CEBU INSTITUTE OF TECHNOLOGY UNIVERSITY

COLLEGE OF COMPUTER STUDIES

Software Project Management Plan

for

TekSpace - Admin

Signature

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Primrose O. Manlosa
Team Lead
Planning Manager

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Mel Jay C. Llanos
Lead Designer
Lead Programmer

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Lhora Mae C. Alvarez
SQL Developer
Lead Programmer

_____

Melgwen B. Cariquitan
HTML Developer
Software Test Engineer

_____

Adrian I. Andrin
UX Developer
Quality Assurance Manager

Change History

Version No.	Revisions or Additions Made	Date	Revised By
1.0	● Signature Section added ● Purpose, Scope, and Objectives Section added ● Assumptions and Constraints Section added ● References Section added ● Definition Section added	02/12/2021	Lhora Mae, Alvarez, Primrose Manlosa, Melgwen Cariquitan
1.1	● Roles and Responsibilities Section added ● Work Activities Section added ● Preface Section added ● Table of Contents Section updated ● List of Tables added ● Change History Table added ● Schedule Allocation added	02/27/2021	Lhora Alvarez, Primrose Manlosa, Melgwen Cariquitan
1.2	● Work Activities Section updated	03/01/2021	Lhora Alvarez, Primrose Manlosa, Mel Jay Llanos

Preface

This document is the Software Project Management Plan (SPMP) of the TekSpace software application for Administration. It aims to document and organize the plans for the project. The content of the document herein basically contains the introduction, project estimates, schedule, project resources, staff organization, technical process plans and supporting process plans.

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1. Overview

1.1 Project Summary

1.1.1. Purpose, scope and objectives

The purpose of TekSpace is to encourage social interactions, provide career knowledge and skills to learners, and ease the monitoring, distribution, and evaluation of educational courses and learning modules wherein completion of the aforementioned course materials will aid in building the student's digital profile for future prospects.

The scope of this project are as follows:

- Database Utilization
- Digital Portfolio
- Social Platform System

The objectives of the project is improving the management and duties of career center offices through software application or virtual education making it easier to distribute modules and track student progress.

1.1.2. Assumptions and constraints

The project will be planned with the following assumptions:

- this project is a large project consisting of three major components

The project will be planned with the following constraints:

- the project will use Flutter with its corresponding language - Dart - for the mobile development
- the system for student use is currently designed for an Android operating system

1.1.3. Project deliverables

1.1.4. Schedule and budget summary

1.2 Evolution of plan

This subclause of the SPMP shall specify the plans for producing both scheduled and unscheduled updates to the SPMP. Methods of disseminating the updates shall be specified. This subclause shall also specify the mechanisms used to place the initial version of the SPMP under configuration management and to control subsequent changes to the SPMP.

2. References

- *Django Documentation:* https://docs.djangoproject.com/en/3.1/

3. Definitions

This section shall define, or provide references to, documents containing the definition of all terms and acronyms required to properly understand the SPMP.

TERM	DEFINITION
LMS	Acronym for Learning Management System
Portfolio	Displays the user's accomplishments and achievements (e.g. certificates and badges) gained from completing each IKIGAI session.
Analytics	Shows a graphical representation of student information and data.
IKIGAI Sessions	A thematic term for Learning Sessions wherein it contains all the user's assigned modules and respective tasks.
Learning Modules	Provides a series of educational materials to students.
Learning Tasks	Displays all the allocated assignments or assessments to be answered and submitted.

Table 3.1 Definitions

4. Project organization

This clause of the SPMP shall identify interfaces to organizational entities external to the project; describe the project's internal organizational structure; and define roles and responsibilities for the project.

4.1 External structure

This subclause of the SPMP shall describe the organizational boundaries between the project and external entities. This should include, but is not limited to, the following: the parent organization, the acquiring organization, subcontracted organizations, and other organizational entities that interact with the project. Representations such as organizational charts and diagrams may be used to depict the project's external interfaces.

4.2 Internal structure

This subclause of the SPMP shall describe the internal structure of the project organization to include the interfaces among the units of the software development team. In addition, the organizational interfaces between the project and organizational entities that provide supporting processes, such as configuration management, quality assurance, and verification and validation, shall be specified in this subclause. Graphical devices such as organizational charts or diagrams should be used to depict the lines of authority, responsibility, and communication within the project.

