



Tribhuvan University

Faculty of Humanities and Social Sciences

“Student Admission Management System(SAMS)”

A Proposal Report

Submitted to

Department of Computer Application

Everest Innovative College

In partial fulfillment of the requirements for the Bachelors in Computer Application

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Feb 2021

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List of Abbreviation/Acronym

Abbreviation/Acronym	Description
SAMS	Student Admission Management System
HTML	Hypertext Markup Language
CSS	Cascading Style Sheet
PHP	Hypertext Preprocessor
XAMPP	Cross-platform, Apache, Maria DB(MySQL), PHP and Perl
MS	Microsoft
PIECES	Performance Information Economics Control Efficiency Service
WBS	Work Breakdown Structure
MYSQL	Structured Query Language

Chapter 1: Introduction of the Project

Student Admission Management System (SAMS) is a system developed to maintain the records of the students who apply to college for further study, help student to register their name easily without waiting in the queue for hours to just submit the admission form.

In present system for admission of students is performed manually. Students have to visit the college with their certificates and have to fill the form manually. The form filled by students have to be typed again into the computer. This gives unnecessary burden to the staffs. Managing and maintaining the student's record in paper is a tedious job for any college. This system will load all the information's of the students including their educational qualifications, personal details, background information, and all the information related to them. This system will allow students to register to the college without standing in queue for hours. This project will solve the problem of those students who miss the deadline of form submission as they couldn't visit the college to submit the forms due to some reasons. This system focuses on making this system computerized and to help students along with college administration. This system also helps to create a database of those students who have applied to get admission. This provides far reasonable storage facility than paper based system. This system helps in the elimination of the errors while filling the forms as it can be edited easily before submission date.

The main aim of the project is to develop an online student's admission application for the college. This system is an online based system that can be accessed throughout the college and outside with proper user login. This system can be used for enrollment of students in different course offered by the college. The main objective of this system is to automate the existing system of manual paper work into well-organized computer database. This system will be developed using HTML, CSS, JavaScript as client side script and PHP as the server-side script. This project will be based on Database Management System. This system will load all the information's of the students including their educational qualifications, personal details, background information, and all the information related to them. This system will allow students to register to the college without standing in queue for hours.

Chapter 2: Problem Statement

At present, admission process is done with manual paper work. The number of candidates applying for admission in the institute is large and lots of manpower are used to handle this process. Sometimes the students might have to wait for hours in queue to submit the application. The college manpower also has to manage the data of students in the computer by manually adding them which includes hard work and wastage of the resources.

The admission process occurs every year, so it is essential to simplify the manual process which is time consuming. To accomplish this goal a fully automated system is required to manage the resources efficiently and save time of both college institute and students. This system will solve the problem of those students who miss the deadline of form submission as they couldn't visit the college to submit the forms due to some reasons.

Chapter 3: Objective

3.1 Objectives of the Project

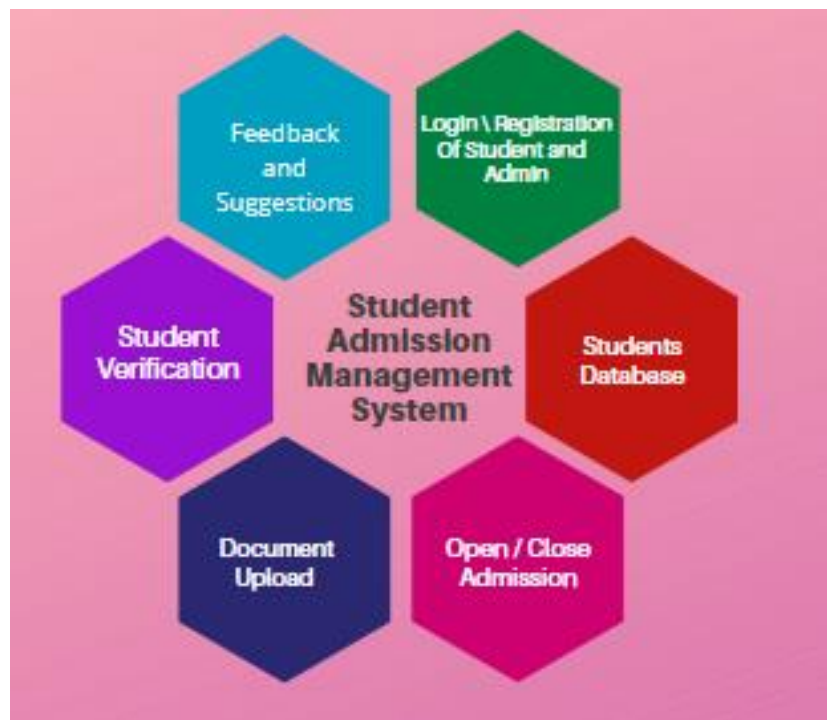
Our objective is to carry out this project with the quality requirements as mentioned below as follows:

- I. To computerize the admission management system structure and its related operation by reducing unnecessary paperwork.
- II. To support the administration and admission seeking candidates by providing a faster, transparent, and easy way of maintaining records.

