



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

Submitted by

Raja Ram Bhurtel

Surakshya Bhattarai

May 2020

Under the Supervision of

Pratik Bhusal

Table of Contents

Chapter 1: Introduction of the Project	1
Chapter 2: Problem Statement	1
Chapter 3: Objective	2
3.1 Aims of the Project	2
3.2 Objectives of the Project	2
3.3 Features to be included	2
Chapter 4: Methodology	3
4.1 Requirement Identification	3
4.1.1 Study of existing system	3
4.1.2 Requirement Collection	3
4.2 Feasibility Study	3
4.2.1 Technical Feasibility Study	3
4.2.2 Operational Feasibility Study	4
4.2.3 Economic Feasibility Study	4
4.3 High Level Design of System	5
4.3.1 Methodology to be used	5
4.3.2 System Architecture	7
4.3.3 System Flow Chart and Working Mechanism	8
Chapter 5: Project Planning	9
5.1 Work Break Down Structure (WBS)	9
5.2 Milestone	12
Chapter 6: Gantt Chart	13
Chapter 7: Expected Outcome	15
Chapter 8: Conclusion	15
Chapter 9: Reference & Bibliography	15

List of Figures

Figure_ 1: SDLC Waterfall Model	6
Figure_ 2: Three-Tier Architecture.....	7
Figure_ 3: Student Login / Admission Flowchart.....	8
Figure_ 4: Admin Module Flow Chart	9
Figure_ 5: Work Breakdown Structure.....	11
Figure_ 6: Gantt Chart	14

List of Tables

Table_ 1: Table showing resources cost	5
Table_ 2: Operational cost.....	5
Table_ 3: Days allocated for each task	10
Table_ 4: Starting and End date of each task	12
Table_ 5: Gantt Chart table.....	13

Chapter 1: Introduction of the Project

Student Admission Management System 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. 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 HTTP, 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 Aims of the Project

- I. Its aim is to computerize the admission management system structure and its related operation.
- II. Its aim is to provide support to the administration and admission seeking candidates by providing a faster, transparent, and easy way of maintaining records.

3.2 Objectives of the Project

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

- I. To reduce unnecessary paperwork.
- II. To develop an appropriate, effective and efficient system and provide a bug free system to the users.
- III. To increase data security, accuracy and reliability.

3.3 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. Records of the students.
- IV. Access/search information.
- V. Students can give feedback to college/administration/facilities.
- VI. Maintain database of the students.
- VII. Open/Close Admission
- VIII. Verification of students
- IX. Documents upload

Chapter 4: Methodology

4.1 Requirement Identification

4.1.1 Study of existing system

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. 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 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.

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:

Technologies:

- HTML
- CSS
- JavaScript
- PHP

Hardware requirements:

- Laptop

- Keyboard
- Mouse

Software requirements:

- MS Word
- MS Project
- Xampp Server

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.

4.2.3 Economic Feasibility Study

This SAMS project uses most of the free software's so the cost could be manageable. Some of the operational and developmental cost required are listed below in the table.

Table_ 1: Table showing resources cost

S.N	Resources	Cost
1	Laptop	
2	Keyboard	NRs. 1200
3	Mouse	NRs. 400
4	MS Office	NRs. 8000
5	MS Project	NRs. 1000
Total Resources cost:		NRs.10,600

