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Software Project Management Plans

Task tracker

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This Software Project Management Plans (SPMP) was prepared and provided as a deliverable for CS411, term1, and it will be used by Task track team.

This document is based in part on the IEEE Recommended Practice for SPMP Descriptions.

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Revision History

Name	Date	Reason For Changes	Version
All members	Sep 30, 2013	Prepared initial version	0.1
All members	Oct. 30, 2013	Updated section 3	0.2
…			
All members	Nov. 14, 2013	Complete review - Final version	1.0

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1. Project Overview

1.1 Purpose, Scope, and Objectives

Being open to the changes of modern technology, various industries have become improved today. Yet there's an ongoing struggle for people and teams in many contexts to get tasks, deadlines, and workflows right. Most often, teams are not great at disorganized processes, lack manual task tracking, with no automated systems in place to prioritise and complete tasks quickly. A Task Tracker Management System (TTMS) is what comes into play at this part.

Our TTMS may be used by any end users, whether they are individuals, students, office workers, or team managers they need a central platform to channel their daily activities, assignments and project deadline. Users will be able to make, edit and categorize tasks based on its priority, either personal or work related or academic. Inside a streamlined interface, they can place due dates, receive reminders, and tick off tasks. In addition, the TTMS will let you view task histories, see the progress through visual dashboards and generate task completion rate and productivity reports.

The team managers will have better visibility to the project timelines, team's performance and task allocation. Through the automation of the workflows, the system will cut down the number of manual follow-ups required, freeing the overall team up for more productive work. Users will also contribute to the system and provide feedback about the system and suggest improvements for the platform to adapt constantly according to their developing needs.

To be scalable and versatile for use by individuals across different settings, academic, and personal project management, our TTMS was designed to be used by these people. Yet, the scope of such project does not include features, even highly specialized, such as advanced integration with third party software, or, for example provide specific options of accessibility to users with disabilities.

The main goal of this project is to simplify task management processes by creating an easy and flexible platform that promotes accountability, boosts productivity and keeps you organized. The system is designed to fit into small to medium size organizations, yet the system's architecture allows for future expansion and adaptations based on user feedback.

1.1.1 Main Objectives:

Provide design of user-friendly software for the requirements of different users from the students to the professionals.

• apply software engineering techniques effectively especially agile and incremental models.

• On time delivery of project milestones, with high quality software delivery.

• Make sure the consistency is across the user interface, and easy to use. from students to professionals.

In order to achieve these objectives, we'll periodically review what our software requires and track our progress at each development milestone. We will reference key course materials and software engineering principles for accuracy in the implementation of system's features by our team. We will be distributed the tasks according to people's strengths and keeping them motivated throughout the project under our project leader.

Previous experience from courses such Object Orients Programming in python and Database and Design are being utilized in this project. In this time, we developed fully functioning systems with user interfaces connected to databases (like SQL Workbench), experiences that now will be a basis for this TTMS project.

1.2 Assumptions, Constraints and Risks

Type	Description
Assumptions	• all team members work together collaboratively in order to perform the TTMS (The Task Tracker Management System) • having regular team meetings (virtual) to keep on track • The developed TTMS would perform as expected and fulfill the functional and non-functional requirements • meeting project deadlines, and complete assigned tasks on time
Constraints	• Lack of advanced task management and collaboration tools for building the TTMS available to these teams. • The team may have no knowledge of the latest project management software technology. • One can end up on conflicting time with academic or professional responsibilities • The test and refinement of system features could be limited on the time by strict deadlines
Risks	• Ability for conflicts between team members to negatively impact their collaboration. • Communication breakdowns or communications misunderstandings which cause delays in the development of the project. • Undefined support within the organization, a delay in delivery of the resources required to complete the project, or differences in commitment or prioritization of the project among team members • It could impact whether the TTMS is completed with timing or quality. • Environmental, economic, and social risks.

Table 1 Assumptions, Constraints and Risks

1.3 Project Deliverables

	Deliverable	Submission Date	Media
1	Project Proposal	8 Sep. – 12 Sep.	Softcopy through Blackboard
2	Project Management Plan (SPMP)	06 Oct. – 10 Oct.	
3	Project Requirements (SRS)	27 Oct. – 31 Oct.	
4	Project Design (SDS)	03 Nov. – 07 Nov.	
5	Status Report	17 Nov. – 21 Nov.	
6	Project Test Plan (STS)	24 Nov. – 28 Nov.	
7	Project Presentation	15 Dec. – 19 Dec.	Softcopy through Blackboard and delivery through a zoom online meeting or in person

Table 2 Project Deliverables

1.4 Schedule and Budget Summary

Our Overall budget is expected to be roughly around 154,000 SAR.

