

Table Of Content

1. Introduction.....	3
1.1 Key Features.....	3
2. Problem Statement.....	4
3. Project Objectives.....	5
4. Scenario Writing (Detailed Use-Case Scenarios).....	6
Scenario 1: Alumni Registers, Donates, and Submits Feedback.....	6
Scenario 2: Student Requests Mentorship and Applies for Internship.....	7
Scenario 3: Fundraising Manager Creates Campaign.....	7
Scenario 4: Event Organizer Creates Event.....	8
5. Stakeholder Analysis.....	8
6. User Profiles.....	9
6.1 Alumni.....	9
6.2 Students.....	10
6.3 Admins.....	10
6.4. University Authorities.....	11
7. Project Scope.....	12
8. Project Block Diagram.....	14
8.1 System Block Diagram.....	14
9. Feasibility Study.....	15
9.1 Technical Feasibility.....	15
9.2 Operational Feasibility.....	15
9.3 Economic Feasibility.....	15
9.4 Scheduling Feasibility.....	16
10. Software Requirements Specification (SRS).....	16
11. Use Case Diagram.....	19
12. Use Case Descriptions.....	20
12.1 Case Description-01: Registration	20
12.2 Case Description-02: Login	21
12.3 Case Description-03: Update Profile	22
12.4 Case Description-04: Manage Campaign	23
12.5 Case Description-05:Manage Event	24
12.6 Case Description-06: Donation Raising	25
12.7 Case Description-07: Request Mentorship	26
12.8 Case Description-08: Send Notification	27
12.9 Case Description-09: Post Job	28
12.10Case Description-10: Career Dashboard	29

12.11Case Description-11: Search & Filter.....	30
12.12Case Description-12: Submit Feedback	31
13. Data Flow Diagrams (DFD).....	32
13.1 Level 0 Data Flow Diagram.....	32
13.2 Level 1 Data Flow Diagram	33
14. Activity Diagrams.....	34
14.1 Activity Diagram: User Registration.....	34
14.2 Activity Diagram: Update Profile.....	35
14.3 Activity Diagram: Donation Raising.....	36
14.4 Activity Diagram: Manage Event.....	37
14.5 Activity Diagram: Post Job.....	38
14.6 Activity Diagram: Mentorship Request.....	39
15. State Diagrams.....	40
15.1 State Diagram: User Registration.....	40
15.2 State Diagram: Update Profile.....	41
15.3 State Diagram: Donation Raising.....	42
15.4 State Diagram: Manage Event.....	43
15.5 State Diagram: Post Job	44
15.6 State Diagram: Mentorship Request.....	45
16. Sequence Diagrams.....	46
16.1 Sequence Diagram: User Registration.....	46
16.2 Sequence Diagram: Update Profile.....	47
16.3 Sequence Diagram: Donation Raising.....	48
16.4 Sequence Diagram: Manage Event.....	49
16.5 Sequence Diagram: Post Job.....	50
16.6 Sequence Diagram: Mentorship Request.....	51
17. Class Diagram.....	52
18. Entity-Relationship (ER) Diagram.....	53
20. Conclusion.....	54

AlumniConnect – Next-Gen Relationship & Fundraising System

Introduction

In today's rapidly evolving world, the relationship between an educational institution and its alumni is no longer a passive connection; it's a dynamic ecosystem of mutual growth and support. The concept of "**Alumni Connect Next Gen**" embodies this evolution, moving beyond traditional engagement to foster deeper, more meaningful **relationships** that resonate with contemporary alumni, particularly younger generations. This proactive approach aims to cultivate a vibrant, lifelong community that not only celebrates shared heritage but also actively contributes to the institution's future through robust fundraising initiatives.

By leveraging cutting-edge technology, personalized communication, and engaging opportunities, **Alumni Connect** seeks to build authentic bonds, turning graduates into active partners, mentors. This strategic shift recognizes that effective fundraising is not merely about seeking donations, but about developing a profound sense of belonging and demonstrating positive impact. It's about creating a continuous dialogue, showcasing the value of alumni contributions, and empowering the next generation of benefactors to invest in the legacy of their institution, ensuring its continued excellence and reach for years to come.

Key Features:

- Alumni Engagement & Communication:
 - Personalized profile dashboard for alumni to update career and contact details. In-app and SMS/email notifications.
- Role-Based Dashboards:
 - Each user type (Alumni, Admin, Student, Donor, Verifier) sees a customized dashboard designed to show only relevant tools and insights.
- Event Management:
 - Create, publish, and manage events (physical or virtual). Event promotion via banners, brochures, and auto-invitations, and post-event surveys with sentiment analysis.

- Fundraising Campaign Management:
 - Admins and fundraising managers can create donation campaigns where Donors receive real-time receipts, and campaigns include target tracking and progress dashboards.
- Credential Verification System:
 - Alumni can upload their academic credentials, and the verifiers can validate their credentials.
- Career & Mentorship Portal:
 - Alumni can post jobs or internships where Students can search and apply. Mentorship matchmaking connects students with alumni based on skill/industry.
- Local Payment Gateway Integration:
 - Seamless donation experience through SSLCommerz, enabling fundraising even from rural and mobile-only users.
- Multilingual & Inclusive Interface:
 - Full support for both Bengali and English, ensuring accessibility for non-English-speaking alumni and rural users.

Problem Statement

Despite the clear value of a strong alumni network, many educational institutions struggle to effectively engage their alumni, especially the younger generations. Traditional methods often fail to resonate, leading to:

- **Fragmented Data:** Alumni records are stored across disconnected tools like Excel, offline databases, or social media groups.
- **Declining Engagement Rates:** A significant portion of alumni, particularly recent graduates, feel disconnected from their institution, resulting in low participation in events, mentorship programs, and communication channels.
- **Inefficient Fundraising:** Campaigns are often manual, poorly targeted, and not integrated with digital payment methods familiar to the region (e.g., bKash).
- **Limited Communication Channels:** Institutions depend on mass emails or Facebook posts instead of tailored messaging.

- **No Verification Mechanism:** There's no secure system to verify alumni credentials or achievements, leading to trust issues.
- **Non-Inclusive Design:** Systems are built in English, leaving out rural and non-English-speaking users.

These limitations result in underutilized alumni networks, missed donation opportunities, and poor return on investment for alumni relations.

Project Objectives

The main goals of the **AlumniConnect** system are to build a smart, user-friendly platform that strengthens the bond between alumni and the institution. The project aims to bring all alumni-related tasks under one roof in an organized and efficient way. Below are the key objectives:

Centralized Alumni Information

- Build a secure and centralized system to collect, store, and manage all alumni details such as personal profiles, job history, achievements, and donation records in one place, so they're easy to find and keep updated.

Stronger Alumni Engagement

- Make it easier to stay in touch with alumni through personalized messages and notifications. Use smart tools to group people by interests, job sectors, or graduation years, and suggest relevant events or programs they might enjoy or support.

Smarter Fundraising

- Improve donation drives by automating the process, sending personalized donation requests, and allowing alumni to donate easily through mobile-friendly payment options. Track fundraising campaigns in real-time to see what's working.

Better Decision Making for the Institution

- Help the university or organization make better plans by providing detailed reports, donation trends, and campaign results through interactive dashboards. This helps improve return on investment (ROI) for alumni-related programs.

Multilingual Support

- Provide access to the platform in both Bengali and English to make it comfortable and inclusive for all users, regardless of language preference.

Secure Credential Verification

- Allow employers or institutions to easily verify alumni degrees and certificates through blockchain technology or secure third-party verification systems. This helps build trust and credibility.

Networking and Collaboration Opportunities

- Encourage connections between current students and alumni by offering features for mentoring, group projects, and job or internship opportunities. This builds a helpful and connected alumni network.

Scenario Writing

Scenario writing explains how users will interact with a system through specific situations to understand its features, behavior, and results. In the context of the **Alumni Connect Next Gen** System, let's write some scenarios to depict typical user interactions:

Scenario 1: Alumni Registers, Donates, and Submits Feedback

Actors: Alumni, System, Payment Gateway

Steps:

1. The alumni visit the platform and register using their email or phone number.
2. Upon login, they update their education, career, and contact details.
3. They browse the "Fundraising Campaigns" page and find campaigns.
4. The alumni click "Donate," select a payment option, and enter an amount.
5. The system initiates the transaction via SSL Commerz API.
6. Upon successful transaction, the system logs the donation and emails the receipt.
7. Later, the alumni are prompted with a multilingual feedback form.
8. They submit a short response, which is analyzed using NLP(Natural Language Processing) for sentiment.

Scenario 2: Student Requests Mentorship and Applies for an Internship

Actors: Student, System, Alumni, Notification Service

Steps:

1. Student logs in using University student credentials.
2. Navigates to the “Mentorship” section.
3. Uses filters to search alumni by profession.
4. Sends mentorship request to an alumnus.
5. The alumni receive a notification and accept the request.
6. A mentorship channel is created.

Scenario 3: Fundraising Manager Creates Campaign

Actors: Admin, System

Steps:

1. The fundraising manager logs into the dashboard.
2. They click “Create New Campaign.”
3. Enter title, description, target amount, start/end dates, and upload banner.
4. The system validates and stores the campaign.
5. Admin reviews and approves the campaign for public visibility.
6. The campaign is pushed to all alumni and donors via email and newsletters.

Scenario 4: Event Organizer Creates Event

Actors: Event Organizer, System, Notification Service

Steps:

1. The event organizer logs into the AlumniConnect dashboard.
2. They navigate to the “**Create New Event**” section.
3. Enter event title, description, date, time, format (virtual or physical), and RSVP deadline(Responding Deadline).
4. Uploads event banner and any additional materials.
5. Enables RSVP(User Respond), notification settings, and chooses the target audience.
6. The system validates inputs and stores the event in the Event Database.
7. The event is published and becomes visible to users on the portal and app.
8. The Notification Service automatically sends RSVP invitations via SMS and email to targeted users.

Stakeholder Analysis

The key stakeholders for this **Alumni Connect** system are-

Alumni:

- Profile management, mentorship, donation tracking, job listings, and events.

Students:

- Mentorship, internship/job listings, and alumni contact.

Admin:

- Overall user & campaign management, analytics, and moderation.

University Authorities:

- Ensure effective alumni engagement, data security, and strategic decision-making.

User Profile

A user profile serves as a digital representation of an individual within a system or platform, storing information about their identity, preferences, and activity history. The following user profiles for this system are-

User Profile 01: Alumni

User case	Characteristics	Requirement Implied
Type of User	Alumni	Verification
Age Range	24-60	Verification
Frequency of Use	When it needs	Performance, Operation, Acceptance
Mandatory	No	
Computer Experience	Yes	
Education	Graduate	
Goals	Provide guidance	Resource, Performance, Security, Acceptance
Language skills	Bangla, English	
Number of Users	50-50000	Performance, Operation, Portability
Training	No	
Other System Used	No	
Ways of Working	Sometimes	Safety, security, Maintenance

User profile 02: Student

User case	Characteristics	Requirement Implied
Type of User	Student	Verification
Age Range	20-30	Verification
Frecuency of Use	When it needs	Performance, Operation, Acceptance
Mandatory	No	
Computer Experience	Yes	
Education	Undergraduation	
Goals	Building relations and getting what he needs.	Resource, Performance, Security, Acceptance
Language skills	Bangla, English	
Number of Users	50-50000	Performance, Operation, Portability
Training	Yes	Uses
Other System Used	No	
Ways of Working	Sometimes	Safety, security, Maintanance

User profile 03: Admin

User case	Characteristics	Requirement Implied
Type of User	Admin	Verification
Age Range	20-35	verification
Frecuency of Use	Consistently	Performance, Operation, Acceptance
Mandatory	Yes	
Computer Experience	Experienced	Programming and managing

User profile 04: University Authorities

User case	Characteristics	Requirement Implied
Type of User	Authorities	Verification
Age Range	25-50	Verification
Frecuency of Use	When it needs	Performance, Operation, Acceptance
Mandatory	No	
Computer Experience	Yes	
Education	Post Graduation	
Goals	Monitoring	Resource, Performance, Security, Acceptance
Language skills	Bangla, English	
Number of Users	50-100	Performance, Operation, Portability
Training	No	
Other System Used	No	
Ways of Working	Sometimes	Safety, security, Maintanance

Project Scope

The scope of the "Alumni Connect Next Gen" project encompasses the development and implementation of a comprehensive digital platform and strategic initiatives designed to enhance alumni engagement and optimize fundraising efforts. The project will deliver the following core functionalities:

1. User Management:

- **Objective:** User Registration & Authentication, Role-Based Access Control, and Profile Management.
- **Functionality:** Secure sign-up, login, password recovery, and multi-factor authentication. Comprehensive profiles for alumni (professional, academic, engagement preferences), students (academic, career interests), and basic admin profile. Differentiated permissions for Alumni, Students, and Admin users. Users can update their profile information.

2. Alumni Engagement Features:

- **Objective:** Networking, Events Management, Mentorship Program.
- **Functionalities:** A searchable alumni directory to facilitate connections based on industry, location, graduation year, etc. Creation and promotion of events (online/offline) by administrators. Event reminders and notifications. Creation of forum posts and replies. Students/young alumni can request mentorship based on their criteria.

3. Fundraising Capabilities:

- **Objective:** Campaign Management, Online Donation System, Payment Gateway Integration, Donation Tracking & Reporting, Automated Receipt Generation.
- **Functionalities:** Creation and management of various fundraising campaigns (scholarships, departmental funds, etc). Secure processing of one-time and recurring donations. Integration with at least one local and one international payment gateway (SSL Commerz). Recording of donation history per user and generation of summary reports for administrators. Emailing digital receipts to donors.

4. Career Services Integration:

- **Objective:** Job & Internship Posting, Job Application Tracking, Resume Upload.
- **Functionalities:** Alumni can post job and internship opportunities. Students can apply for jobs/internships through the platform. Students can upload and manage their resumes for job applications.

5. Communication & Notifications:

- **Objective:** Personalized Notifications, Newsletter Subscription.
- **Functionalities:** In-app and email notifications for relevant events, new job postings, forum activity, and donation confirmations. Management of subscriptions to institutional newsletters.

6. Admin Dashboard & Reporting:

- **Objective:** User Management, Content Management, Basic Analytics & Reports, Credential Verification Management.
 - **Functionalities:** Create, edit, suspend, or delete user accounts. Manage campaigns, events, forum posts, and job postings. Dashboards showing key metrics such as user engagement rates, donation trends, event attendance, and active mentorships. Workflow for administrators to review and verify submitted credentials.
-

Block Diagram

A block diagram is a visual representation of a system or process, using blocks to represent components or functions and lines to show their relationships or flow.

