

Final Learning Journal

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Course : SOEN-6841 : Software Project Management

Journal URL : https://github.com/PrashantPawar30/SOEN-6841_LearningJournals

Date : November 22, 2024

Overall Course Impact :

This course has given me new insights, deeper understanding of software engineering processes and software development lifecycle. In this course, we studied fundamental principles of software engineering which shows the importance of adhering to project plan and a planned procedure to make sure the successful development and delivery of high quality, high-performance and defect free software products.

Throughout the course, we learned the following key concepts :

- **Risk Assessment and Mitigation :** The course highlights the critical role of risk assessment and mitigation in project success. Understanding potential risks early in the project lifecycle helps in proactively addressing them before they escalate. I learned technical, operational, and economic risks. Development of mitigation strategies, such as allocating buffers for time and resources makes sure the project remains stable even in case of unexpected circumstances.
- **Requirement and Configuration Management :** This concepts increased my knowledge about requirement of the customers/stakeholders/users. We learned from the requirement gathering stage to requirement management until they are implemented in a software product. I understand the importance and need of the configuration management in a project in the form of version control, which helps to keep track of any changes or implementations done in a project, which ensures the traceability of the requirement or changes. This way any requirement or change can be traced to its origin and the reason for it.
- **Software Designing :** The discussion about the Software Designing helped me to understand the characteristics of a good software design and various design techniques such as structural and object-oriented design, along with the necessary tools which are important to build a robust software which also a scalable, maintainable.
- **Software Development :** We discussed the practical aspects of creating a executable code for the design specifications. Studying and researching more about the coding standards and code reviews increased my knowledge and confidence of writing a clean and efficient code that follows the best practices used in the industry.
- **Software Testing / Quality Analysis :** The verification and validation of the resulting software product is important in order to ensure its quality and the delivery of defect free software product. We discussed various testing techniques which includes unit testing, integration testing, system testing which comprehensive knowledge of planning and execution of testing process and how it is helpful in mitigating risks.

- **Activities involved in project planning, during the project timeline and project closure :** We discussed the activities involved from planning to closure. This activities or stages makes sure that the project is on track, meeting the planned objective. During this discussion, I learned in detail about the objectives, scope, WBS, resource and budget planning, scheduling which are done during project planning. To make sure the project is achieving the objectives implementation of tracking and monitoring the progress, configuration management, testing is important along with having team collaboration. Delivering the product with manuals and training, archiving data, conducting lesson learned sessions also releasing the resources this activities are done in the project closure.

Application in Professional Life :

- **Risk Management Strategies :** The knowledge from studying risk management strategies will help me to detect and reduce the potential risks in future software projects. Now, I understand that by developing comprehensive plans and integrating into the project flow, the risk impact can be reduced which will make project stable even in challenging situations.
- **SDLC Phases :** A clear understanding of the SDLC phases allows to collaborate effectively with stakeholders to define precise requirements, estimating timelines and allocating resource and budget efficiently. Techniques like WBS and CPM will help to optimize resource and budget allocation.
- **Configuration Management :** Incorporating version control ensures the consistency and integrity of software changes and requirement throughout the project timeline. This practices reduce the risk of errors and enable the traceability of requirements, which further improves the quality and reliability of project deliverable.
- **Adaptability :** Understanding iterative models and agile processes improves my confidence in dynamic project situations. This adaptability will help me to effectively respond to evolving requirements and market demands, ensuring project success even in challenging circumstances.
- **Following Best Practices :** Incorporating best practices (which are followed in industry) and conducting careful testing at every stage of development will enable me to mitigate risks early, ensuring the delivery of maintainable and high-quality software. These practices will help align project outcomes with customer expectations and planned goals.

Peer Interactions Insights :

In this course, various activities like classroom activities, poster presentation and group project helped me to get deeper knowledge while having a good teamwork experience. This activities also helped me in improving important skills like communication, public speaking, presentation, problem solving.

- **Group Project & Poster Presentation:** There were 5 students in my project group and 2 students in group for poster presentation and efforts by each of us helped to complete various project tasks and components. We had regular discussions, meetings in-person or online, helped us brainstorm different new ideas from each of us which improved my communication and mainly the problem solving skills.

- **In-class Activities** : During the In-class activities, relatively small task were given to us and were supposed to complete in short time duration. This was very good experience to brainstorm innovative solutions, critical thinking. Engaging with classmates during this tasks exposed me to different opinions and their perspectives in projects or in-general tasks which was helpful to broaden my perspective and understanding towards concept and effective collaboration.

Personal Growth :

This course has helped me improve essential interpersonal skills such as collaborative skills, critical thinking and problem solving, better communication, Time management.

- **Collaborative skills** : Working on group projects and other activities has significantly improved my ability to collaborate effectively with different teams. I learned how to actively contribute to team discussions, respect individual opinion, and use team abilities to achieve common goals. These experiences have improved my teamwork capabilities, making me more confident in handling collaborative tasks in professional environments.
- **Critical thinking and problem-solving** : Through group projects, I developed stronger critical thinking and problem-solving skills. Analyzing complex project requirements, brainstorming innovative ideas, and addressing challenges during group discussions taught me how to think strategically and approach problems with a disciplined mindset. These skills have helped me to make better decisions and overcome challenges effectively.
- **Continuous Learning** : Revising few of the old concepts with new knowledge along with the new concepts helped me to realize importance of adapting and improving myself. By engaging with real-world scenarios and hands-on activities, I've learned to proactively learn, research and apply the knowledge effectively in dynamic situations. I am confident to stay motivated to pursue growth, improving my problem solving skills and to adapt according to industry trends and new technologies.
- **Communication Skills**: All of the activities during this course improved my verbal and written communication skills. I became more confident in presenting ideas clearly, explaining thoughts in team meetings, and actively listening to others. These skills are important for building strong relationships and ensuring effective collaboration in professional environments.
- **Time management** : Managing my time effectively has improved as a result of managing group projects, coursework, and personal responsibilities. In order to meet project requirements, I learned how to efficiently manage my time, prioritize activities, and set realistic deadlines. My capacity for effective time management gives me confidence that I can manage several tasks without affecting the overall quality of my productivity.