

# Learning Journal

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

**Journal URL:** [https://github.com/salu2303/SOEN\\_6841/](https://github.com/salu2303/SOEN_6841/)

**Week 1:** 18 January - 24 January

**Date:** 23 January 2024

## Key Concepts Learned:

A project is basically something with a defined start time, end time and associated activities to achieve the main purpose, which needs resources for specific amount of time. The difference between job and project is that job is routine task and the project has specific duration. Project directly relates to budget, time and resources. Project management is basically to manage the project with required skill set so that the project can be completed within time. Project management contains different phases which should be followed in order to manage it. Also, project is broken down into different phases such as design, testing, coding, etc which can be waterfall model, Agile model, etc. I got to know about Project Initiation which relates to the very first step of project. Top management organization define the project which includes project charter, scope and objectives. Then budget estimation the essential part of any project which cover salaries of working employees. The project effort is estimated using different techniques. The project objective is to “**SMART**”.

## Application in Real Projects:

Iterative models helps to breakdown the project to achieve each task efficiently. Effort estimation is helpful in decision making of person effort. This key concepts can be applied to real world project by focusing more on project initiation techniques.

### **Peer Interactions:**

Involved in peer discussion regarding how one can manage software effectively and what are the challenges to achieve the task. Also, what different effort estimation techniques can be used to find man effort for budget estimation.

### **Challenges Faced:**

I was unaware about this various phases of project development which I found bit difficult at first moment but now its pretty clear to me. Understanding how to estimate effort for the project before even starting the project is bit difficult.

### **Personal development activities:**

I searched for how to be a good software manager and what things should I keep in my mind to achieve goal successfully. I undergo through google to search relevant articles for project initiation methods to have better idea of starting phases of any project.

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

Understanding in depth project scope and objectives or project initiation phase. Various project phases and software design models such as waterfall, agile, etc.

## Week 2: 28 January - 3 February

**Date:** 3 February 2024

### Key Concepts Learned:

This week focused on the important aspect of effort and cost estimation for software projects. I got to know about **Experience-based techniques** and **Algorithmic cost modeling**. There are some popular experience-based estimation approaches such as **estimation by analogy** and **estimation by expert judgement**. I learned about various techniques for estimating the effort required for software development projects, including the **COCOMO** model, **Function Point Analysis (FPA)**, and the **Delphi technique**. Each method has its unique application based on the availability of data and the nature of the project. Also, the chapter includes some negative sides of these techniques while estimating the project. Moreover, the chapter emphasized the importance of **accurate estimation** in managing **client expectations** and ensuring project profitability.

### Application in Real Projects:

Precisely estimating project effort and cost **can significantly impact the success of software development endeavors**. For example, employing the COCOMO model in projects with available historical data can lead to more precise estimations, thereby reducing the risk of project overruns. However, the challenge remains with different projects with various domains.

### Peer Interactions:

We talked about real world **difficulties while actually applying** these different effort and cost estimation techniques to the software project, specifically in projects with

limited historical data or in agile development environments. Also, we learned how exactly these techniques can be used in software project management.

### **Challenges Faced:**

One specific challenge I faced while learning this chapter is Function point Analysis which includes so many different factors for effort estimation.

### **Personal development activities:**

I searched about COCOMO and Delphi estimation techniques and went through actual example of the same from a website. Also, I came to know about the difficulties while imposing such estimation in real world projects.

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

I aim to explore software tools that help these estimation processes, enhancing my practical skills in project management. Also, I will research more on Delphi technique in agile development.

## Week 3: Feb. 4 - Feb. 10

**Date:** 8 Feb

### **Key concepts Learned:**

In this week's sessions, I dived into the topic of risk management within software project management. At its core, risk was defined as the **combination of the likelihood of an event occurring and its negative consequences**. This understanding led to an exploration of various **risk categories**, including **technical, legal, organizational, safety, economic, and schedule-related risks**. Furthermore, I gained insights into the process of risk assessment, which includes **identifying, analyzing, and prioritizing risks**. The chapter highlighted the importance of **proactive risk management**, stressing the need to **identify potential risks** early to ensure project success. Additionally, I learned about the significance of **risk mitigation strategies** in minimizing the impact of identified risks. From simplifying processes to planning for additional testing, the chapter emphasized the importance of taking **early action to reduce** the likelihood and **impact of risks**. Overall, these key concepts provided a comprehensive understanding of effective risk management practices in software projects.

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

Understanding the principles of risk management is crucial in real-world software projects. By finding potential risks like **running out of resources, services breaking down, or technology becoming outdated early on**, project teams can plan ahead to deal with these issues. Prioritizing risks helps teams **make smart decisions** about where to focus their **efforts and resources**. Overall, using effective risk management practices helps projects stay strong and resilient, reduces problems that could disrupt progress, and increases the chances of finishing projects successfully within the

planned time and budget. It's all about being proactive, seeing problems before they become serious, and taking smart steps to keep projects running smoothly.

