Learning Journal

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Course: Software Project Management

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Key Concepts Learned:

This week, I explored two critical concepts in software project management: Configuration Management (CM) and Project Planning.

- **Configuration Management:** CM is essential for controlling and documenting changes in a system. I learned about its key functions: configuration identification, control, status accounting, and auditing. The importance of CM lies in its ability to prevent uncontrolled changes, which can lead to project delays and quality issues.
- **Project Planning:** Effective project planning involves work breakdown structures (WBS), scheduling techniques (top-down and bottom-up), and resource allocation. I understood the significance of setting milestones, deliverables, and utilizing scheduling methods like Gantt charts and critical path analysis.

Application In Real Time Project:

Understanding CM is crucial in agile and DevOps environments where frequent changes occur. In previous projects, I have faced challenges in maintaining code versions, which led to defects reappearing. Implementing proper version control and change request tracking would have prevented such issues. For project planning, I can apply WBS to break down complex tasks and assign appropriate resources. Utilizing tools like JIRA and MS Project would enhance efficiency by visually tracking progress and dependencies.

I believe configuration management is a fundamental aspect of any project, regardless of its size. During my academic term at Concordia University, I encountered several instances where effective configuration management enabled timely project delivery. For example, in the Fall 2024 term, I worked on a course project with a team of four members. Since multiple members were working simultaneously, we frequently faced merge conflicts and versioning issues. However, by leveraging Git and GitHub, we efficiently managed these conflicts and ensured the successful and timely submission of our project.

Peer Interaction:

Discussions with peers helped me understand different perspectives on CM implementation. One peer shared their experience of dealing with versioning issues in a software development project, which reinforced the need for automated tracking systems. Another discussion focused on the importance of contingency planning in project scheduling, highlighting real-world difficulties in estimating task durations accurately. This week I also had my mid term exam. Prior to the exam I had a discussion with my peers regarding the important topics that

could be asked in the exam. After my exam, I also discussed with my peers, the questions which I was not able to answer. This discussion helped me understand my mistakes. I also learned some ways in which I could ace my exams in the future.

Challenges Faced:

One of the main challenges was understanding the integration of CM tools (such as Git and SVN) into larger project management frameworks. Additionally, comprehending the impact of scheduling dependencies on resource allocation was complex, especially when dealing with multiple teams and evolving project scopes. I also faced difficulty in understanding project planning.

I read the PPT which was uploaded on Moodle. Initially, I couldn't get the hang of it because a lot of information was given in the slides. Moreover, I specifically faced difficulty in understanding the Critical Path Method and Goldratt's Critical Chain Method. Here, I was not able to understand the concept of buffer. To resolve my doubts, I read the textbook suggested to us. Additionally, I watched various videos on YouTube to clarify my concepts. But apart from these challenges, I can confidently say that I now understand these topics well.

Personal Development Activities:

To strengthen my knowledge, I explored online tutorials on CM tools like Git and Jenkins. I also practiced creating WBS using MS Project and experimented with scheduling methods in a sample project. Additionally, I reviewed case studies on software project failures due to poor configuration management to learn from past mistakes.

Goals For the Next Week:

- Deep dive into automated CM tools and their integration in CI/CD pipelines.
- Work on a small project implementing WBS and scheduling techniques.
- Engage in a discussion with industry professionals to gain insights into real-world project planning challenges.
- Improve my understanding of risk management and contingency planning in project execution.
- We have to prepare a pitch for our project, and present it in the classroom.
- Schedule a meeting with project teammates, to plan further actions, and get an update on previously assigned tasks.

By focusing on these goals, I aim to develop a strong foundation in project planning and configuration management, ensuring effective project execution in future professional settings.