3.2 Features to be included

Following are the features that are to be included in the project:

- I. Login/Registration of the students.
- II. Login/Registration of college management.
- III. Students can give feedback to college/administration/facilities.
- IV. Maintain database of the students.
- V. Open/Close Admission
- VI. Verification of students
- VII. Documents upload



Figure_1: Features of the System.

Chapter 4: Methodology

4.1 Requirement Identification

4.1.1 Study of existing system

In most of the colleges situated in Kathmandu valley, admission of students is performed manually. Students have to visit the college with their certificates and have to fill the form manually. The form filled by students have to be typed again into the computer. This gives unnecessary burden to the staffs. This system focuses on making this system computerized and to help students along with college administration. This system also helps to create a database of those students who have applied to get admission. This provides far reasonable storage facility than paper based system. This system helps in the elimination of the errors while filling the forms as it can be edited easily before submission date.

4.1.2 Requirement Collection

To collect the different requirement data, we visited some colleges in Kalimati area and by direct personal interview method we collected information that none of the college have a proper admission management system and they have to enter each data of students manually one by one. We have also dig some information on google and found out some of the international universities have been using the admission management system. The main requirement for these system is ease to manage data with less manpower in short time.

Table_ 1: Requirement Analysis

S.N	Methods	Source of data collection	Description
1	Interview	Primary Data	A quick interview was done across the coordinators five different colleges in Kalimati to collect requirements.
2	Internet Research	Secondary Data	Searched about different admission system of different universities around the globe to collect further requirements.

4.2 Feasibility Study

4.2.1 Technical Feasibility Study

The project SAMS is totally a web based system. The main tools and technologies to be used in this system to make this project more feasible are:

Table_ 2: Technical Feasibility Study Table

Technological requirements	Hardware requirements	Software requirements
HTML	Laptop	MS Word
CSS	Keyboard	MS Project 2016
JavaScript	Mouse	XAMPP Server
MYSQL		Canvas
PHP		MS Visio 2016

Most of the technologies used are freely available and technical skills are manageable so this project is technically feasibility.

4.2.2 Operational Feasibility Study

The operational feasibility is a measure that how will the proposed system will solve the existing problems and the study will the system work efficiently. If the system is not efficient, it will not produce the expected benefits. Operational Feasibility measures the viability of a system in terms of the PIECES framework. There is adequate availability of the resources and the existing system lacks the proper efficiency. The existing system needs lots of manpower and this new system save the manpower as well as time. So there is operational feasibility to run this Student Admission Management System.

Some of the questions related to operational feasibility study are:

- What if the system was not implemented?
- What are current project problems?
- How will be the proposed system help?
- What will be integration problems?
- Is new technology needed?
- Is new skill (staff, team members) required?
- What facilities must be supported by the proposed system?

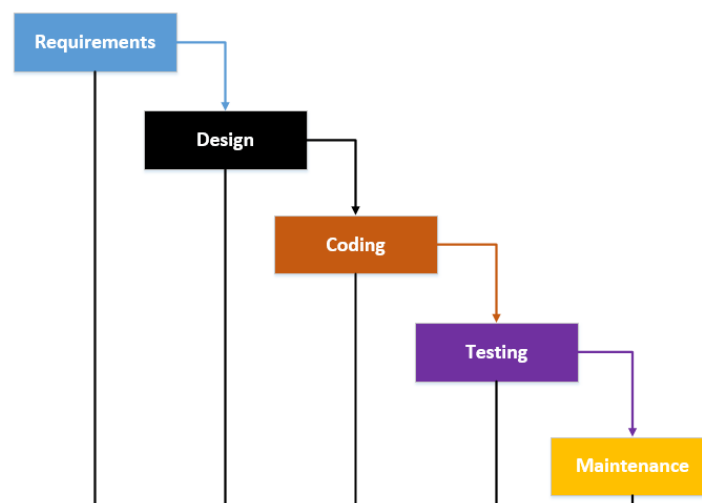
4.2.3 Economic Feasibility Study

This **SAMS** project is an academic project so that most of the software's would be manageable. We need a laptop and a working internet connection to run the system.