System Block Diagram: AlumniConnect

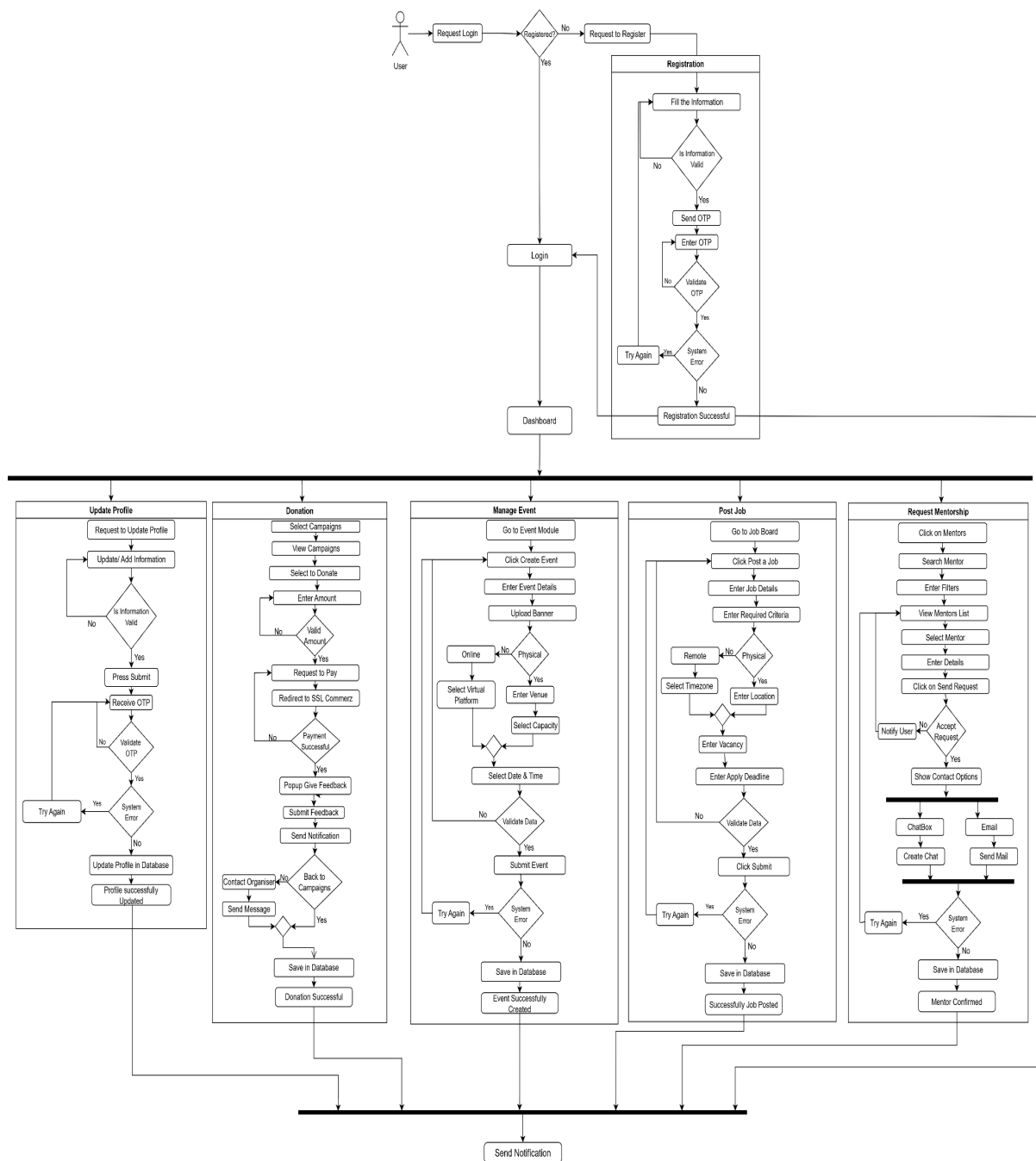


Figure: Block Diagram of AlumniConnect

Feasibility Study

The feasibility study checks if the AlumniConnect system can be built properly and work well in the environment it is planned. It looks at whether the technology, cost, user needs, and timeline are suitable. This helps decide if the system is practical, useful, and worth the effort. All key areas are carefully reviewed before starting development.

1. Technical Feasibility:

a. Hardware Compatibility: The AlumniConnect system is designed to be compatible with existing university infrastructure (computers, servers, smartphones). It will function across desktops, tablets, and mobile devices. A review of current systems and hosting environments will be performed.

b. Software Compatibility: AlumniConnect will integrate smoothly with third-party APIs such as SSLCommerz and academic management systems. It will support modern browsers, operating systems, and relational databases (PostgreSQL, Firebase).

c. Technical Expertise: The required development tools (Java, ReactJS, Spring Boot, etc.) are widely used and supported. Technical expertise is available in-house and from the market. Admins and users will require minimal training to operate the system.

2. Operational Feasibility:

a. User Acceptance: The system will be tested with real users including alumni, students, and administrative staff. Features like bilingual UI, mobile accessibility, and offline (USSD) support ensure it aligns with user needs and enhances usability.

b. Impact on Current Operations: AlumniConnect automates previously manual tasks (event planning, fundraising, mentorship), improving efficiency without disrupting current institutional workflows. Support and transition plans will ensure a smooth rollout.

3. Economic Feasibility:

a. Cost-Benefit Analysis: The system uses open-source technologies, reducing software licensing costs. Compared to traditional systems, it saves time and operational costs in alumni tracking, communication, and donation management. The benefits include greater alumni engagement, increased donations, and improved reputation.

b. Return on Investment (ROI): By automating outreach and increasing fundraising, AlumniConnect is expected to recover its development cost within 1–2 years. Long-term value includes sustained alumni relationships and institutional growth.

4. Scheduling Feasibility:

a. Project Timeline: The project will follow a phased development lifecycle (analysis, design, development, testing, deployment). A 4–6 month realistic timeline is proposed, with buffer time included for revisions and testing.

b. Dependencies: The project's timeline may be affected by external dependencies like payment gateway integrations (SSL Commerz), third-party verification APIs, or institutional approval processes. These will be identified and managed in advance.

Software Requirement Specification (SRS)

SRS (Software Requirements Specification) is a document that clearly describes what a software system should do. It includes all the **functional** and **non-functional** requirements, helping developers, testers, and clients understand the software's purpose and behavior.

FR01	Registration
Description	Users register with OTP-based verification
Stakeholder	Student, Alumni, Authority

FR02	Login
Description	Users login with valid email & password
Stakeholder	Admin, Student, Alumni, Authority

FR03	Update Profile
Description	Alumni and students can update education, contact, and career details
Stakeholder	Alumni, Student

FR04	Manage Campaign
Description	Admins can create, edit, and schedule fundraising campaigns
Stakeholder	Admin

FR05	Event Management
Description	Admins or organizers manage RSVPs, reminders, livestreams
Stakeholder	Admin, Alumni, Student

FR06	Donation Raising
Description	Donors can contribute via SSL Commerz.
Stakeholder	Admin, Alumni, Student, Authority

FR07	Send Notification
Description	Sends multilingual SMS, email, push notifications
Stakeholder	Alumni, Admin, Student

FR08	Career Dashboard
Description	Students can see what jobs are posted.
Stakeholder	Alumni, Student

FR09	Request Mentorship
Description	Students can browse and send a request to an Alumni to become their mentor.
Stakeholder	Student

FR10	Search & Filter
Description	Users search events, campaigns, alumni, jobs, or chapters by criteria
Stakeholder	Admin, Alumni, Authority, Admin

FR11	Post Job
Description	Alumni sponsor events and post jobs.
Stakeholder	Alumni, Admin

FR12	Submit Feedback
Description	Users submit feedback based on their experience with the system.
Stakeholder	Alumni, Student

Use Case Diagram

A use case defines a specific interaction between a user (actor) and a system to achieve a particular goal or complete a task.

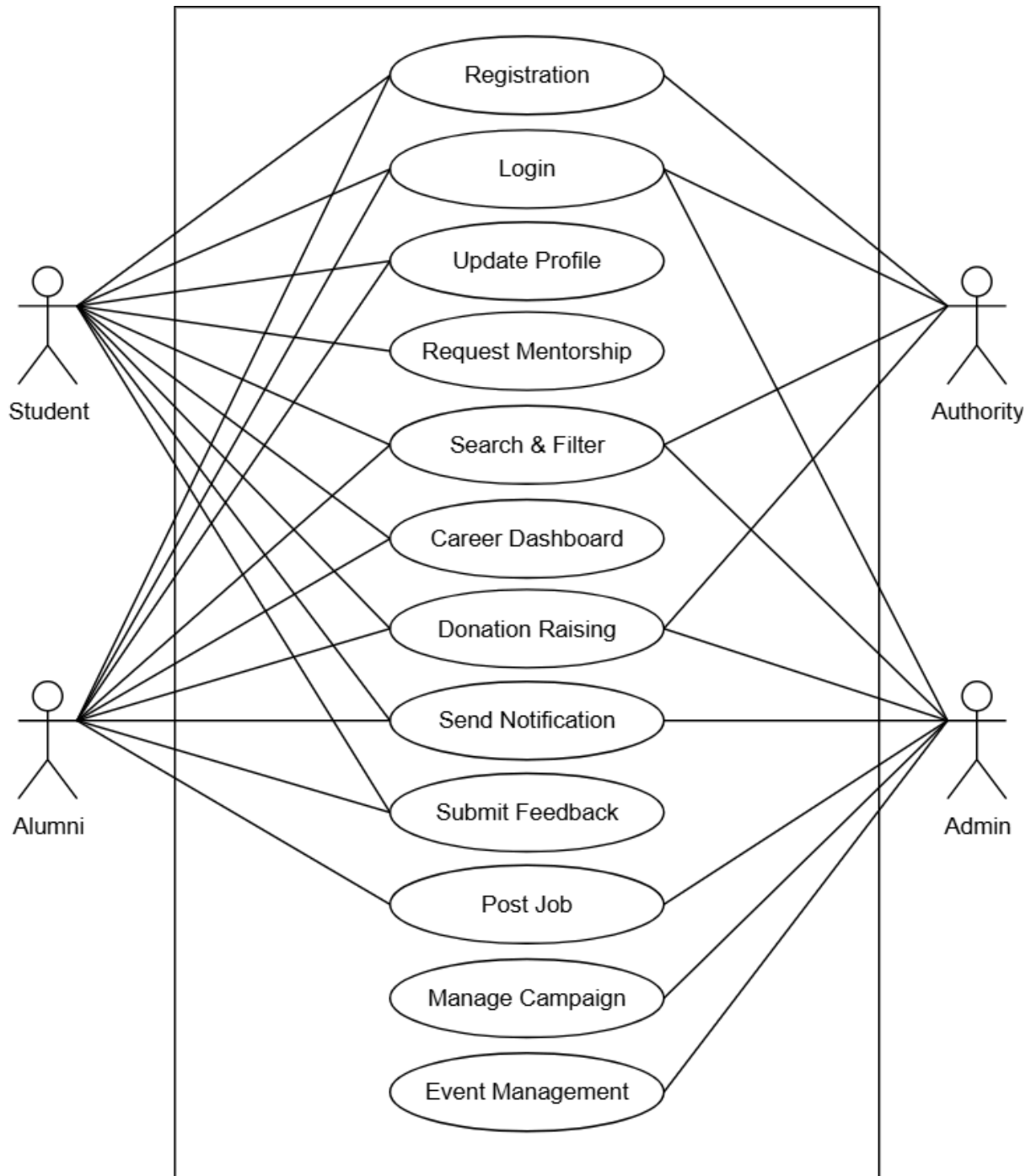


Figure-: Use Case Diagram For AlumniConnect NextGen

Use Case Description

Case Description-01: Registration

Use Case	Registration															
Goal	Users can register to sign in to the system.															
Precondition	Users must install the AlumniConnect app for registration.															
Success End Condition	Notification : Successfully Registered															
Failed End Condition	Notification: "Submission Not Submitted"															
Primary Actors:	Alumni, Students															
Secondary Actors:																
Trigger	User will request a registration form to fill up															
Description/ Main Success Scenario	<table><tr><td>1.</td><td>Press "Registration" Button</td></tr><tr><td>2.</td><td>Provide registration form</td></tr><tr><td>3.</td><td>Enter Information</td></tr><tr><td>4.</td><td>Press "Submit" Button.</td></tr><tr><td>5.</td><td>Information saved</td></tr><tr><td>6.</td><td>The system saves the details and shows them !!!Successfully Registered!!! Notify</td></tr></table>		1.	Press "Registration" Button	2.	Provide registration form	3.	Enter Information	4.	Press "Submit" Button.	5.	Information saved	6.	The system saves the details and shows them !!!Successfully Registered!!! Notify		
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Alternative Flow	<table><tr><td>1.1</td><td>System Error</td></tr><tr><td></td><td>1.1.a. Try again</td></tr><tr><td>2.1</td><td>Server Not Found</td></tr><tr><td></td><td>2.1.a. Try again later!</td></tr><tr><td>3.1</td><td>The system Did not respond.</td></tr><tr><td>4.1</td><td>The system Doesn't save the details.</td></tr><tr><td></td><td>4.1.a. Notification: "Details did not Save"</td></tr></table>		1.1	System Error		1.1.a. Try again	2.1	Server Not Found		2.1.a. Try again later!	3.1	The system Did not respond.	4.1	The system Doesn't save the details.		4.1.a. Notification: "Details did not Save"
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3.1	The system Did not respond.															
4.1	The system Doesn't save the details.															
	4.1.a. Notification: "Details did not Save"															
Quality Requirements	The user Will fill up all the details in 30 minutes.															

Case Description-02: Login

Use Case	Login														
Goal	Users can enter the system by the login.														
Precondition	Users must have to be registered First.														
Success End Condition	Notification: "Login Successful"														
Failed End Condition	Notification: "Login Failed!!"														
Primary Actors:	Alumni, Students														
Secondary Actors:	Admin														
Trigger	The user will request a login to enter the system														
Description/ Main Success Scenario	<table> <tr> <td>1.</td><td>Press "Login" Button</td></tr> <tr> <td>2.</td><td>Provide login interface</td></tr> <tr> <td>3.</td><td>Enter user id and password.</td></tr> <tr> <td>4.</td><td>User provide the "Login" button</td></tr> <tr> <td>5.</td><td>Verified and login</td></tr> <tr> <td>6.</td><td>Notification: "Login Successful"</td></tr> </table>	1.	Press "Login" Button	2.	Provide login interface	3.	Enter user id and password.	4.	User provide the "Login" button	5.	Verified and login	6.	Notification: "Login Successful"		
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	2.1.a. Try Again Later!														
3.1	The system did not respond.														
4.1	Information Error!!														
	4.1.a. Notification: "Enter the right User ID and Password."														
Quality Requirements	Users fill up the login info within 10 minutes.														

Case Description-03: Update Profile

Use Case	Update Profile													
Goal	Users update their profile info if they need any changes on the update.													
Precondition	Must visit profile info.													
Success End Condition	Notification “Profile Info Updated”													
Failed End Condition	Notification “Update Profile Failed”.													
Primary Actors:	Alumni, Student													
Secondary Actors:	Admin													
Trigger	Users will request to update their profiles.													
Description/ Main Success Scenario	<table><tr><td>1.</td><td>Visit Dashboard</td></tr><tr><td>2.</td><td>Press “Update Profile Info”</td></tr><tr><td>3.</td><td>Provide information field</td></tr><tr><td>4.</td><td>Filled update information</td></tr><tr><td>5.</td><td>User press “Submit” button</td></tr><tr><td>6.</td><td>Profile information updated.</td></tr></table>		1.	Visit Dashboard	2.	Press “Update Profile Info”	3.	Provide information field	4.	Filled update information	5.	User press “Submit” button	6.	Profile information updated.
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2.1	System Error													
	2.1.a Try again													
3.1	Not responding													
	3.1.a Try later													
4.1	Information not updated													
	4.1.a Notification: “Information Not Updated”													
Quality Requirements	Users will get 30 mins to fill up													

Case Description-04: Manage Campaign

Use Case	Manage Campaign												
Goal	to manage fundraising campaigns for effective alumni engagement and donation tracking.												
Precondition	System is connected to the Campaign/Event Database.												
Success End Condition	User must be logged in with Admin or Fundraising Team privileges.												
Failed End Condition	The campaign is not created or updated due to invalid input, system error, or lack of user authorization.												
Primary Actors:	University Authority												
Secondary Actors:	Admin												
Trigger	The user selects the "Campaign Management" option from the dashboard.												
Description/ Main Success Scenario	<table> <tr> <td>1.</td><td>Actor logs into the system.</td></tr> <tr> <td>2.</td><td>Actor navigates to "Campaign Management" module.</td></tr> <tr> <td>3.</td><td>System displays a list of current campaigns.</td></tr> <tr> <td>4.</td><td>Actor selects "Create New Campaign".</td></tr> <tr> <td>5.</td><td>Actor fills in details and submits the form.</td></tr> <tr> <td>6.</td><td>System validates inputs and saves campaign to the database.</td></tr> </table>	1.	Actor logs into the system.	2.	Actor navigates to "Campaign Management" module.	3.	System displays a list of current campaigns.	4.	Actor selects "Create New Campaign".	5.	Actor fills in details and submits the form.	6.	System validates inputs and saves campaign to the database.
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5.	Actor fills in details and submits the form.												
6.	System validates inputs and saves campaign to the database.												
Alternative Flow	<table> <tr> <td>1.1</td><td>Edit campaign</td></tr> <tr> <td></td><td>1.1.a. Actor updates relevant fields.</td></tr> <tr> <td>2.1</td><td>Deactivate campaign</td></tr> <tr> <td></td><td>2.1.a. Actor selects Deactivate for a campaign</td></tr> <tr> <td>3.1</td><td>Invalid Input</td></tr> <tr> <td></td><td>3.1.a. Try again later</td></tr> </table>	1.1	Edit campaign		1.1.a. Actor updates relevant fields.	2.1	Deactivate campaign		2.1.a. Actor selects Deactivate for a campaign	3.1	Invalid Input		3.1.a. Try again later
1.1	Edit campaign												
	1.1.a. Actor updates relevant fields.												
2.1	Deactivate campaign												
	2.1.a. Actor selects Deactivate for a campaign												
3.1	Invalid Input												
	3.1.a. Try again later												
Quality Requirements	System should prevent duplicate campaign names within the same period.												

