UTM

UNIVERSITI TEKNOLOGI MALAYSIA

SECD2613-03 SYSTEM ANALYSIS AND DESIGN

<CamEx System>

PROJECT PROPOSAL

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Group Name : CORE FOUR

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1.0 INTRODUCTION

In recent times universities face multiple challenges to store a large set of resources efficiently. To address this we are proposing a suitable Campus Resource Management System, CamEx(Campus Expert) System that will enhance the resource management including the Facility Booking , Event, Student, Faculty and Staff management. By enhancing the system with modified functionalities the CamEx System will have an improved productivity and communication in between students, faculties and the staff.

2.0 BACKGROUND STUDY

The existing conventional systems always require manual procedures and disorganized systems leading to inefficient resource management. However, with the growing technology it is important for a single integrated system that is capable of streamlining and automating all these procedures. Almost every university and college around the world has implemented this system, showing the advantages of a CamEx System.

3.0 PROBLEM STATEMENT

1. Time-consuming processing

The current manual processes for data management often lead to miscommunication, logistical challenges and delays in execution. This results in frustration among students, staff and faculty who rely on facilities for academic or extracurricular events.

2. Highly rely on human resources

Management system requires a huge quantity of human resources. The efficiency and productivity of work will be negatively impacted once the human resource base is reduced to an uncontrollable level.

3. High possibility of human error

When a system is highly reliant on human resources, the number of mistakes and errors caused by humans might increase. Mistakes such as failing to manage student records, failing to keep academic progress up-to-date will occur more often.

4. Inefficient data modifying

The “old-school” data management system requires extra work and time for staff and students to update specific information, causing inconvenience to track the latest information, leading to low productivity.

4.0 PROPOSED SOLUTIONS

The CamEx System is a new solution that we are trying to propose and introduce to universities which will help to solve the problems that are faced by system users. It is a system that provides universities to manage the important resources and data in organized, like facilities, events, students, faculties and staff by implementing automated systems for data management. This system will store all date, time and also venue for each activity that has been scheduled, so it definitely can overcome the time-consuming process of "old-school" data management system, and increase the productivity of the university department in organizing everything. Besides, this system also stores students' profile in terms of studentID, enrolment, studentCourse, and so forth. For example, we only need to key in studentID to find a specific student's profile. In addition, faculty members can access teaching schedules, submit grades, and communicate with students, this allows them to arrange the lessons without clashing with others and also enable students to achieve their grades for assignments and exams.

This system will provide universities to categorize and arrange all documents by uploading all the data through the system, which would be stored in a database. This helps to lower the reliance on high human resources which is necessary for the older system, especially in the documentation part. By searching the term, we are able to find out the document within seconds and also for booking facility or venue for events, it does not need too many staff to ensure the department is working. Hence, this increases the efficiency of work. For instance, many of the staff have to take leave because of some issues and this situation will affect the productivity of the department on that day.

Previously, it was hard to make sure all records are correctly recorded and stored as it is highly reliant on human resources. However, with the new system, it can be overcome by replacing the original paperwork system which creates a lot of trouble with documenting, such as the handwriting of staff is very messy, causing the next person unable to recognize it. We manage to keep academic progress up-to-date correctly through the system in terms of booking and student records.

Moreover, the CamEx system is able to facilitate communication among stakeholders through email, messaging and notifications. Users will receive announcements, reminders, and alerts regarding upcoming events, bookings, and deadlines. With this, we can track the latest information and students would be able to manage their time wisely hence they can use their time to improve themselves either in academic or soft skills. The university staff also can access all the information immediately which makes their work easier. Thus, increasing the productivity of students and staff.

Technical Feasibility

Developing the CamEx system is technically feasible with the necessary hardware, server infrastructure, and internal connectivity readily available. A robust database system, such as PostgreSQL or MongoDB, is crucial for securely storing various campus resources' details and data. Implementing a sorting system's interface enhances user experience, allowing users, such as administrators or faculty to sort and access information based on their preferences. Integration with APIs is required to streamline data exchange and enhance functionality.