4.3 High Level Design of System

4.3.1 Methodology to be used

The Waterfall Model was the first Process Model to be introduced which referred to as a linear-sequential life cycle model. The whole process of software development is divided into separate phases in waterfall approach. In Waterfall model the outcome of one phase acts as the input for the next phase sequentially. So there is no overlapping between the phases which makes it easy and simple to follow.



Figure_ 2: Waterfall Model

Requirements: All possible requirements of the system to be developed are recorded and documented in a requirement specification document.

Design: The requirement is studied in this phase and the system design is prepared with logical and physical system specifications. It helps in specifying hardware and system requirements while defining the overall system architecture.

Coding: The units of system is coded and tested in this phase with inputs from the system design. Unit testing is performed for each unit developed.

Verification: The units developed are integrated into a working system after testing of each unit. After the integration of the system a final testing is done to ensure there is no bugs and errors.

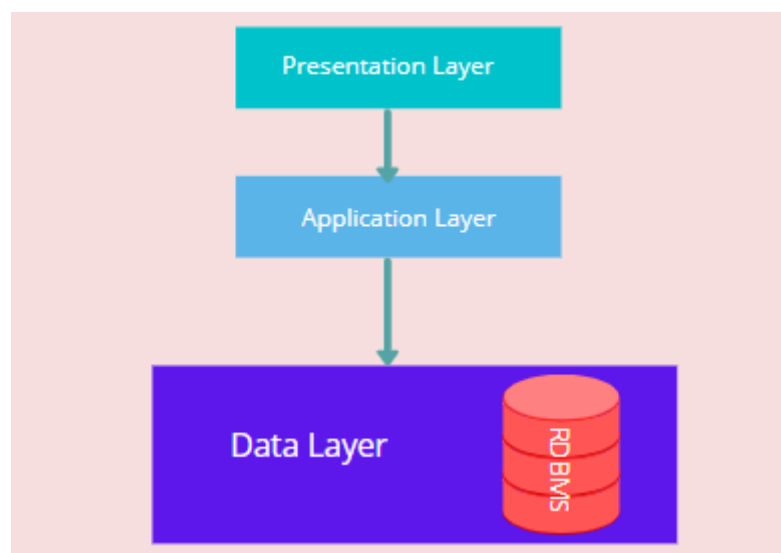
Maintenance: This phase is active when client finds any issues in the system and developers releases better versions to enhance the product.

Following are the reason behind using Waterfall Model as the development methodology:

- In this project necessities, processes and results are well documented, clear and fixed.
- Sufficient resources with essential knowledge are available to support the product.
- There are no ambiguous requirements.
- Easy to arrange tasks.
- All the phases are completed one after another.

4.3.2 System Architecture

The proposed system is a 3-Tier web-based system meaning a Client/Server Architecture in which the user interface, functional process logic, computer data storage, and data access are developed and maintained as independent modules, most often in different platforms



Figure_ 3: Three-Tier Architecture

1) Client layer: It is also called as Presentation layer which contains user interface part of application. This layer communicates with other through Application Program Interface calls.

2) Application layer: In this layer all business logic written like validation of data, calculations, data insertion etc. This acts as an interface between user tier and database tier for faster communication.

3) Database layer: In this layer actual database is comes in the picture. Database Layer helps to connect with database and to perform insert, update, delete, get data from database based on user input data. These data are kept independent of application layer.