Case Description-05: Manage Event

Use Case	Manage Event													
Goal	To allow authorized users to create, update, and manage alumni events for effective communication and participation tracking.													
Precondition	User is logged in with appropriate permissions													
Success End Condition	Event information is saved or updated in the system.													
Failed End Condition	The event is not created or updated due to validation errors													
Primary Actors:	Admin													
Secondary Actors:														
Trigger	The user selects the “Event Management” option from the system dashboard.													
Description/ Main Success Scenario	<table><tr><td>1.</td><td>Actor logs into the system.</td></tr><tr><td>2.</td><td>Actor navigates to “Event Management” module.</td></tr><tr><td>3.</td><td>System displays a list of existing events.</td></tr><tr><td>4.</td><td>Actor selects “Create New Event.”</td></tr><tr><td>5.</td><td>Actor enters required details and submits.</td></tr><tr><td>6.</td><td>System validates inputs and saves the event.</td></tr></table>		1.	Actor logs into the system.	2.	Actor navigates to “Event Management” module.	3.	System displays a list of existing events.	4.	Actor selects “Create New Event.”	5.	Actor enters required details and submits.	6.	System validates inputs and saves the event.
1.	Actor logs into the system.													
2.	Actor navigates to “Event Management” module.													
3.	System displays a list of existing events.													
4.	Actor selects “Create New Event.”													
5.	Actor enters required details and submits.													
6.	System validates inputs and saves the event.													
Alternative Flow	<table><tr><td>1.1</td><td>Edit Event</td></tr><tr><td></td><td>1.1.a Actor selects an existing event and modifies details.</td></tr><tr><td>2.1</td><td>Deactivate Event</td></tr><tr><td></td><td>2.1.a Actor deactivates an event.</td></tr><tr><td>3.1</td><td>Invalid input</td></tr><tr><td></td><td>3.1.a Try again later</td></tr></table>		1.1	Edit Event		1.1.a Actor selects an existing event and modifies details.	2.1	Deactivate Event		2.1.a Actor deactivates an event.	3.1	Invalid input		3.1.a Try again later
1.1	Edit Event													
	1.1.a Actor selects an existing event and modifies details.													
2.1	Deactivate Event													
	2.1.a Actor deactivates an event.													
3.1	Invalid input													
	3.1.a Try again later													
Quality Requirements	Events must not be scheduled in the past.													

Case Description-06: Donation Raising

Use Case	Donation Raising													
Goal	To allow alumni to view active campaigns and securely donate to support university initiatives.													
Precondition	Alumni must be logged into the system.													
Success End Condition	A confirmation/receipt is sent to the donor.													
Failed End Condition	Donation fails due to invalid payment info, network error, or user cancellation.													
Primary Actors:	Alumni													
Secondary Actors:	University authorities													
Trigger	The alumni user selects the “Donate” option from the campaign or homepage interface.													
Description/ Main Success Scenario	<table><tr><td>1.</td><td>Alumni log into the AlumniConnect system.</td></tr><tr><td>2.</td><td>Alumni selects an active campaign.</td></tr><tr><td>3.</td><td>System displays campaign details and donation form.</td></tr><tr><td>4.</td><td>Alumni enters donation amount and payment information.</td></tr><tr><td>5.</td><td>Alumni submits the form.</td></tr><tr><td>6.</td><td>System validates the payment details and processes the transaction.</td></tr></table>		1.	Alumni log into the AlumniConnect system.	2.	Alumni selects an active campaign.	3.	System displays campaign details and donation form.	4.	Alumni enters donation amount and payment information.	5.	Alumni submits the form.	6.	System validates the payment details and processes the transaction.
1.	Alumni log into the AlumniConnect system.													
2.	Alumni selects an active campaign.													
3.	System displays campaign details and donation form.													
4.	Alumni enters donation amount and payment information.													
5.	Alumni submits the form.													
6.	System validates the payment details and processes the transaction.													
Alternative Flow	<table><tr><td>1.1</td><td>Alternate flows</td></tr><tr><td></td><td>1.1.a Alumni cancels before confirming.</td></tr><tr><td>2.1</td><td>Payment Failure</td></tr><tr><td></td><td>2.1.a Payment gateway returns failure</td></tr></table>		1.1	Alternate flows		1.1.a Alumni cancels before confirming.	2.1	Payment Failure		2.1.a Payment gateway returns failure				
1.1	Alternate flows													
	1.1.a Alumni cancels before confirming.													
2.1	Payment Failure													
	2.1.a Payment gateway returns failure													
Quality Requirements	Donation receipts with tax ID and timestamp.													

Case Description-07: Request Mentorship

Use Case	Request Mentorship													
Goal	To allow alumni to request mentorship from senior alumni or professionals for career or academic guidance.													
Precondition	Alumni is logged into the system.													
Success End Condition	A mentorship request is submitted and stored.													
Failed End Condition	Request is not submitted due to incomplete form.													
Primary Actors:	Alumni													
Secondary Actors:														
Trigger	The alumni user clicks on the “Request Mentorship” option from the dashboard or mentorship section.													
Description/ Main Success Scenario	<table><tr><td>1.</td><td>Alumni logs into the AlumniConnect system.</td></tr><tr><td>2.</td><td>Alumni navigates to the “Mentorship” section.</td></tr><tr><td>3.</td><td>Alumni selects a mentor and clicks “Request Mentorship.”</td></tr><tr><td>4.</td><td>Alumni submits the request.</td></tr><tr><td>5.</td><td>Mentor receives request and can accept or decline.</td></tr></table>		1.	Alumni logs into the AlumniConnect system.	2.	Alumni navigates to the “Mentorship” section.	3.	Alumni selects a mentor and clicks “Request Mentorship.”	4.	Alumni submits the request.	5.	Mentor receives request and can accept or decline.		
1.	Alumni logs into the AlumniConnect system.													
2.	Alumni navigates to the “Mentorship” section.													
3.	Alumni selects a mentor and clicks “Request Mentorship.”													
4.	Alumni submits the request.													
5.	Mentor receives request and can accept or decline.													
Alternative Flow	<table><tr><td>1.1</td><td>Mentor unavailable</td></tr><tr><td></td><td>1.1.a. Find available mentors</td></tr><tr><td>2.1</td><td>Mentor Declines Request</td></tr><tr><td></td><td>2.1.a Mentor reject the request</td></tr><tr><td>3.1</td><td>Incomplete Profile</td></tr><tr><td></td><td>3.1.a System blocks request.</td></tr></table>		1.1	Mentor unavailable		1.1.a. Find available mentors	2.1	Mentor Declines Request		2.1.a Mentor reject the request	3.1	Incomplete Profile		3.1.a System blocks request.
1.1	Mentor unavailable													
	1.1.a. Find available mentors													
2.1	Mentor Declines Request													
	2.1.a Mentor reject the request													
3.1	Incomplete Profile													
	3.1.a System blocks request.													
Quality Requirements	Filter mentors by department, location, or industry.													

Case Description-08: Send Notification

Use Case	Send Notification											
Goal	To allow the system or admin to send notification.											
Precondition	Admin is logged into the system.											
Success End Condition	Notifications are delivered to the selected alumni group.											
Failed End Condition	Notification is not sent due to invalid recipient data.											
Primary Actors:	Admin											
Secondary Actors:	System											
Trigger	Admin selects “Send Notification” from the dashboard occurs that triggers an automated message.											
Description/ Main Success Scenario	<table><tr><td>1.</td><td>Admin logs into the system.</td></tr><tr><td>2.</td><td>Admin navigates to the “Notifications” module.</td></tr><tr><td>3.</td><td>Admin selects delivery method</td></tr><tr><td>4.</td><td>Admin reviews and submits the notification</td></tr><tr><td>5.</td><td>System processes and dispatches the message to recipients.</td></tr></table>		1.	Admin logs into the system.	2.	Admin navigates to the “Notifications” module.	3.	Admin selects delivery method	4.	Admin reviews and submits the notification	5.	System processes and dispatches the message to recipients.
1.	Admin logs into the system.											
2.	Admin navigates to the “Notifications” module.											
3.	Admin selects delivery method											
4.	Admin reviews and submits the notification											
5.	System processes and dispatches the message to recipients.											
Alternative Flow	<table><tr><td>1.1</td><td>Scheduled Notification</td></tr><tr><td></td><td>1.1.a. Admin selects “Schedule” instead of “Send Now.”</td></tr><tr><td>2.1</td><td>Delivery failure</td></tr><tr><td></td><td>2.1.a Try again later</td></tr></table>		1.1	Scheduled Notification		1.1.a. Admin selects “Schedule” instead of “Send Now.”	2.1	Delivery failure		2.1.a Try again later		
1.1	Scheduled Notification											
	1.1.a. Admin selects “Schedule” instead of “Send Now.”											
2.1	Delivery failure											
	2.1.a Try again later											
Quality Requirements	emplate management for commonly sent messages.											

Case Description-09: Post Job

Use Case	Post Job												
Goal	To allow employers or alumni to post job opportunities for students.												
Precondition	Alumni must be logged into the system.												
Success End Condition	The job post is successfully created and visible to eligible users												
Failed End Condition	Job is not posted due to validation errors or user lacking permission.												
Primary Actors:	Alumni												
Secondary Actors:	Admin												
Trigger	Employer or alumni selects "Post Job" from the dashboard or job board module.												
Description/ Main Success Scenario	<table> <tr> <td>1.</td><td>Alumni logs into the system.</td></tr> <tr> <td>2.</td><td>Navigates to the "Job Board" section.</td></tr> <tr> <td>3.</td><td>Clicks "Post a Job."</td></tr> <tr> <td>4.</td><td>User completes the form and submits it.</td></tr> <tr> <td>5.</td><td>System validates inputs.</td></tr> <tr> <td>6.</td><td>Confirmation is displayed and email notification is optionally sent to the poster.</td></tr> </table>	1.	Alumni logs into the system.	2.	Navigates to the "Job Board" section.	3.	Clicks "Post a Job."	4.	User completes the form and submits it.	5.	System validates inputs.	6.	Confirmation is displayed and email notification is optionally sent to the poster.
1.	Alumni logs into the system.												
2.	Navigates to the "Job Board" section.												
3.	Clicks "Post a Job."												
4.	User completes the form and submits it.												
5.	System validates inputs.												
6.	Confirmation is displayed and email notification is optionally sent to the poster.												
Alternative Flow	<table> <tr> <td>1.1</td><td>Incomplete form</td></tr> <tr> <td></td><td>1.1.a. System detects missing or invalid fields.</td></tr> <tr> <td>2.1</td><td>Unauthorized user</td></tr> <tr> <td></td><td>2.1.a. System displays an access restriction message.</td></tr> <tr> <td>3.1</td><td>Admin Review</td></tr> <tr> <td></td><td>3.1.a System marks post as "Pending Approval."</td></tr> </table>	1.1	Incomplete form		1.1.a. System detects missing or invalid fields.	2.1	Unauthorized user		2.1.a. System displays an access restriction message.	3.1	Admin Review		3.1.a System marks post as "Pending Approval."
1.1	Incomplete form												
	1.1.a. System detects missing or invalid fields.												
2.1	Unauthorized user												
	2.1.a. System displays an access restriction message.												
3.1	Admin Review												
	3.1.a System marks post as "Pending Approval."												
Quality Requirements	Resume/application tracking (optional)												

Case Description-10: Career Dashboard

Use Case	Career Dashboard										
Goal	To provide alumni with access to personalized career resources, mentorship connections.										
Precondition	Alumni must be logged in to the platform.										
Success End Condition	Alumni successfully accesses and interacts with career-related tools.										
Failed End Condition	Career dashboard fails to load due to system error.										
Primary Actors:	Alumni										
Secondary Actors:	Authority										
Trigger	The alumni user clicks on the “Career Dashboard” option from the main navigation menu.										
Description/ Main Success Scenario	<table> <tr> <td>1.</td><td>Alumni logs into AlumniConnect.</td></tr> <tr> <td>2.</td><td>Selects “Career Dashboard” from the menu.</td></tr> <tr> <td>3.</td><td>Alumni views or interacts with any section as needed.</td></tr> <tr> <td>4.</td><td>Alumni can apply to jobs, request mentorship, or register for events directly from the dashboard.</td></tr> <tr> <td>5.</td><td>Saved jobs or applications</td></tr> </table>	1.	Alumni logs into AlumniConnect.	2.	Selects “Career Dashboard” from the menu.	3.	Alumni views or interacts with any section as needed.	4.	Alumni can apply to jobs, request mentorship, or register for events directly from the dashboard.	5.	Saved jobs or applications
1.	Alumni logs into AlumniConnect.										
2.	Selects “Career Dashboard” from the menu.										
3.	Alumni views or interacts with any section as needed.										
4.	Alumni can apply to jobs, request mentorship, or register for events directly from the dashboard.										
5.	Saved jobs or applications										
Alternative Flow	<table> <tr> <td>1.1</td><td>No Job Listings Available</td></tr> <tr> <td></td><td>1.1.a Try to search again</td></tr> <tr> <td>2.1</td><td>Incomplete profile</td></tr> <tr> <td></td><td>2.1.a prompted to complete their profile</td></tr> </table>	1.1	No Job Listings Available		1.1.a Try to search again	2.1	Incomplete profile		2.1.a prompted to complete their profile		
1.1	No Job Listings Available										
	1.1.a Try to search again										
2.1	Incomplete profile										
	2.1.a prompted to complete their profile										
Quality Requirements	Dashboard must be responsive and role-specific.										

Case Description-11: Search & Filter

Use Case	Search & Filter									
Goal	To enable users to search and filter data such as jobs, events, campaigns.									
Precondition	User is logged into the system.									
Success End Condition	System displays a refined list of results based on search query and selected filters.									
Failed End Condition	Search fails due to server error or unavailable data, resulting in no results being returned.									
Primary Actors:	Alumni									
Secondary Actors:	Admin									
Trigger	The user enters a keyword or selects filter options in any module									
Description/ Main Success Scenario	<table><tr><td>1.</td><td>User navigates to a searchable module.</td></tr><tr><td>2.</td><td>User enters a search keyword, or applies filters.</td></tr><tr><td>3.</td><td>System processes the query and displays matching results.</td></tr><tr><td>4.</td><td>User views or selects an item from the result list.</td></tr></table>		1.	User navigates to a searchable module.	2.	User enters a search keyword, or applies filters.	3.	System processes the query and displays matching results.	4.	User views or selects an item from the result list.
1.	User navigates to a searchable module.									
2.	User enters a search keyword, or applies filters.									
3.	System processes the query and displays matching results.									
4.	User views or selects an item from the result list.									
Alternative Flow	<table><tr><td>1.1</td><td>No results found</td></tr><tr><td></td><td>1.1.a Try again later</td></tr><tr><td>2.1</td><td>Invalid input</td></tr><tr><td></td><td>2.1.a use valid characters</td></tr></table>		1.1	No results found		1.1.a Try again later	2.1	Invalid input		2.1.a use valid characters
1.1	No results found									
	1.1.a Try again later									
2.1	Invalid input									
	2.1.a use valid characters									
Quality Requirements	Filters must support multi-select, date range, and keyword logic.									