The schedule for the Task Tracker Management System is as follows:

NO.	Project Activity	Duration	Human Resource
1	System Proposal	3 weeks	• Project Supervisor: Dr.Muawia Abdelmagid Abdelmagid ElsadigK • Team members: Ritaj Alhamli (Leader) Shahad alshehab Fatima Alawami Fatimah Alwarsh Anwar Aldahan Fatimah Al-ageel Maram Alnabrees
2	Task Management Plan (TMP)	2 weeks	
3	System Requirements (SRS)	2 weeks	
4	Status Reporting	1 week	
5	System Design (SDS)	2 weeks	
6	Test Plan and Quality Assurance (STS)	2 weeks	
7	Delivery and System Presentation	1 week	

Table 3 Project Schedule

1.5 Evolution of the Plan

The IEEE standards will be adhered to by the project plan we produce. This document is the detailed analysis of our initial task tracker management system plan built in version one.

Throughout the course of the project, depending on any scheduled or unscheduled changes, we will review and evaluate the impact of the change on resources, budget, and timelines, and we will determine if change to the change is appropriate. We will consider objectives, purpose, requirements and key stakeholders for the project when making unscheduled changes.

Once changes are made, we will review the goals and requirements of the project to make sure we are consistent with our Software Project Management Plan (SPMP). Any new developments will be updated to the SPMP. Once the team members and project's supervisory approves the proposed changes, the team leader will reassign the responsibility to complete the tasks accordingly.

The project manager also will update the team's schedule to the changes and to carry through with smooth project advancement. Finally, all changes or update will be discussed and approved by the whole team as well as the project supervisor to assist in keeping the consistent and accountable during the length of the project.

1.6 References

- IEEE SA - IEEE Standard for Software Project Management plans (1998-12-22) IEEE Standards Association. Available at: https://standards.ieee.org/ieee/1058/1542/.
- Software engineering 9th Edition Solutions Manual by Ian Sommerville - Software Engineering 9 – (2010) Studocu. Available at: https://www.studocu.com/row/document/assiutuniversity/software-engineering/software-engineering-9th-edition-solutions-manual-by-iansommerville/8726559.
- DMAIC process: Define, measure, analyze, improve, control | ASQ. Available at: https://asq.org/quality-resources/dmaic.

1.7 Definitions and Acronyms

Acronym	Meaning
IEEE	Institute of Electrical and Electronics Engineers
UI	User Interface
UX	User Experience
SPMP	Software Project Management Plan
SRS	Software Requirement Specification
SDS	Software Design Specification
STP	Software Test Plan
QA	Quality Assurance
COCOMO	Constructive Cost Model
SQL	Structured Query Language
DMAIC	Define Measure Analyze Improve Control
LAN	Local Area Network
IDE	Integrated Development Environment
UML	Unified Modeling Language

Table 4 Definitions and Acronyms

1.8 Document Structure

This report consists of six sections following IEEE's standards.

Section 1: Project Overview

This section includes the scope of the Task Tracker Management System, exclusions, and foremost objectives as well as the methodology that we will use to accomplish those goals. It outlines the document structure, includes the system's budget, schedule key references, acronyms, and definitions, as well as the system.
outlines the document structure, includes the system's budget, schedule key references, acron

Section 2: Project Organization

This section provides detail of project organizational structure. The internal and external interfaces of the Task Tracker Management System are included and the roles and responsibilities of all the team members that are involved in the task tracker are defined.

Section 3: Managerial Process Plan

In this section we define the managerial processes that involve developing the Task Tracker Management System. It presents startup plan, work plan, task tracking process, risk management plan and the project closeout plan.

Section 4: Technical Process Plan

The technical implementation of the system, referred to as this part of the document, is discussed here. This outlines the framework of your product (ex: Agile or Waterfall), the tools and technology used to accomplish the work, while walking through how that product will be developed to complete the tasks properly.

Section 5: Supporting Process Plan

This section has important timelines of the project's major milestones with key deadlines of deliverables and submission details.

Section 6: Additional Plans

This section also presents any additional plans that are required to further develop or deploy the Task Tracker Management System.

2. Project Organization

2.1 External Interfaces

The project manager in our Task Tracker Management System is the key link between external entities and the communication chain. And if a project involves an external pressure group such as a client or stakeholder, then the project manager has to ensure coordination efficiently between development team and outside entities. The project manager acts as a mediator between the project's problems, updates, or potential obstacles. They are to represent the team interests and solve problems; make sure that all the requirements are met, but that nothing important is missed or forgotten.

2.2 Internal Structure

The Task Tracker Management System will be overseen by Dr.Muawia Abdelmagid ElsadigK and developed by the following team members: Ritaj Alhamli, Shahad alshehab, Fatima Alawami, Fatimah Alwarsh, Anwar Aldahan, Fatimah Al-ageel, Maram Alnabrees. The project supervisor will guide and ensure that the project is accomplished on time and with success.

