Learning Journal Template

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Course: Master of Engineering Software Engineering

Journal URL: SPM_LearningJournal_4

Week 3: 11 Fab - 17 Fab

Date: 16 Fab

Key concepts learned:

Configuration Management:

Managing change requests and different versions of the software product is done in configuration management.

1. Who makes changes?
2. What changes are made?
3. Why are changes made?
4. When are changes made?

Sources of Change:

Changes in funding

Technology advancements

Solutions to problem

Customer Expectations

Why bother with SCM?

1. The latest version of the source code cannot be found.
2. A difficult defect that was fixed at great expense suddenly reappears.
3. A developed and tested feature is mysteriously missing.
4. A fully tested program suddenly does not work
5. The wrong version of the code was tested.
6. Programmers are working on the wrong version of the code.

Benefits of SCM

1. Reduce confusion and establish order.
2. Ensures correct product configurations.
3. Limits legal liability by providing a record of action.
4. Reduces life-cycle costs.
5. Provides a stable working environment.
6. Enhances compliance with standards
7. Enhances status accounting.

Characteristics of a Good CMS

1. Version Control
2. Auditable
3. Centrally Secure
4. Accessible to remote teams
5. Continuous integration
6. Artifact location

Purpose of CMS

1. Configuration identification
2. Configuration Control
3. Configuration Status Accounting
4. Configuration Audits

Identification:

- To define baseline components
- What is my system configuration?

Control:

- To provide a mechanism for preparing, evaluating, approving, or disapproving all changes through the lifecycle
- How do I control changes to my configuration?

Status Accounting:

- Provide a mechanism for maintaining a record of the evolution of a system.
- Report on the traceability of all changes to the baseline throughout the

software lifecycle.
- What changes have I made to the system?
- What changes remain to be implemented?

Auditing:

- Does the system I am building satisfy the stated needs?
- Provide the mechanism for establishing a baseline.
- Ensure SCM processes and procedures are performed.

Reflections on Case Study/Course Work:

- Throughout the week, I came to know how important changes are and how difficult it is to apply changes to an already existing system, although it's required.
- We as a group came to know that it's really important in any project, and we have to keep that in mind for our project as well.
- First of all, it's really important to follow a few steps for configuration, like identifying followed by control and status accounting, and lastly, auditing, if we follow these steps, it will only be easy to merge files.
- Completing tasks for a problem identification document for an AI-based personal assistant enhanced my skills, offering a comprehensive grasp of project complexities in practical scenarios.

Collaborative Learning:

Group Meeting and Peer Interaction

- I connected with Mr. Nihal Shah, a software developer at a prominent IT company, Azilen Technologies, for configuration management techniques.
- While discussing a few concepts I came to know that configuration management is really important for version control as well.
- During our meeting, Mr. Shah shared important insights on changes, merging, and configuring things in various methodologies such as spirals, agile, and rapid development.
- From a project perspective, we meet twice a week to solve general doubts about the project and task distribution.
- Finally, our first task about project initialization and market analysis has been completed, and we are looking forward to it.

Research/Readings:

- I got an ebook on software management, and then I went through a few core topics of software projects, various models, management skills, team building, and management.
- I have prior knowledge of risks; now I'm into feasibility studies. Also, we do have some topics for our project as well, so I believe it'll be great if I can get add-on knowledge.
- From the ebook, continue learning about the CICD pipeline.

Adjustments to Goals:

- I have gone through Chapter 5. Read some theses related to these topics. For the project, we are on time, and work with timing is expected.

Challenges Faced

- I faced a couple of challenges in understanding merging after configuration.

Goals for the Next Week

- I plan to cover Chapter 6, which will teach about project planning and understanding CICD.
- Also, I will look into Chapters 1-4 again, as we will be having an exam soon.
- Moreover, we will work on different project perspectives as soon as we get instructions; presently, the initial 2 steps are going on, and we are looking forward to the 3rd phase.
- Will look into the feasibility study as it'll be our next major topic for a project of AI-powered personal assistant.