Case Description-12: Submit Feedback

Use Case	Submit Feedback													
Goal	To allow alumni to submit suggestions, complaints, or general feedback .													
Precondition	User must be logged in to submit feedback.													
Success End Condition	The feedback is recorded in the system and available to the admin for review and response.													
Failed End Condition	Feedback is not submitted due to form validation failure, user cancellation, or system error.													
Primary Actors:	Alumni													
Secondary Actors:	Admin													
Trigger	The alumni user clicks on the “Feedback” or “Contact Us” option from the dashboard or footer.													
Description/ Main Success Scenario	<table><tr><td>1.</td><td>Alumni logs into the system.</td></tr><tr><td>2.</td><td>Navigates to the “Feedback” section.</td></tr><tr><td>3.</td><td>Optionally attaches a screenshot or file.</td></tr><tr><td>4.</td><td>Click submit.</td></tr><tr><td>5.</td><td>System validates inputs and stores feedback.</td></tr><tr><td>6.</td><td>Confirmation message is shown and optionally emailed to the user.</td></tr></table>		1.	Alumni logs into the system.	2.	Navigates to the “Feedback” section.	3.	Optionally attaches a screenshot or file.	4.	Click submit.	5.	System validates inputs and stores feedback.	6.	Confirmation message is shown and optionally emailed to the user.
1.	Alumni logs into the system.													
2.	Navigates to the “Feedback” section.													
3.	Optionally attaches a screenshot or file.													
4.	Click submit.													
5.	System validates inputs and stores feedback.													
6.	Confirmation message is shown and optionally emailed to the user.													
Alternative Flow	<table><tr><td>1.1</td><td>Anonymous feedback</td></tr><tr><td></td><td>1.1.a Alumni selects “Submit Anonymously.”</td></tr><tr><td>2.1</td><td>Incomplete submission</td></tr><tr><td></td><td>2.1.a Try again later</td></tr><tr><td>3.1</td><td>System error</td></tr><tr><td></td><td>3.1.a Try again later</td></tr></table>		1.1	Anonymous feedback		1.1.a Alumni selects “Submit Anonymously.”	2.1	Incomplete submission		2.1.a Try again later	3.1	System error		3.1.a Try again later
1.1	Anonymous feedback													
	1.1.a Alumni selects “Submit Anonymously.”													
2.1	Incomplete submission													
	2.1.a Try again later													
3.1	System error													
	3.1.a Try again later													
Quality Requirements	Admin dashboard to view, respond to, or categorize feedback.													

Data Flow Diagram(DFD)

A data flow diagram (DFD) is a visual representation of the flow of data through a system or process.

Level 0 Data Flow Diagram:

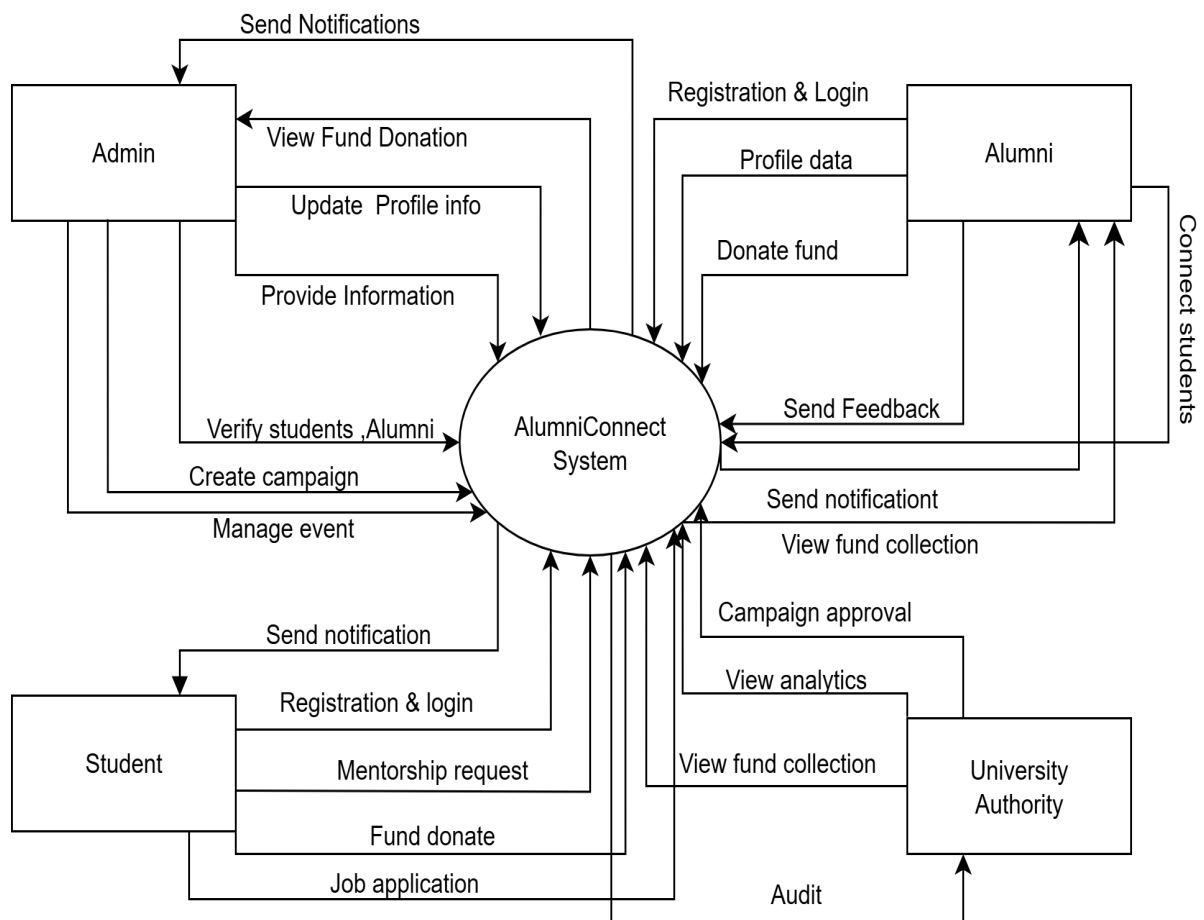


Figure: Level 0 Data Flow Diagram

Level 1 Data Flow Diagram:

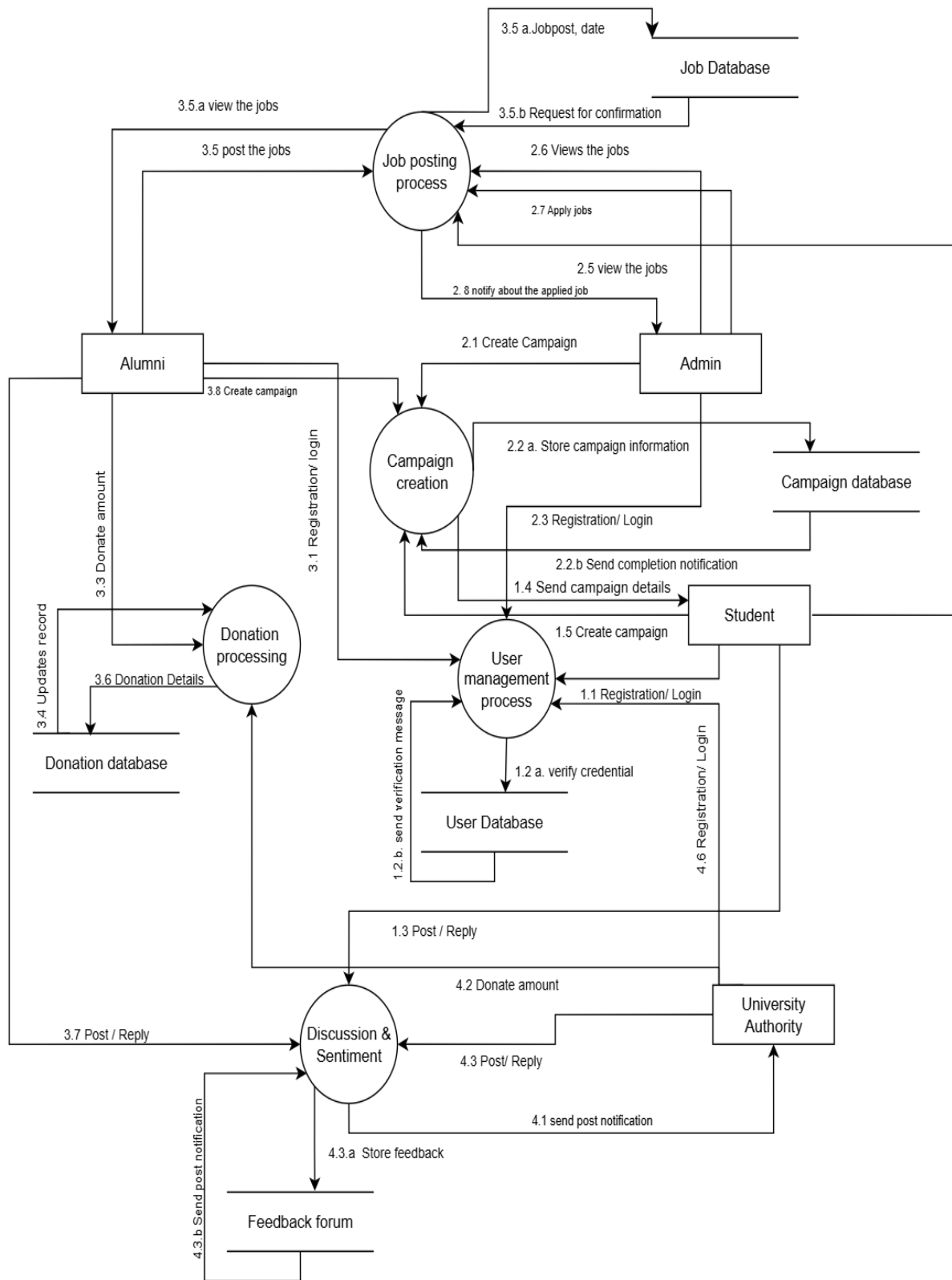


Figure: Level 1 Data Flow Diagram

Activity Diagram

Activity diagrams show the steps involved in how a system works, helping us understand the flow of control. The activity diagrams for AlumniConnect NextGen are given below:-