For the Task Tracker System to be on time and successfully done, team members should strictly adhere to laid-down processes and efficient strategies. The leader of the team, Ritaj Alhamli, will be mandated to ensure that all project objectives have been clearly communicated with the team, overseeing the task distribution, motivating the members of the team, and organizing weekly progress meetings via Zoom or Microsoft teams. These meetings will ensure the tasks remain on schedule and any hitches are brought forward.

The team structure is as shown in Table 5, where the key components are Task Management, System Design and Development, Planning Manager, System Testing and Documentation.

2.3 Roles and Responsibilities

To ensure motivation and achieve the desired outcomes, the project tasks should be distributed fairly, allowing each member to focus on areas where they excel.

Member	Responsibility	Role
Dr.Muawia Abdelmagid Abdelmagid ElsadigK	• Establishing Deadlines • Offering Constructive Feedback • Conducting Regular Evaluations • Engaging in Problem-Solving • Granting Final Project Approval	Project Supervisor
Ritaj Alhamli	• Articulating the Project Objective • Leading and Managing the Team • Distributing Tasks • Inspiring Team Members • Timeline Management	Project Manager
Anwar Aldahan	• Development and Revision of Weekly Task Schedule • Coordinating with Team Members: coordinates the inputs on the progress of the tasks, • setting future plans	Planning Manager
Fatima Alawami & Shahad alshehab & Fatimah Al-ageel	• UI Design • Database Design • Picking the most Effective Algorithm • Building the System • Code Review and Design, ensuring code quality and adherence to best practices • Effective Development Methodology Adoption	Software Design+ Development
Fatimah Alwarsh & Maram Alnabrees	• Establishing Features to Be Tested • Testing and Enhancing the System • Documenting Test Cases and Results	Testing Team

All Team Members	• Contributing to the Writing of the Project's Technical Documentation • Participating in Team Meetings (online meetings)	Technical Writing

Table 5 Members Roles and Responsibilities

3. Managerial Process Plans

This section of the Project Management Plan specifies the project management processes for the project. This section defines the plans for project start-up, risk management, project work, project tracking and project close-out.

3.1 Start-up Plan

3.1.1 Estimates

Estimating the costs for our project is essential, and we will begin with the key components. We will assess the necessary amounts of hardware, software, and other resources. The projected costs are as follows:

1. Hardware and Software Costs:

Roughly 50,000 SAR with 80% confidence, covering initial setup and ongoing maintenance.

2. Testing and Simulation Facilities:

An allocation of 15,000 SAR with a 75% confidence level for specialized testing and simulation environments, which will aid in developing applications, databases, user-friendly interfaces, and other testing needs.

3. Emergency Budget:

An additional 15,000 SAR will be reserved for unforeseen circumstances, with 65% confidence, to prepare for unexpected events.

4. Backup Expenses:

To maintain data integrity and availability, we will set aside 5,000 SAR with 70% confidence for backup solutions, including cloud storage and data recovery options.

5. Training Programs:

We will allocate 20,000 SAR for training programs with 90% confidence, ensuring project participants receive training and access to all necessary materials.

6. Human Resources Costs:

The designated team will work full-time during standard business hours, with each member receiving 7,000 SAR upon project completion So the total would be 49,000 based on their skill level, with 95% confidence.

Overall Cost Estimate:

The total projected costs for the project are approximately 154,000 SAR with 85% confidence

Methodology for Estimation

Methods Used:

Our estimates are based on analogy (comparing with similar past projects), historical data, and expert judgment. We will apply standard units of size and cost models where appropriate.

Tools and Techniques:

We will use cost estimation tools and spreadsheets to guarantee accuracy and clarity in our calculations.

Re-estimation Methods

Methods for Re-estimation:

Regular reviews and comparisons against initial estimates will be conducted, utilizing earned value management (EVM) techniques to assess project performance.

Schedule for Re-estimation:

Re-estimation will take place weekly or more often if significant project milestones are achieved or if there are major changes in the project scope.

Technical Approach:

We will develop our object-oriented application using the Python programming language. along with database management tools like SQL, will be employed to create a reliable and scalable task tracking application.

3.1.2 Staffing

This project will be implemented by seven contracted students majoring in Artificial Intelligence who are currently in their fourth year at Imam Abdulrahman bin Faisal University: Ritaj Alhamli, Maram Alnabrees, Anwar Aldahan, Fatimah Alwarsh, Shahad alshehab, Fatima Alawami, Fatimah Mohsen Alageel.

All of them are contracted employees for the duration of this project. Each team member is proficient and knowledgeable in using different programming languages such as Python, Java, C++ and conducting research papers. In addition, each team member has decision-making, problem-solving and communication skills. To make the implementation process as smooth as possible, we have assigned each team member to a specific role. We have agreed to cooperate in the work and distribute the tasks.