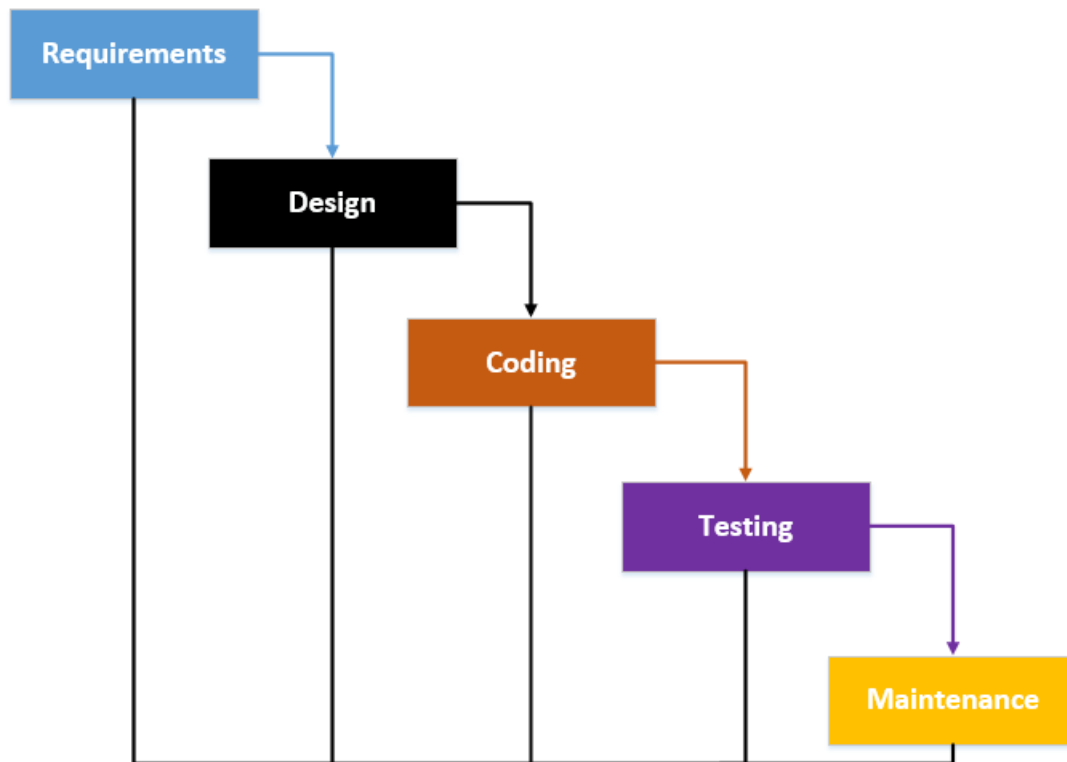
Table_ 2: Operational cost

S.N	Operational	Cost
1	Developers	NRs. 4000
2	User Tanning	NRs. 1000
Total operational Cost:		NRs. 5000

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_ 1: SDLC 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. Then the

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.

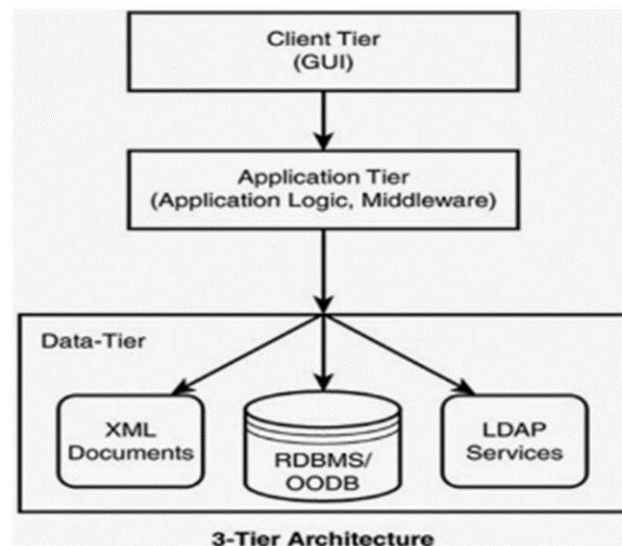
Maintenance: This phase is active when client finds any issues in the system and developers releases better versions to enhance the product.

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_ 2: 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.