4.3. Roles and responsibilities

This section describes the roles and responsibilities of each team member of Team TechnoWorkspace. It should be noted that this is not a comprehensive list of responsibilities. This section will be updated as the project progresses.

Roles	Responsibilities
Team Lead	Software project planning and monitoring Manage the team Risk management Goal and schedule planning and managing
Planning Manager	Overseeing planning development plans Managing planning compliance Informing and updating changes associated with new information
Lead Designer	Ability to quickly adapt or modify designs and functions Design and specify user interfaces Communicate effective and conceptual ideas Work closely with development teams
Lead Programmer	Oversees the technical side of the project Ensures the project meets the technical requirements

	Ensures that required tasks are done on time Improves the quality of the code
SQL Developer	Designs the database tables, functions, procedures, and structures Writing database triggers for use in automation Maintaining data quality Fix any potential problems
HTML Developer	Creating website/user interface Ensures all the technical feasibility of UI/UX design Assures that all user input is validated before submitting to back-end Collaborate with back-end developers to integrate data from various back-end services and databases
Software Test Engineer	Tests and proves that the software meets the requirements Ensures the quality of the system as a whole Detect bug issues
UX Developer	Illustrate design ideas Designs graphic user interface Develop UI mockups and prototypes that clearly illustrate how sites function and look like Identify and troubleshoot UX problems
Quality Assurance Manager	Ensures that the final product follows the quality standards Detects and reports problems or issues Inspects and analyzes every tiny detail

Table 4.3.1 Roles and Responsibilities

Roles	**Person's Responsible**	
	2nd Semester A.Y. 2020-2021	1st Semester A.Y. 2021-2022
Team Lead	Primrose Manlosa	TBD
Planning Manager	Primrose Manlosa	TBD
Lead Designer	Mel Jay Llanos	TBD
Lead Programmer	Mel Jay Llanos, Lhora Mae Alvarez	TBD
SQL Developer	Lhora Mae Alvarez	TBD
HTML Developer	Melgwen Cariquitan	TBD
Software Test Engineer	Melgwen Cariquitan	TBD

UX Developer	Adrian Andrin	TBD
Quality Assurance Manager	Adrian Andrin	TBD

Table 4.3.2 Role Allocation

5. Managerial process plans

This clause of the SPMP shall specify the project management processes for the project. This clause shall be consistent with the statement of project scope and shall include the project start-up plan, risk management plan, project work plan, project control plan, and project closeout plan.

5.1 Start-up plan

This subclause of the SPMP shall specify the estimation plan, staffing plan, resource acquisition plan, and training plan. Depending on the size and scope of the project, these plans may be incorporated directly or by reference to other plans.

5.1.1 Estimation plan

This subclause of the SPMP shall specify the cost and schedule for conducting the project as well as methods, tools, and techniques used to estimate project cost, schedule, resource requirements, and associated confidence levels. In addition, the basis of estimation shall be specified to include techniques such as analogy, rule of thumb, or local history and the sources of data. This subclause shall also specify the methods, tools, and techniques that will be used to periodically re-estimate the cost, schedule, and resources needed to complete the project. Re-estimation may be done on a monthly basis and aperiodically as necessary.

5.1.2 Staffing plan

This subclause of the SPMP shall specify the number of staff required by skill level, the project phases in which the numbers of personnel and types of skills are needed, and the duration of need. In addition, this subclause shall specify the sources of staff personnel; for example by internal transfer, new hire, or contracted. Resource Gantt charts, resource histograms, spreadsheets, and tables may be used to depict the staffing plan by skill level, by project phase, and by aggregations of skill levels and project phases.

5.1.3. Resource acquisition plan

This subclause of the SPMP shall specify the plan for acquiring the resources in addition to personnel needed to successfully complete the project. The resource acquisition plan should include a description of the resource acquisition process, including assignment of responsibility for all aspects of resource acquisition. The plan should include, but not be limited to, acquisition plans for equipment, computer hardware and software, training, service contracts, transportation, facilities, and administrative and janitorial services. The plan should specify the points in the project schedule when the various acquisition activities will be required. Constraints on acquiring the necessary resources shall be specified. This subclause may be expanded into additional subclauses of the form 5.1.3.x to accommodate acquisition plans for various types of resources to be acquired.