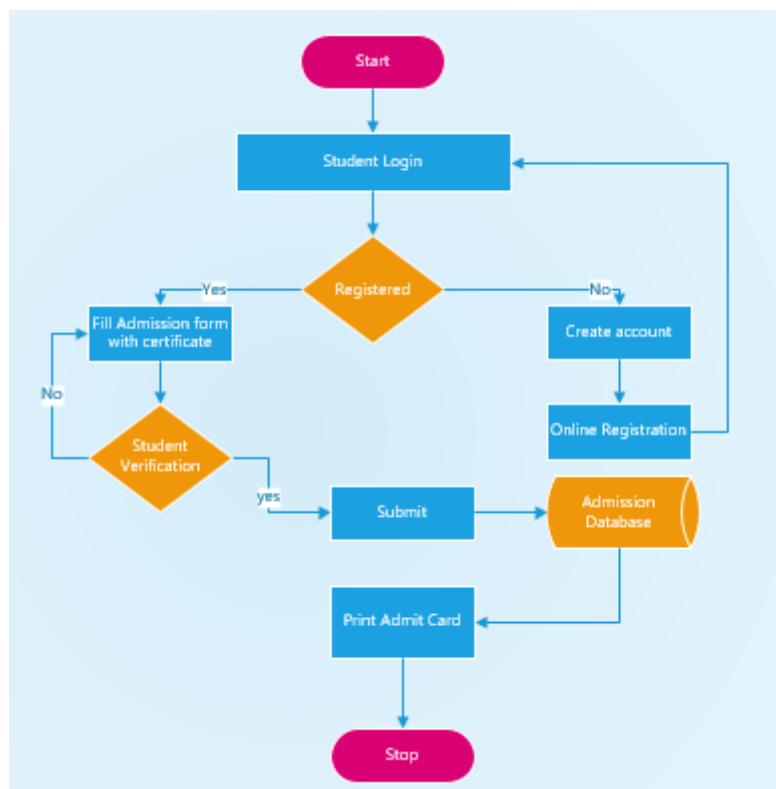
Following are the reasons behind choosing three tier-architecture:

- It makes the logical separation among three different layers.
- It makes the maintenance process easier.
- It makes us easier to update one tier without involving other.

4.3.3 System Flow Chart and Working Mechanism

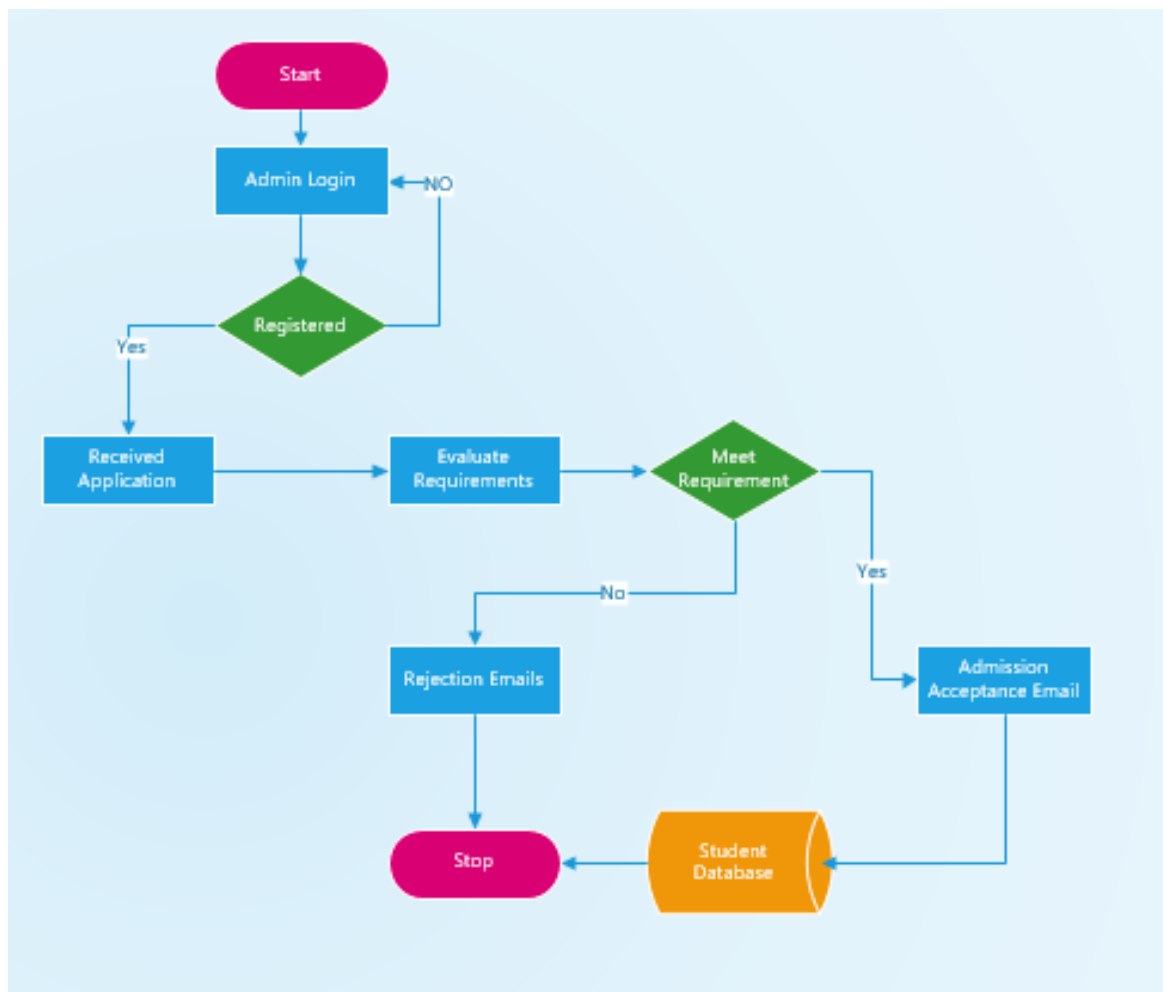
The working mechanism of the system is explained below with the help of system flow chart.

