

MADAN BHANDARI MEMORIAL COLLEGE

Department of Computer Science and Information Technology

Binayak Nagar, Kathmandu



Lab Report

Software Project Management

Practical exam 2080



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1. Introduction

Project management is the process of planning, organising, and managing resources to achieve specific goals within a defined timeframe. It involves the application of knowledge, skills, tools, and techniques to meet the requirements of a project. In today's fast-paced business environment, effective project management is essential to the success of any project.

One such project that requires effective project management is the development of a College Management System. A College Management System is a comprehensive software application that automates the administrative tasks of a college. It includes functionalities such as admission management, attendance management, student information management, exam scheduling, result management, fee management, and more. The system helps streamline a college's administrative tasks, making them more efficient, accurate, and time-saving.

Developing a College Management System is a complex project that requires careful planning, coordination, and management. This document will discuss the project management plan for developing a College Management System, including the scope, work breakdown structure, Gantt chart, risk management plan, resource management plan, people management plan, and manual documentation for the client. Effective project management will be critical to the success of this project, and we will explore the various tools and techniques that can be used to manage the project efficiently and effectively.

2. Scope

The scope of a project defines what the project aims to achieve and identifies the boundaries of the project. It outlines the goals, objectives, and deliverables of the project, as well as the resources required to achieve them. In the case of developing a College Management System, the scope would include the following:

Functionalities:

The College Management System aims to automate various administrative tasks of the college. These tasks include admission management, attendance management, student information management, exam scheduling, result management, fees management, and more. The system should provide a user-friendly interface for staff, faculty, and students to access and manage their respective tasks.

User Roles:

The system should support multiple user roles, such as administrator, staff, faculty, and students. Each role will have access to specific functionalities, and the system should ensure that user data is secure and protected.

Integration:

The system should integrate with other existing systems, such as the college's database, student information system, or learning management system. The integration will ensure that data is consistent and up-to-date across all systems.

Customization:

The system should allow customization to meet the specific needs of the college. Customization may include adding new functionalities, modifying existing functionalities, or changing the system's interface.

Reports:

The system should generate reports on various aspects of college management, such as attendance, exam results, fees, and more. Reports should be easily accessible and customizable.

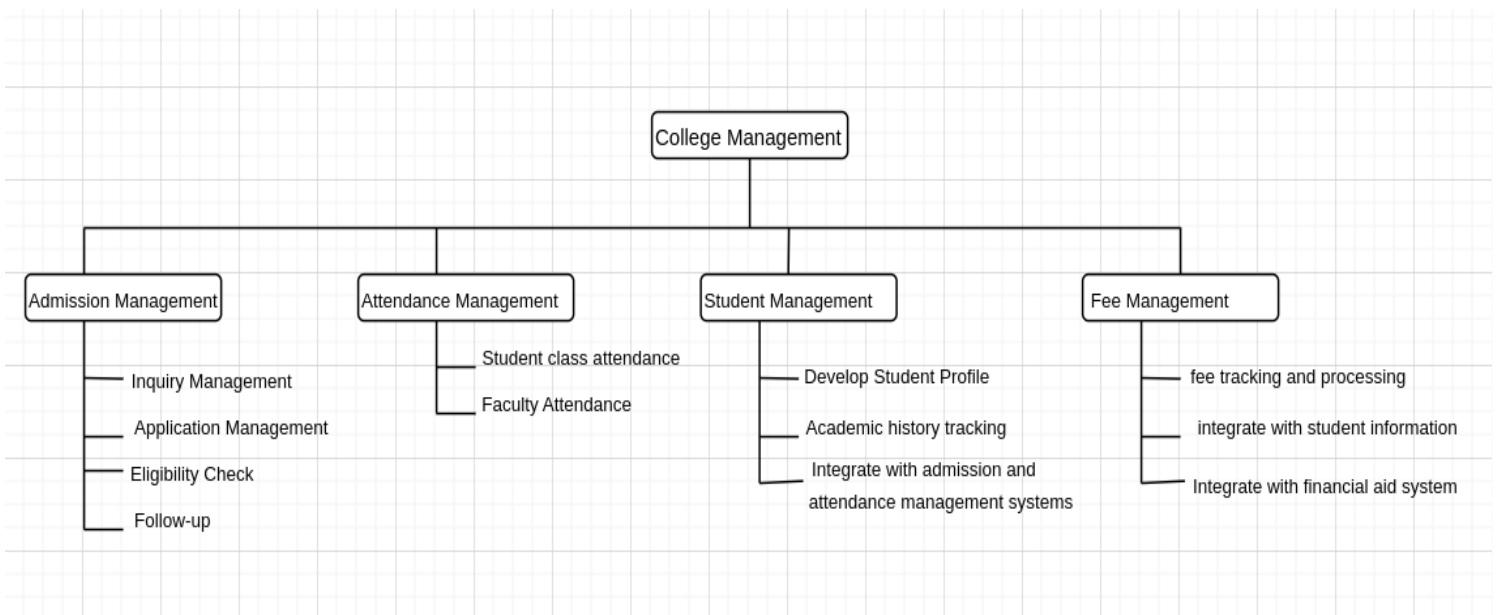
Maintenance:

The system should be maintainable, and updates should be easy to deploy. The system should also include a helpdesk or support system to address any issues that arise during usage.

By defining the scope of the College Management System project, the project manager can ensure that the project stays on track and that the deliverables meet the requirements of the college. Additionally, the scope helps to manage expectations and communicate the project's objectives to stakeholders, ensuring that they are aligned with the project's goals.

3. Work Breakdown Structure

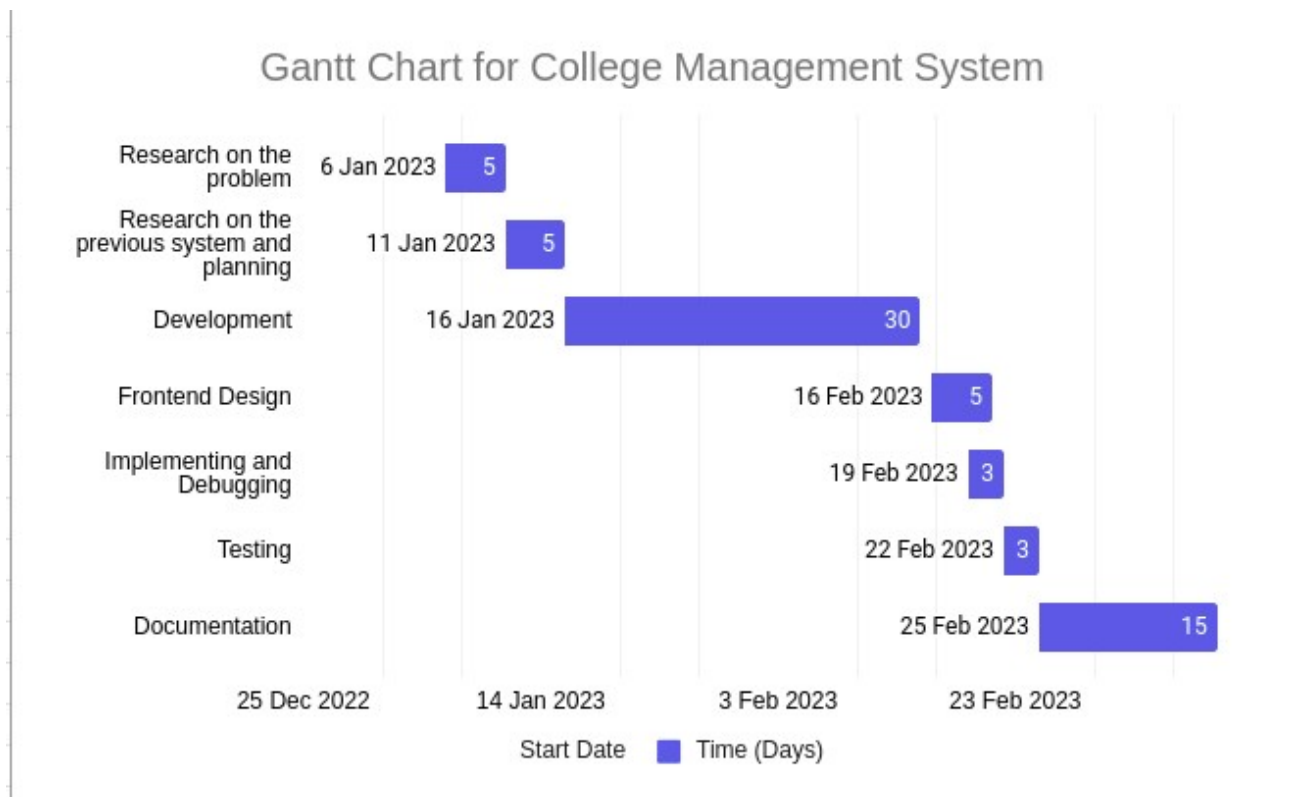
The Work Breakdown Structure (WBS) is a hierarchical decomposition of the project's deliverables into smaller, more manageable work packages. It helps to organize and define the project's scope, schedule, and budget. For the College Management System project, the WBS may include the following tasks:



4. Gantt Chart

For the tasks below gantt chart can be shown as:

Task	Start Date	Time (Days)
Research on the problem	6-Jan	5
Research on the previous system and planning	11-Jan	5
Development	16-Jan	30
Frontend Design	16-Feb	5
Implementing and Debugging	19-Feb	3
Testing	22-Feb	3
Documentation	25-Feb	15



5. Payback period and ROI

Payback Period:

According to the estimated cost, the project needs investment of Rs.96000.

The assumed income of the project on installment would be valued at 30000 per year. Every year the project gets 30000 as a return.

Year	Project Income
0	-96000
1	30000
2	30000
3	30000
4	30000
Net Profit	24000

The above table shows the assumption of estimated payback period of the project, which completes in 4 years.

ROI

$ROI = (\text{annual Income} / \text{total investment}) * 100\%$

The ROI of the project will be 31.25%.

6. Cost Benefit Analysis

For the given data the cost benefit analysis can be calculated as:

Data	Value
Number of students	10,000
Average tuition per student per semester	\$5,000
Average cost per student for administrative tasks	\$500
Number of administrative staff members	50
Average annual salary per staff member	\$50,000
Estimated cost for developing a college management system	\$500,000

Now calculate the following:

To calculate the cost-benefit analysis in Excel, we can follow these steps:

1. Create a new row for "Benefits" and a new row for "Costs".
2. In the "Benefits" row, create a new column for "Reduced administrative workload per semester" and enter the formula " $\text{= Number of students} * \text{Average cost per student for administrative tasks}$ " (i.e., $= 10,000 * 500$) in the corresponding cell. This will give us the total benefit per semester.
3. In the same row, create a new column for "Reduced administrative staff needed" and enter the formula " $\text{= Number of administrative staff members} * \text{Average annual salary per staff member}$ " (i.e., $= 50 * 50,000$) in the corresponding cell. This will give you the total benefit per year.
4. In the "Costs" row, create a new column for "Development cost" and enter the value of \$500,000 in the corresponding cell.
5. Create a new row for "Net benefits" and in the first cell, enter the formula " $\text{=SUM(Benefits)-SUM(Costs)}$ " (i.e., $\text{=SUM(B2:B3)-SUM(D2:D2)}$). This will give you the total net benefit of developing the college management system. You can then add additional rows or columns to further analyze the data, if needed.

Benefits	
Reduced administrative workload per semester	\$5,000,000
Reduced administrative staff needed	\$2,500,000
Costs	
Development cost	\$500,000
Net Benefits	\$7,000,000

Hence the Net benefit for this project is estimated to be \$ 7000000.

7. Conclusion

In conclusion, the College Management System is a comprehensive software solution that helps streamline administrative tasks in a college, making them more efficient, accurate, and time-saving.