5.1.4. Project staff training plan

This subclause of the SPMP shall specify the training needed to ensure that necessary skill levels in sufficient numbers are available to successfully conduct the software project. The training schedule shall include the types of training to be provided, numbers of personnel to be trained, entry and exit criteria for training, and the training method; for example, lectures, consultations, mentoring, or computer-assisted training. The training plan should include training as needed in both technical and managerial skills

5.2 Work plan

5.2.1. Work activities

The table below shows the developers' work breakdown structure during this course. It is subject to change as the project progresses.

Task Name	Assignee	Start Date	Due Date
Project Planning	Primrose Manlosa, Mel Jay Llanos, Adrian Paul I. Andrin, Lhora Alvarez, Melgwen Cariquitan	02/02/2021	08/03/2021
❑ **Requirement Validation**	Primrose Manlosa, Mel Jay Llanos, Adrian Paul I. Andrin, Lhora Alvarez, Melgwen Cariquitan	08/02/2021	12/02/2021
❑ Design Validation	Primrose Manlosa, Mel Jay Llanos, Adrian Paul I. Andrin, Lhora Alvarez, Melgwen Cariquitan	08/02/2021	12/02/2021
❑ Function Validation	Primrose Manlosa, Mel Jay Llanos, Adrian Paul I. Andrin, Lhora Alvarez, Melgwen Cariquitan	08/02/2021	12/02/2021
❑ **Finalize Patent Search Report**	Mel Jay Llanos, Primrose Manlosa	22/02/2021	01/03/2021
❑ **Edit SRS**	Primrose Manlosa, Lhora Alvarez, Melgwen Cariquitan	24/02/2021	01/03/2021
❑ Chapter 1	Lhora Alvarez, Melgwen Cariquitan	24/02/2021	01/03/2021
❑ Chapter 2	Primrose Manlosa	24/02/2021	01/03/2021
❑ Chapter 3	Mel Jay Llanos, Adrian Paul I. Andrin, Lhora Alvarez, Primrose Manlosa, Melgwen Cariquitan	24/02/2021	01/03/2021
❑ **Edit SPMP**	Primrose Manlosa, Melgwen Cariquitan, Lhora Alvarez	24/02/2021	01/03/2021
❑ Work Breakdown Structure	Primrose Manlosa, Lhora Alvarez	24/02/2021	01/03/2021
❑ **Use Case Diagram for Web Admin**	Melgwen Cariquitan, Primrose Manlosa, Lhora Alvarez, Mel Jay Llanos	24/02/2021	01/03/2021
❑ Login	Lhora Alvarez	24/02/2021	01/03/2021
❑ Dashboard	Lhora Alvarez	24/02/2021	01/03/2021
❑ Student	Primrose Manlosa	24/02/2021	01/03/2021
❑ Social Platform	Mel Jay Llanos	24/02/2021	01/03/2021
❑ Sessions	Melgwen Cariquitan, Primrose Manlosa	24/02/2021	01/03/2021

❑ **Wireframe Prototype (Admin)**	Mel Jay Llanos, Adrian Paul I. Andrin	24/02/2021	01/03/2021
❑ Login	Adrian Paul I. Andrin	24/02/2021	01/03/2021
❑ Dashboard	Adrian Paul I. Andrin	24/02/2021	01/03/2021
❑ LMS	Mel Jay Llanos, Adrian Paul I. Andrin	24/02/2021	01/03/2021
❑ Digital Profile	Adrian Paul I. Andrin	24/02/2021	01/03/2021
❑ Social Platform	Mel Jay Llanos	24/02/2021	01/03/2021
❑ **SDD**	Primrose Manlosa, Mel Jay Llanos, Adrian Paul I. Andrin, Lhora Alvarez, Melgwen Cariquitan	01/03/2021	27/03/2021
Project Development	Primrose Manlosa, Mel Jay Llanos, Adrian Paul I. Andrin, Lhora Alvarez, Melgwen Cariquitan	01/03/2021	27/03/2021
❑ **UML**	Mel Jay Llanos, Adrian Paul I. Andrin, Lhora Alvarez, Primrose Manlosa, Melgwen Cariquitan	01/03/2021	27/03/2021
❑ Entity Relationship Diagram	Mel Jay Llanos, Primrose Manlosa	01/03/2021	27/03/2021
❑ Class Diagram	Lhora Alvarez, Adrian I. Andrin, Melgwen Cariquitan	01/03/2021	27/03/2021
❑ **Front-end General Template**	Melgwen Cariquitan, Adrian Andrin	01/03/2021	27/03/2021
❑ Color pallet css	Melgwen Cariquitan	01/03/2021	27/03/2021
❑ Side bar front-end html	Adrian Andrin	01/03/2021	27/03/2021
❑ Side bar front-end css	Adrian Andrin	01/03/2021	27/03/2021
❑ **Login Page**	Primrose Manlosa	01/03/2021	27/03/2021
❑ Front-end design	Primrose Manlosa	01/03/2021	27/03/2021
❑ Back-end design	Primrose Manlosa	01/03/2021	27/03/2021
❑ **Dashboard/Landing page**	Mel Jay Llanos	01/03/2021	27/03/2021
❑ Front-end design	Mel Jay Llanos	01/03/2021	27/03/2021
❑ Back-end design	Mel Jay Llanos	01/03/2021	27/03/2021
❑ **Students Page**	Lhora Alvarez	01/03/2021	27/03/2021
❑ Front-end design	Lhora Alvarez	01/03/2021	27/03/2021