Student Module Flow-Chart



Figure_ 4: Student Login / Admission Flowchart

Admin Module Flowchart



Figure_ 5: Admin Module Flow Chart

Chapter 5: Project Planning

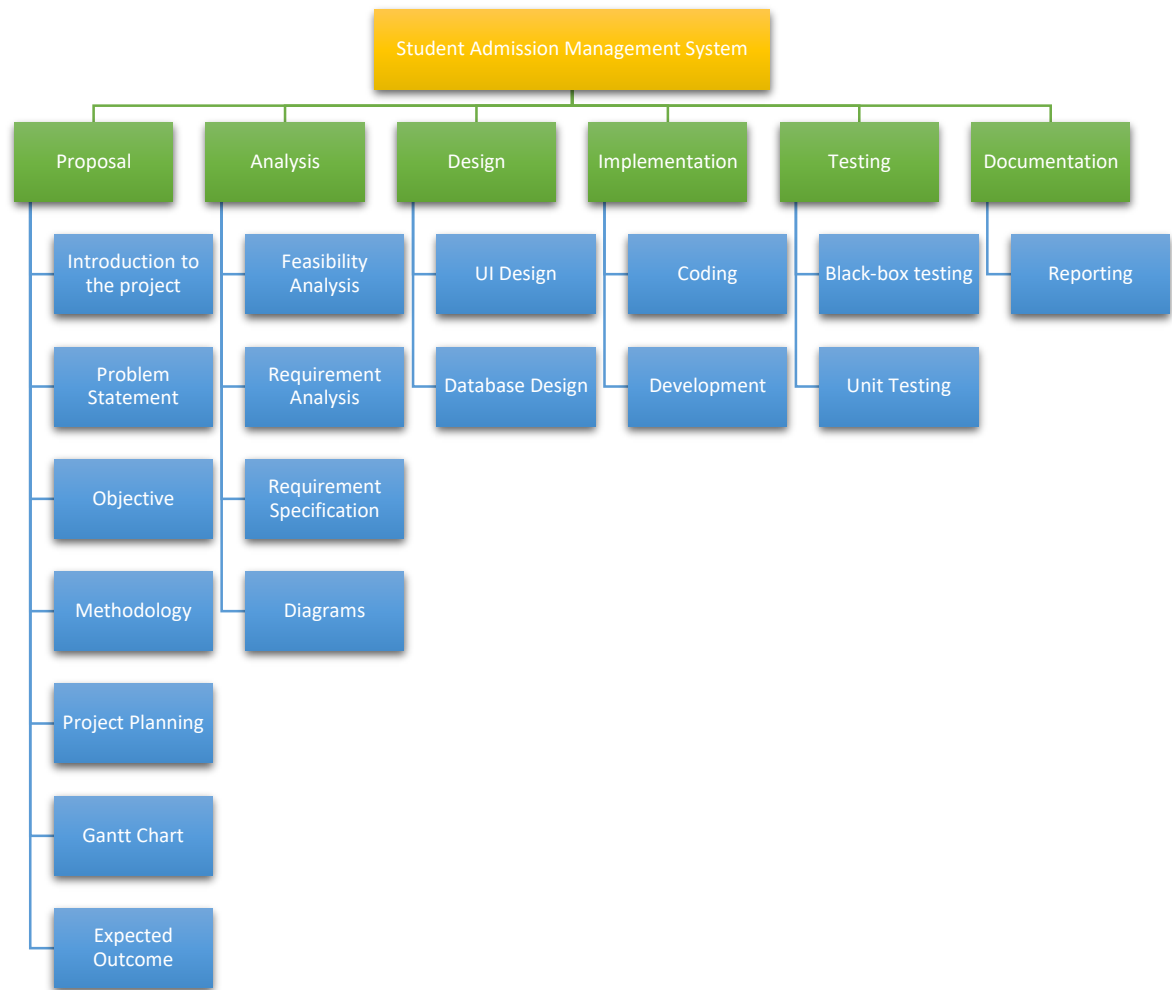
5.1 Work Break Down Structure (WBS)

A work breakdown structure defines all the terms a project must accomplish, organized into multiple levels, and displayed graphically. This is a foundational tool that will help us to plan, manage, and evaluate the project. The WBS structure can be constructed by dividing by project phases, specific large deliverables, or sub-tasks.

