**Project Name: Staff(University Social Media Platform)**

**1. Summary & Domain:**

* **Domain**: **Education**
* **Summary**: The application is a university-branded platform designed to facilitate interaction and collaboration between **faculty** and **students** in an academic social network environment. By allowing staff to showcase their academic contributions and enabling students to engage with them, the application enhances the university's reputation and creates a connected academic ecosystem. The platform supports features like staff profiles (publications, research, responsibilities), content sharing, online discussions, club and event access, and student queries via a callback feature. The platform is powered by **Spring Boot**, secured by **Spring Security**, and backed by a **MySQL** database.

**2. Key Stakeholders:**

* **University Administration**: Looking to enhance the university's brand and reputation.
* **Faculty/Staff**: Utilize the platform to share their academic work, interact with students, and participate in discussions.
* **Students**: Engage with the faculty through posts, discussions, and clubs; access information about events and academic contributions.
* **IT and Development Team**: Responsible for building, maintaining, and scaling the application.

**3. Problem Statement:**

* Universities need an effective way to highlight their academic strengths and engage students in a more interactive and collaborative manner. Traditional methods of faculty-student communication lack real-time engagement, visibility of faculty achievements, and centralized access to university clubs and events. Furthermore, there is no platform that facilitates structured academic discussions among students and faculty, resembling popular forums like Quora or Stack Overflow.
* The goal was to develop a platform where faculty can manage their academic profiles and engage students, and students can actively participate in academic and extracurricular activities. The platform had to be secure, scalable, and user-friendly while ensuring data privacy and role-based access control.

**4. Use Cases:**

* **Use Case 1: Faculty Profile Management**
  + Faculty members log in and update their profile information, including publications, research, responsibilities, and awards.
  + Students who follow a particular faculty member can view these updates.
* **Use Case 2: Student Interaction with Faculty Content**
  + Faculty members upload academic or subject-related posts. Students can like, share, and comment on these posts, which enhances student engagement with faculty contributions.
* **Use Case 3: Thread-Based Online Discussions**
  + A student asks a question about an academic subject, and the platform allows faculty and other students to answer. Responses are organized in a thread format, similar to Stack Overflow, promoting collaborative problem-solving.
* **Use Case 4: University Club and Event Access**
  + Students can browse and join various university clubs and get updates on upcoming events, helping them stay connected with campus activities.
* **Use Case 5: Request a Callback**
  + Students can submit queries via a "request a callback" form, and the administration follows up on these queries to assist students directly.
* **Use Case 6: Sorting Faculty by Designation/Campus**
  + The platform allows sorting of staff members based on their designation and campus location, making it easier for students to find and interact with the right faculty members.

**5. Your Role:**

* **Backend Developer**:
  + I was responsible for developing the **backend** of the application using **Spring Boot**.
  + I implemented **Spring Security** to handle authentication and authorization, ensuring that the right users had access to appropriate resources.
  + Designed the database structure in **MySQL**, including tables for users (staff and students), posts, comments, discussions, clubs, and events.
  + Ensured data privacy and role-based access for faculty and students.
  + Created robust and scalable services to handle user interactions, content management, and event notifications.

**6. Outcome & Results:**

* The platform was successfully deployed, providing a **centralized hub** for faculty-student interaction. It significantly improved engagement between students and staff:
  + **Faculty Engagement**: Over 90% of the university staff actively updated their profiles and contributed content
  + **Student Interaction**: There was a marked increase in student engagement, with students liking, sharing, and commenting on faculty posts, creating a collaborative academic atmosphere.
  + **Streamlined Communication**: The "request a callback" feature helped streamline communication between students and university administration, improving response time for student queries.
  + **Brand Enhancement**: The platform helped position the university as a forward-thinking, tech-savvy institution, attracting more students to participate in academic discussions and events.

**7. Learning Experience:**

* **Spring Boot and Security Mastery**: Working on this project deepened my understanding of **Spring Boot** for building scalable web applications and **Spring Security** for managing role-based access and secure authentication.
* **Database Optimization**: I gained experience in designing and optimizing **MySQL** databases to handle complex queries efficiently, especially as data grew with more staff and student interaction.
* **Building Social Features**: Developing features like **thread-based discussions**, **post interactions**, and **role-based content visibility** taught me about creating user-centric, interactive functionalities for modern web platforms.
* **Collaboration Across Teams**: Collaborating with UI/UX designers and front-end developers helped me appreciate the importance of backend-front-end synergy and clear communication for delivering seamless user experiences.

This project gave me invaluable hands-on experience in full-stack application development, particularly in building a dynamic and secure web application tailored for an educational domain.

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