❑ Back-end design	Lhora Alvarez	01/03/2021	27/03/2021
❑ **Feature 1: LMS**	Mel Jay Llanos, Adrian Paul I. Andrin, Lhora Alvarez, Melgwen Cariquitan	01/03/2021	27/03/2021
❑ **Session Front-end**	Melgwen Cariquitan	01/03/2021	27/03/2021
❑ Add Session Front-end	Melgwen Cariquitan	01/03/2021	27/03/2021
❑ Export to File	Melgwen Cariquitan	01/03/2021	27/03/2021
❑ Delete Session Front-end	Melgwen Cariquitan	01/03/2021	27/03/2021
❑ Back-end	Melgwen Cariquitan	01/03/2021	27/03/2021
❑ **Module Front-end**	Adrian Andrin	01/03/2021	27/03/2021
❑ Add module	Adrian Andrin	01/03/2021	27/03/2021
❑ Delete module	Adrian Andrin	01/03/2021	27/03/2021
❑ Back-end	Adrian Andrin	01/03/2021	27/03/2021
❑ **Task Front-end**	Melgwen Cariquitan, Lhora Alvarez	01/03/2021	27/03/2021
❑ Add Task	Melgwen Cariquitan	01/03/2021	27/03/2021
❑ Delete Task	Melgwen Cariquitan	01/03/2021	27/03/2021
❑ View Task	Melgwen Cariquitan	01/03/2021	27/03/2021
❑ Update Task	Melgwen Cariquitan	01/03/2021	27/03/2021
❑ Examine Task	Lhora Alvarez	01/03/2021	27/03/2021
❑ Back-end	Lhora Alvarez	01/03/2021	27/03/2021
❑ **Students Front-end**	Mel Jay Llanos	01/03/2021	27/03/2021
❑ Implement Outlook API	Mel Jay Llanos	01/03/2021	27/03/2021
❑ Back-end	Mel Jay Llanos	01/03/2021	27/03/2021
❑ **Analytics Front-end**	Adrian Andrin	01/03/2021	27/03/2021
❑ Back-end	Adrian Andrin	01/03/2021	27/03/2021
❑ **Student Progress Front-end**	Mel Jay Llanos	01/03/2021	27/03/2021
❑ Implement Outlook API	Mel Jay Llanos	01/03/2021	27/03/2021

❑ Back-end	Mel Jay Llanos	01/03/2021	27/03/2021
❑ **Feature 2: Digital Profile**	Primrose Manlosa, Mel Jay Llanos	01/03/2021	27/03/2021
❑ Profile Front-end	Primrose Manlosa	01/03/2021	27/03/2021
❑ Edit Profile	Primrose Manlosa	01/03/2021	27/03/2021
❑ Back-end	Mel Jay Llanos	01/03/2021	27/03/2021
❑ **Feature 3: Social Platform**	Primrose Manlosa, Lhora Alvarez	01/03/2021	27/03/2021
❑ Social Page Front-end	Primrose Manlosa	01/03/2021	27/03/2021
❑ Add Interest	Lhora Alvarez	01/03/2021	27/03/2021
❑ View Interest	Lhora Alvarez	01/03/2021	27/03/2021
❑ Remove Interest	Lhora Alvarez	01/03/2021	27/03/2021
❑ Update Interest	Lhora Alvarez	01/03/2021	27/03/2021
❑ Interest Back-end	Lhora Alvarez	01/03/2021	27/03/2021
❑ Add Activity	Primrose Manlosa	01/03/2021	27/03/2021
❑ View Activity	Primrose Manlosa	01/03/2021	27/03/2021
❑ Remove Activity	Primrose Manlosa	01/03/2021	27/03/2021
❑ Update Activity	Primrose Manlosa	01/03/2021	27/03/2021
❑ Activity Back-end	Lhora Alvarez	01/03/2021	27/03/2021