Due to the relatively small team size, all team members will work collaboratively full-time for the duration of this project to ensure the best quality and performance. In addition, the project supervisor will be Dr. Muawiyah. The table below summarizes the project phases and the required duration.

No.	Project Activity	Human Resource	Duration
1	Project Proposal	All team members, the supervisor, and customer	2 weeks
2	Project Management Plan (PMP)	All team members, the supervisor, and customer	2 weeks
3	Project Requirements (SRS)	All team members, the supervisor, and customer	2 weeks
4	Status Report	All team members, the supervisor, and customer	1 week
5	Project Design (SDS)	All team members, the supervisor, and customer	2 weeks
6	Project Test Plan (STS)	All team members, the supervisor, and customer	2 weeks
7	Project Delivery and representation	All team members, the supervisor, and customer	1 week

3.1.3 Project Staff Training

Any successful team should be prepared to handle any obstacles that may come up while the project is being carried out. We will provide project staff with specialized training that is in line with their individual tasks to avert major problems and ensure that the technical skills they need are available. There will be a variety of training techniques used, such as attending conferences, lectures, workshops, and mentorship sessions, as well as having access to a variety of manuals, guides, and internet resources.

Some training methods:

- For the project management ---> handbooks, and project management guides.
- For the project design ---> Watching tutorials and Attending instructor-led tutoring classes to further nourish their designing capabilities.
- For the Software Development ---> Provide online learning platforms and opportunities.
- For testing the program---> learning from online platforms and Provide study guides and maybe some training manuals.

3.2 Work Plan

3.2.1 Work Breakdown Structure

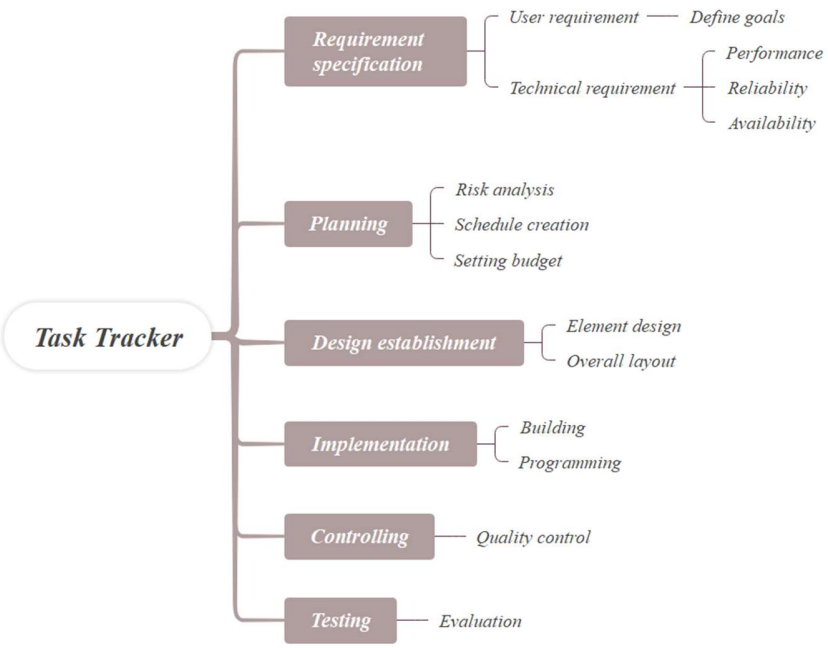


Figure 1: Work breakdown Structure (WBS)

Work activity	Resources	Estimated duration	Products	Acceptance criteria	Predecessor & Successor activity
Requirement specification	The user	2 weeks	Project requirements (SRS)	Meet user needs	N/A Planning
Planning	Requirement document	2 weeks	Project Management Plan (SPMP)	Define objectives	Requirement specification Design establishment
Design establishment	Planning document	2 weeks	Project Design (SDS)	Interface Designs	Planning Implementation
Implementation	Design document	2 weeks	Functional Software	build the the software Successfully	Design establishment Controlling
Controlling	Implementation document	2 weeks		Quality control	Implementation Testing
Testing	Control document	1 week	Project Test plan (STS)	Software with no errors	Controlling N/A

Table 6 Work breakdown structure table

3.2.2 Schedule Allocation

This section displays the amount of time dedicated to each activity from the project proposal stage to the project delivery and presentation stage.

The majority of the activities need 2-3 weeks to be accomplished, with the rest taking one week.

External restrictions on our timetable involve economic, environmental, security, and social constraints.

Unless there are any unexpected events, the group leader and all team members should review the schedule once a week to ensure everyone is on track.

The project's progress will follow the timetable depicted in this figure.