Following table shows the WBS for Student Admission Management System.

Table_ 3: Days allocated for each task

S.N	Task	Days allocated
1	Proposal	20
1.1	Introduction to the Project	2
1.2	Problem Statement	2
1.3	Objective	3
1.4	Methodology	5
1.5	Project Planning	4
1.6	Gantt Chart	3
1.7	Expected Outcome	1
2	Analysis	25
2.1	Feasibility Analysis	7
2.2	Requirement Analysis	8
2.3	Requirement Specification	5
2.4	Diagrams	5
3	Design	15
3.1	UI Design	8
3.2	Database Design	7
4	Implementation	30
4.1	Coding	22
4.2	Development	8
5	Testing	10
5.1	Black-box Testing	4
5.2	Unit Testing	6
6	Documentation	102
6.1	Reporting	102



Figure_ 6: Work Breakdown Structure

5.2 Milestone

A milestone is used to represent the series of events in the project which is used to measure the advancement of the project to its final goal. It is the synopsis through the course of project that ensures us to stay on track.

Table_ 4: Starting and End date of each task

S.N	Task	Start Date	End Date
1	Proposal	1/29/2021	2/17/2021
1.1	Introduction to the Project	1/29/2021	1/30/2021
1.2	Problem Statement	1/31/2021	2/1/2021
1.3	Objective	2/2/2021	2/4/2021
1.4	Methodology	2/5/2021	2/9/2021
1.5	Project Planning	2/10/2021	2/13/2021
1.6	Gantt Chart	2/14/2021	2/16/2021
1.7	Expected Outcome	2/17/2021	2/17/2021
2	Analysis	2/18/2021	3/14/2021
2.1	Feasibility Analysis	2/18/2021	2/24/2021
2.2	Requirement Analysis	2/25/2021	4/3/2021
2.3	Requirement Specification	3/5/2021	3/9/2021
2.4	Diagrams	3/10/2021	3/24/2021
3	Design	3/15/2021	3/29/2021
3.1	UI Design	3/15/2021	3/22/2021
3.2	Database Design	3/23/2021	3/29/2021
4	Implementation	3/30/2021	4/27/2021
4.1	Coding	3/30/2021	4/20/2021
4.2	Development	4/21/2021	4/27/2021
5	Testing	4/28/2021	5/7/2021
5.1	Black-box Testing	4/28/2021	5/1/2021
5.2	Unit Testing	5/2/2021	5/7/2021
6	Documentation	1/29/2021	5/7/2021
6.1	Reporting	1/29/2021	5/7/2021

We have started the planning of this project with writing proposal for the first 20 days. Then we will proceed for analysis for next 25 days where we will perform different task such as requirement analysis, feasibility study, diagrams and many more. After that we will be using next 15 days for design. Here we will develop a kind of prototype where we will be focusing on designing the attractive interface. Similarly, we will be developing a database and the structure of the system. The development of project starts during the implementation phase where we will code for 30 days to develop the working unit of the system. We will be performing Black Box testing, White Box testing and Integration testing for 10. So as to create the bug free system to the user we need to test the software. In this

