Software Requirement Specifications

Project:
Alumni Network

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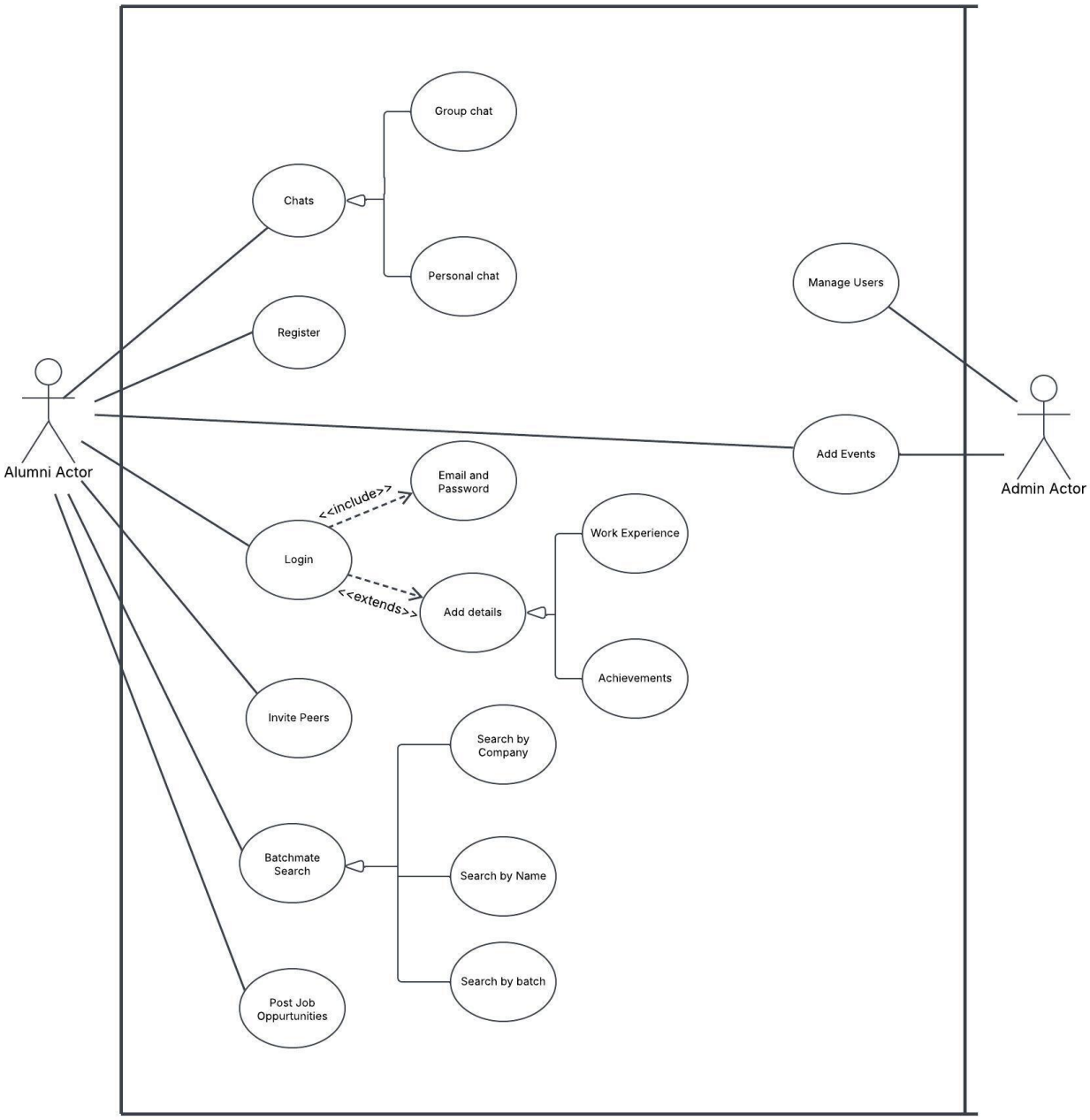
Use Case Diagram



FUNCTIONAL REQUIREMENTS

1. User Authentication & Profile Management

1.1 User Registration

- The system must allow alumni to register using one of the following methods:
    - Method 1: Using Email and Password
        - The user must provide the following details:
            - First Name
            - Last Name
            - Email Address
            - Phone Number
            - Batch (Graduation Year)
            - Roll Number
            - Department
            - Profile Picture (optional)
            - Password
    - Method 2: Using Google Login (OAuth 2.0)
        - The user must be able to register using Google Sign-In.
        - If logging in for the first time, the system must prompt the user to complete missing details (Batch, Roll Number, Department, Phone Number, and Profile Picture).

