

Software Project Management Plan

for

Online School Management System

Version 1.6 approved

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CSE TMSL

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Software Project Management Plan for “Online School Management System”

1. Introduction

The **Online School Management System (OSMS)** is designed to address the operational needs of educational institutions. In addition to standard administrative features, the OSMS streamlines the process of recording, calculating, and distributing student grades and academic performance. This system enables schools to efficiently manage student outcomes, automate grading, and provide students, educators, and parents with timely access to performance data. The goal is to reduce administrative burdens and improve the transparency and accuracy of result management, fostering a more productive learning environment.

I. Project Overview

The **Online School Management System (OSMS)** project aims to develop a web-based platform that streamlines the management of school operations, making it easier for students, teachers, administrators, and parents to interact with academic and administrative tasks. The system will allow students to browse available courses, register for classes, view schedules, and track their academic progress, while teachers can manage attendance, enter grades, and communicate with students. Administrators will oversee school operations, ensuring smooth functionality across all features, including attendance tracking and grade management. The system will also feature an integrated communication platform for seamless messaging between students, teachers, and parents. When students complete their course selection, they will proceed to checkout, where they confirm their details, fill in personal information, and, if needed, make secure payments for any enrollment fees. An email notification will be sent to confirm the enrollment. The OSMS aims to simplify school processes, reduce administrative burdens, and improve communication, creating a more transparent and efficient educational environment.

II. Project Deliverables

1. Preliminary Project Plan	19.07.2024
2. Requirements Specification	27.09.2024
3. Analysis [Object model, Dynamic model, and User interface]	01.11.2024
4. Architecture Specification	27.11.2024
5. Component/Object Specification	18.12.2024
6. Source Code	19.12.2024 - 22.05.2025
7. Test Plan	23.05.2025 - 05.06.2025
8. Final Product Demo	06.06.2025 - 13.06.2025

III. Evolution of this document

This document will be updated as the project progresses. Updates should be expected in the following sections:

- i. **References** - updated as necessary.
- ii. **Definitions, acronyms, and abbreviations** - updated as necessary.
- iii. **Organizational Structure** will be updated as the team leaders are assigned for each phase.
- iv. **Technical Process** - this section will be revised appropriately as the requirements and design decisions become clearer.
- v. **Schedule** – as the project progresses, the schedule will be updated accordingly.

Revision History

Revision	Date	Updated By	Update Comments
0.1	06.08.2024	Sumit Sharma	First Draft
0.2	17.11.2024	Sumit Sharma	Second Draft/Final Draft

IV. References

- vi. Team Website

<https://school-mate-swe.vercel.app/>

- vii. Project Scope

<https://school-mate-swe.vercel.app/>

Case Studies

<https://gradesfixer.com/free-essay-examples/school-management-system-case-study/>

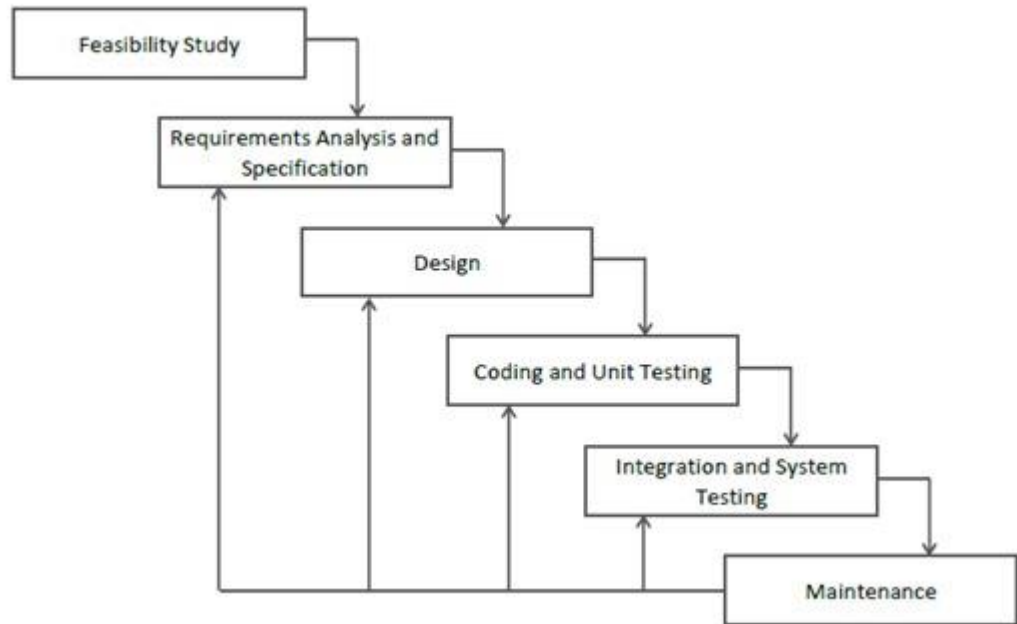
V. Definitions, Acronyms, and Abbreviations