Table 5.2.1.1 Work Activities

5.2.2. Schedule allocation

The duration of this project is constrained within two semesters - 2nd semester A.Y. 2020-2021 and 1st Semester A.Y. 2021-2022.

5.2.3. Resource allocation

This subclause of the SPMP shall provide a detailed itemization of the resources allocated to each major work activity in the project work breakdown structure. Resources shall include the numbers and required skill levels of personnel for each work activity. Resource allocation may include, as appropriate, personnel by skill level and factors such as computing resources, software tools, special testing and simulation facilities, and administrative support. A separate line item should be provided for each type of resource for each work activity. A summary of resource requirements for the various work activities should be collected from the work packages of the work breakdown structure and presented in tabular form.

5.2.4. Budget allocation

This subclause of the SPMP shall provide a detailed breakdown of necessary resource budgets for each of the major work activities in the work breakdown structure. The activity budget shall include the estimated cost for activity personnel and may include, as appropriate, costs for factors such as travel, meetings, computing resources, software tools, special testing and simulation facilities, and administrative support. A separate line item shall be provided for each type of resource in each activity budget. The work activity budget may be developed using a spreadsheet and presented in tabular form.

5.3. Control plan

This subclause of the SPMP shall specify the metrics, reporting mechanisms, and control procedures necessary to measure, report, and control the product requirements, the project schedule, budget, and resources, and the quality of work processes and work products. All elements of the control plan should be consistent with the organization's standards, policies, and procedures for project control as well as with any contractual agreements for project control.

5.3.1. Requirements control plan

This subclause of the SPMP shall specify the control mechanisms for measuring, reporting, and controlling changes to the product requirements. This subclause shall also specify the mechanisms to be used in assessing the impact of requirements changes on product scope and quality, and the impacts of requirements changes on project schedule, budget, resources, and risk factors. Configuration management mechanisms shall include change control procedures and a change control board. Techniques that may be used for requirements control include traceability, prototyping and modeling, impact analysis, and reviews.

5.3.2. Schedule control plan

This subclause of the SPMP shall specify the control mechanisms to be used to measure the progress of work completed at the major and minor project milestones, to compare actual progress to planned progress, and to implement corrective action when actual progress does not conform to planned progress. The schedule control plan shall specify the methods and tools that will be used to measure and control schedule progress. Achievement of schedule milestones should be assessed using objective criteria to measure the scope and quality of work products completed at each milestone.

5.3.3. Budget control plan

This subclause of the SPMP shall specify the control mechanisms to be used to measure the cost of work completed, compare planned cost to budgeted cost, and implement corrective action when actual cost does not conform to budgeted cost. The budget control plan shall specify the intervals at which cost reporting will be done and the methods and tools that will be used to manage the budget. The budget plan should include frequent milestones that can be assessed for achievement using objective indicators to assess the scope and quality of work products completed at those milestones. A mechanism such as earned value tracking should be used to report the budget and schedule plan, schedule progress, and the cost of work completed.

5.3.4. Quality control plan

This subclause of the SPMP shall specify the mechanisms to be used to measure and control the quality of the work

processes and the resulting work products. Quality control mechanisms may include quality assurance of work processes, verification and validation, joint reviews, audits, and process assessment.

5.3.5. Reporting plan

This subclause of the SPMP shall specify the reporting mechanisms, report formats, and information flows to be used in communicating the status of requirements, schedule, budget, quality, and other desired or required status metrics within the project and to entities external to the project. The methods, tools, and techniques of communication shall be specified in this subclause. The frequency and detail of communications related to project measurement and control shall be consistent with the project scope, criticality, risk, and visibility.

5.3.6. Metrics collection plan

This subclause of the SPMP shall specify the methods, tools, and techniques to be used in collecting and retaining project metrics. The metrics collection plan shall specify the metrics to be collected, the frequency of collection, and the methods to be used in validating, analyzing, and reporting the metrics.