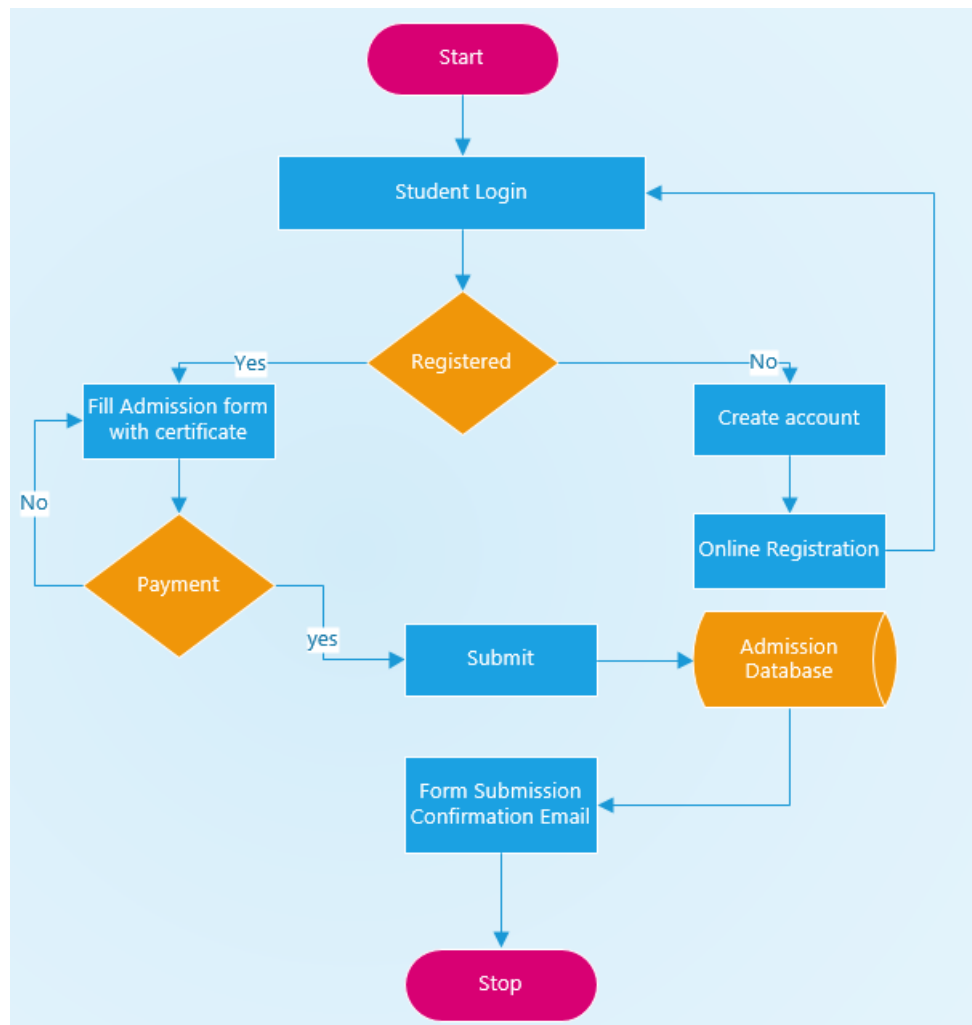
Following are the reasons behind choosing three tier-architecture:

- 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

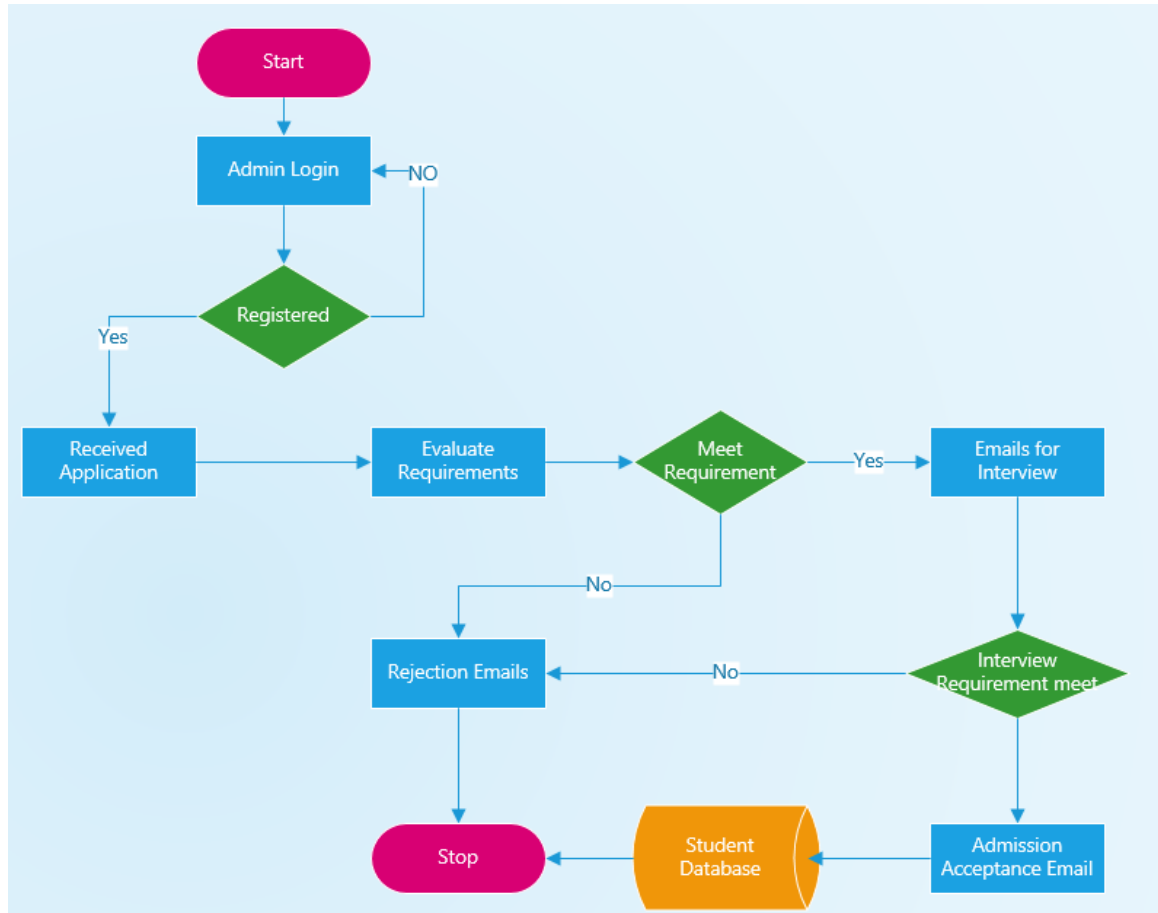
The working mechanism of the system is explained below with the help of system flow chart.