### **Peer Interactions:**

Throughout the week, I engaged in meaningful discussions with classmates, exchanging **insights on risk management strategies**. Collaborative activities provided opportunities to dissect **real-world scenarios**, offering diverse perspectives on addressing project risks. Active participation facilitated a deeper understanding of **risk identification** and **mitigation techniques**, enhancing my grasp of the subject matter. By sharing experiences and debating various approaches, I gained valuable insights into managing project uncertainties. These interactions fostered a supportive learning environment, where collective knowledge enriched our understanding of risk management principles.

### **Challenges Faced:**

Throughout the learning process, one significant challenge I encountered was grasping the **intricate nuances of risk prioritization**. Understanding how to effectively assess and rank risks based on their likelihood of occurrence and potential impact required a deeper level of analysis and critical thinking. Another challenge was navigating the complexities of creating all-encompassing risk mitigation strategies. It demanded careful consideration of various factors such as resource allocation, time constraints, and project dependencies. To overcome these obstacles, I had to work hard to improve my **critical thinking and analytical skills**.

### **Personal Development Activities:**

During this week, I engaged in various activities aimed at enhancing my professional growth. I dedicated time to deepening my understanding of risk management principles through additional readings and practical exercises. I also actively participated in **group discussions** and asked peers for **feedback** to improve my understanding of the

material. Furthermore, I reflected on past project experiences to identify areas where I could improve my risk management skills. These activities not only expanded my knowledge but also honed my ability to effectively navigate and mitigate risks in software projects.

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

For the upcoming week, my goals are to:

- Gain a **deeper understanding** of quantitative **risk assessment methods**.
- Explore case studies illustrating effective risk management practices in software projects.
- Collaborate with peers to **discuss real-world applications** of risk management concepts.

Week 4 : (Feb. 11- Feb. 17)

### **Key Concepts Learned:**

This week's focus was on the art of delivering an engaging and **effective project pitch**, particularly for our project, the Personalized Learning Path Generator. We explored the significance of understanding our audience, the importance of a clear value proposition, and how to concisely convey the problem our project solves. I deepened my understanding of personalized education, learning about adaptive learning technologies, and how data analytics can be leveraged to customize learning paths for individual learners.

### **Peer Interactions:**

Collaboration was pivotal this week. My team and I utilized various online platforms for virtual meetings, such as Zoom and Trello for project management. We divided the project pitch into segments, allowing each member to focus on their strengths, such as technical details, market analysis, and user impact. This division of labor not only made

our preparation more efficient but also allowed us to learn from each other, enhancing our collective knowledge and skills.

### **Challenges Faced:**

One major challenge was condensing complex technical information into a pitch that was both engaging and understandable for a non-technical audience. Additionally, coordinating schedules among team members for practice sessions was difficult due to conflicting commitments. To overcome these, we conducted multiple dry runs of our pitch, refining our message, and ensuring clarity. We also established a more flexible meeting schedule and used collaborative tools to work asynchronously when necessary.

### **Personal Development Activities:**

To improve my pitching skills, I engaged in several personal development activities. I watched TED Talks on effective communication and storytelling in presentations, which helped me understand how to connect with an audience emotionally. I also practiced mindfulness exercises to manage presentation nerves, leading to increased confidence during the actual pitch.

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

For the upcoming week, we aim to gather feedback on our project pitch from various stakeholders and refine our project proposal based on this feedback. We also plan to begin the initial development phase of our personalized learning path generator, focusing on creating a basic prototype. Additionally, I aim to enhance my knowledge in machine learning and data analytics, as these are crucial components of our project.

**Week 5 : (Feb. 18- Mar. 9)**

### **Key concepts learned:**



The last 3 weeks were focused on revisioning chapters 1–6 for preparing the exams, which included diving deeper into the complexities of project scheduling, risk mitigation, and resource allocation within software project management. Project scheduling entails creating a detailed timeline that outlines the sequence of tasks, how long each task will take, and any dependencies between tasks. I explored various techniques and tools used for project scheduling, such as Gantt charts, PERT charts, and the critical path method (CPM). Each method provides different insights into managing project timelines effectively. Additionally, I learned about resource allocation, which involves assigning resources like people, equipment, and funds to different project activities based on their availability and requirements. Moreover, I learned different estimation based techniques such as Delphi, COCOMO, etc. Balancing resource constraints while striving to achieve project objectives is crucial for project success. I also worked on phase 2 deliverables, which include feasibility studies, budgeting, and risk assessment.