Operational Feasibility

User acceptance is important which can be determined by requiring stakeholder and feedback collection during development. Training sessions should be carried out for smooth implementation. It also involves preparing the organization for any changes to the system to prevent bugs or errors.

Economic feasibility (CBA)

Assumptions	
Discount rate	10%
Sensitivity factor (costs)	1.1
Sensitivity factor (benefits)	0.9
Annual change in production costs	5%
Annual change in benefits	7%

Estimated costs	
Hardware	RM 10000
Software development	RM 10000
Maintenance	RM 3000 per year
Salary	RM 35000 per year

Estimated Benefits	
Savings	RM 60000 per year

Costs	**Year 0**	**Year 1**	**Year 2**	**Year 3**
Development cost				
Hardware	9000			
Software development	9000			
Total	18000			
Production cost				

Salary		38500	41195	44079
Maintenance		3300	3531	3778
Annual Production Cost (Present Value)		41800 38000	44726 36964	47857 35956
Accumulated costs		56000	92964	128920

Benefits	Year 0	Year 1	Year 2	Year 3
Saving		54000	56700	59535
Accumulated benefits		54000	110700	170235
Gain or Loss		(2000)	17736	41315
Profitable Index (PI)	2.3			

5.0 OBJECTIVES

The following are the primary objectives of the CamEx System :

1. To give campus administrators at universities and colleges a centralized platform for managing a range of resources, such as buildings, activities, people, and faculty.
2. To provide facility managers with the ability to set booking policies, handle reservations, and monitor resource usage, while allowing users to search, view availability, and reserve campus spaces like sports fields, auditoriums, classrooms, and labs.
3. To assist those in charge of planning, organizing, and supervising workshops, seminars, and extracurricular events on campus. This includes helping with registration, marketing, attendee management, and gathering feedback from attendees.
4. To simplify the procedures involved in student management, giving administrators the ability to control enrollment, course registration, academic records, and extracurricular activities while providing students access to their academic profiles, course registration, scheduling, and progress monitoring.
5. To help to improve the administration of faculty and staff, faculty members will be provided with access to teaching schedules, grade submission, and student communication, while HR administrators will be able to handle recruitment, scheduling, performance reviews, and leave management.

6.0 SCOPE OF THE Project

The Campus Resource Management System project's scope centers on creating a comprehensive framework that coordinates different functionalities into a single stage, catering to the administration of campus assets, counting offices, occasions, understudies, workforce, and staff.

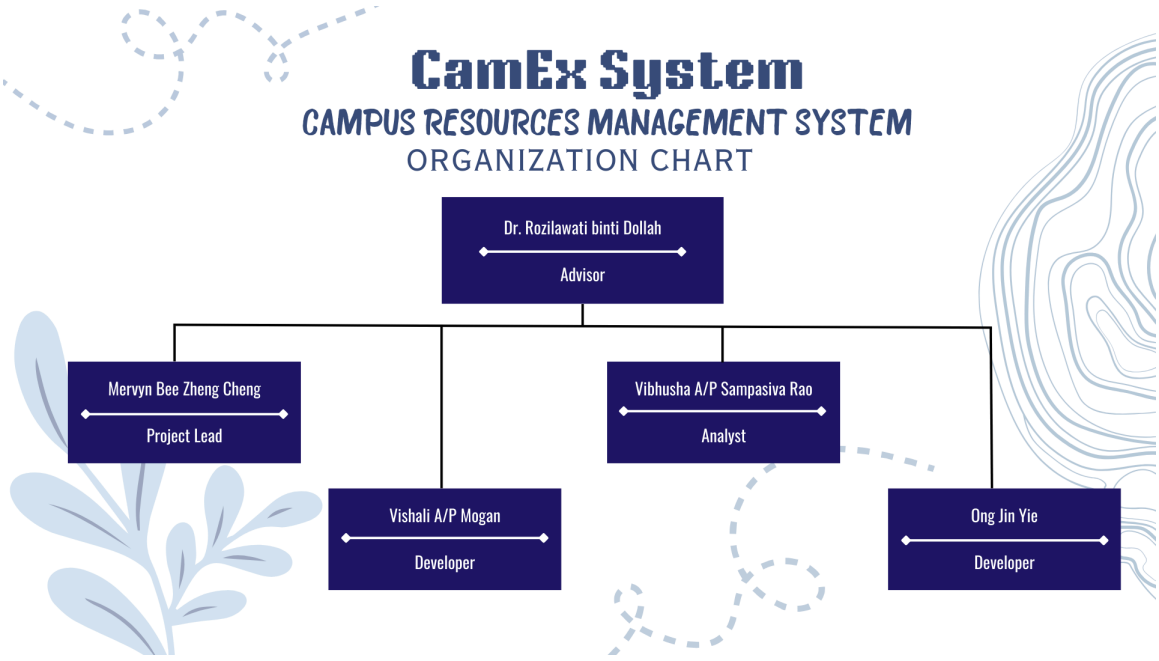
For chairmen and office supervisors, the framework will give a centralized stage for overseeing campus offices, empowering booking, arrangement definition, asset utilization following, and utilization design examination. Occasion organizers will take advantage of a feature-rich occasion administration framework, encouraging the creation, planning, and administration of