1.2 User Login

- Users must be able to log in using:
    - **Email & Password** (validated against stored credentials).
    - **Google Login** (OAuth 2.0).

1.3 Profile Management

- Users must be able to **view** their profile details, including:
    - Profile Picture
    - Name
    - Email
    - Phone Number
    - Graduation Batch
    - Roll Number
    - Department

2.Role Base Access Control

2.1 Alumni Role

Each alumni user has:

- A personal profile page displaying:
  - Basic details (Name, Profile Picture, Graduation Year, Department)
  - Work Experience
  - Achievements
  - Job Opportunities Posted
  - Events Created
- Alumni can add or delete:
  - Work Experience
  - Achievements

2.2 Admin Role

The Admin Dashboard provides an overview of:

- Total number of registered members
- User management options, including the ability to:
  - View all registered alumni
  - Delete members if necessary
- Event management, allowing admins to:
  - Create or delete events

3. Alumni Interaction Features

3.1 Searching for Alumni

- Users must be able to search for batchmates using the following filters:
  - Name
  - Graduation Year
  - Company
- The system must display search results in a card-based format, showing:
  - Profile Picture
  - Name
  - Graduation Year

3.2 Viewing Alumni Profiles

- Users must be able to view detailed alumni profiles by clicking on a profile from the search results.
- Profiles must display work experience and achievements.

3.3 Direct Messaging

- Users must be able to access the chat section from the navigation menu.
- In the chat interface, users must see a search bar to find and select a specific alumni for messaging.
- Users must be able to send direct messages to alumni.

3.4 Group Discussions

- In the chat section, users must see a "Groups" tab where all existing groups are displayed.
- Users must be able to:
  - Search for and join any public group of interest.
  - View a list of groups they are already a member of.
- Once inside a group, users must be able to:
  - Send messages.
  - View the list of group members**.**

3.5 Work Experience & Achievements

Work Experience

- Users must be able to add and manage their work experience on their profile.
- Each work experience entry must include:
  - Company Name
  - Role/Designation
  - Location (On-Site, Remote, or City/State)
  - Start Date and End Date
  - Description (key responsibilities, projects, or accomplishments)
- Users must be able to delete any work experience entry.
- The system must display all work experiences in chronological order on the alumni's profile.

Achievements

- Users must be able to add achievements to showcase their milestones.
- Each achievement entry must include:
  - Title (e.g., "Best Employee Award 2024")
  - Date of Achievement
  - Category (e.g., Technical, Leadership, Research, Volunteering, Sports, etc.)

    - Description (brief details about the achievement)
    - Organization/Issuing Authority
    - Supporting Documents (optional file upload for certificates, images)
- Users must be able to remove achievements at any time.
- Achievements must be displayed in a dedicated section on the alumni's profile.

4. Networking & Invitations

On the home page, after logging in, users must see an "Invite Peers" button.

- Clicking on "Invite Peers" must open an input field where the user can enter the email address of the alumni they wish to invite.
- After entering the email, users must be able to send an invitation.
- The system must send an invitation email from the admin email account to the provided email address.
- The recipient must receive an email containing:
    - A personalized invitation message
    - A registration link to join the platform

5. Event & Job Board Management

5.1 Event Management

- The system must have an "Events" section in the navigation bar, accessible after login.
- Both admins and alumni must be able to create events by providing:
    - Event Name
    - Description
    - Event Type (Workshop, Reunion, Meetup, Webinar, etc.)
    - Organizer Name
    - Date & Time
    - Venue (Physical Location or Virtual Link)
    - Contact Person Email
- Users must be able to delete only the events they created.
- The event list must be displayed in chronological order, with upcoming events shown first.

