Student Result Management System

Bachelor of Technology
Computer Science and Engineering

Submitted By

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Software Project Management Plan for "Student Result Management System"

1. Introduction

The Student Result Management System is a specialized software solution designed to streamline and enhance the process of managing student academic outcomes within educational institutions. This system plays a pivotal role in modernizing and automating the traditionally complex and time-consuming task of result management. By leveraging advanced technology, the Student Result Management System offers educational institutions an efficient and organized approach to recording, calculating, and disseminating student grades and academic performance. With its user-friendly interface and comprehensive features, the system aims to improve accuracy, reduce administrative burden, and provide timely access to crucial academic information for both educators and students. Through the effective implementation of the Student Result Management System, educational institutions can embrace a more effective and transparent method of result management that ultimately contributes to an enriched learning environment.

I. Project Overview

The Student Result Management System project is initiated with the aim of revolutionizing the way academic outcomes are handled within educational institutions. The purpose of this project is to develop an advanced software solution that automates and simplifies the process of managing student results, from recording grades to generating comprehensive transcripts. The scope encompasses the design, development, testing, and implementation of a user-friendly platform that caters to both educators and students, facilitating seamless interaction with academic data. The key objectives include enhancing accuracy in result computation, reducing administrative overhead, and providing real-time access to academic performance records. The project strives to empower educators with efficient tools for result entry and analysis while granting students the ability to easily track their progress. Stakeholders, including academic staff, students, administrators, and parents, have distinct roles: academic staff manage grades, students monitor their performance, administrators oversee system functionality, and parents gain insights into their child's progress. The Student Result Management System will feature functionalities such as result entry, automated grade calculations, transcript generation, and data security measures. These high-level features aim to create a centralized hub for all result-related activities, fostering an environment of transparency, accuracy, and effective communication within the educational institution.

II. Project Deliverables

1. Preliminary Project Plan	11.08.2023
2. Requirements Specification	31.08.2023
3. Analysis [Object model, Dynamic model, and User interface]	20.09.2023
4. Architecture Specification	10.10.2023
5. Component/Object Specification	31.10.2023
6. Source Code	1.11.2023 - 10.12.2023
7. Test Plan	11.12.2023 - 18.12.2023
8. Final Product Demo	19.12.2023 - 22.12.2023

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	08.08.2023	Arkapratim Ghosh	First Draft

IV. References

i. Team Website
https://drive.google.com/drive/folders/1UeCyaGTVO7-hYQ_8FrFHm4Z7dbwxLFks?usp=drive_link

ii. Project Scope
https://drive.google.com/drive/folders/1UeCyaGTVO7-hYQ_8FrFHm4Z7dbwxLFks?usp=drive_link

Case Studies

- Student Result Management System - Peer-reviewed Journal (ijarcce.com)
- (PDF) Web-Based Student Result Management System (researchgate.net)

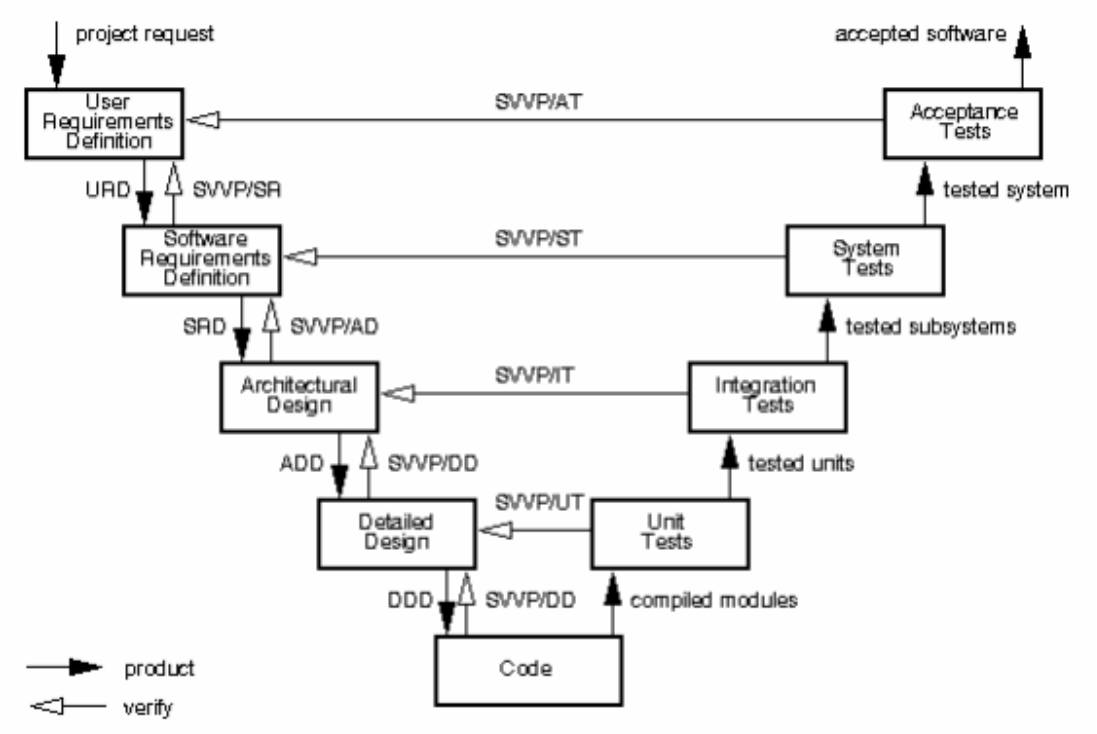
V. Definitions, Acronyms, and Abbreviations

i. UML - Unified Modeling Language
ii. DD - Detailed Design
iii. SR - Software Requirements
iv. SRD - Software Requirements Document
v. SUM - Software User Manual
vi. TBD – To Be Decided
vii. URD - User Requirements Definition
viii. AD – Architectural Design
ix. UT – Unit tests
x. IT – Integration tests
xi. ST – System tests
xii. AT – Acceptance tests
xiii. SVVP - Software Verification and Validation Plan

2. Project Organization

I. Process Model

The process used for this project will be a V-model such that each stage of the model allows us to do testing after completing a phase. Referring to the diagram below, each phase is tested after completion.