Activity Diagram-1: Registration

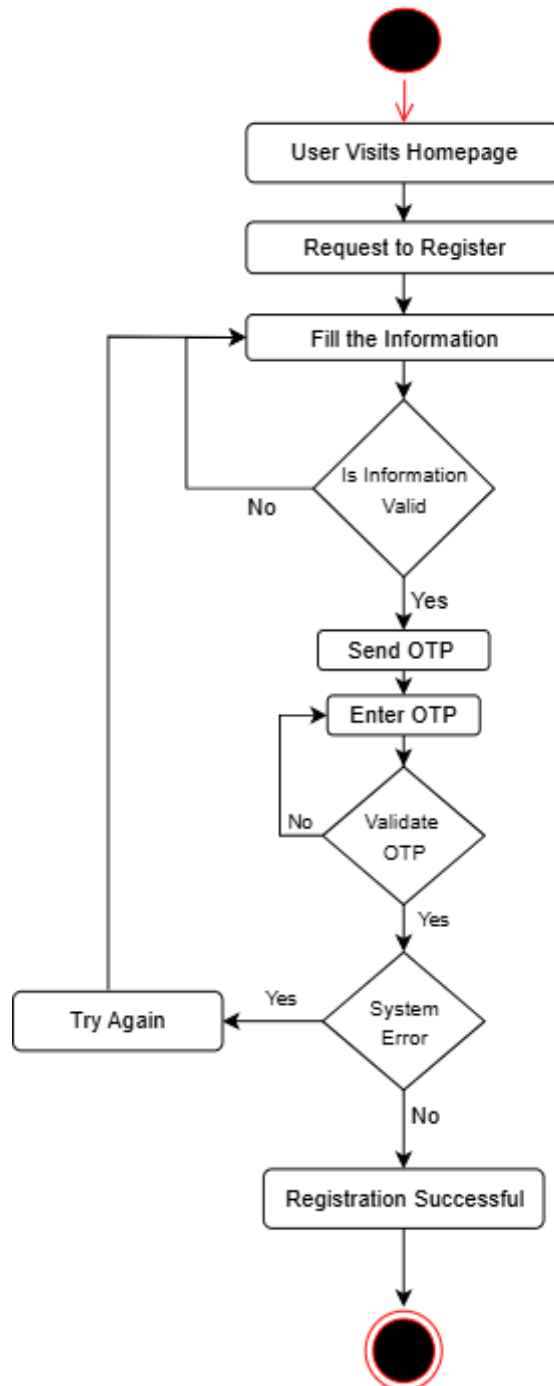


Figure:- Activity Diagram for Registration

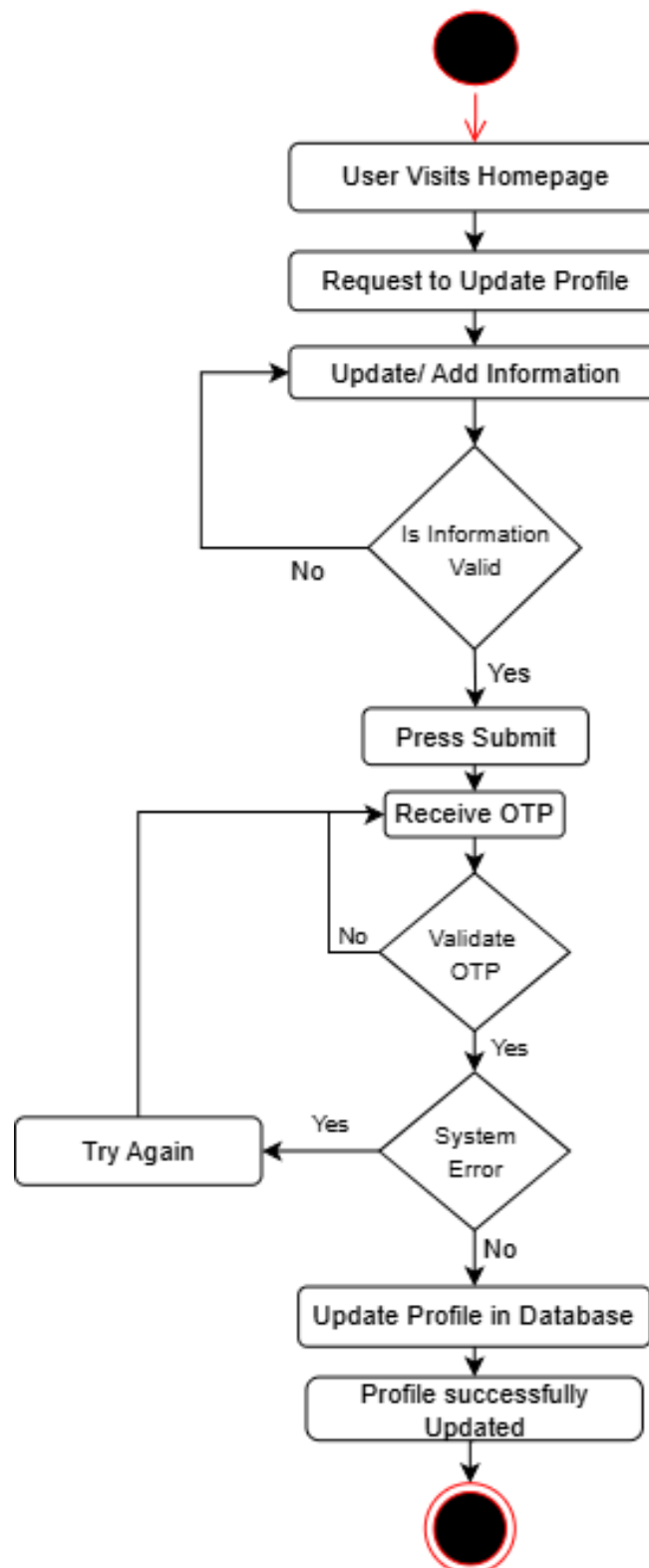
Activity Diagram-2: Update Profile

Figure-: Activity Diagram for Update Profile

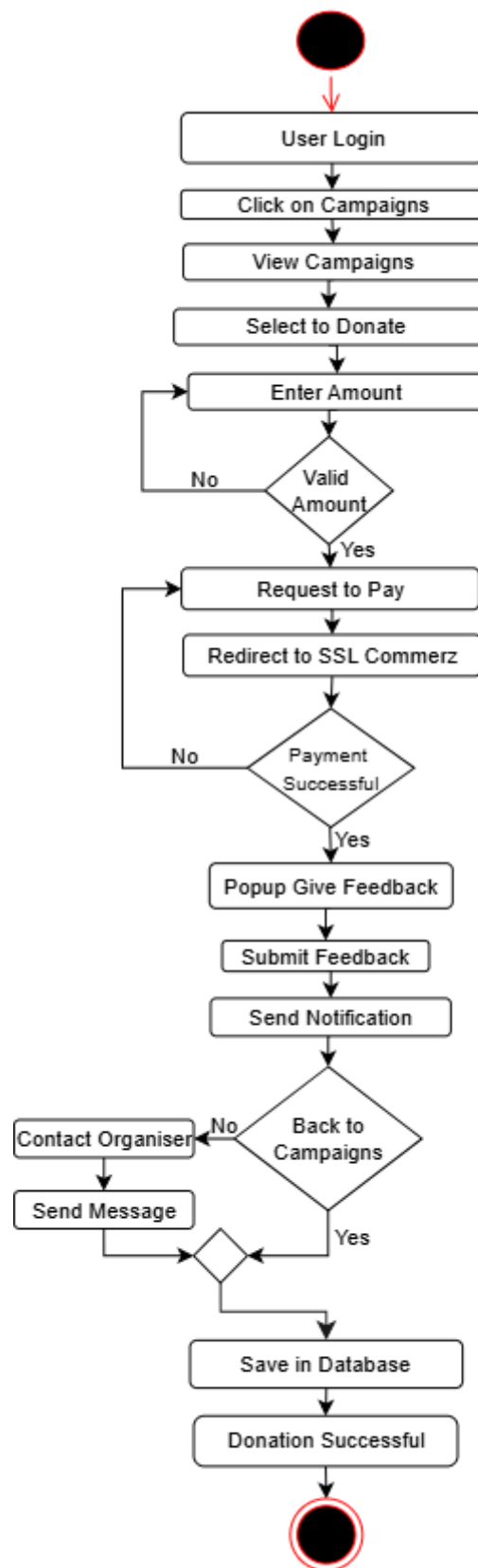
Activity Diagram-3: Donation Raising

Figure--: Activity Diagram for Donation Raising

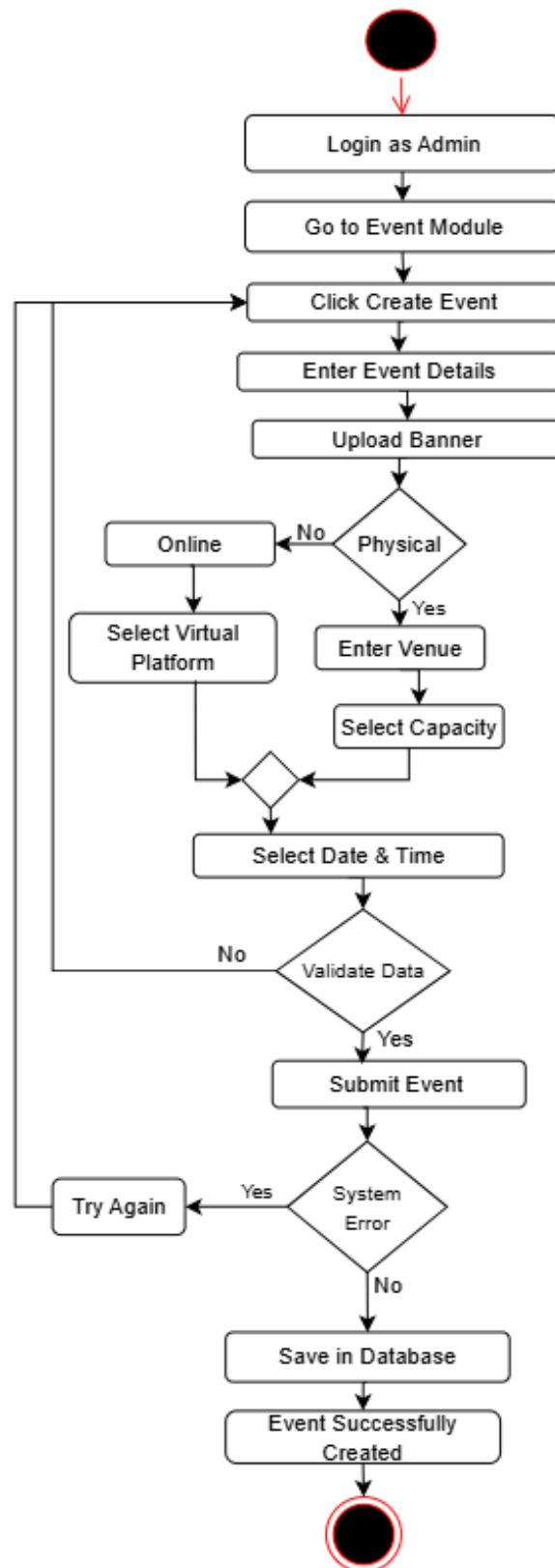
Activity Diagram-4: Manage Event

Figure-: Activity Diagram for Manage Event

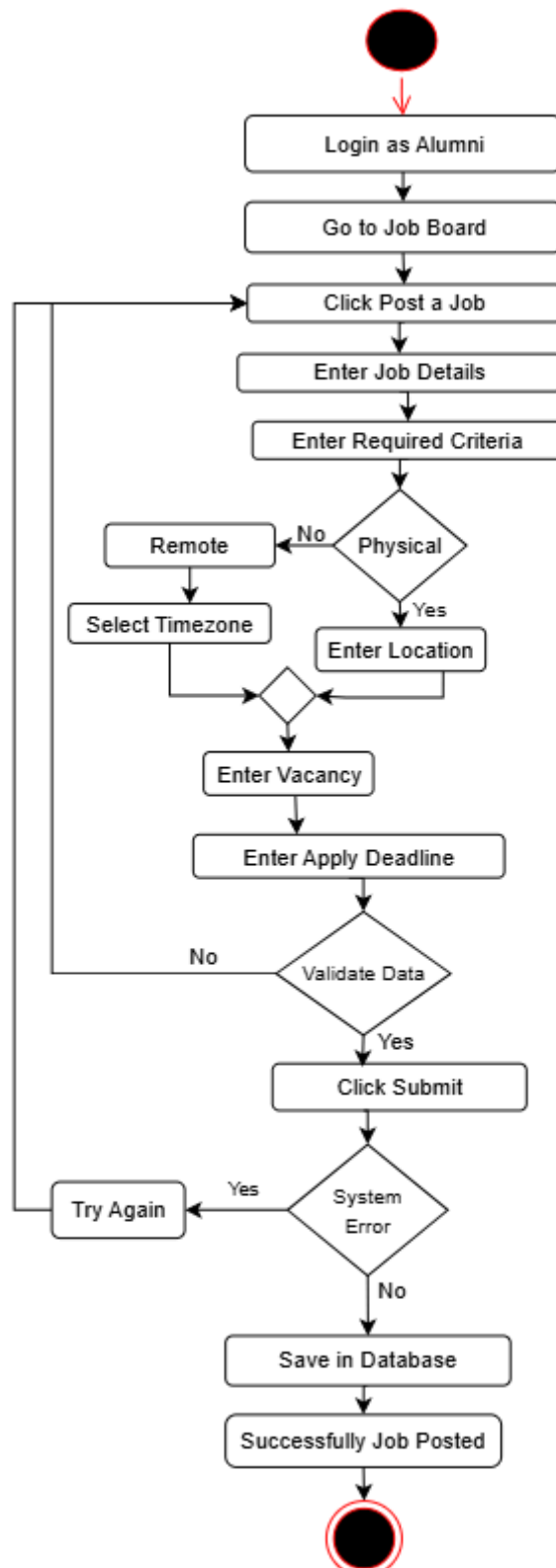
Activity Diagram-5: Post Job

Figure-: Activity Diagram for Post Job

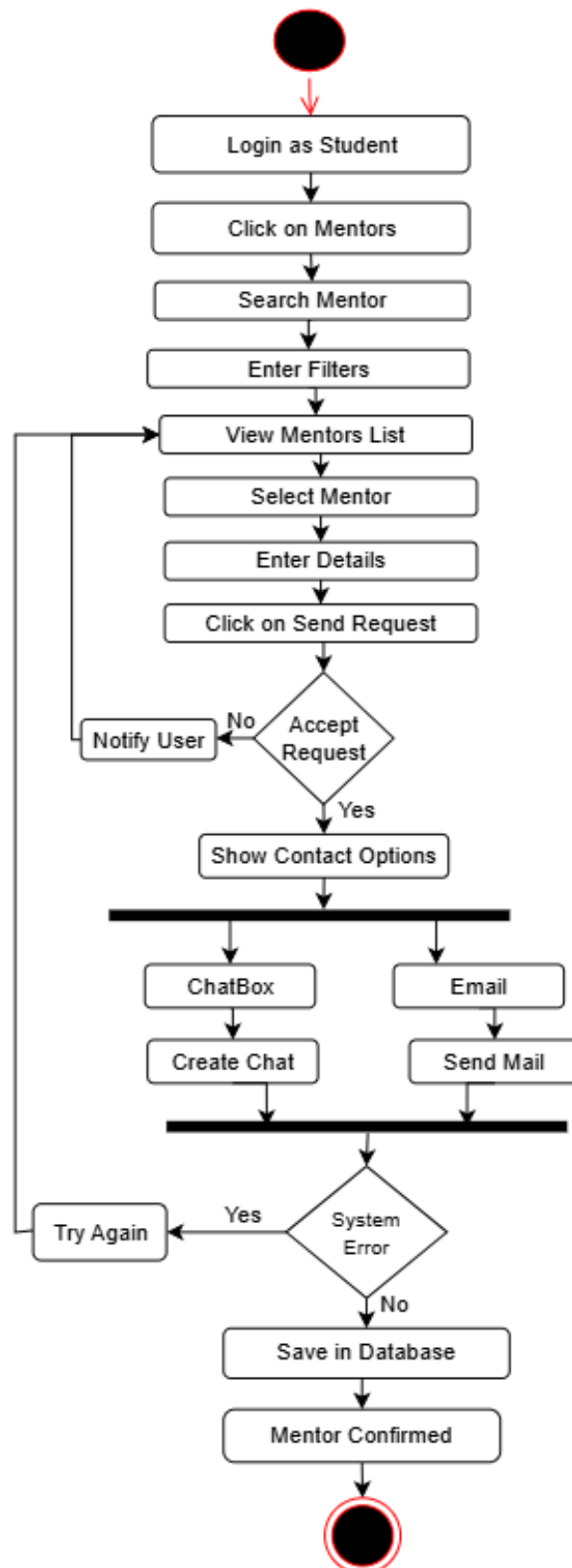
Activity Diagram-6: Mentorship Request

Figure-: Activity Diagram for Mentorship Request

State Diagram

A State Diagram is a type of diagram used in computer science and software engineering to model the behavior of a system or a part of a system. The state diagrams for the AlumniConnect System are given below:

