Clubs++@IIITH: Project Proposal

Team 5

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1 Description of Use Case

1.1 Problem

The current recruitment process for clubs at IIIT Hyderabad is highly informal, primarily relying on online forms shared via platforms like WhatsApp and Discord. As a result, many interested students miss recruitment deadlines or remain unaware that hiring rounds even took place. Similarly, clubs may struggle to gauge student interest in their activities, creating a significant communication gap between them and potential members.

To address these challenges, we propose a recruitment management system that formalizes the recruitment process, ensuring students stay informed while enabling clubs to better organize their deadlines and milestones.

1.2 Target Users/Stakeholders

The primary users of this system are students at IIIT Hyderabad, particularly those looking to join clubs. Additionally, club administrators (students and faculty) responsible for recruitment activities will also benefit from improved coordination and management tools.

1.3 Domain

The project falls under the **Recruitment Management** domain, as it aims to streamline the organizational processes concerning club recruitment within our educational institution.

1.4 Impact

Implementing this system will enhance student engagement and improve recruitment efficiency. By reducing communication barriers and ensuring structured hiring processes, the platform will help clubs attract the right candidates while ensuring students never miss out on recruitment opportunities.

2 Key Functionalities

2.1 Core Features

- **Centralized Recruitment Portal**: A unified platform where clubs can list open recruitment opportunities, and students can browse and apply for them.
- **Automated Notifications**: Students can subscribe to notifications about upcoming recruitments, deadlines, and interview schedules to ensure they do not miss any important updates.
- **Application Tracking System**: Students can track the status of their applications, receive feedback, and manage interview schedules.
- **Interview Scheduling**: Clubs can set up and manage interview slots, allowing students to select available times based on predefined schedules.
- **AI-based Recommendations**: The system will recommend relevant club roles to students based on their interests, previous activities, and skill sets.
- **Referral and Endorsement System**: Existing club members can endorse applicants, increasing visibility for highly recommended candidates.

2.2 User Interaction

The system will feature a user-friendly web app (accessible on both Web and Mobile: Android/iOS), allowing students and club administrators to manage recruitment-related tasks efficiently.

2.3 Technical Highlights

We plan to use technologies such as Python (FastAPI), React Native, and PostgreSQL. AI functionalities will be implemented using machine learning libraries such as PyTorch, HuggingFace models, etc.

Disclaimer: This tech stack is subject to change based on evolving software requirements. We may decide to use a completely different tech stack if something else suits our requirements better.

2.4 Design Patterns

- **Model-View-Controller** (MVC) for structuring the application.
- **Observer** for handling real-time updates (Pub-Sub for recruitment notifications).
- **Chain of Responsibility** for processing applications and referrals.
- **Strategy** for different interview scheduling methods (e.g., batch-wise, role-wise, first-come-first-serve).

2.5 Architecture Diagram

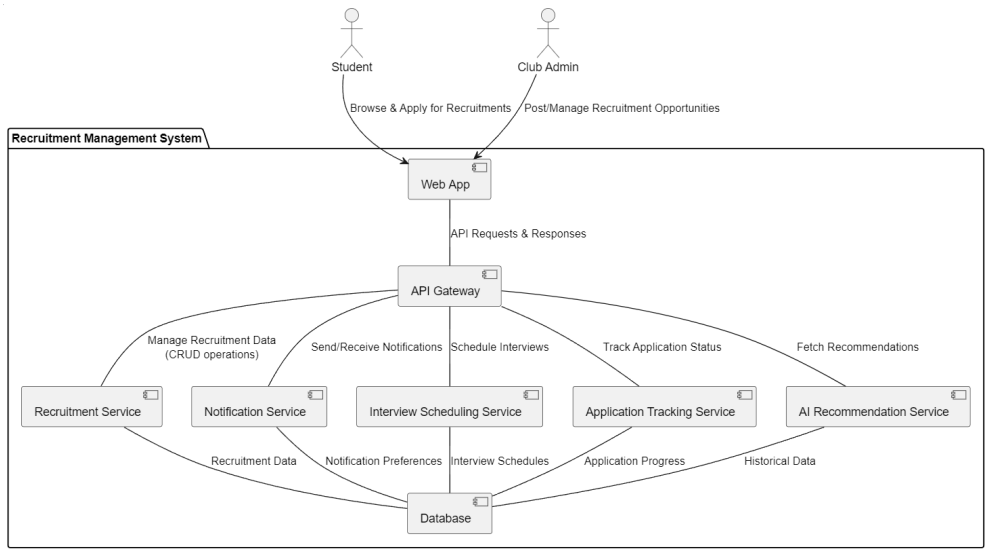

Figure 1: System Architecture Diagram

3 Tentative Timeline