II. Organizational Structure

Team Members –

i. Arkapratim Ghosh

Name	Organization/ Position	Contact Information
Arkapratim Ghosh	ITech Project Manager	arkapratimghosh1264@gmail.com 9330450430

Days	Deliverable	Team Leader	Deliverable Description
20	1	Arkapratim Ghosh	Project Plan
20	2	Arkapratim Ghosh	Requirements Specification
20	3	Arkapratim Ghosh	Analysis
20	4	Arkapratim Ghosh	Architecture Specification
20	5	Arkapratim Ghosh	Component/Object Specification
40	6	Arkapratim Ghosh	Source Code
7	7	Arkapratim Ghosh	Test Plan
3	8	Arkapratim Ghosh	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 – TBD
3. Analysis – TBD
4. Architecture Specification – TBD
5. Component/Object Specification – TBD
6. Source Code – TBD
7. Test Plan – TBD
8. Final Deliverable – Entire Team

Name	Organization/ Position	Role/Responsibilities
Arkapratim Ghosh	ITech Project Manager	• 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.
Arkapratim Ghosh	ITech Business Analyst	• 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.
Arkapratim Ghosh	ITech Designer	• Propose effective design solutions to meet project goals. • Prepare design layouts and sketches according to company design standards. • Keeping of records and files.
Arkapratim Ghosh	ITech Staff	• Documentation of daily activities. • Making kick-off meeting reports. • In-charge of materials needed for team building activities.

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 1-person x 365 hours = 365 hours
• The project deadline of December 18th.
• The final presentation is on December 19th.
• The peer evaluation deadline is on December 18th.
• Other days the weekends holiday is closed (August 13th, August 20th, August 27th, September 3rd, September 10th, September 17th, September 24th, October 1st, October 8th, October 15th, October 22nd, October 29th, November 5th, November 12th , November 19th, November 26th, December 3rd, December 10th, December 17th).

NOTE: Due to the deadline of 18th December 2023, 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:

- Data Security Concerns: Consider the risk of unauthorized access to sensitive student data. Without proper security measures, data breaches could occur.
- Technical Challenges: As the sole developer, you might face technical obstacles or limitations that could impact the project's progress or quality.
- Time Constraints: Given your limited resources, there's a risk that the project might take longer to complete than initially estimated.
- Scope Creep: The project's scope might expand beyond your initial plan, affecting timelines and overall project management.
- Lack of Expertise: Certain areas, such as UI/UX design or database optimization, might be outside your expertise, leading to suboptimal solutions.

Assess Risks:

Rank the identified risks based on their potential impact and likelihood of occurrence. Focus on risks that have a higher chance of negatively affecting your project.

Mitigation Strategies:

- Data Security: Implement strong authentication mechanisms and encryption to protect student data. Regularly update security patches and consider penetration testing.
- Technical Challenges: Break down the project into smaller, manageable tasks. Research and learn about unfamiliar technologies or concepts as needed.
- Time Constraints: Set realistic timelines and prioritize tasks. Regularly review your progress and adjust timelines if necessary.
- Scope Creep: Clearly define project scope and objectives. Resist adding features that are not essential to the core functionality.
- Lack of Expertise: Leverage online resources, tutorials, and communities to gain knowledge in areas where you're less experienced. Consider seeking advice from peers.

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 MS project plan
iv. Tracking utilizing baselines in MS project

4. Technical Process

I. Methods, Tools, and Techniques

The project will be implemented utilizing V-model methodology, and tools such as Microsoft Project, Star UML, PHP, HTML, CSS, JavaScript 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	200,000.00
Office Operations/Supplies/Equipment/Consumables	40,000.00
Miscellaneous	10,000.00
Total	**Rs. 250,000.00**

Schedule

Task Mode	Task Name	Duration	Start	Finish
	Identify the company	4 days	Wed 09-08-23	Mon 14-08-23
	Conceptualize the project	1 day	Tue 15-08-23	Tue 15-08-23
	Establish the vision mission objective	3 days	Wed 16-08-23	Fri 18-08-23
	Identify scope of the project	1 day	Mon 21-08-23	Mon 21-08-23
	Develop preliminary schedules and cost estimates	1 day	Tue 22-08-23	Tue 22-08-23
	Create project charter	1 day	Wed 23-08-23	Wed 23-08-23
	Develop the business case for the project	1 day	Thu 24-08-23	Thu 24-08-23
	Select development tool	2 days	Fri 25-08-23	Mon 28-08-23
	Identify customer needs	3 days	Tue 29-08-23	Thu 31-08-23
	Establish target specifications	2 days	Fri 01-09-23	Mon 04-09-23
	Generate product concepts	2 days	Tue 05-09-23	Wed 06-09-23
	Redefine product specifications	1 day	Thu 07-09-23	Thu 07-09-23
	Plan the remaining development project	4 days	Fri 08-09-23	Wed 13-09-23
	Detail design	5 days	Thu 14-09-23	Wed 20-09-23