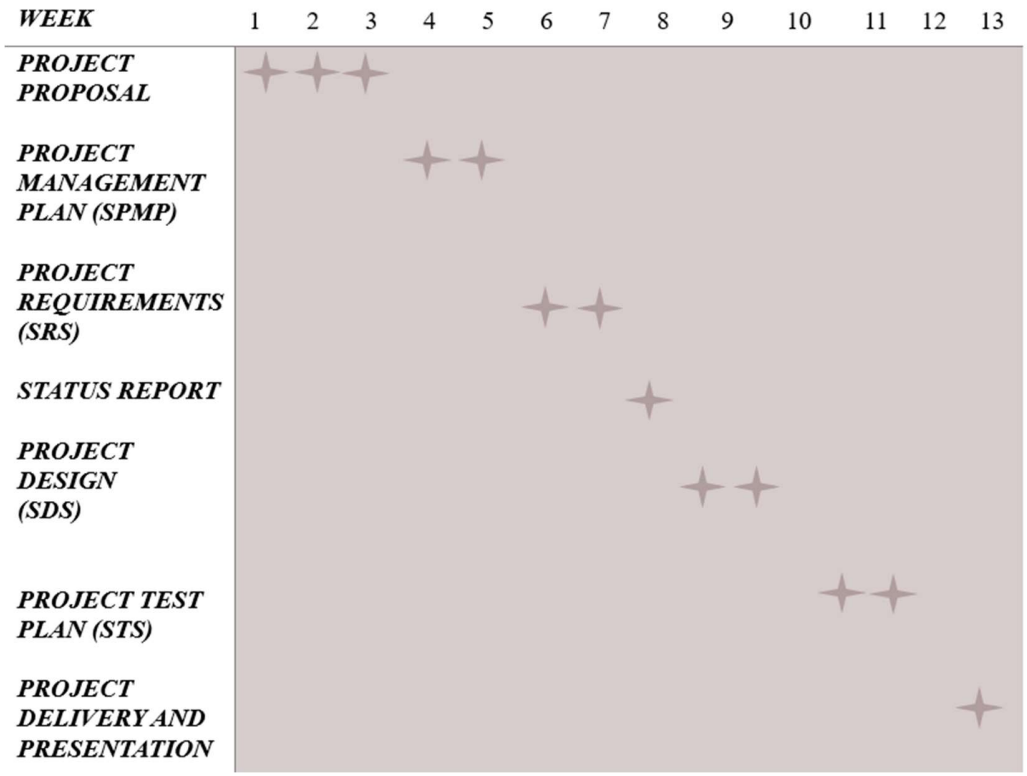


Figure 2 Work activities schedule allocation

3.2.3 Resource Allocation

Work activity		Human resources	Non-Human resources
1	Requirement specification	❖ Project manager ❖ Technical writers	❖ Microsoft Excel/word ❖ Microsoft OneDrive ❖ Wi-Fi connection
2	Planning	❖ Project manager ❖ Planning manager ❖ Contractor ❖ Team members	❖ Microsoft Excel/Word ❖ Microsoft OneDrive ❖ Wi-Fi connection ❖ IEEE specification of SPMP document
2.1	Risk analysis	❖ Project manager ❖ Planning manager ❖ Team members	❖ Microsoft Excel/word ❖ Microsoft OneDrive ❖ Wi-Fi connection
2.2	Schedule creation	❖ Project manager ❖ Planning manager	
2.3	Setting budget	❖ Project manager ❖ Contractor	
3	Design establishment	❖ Project manager ❖ Software designers ❖ Team members	❖ Microsoft Excel/Word ❖ Microsoft OneDrive ❖ Wi-Fi connection ❖ IEEE specification of SDS document ❖ Zoom/Teams ❖ Visual paradigm/ Lucid Chart ❖ My SQL Workbench
4	Implementation	❖ Project manager ❖ Software developers	❖ NetBeans IDE/visual studio code ❖ Microsoft Teams ❖ Zoom
5	Controlling	❖ Project manager ❖ Planning manager ❖ Software developer	❖ Microsoft Excel/Word ❖ Microsoft OneDrive ❖ Wi-Fi connection
6	Testing	❖ Testing team ❖ Team members	❖ Microsoft Excel/Word ❖ Microsoft OneDrive ❖ Wi-Fi connection ❖ IEEE specification of STS document

Table 7 Resource Allocation table

3.2.4 Budget Allocation

Since we are using incremental development model, our cost will be relatively low.

The software tools for laptops and hardware accessories would cost 50,000SR. In addition, 30,000SR will be allocated to our testing and simulation facilities.

Project participants will be trained and have access to all necessary resources, which will cost 20,000SR for training courses. We will set aside 5000SR to cover backup charges.

Furthermore, the team that was assigned will work full-time throughout normal business hours, with each member getting 7000SR upon project completion. There will be no meetings or travel expenditures because we will be holding all the meetings online, via Zoom and Microsoft Teams.