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

Applying the lessons learned this week to real-world projects is crucial for achieving success. Understanding the basics of software project management helps lay a strong foundation for effective project execution. By carefully managing the start of a project, including creating clear project plans, defining what needs to be done, and identifying who's involved, teams gain a clear understanding of what's expected. Making accurate estimates of the time and money needed for a project, and being proactive in spotting and dealing with potential problems, are essential for thorough planning and successful outcomes. Techniques like using past experience and expert opinions help in making realistic estimates, while assessing risks and coming up with ways to deal with them early on helps prevent problems later. Additionally, keeping track of changes and making sure everyone knows what's happening in different stages of the project ensures consistency and reliability. Although challenges may arise, such as figuring out how much time and money will be needed, and deciding which risks to focus on first, the benefits of using these principles are worth the effort. By using them wisely and

strategically, project managers can improve the chances of success, satisfy stakeholders, and help the organization grow and thrive.

### **Peer Interactions:**

Engaging in meaningful exchanges with peers throughout the week proved to be a cornerstone of my learning experience in software project management. The collaborative nature of our discussions not only facilitated the sharing of insights and experiences but also fostered an environment of mutual support and encouragement. One particularly enlightening interaction centered around the nuanced challenges of estimating project effort and cost accurately. Peers shared candid anecdotes from their own professional journeys, offering diverse perspectives and practical strategies for navigating these complexities. Through open dialogue and active listening, we collectively unraveled the intricacies of project management, drawing from a rich tapestry of real-world scenarios and industry best practices. These peer interactions served as catalysts for personal and professional growth, inspiring me to approach software project management with renewed confidence and clarity.

### **Challenges Faced:**

Despite the enriching learning experience, several challenges emerged during the week's study of software project management. One notable challenge was grappling with the intricacies of estimating project effort and cost accurately. Despite employing various estimation techniques, such as expert judgment and analogy, there remained uncertainty surrounding the precise quantification of resources and time required for project completion. Additionally, navigating the complexities of risk management posed another significant challenge. While understanding the theoretical aspects of risk assessment was relatively straightforward, translating this knowledge into actionable risk mitigation strategies proved to be more nuanced. Addressing these challenges will necessitate additional effort and exploration, perhaps through seeking mentorship,

engaging in practical exercises, or conducting further research to deepen my understanding of these concepts.

### **Personal Development Activities:**

Throughout the week, I devoted time to various activities aimed at enhancing my professional growth in software project management. One significant activity involved engaging in supplementary readings and online resources to delve deeper into the topics covered in class. Additionally, I actively sought out opportunities to apply theoretical concepts to practical scenarios, whether through self-paced exercises or by participating in online forums and discussions with industry professionals. Furthermore, I prioritized reflective practices, such as journaling and self-assessment, to identify areas for improvement and set actionable goals for further development. Lastly, I actively sought feedback from peers and mentors to gain valuable insights and perspectives, leveraging their expertise to refine my skills and knowledge in software project management. These personal development activities not only reinforced my understanding of key concepts but also fostered a continuous learning mindset, ensuring my ongoing growth and development in the field.

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

Looking ahead, I aim to set specific learning goals to further enhance my understanding and proficiency in software project management. Firstly, I intend to delve deeper into the intricacies of risk management, with a focus on refining my ability to identify, assess, and mitigate project risks effectively. Additionally, I aspire to strengthen my grasp of project planning methodologies, particularly in the context of agile project management, by exploring advanced techniques and best practices. Furthermore, I aim to broaden my knowledge of configuration management practices and their role in ensuring the integrity and reliability of software systems. Lastly, I plan to prioritize self-directed learning activities, such as conducting case studies and engaging in hands-on exercises, to consolidate my understanding of key concepts and their practical

applications in real-world scenarios. By setting clear and achievable goals, I am committed to continuously advancing my skills and expertise in software project management, ultimately contributing to the success of future projects and professional growth

**Chapter 1 Reflections:** The chapter provided a comprehensive overview of project management fundamentals. It brought to light the importance of various actions that are customer-focused in establishing a project. It also recognized the unique difficulties that come with software initiatives, including their invisibility, complexity, conformance, and flexibility.

**Chapter 2 Reflections:** The chapter focused towards project initiation management which started with who initiates the project. Effort estimation techniques help to provide estimate of worker salary and required man power. Project estimation in terms of duration is also covered in this unit. The importance of SMART objective is the focus while project planning.

**Chapter 3 Reflections:** This chapter is highlighting the significance of experience-based techniques like estimation by analogy and expert judgment, alongside algorithmic models such as COCOMO, FPA, and the Delphi technique. The chapter focused on the critical role of accurate estimation in managing client expectations and ensuring project profitability.

**Chapter 4 Reflections:** The risk management chapter has provided valuable insights into the importance of proactive risk identification and mitigation in software project management. I look forward to applying these principles in future projects and further honing my risk management skills.