5.2 Job Board Management

- The system must have a "Job Board" section.
- Alumni must be able to post job opportunities by providing:

    - Job Title
    - Company Name
    - Location (On-Site, Hybrid, Remote)
    - Job Type (Full-Time, Part-Time, Internship, Contract)
    - Experience Level (Entry-Level, Mid-Level, Senior)
    - Required Skills
    - Job Description
    - Application Deadline
    - Application Link (LinkedIn or External Website)
    - Contact Information (Recruiter's Email or Phone)
- Posted jobs must be visible to all alumni for browsing and applying.
- Alumni must be able to delete only the job postings they have created.

6. Gamification & Engagement

6.1 Points System

- Users must earn points for completing activities:
    - Sending Invitations → +20 points per invite
    - Post Job Oppurtunities →+10 points
    - Post Achievements →+10 points
    - Creating events → +10points
- The system must update and display user points in real-time.

6.2 Leaderboard & Badges

- The system must display a Leaderboard showcasing the top users based on points earned.
- Users must accumulate points through platform activities, such as:
    - Sending invitations
    - Posting job opportunities
    - Creating events
    - Posting Achievements

Badges System

- Users must earn badges based on their total points.
- The system must automatically assign badges when users reach specific point thresholds.
- Badge Levels:
    - Bronze → 0 - 49points
    - Silver → 50- 99 points
    - Gold → 100 - 199 points
    - Platinum → 200 - 499 points
    - Diamond → 500+ points
- Users must be able to view their earned badges on their profile.

NON-FUNCTIONAL REQUIREMENTS

1. Performance Requirements

- The system should efficiently handle 100’s of concurrent users.
- Profile searches should return results within a few seconds.

2. Security Requirements

- Implement OAuth 2.0 authentication for secure login.
- Profile data should be encrypted and access-controlled.

