**Campus Portal**

**Project Proposal**



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# Chapter 1

# Proposal Synopsis

## 1.1 Abstract

This project proposes the development of a Campus Portal for UET New Campus, integrating data management for staff, faculty, and students. Focused on Information Technology and Education Management, the portal aims to automate tasks like leave applications, time table creation, transportation tracking, surveys, date sheet availability, library management, resource sharing, event planning, and alumni engagement. By centralizing these processes into a user-friendly interface, the project seeks to enhance administrative efficiency, data accuracy, and overall productivity within the university ecosystem.

## 1.2 Introduction

The Campus Portal project represents a major step forward in the ongoing efforts to modernize and streamline administrative processes within our institution. The need for such a project became evident due to the challenges posed by manual data management for our staff, faculty, and students. These challenges included issues with data accuracy, time-consuming processes, and the lack of a centralized system for information access. Recognizing these hurdles, we embarked on the development of a comprehensive and integrated system that aims to revolutionize how administrative tasks are handled across the university, ultimately fostering a more efficient and user-friendly environment.

The Campus Portal is a comprehensive web application designed to manage all data at the campus level while automating essential processes to reduce manual effort, minimize errors, and improve operational efficiency. By providing various portals for online operations, the system serves three main categories of users: faculty, staff, and students. This multifaceted approach ensures that the specific needs of each user group are met with tailored functionalities and interfaces, enhancing their overall experience and productivity.

For faculty members, the portal consolidates a wide range of information, including personal details, research information, publication records, leave management, and workload management. Higher authorities are granted access to these details based on their respective access levels, enabling informed decision-making and oversight. Similarly, staff data is managed comprehensively, encompassing personal details, work-related information, and leave records, thereby streamlining administrative tasks and improving record-keeping accuracy. Students benefit from a similar approach, with their personal data and leave information meticulously handled to support their academic journey.

The integration of business intelligence tools further enhances the portal's capabilities, allowing for the analysis of data to provide actionable insights that support decision-making and policy development. Higher authorities can effortlessly access collective data for students, staff, and faculty, with the ability to view information by department, campus, or individual members. This level of accessibility and granularity ensures that the administration can make well-informed decisions based on real-time data.

In addition to data management, the system includes portals for managing leaves, creating timetables, coordinating transport, conducting online surveys, uploading datesheets, sharing resources, planning events, and automating library processes. These features work in concert to create a cohesive and efficient operational framework. To streamline access and enhance security, the system employs a single sign-on (SSO) method, allowing users to access all portals with a single set of credentials. This ensures a seamless and efficient experience for all users, further solidifying the Campus Portal as a pivotal tool in the institution's modernization efforts.

## 1.3 Problem Statement

The manual data management system at UET New Campus for staff, faculty, and students is inefficient and error-prone, leading to operational challenges, increased workload, and data discrepancies. The absence of an integrated system for leave management, timetable creation, transportation tracking, surveys, date sheet availability, library management, resource sharing, event planning, alumni engagement, and business intelligence creates a significant gap between the current state of administrative operations and the desired streamlined, automated processes. This lack of automation hinders productivity, data accuracy, and user experience, highlighting the urgent need for a Campus Portal to address these issues and improve overall administrative efficiency at the university.

## 1.4 Objectives

The main objectives of our campus portal are:

1. To consolidate all data related to faculty, staff, and students at the campus level, ensuring that personal, research, publication, leave, and workload details are systematically managed and accessible.
2. To provide higher authorities with easy access to comprehensive data, enabling them to view information department-wise, campus-wise, or at an individual level.
3. To enhance user convenience and security through a single sign-on (SSO) system, allowing users to access all portals with a single set of credentials.
4. To maintain accurate and secure records of personal, academic, and administrative information for faculty, staff, and students.
5. To optimize the management and sharing of resources within the campus, ensuring efficient utilization and accessibility.
6. To Improve productivity and data accuracy by eliminating manual processes.
7. To Enhance user experience for staff, faculty, and students.
8. To provide upper management with comprehensive, accurate, and real-time data, enabling them to make informed and timely decisions that enhance the overall functioning of the campus.
9. To enhance and streamline various workflows within the campus, making administrative, academic, and operational processes more efficient and effective.
10. To leverage business intelligence tools to analyze and interpret campus data, providing actionable insights that support strategic planning, resource allocation, and performance improvement across all campus operations.

## 1.5 Features of the system

Campus portal is a web based application that possesses the following features :

* **Leave Management:** Student, faculty and staff can apply for leave from their homes and will be notified about the status of the leave application.
* **Time Table Creation:** Time table can be created online in order to avoid time waste.
* **Transportation:** Everyone can view the transportation details from the portal and can track the buses location as well.
* **Surveys:** Instead of filling the surveys manually, this portal will be managing surveys online where student can fill their surveys.
* **Date Sheets:** With this campus portal project, date sheets can be created and can be viewed and download as well.
* **Library Automation:** Library will be automated in such a way that you can book any article,book from the library and it will also be checked that which student has taken how many books from the library.
* **Peer to Peer Marketplace:** Campus portal will allow you to share the resources such as Labs. If anyone wants to book that lab then portal will provide the opportunity for it.
* **Event Planning:** You can plan and announce an event with the help of this portal.
* **Single Sign On:** The portal will allow the students to securely authenticate multiple applications by just one login within the campus portal.
* **Alumni Portal:** Alumni data will be managed separately in the campus portal.
* **Faculty Management**: The portal will manage faculty personal details, research information, publication records, leave management, and workload management. Faculty can update their profiles and track their academic contributions.
* **Staff Management**: The portal will handle staff personal details, work-related information, leave records, and roles based on their job descriptions. Staff can update their profiles and view their responsibilities and performance evaluations.