- viii. UML - Unified Modeling Language
- ix. DD - Detailed Design
- x. SR - Software Requirements
- xi. SRD - Software Requirements Document
- xii. SUM - Software User Manual
- xiii. TBD – To Be Decided
- xiv. URD - User Requirements Definition
- xv. AD – Architectural Design
- xvi. UT – Unit tests
- xvii. IT – Integration tests
- xviii. ST – System tests
- xix. AT – Acceptance tests
- xx. SVVP - Software Verification and Validation Plan

2. Project Organization

I. Process Model

For this project, we have chosen the Iterative Waterfall Model as our development process. In this model, each stage allows us to conduct testing after the completion of a phase, facilitating a structured approach to development and testing. Unlike the traditional Waterfall Model, which strictly follows a linear sequence, the Iterative Waterfall Model incorporates iterations and feedback loops at key stages of the project. At the heart of this approach is the idea that each phase, such as requirements gathering, design, implementation, and testing, can be revisited and refined iteratively. This means that after the initial completion of a phase, we can circle back to it based on feedback and changing requirements, allowing us to make necessary adjustments and improvements. This iterative approach enhances flexibility and adaptability, which is particularly beneficial for a student result management system. By continuously gathering feedback from stakeholders, including students, teachers, and administrators, we can ensure that the system evolves to meet their evolving needs and expectations. This ongoing feedback loop and iterative refinement process are integral to delivering a system that aligns with the dynamic nature of educational institutions.



II. Organizational Structure

Team Members –

- i. Sumit Sharma
- ii. Snikdhendu Pramanik
- iii. Sumit Parira

Name	Organization/ Position	Contact Information
Sumit Sharma	School-Mate Project Manager	ss.sharma240303@gmail.com 9641990892
Snikdhendu Pramanik	School-Mate Tech head	snikdhendupramanik@gmail.com 9382618820
Sumit Parira	School-Mate Business Analyst	parirasumit@gmail.com 8252166103

Days	Deliverable	Team Leader	Deliverable Description
5	1	Sumit Sharma	Project Plan
50	2	Sumit Sharma	Requirements Specification
25	3	Snikdhendu Pramanik	Analysis
18	4	Snikdhendu Pramanik	Architecture Specification
15	5	Sumit Parira	Component/Object Specification
111	6	Sumit Sharma	Source Code
10	7	Sumit Parira	Test Plan
6	8	Sumit Sharma	Final Deliverable

III. Organizational Boundaries and Interfaces

Team leaders throughout each development of the phases will be responsible for coordinating team meetings, updates, communications, and team deliverables.

IV. Project Responsibilities

For the most vital responsibilities per phase of each team members, please refer to segment 2.2. Ultimately the project team is responsible for the successful delivery of the product. The team member tasks per deliverable according to expertise and the phases are as given below:

1. Project Plan – Whole Team
2. Requirements Specification – Sumit Sharma
3. Analysis – Snikdhendu Pramanik
4. Architecture Specification – Snikdhendu Pramanik

5. Component/Object Specification – Sumit Parira
6. Source Code – Snikdhendu Pramanik
7. Test Plan – Sumit Parira
8. Final Deliverable – Sumit Sharma

Name	Organization/ Position	Role/Responsibilities
Sumit Sharma	School-Mate Project Manager	<ul style="list-style-type: none"> • Managing and leading the project team. • Developing and maintaining a detailed project plan. • Monitoring project progress and performance. • Managing project evaluation and dissemination activities. • Develop corrective actions when necessary.
Snikdhendu Pramanik	School-Mate Tech head	<ul style="list-style-type: none"> • Prepare reports on project plans, status, progress, risks, deadlines and resource requirements. • Develop and perform work flow analysis to find out the difficulties in reaching goals. • Provide project cost estimates.
Sumit Parira	School-Mate Business Analyst	<ul style="list-style-type: none"> • Propose effective design solutions to meet project goals. • Prepare design layouts and sketches according to company design standards. • Keeping of records and files.

3. Managerial Process

I. Management Objectives and Priorities

The management objective is to deliver the product in time and of high quality. The PM and QAM work together to achieve this by respectively checking that progress is made as planned and monitoring the quality of the product at various stages.

II. Assumptions, Dependencies, and Constraints

In this project plan, a number of factors are taken into account. The following list shows the way milestones on various project phases have been scheduled:

- The team budget of 3-person x 365 hours = 1095 hours
- The project deadline of June 13th.
- The final presentation is on April 16th.
- The peer evaluation deadline is on January 15th.
- Other days the weekends holiday is closed (August 11th, August 18th, August 25th, September 1st, September 8th, September 15th, September 22th, September 29th, October 6th, October 13th, October 20th, October 27th, November 3rd, November 10th, November 17th, November 24th, December 1st, December 8th, December 25th, January 5th, January 12th, January 19th, January 26th, February 4th, March 24th, June 8th).