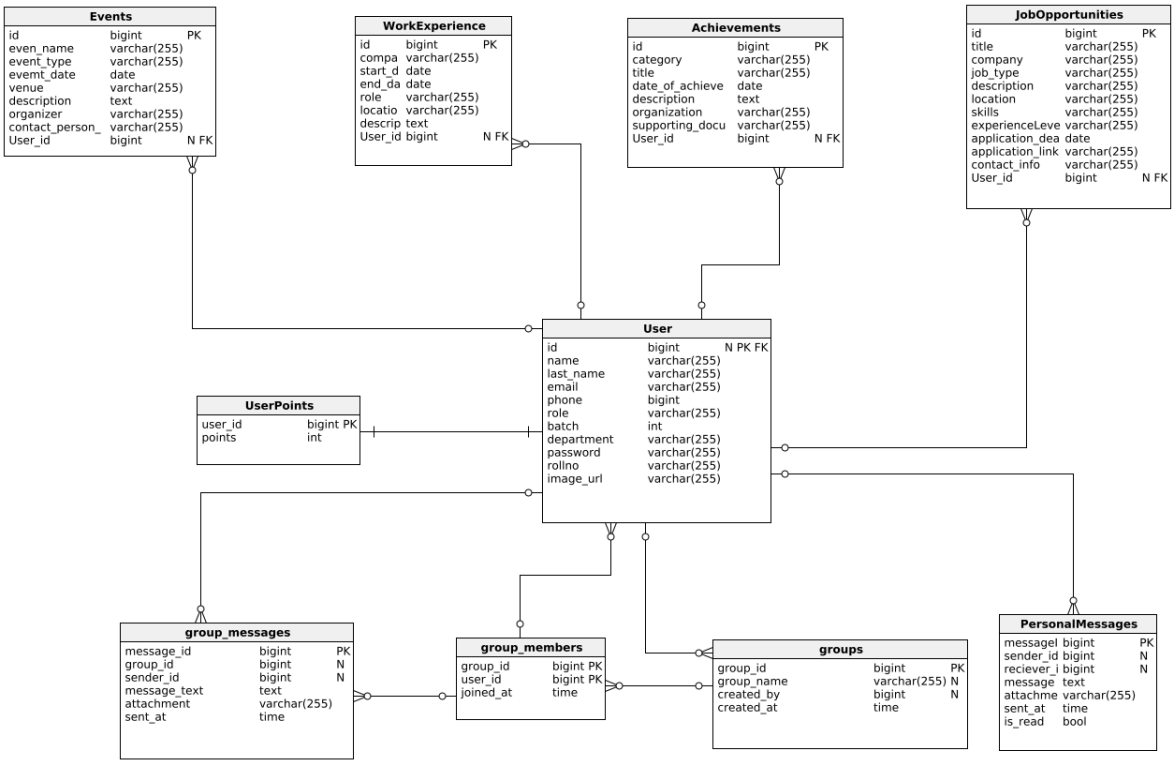
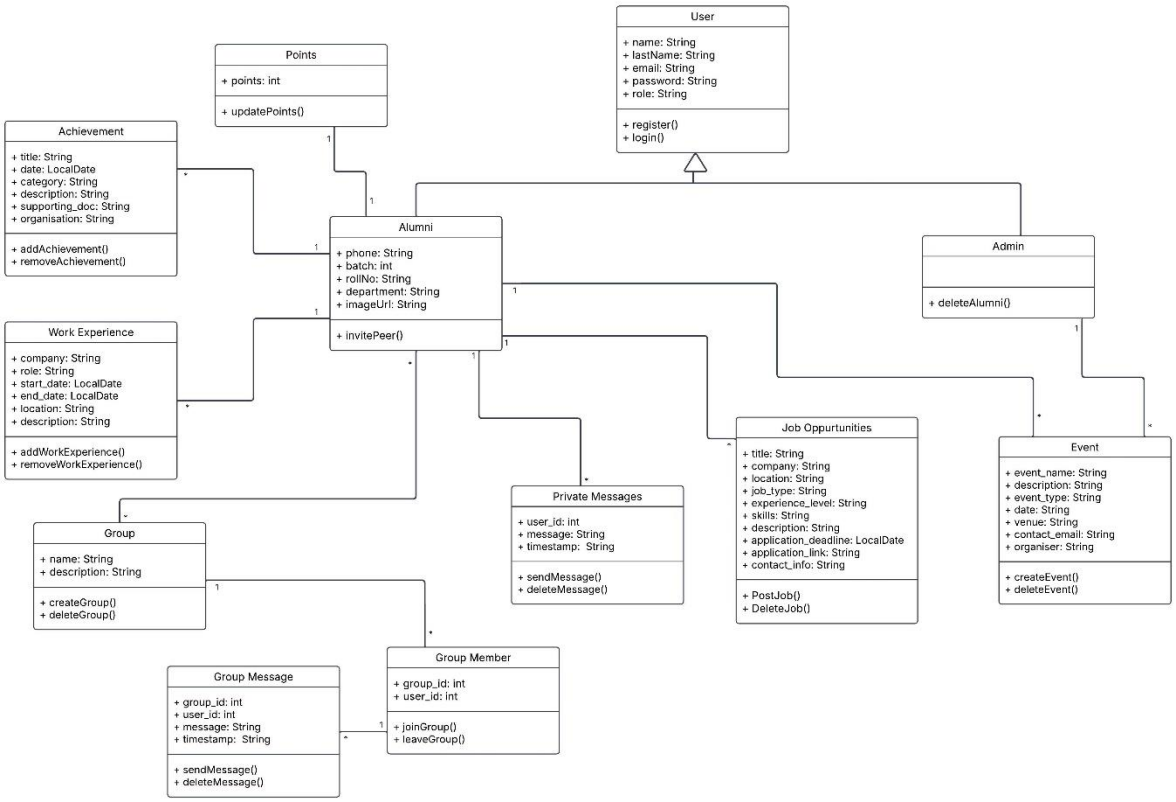
3. Usability Requirements

- The UI should be responsive and user-friendly.
- Simple and intuitive navigation for all alumni.

4. Scalability & Maintainability

- The system should allow future expansion for more features.
- Codebase should follow modular architecture for easy maintenance.
- The database used is MySQL, designed to support large volumes of alumni profiles, job postings, and messages efficiently.

Data Base Design



Class Diagram