Finally, to ensure that we are prepared for unexpected situations, we will set aside an extra 15,000SR.

To sum up, our total budget of 154,000SR was divided accordingly:

Hardware and software costs: 50,000SR

testing and simulation facilities: 15,000SR

Staff training: 20,000SR

Backup expenses: 5000SR

Human Resources based on experience and role: 49,000SR

Contingency budget: 15,000SR.

This budget allocation is consistent with the agile-incremental approach, which distributes resources over iterative sprints to allow for flexibility and continual improvement based on incremental feedback and progress.

3.3 Project Tracking Plan

3.3.1 Requirements Management

One of the essential steps in managing the Task Tracker Management System (TTMS) project is requirements management. The process will ensure that the project meets its objectives and user needs, taking into consideration any changes throughout the project development.

Change Identification:

Changes can arise at any time in the project. The team shall document such changes with a complete description to justify why the change must be affected, so the whole team understands the potential impact.

Impact Analysis:

The proposed change will have to be reviewed by the team to determine how the change will affect project scope, schedule, resources, and risk. This lets us know if a change will affect the functionality, schedule, and/or budget of the system.

Team Discussion:

The team will meet regularly to discuss any changes. A minor change that may not affect the course of the project immediately could be postponed for future consideration.

Ease of Documentation:

The accepted changes are recorded in our project records so that all the members are informed about them and can trace the changes in progress.

Traceability:

The changes can be traced back to the actual requirement, hence accountability and clarity throughout the project life cycle.

3.3.2 Schedule Control

For the Task Tracker Management System-TTMS, the project schedule can be controlled by implementing the following approaches:

Milestone Tracking:

The project will be divided into well-defined milestones and respective deliverables. Progress checks will be carried out at regular intervals to validate if the project is advancing according to schedule.

Progress Monitoring:

We are going to make comparisons of actual progress to the planned timeline through shared documents or meeting updates. We address time delays or any other problem that surfaces in a very timely manner.

Corrective Actions:

In case the schedule is deviated, tasks will be adjusted, priorities will be shifted, and timelines extended as needed to keep the project on track.

Communication and Tracking Tools:

The progress and smooth communication between team members will be ensured through the help of regular Zoom meetings and face-to-face sessions. WhatsApp is provided for fast, real-time updating and coordination.

Milestone Completion Criteria:

Milestones are considered complete when some deliverables have been reviewed, and their validity was assured by the team upon testing and discussion.

3.3.4 Quality Control

We will perform quality control on TTMS according to the IDEAL Model to ensure high-quality standards. IDEAL is a structured, iterative approach to achieve and sustain high quality for any project during its whole life cycle.

Initiating:

Here, we will be setting out our quality objectives and giving quite clear expectations of what is to be expected from this project. It includes firm identification of keys to quality goals: fulfillment of user requirements, ensuring the performance aspect, and providing an effortless user experience. Here, team members will give concurrence to standards to be followed during development.

Diagnosing:

Information shall be gathered and analyzed by the team on the performance, functionality, and quality of code concerning the system while the development is in progress. In fact, diagnosing any issues or discrepancies on time can enable us to avoid all potential problems that could affect the project. Regular code reviews and feedback sessions would present the areas of improvement.

Establishing:

Depending on the diagnoses, we develop actionable plans for system improvement: either bug fixes, refinement of certain features, or improving performance. The team will then prioritize these improvements based on their impact on overall quality and user satisfaction.

Acting:

This stage describes the implementation of the improvement actions selected by the team. It may involve code updates, optimization of workflows, or refinement of the user interface. Continuous Testing and Integration will be applied to ensure that these modifications improve the system without introducing new problems.

Learning:

Improvement will be implemented, reflection will be made on the process gone into effect and theImprovement will be implemented, reflection will be made on the process gone into effect, and the realization of lessons learned. This will also include the effectiveness of the quality improvement made and the best practices for future iterations. These will help in guiding further development as quality will be of the essence.

Figure 3 IDEAL Model

Using the IDEAL Model, quality can be maintained via a structured, continuous improvement process that adapts to the evolution of the project.

3.3.5 Reporting

To maintain openness and keep all stakeholders updated about the progress of the Task Tracker Management System, reporting will be done in a structured manner as explained below:

Internal Reporting:

The WhatsApp group will be used more often by the team members for internal updates, enabling fast real-time communication. We will also use shared documents for giving short progress reports and following the tasks. Internal formal reporting will be held in our weekly team meeting on Zoom or face-to-face, where we go through progress made, problems, and future tasks.

External Reporting:

These reports will be presented to the project supervisor and any other relevant stakeholders. More comprehensive in nature, these reports will be conducted on a month-to-month basis with more focus on the developments achieved concerning the project at hand, milestones attained, and challenges encountered. This shall be channeled through email or during review meetings.

