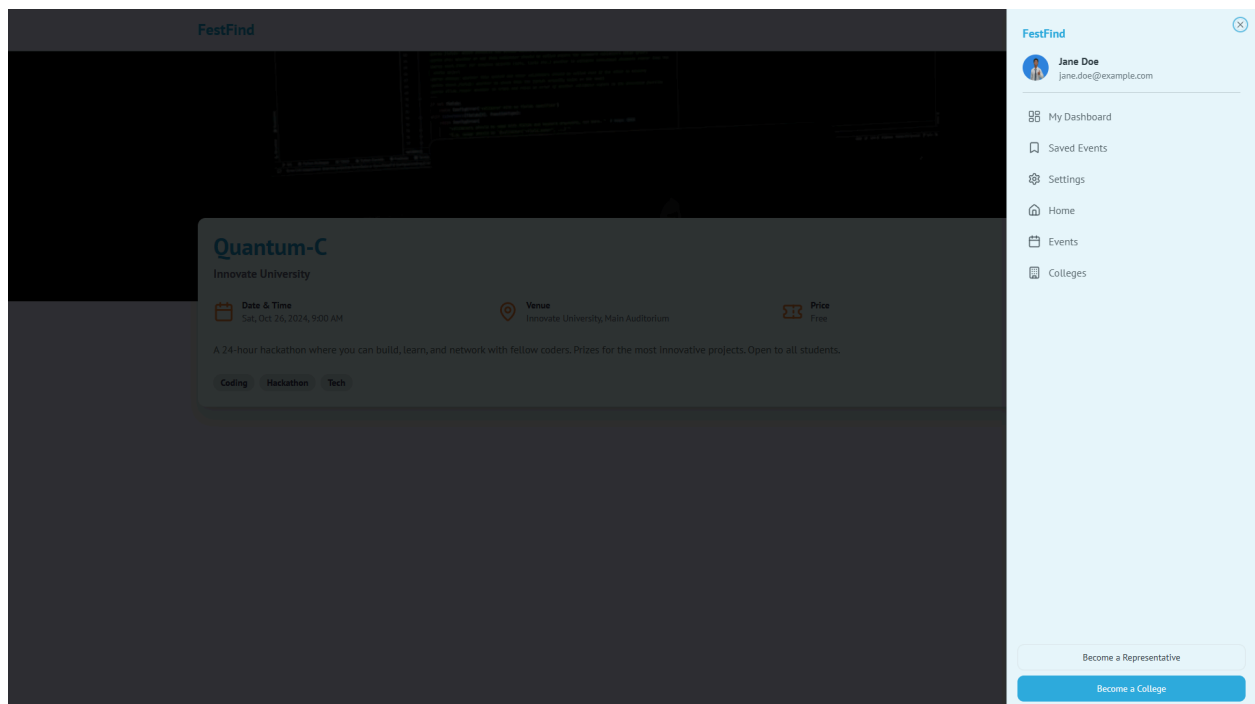


Figure C.7: Menu page of FindEvents website