

## **Learning Journal**

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**Course:** Software Project Management

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### **Key Concepts Learned:**

#### **Chapter 5:**

- Configuration management is the process of controlling and documenting change to a system. (It revolves around these questions - who makes changes, when are changes made, why are changes made and what changes are made). Changes are made because of changes in the requirements, changes in funding, technology advancements, solutions to problems scheduling constraints, customers' requirements and unexpected opportunities for an improvised system.
- Software Configuration Management is required to make it easy to change the software and keep track of software components like documents (non-executable) and code (executable). CM bring many benefits to a project which is: reduces confusion, ensures correct product configurations, reduces life-cycle costs, provides stable work environment, enhances compliance with standards and enhances status accounting. Some of the good characteristics of a good software configuration management is version control, auditable, centrally located, secure, access to all teams, artifact location and continuous integration.
- While documenting for a configuration management system these are the information required: project name, timestamp, document number, author, document type and version number. Roles and responsibilities are defined to manage access for the team members. Each folder has an access permission for each defined role.
- As learned from the presentation, there are 4 key functions of configuration management:
  1. Identification  
**Role:** to define baseline components  
**Question:** What is my system configuration?
  2. Control  
**Role:** To provide mechanism for preparing, evaluating, approving or disapproving all changes throughout the lifecycle.  
**Question:** How do I control changes to my configuration?
  3. Status accounting  
**Role:** To provide mechanism for maintaining a record of the evolution of system and to report on traceability of all the changes to baseline throughout software lifecycle.  
**Question:** What changes I have made to the system? What changes remain to be implemented?
  4. Auditing  
**Role:** Provide a mechanism for determining the degree to which the current state mirrors the system pictured in baseline.  
**Question:** Does the system I am building satisfy the stated needs?

## Chapter 6:

- Project planning is an elaborate planning for all project components. Project planning can be done in two ways – *Top-down Plan*, mostly used in development by the software vendors (the time and features for the development of the software product is already defined). And *bottom-up plan*, used in case of custom software development (the development team decides the release date of the project).
- A WBS (Work Breakdown Structure) is defined which is breaking down the complete project into smaller work tasks maintaining the relationship between them and allocating the resources to each task. If the entire project or some parts of the project is done by the outsourced team, then supplier management comes into picture to ensure that the quality of the product developed by the suppliers isn't inferior to the product development by our own team. Also, if more than one supplier is developing different products then the quality of the product developed by each should be the same.
- Configuration management is done to decide how you are going to create and maintain a repository for all your project document and how the versions of your software product is handles. Communication management includes deciding which channel of communication should be used, how communication with customers and suppliers will be done and ensure that there is no miscommunication. Quality assurance is done to ensure that the required quality of the software is produced.
- Project Planning is done using two different techniques:
  1. Critical Path Method: All the tasks are laid down in an order based on their start dates. The order in which the tasks should be carried out and the dependency between them is identified. The tasks with no relation among them are executed in parallel. When all the tasks are laid down, a path is made which runs along the longest path of execution, this path is called critical path and defines the duration of the project.
  2. Goldratt's critical chain method: To handle uncertainty in the project, tasks are padded with some buffer which results in people taking it lightly which leads to poor quality of product or late completion of the task. Goldratt introduced the theory of constraints. Constraints that are fixed don't need buffers and variable constraints buffers should be detached from the task and restored at the end of the project.

## Reflections on Case Study:

### Chapter 5:

The mid-market software vendor based in the United States has successfully implemented an incremental iteration development model for their software system, which served retailers, distributors, and manufacturers around the world. They simplified development work across their internal team and offshore service providers by leveraging an efficient and dependable centrally deployed configuration management system. Access rights were carefully managed, with administration privileges reserved for document owners and designated maintainers. Automated smoke testing software ensured that new code was compatible with the existing build, resulting in a smoother development process. Each developer maintained a local build and smoke test application, which improved the central build's reliability.

### Chapter 6:

In the ongoing battle between the marketing and development teams over feature selection, our SaaS vendor has discovered a solution in the time-boxing concept. With a set release date for

iterations, the marketing team prioritizes features for implementation in each iteration, resulting in a flexible but planned approach. By implementing high-priority features first and then low-priority ones, the vendor ensures adaptability while allocating resources and budget. This approach strikes a balance between flexibility and responsiveness, allowing for effective iteration planning while adhering to a fixed release date.

### **Peer Interactions/collaboration:**

Discussed the difference in top-down and bottom-up plans in terms of project planning inputs and outputs and how these are used in real life. Also, we discussed why WBS is so important in project planning. What different managements like supplier, configuration, communication plays a vital role in project planning. We also had discussion on how Goldratt's critical chain method has advantages over critical path method.

### **Application in Real Projects: (Configuration management and project planning)**

1. Version control tools are Git, is used by the developers to keep track of the changes and to ensure that the software is always in the working state.
2. SCM ensures that only authorised changes are made and they are documented properly which helps in maintaining the scalability of the software.
3. SCM also helps in managing the documents ensuring that all the project documents are up-to-date and accessible to all the project team members.
4. Some parts of the project, such as UI design, are outsourced to a third-party supplier. The project manager ensures that the quality of the UI design is consistent with the quality of the in-house development work.
5. The team decides to use a combination of email, project management software, and regular meetings to communicate with the client and suppliers. They ensure that all communication is clear and there is no miscommunication.

### **Personal Development Activities :**

I am making notes on every chapter learned which helps me revise efficiently during the exams and also which is making me get a better understanding of the chapters covered until now. I am also giving 1-2 hours to improve my coding. Making a to-do list to keep track of all the things that needs to be learned, revised and submitted (assignments and projects).

### **Challenges Faced:**

The Project Planning presentation has a slide that tells the different notations that are used in critical path method. I had difficulty in understanding that so I went through some online sources for better understand on how the graph looks and how the critical path is determined in the project planning.

### **Goals for the Next Week:**

My goals for next week to revise through all the chapter from 1 to 6 for the mid-term exam. I will start by focusing on the contents which I feel is difficult for me to understand and then go over other concepts. Also, side by side, start with research for the next project phase.