1.Problem Statement: College Operations Management System

Context: Traditional college administration relies on fragmented manual processes for employee management, attendance tracking, and payroll processing. HR teams spend excessive time on repetitive data entry, Excel-based bulk imports, manual attendance corrections, and payslip generation, leading to errors, delays in salary disbursement, and lack of auditability. This in efficiency affects employee satisfaction and administrative productivity.

The Challenge: Develop a comprehensive College Operations Management System that streamlines employee lifecycle management, attendance oversight, and automated payroll processing through a single admin interface. The solution must eliminate manual Excel handling while maintaining complete audit trails and scheduled reporting.

Key Objectives for Participants:

Employee Management: Build flexible employee onboarding with both individual entry and bulk Excel import capabilities, complete with validation, duplicate detection, and preview functionality to ensure data integrity from day one.

Attendance Management: Create an editable attendance grid supporting In-Time, Out-Time, and status modifications (Present/Absent/Late/Leave) with mandatory transaction logging that captures original → modified values, admin name, timestamp, and reason for comprehensive audit compliance.

Automated Payslip Generation: Implement intelligence to calculate Net Payable using the formula Basic Pay × (Present Days / Total Working Days) + Overtime - Absent Deductions, generating individual PDF payslips with detailed breakdowns and supporting manual overrides for exceptions.

Scheduled Distribution: Deploy automated monthly cron job (25th @ 10 AM) that compiles consolidated contractor/permanent reports and distributes via configured SMTP to HR/Finance stakeholders, eliminating manual email processes.

System-Wide Governance: Ensure role-based access (Admin-only), complete audit trails, Excel/PDF exports, configurable email notifications, and daily automated backups using modern .NET 8 stack with EPPlus (Excel), QuestPDF (payslips), Hangfire (scheduling), and Azure App Service deployment.