**Project Brief & Problem Statement**

**Automated Student Attendance Monitoring and Analytics System for Colleges**

**Project Overview**

Project Title: Automated Student Attendance Monitoring and Analytics System for Colleges

Problem ID: SIH25016

Organization: Government of Punjab (Department of Higher Education)

Theme: Smart Education

Category: Software

**1. The Core Problem**

Manual attendance in most colleges is inefficient, prone to errors (like proxy attendance), and consumes valuable teaching time. Faculty and administrators lack easy access to attendance data and insights, which makes it difficult to identify students who are at risk or to track engagement patterns effectively. This reliance on an outdated system creates unnecessary delays and hinders the digital transformation of educational institutions.

**2. Detailed Description & Requirements**

**Why This Problem Needs to Be Solved (Impact)**

- Saves valuable teaching time that is otherwise wasted on manual roll calls.  
- Reduces errors and eliminates proxy attendance, ensuring data accuracy.  
- Provides actionable insights for faculty to identify disengaged or struggling students early on.  
- Enhances transparency and accountability in academic processes.  
- Supports the overall digital transformation of higher education institutions.

**Key Features & Expected Outcomes**

Our final solution must include the following core components:  
  
• Automated Attendance System: The system should capture attendance automatically using QR codes, biometrics, or facial recognition.  
• Cloud-Based Dashboard: An intuitive dashboard for administrators and faculty to view and manage attendance records in real-time.  
• Analytics Module: A feature to generate reports and visualize data to identify attendance trends and student engagement levels.  
• Hybrid Compatibility: The system must function seamlessly for both offline (in-person) and online classes.

**Target Users & Beneficiaries**

The primary stakeholders for this project are:  
  
• Students  
• Faculty and Academic Administrators  
• College Management Bodies  
• Education Departments and Policymakers

**3. Next Steps**

Let's schedule a meeting to brainstorm our approach, discuss the potential tech stack (e.g., frontend, backend, database, AI/ML models for facial recognition), and outline a basic project plan.  
  
Please come prepared with your initial thoughts and ideas.

Best,

Gyan Gupta