5.3.7 Risk management plan

This subclause of the SPMP shall specify the risk management plan for identifying, analyzing, and prioritizing project risk factors. This subclause shall also describe the procedures for contingency planning, and the methods to be used in tracking the various risk factors, evaluating changes in the levels of risk factors, and the responses to those changes. The risk management plan shall also specify plans for assessing initial risk factors and the ongoing identification, assessment, and mitigation of risk factors throughout the life cycle of the project. This plan should describe risk management work activities, procedures and schedules for performing those activities, documentation and reporting requirements, organizations and personnel responsible for performing specific activities, and procedures for communicating risks and risk status among the various acquirer, supplier, and subcontractor organizations. Risk factors that should be considered include risks in the acquirer-supplier relationship, contractual risks, technological risks, risks caused by the size and complexity of the product, risks in the development and target environments, risks in personnel acquisition, skill levels and retention, risks to schedule and budget, and risks in achieving acquirer acceptance of the product.

5.3.8 Project closeout plan

This subclause of the SPMP shall contain the plans necessary to ensure orderly closeout of the software project. Items in the closeout plan should include a staff reassignment plan, a plan for archiving project materials, a plan for post- mortem debriefings of project personnel, and preparation of a final report to include lessons learned and analysis of project objectives achieved.

6. Technical process plans

This clause of the SPMP shall specify the development process model, the technical methods, tools, and techniques to be used to develop the various work products; plans for establishing and maintaining the project infrastructure; and the product acceptance plan.

6.1 Process Model

This subclause of the SPMP shall define the relationships among major project work activities and supporting processes by specifying the flow of information and work products among activities and functions, the timing of work products to be generated, reviews to be conducted, major milestones to be achieved, baselines to be established, project deliverables to be completed, and required approvals that span the duration of the project. The process model for the project shall include project initiation and project termination activities. To describe the process model, a combination of graphical and textual notations may be used. Any tailoring of an organization's standard process model for a project shall be indicated in this subclause.

6.2 Methods, tools, and techniques

This subclause of the SPMP shall specify the development methodologies, programming languages and other notations, and the tools and techniques to be used to specify, design, build, test, integrate, document, deliver, modify and maintain the project deliverable and nondeliverable work products. In addition, the technical standards, policies, and procedures governing development and/or modification of the work products shall be specified.

6.3 Infrastructure Plan

This subclause of the SPMP shall specify the plan for establishing and maintaining the development environment (hardware, operating system, network, and software), and the policies, procedures, standards, and facilities required to conduct the software project. These resources may include workstations, local area networks, software tools for analysis, design, implementation, testing, and project management, desks, office space, and provisions for physical security, administrative personnel, and janitorial services.

6.4 Product Acceptance Plan

This subclause of the SPMP shall specify the plan for acquirer acceptance of the deliverable work products generated by the software project. Objective criteria for determining acceptability of the deliverable work products shall be specified in this plan and a formal agreement of the acceptance criteria shall be signed by representatives of the development organization and the acquiring organization. Any technical processes, methods, or tools required for product acceptance shall be specified in the product acceptance plan. Methods such as testing, demonstration, analysis and inspection should be specified in this plan.

7. Supporting process plans

This clause of the SPMP shall contain plans for the supporting processes that span the duration of the software project. These plans shall include, but are not limited to, configuration management, verification and validation, software documentation, quality assurance, reviews and audits, problem resolution, and subcontractor management. Plans for supporting processes shall be developed to a level of detail consistent with the other clauses and subclauses of the SPMP. In particular, the roles, responsibilities, authorities, schedule, budgets, resource requirements, risk factors, and work products for each supporting process shall be specified. The nature and types of supporting processes required may vary from project to project; however, the absence of a configuration management plan, verification and validation plan, quality assurance plan, joint acquirer-supplier review plan, problem resolution plan, or subcontractor management plan shall be explicitly justified in any SPMP that does not include them. Plans for supporting processes may be incorporated directly into the SPMP or incorporated by reference to other plans.

7.1. Configuration management plan

This subclause of the SPMP shall contain the configuration management plan for the software project, to include the methods that will be used to provide configuration identification, control, status accounting, evaluation, and release management. In addition, this subclause shall specify the processes of configuration management to include procedures for initial baselining of work products, logging and analysis of change requests, change control board procedures, tracking of changes in progress, and procedures for notifying concerned parties when baselines are first established or later changed. The configuration management process should be supported by one or more automated configuration management tools.

