

GOVERNMENT POLYTECHNIC PUNE

Name : Snehal Ganesh Dahake

En no : 1907011

Batch : A

Software Engineering

IT4101

PRACTICAL 8

Aim :-

Design Project Plan and SQA Plan.

Topic:- Resume builder

Theory :-

The Software Project Plan is produced at the culmination of the planning tasks. It provides baseline cost and scheduling information that will be used throughout the software process. The Software Project Plan is a relatively brief document that is addressed to a diverse audience.

It consists :-

- (1) communicate scope and resources to software management, technical staff, and the customer;
- (2) define risks and suggest risk aversion techniques
- (3) define cost and schedule for management review
- (4) provide an overall approach software development for all people associated with the project
- (5) outline how quality will be ensured and change will be managed.

(1) communicate scope and resources to software management, technical staff, and the customer

Project Scope :-

Online Resume Builder can be used in accordance with the requirements of the customers. Customers can customize their resumes with their choice of themes & details. The services are hard to be defeated by the competitors as the system is providing the customers exactly what they want.

Technical Staff :-

- Prasad Dhobale.
- Snehal Dahake.
- Sakshi Gulave.
- Sneha C. Ghone.

(2) define risks and suggest risk aversion techniques

There may be Some Risks happen during the System Development :-

1) Project Complexity :-

Lack of Identifying modules and functions in detail.

2) Support Risks :-

The degree of uncertainty that the resultant software will be easy to correct , adapt and enhance.

3) Schedule Risks :-

The degree of uncertainty that the project schedule will be maintained and the product will be delivered on time.

4) Involvement :-

Lack of customers full involvement in the definition of requirements and their commitment to the project.

(3) define cost and schedule for management review

The cost and schedule estimation process helps in determining number of resources to complete all project activities. It generally involves approximation and development of costing alternatives to plan, perform or work, deliver, or give project. A good estimation is very much essential for keeping a project under budget.

(4) provide an overall approach to software development for all people associated with the project

The supervisory committee consists of :-

- Prasad Dhobale.
- Snehal Dahake.
- Sakshi Gulave.
- Sneha C. Ghone.

(5) outline how quality will be ensured and change will be managed.

A standard for SQA plans structure that identifies :-

- (1) the purpose and scope of the plan
- (2) a description of all software engineering work products (e.g., models, documents, source code) that fall within the purview of SQA,
- (3) all applicable standards and practices that are applied during the software process,
- (4) SQA actions and tasks (including reviews and audits) and their placement throughout the software process
- (5) the tools and methods that support SQA actions and tasks
- (6) organizational roles and responsibilities relative to product quality.

Why is project planning important? :-

Project planning is important at every phase of a project. It lays out the basics of a project, including the following :-

- scope
- objectives
- goals
- schedule

Planning enables project managers to turn an intangible idea into reality. Key purposes of planning include the following :-

- facilitate communication and provide a central source of information for project personnel;
- help the project sponsor and other key stakeholders know what is required;
- identify who will perform certain tasks, and when and how those tasks will happen;
- facilitate project management and control as the project progresses;
- enable effective monitoring and control of a project;

- manage project risk; and
- generate feedback useful for the next project planning phase.

What are the components of a project plan? :-

The three major parts of a project plan are the scope, budget and timeline. They involve the following aspects :-

- **Scope :-**

The scope determines what a project team will and will not do. It takes the team's vision, what stakeholders want and the customer's requirements and then determines what's possible. As part of defining the project scope, the project manager must set performance goals.

- **Budget :-**

Project managers look at what manpower and other resources will be required to meet the project goals to estimate the project's cost.

- **Timeline :-**

This reveals the length of time expected to complete each phase of the project and includes a schedule of milestones that will be met.

- **Key elements of project planning:-**



- Project plan for resume builder

PROJECT TITLE		START DATE	
Resume builder		21-Sep	
PROJECT MANAGER		END DATE	
Snehal Dahake		15-Dec	

WBS NO.	TASK NAME	STATUS	approx. Start date	End date	no. of days
1	Project Preparation	Complete	21-Sep	24-Sep	4
2	Specification	Complete	25-Sep	26-Sep	2
3	Architecture	Complete	28-Sep	30-Sep	3
4	Project planning	Complete	Oct-21	10-08	8
5	Detail Design	Complete	9-Oct	19-Oct	11
6	Development	In Progress	20-Oct	22-Oct	3
7	Test plan	Complete	24-Oct	26-Oct	3
8	Testing and QA	Complete	27-Oct	30-Oct	4
9	Project Documentation	Complete	1-Nov	10-Nov	10

SQA Plan:-

Software Quality Assurance (SQA) is simply a way to assure quality in the software. It is the set of activities that ensure processes, procedures as well as standards are suitable for the project and implemented correctly.