campus occasions, workshops, classes, and extracurricular exercises. Occasion enrollment, advancement, attendee administration, and criticism collection devices will be accessible.

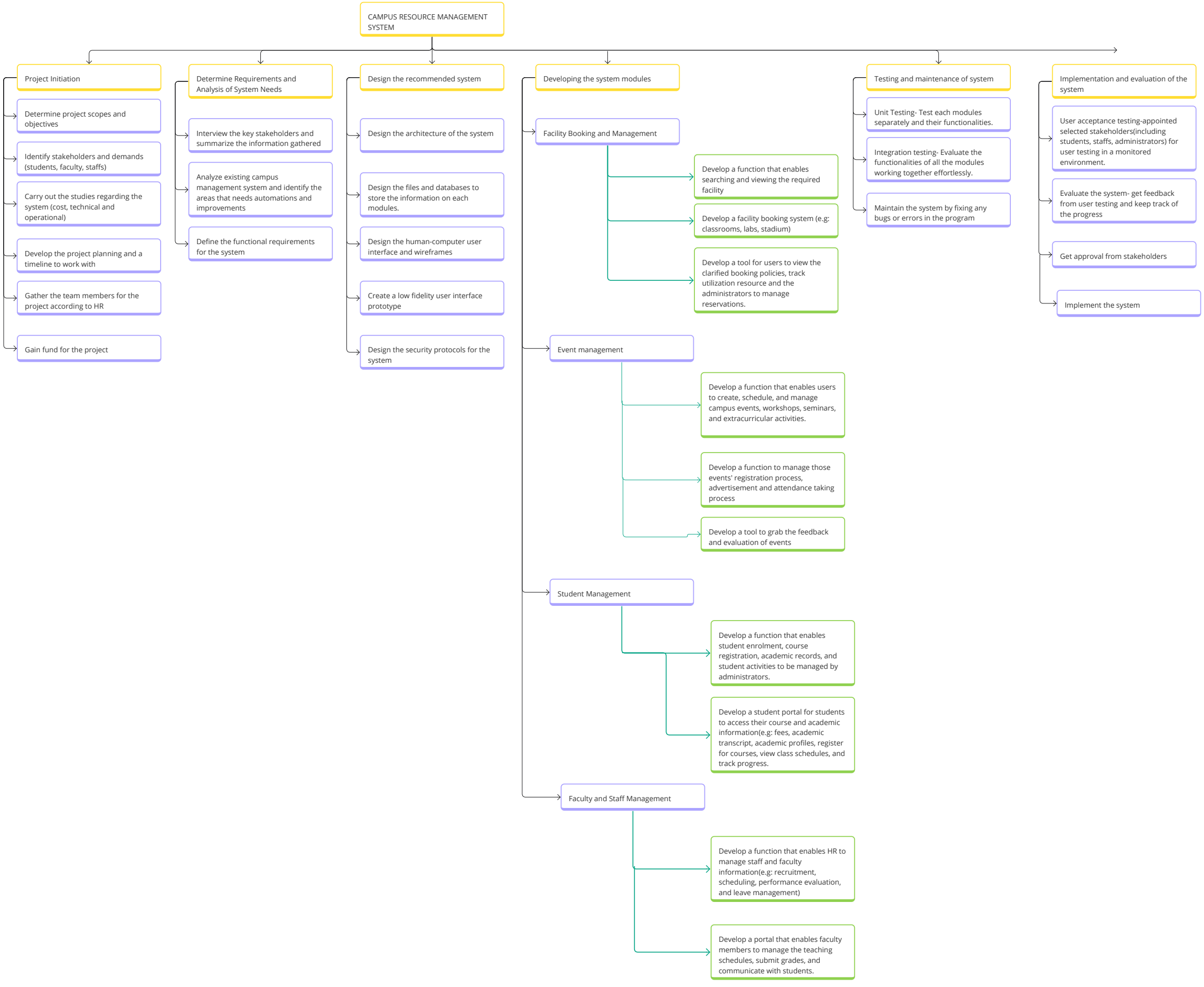
Finally, The framework will moreover cater to understudies, workforce, and staff, advertising an understudy administration framework for directors to oversee understudy enrolment, course enlistment, scholarly records, and understudy exercises. A staff and staff administration framework will rearrange HR assignments, such as enlistment, planning, execution assessment, and take off administration. Understudies will have to get scholastic profiles, course enlistment, plans, and advance following, whereas staff individuals can get to educating plans, yield grades, and communicate with understudies.

