

'Project Name'

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Software Project Management Plan for 'Project Name'

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Table of Contents

5	Managerial Process Plan.....	3
5.1	Project Startup Plan.....	3
5.1.1	Estimation Plan	3
5.1.2	Staffing Plan.....	3
5.1.3	Resource Acquisition plan.....	3
5.1.4	Project Staff and Training Plan	4
5.2	Work Plan	4
5.2.1	Work Activities.....	4
5.2.2	Schedule Allocation	4
5.2.3	Resource Allocation	4
5.2.4	Budget Allocation	5
5.3	Control Plan.....	5
5.3.1	Requirements Control Plan.....	5
5.3.2	Schedule Control Plan	5
5.3.3	Budget Control Plan	5
5.3.4	Quality Control Plan	6
5.3.5	Reporting Plan	6
5.3.6	Metrics Collection Plan	6
5.4	Risk Management Plan	6
5.5	Project Closeout Plan	6

5 Managerial Process Plan

This section of the Software Project Management Plan (SPMP) shall define the project management processes for 'project name'. This section shall be consistent with the 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 Project Startup Plan

This subsection of the SPMP shall define 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 or linked directly or by reference to other plans.

5.1.1 Estimation Plan

This subsection of the SPMP shall define 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 subsection 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 subsection 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 subsection 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 subsection 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 subsection may be expanded into additional subsections of the form 5.1.3.x to accommodate acquisition plans for various types of resources to be acquired.

5.1.4 Project Staff and Training Plan

This subsection 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

This section of the SPMP shall specify the work activities, schedule, resources, and budget details for the software project.

5.2.1 Work Activities

This subsection defines the various work activities to be performed in the software project. A work breakdown structure shall be used to depict the work activities and the relationships among work activities. Work activities should be decomposed to a level that exposes all project risk factors and allows accurate estimate of resource requirements and schedule duration for each work activity. Work packages should be used to specify, for each work activity, factors such as the necessary resources, estimated duration, work products to be produced, acceptance criteria for the work products, and predecessor and successor work activities. The level of decomposition for different work activities in the work breakdown structure may be different depending on factors such as the quality of the requirements, familiarity of the work, and novelty of the technology to be used.

5.2.2 Schedule Allocation

This subsection of the SPMP shall provide scheduling relationships among work activities in a manner that depicts the time-sequencing constraints and illustrates opportunities for concurrent work activities. Any constraints on scheduling of particular work activities caused by factors external to the project shall be indicated in the work activity schedule. The schedule 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. Techniques for depicting schedule relationships may include milestone charts, activity lists, activity Gantt charts, activity networks, critical path networks, and PERT.

5.2.3 Resource Allocation

This subsection 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 subsection 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 subsection 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 subsection of the SPMP shall specify the control mechanisms for measuring, reporting, and controlling changes to the product requirements. This subsection shall also specify the mechanisms to be used in assessing the impact of requirement changes on product scope and quality, and the impacts of requirement 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 subsection 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 subsection 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 subsection 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 subsection 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 subsection. 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 subsection 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.

5.4 Risk Management Plan

This subsection of the SPMP shall specify the risk management plan for identifying, analyzing, and prioritizing project risk factors. This subsection 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.

5.5 Project Closeout Plan

This subsection 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 postmortem debriefings of project personnel, and preparation of a final report to include lessons learned and analysis of project objectives achieved.