Student Module Flow-Chart



Figure_ 3: Student Login / Admission Flowchart

Admin Module Flowchart



Figure_ 4: Admin Module Flow Chart

Chapter 5: Project Planning

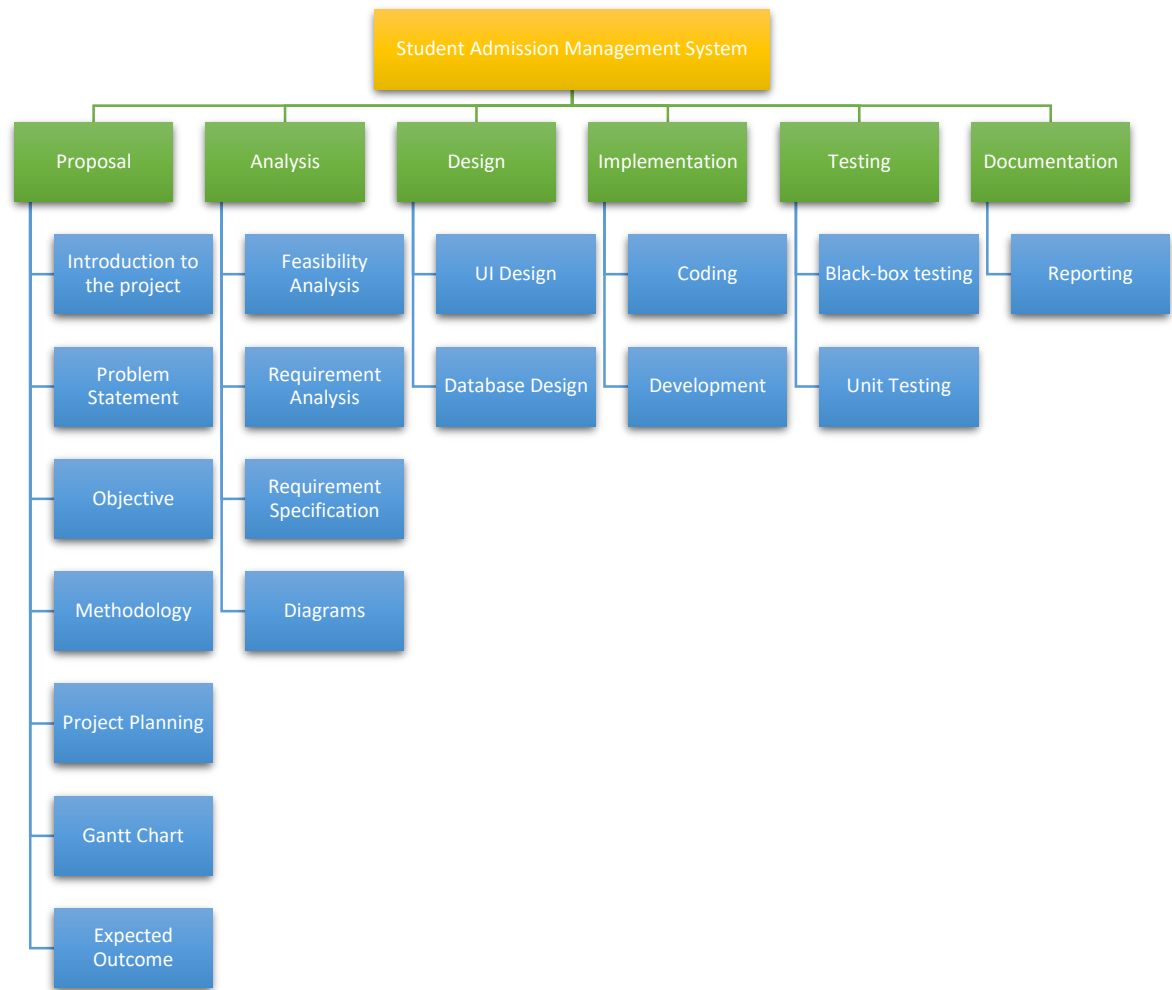
5.1 Work Break Down Structure (WBS)

