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**Course:** SOEN 6841

**Journal URL:** https://github.com/LeeELIOT/SOEN-6841

**Dates Rage of activities:** January 17th - January 27th

**Date of the journal:** January 27th

**Key Concepts Learned:**

1. For Chapter 1, I learnt definitions of **software project, software project management** and so on. Which inspires me the most is that software projects should consider time duration, limited resource and budget, since realistic elements matters a lot while developing a software. Moreover, the discussion about **what responsibilities project manager hold and what makes a project manager successful** clears my idea about how software project exactly runs in real life.
2. Chapter 2 focuses on **project initiation**, which includes the project charter outlining goals, responsibilities’ allocation, project scope, project objectives. Besides that, **estimation of effort, cost and quality planning** are also necessary. In class, the overall initiation steps are introduced with key details about what to pay attention to, which is pretty helpful with giving a general idea of it.
3. As for Chapter 3, it’s about project **estimation of resource, effort, schedule. and cost**. **Estimation by analogy** was an example of Experience-based estimation approaches, which estimates effort based on size of the new project.

**Estimation techniques** like FPA, COCOMO, and Wide Band Delphi are introduced, which could be implemented in different scenarios depending on their information availability. The solutions have limitations as well (like project data we have, FPA doesn’t capture all functional characteristics of real-time software). Detailed Steps are also provided. For FPA, we need to identify Function Points like EI, EO, EQ… and calculate UFP with weights then adjust it by assessing environment and complexity (VAF), and for COCOMO it’s analyzed based on LOC..

**Application in Real Projects:**

1. For Chapter 1, I could relate to my experience before. I was in a project of developing an intelligent traffic data visualization website before, when there were procedures or regulations confused me. I mostly just followed the regulations without thinking twice, but now it gives me a better picture of how software project runs within limited resources and time, and things from back then start to make sense (like how requirements changed and delivered, tasks are scheduled and prioritized).
2. For Chapter 2, what captured my attention was project scope in project initiation phase. In the textbook, it also mentions **the increase of project scope over time** could cause project failure. This actually happened when me and my classmates intended to conduct a project for competition with students from Economics and Management department. Requirements weren’t clearly settled which causes more and more features adding in as long as students from another department thought it’s necessary. The requirements weren’t delivered in proper manner as well because we lack knowledge of their major. The solution is to **ensure requirements are lucid and clear**, **change request mechanism** is necessary as well. With this knowledge, we might could avoid the failure.

1. Chapter 3 is an inspiration that **how effort estimation technique suits different projects** and the importance of doing so. In the class, students knew about COCOMO, which drove me curious about other mentioned techniques. Since COCOMO is suitable for large-scale projects which requires early LOC estimates and complexity, while FPA is more accurate for function-driven projects with clear requirements. For Wide Band Delphi, it’s for uncertain projects that is more flexible and relies on team expertise.

**Peer Interactions:**

Interaction was quite smooth and we quickly formed a project team and a group chat.

**Challenges Faced:**

This part of knowledge was relatively novel since my focus was totally on development, and the knowledge from other courses were at least relevant to my knowledge to some extent. Exercises are open and takes some time to gather and choose helpful information. Seems like project manager have so many things to concern about.

**Personal development activities:**

I’m currently studying knowledge about generative AI including LLMs, but it’s certainly not possible to develop LLM myself. So, I’m playing with API provided by LLMs using python and explore how it could help with software engineering. Also, prompt engineering.

**Goals for the Next Week:**

Do more detailed readings of our textbook, try to absorb more practical knowledge which could implement to projects. Besides that, I’m also trying to review my previous project archived in my PC and our work record to have a better connection between what I’m learning and my experience. Reach out my teammates to talk about project initiation issues.