**PROJECT X REQUIREMENTS**

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**PROJECT OVERVIEW**

The Automated Attendance System is designed to automate the process of student attendance tracking, reporting, and verification. It ensures secure access to the system and validates user authenticity.

**SYSTEM REQUIREMENTS**

**R1. User Roles and Access**

R1.1. The system shall support three main roles: Lecturer, Student, and Administrator.

R1.2. Only registered lecturers shall record attendance.

R1.3. Attendance shall only be recorded using authorized devices.

R1.4. Administrators shall manage lecturers, students, courses, and attendance records

**R2. Attendance Recording & Data Storage**

R2.1. Lecturers shall record attendance via registered devices (mobile, tablet, or computer).

R2.2. Attendance records are stored in a cloud-based database.

R2.3. Each attendance entry is linked to a course and includes details such as student, lecturer, date, and time.

R2.4. Attendance records shall be accessed in real-time.

**R3. Device Registration & Tracking**

R3.1. Lecturers shall register multiple devices for attendance tracking.

R3.2. The system shall track device locations for assistance.

R3.3. Only registered devices shall interact with the attendance system.

**R4. Student Enrollment & Management**

R4.1. Students shall check their attendance status.

R4.2. The system stores student details, including name, university ID, and profile picture (captured via the system).

R4.3. Administrators can add, update, and delete student records.

**R5. Reporting & Data Access**

R5.1. Available reports:

R5.1.1. Attendance reports by student, course, or date range.

R5.1.2. Student enrollment per course.

R5.1.3. Lecturer and registered device lists.

R5.2. Reports are accessible to lecturers and administrators.

**R6. Photo Capture & Storage**

R6.1. Lecturers shall capture student photos for attendance verification.

R6.2. Photos are stored securely, with IDs and names recorded in the database.

**R7. System Architecture & API Access**

R7.1. The system operates via a REST API for database interactions.

R7.2. All actions, including attendance, enrollment, and reporting, are managed through the API.

R7.3. API requests are authenticated and authorized.

**R8. Testing Criteria**

R8.1. Unit Testing: Test each function (e.g., attendance logging, student enrollment).

R8.2. System Testing: Perform end-to-end testing to ensure proper integration.

R8.3. User Acceptance Testing (UAT): Test system compliance with user requirements.