Project X - Automated Attendance System

Group Members : BOYS AT THE BACK!

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R.1 Project Overview

1.1 The systemshall develop an automated attendance system for university lecturers. 1.2 Registered devices (phones, tablets, computers) shall track student attendance.

1.3 Attendance data shall be stored on a cloud-based MySQL database via a REST API.

1.4 The systemshall support multiple lecturers, students, and courses.

R.2 Requirements

2.1 Only registered devices shall be allowed to mark attendance.

2.2 Each lecturershall be permitted to register multiple devices.

2.3 Attendance data must be stored securely on the cloud.

2.4 The systemshall generate attendance reports per student, lecturer, and course.

2.5 The systemshall allow CRUD (Create, Read, Update, Delete) operations for students, lecturers, and courses.

R.3 User Roles and Permissions

3.1 Administrator

- 1.1 Shall manage lecturers, students, courses, and attendance records.
- Shall grant and revoke access to the system.
- Shall generate system-wide reports.

2. Lecturer

- Shall register and manage their own devices.
- Shall mark student attendance using a registered device.
- Shall view attendance records for their courses.
- Shall capture and store student photos.

3. Student

- Shall check their attendance status.
- Shall update personal information if allowed.

R.4 Attendance Tracking

4.1 Attendance Marking: The lecturer must use a registered device to record student attendance.
4.2 Data Storage: Attendance records shall be stored in a cloud-based MySQL database.
4.3 Verification: The system must ensure that only registered students are marked present. **4.4 Reporting:** Attendance summaries shall be generated per student, course, and lecturer. **4.5 Automated Notifications:** Alerts must be sent for low attendance rates.
4.6 Photo Capture: The systemshall provide optional image verification of student presence.

R.5 System Architecture

5.1 Client Side: Mobile app (Android/iOS) & Web portal.
5.2 Server Side: Cloud-hosted backend with REST API.
5.3 Database: MySQL in the cloud.
5.4 Security: Authentication & authorization for access control.