## 1.6 Related Work

We are building Campus Portal for our university.There is no such portal exist for our campus that can manage leaves of the students,staff and faculty.Neither any system is available for resource sharing,event planning and additionally library automation feature is not available within our campus.

Here is the table of Campus Portal of other universities and the list of weakness within their system which will be managed in our Campus Portal.

Table 1.1 Related System Analysis

|  |  |  |
| --- | --- | --- |
| **Related System** | **Weakness** | **Proposed Project Solution** |
| NUML CMS [[1]](#_References) | Not managing Leaves  No option for resource sharing | Adding the Leave management functionality to enhance the effectiveness of the system and the resource sharing availability to book available resources. |
| UIT University [[2]](#_References) | Not any kind of information about transport , No feature of leave management and not any facility of resource sharing | The system should contain the feature for transport where all of university users can see the details  It should also add the Leave management functionality to enhance the effectiveness of the system and the resource sharing availability to book available resources. |
| Habib University [[3]](#_References) | No information about transport,  No leave management feature,  and no resource sharing facility. | Enhancing the system by incorporating leave management functionality and enabling resource sharing for booking available resources. |
| CPMC Portal [[4]](#_References) | Not any kind of information about transport , No feature of leave management and not any facility of resource sharing | The system should contain the feature for transport where all of university users can see the details  It should also add the Leave management functionality to enhance the effectiveness of the system and the resource sharing availability to book available resources. |
| Harvard University | Focuses mainly on secure login and lacks many admin features like leave management and event planning. | Includes many admin tools like leave management, event planning, and resource booking. |
| ISIS(Oxford) | Missing modern features like real-time updates and mobile access. | Provides real-time updates and a mobile-friendly interface. |
| London School of Economics and Political Science | Still uses manual surveys and has limited automation for sharing resources and tracking transportation. | Automates surveys, resource sharing, and bus tracking. |

## 1.7 Proposed Methodology/System

A **"portal"** is a gateway or entrance, often used in computing to describe a website or platform that provides centralized access to various resources and services.

A **"campus portal"** is a type of portal designed for educational institutions, offering students, teachers, administrators, and sometimes parents access to academic information, administrative services, and campus-related resources in one place.

The methodology that we are going to use in developing our campus portal is Agile methodology.

#### 1. Product Backlog Creation:

* **Identify Features:** Collaborate with stakeholders to identify key features such as faculty, staff, and student portals, single sign-on integration, leave management, timetables, transport coordination, surveys, resource sharing, event planning, and library automation.
* **Prioritize Backlog:** Prioritize features based on their importance and value to users, ensuring higher priority features address critical pain points and deliver significant value early in the development process.

#### 2. Sprint Planning:

* **Define Sprint Goals:** Clearly define the goal for each sprint, focusing on implementing specific features or addressing certain user stories.
* **Select User Stories:** Choose user stories from the product backlog that align with the sprint goal, breaking them down into manageable tasks.
* **Estimate Tasks:** Estimate the effort required for each task using techniques like story points or time-based estimates.

#### 3. Sprint Execution:

* **Daily Stand-ups:** Conduct daily stand-up meetings to discuss progress, obstacles, and plans for the day, ensuring effective communication and collaboration within the development team.
* **Implement Features:** Develop and implement selected features and functionalities according to the sprint plan, maintaining continuous integration and testing to ensure code quality.
* **Collaborate with Stakeholders:** Regularly engage with stakeholders to gather feedback on the evolving product and make adjustments as needed.

#### 4. Sprint Review:

* **Demonstrate Increment:** At the end of each sprint, demonstrate completed features and functionalities to stakeholders, gathering feedback and validating whether sprint goals were met.
* **Review and Adapt:** Reflect on the sprint process and outcomes, identifying areas for improvement and refining future sprint plans based on insights gained from the sprint review.

#### 5. Sprint Retrospective:

* **Reflect on Process:** Hold retrospective meetings with the development team to reflect on the sprint process, team dynamics, and areas for improvement.
* **Identify Improvements:** Discuss what worked well, what didn't, and actionable items for improvement, fostering collaboration and continuous improvement within the team.

#### 6. Incremental Delivery and Iteration:

* **Deliver Incrementally:** Continuously deliver increments of the Campus Portal with each sprint, prioritizing high-value features to deliver early and often.
* **Iterate Based on Feedback:** Gather feedback from users and stakeholders after each increment, using it to iterate on existing features, refine user experiences, and incorporate new requirements.

