



CSE6224 SOFTWARE REQUIREMENT

GROUP: GROUP 1

TASK 1

PRODUCT NAME : UNICONNECT

TEAM FORMATION AND PROJECT PRELIMINARY

UNIVERSITY COMMUNICATION AND SERVICES PORTAL WITH CAMPUS MANAGEMENT SYSTEM AND SMS GATEWAY INTEGRATION

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Project Vision

The University Communication and Services Portal is a centralized digital platform designed to enhance communication and service delivery across the university. By integrating with the existing **Campus Management System (CMS)** and an **SMS Gateway**, it provides real-time access to academic and administrative information for students, lecturers, administrators, and parents. The portal ensures transparency, efficiency, and timely updates while reducing manual workflows. Its key features include personalized user dashboards, automated SMS alerts, and streamlined administrative processes, fostering better engagement and accountability.

Key Features (Point Form)

1. Centralized Digital Platform

- Single access point for students, faculty, administrators, and parents.
- Real-time updates on academic performance, attendance, schedules, and billing.

2. Campus Management System (CMS) Integration

- Displays live data on grades, attendance, fees, and course schedules.
- Customized dashboards for each user role (students, lecturers, parents, admin).

3. SMS Gateway for Instant Alerts

- Automated SMS notifications for:
 - Low attendance warnings
 - Fee payment reminders
 - Exam/assignment deadlines
 - Emergency announcements

4. Streamlined Administrative Workflows

- Lecturers: Manage attendance, submit grades, and communicate with students.
- Administrators: Track student progress, finances, and institutional reporting.

5. Enhanced Parental Engagement

- Parents receive updates on their child's academic performance and attendance.

6. Operational Efficiency & Accountability

- Reduces manual processes and paperwork.
- Improves transparency and communication across all stakeholders.

Vision

The portal aims to create a **connected digital ecosystem** that strengthens academic accountability, operational efficiency, and stakeholder engagement. By leveraging real-time data and automated communication, the university ensures a seamless experience for students, staff, and parents, fostering a more responsive and transparent academic environment.

Scope

The software product to be developed is the University Communication and Services Portal (UCSP), which will integrate with the existing Campus Management System (CMS) and an SMS Gateway Service.

The University Communication and Services Portal will provide a centralized digital platform for facilitating real-time, transparent communication and seamless access to academic and administrative services. The portal will retrieve essential student-related data—such as academic performance, attendance, class schedules, and billing details—from the existing CMS and present it through an intuitive, role-based user interface. In addition, the system will send automated SMS notifications to students and parents to alert them about critical updates like low attendance, upcoming fee payment deadlines, and academic performance summaries.

The UCSP will serve students, lecturers, university administrators, and parents by improving information flow, enhancing engagement, and increasing accountability. The system aims to reduce communication delays, minimize manual data handling, and ensure that all stakeholders are well-informed. Key benefits include improved academic monitoring, enhanced parent involvement, streamlined administrative processes, and quicker response to academic or financial issues.

This software scope aligns with institutional goals of promoting digital transformation in academic service delivery and is consistent with higher-level requirements to modernize campus communication, improve operational efficiency, and ensure proactive stakeholder engagement through timely data access and alerts.

In-Scope

1. Centralized Digital Platform

- **Purpose:** A single portal for students, lecturers and admins to access academic/administrative services.
- **Features:**
 - Unified login with role-based access (student, lecturer, admin).
 - Mobile-friendly design for cross-device accessibility.

2. Integration with Campus Management System

- **Data Sync:** Pulls and displays real-time data from existing systems
- **Key Integrations:**

- Student academic performance (GPA, course progress).
- Class attendance records (QR-code scanning, excuses).
- Billing details (payment history, due fees).

3. SMS Gateway for Notifications

- **Alerts Sent via SMS:**
 - Low attendance warnings (<80%) to parents/students.
 - Fee payment reminders.
 - Grade updates (e.g., MUET results).

4. Attendance Management

- **QR-Code Scanning:** Students scan attendance via QR codes in class.
- **Excuse Workflow:** Students submit absence requests → Lecturers/admins approve/reject.
- **Parent Alerts:** Automated SMS if attendance drops below threshold.

5. Academic Performance Tracking

- **Automated GPA Calculator:** Updates dynamically with new grades.
- **Course Completion Tracker:** Visual progress bar showing completed/pending courses.
- **Teaching Feedback:** Students evaluate lecturers qualitatively.

6. Billing & Payments

- **Records:** Downloadable receipts + full payment history.
- **Reminders:** SMS for overdue fees.

7. Role-Based Dashboards

- **Students:** View grades, attendance, billing, club registrations.
- **Lecturers:** Input grades, manage attendance, read feedback.
- **Admins:** Oversee notifications, fees, and system settings.
- **Parents:** Receive SMS notification about low attendance and urgent notification.

8. Document Management

- **Upload/Download Hub:**
 - Academic calendars.
 - Fee structures.
 - Grade reports.
- **Announcements:** Admins broadcast university-wide updates.

9. MUET & Club Services

- **MUET:** Register for exams + view results on the portal.
- **Clubs:** Students join/unregister from extracurricular activities.

Goals

The University Communication and Services Portal aims to create a unified digital platform that enhances communication and service delivery across the university community. By integrating with the existing Campus Management System and SMS Gateway, the portal will provide students with instant access to their academic records, attendance data, and billing information, while enabling lecturers to efficiently manage classes and submit grades. Administrators will benefit from streamlined workflows and better oversight capabilities, while parents receive real-time SMS alerts about their child's academic progress and important deadlines. The system's key objectives are to eliminate information delays, reduce administrative burdens, and foster transparency by centralizing services and automating notifications. Ultimately, this digital solution seeks to modernize university operations, improve stakeholder engagement, and create a more connected academic environment through timely, accurate, and accessible information sharing. The portal represents a strategic step in the university's digital transformation, replacing manual processes with an efficient, user-friendly platform that serves all community members effectively.

1. Centralized Platform for All Users

- **Purpose:** Create a single, easy-to-use portal for students, lecturers, admins, and parents.
- **Benefits:**
 - **Students:** Check grades, attendance, and fees in one place.
 - **Lecturers:** Manage class attendance and submit grades faster.
 - **Admins:** Oversee operations and communication more efficiently.
 - **Parents:** SMS

2. Seamless Integration with Existing Systems

- **How:** Connects to the university's current **Campus Management System** without changing how it works.
- **Benefits:**
 - Automatically pulls data (grades, attendance, fees) for display.
 - No duplicate data entry—saves time and reduces errors.

3. Instant SMS Notifications

- **What Alerts Are Sent:**

- Low attendance warnings.
- Fee payment reminders.
- Academic updates (e.g., exam results).
- **Who Gets Them:** Students and parents (even if they don't check the portal often).
- **Why:** Faster communication = quicker action (e.g., improving attendance).

4. Better Communication & Transparency

- **For Students/Lecturers:** No more delays in sharing grades or attendance records.
- **For Parents:** Stay informed without waiting for meetings or letters.
- **For Admins:** Fewer manual tasks

5. Digital Transformation

- **Replaces:** Paper-based processes and in-person requests.
- **Improves:** Speed, accuracy, and accessibility of information.

Projected Final Outcome of UniConnect:

A modern system that:

- Saves time.
- Reduces errors.
- Keeps everyone updated in real time.
- Makes university life smoother for all.

Video recording of our discussion:

https://drive.google.com/drive/folders/1vNTxE-Y72zqPrHCV2kBxfjL44-j_dZEq?usp=sharing