State Diagram-1: Registration

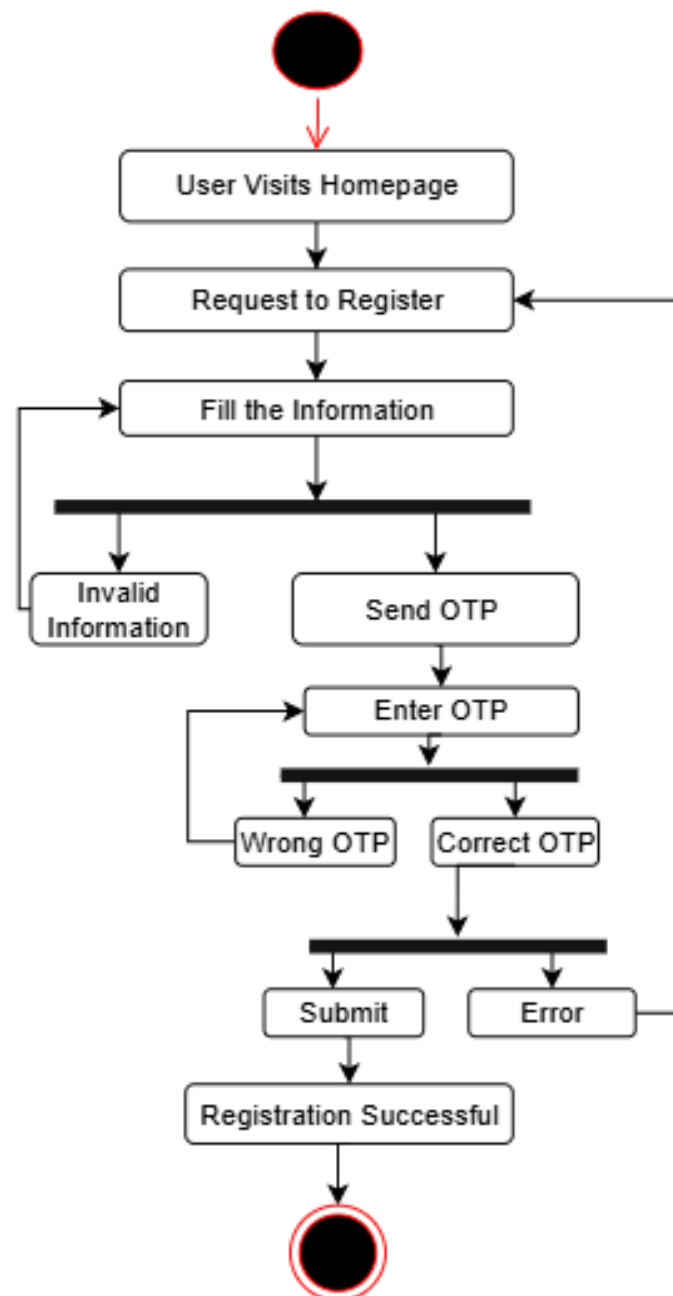


Figure: State Diagram Registration

State Diagram-2: Update Profile

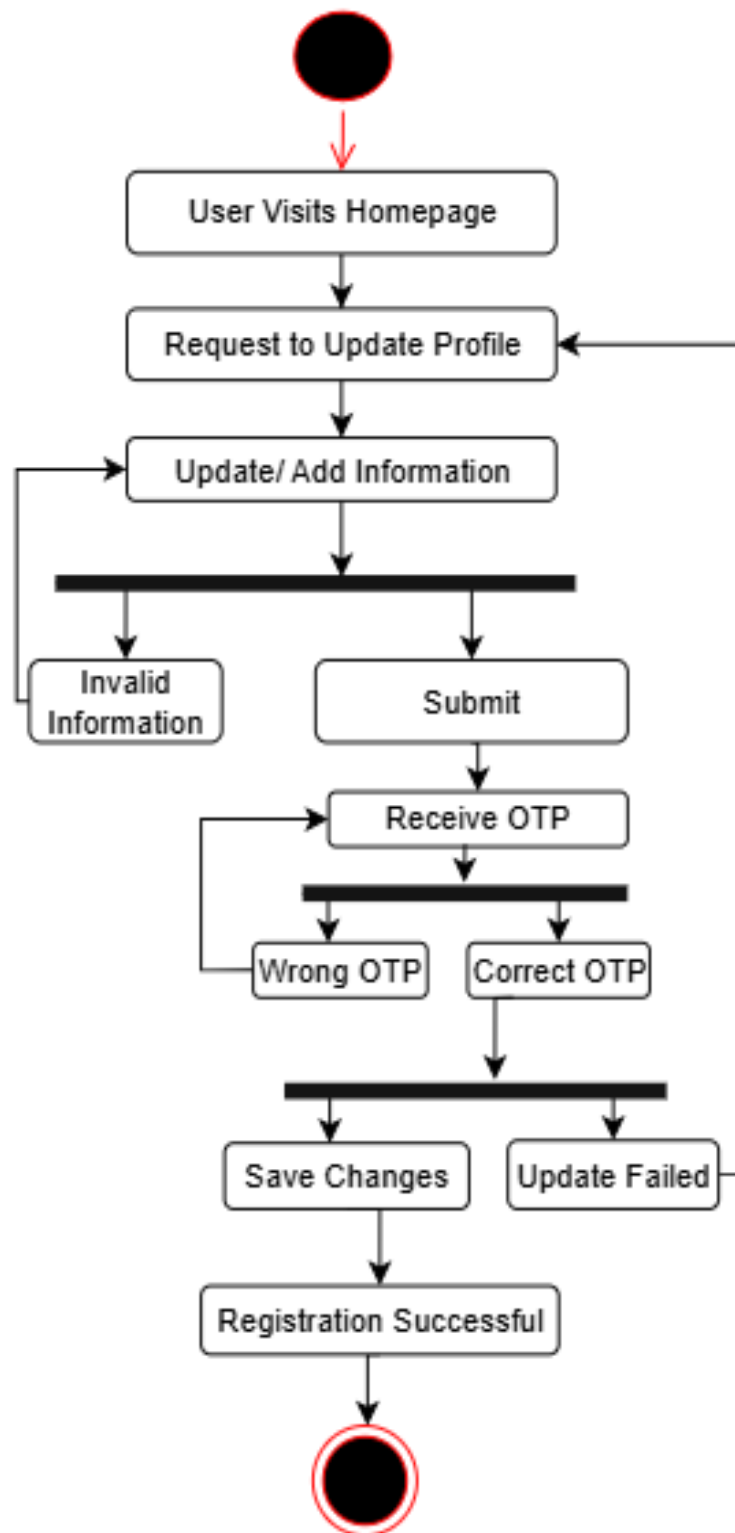


Figure: State Diagram Update Profile

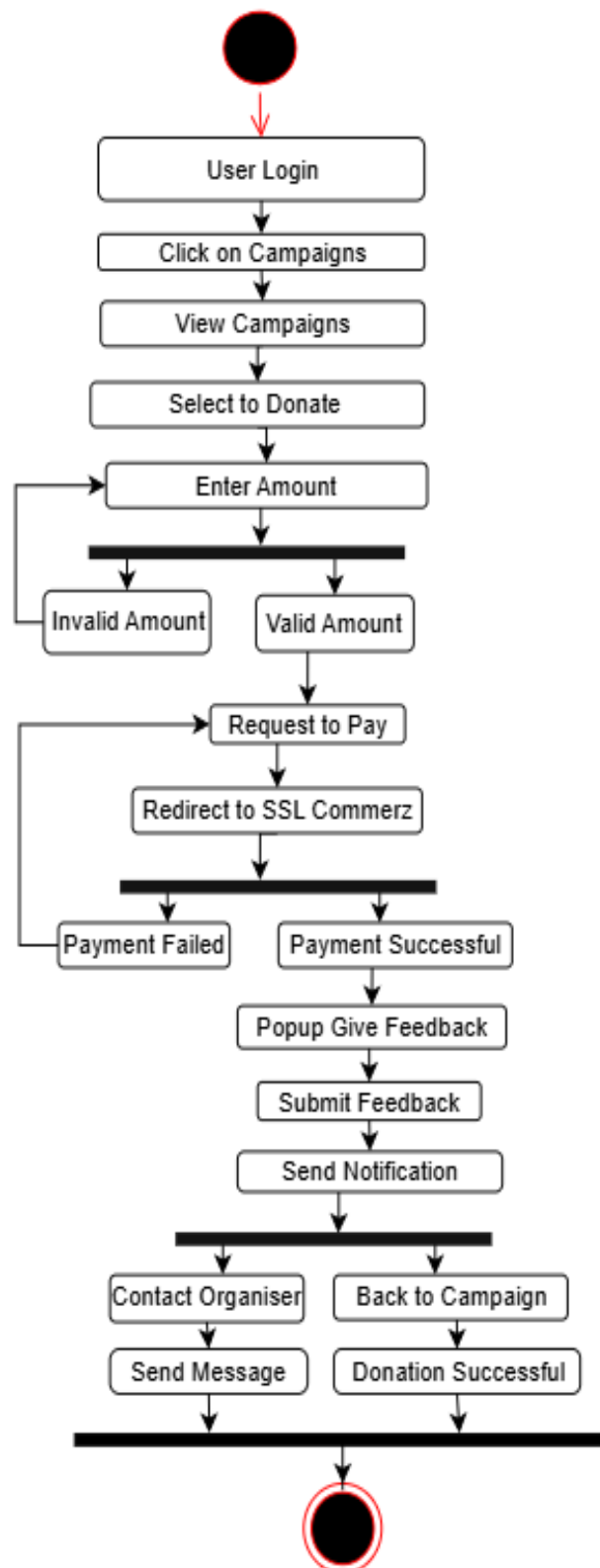
State Diagram-3: Donation Raising

Figure: State Diagram Donation Raising

State Diagram-4: Manage Event

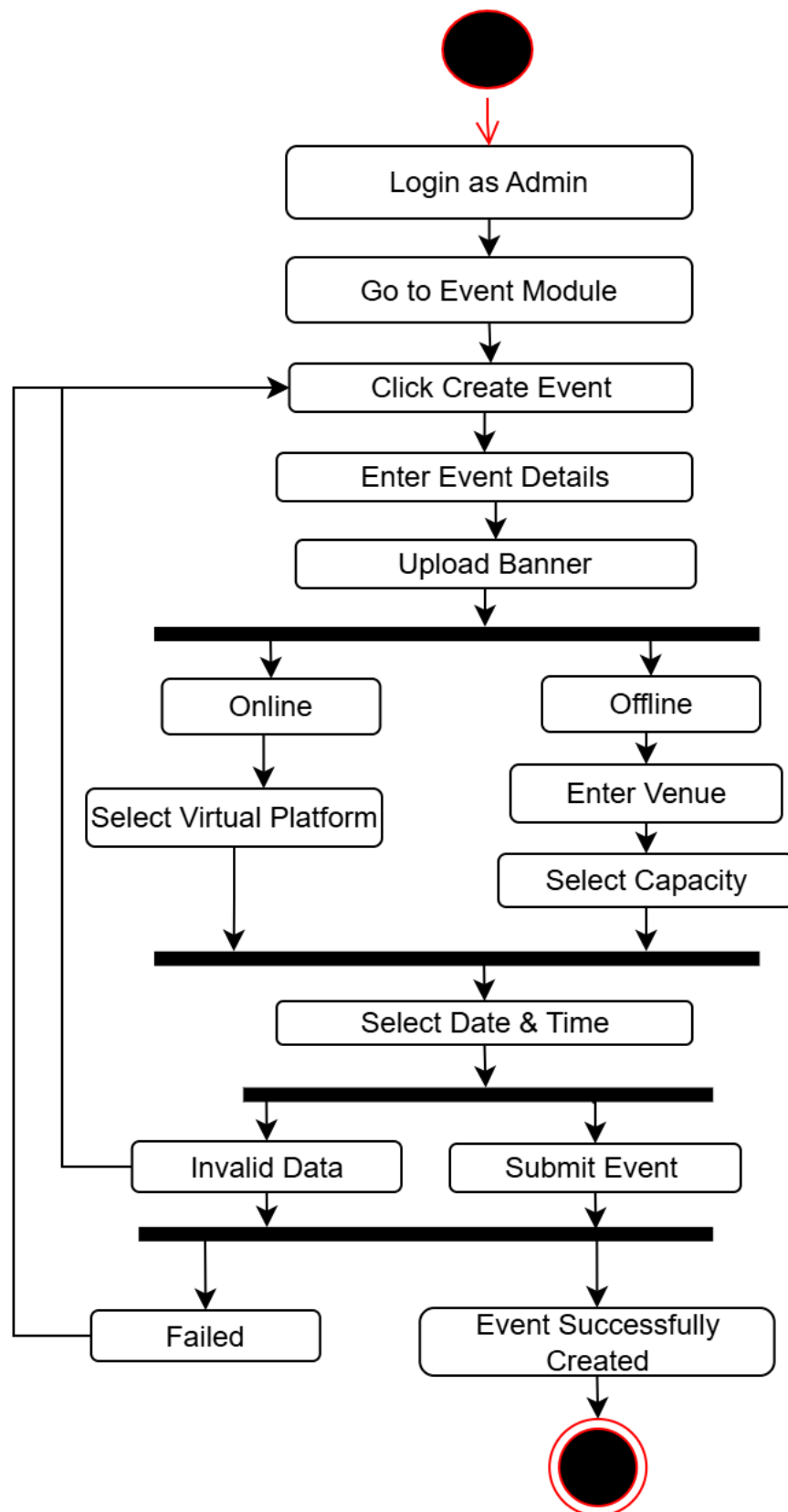


Figure: State Diagram Manage Event

State Diagram-5: Post Job

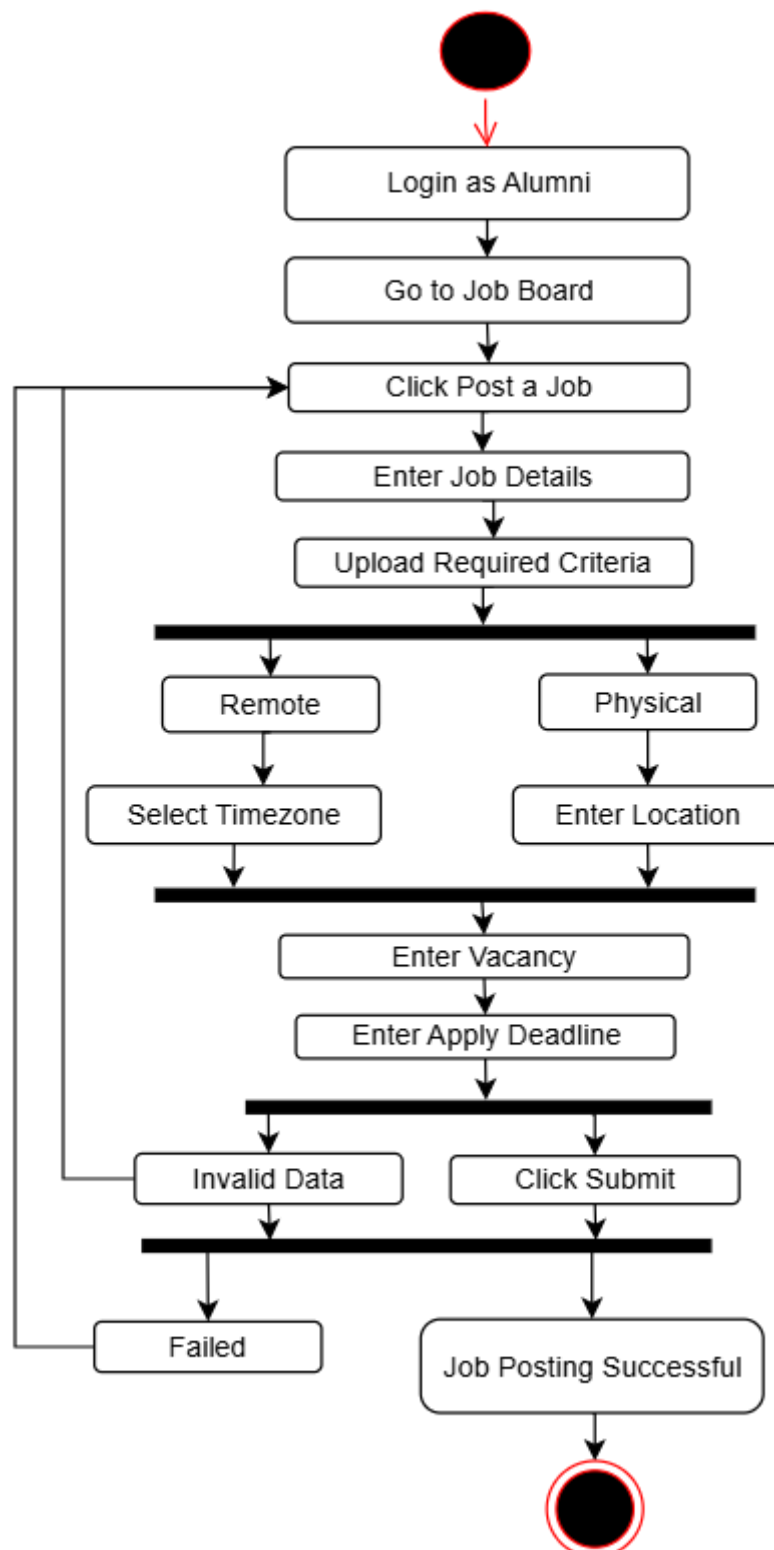


Figure: State Diagram Post Job

State Diagram-6: Request Mentorship

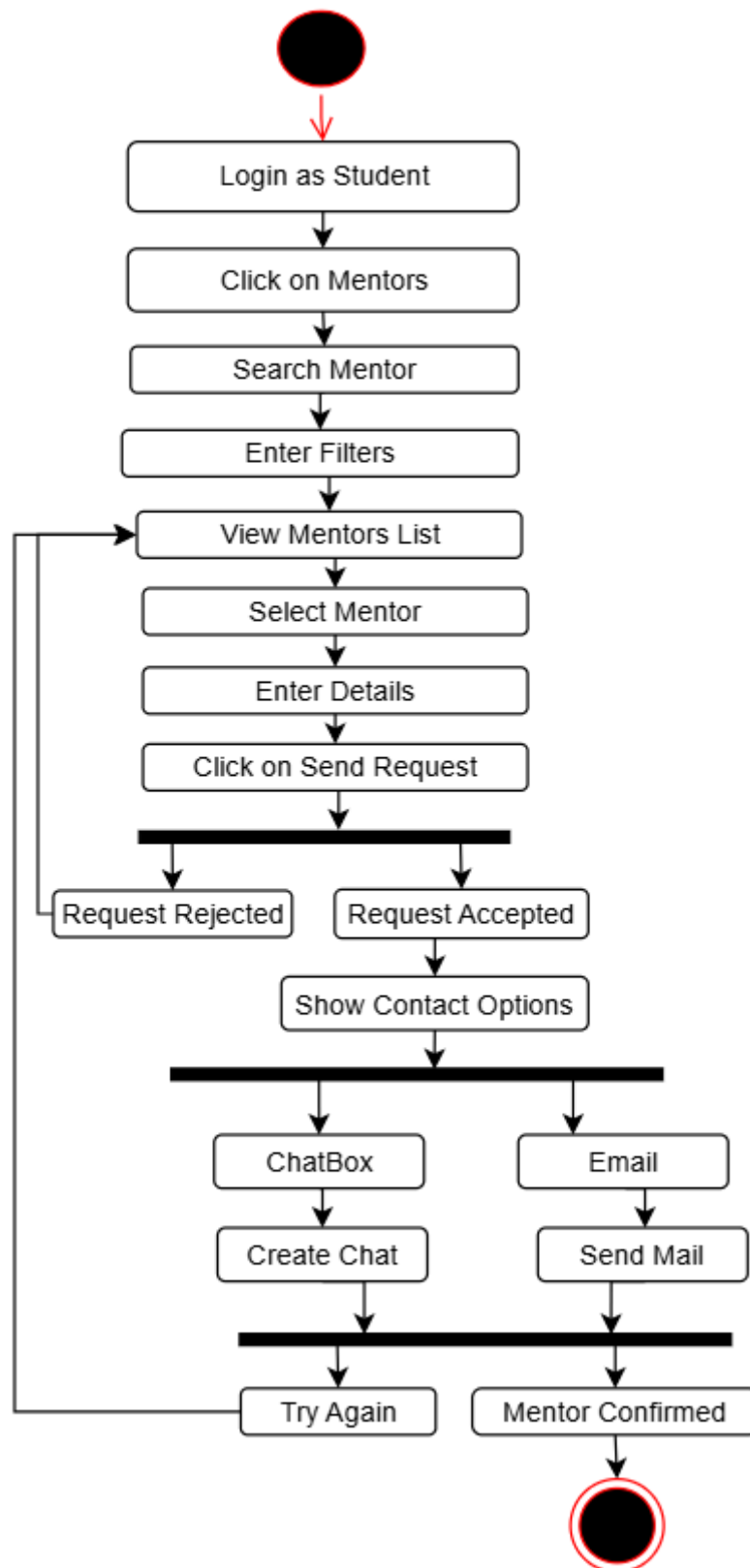


Figure: State Diagram Request Mentorship

Sequence Diagram

The Sequence diagrams for the AlumniConnect NextGen are given below:-

Sequence Diagram-1: Registration

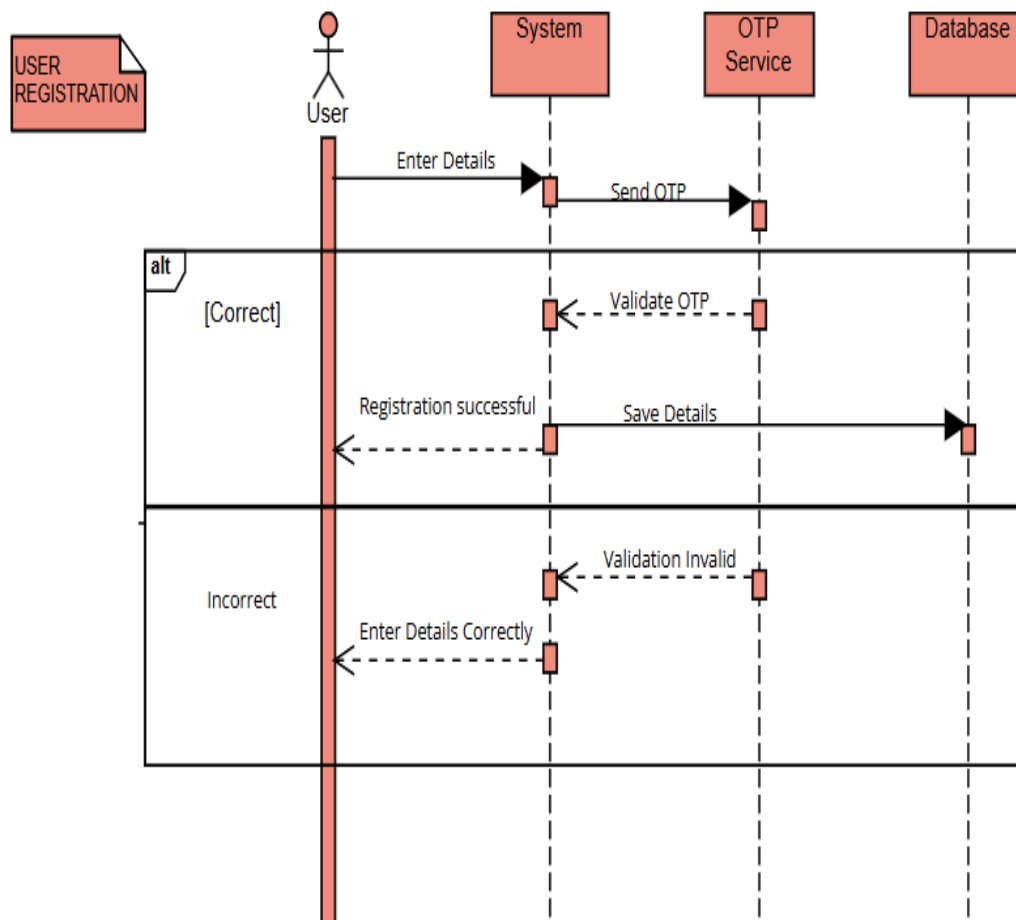


Figure: Sequence Diagram Registration

Sequence Diagram-2: Update Profile

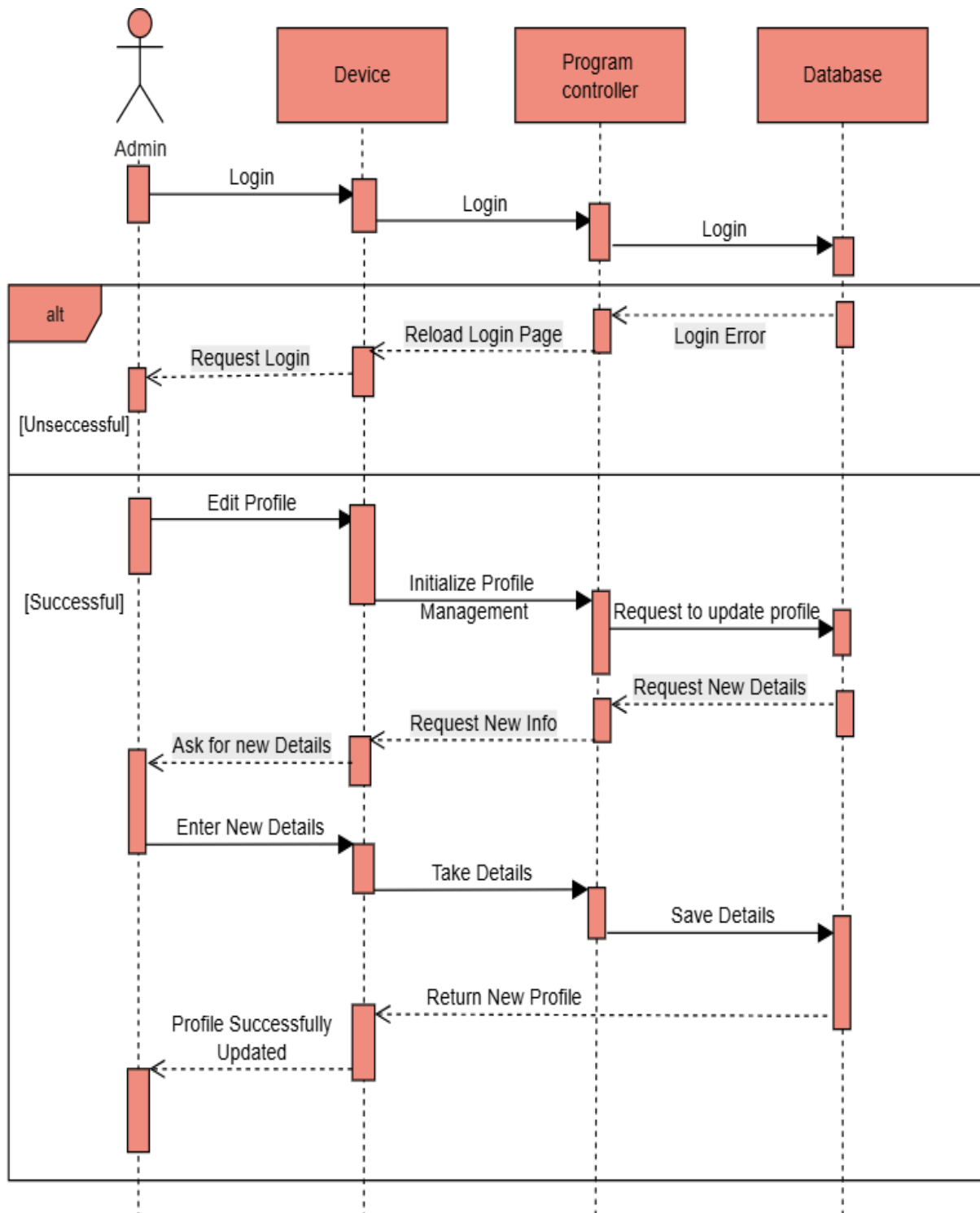