7.0 PROJECT PLANNING

7.1 HUMAN RESOURCES

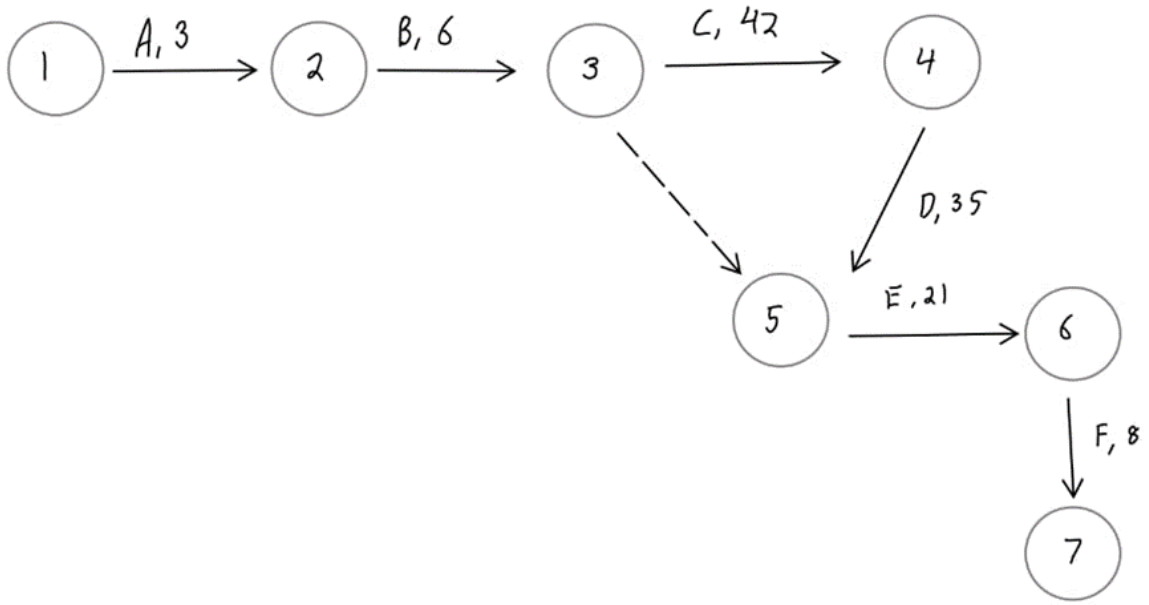


7.4 WORK BREAKDOWN STRUCTURE (WBS)

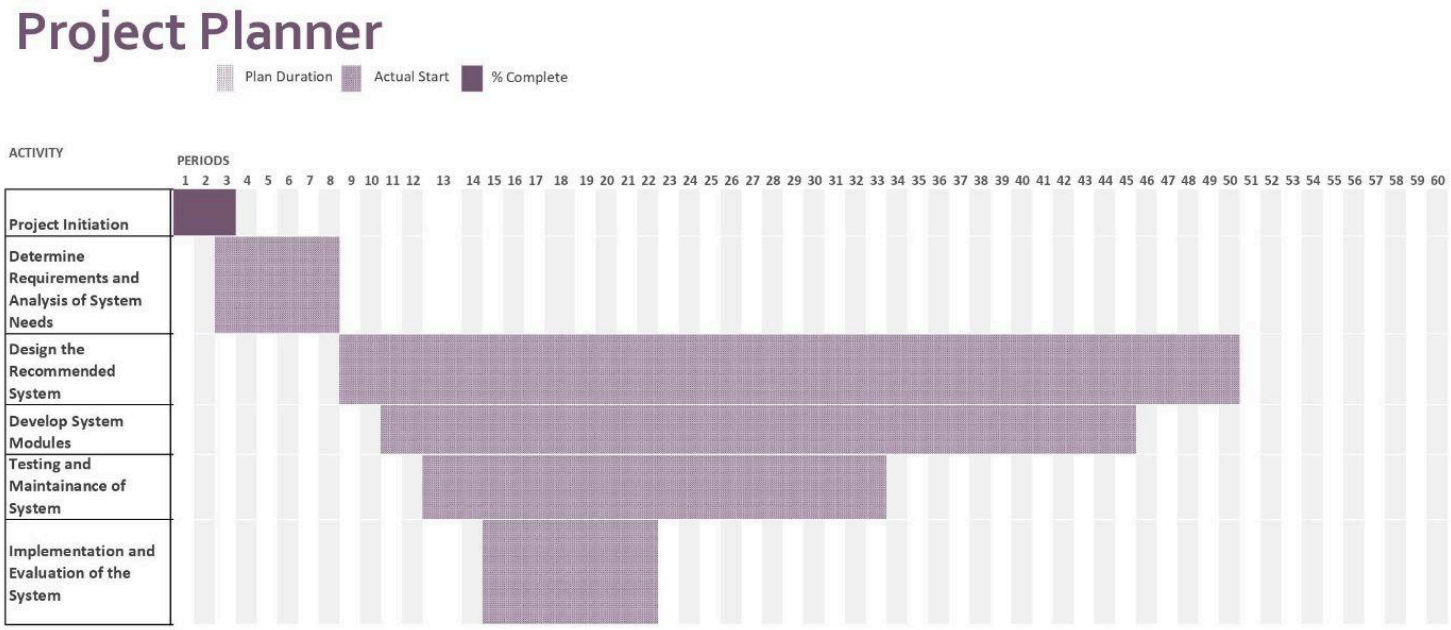


7.3 PERT CHART

Part	Activity	Predecessor	Duration
A	Project Initiation	None	3
B	Determine Requirements and Analysis of System Needs	A	6
C	Design the Recommended System	B	42
D	Develop System Modules	B, C	35
E	Testing and Maintenance of System	D	21
F	Implementation and Evaluation of the System	E	8



7.4 GANTT CHART



8.0 BENEFIT AND OVERALL SUMMARY OF PROPOSED SYSTEM

In this proposed system, several benefits will be provided to its users.

1. Costs and time saving

With an automated managing system, operational costs will be reduced. Time required for updating information will also be minimized.

2. Efficient and streamlined process

Automation of booking facilities and event organizing requests and approval, student and staff data management streamlines administrative processes, saving time and reducing errors.

3. Enhanced communication

Through a variety of channels, such as discussion forums, messaging services, announcements, and notifications, the system helps users communicate with one another, encouraging participation and teamwork.

4. Flexibility

Advanced system solutions are more flexible and customizable, allowing institutions to adapt to changing requirements and accommodate growth.

Overall, an advanced campus management system provides a complete platform for automating and optimizing the various academic and administrative procedures found in educational establishments, enhancing productivity, openness, and community cooperation on campus.

URL
https://github.com/Visha16/CoreFour_Project1_SAD_20232024

Snapshot