

STUDENT ACTIVITY POINTS MANAGEMENT

Software Requirements Specification

GROUP - 9

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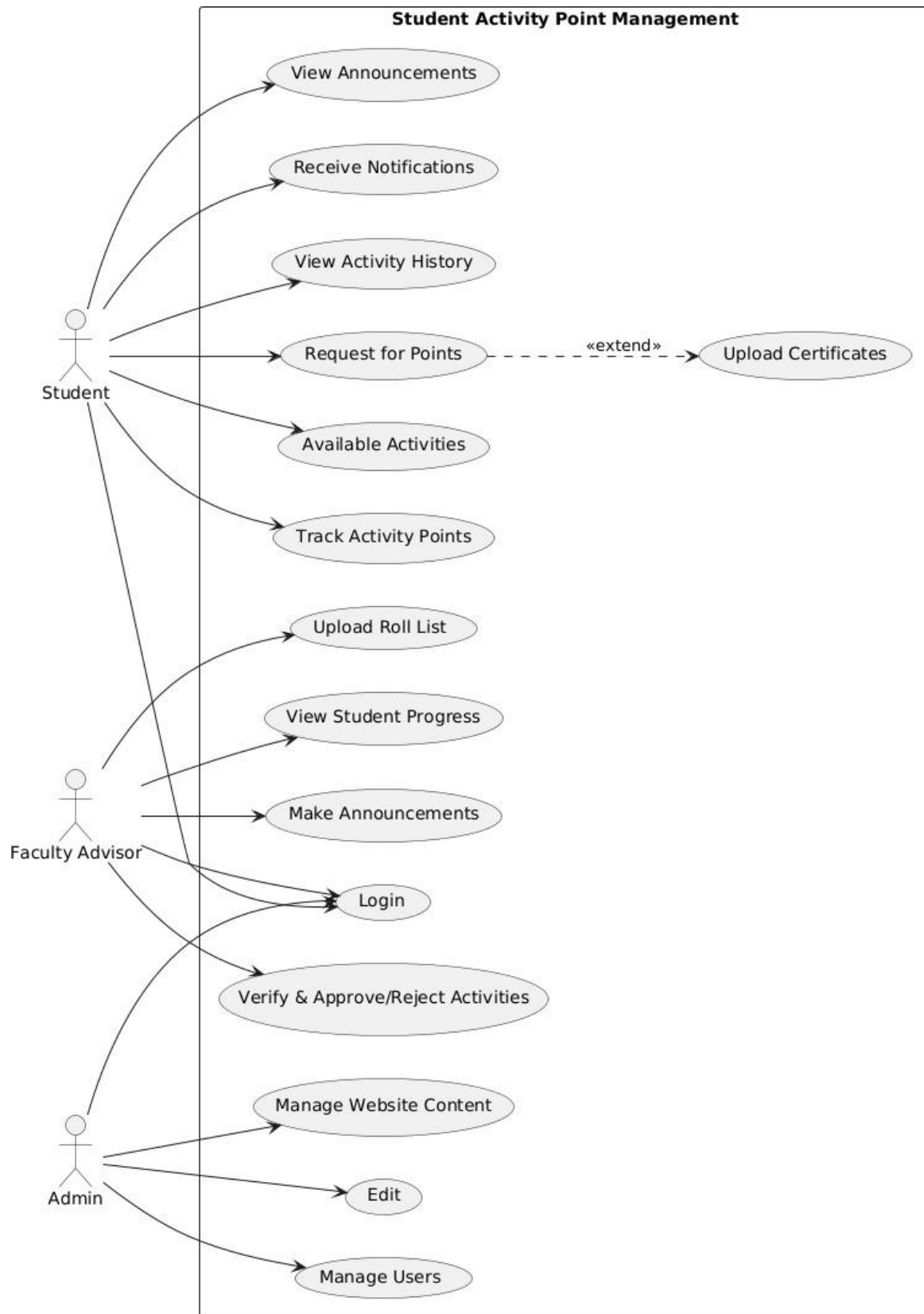
Revision History

Version	Date	Description of Changes
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CONTENTS