7.2. Verification and validation plan

This subclause of the SPMP shall contain the verification and validation plan for the software project to include scope, tools, techniques, and responsibilities for the verification and validation work activities. The organizational relationships and degrees of independence between development activities and verification and validation activities shall be specified. Verification planning should result in specification of techniques such as traceability, milestone reviews, progress reviews, peer reviews, prototyping, simulation, and modeling. Validation planning should result in specification of techniques such as testing, demonstration, analysis, and inspection. Automated tools to be used in verification and validation should be specified.

7.3. Documentation plan

This subclause of the SPMP shall contain the documentation plan for the software project, to include plans for generating nondeliverable and deliverable work products. Organizational entities responsible for providing input information, generating, and reviewing the various documents shall be specified in the documentation plan. Non-deliverable work products may include items such as requirements specifications, design documentation, traceability matrices, test plans, meeting minutes and review reports. Deliverable work products may include source code, object code, a user's manual, an on-line help system, a regression test suite, a configuration library and configuration management tool, principles of operation, a maintenance guide, or other items specified in subclause 1.1.3 of the SPMP. The documentation plan should include a list of documents to be prepared, the controlling template or standard for each document, who will prepare it, who will review it, due dates for review copy and initial baseline version, and a distribution list for review copies and baseline versions.

7.4. Quality assurance plan

This subclause of the SPMP shall provide the plans for assuring that the software project fulfills its commitments to the software process and the software product as specified in the requirements specification, the SPMP, supporting plans, and any standards, procedures, or guidelines to which the process or the product must adhere. Quality assurance procedures may include analysis, inspections, reviews, audits, and assessments. The quality assurance plan should indicate the relationships among the quality assurance, verification and validation, review, audit, configuration management, system engineering, and assessment processes.

7.5. Reviews and audits

This subclause of the SPMP shall specify the schedule, resources, and methods and procedures to be used in conducting project reviews and audits. The plan should specify plans for joint acquirer-supplier reviews, management progress reviews, developer peer reviews, quality assurance audits, and acquirer-conducted reviews and audits. The plan should list the external agencies that approve or regulate any product of the project.

7.6. Problem resolution plan

This subclause of the SPMP shall specify the resources, methods, tools, techniques, and procedures to be used in reporting, analyzing, prioritizing, and processing software problem reports generated during the project. The problem resolution plan should indicate the roles of development, configuration management, the change control board, and verification and validation in problem resolution work activities. Effort devoted to problem reporting, analysis, and resolution should be separately reported so that rework can be tracked and process improvement accomplished.

7.7. Subcontractor management plan

This subclause of the SPMP shall contain plans for selecting and managing any subcontractors that may contribute work products to the software project. The criteria for selecting subcontractors shall be specified and the management plan for each subcontract shall be generated using a tailored version of this standard. Tailored plans should include the items necessary to ensure successful completion of each subcontract. In particular, requirements management, monitoring of technical progress, schedule and budget control, product acceptance criteria, and risk management procedures shall be included in each subcontractor plan. Additional topics should be added as needed to ensure successful completion of the subcontract. A reference to the official subcontract and prime contractor/subcontractor points of contact shall be specified.

7.8. Process improvement plan

This subclause of the SPMP shall include plans for periodically assessing the project, determining areas for improvement, and implementing improvement plans. The process improvement plan should be closely related to the problem resolution plan; for example, root cause analysis of recurring problems may lead to simple process improvements that can significantly reduce rework during the remainder of the project. Implementation of improvement plans should be examined to identify those processes that can be improved without serious disruptions to an ongoing project and to identify those processes that can best be improved by process improvement initiatives at the organizational level.

8.0 Additional Plans

This clause of the SPMP shall contain additional plans required to satisfy product requirements and contractual terms. Additional plans for a particular project may include plans for assuring that safety, privacy, and security requirements for the product are met, special facilities or equipment, product installation plans, user training plans, integration plans, data conversion plans, system transition plans, product maintenance plans, or product support plans.

9. Plan Annexes

Annexes may be included, either directly or by reference to other documents, to provide supporting details that could detract from the SPMP if included in the body of the SPMP.

10. Index