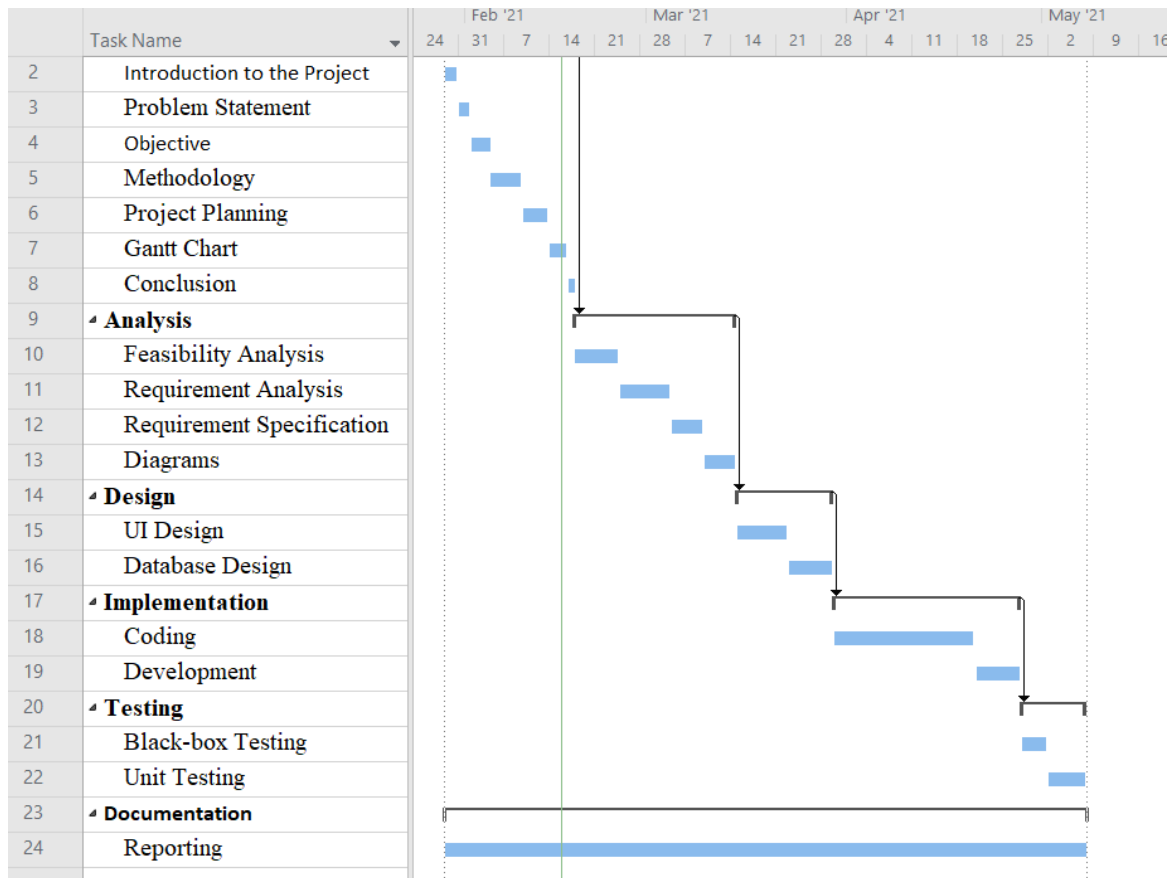
way, allocating certain days for each and every phases helps us to complete our project within the given timeframe. We will be focusing towards the documentation phase where we will be reporting for whole lifecycle of the project. These milestone helps to complete our task within the deadline.

5.3 Gantt Chart

Gantt chart is a popular too in project management which is useful for showing activities against the time. Each activity is represented by a bar. The position and length of the bar shows the start date, duration and end date of the activity.

Table_ 5: Gantt Chart table

	Task Name	Duration	Start	Finish	Predec
1	Proposal	20.75 days	Fri 1/29/21	Wed 2/17/21	
2	Introduction to the Project	2 days	Fri 1/29/21	Sat 1/30/21	
3	Problem Statement	2 days	Sun 1/31/21	Mon 2/1/21	
4	Objective	3 days	Tue 2/2/21	Thu 2/4/21	
5	Methodology	5 days	Fri 2/5/21	Tue 2/9/21	
6	Project Planning	4 days	Wed 2/10/21	Sat 2/13/21	
7	Gantt Chart	3 days	Sun 2/14/21	Tue 2/16/21	
8	Conclusion	1 day	Wed 2/17/21	Wed 2/17/21	
9	Analysis	25.75 days	Thu 2/18/21	Sun 3/14/21	1
10	Feasibility Analysis	7 days	Thu 2/18/21	Wed 2/24/21	
11	Requirement Analysis	8 days	Thu 2/25/21	Thu 3/4/21	
12	Requirement Specification	5 days	Fri 3/5/21	Tue 3/9/21	
13	Diagrams	5 days	Wed 3/10/21	Sun 3/14/21	
14	Design	15.25 days	Mon 3/15/21	Mon 3/29/21	9
15	UI Design	8 days	Mon 3/15/21	Mon 3/22/21	
16	Database Design	7 days	Tue 3/23/21	Mon 3/29/21	
17	Implementation	29.75 days	Tue 3/30/21	Tue 4/27/21	14
18	Coding	22 days	Tue 3/30/21	Tue 4/20/21	
19	Development	7 days	Wed 4/21/21	Tue 4/27/21	
20	Testing	10.13 days	Wed 4/28/21	Fri 5/7/21	17
21	Black-box Testing	4 days	Wed 4/28/21	Sat 5/1/21	
22	Unit Testing	6 days	Sun 5/2/21	Fri 5/7/21	
23	Documentation	102.5 days	Fri 1/29/21	Fri 5/7/21	
24	Reporting	102.5 days	Fri 1/29/21	Fri 5/7/21	