1. USE CASE DIAGRAM	3
2. FUNCTIONAL REQUIREMENTS	
2.1 User Requirements	4
2.2 System Requirements	5
3. NON-FUNCTIONAL REQUIREMENTS	
3.1 Performance Requirements	5
3.2 Security and Safety Requirements	5
3.3 Software Quality Attributes	5
4. DATABASE DESIGN	6
5. CLASS DIAGRAM	7

USE CASE DIAGRAM



FUNCTIONAL REQUIREMENTS

2.1 USER REQUIREMENTS

- F1: Users must have role-based access to the system.
- F2: Students and faculty advisors must be able to log in using Google Authentication.
- F3: Students should be able to request activity points by uploading certificates as proof of completed activities.
 - Students must be able to enter activity details, including name, type, date, and organizer to request activity points.
 - Duplicate activity submissions should be prevented.
- F4: The system must display a student's activity history, showing all previously submitted activities along with their status (Pending, Approved, or Rejected).
- F5: Automated notifications must be sent to students regarding approvals, rejections and new announcements.
- F6: Students should be able to view announcements posted by faculty advisors.
- F7: A list of available activities that students can participate in order to earn points must be accessible.
- F8: Faculty advisors should be able to verify, approve, or reject student activity submissions.
- F9: They must be able to track student progress, including earned points, pending activities, and history.
- F10: Faculty advisors should be allowed to publish announcements related to activities, deadlines, or updates.
 - FA must provide title and body of announcements.
 - Both FA and student can view announcements.
- F11: Automated notifications must be sent to faculty advisors regarding new activity submissions or pending approvals.
- F12: Admins must have exclusive access to manage user accounts of students and faculty advisors.
- F13: Admin must be able to add or remove students as well as faculty advisors from the database when they join or leave the institution.
- F14: The admin should have the authority to create, update, and modify platform guidelines.
- F15: The admin should be responsible for uploading and managing the roll list for faculty advisors.

2.2 SYSTEM REQUIREMENTS

- F16: A secure authentication mechanism must be in place for student, faculty, and admin logins.
- F17: Reports on student progress and activity participation should be generated by the system.
- F18: The system should validate activity submissions and allow students to upload proof in PDF format.
- F19: Student records and uploaded certificates must be stored securely in the database.
- F20: The platform must display a list of available activities that students can participate in which can be modified, added or deleted by Admins.
- F21: A categorized list of upcoming activities (mandatory or optional) should be displayed.
- F22: The system should display total activity points along with a category-wise breakdown of

each student.

F23: Student details, including Name, Roll Number, and Department, should be maintained in the system.

F24: Faculty information, such as Name, Email, and Department, must be stored securely.

NON FUNCTIONAL REQUIREMENTS

3.1 PERFORMANCE REQUIREMENTS

- The system should handle at least 50 concurrent users smoothly.
- The dashboard should load within 3-5 seconds under normal conditions. Overall, the performance of the system will be fast and accurate.