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	6
6.1	Reporting	6



Figure_ 5: 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	1/5/2020	20/5/2020
1.1	Introduction to the Project	1/5/2020	2/5/2020
1.2	Problem Statement	3/5/2020	4/5/2020
1.3	Objective	5/5/2020	7/5/2020
1.4	Methodology	8/5/2020	12/5/2020
1.5	Project Planning	13/5/2020	16/5/2020
1.6	Gantt Chart	17/5/2020	19/5/2020
1.7	Expected Outcome	20/5/2020	20/5/2020
2	Analysis	21/5/2020	14/6/2020
2.1	Feasibility Analysis	21/5/2020	27/5/2020
2.2	Requirement Analysis	28/5/2020	4/6/2020
2.3	Requirement Specification	5/6/2020	9/6/2020
2.4	Diagrams	10/6/2020	14/6/2020
3	Design	15/6/2020	29/6/2020
3.1	UI Design	15/6/2020	22/6/2020
3.2	Database Design	23/6/2020	29/6/2020
4	Implementation	30/6/2020	29/7/2020
4.1	Coding	30/6/2020	21/7/2020
4.2	Development	22/7/2020	29/7/2020
5	Testing	30/7/2020	8/8/2020
5.1	Black-box Testing	30/7/2020	2/8/2020
5.2	Unit Testing	3/8/2020	8/8/2020
6	Documentation	9/8/2020	14/8/2020
6.1	Reporting	9/8/2020	14/8/2020

We have started the planning of this project with writing proposal for the first 15 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

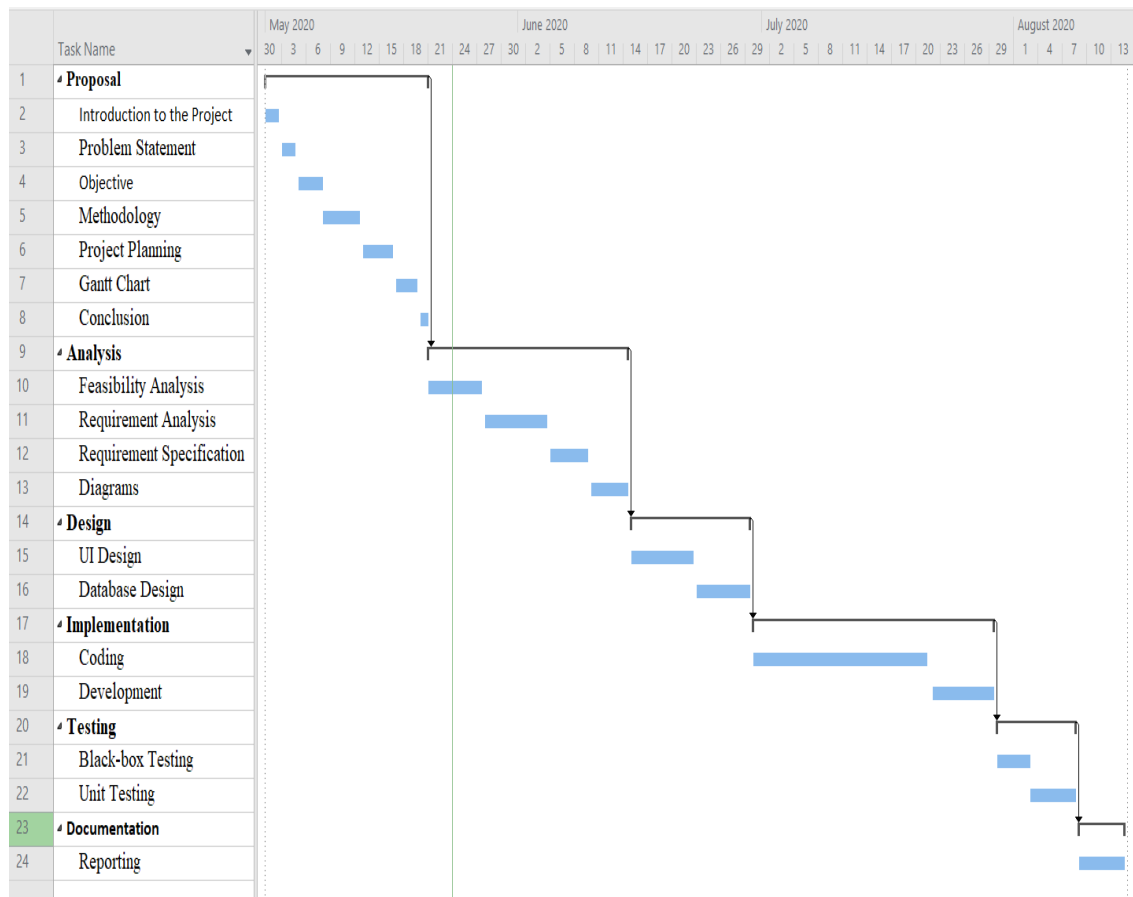
way, allocating certain days for each and every phases helps us to complete our project within the given timeframe. Finally, we will be focusing towards the documentation phase where we will be reporting and creating user manual for 6 days. These milestone helps to complete our task within the deadline.

