1. **PROJECT TITLE**

**Centralized Departmental Management Web Application for NACOSMAPOLY**

**Project Team**

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**2.0 OBJECTIVE OF THE PROJECT**

The primary objective of this project is to develop a centralized, web-based management system to streamline administrative operations within the NACOSMAPOLY Computer Science department. Specific objectives include:

1. To design a secure, multi-user web application for managing departmental operations.
2. To implement features for announcements, departmental payment, voting, event scheduling, and record keeping.
3. To introduce role-based access for executives, administrators, and students.
4. To enhance communication and transparency within the department.
5. To automate and digitize manual administrative tasks.

**3.0 NOVELTY IN NACOSMAPOLY**

This project introduces the first centralized system tailored specifically for student departmental governance in MAPOLY’s Computer Science department. Novel aspects include:

1. A role-based access system that differentiates between student users and multiple executive roles (President, Secretary, PRO, etc.).
2. Executive duty logging and meeting management to promote transparency.
3. Unified access to announcements, departmental files, and scheduled events—all in one platform.
4. A feedback and suggestion module for bottom-up communication.
5. Scalability for use by other departments or institutions in future.

**4.0 PROBLEM STATEMENT**

The NACOSMAPOLY department currently operates using disjointed tools such as chat apps, paper-based payment records, and Manuel voting system. These methods are:

1. Inefficient and time-consuming
2. Prone to data loss or mismanagement
3. Lacking transparency and accountability
4. Unable to track departmental history or executive performance

There is no centralized system where students and executives can interact efficiently, retrieve resources, or manage departmental operations seamlessly. This project addresses that gap by delivering a centralized, secure, and accessible web-based solution.

**5.0 LITERATURE REVIEW**

In recent years, web-based systems have become essential tools for enhancing communication, efficiency, and transparency in educational environments. Various studies and system implementations have explored how digital platforms can optimize academic and administrative processes. However, few have addressed the unique needs of student-led departmental governance, such as that of NACOSMAPOLY.

1. ICT Integration in Tertiary Institutions:

Adeyemi et al. (2021) emphasized that the integration of ICT tools in Nigerian tertiary institutions has significantly improved the quality and speed of communication between staff and students. However, the study noted a gap in ICT applications tailored specifically to student association management. Most systems focus on full institutional needs rather than departmental or student-body concerns.

1. Educational Portals and Learning Management Systems (LMS)

Platforms like Moodle and Blackboard are primarily designed for course content delivery, student assessments, and instructor-student communication. While these systems are robust, they do not cater to student-led bodies or departmental-level operations, such as executive file sharing, event coordination, or feedback mechanisms (Femi et al., 2020).

1. Departmental Portals in Higher Institutions

The system allowed students to view announcements, take attendance, vote, course lists. However, it lacked functionalities for executive task management, student feedback, or multi-role access, which are crucial for effective student governance at the departmental level.

1. Executive and Student Communication Tools

Tools like WhatsApp and Google Drive are commonly used informally by student executives to share files, coordinate meetings, and send announcements. However, these tools lack integration, data persistence, audit logging, and departmental context. This creates inefficiencies and makes it difficult to maintain institutional memory, especially during handovers between executive sessions.

**5.0 METHODOLOGY**

The project will follow the Agile Software Development Lifecycle (SDLC), broken into key phases:

**Requirement Gathering**

* Interviews with NACOS executives and students
* Identification of core features and pain points

**System Design**

* Database design (ERD)
* UI/UX mockups using Figma or Adobe XD
* Use-case and flow diagrams

I**mplementation**

* Frontend: HTML, CSS, JavaScript
* Backend: PHP
* Database: MySQL
* Authentication: Role-based login system

**Testing**

* Unit testing for components
* Integration testing across modules
* User testing and feedback collection

**Deployment**

* Hosted on live server
* Documentation and user manual

**5.1 BREAKDOWN STRTUCTURE OF THE PROJECT**

This project will cover the following modules:

**5.1.1 NACOS WEBSITE MODULES**

Administration Modules:

* Admin Login Form
* Admin Dashboard

1. Dashboard – To view statistic module count
2. Staff – To add new staff i.e. Lecturer, View all staffs and update a staff profile
3. Executives – To ass new executives, view all executives and update a executive profile
4. Event – To add new event, view all events and update a event
5. Gallery – To add new gallery, view all galleries and update a gallery
6. Blog – To add new blog, view all blogs and update a blog
7. FAQ’s (Frequently Asked Questions) – Add new FAQ, view all FAQ’s and update a FAQ
8. Testimony – Add new testimony, view all testimony and update a testimony
9. Settings – Update settings, password, academics calendar

**5.1.2 NACOS EXCO PORTAL MODULES**

Administration Modules:

* Admin Login Form
* Admin Dashboard

1. Dashboard – View all statistics count
2. Bursary – Add new payment, view all students transactions, Add new wallet, and view all wallet
3. Students – Add new student, view all students, and update a student.
4. Executives – Add new executive, view all executives, and update a executive
5. Voting – Add executives aspirant, view all aspirant, and update aspirant
6. Settings – Update settings, password, academics calendar, voting date

**5.1.3 NACOS STUDENT PORTAL MODULES**

* Student Registration Form
* Student Login Form

1. Email or Matric Number – Provide registered email or matric number to login
2. Password

* Student Forgot Password
* Student Dashboard

1. Dashboard – To view their profile and payment details
2. Project – Able to view their project supervisor and update their seminar and project info
3. Attendance – Student enrollment from admin, clock in attendance.
4. Time Table – View department academics time table.
5. GP Calculator – Student able to calculate their GP for all courses.
6. Bursary – Pay for department due, and view all transactions by session.

CBT – Students are eligible to take CBT test for department mid test after departmental payment is successful by the student.

1. Voting – Eligible to vote after departmental payment is successful by the student.
2. Settings – Update Profile, and updated new password.

**5.1.4 NACOS STUDENT ATTENDANCE SYSTEM PORTAL**

* Adminstrative Login

1. Admin and Lecturer Login Form
2. Forgot Password Form

* Adminstrative Dashboard

1. Dashboard - View all statistics modules count
2. Courses – Add new course, view all courses, update course, and assign course for lecturer
3. Staff (Lecturer) – Add new staff, view all staff, and update a staff
4. Student – Add new student
5. Class – Add new class, view all classes, and update a class
6. Attendance – Set a new attendance, view all student attendance, and update attendance
7. Setting – Update Academics calendar, and update new password

**Presentation Layer (Frontend)**

User Interface (Web App)

User Login (Student, Executives, lecturers)

Programming Language

(HTML, CSS & JAVASCRIPT)

**Application Layer (Backend)**

Data Processing & Analytics Module

Role-based access control

Programming Language

(PHP)

API Gateway

API endpoints for frontend communication

**Data Layer (Database & External Services)**

Store student, lecturer, attendance record, events, and more

Database (MySQL)

Relational Database

**5.1.5 EXPECTED OUTCOME**

1. At the end of the project, the system should:
2. Improve communication and data management within the NACOS department
3. Provide centralized access to announcements, files, and events
4. Increase transparency and organization in departmental operations
5. Be easy to use, secure, and scalable