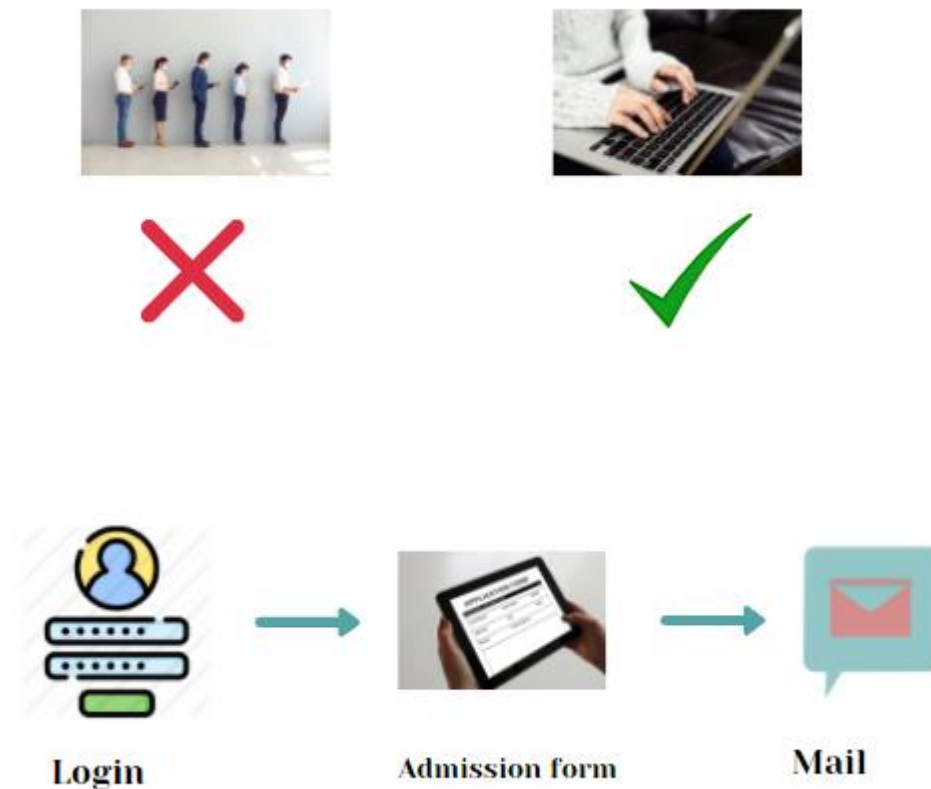


Figure_ 7: Gantt Chart

The given chart shows the task to be performed on the vertical axis and the time specified to perform the task in the horizontal axis. This chart also gives us the idea about the duration to perform every action. This chart is produced to show the management of SAMS. Gantt helps us to work out on practical aspects of the project such as to plan, organize, and track exact tasks in a project. Main purpose to make a Gantt chart is it helps us to give a clear illustration of ongoing project. We can determine the resource required and also shows the dependencies among tasks. Here, just using one simple view we can see the start and end dates of the project.

Chapter 6: Expected Outcome

SAMS project will provide number of benefits to both students and institute. The students no longer need to be in queue to submit their form as they will be able to submit it from anywhere in the world. Similarly, institute/college will easily save time and manpower as this system will help them to manage the database easily. The paperwork system will be replaced with advance SAMS system. After the completion of this project it should allow user to sign up or login, apply for admission and upload the required documents for the admission form submission. This system is expected to be acceptable as well as reliable. The final result of this project will help to automate admission system.



Figure_ 8: Expected Outcome

Chapter 7: Conclusion

A SAMS to provide well-defined service to both students and institute to standardize the old paper work system with new well managed and easy system that runs over internet. We have decided use HTML, CSS, PHP etc. to develop this system. The database will be developed using MYSQL. User will find the proposed system easy to use and reliable with versatile content. We have already estimated time with the phases of work to be done with WBS structure and came up with probable budgeting of the entire system. The proposed system has been introduced with all possibilities that will help students along with college management. An expected well managed system will be achieved as outcome of this entire project which will benefit both students/candidates and institute.

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