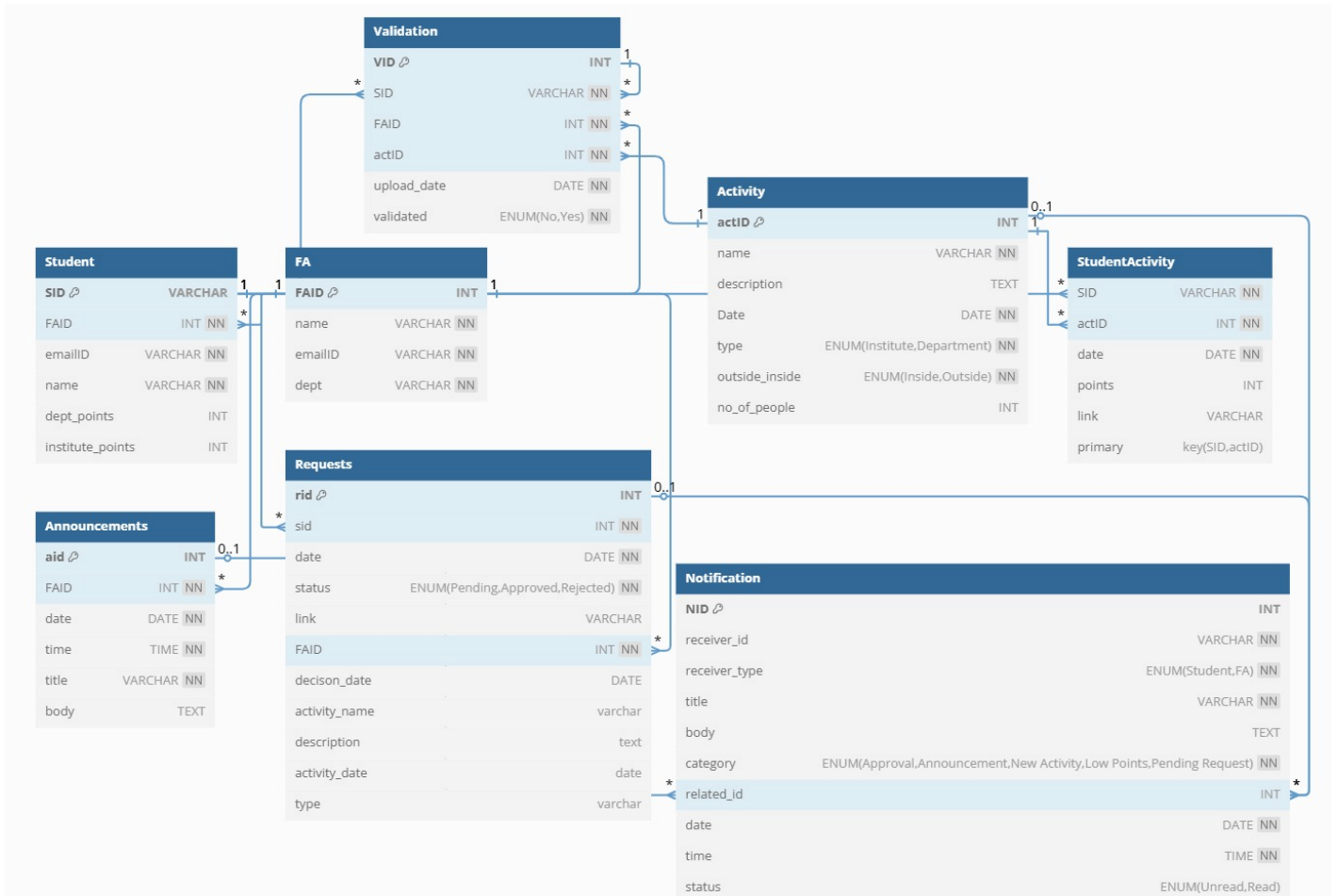
3.2 SAFETY AND SECURITY REQUIREMENTS

1. User Identity Authentication: The system should require authentication using Spring Security with unique usernames and passwords for each user, preventing unauthorized access to sensitive data.
 2. Data Privacy: Data should be accessible only to authorized users.
 3. Data Encryption: All sensitive data should be encrypted. For eg:- using BCrypt for password hashing.
- These security measures ensure that the system meets industry standards for privacy, data protection, and secure access.

3.3 SOFTWARE QUALITY ATTRIBUTES

1. Reliability
 - The system will not lag and will provide instant and accurate results to all users.
2. Adaptability
 - The system is initially designed to support up to 200 users but should allow future upgrades to accommodate growth.
3. Maintainability
 - The backend code should follow a modular architecture, with separate controllers, services, and repositories for better maintainability.
 - Proper comments and documentation should be included to facilitate future modifications and debugging.
4. Portability
 - The system can be deployed on any machine, ensuring flexibility across different environments.
5. Compliance
 - The system should adhere to basic data privacy regulations, ensuring that sensitive data is not publicly exposed.
6. Usability
 - The UI should be fully responsive, ensuring optimal usability across laptops, tablets, and mobile devices.
 - Basic help documentation should be provided to assist users in navigating the system effectively.

DATABASE DESIGN



CLASS DIAGRAM

