

## Learning Journal

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**Course:** Software Project Management [SOEN 6841]

**Journal URL:** <https://github.com/Shalvi-Saxena/SPM-Journal>

**Week 3:** Feb 11 - Feb 17

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### **Key Concepts Learned:**

This week commenced with a further review of the text "Software Project Management in Practice" by P. Jalote (2002), which was covered last week. Additionally, I explored:

1. Essential Attributes of an Effective Configuration Management System: Version Control, Auditability, Centralised Location, Security, Accessibility for All Teams, Remote Team Accessibility, Continuous Integration, Artefact Location.
2. Synchronising various versions of documents and artefacts across different configuration management systems can prove to be a task prone to errors.
3. Best Practices for Configuration Management Systems: Centralised Configuration Management System, Secure Access Mechanism with Role-Based Access Control, Continuous Integration of Software Builds with Smoke Testing Capability, Easy Branching Mechanism, and Audit Capability.
4. A smoke testing tool such as Cruise Control continuously produces error messages whenever a piece of source code is checked into the software build, until the incorrect code is corrected and re-checked in.
5. In the top-down project management approach, a fixed release date is determined, and features are developed within that timeframe.
6. In the bottom-up project management approach, software requirements are provided, time estimates are made, and the release date is determined accordingly.
7. A supplier management plan is necessary when project components are outsourced. This plan includes creating Service Level Agreements (SLAs), ensuring part quality, establishing a communication plan, implementing a Central Configuration Management System, and integrating continuous integration practices.

### **Reflections on Case Study/course work:**

1. **Incremental Iteration Development Model:** The U.S.-based mid-market software vendor adopted this model, leveraging both internal and offshore teams to reduce costs and accelerate development cycles.

2. **Efficient Configuration Management System:** The system was accessible 24/7, ensuring minimal downtime and efficient collaboration across teams.
3. **Managed Access Rights:** Administration rights were restricted to document owners or maintainers, while others had view-only rights. A super-user role was created for overall system control.
4. **Centralised Version Control:** The main branch contained the primary software build and related artifacts, ensuring a centralized repository for development efforts.
5. **Automated Smoke Testing:** Installed on all branches, this software verified the compatibility of new code with the existing build, promptly addressing build failures.
6. **Local Testing:** Each developer maintained a local build and smoke test application on their personal computer, minimizing the risk of build failures.
7. **Overall Impact:** The case study underscores the critical role of a well-designed and efficiently managed configuration management system in enabling seamless collaboration and development across diverse teams and locations.

### **Application in Real Projects:**

The concepts we've covered are highly valuable in practical project scenarios. Configuration management systems play an essential role while working on a project with multiple teams, as they help maintain multiple versions along with auditability. This is particularly crucial in software development projects, where different teams may be working on different features or modules simultaneously. With a robust configuration management system in place, teams can collaborate more effectively, ensuring that changes and updates are tracked, versioned, and audited. This not only enhances transparency but also helps in resolving conflicts and maintaining the integrity of the project.

### **Peer Interactions/ Collaborative Learning:**

Throughout this week, our focus shifted towards a comprehensive market analysis, delving deeper into the project's features and potential impacts. We meticulously reviewed and discussed research papers, synthesising our findings to design unique application features. Additionally, we collaboratively crafted a compelling project pitch, ensuring alignment with our research and market insights.

### **Challenges faced:**

I encountered several challenges during the process of sorting through research papers for the Sustainable Living Planner. It was particularly challenging to identify the most relevant content amidst a vast array of information. Additionally, pinpointing the shortcomings of current similar applications and devising unique features to distinguish our application proved to be a significant hurdle. Moreover, evaluating the feasibility and potential impact of these features was an additional challenge, as they had not been implemented in previous applications.

**Further Research/Readings:**

Similar to the previous week, I will select an additional reading from the book "Software Configuration Management" by J. Keyes (2004), published by CRC Press in Boca Raton, FL. In addition, I will continue reading Chapter 6 and dedicate time to preparing for the upcoming mid-term exams.

**Adjustment to Goals:**

I initially intended to begin revising, but I've decided to prioritize completing Chapter 6 before shifting my focus to preparing for the mid-term exams. Additionally, I will allocate more time to the project, concentrating on crafting a solution proposal and a comprehensive project plan.