Learning Journal Template

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Course: Software Project Management (SOEN 6841)

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Dates Rage of activities: 5 October 2024 to 2 November 2024

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Key Concepts Learned

This week, we discussed **Configuration Management (CM)** and **Project Planning**. These chapters provided comprehensive insight into CM's role in tracking changes, preserving system integrity, and ensuring successful software evolution. In chapter 5, we have discussed the objectives of CM, why it is essential to maintain stability in the face of changes, how it works: **configuration identification, control, status accounting, and auditing**. CM creates a structure for documenting, approving, and auditing every change, which not only improves software quality but also helps manage legal risks. It not only helps in increasing software quality but also controls legal risks.

Key takeaways on CM included:

- **Importance of Change Control:** CM prevents project chaos by controlling how changes are implemented.
- **Change Sources:** CM handles changes triggered by shifts in requirements, budget, technology, customer expectations, and quality constraints.
- **Four Core Functions:** Configuration Identification, Configuration Control, Configuration Status Accounting, and Configuration Auditing.

Chapter 6 introduced **Project Planning**, highlighting the roadmap necessary for executing and monitoring a project effectively. A structured plan covers scheduling, budgeting, resource allocation, communication, and quality management. In this chapter we also explored the **Work Breakdown Structure (WBS)** for organizing tasks based on dependencies and identifying **critical paths**. Notable planning techniques discussed were **Top-Down** and **Bottom-Up Planning**, offering flexibility in approach depending on project scope and complexity.

Application in Real Projects

These concepts of CM and Project Planning have immediate applications in software development, especially in collaborative environments where multiple teams work on different system parts. CM's systematic approach helps streamline version control, supports traceability, and mitigates risks associated with uncontrolled changes. Additionally, integrating a well-defined **Change Control Policy**—like that described in Chapter 5—would ensure transparency and accountability, essential for managing complex projects.

The structured process of WBS and task sequencing can be used to break down high-level goals into manageable parts for better management of the project. For example, in agile teams, we often employ a bottom-up approach to time estimation, where team members estimate task durations that are then rolled up to create a project timeline. The focus on critical paths in WBS is especially relevant for time-sensitive projects.

Peer Interactions

This week, I engaged in a lively discussion with peers around the challenges of CM, particularly in **multi-environment projects** where CM often requires coordination across development, testing, and production environments. Through these discussions, I gained a deeper understanding of Configuration Auditing and its practical challenges in verifying system alignment. I also interacted with several classmates for preparation of exam.

Challenges Faced

While studying CM, a significant challenge was grasping the intricacies of **Configuration Status Accounting** and how to apply it in scenarios with rapid, frequent changes. The concept of maintaining a detailed record of every change was clear in theory, but understanding how to implement it without overburdening the process remains complex. Additionally, Bottom-Up Planning in WBS required additional attention due to the challenge of accurately estimating time for individual tasks in projects with interdependent modules.

Personal Development Activities

To deepen my understanding of CM, I watched videos on youtube. These videos covered topics such as configuration control in CI/CD pipelines and the role of automation in

maintaining CM effectiveness. Additionally, I explored several **project management tools** such as **Jira** and **Confluence** to see how they implement WBS and CM features in practice.

Goals for the Next Week

For next week, my goals include:

- Deepening my understanding of **Configuration Status Accounting** by researching case studies on its application in large-scale projects.
- Will learn more about WBS through youtube videos.
- Will learn how WBS is applied in agile environments, focusing on how they integrate with iterative development cycles.

This week's learning on CM and project planning provided a solid foundation for understanding how to manage changes and plan effectively, essential skills for maintaining software integrity and meeting project goals.