Report Frequency:

Internal Reporting: is set to be constant and in informal tones through WhatsApp, while the formal ones will be undertaken during the course of weekly meetings.

External Reporting: This would involve the issuing of monthly reports to stakeholders regarding the overall status of the project, with detailed progress.

By continuing internal and external reporting processes, it will have genuinely effected communication thereby keeping the project on track.

3.3.6 Project Metrics

To measure the progress and ensure the success of the Task Tracker Management System (TTMS), we will use key project metrics focusing on time management, productivity, cost, and quality:

Metrics	Comments
Time Management	We will monitor the efficiency of the completion of tasks by comparing the actual time taken against the planned timeline, which shall help us to gauge whether we are meeting deadlines and staying on schedule.
Cost Tracking	The team shall monitor all project-related expenses to ensure resources are utilized judiciously and within the prescribed budget to keep it financially efficient.
Quality Assurance	Quality checking would be performed during the development process but mainly during the test stage. The main focus will be to identify bugs and issues and fix them before the final delivery for quality purposes.
Team Productivity	We will measure the rates at which tasks are completed as a way of understanding general efficiency among the team. This is the insight we will use to see the performance of the team and what else needs to be improved.

Table 8 Metrics table

Regular Review:

These metrics will be continually reviewed to ensure the project is in line with the stated objectives.

We review it so that any problem can quickly be noted and adjustments made to get on track.

3.4 Risk Management Plan

There are several factors that could potentially pose a risk to the final product, and this table summarizes the identification and analysis of each factor, determining the probability of each of them occurring so that priority is considered, as well as addressing procedures for contingency planning.

Risk Factor	Effects	Probability	Example	Contingency Plan
Schedule Risks.	Missing deadlines (delay),	Medium.	Depending on external factors that might cause a delay,	Setting a detailed time management plane. Including proactive delays probabilities,
Technical Risks.	System failure, Customer dissatisfaction.	Low.	Software bugs that might interrupt its work, scalability issues for handling increased user load.	Checking for bugs regularly and as well as fixing them, Conducting load testing based on different scenarios.
Budget Risks.	Cost increase (budget overruns).	Medium.	Underestimated expenses when changing or updating requirements due to customer's review.	regular financial tracking & cost-benefit analysis for decision-making.
Achieving customer acceptance Risk.	Work rejection, reputation damage.	Medium.	Customer expectations of extensive customization options.	Involving customers in requirements gathering from early stages, We might also provide prototypes of a visual representation similar to the final product and have a clear communication for the customer feedback.

Table 3: Risk Management Plan

3.5 Project Closeout Plan

deliverables	Delivery Method	Status
Project	Softcopy	Completed
Project Management Plan (SPMP)	Softcopy	Completed
Project Requirements (SRS)	-	In progress
Submit Project Design (SDS)	-	In progress
project status report	-	In progress
Project Test Plan (STS)	-	In progress