Chapter 6: 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	Predecessors
1	Proposal	20.75 days	Fri 5/1/20	Wed 5/20/20	
2	Introduction to the Project	2 days	Fri 5/1/20	Sat 5/2/20	
3	Problem Statement	2 days	Sun 5/3/20	Mon 5/4/20	
4	Objective	3 days	Tue 5/5/20	Thu 5/7/20	
5	Methodology	5 days	Fri 5/8/20	Tue 5/12/20	
6	Project Planning	4 days	Wed 5/13/20	Sat 5/16/20	
7	Gantt Chart	3 days	Sun 5/17/20	Tue 5/19/20	
8	Conclusion	1 day	Wed 5/20/20	Wed 5/20/20	
9	Analysis	25.75 days	Thu 5/21/20	Sun 6/14/20	1
10	Feasibility Analysis	7 days	Thu 5/21/20	Wed 5/27/20	
11	Requirement Analysis	8 days	Thu 5/28/20	Thu 6/4/20	
12	Requirement Specification	5 days	Fri 6/5/20	Tue 6/9/20	
13	Diagrams	5 days	Wed 6/10/20	Sun 6/14/20	
14	Design	15.25 days	Mon 6/15/20	Mon 6/29/20	9
15	UI Design	8 days	Mon 6/15/20	Mon 6/22/20	
16	Database Design	7 days	Tue 6/23/20	Mon 6/29/20	
17	Implementation	30.75 days	Tue 6/30/20	Wed 7/29/20	14
18	Coding	22 days	Tue 6/30/20	Tue 7/21/20	
19	Development	8 days	Wed 7/22/20	Wed 7/29/20	
20	Testing	10.25 days	Thu 7/30/20	Sat 8/8/20	17
21	Black-box Testing	4.25 days	Thu 7/30/20	Sun 8/2/20	
22	Unit Testing	6 days	Mon 8/3/20	Sat 8/8/20	
23	Documentation	6 days	Sun 8/9/20	Fri 8/14/20	20
24	Reporting	6 days	Sun 8/9/20	Fri 8/14/20	



Figure_ 6: 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 7: Expected Outcome

Clearly, this 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.

Chapter 8: 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 MY SQL. 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.

Chapter 9: Reference & Bibliography

[1] **Gantt.com. (2019).** *What is a Gantt Chart? Gantt Chart Software, Information, and History.* [online] Available at: <https://www.gantt.com/> [Accessed 18 May. 2020].

[2] **Tutorialspoint.com. (2020).** *SDLC-Waterfall Model* [online] Available at: <https://www.tutorialspoint.com> [Accessed 14 May. 2020]

[3] **Lucidchart.com. (2020).** *How to Create a Work Breakdown Structure / Lucid chart Blog.* [online] Available at: <https://www.lucidchart.com/blog/how-to-create-a-work-breakdown-structure-and-why-you-should> [Accessed 17 May. 2020].

[4] **Medak J, Gogoi P. P.** Design and Development of University Admission Management System. Orient.J. Comp. Sci. and Technol;11(1)