SWE209 Object Oriented Analysis and Design
Homework 1: University Information System

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Problem

The current university information system (SABIS) is outdated and fails to meet the evolving needs of students, faculty, and administrative staff. The system suffers from usability issues, slow performance, and lacks robust security measures. Moreover, it does not provide adequate support for modern academic and administrative workflows, leading to inefficiencies and user dissatisfaction. A new system is required to address these issues and enhance the overall experience for all stakeholders.

Objectives

1. Improve the user experience for students, faculty, and administrators.

2. Enhance the security and privacy of academic and administrative data.

3. Optimize system performance to ensure quick and reliable access to information.

Functional Requirements

1. Students should be able to register for courses online.

2. Faculty members should be able to input and update grades for students.

3. Students and faculty should have access to a personalized dashboard.

4. The system should generate and display class schedules.

5. Administrators should manage user accounts and roles.

6. Students should access their academic records and transcripts.

7. Faculty members should upload and manage course materials.

8. Notifications should be sent to users for important updates.

9. Students should view fee payment history and pending dues.

10. The system should support multilingual functionality.

Nonfunctional Requirements

1. Performance: The system should respond to user requests within 2 seconds.

2. Security: All sensitive data should be encrypted during storage and transmission.

3. Scalability: The system must support up to 10,000 simultaneous users.

4. Interface: The system should have a user-friendly and accessible interface.

5. Availability: The system should maintain 99.9% uptime annually.