Table 4: Project Closeout Plan

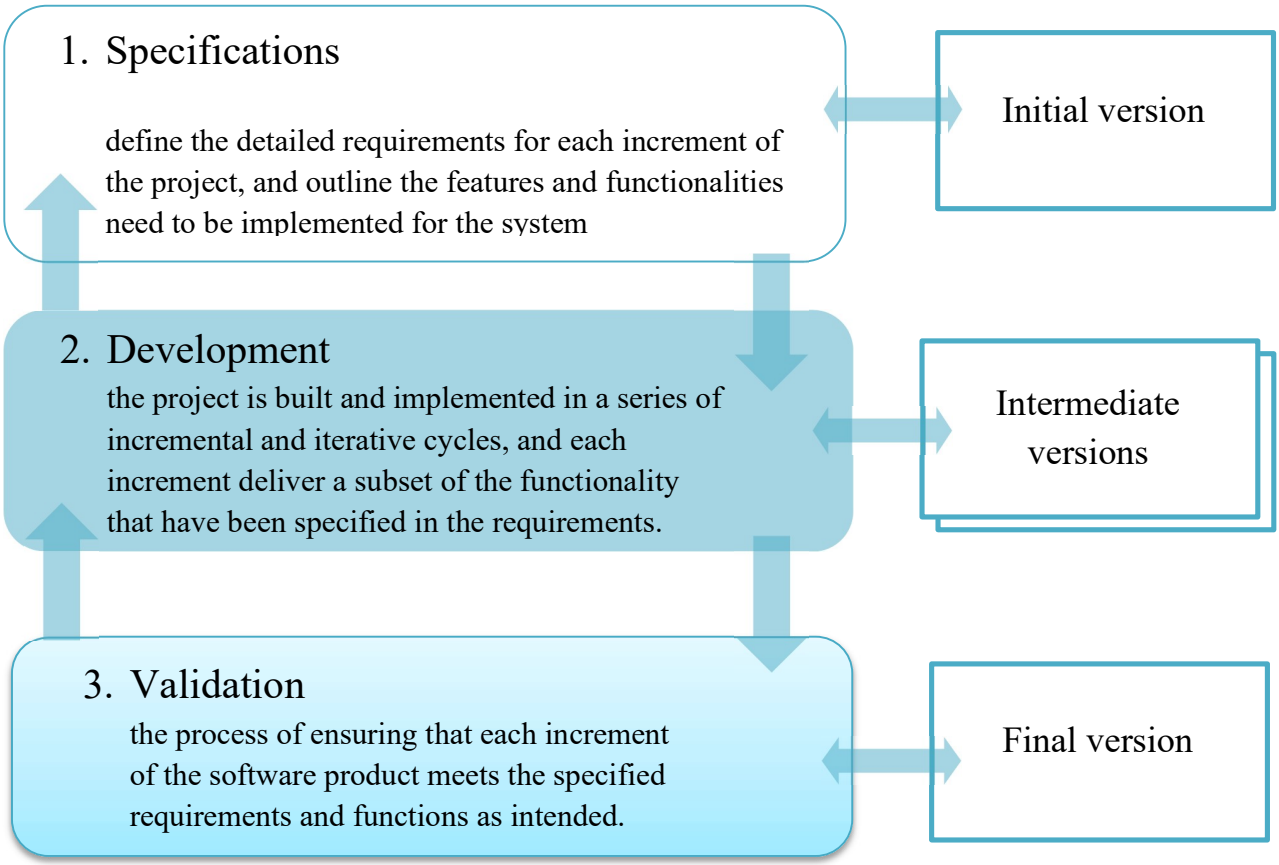
4. Technical Process Plans

4.1 Process Model

In our project we will apply the incremental model for the development of "Task Track" system. The activities of this model are interleaved, and it follows an iterative development. The changes in incremental model accommodated at each iteration, allowing for flexibility in requirements and features. Risks are identified and addressed early in the development process, reducing the overall project risk, and ensuring that the parts of the product are delivered and usable early in the development process.

Incremental model phases:

Table 9: Process model



4.2 Methods, Tools, and Techniques

This table illustrate the methods, tools, and the technical standards through each phases of the incremental model to implement our “Task Track” system.

Phase	Methods	Tools	Technical standard
Specifications	-	• Microsoft word. • Zoom video communication.	IEEE Std 12207-1996
Development	Design UML, ER diagrams, programming the functionalities with python (jupyter), design the interface.	• Microsoft word. • Python. • Lucidchart. • UML tools.	IEEE Std 12207-1996
Validation	• Diagrams. • Tables.	• Microsoft word. • Zoom video communication.	IEEE Std 12207-1996

Table 10:Methods, tools, and technical standards of each process phase.

4.3 Infrastructure

To develop a software we need an infrastructure that consists of hardware, software, network, and operating system, this table illustrates some examples of them :

Infrastructure plan	
Hardware	PC or laptops
Operating system	Windows, linux, mac OS.
Network	Local area network.
Software	All used applications, Microsoft word, anaconda, lucidchart.
Facilities	All members document their work, and they work using their own PCs or laptops.
Policies	For security and safety purposes, all members should respect and follow the rules.

Table 11:Infrastructure plan

4.4 Product Acceptance

As a software developer team we choose the incremental model because the iterative approach allows us to review functionality progressively, ensuring that each increment meets user requirements and quality standards, our significant goal from “Task Tracker” is to satisfies the needs and facilitate, organize tasks for the user. The incremental model not only facilitates early detection of issues but also enhances user feedback integration, leading to a more refined final product.

5. Supporting Process Plans

5.1 Documentation

Required documents	Submission date	Format	Document preparation	Document reviewing
Project Proposal	18 sep	-Provided template.	All group members	Dr. Muawiya Abdul majid
Project Management Plan (SPMP)	15 oct	-IEEE Std 12207-1996. -Provided template.		
Submit Project Requirements (SRS)	31 Oct	-Provided template. -		
Submit Project Design (SDS)	07 Nov	-Provided template. -		
Software Project Status Report 1	21 Nov	-Provided template. -		
Submit Project test plan (STS)	28 Nov	-Provided template. -		

Table 12 Documentation

6. Additional Plans

For a task tracker management system, we may need more functional and non-functional requirements as an additional plan to improve our system:

Functional requirements:

1-User Authentication Enhancements

- **Multi-Factor Authentication**: The system should support multi-factor authentication to add more security.
- **Password Recovery**: The system should provide a secure password recovery option via email, or by texting the phone number.

2-Advanced Task Management

- **Subtasks**: The system should allow users to create subtasks under main tasks for better organization.
- **Priority Levels**: The system should allow users to assign priority levels high, medium, and low to tasks.

Non-functional requirements:

- **Response time.**
- **Memory utilization.**