NOTE: Due to the deadline of 15th December 2024, running out of time will have its reflection on the product, and not on the duration of the project. By assigning a priority to every user requirement, a selection can be made of user requirements that may be dropped out if time runs out.

III. Risk Management

Identify Risks:

- Technological Risks: System compatibility issues across devices and browsers; server downtime due to high traffic.
- People Risks: Lack of user adoption or resistance to change among staff, students, or parents.
- Financial Risks: Budget overruns due to unforeseen complications or extended development time.
- Market Risks: The system may not meet changing user expectations or market trends in educational technology.
- Structure/Process Risks: Inefficient project management leading to delays or scope creep.

Mitigation Strategies:

- **Technological Risks** Ensure cross-platform testing and responsive design. Use scalable cloud infrastructure to handle traffic spikes and implement performance testing.
- **People Risks:** Provide training, user manuals, and continuous technical support. Conduct workshops to improve familiarity and confidence in using the system.
- **Financial Risks:** Prepare a detailed budget with contingency reserves. Regularly monitor project costs and adjust scope if necessary to stay within financial limits.
- **Market Risks:** Conduct market research and involve users (students, educators, and administrators) in the design process to ensure the system aligns with current needs and trends.
- **Structure/Process Risks:** Use agile methodologies for iterative development, and establish clear processes for progress tracking, scope control, and team communication.

Have a backup plan for critical risks. For instance, if a technical challenge proves insurmountable, be prepared to pivot or seek external assistance.

Maintain open communication with stakeholders, explaining potential delays or challenges and discussing possible solutions. Keep detailed documentation of your risk assessment, strategies, and any changes made. This documentation can be invaluable for future projects. Regularly test your system as you develop it. This can help identify technical challenges or bugs early, minimizing their impact on the project timeline.

IV. Monitoring and Controlling Mechanisms

The monitoring of progress is done by the PM using the following means:

- i. Weekly project status meetings
- ii. Shared document repository
- iii. Project tracking by Project Libre plan
- iv. Tracking utilizing baselines in Project Libre

4. Technical Process

I. Methods, Tools, and Techniques

The project will be implemented utilizing V-model methodology, and tools such as Project Libre, MS Project, Star UML, PHP, HTML, CSS, JavaScript, React, MySQL will be utilized. The risks for each category are listed to complete the project successfully.

II. Software Documentation

Documentation such as Functional Specification document, Technical Specification document and Detail Design Document.

III. Project Support Functions

All project support documents will be completed in applicable phases.

















5. Work Elements, Schedule, and Budget

- The project is accounted for project resources, technologies and tools required to whole analysis, implementation, and test of the application.
- The document for all phases will be revised in subsequent phases if applicable.

Budget and Resource Allocation

Salary	3,30,000.00
Office Operations/Supplies/Equipment/Consumables	50,000.00
Miscellaneous	<u>24,000.00</u>
Total	Rs. 4,04,000.00

Schedule

GANTT CHART		 Task Mode ▾	Task Name ▾	Duration ▾	Start ▾	Finish ▾	Predecessors ▾
	1		▾ Total Duration	240 d	Mon 15-07-24	Fri 13-06-25	
	2		Preliminary Project Plan	5 d	Mon 15-07-24	Fri 19-07-24	
	3		▾ Requirement Specificatio	50 d	Mon 22-07-24	Fri 27-09-24	
	4		Gather Requirements	12 d	Mon 22-07-24	Tue 06-08-24	2
	5		Define Functional Requ	18 d	Wed 07-08-24	Fri 30-08-24	4
	6		Define Non-functional	20 d	Mon 02-09-24	Fri 27-09-24	5
	7		Analysis	25 d	Mon 30-09-24	Fri 01-11-24	3
	8		Architecture Specification	18 d	Mon 04-11-24	Wed 27-11-24	7
	9		Component/Object Speci	15 d	Thu 28-11-24	Wed 18-12-24	8
	10		▾ Source Code Developme	111 d	Thu 19-12-24	Thu 22-05-25	9
	11		Implement Core Functi	49 d	Thu 19-12-24	Tue 25-02-25	9
	12		Integrate Components	37 d	Wed 26-02-25	Thu 17-04-25	11
	13		Code Review & Optimiz	25 d	Fri 18-04-25	Thu 22-05-25	12
	14		Test Plan & Execution	10 d	Fri 23-05-25	Thu 05-06-25	10
	15		Final Product Demo	6 d	Fri 06-06-25	Fri 13-06-25	14