Software Quality Assurance is a process that works parallel to the development of software. It focuses on improving the process of development of software so that problems can be prevented before they become a major issue. Software Quality Assurance is a kind of Umbrella activity that is applied throughout the software process.

SQA Activities :-

Given below is the list of SQA activities :-

1) Creating an SQA Management Plan :-

The foremost activity includes laying down a proper plan regarding how the SQA will be carried out in your project.

Along with what SQA approach you are going to follow, what engineering activities will be carried out, and it also includes ensuring that you have a right talent mix in your team.

2) Setting the Checkpoints :-

The SQA team sets up different checkpoints according to which it evaluates the quality of the project activities at each checkpoint/project stage. This ensures regular quality inspection and working as per the schedule.

3) Apply software Engineering Techniques :-

Applying some software engineering techniques aids a software designer in achieving high-quality specification. For gathering information, a designer may use techniques such as interviews and FAST (Functional Analysis System Technique).

Later, based on the information gathered, the software designer can prepare the project estimation using techniques like WBS (work breakdown structure), SLOC (source line of codes), and FP(functional point) estimation.

4) Executing Formal Technical Reviews :-

In this process, a meeting is conducted with the technical staff to discuss regarding the actual quality requirements of the software and the design quality of the prototype. This activity helps in detecting errors in the early phase of SDLC and reduces rework effort in the later phases.

5) Having a Multi- Testing Strategy :-

By multi-testing strategy, we mean that one should not rely on any single testing approach, instead, multiple types of testing should be performed so that the software product can be tested well from all angles to ensure better quality.

6) Enforcing Process Adherence :-

This activity insists on the need for process adherence during the software development process. The development process should also stick to the defined procedures.

This activity is a blend of two sub-activities which are explained below in detail :-

(i) Product Evaluation :-

This activity confirms that the software product is meeting the requirements that were discovered in the project management plan. It ensures that the set standards for the project are followed correctly.

(ii) Process Monitoring :-

This activity verifies if the correct steps were taken during software development. This is done by matching the actually taken steps against the documented steps.

7) Controlling Change :-

In this activity, we use a mix of manual procedures and automated tools to have a mechanism for change control.

By validating the change requests, evaluating the nature of change and controlling the change effect, it is ensured that the software quality is maintained during the development and maintenance phases.

8) Measure Change Impact :-

If any defect is reported by the QA team, then the concerned team fixes the defect.

After this, the QA team should determine the impact of the change which is brought by this defect fix. They need to test not only if the change has fixed the defect, but also if the change is compatible with the whole project.

For this purpose, we use software quality metrics which allows managers and developers to observe the activities and proposed changes from the beginning till the end of SDLC and initiate corrective action wherever required.

9) Performing SQA Audits :-

The SQA audit inspects the entire actual SDLC process followed by comparing it against the established process.

It also checks whatever reported by the team in the status reports were actually performed or not. This activity also exposes any non-compliance issues.

10) Maintaining Records and Reports :-

It is crucial to keep the necessary documentation related to SQA and share the required SQA information with the stakeholders. The test results, audit results, review reports, change requests documentation, etc. should be kept for future reference.

11) Manage Good Relations :-

In fact, it is very important to maintain harmony between the QA and the development team.

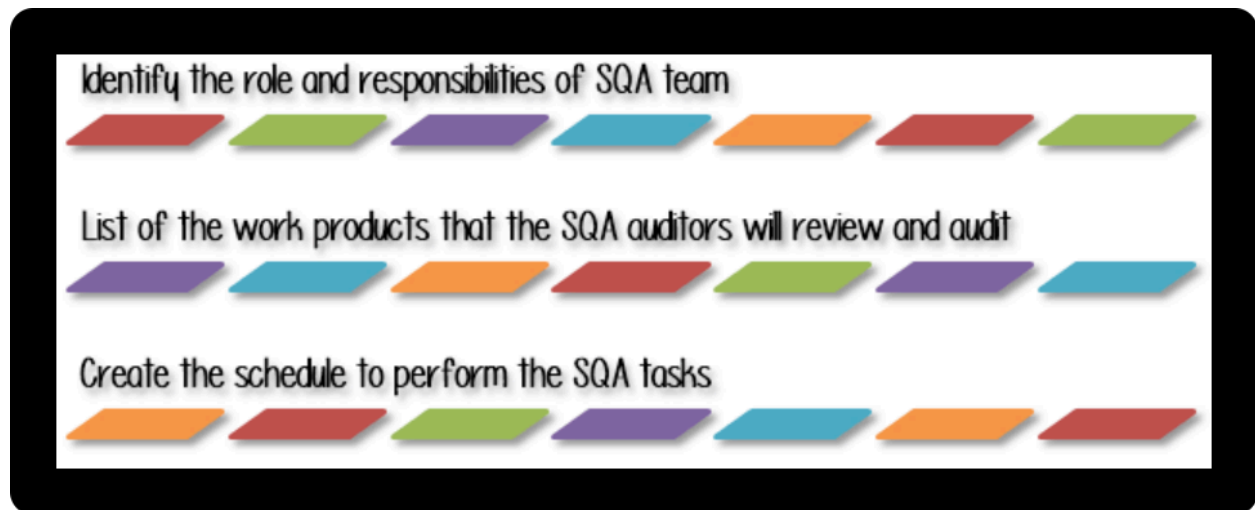
We often hear that testers and developers often feel superior to each other. This should be avoided as it can affect the overall project quality.