#### 7. Continuous Integration and Deployment:

* **Automate Build and Deployment:** Implement continuous integration and deployment pipelines to automate build, testing, and deployment processes, ensuring efficient and reliable delivery of updates.
* **Ensure Quality Assurance:** Conduct thorough testing during development to ensure the stability, security, and usability of the Campus Portal, maintaining high quality throughout the development process.

#### 8. Stakeholder Collaboration and Transparency:

* **Regular Communication:** Maintain open communication channels with stakeholders throughout the project, providing regular updates, sprint reviews, and access to project management tools to ensure transparency and alignment with stakeholder expectations.

## 1.8 Tools and Technologies

Table 1.2 Tools and Technologies

|  |  |
| --- | --- |
| **Tools and Techniques** | **Purpose** |
| Figma | UI/UX |
| React.js | Front-End Development |
| Express.js/Node.js/PHP | Back-End Development |
| Relational Database | Database |
| Latex/WPS Office | Documentation |

## 

## 1.9 Team Members Individual Tasks/Work Division

Table 1.3 Work Division

|  |  |
| --- | --- |
| **Team Members Name** | **Tasks** |
| Areeba Amjad | Front-End, Back-End , Database |
| M.Saad Amjad | Front-End, Back-End , Database |
| Samiha Shahzad | Front-End, Back-End , Database |

## 1.10 Data Gathering Approach

· **Stakeholder Interviews:**

Conduct interviews with faculty, staff, students, and higher authorities to gather insights into their current challenges, requirements, and expectations regarding administrative processes and the Campus Portal. Explore their pain points, preferences, and suggestions for improving data management and streamlining administrative tasks.

· **Surveys and Questionnaires:**

Distribute surveys or questionnaires to a wider audience, including faculty, staff, and students, to gather quantitative data on their experiences, preferences, and needs related to administrative processes. Include questions about the effectiveness of existing data management systems, areas for improvement, and desired features and functionalities of the Campus Portal.

· **Focus Groups:**

Organize focus group discussions with representatives from different user groups, such as faculty members, administrative staff, and students, to facilitate in-depth conversations and idea generation. Encourage participants to share their experiences, challenges, and suggestions for enhancing data management and administrative processes through the Campus Portal.

· **Observational Studies:**

Conduct observational studies to observe how faculty, staff, and students currently interact with existing data management systems and perform administrative tasks. Identify pain points, inefficiencies, and areas for improvement by observing workflows, system usage patterns, and user behaviors in real-world settings.

· **Document Analysis:**

Review existing documents, reports, and records related to administrative processes, data management practices, and system requirements within the institution. Analyze documents such as policy documents, procedural manuals, and system specifications to gain insights into current practices and identify gaps or areas for improvement.

· **Prototype Testing:**

Develop prototypes or mockups of the Campus Portal's user interface and functionalities, and conduct usability testing sessions with representative users, including faculty, staff, and students. Gather feedback on the prototype's usability, functionality, and user experience to identify usability issues, preferences, and requirements for the final design.

· **Workshops and Brainstorming Sessions:**

Facilitate workshops or brainstorming sessions with key stakeholders, including faculty, staff, students, and higher authorities, to generate ideas, discuss requirements, and prioritize features and functionalities of the Campus Portal. Use interactive techniques such as ideation exercises, affinity mapping, and prioritization activities to foster collaboration and consensus-building among participants.

## 1.11 Timeline/Gantt Chart

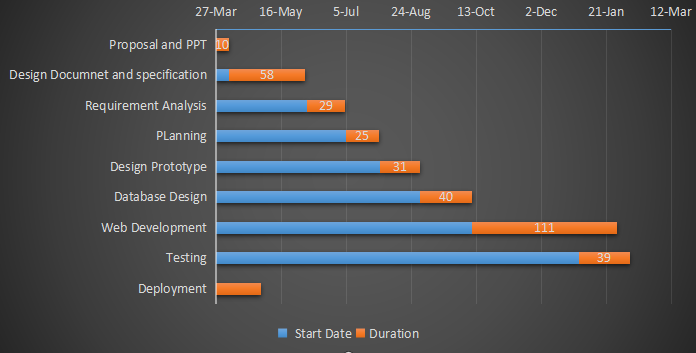


Figure 1.1 Sample Gantt chart

# References

[[1]](#_1.6_Related_Work) NUML CMS: CMS, N. (May 29, 2000). Government of Pakistan. National University of Modern Language May 18,2024 https://numl.edu.pk/main/cms

[[2]](#_1.6_Related_Work) CPMC Portal: Health and Education Foundation. (2009). Central Park Medical College, May 18,2024 https://www.cpmc.edu.pk/cpmc-portal/

[[3]](#_1.6_Related_Work) Habib University: House of Habib. (2014). Habib University-Educating Tomorrow's Leaders, May 18,2024 https://habib.edu.pk/

[[4]](#_1.6_Related_Work) UIT University: Sindh, U. U. (May 28, 2018). UIT. University-Usman Memorial Foundation, May 18,2024 https://uitu.edu.pk/