

Week 4 – Learning Journal

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Course: Software Project Management

Journal URL: https://github.com/KarthikCU1054/SOEN_6841

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Key Concepts Learned:

- **Configuration Management:**

- **Why is it important:** Configuration Management is necessary for any project. The idea is to maintain a centralized system to handle changes to code. This is important as it helps in maintain versioning of projects, rollback changes to a previous working version if needed, accommodate the frequent change requirements by the consumers, to maintain a stable work environment, maintain accounting for project related artifacts, handle the permissions to the code and other artifacts of the project and so on. A single solution for all these tasks would be to maintain a configuration management system.
- **Components of Configuration Management:** There are 4 main components of Configuration Management:
 - **Configuration Identification:**
 - This involves in highlighting the information that needs to be tracked. Few examples can be code, requirements, issues and bugs, budget, project team details, maintaining the software, etc. The list can be increased and decreased moving forward. Once these things are identified, it will be made as a template and the project will be using this throughout the life cycle.
 - **Configuration Auditing :**
 - Auditing is one way to check and make sure whether the configuration management is done right. This helps in understanding if the current SCM system suits the project. Auditing of SCM is crucial as it gives an idea on how a project is being developed and how close or real it is when compared to the requirements. This is a formal way of assurance that the customer can investigate and judge the performance of the project.
 - **Configuration Control Management:**
 - This is the step where the changes to configuration management items are handled. And this is done throughout the life cycle of the development. This is the part where a change request is handled i.e, when a new version or iteration of the software is created, it has to be deployed to the production environment. This helps in understanding the impact of this change. There will be a separate team which manages the change requests. In this step almost everyone related to the project are involved, like developers who will be handling the change request, managers who will work on approvals and

procedural pipelines along with documents, testers will be handling the numerous types of testing that is need to be done after the change request is fulfilled and the customers will be in constant connect with the users and other important stakeholders.

- **Configuration Status Accounting:**

- This involves in handling of the metrics such as the tests that ware done in the lower environments, approvals and other communications necessary for the SCM, issues faced during the change request management, post deployment activities and so on. It helps in understanding how well the SCM is going on and helps in making changes to the SCM if needed.

- **Advantages of using Configuration Management:**

- Configuration Management ensures controlled change management, accountability, and traceability through documented processes. It allows an effective decision-making by having a designated change control board which further helps in reducing risks and errors by implementing only approved changes. Configuration Management also enables efficient feasibility exploration of unapproved changes, optimizing resources and minimizing rework.

- **Project Planning:**

- Project planning for software projects involves balancing quality, schedule, cost and many other things. The results of the planning may vary for the in-house projects and outsourced projects as the main result for the in house project is to have an efficient and improved work performance where as the outsourced projects, the main aim is to make profits along with the in house project criteria.
- The project plan encompasses various components such as risk, resource, task, effort, cost, communication, configuration management, tool, supplier management, quality, and scope planning, all of which are essential for project success. This is managed in two ways, one is top-down plan and the other one is the bottom-up plan. In general the Top-down plan is preferred by the type of development where the product development is done using software vendors. Whereas to develop a custom software, the bottom-up approach is preferred.
- **Important Aspects of Project Planning:**
 - For any choice of approach, there are few important metrics to handle such as WBS(Work Breakdown Structure), Resource Allocation, Quality Assurance, Project Cost and Duration, Risk Management, Effort Estimation and etc.
 - Visualization and understanding of the metrics that were collected throughout the project planning will help in understanding the scope of the project and relate it to the real time approach. This definitely gives the customer or the company an idea on how well the plan will work.
 - The project planning helps in achieving the deliverables and present them within the scope of the customers estimate. This will boost the CRM and will help both the parties.
- **Project Planning Techniques:**
 - **Critical Path Method:**
 - The Critical Path Method (CPM) and Program Evaluation Review Technique (PERT) is a way of planning projects by figuring out which

tasks are most important and how they depend on each other. They organize tasks in order and show which ones need to be done first. By finding the longest path of tasks, they determine how long the project will take from start to finish.

▪ **Goldartt's Critical Chain Method:**

- The CPM method was good but not adequate as it doesn't emphasize on the tasks based on the importance. Where as the Critical Chain Method is an improvement on CPM by removing the buffer for all the tasks and adding it to only the ones that aren't clearly understood and the uncertain ones. And the ordering of the tasks is also based on this.

▪ **Project Planning In Agile Model:**

- In agile models, the project planning is done for a whole project in a high level without much details. The detailing is done in each iteration of the development which helps in various aspects of the project.
- The version release plan will be done on quarterly basis and the feature development plan will be done in biweekly or sprint based. In this way risk management, effort estimation and configuration management is done with ease and detailed manner.
- The main advantages of agile methods is that the project planning can be improved in every iteration by taking customer feedback on a regular basis, the tasks are done in iterative manner so there is enough relaxation time with efficient productivity, regular refactoring helps in accommodation of new requirements with ease.

Reflections on Case Study/course work:

- It's evident that the principles of Configuration Management plays a crucial role in making sure of the success of the project. The implementation of practices, such as configuration identification, change control, and version control, provides a structured approach in managing project artifacts. This provides an effective coordination among team members and minimized the risks associated with changes to the project.
- The well-defined project objectives, timelines, resource allocations, and risk management strategies mentioned in the project planning methods would be really helpful in guiding the project towards successful outcome. The project planning enables the project team to mitigate risks, allocate resources effectively, and deliver the project within the specified constraints.

Collaborative Learning:

- Planning the presentation gave us a slight view of how important project planning is and also help us understand in the SCM when we were updating the document for the project initiation and market analysis.

Further Research/Readings:

- As the journals are maintained in the GitHub repository, it gives us a hint of an idea on how the SCM works. It is easier to rollback changes when there is a management software that helps to do it in ease.

Adjustments to Goals:

- As per the set goals in the previous weeks, journaling and time management are in place but sleep schedule is taking a toll in managing these both. Now, the goal is to fit in sleep schedule journaling and time management together as a good sleep schedule provides good productivity time.