Figure: Sequence Diagram Update Profile

Sequence Diagram-3: Donation Raising

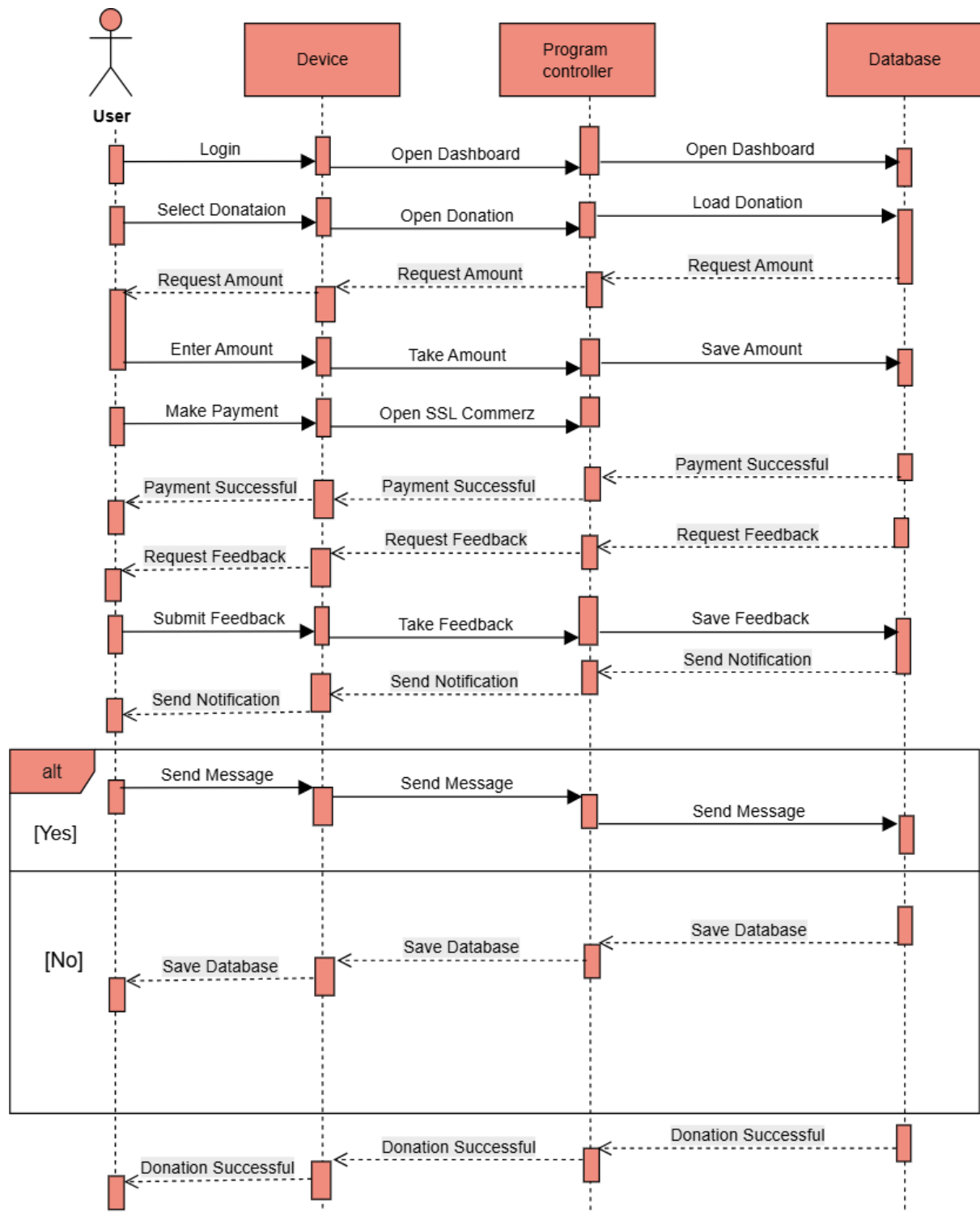


Figure: Sequence Diagram Donation Raising

Sequence Diagram-4: Manage Event

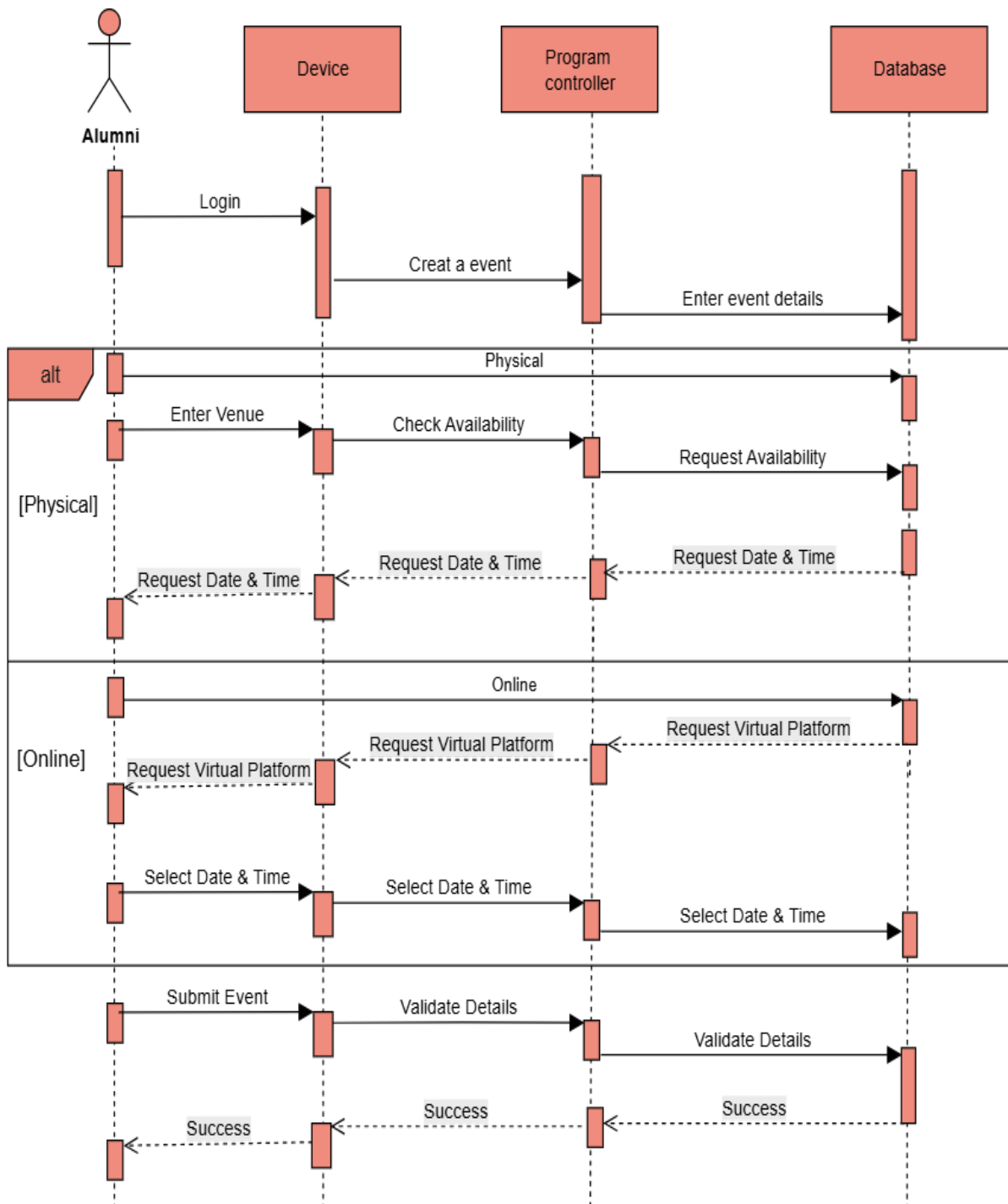


Figure: Sequence Diagram Manage Event

Sequence Diagram-5: Post Job

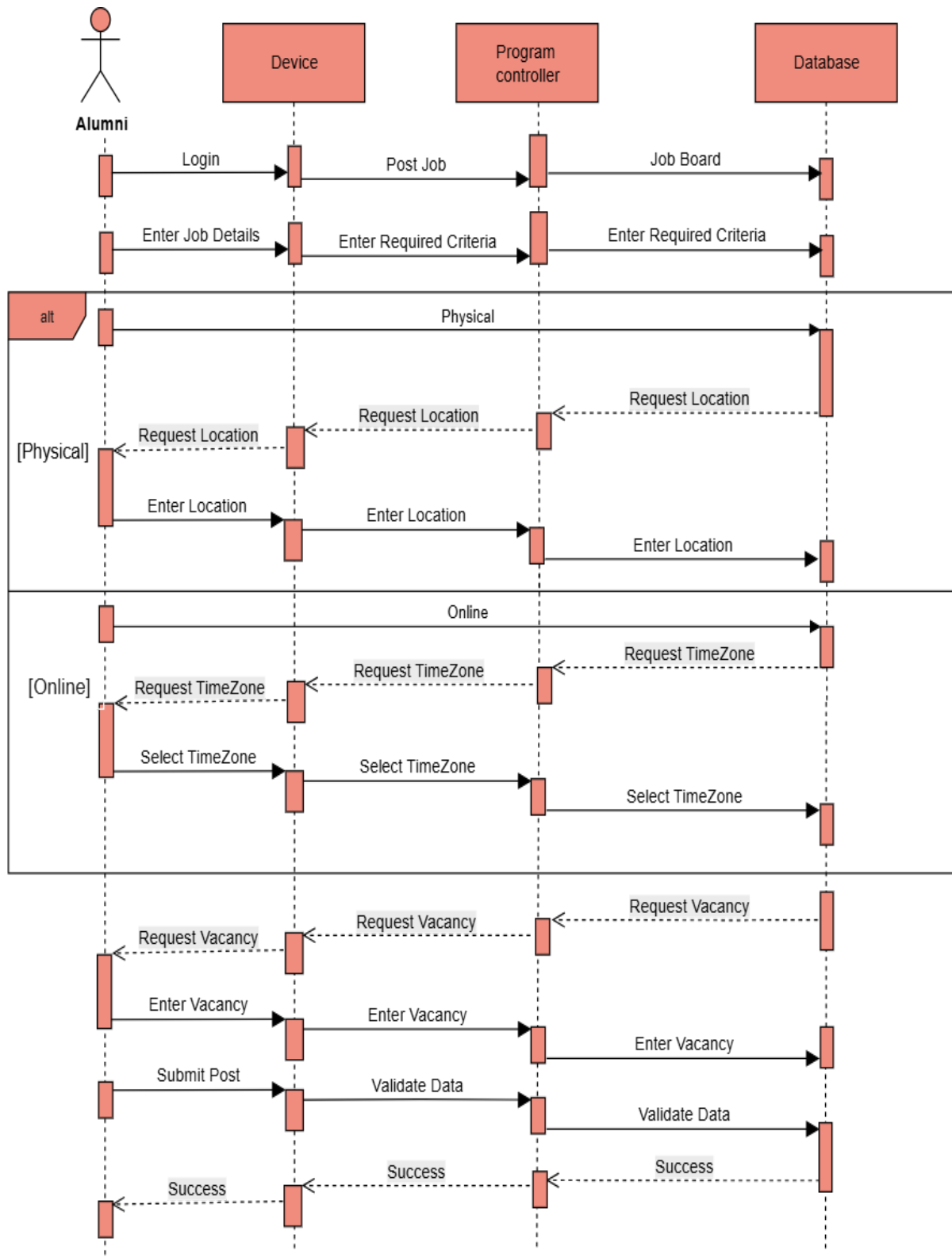


Figure: Sequence Diagram Post Job

Sequence Diagram-6: Request Mentorship

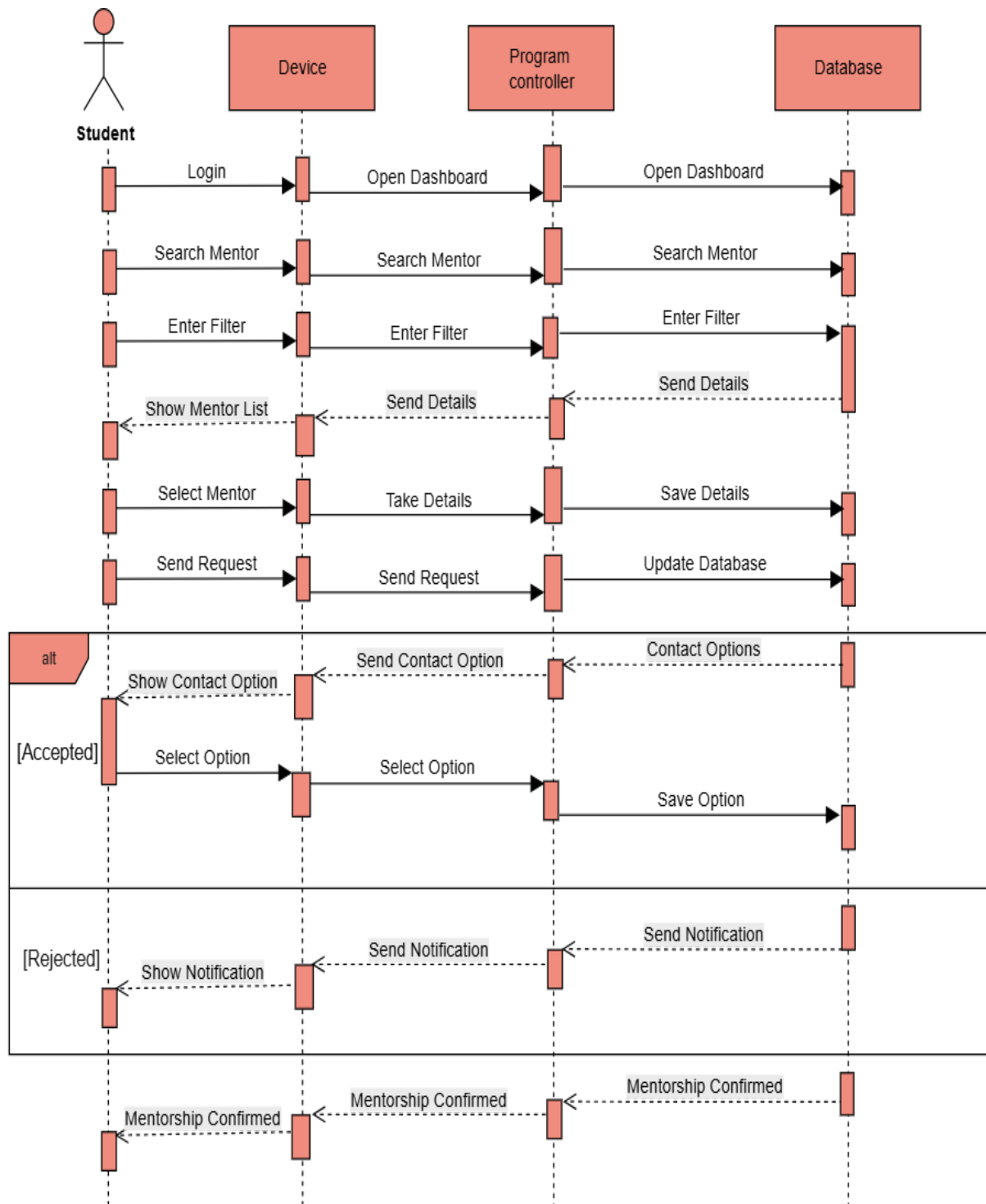


Figure: Sequence Diagram Request Mentorship

Class Diagram

Class Diagram for AlumniConnect system is given below:-

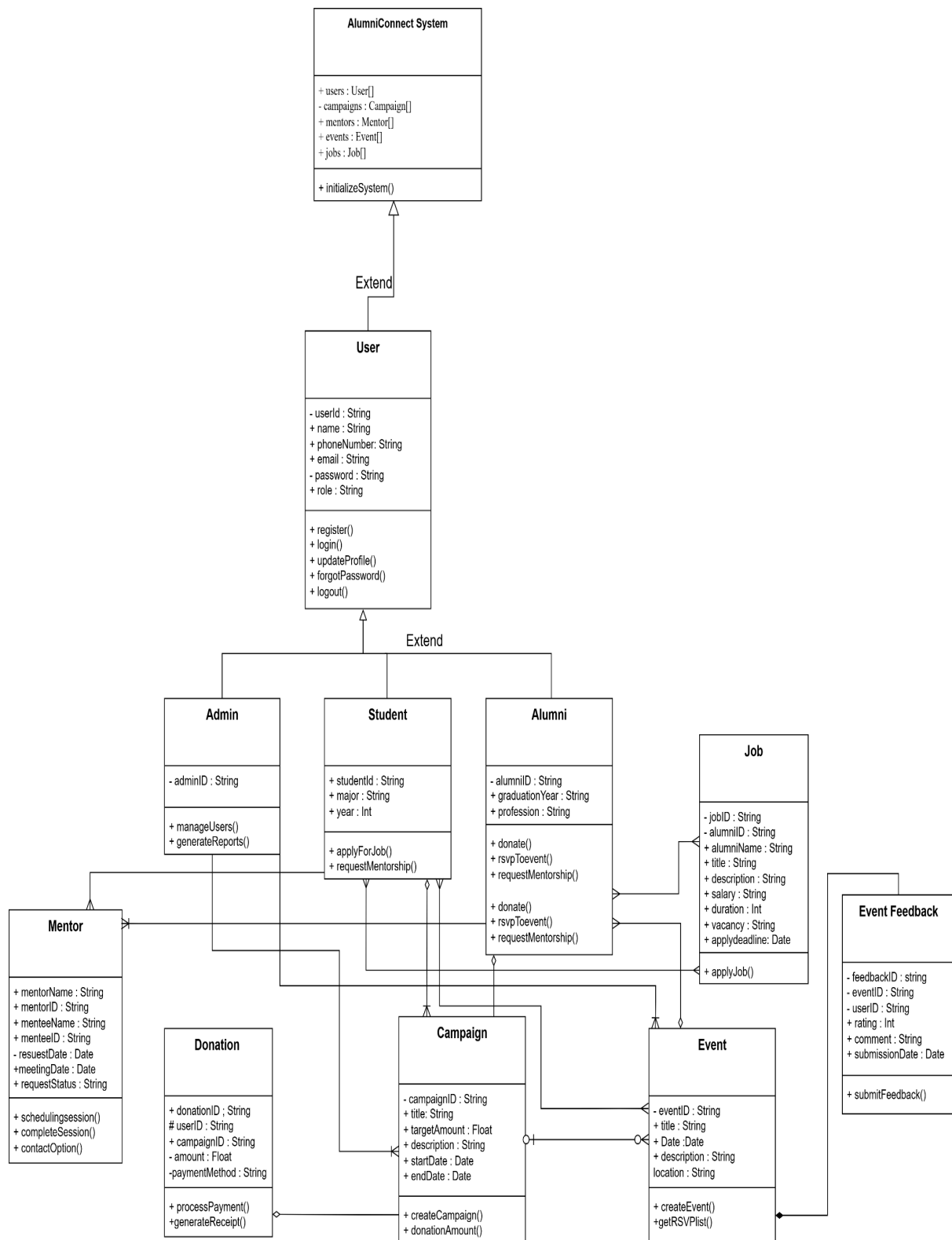


Figure: Class Diagram of AlumniConnect

Entity-Relationship Diagram

The Entity Relationship diagram for AlumniConnect system is given below:-

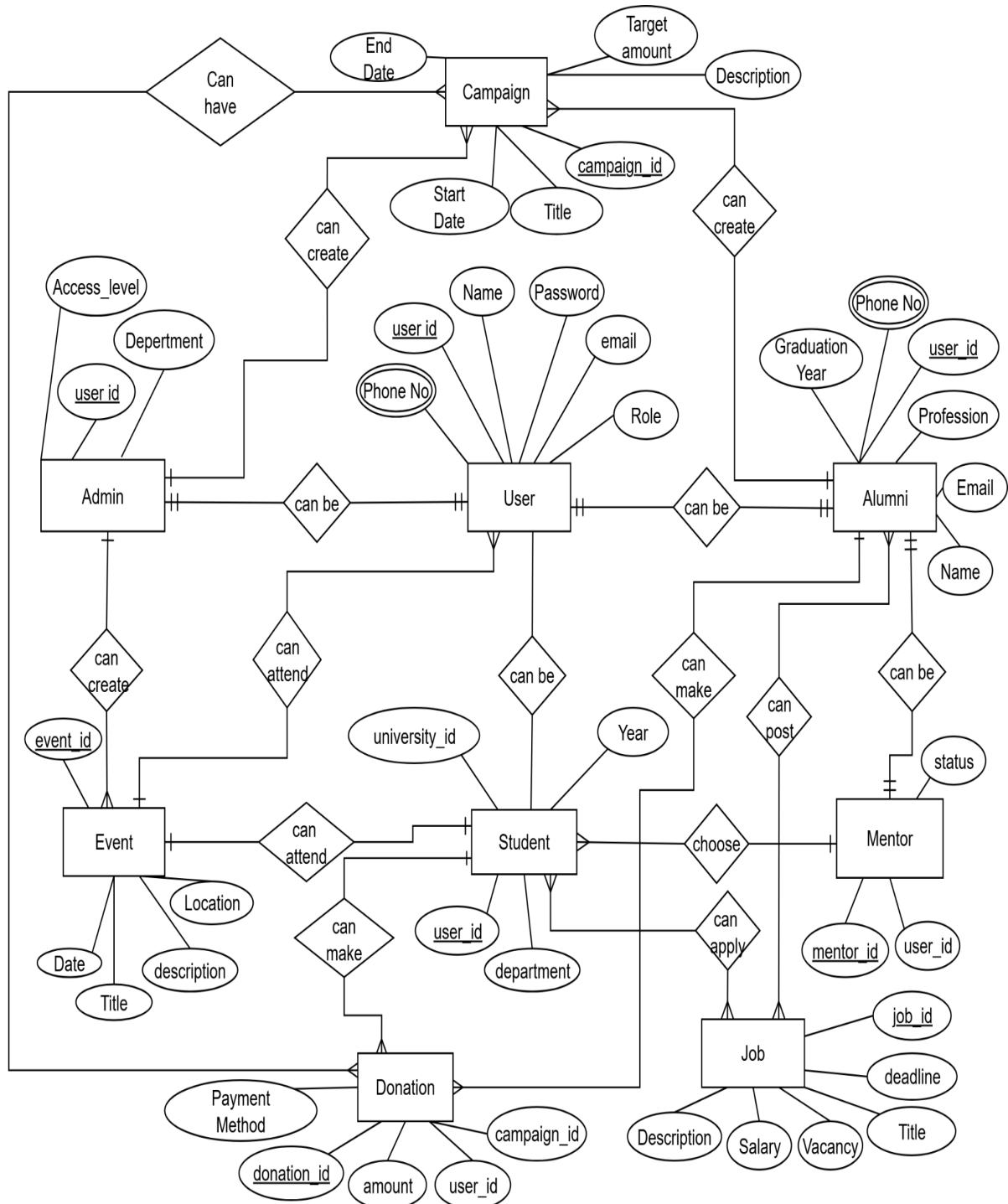


Figure: ER Diagram of AlumniConnect

Conclusion

The **AlumniConnect Next-Gen Relationship & Fundraising System** is built to improve communication and engagement between alumni, students, and university authorities. It brings everything under one platform—managing events, donations, mentorship, job opportunities, and feedback in a simple and organized way. The system also supports both Bengali and English, making it more accessible for all types of users. By using secure login, real-time notifications, and smart filtering options, it offers a smooth and personalized experience for each user role.

Overall, AlumniConnect solves many of the problems that universities face with alumni interaction, like outdated data, low participation, and lack of digital tools. It makes it easier to stay connected, raise funds, and create mentorship opportunities that benefit both current students and alumni. This system will not only improve alumni relationships but also help the institution grow with better planning, communication, and trust.