Develop SQA Plan :-

Testing activity needs Test Plan likewise SQA activity also needs a plan which is called SQA plan.

The goal of SQA plan is to craft planning processes and procedures to ensure products manufactured, or the service delivered by the organization are of exceptional quality. During project planning, the Test Manager makes an SQA plan where SQA audit is scheduled periodically.

In the SQA Plan, the Test Manager should do as following :-



Step 1.1) Identify the role and responsibilities of SQA team

In a project team, every member must have responsibility for the quality of his or her work. Each person has to make sure their work meets the QA criteria.

The SQA team is the group of people who play a major role in the project. Without QA, no business will run successfully. Therefore, the Test Manager has to make clear the responsibility of each SQA member in SQA plan as below:

- Review and evaluate the quality of project activities to meet the QA criteria
- Coordinate with management board and project teams to assess requirements and engage in project review and status meetings.
- Design track and collect metrics to monitor project quality.
- Measure the quality of the product; ensure the product meets the customer expectations.
- In the SQA Plan of the Resume builder, list of members of SQA team as below

Sr. no.	Member	Roles	Responsibility
1	Prasad	SQA Leader	Develop document quality standard and process for all management process. Manage software quality assurance activities for the project.
2	Snehal	SQA Auditor	Perform SQA tasks, report to SQA leader the result of SQA Review
3	Sakshi	SQA Auditor	Perform SQA tasks, report to SQA leader the result of SQA Review
4	Sneha	SQA Auditor	Perform SQA tasks, report to SQA leader the result of SQA Review

Step 1.2) List of the work products that the SQA auditor will review and audit

The Test Manager should

- List out all the work products of each Test Management Process
- Define which facilities or equipment the SQA auditor can access to perform SQA tasks such as process evaluations and audits.

For example, for the Resume builder, you can list out the work products of each Test Management Process and define permission for SQA members to access these work products as per the following table:-

SQA Work Product :-

Management phase	Work product	Path	Permission	Grant to permission
risk analysis	risk management document	[server path]	Read	All team members
Estimation	Estimation and matrices report	...	Read	Prasad (SQA Leader)
Planning	Test planning document	...	Read	All team members
Organization	Human resource plan	...	Read	All team members
Monitoring and control	collected metrices of project effort	...	Read	Snehal (SQA Auditor)
Issue Management	Issue management report	...	Read	Sakshi (SQA Auditor)
Test report	Test Report document	...	Read	All team members

Step 1.3) Create the schedule to perform the SQA tasks

In this step, the Test Manager should describe the tasks to be performed by SQA auditor with special emphasis on SQA activities as well as the work product for each task.

Test Manager also creates the scheduling of those SQA tasks. Normally, the SQA schedule is driven by the project development schedule. Therefore, an SQA task is performed in relation to what software development activities are taking place.

In the SQA plan, the Test Manager makes the schedule for management review.

SQA plan for resume builder:-

Date	SQA Tasks	Personal in charge	Description	Output
25-Sep-21	Evaluate project planning, tracking and oversight processes	Snehal	Software Specification Review	SQA Planning report
			Estimation, Master scheduled and project plan	
30-Sep-21	Review requirement analysis	Snehal	Review the software requirement development	Process audit report
15-Nov-21	Review and evaluate test design	Sakshi	Review the test design document	SQA Report
				SQA review minute
15-Dec-21	review realse	Sneha		SQA process audit

Conclusion :-

Hence, We have created a project plan and SQA plan for our project.

=====

Name : Snehal Ganesh Dahake

En no : 1907011

Batch : A

Software Engineering

IT4101