Learning Journal Week 3

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Course: SOEN-6841: Software Project Management
Journal URL: https://github.com/tanzinariki/SOEN6841

Dates Range of activities: February 2 – February 20
Date: February 23, 2025

Key Concepts Learned

Since this week included exam preparation, I revisited all the key topics from Chapters 1 to 6 while also filling in gaps from the previous weeks. Some of the most important concepts I focused on were:

1. Effort, Cost & Resource Estimation

Last week, I focused on Function Point Analysis (FPA) for effort estimation, but this time, I revisited COCOMO, Wideband Delphi, and Estimation by Analogy to compare their strengths:

- **COCOMO** – Good for estimating large projects but needs accurate size metrics.
- **Wideband Delphi** – Relies on expert judgment, which helps when little data is available.
- **Estimation by Analogy** – Compares new projects to similar past ones for better accuracy.

Additionally, I learned that cost estimation isn't just about development—it includes maintenance, support, and risk factors, which are often underestimated in real-world projects.

2. The Importance of Risk Management in Software Projects

One major takeaway this week was the importance of risk management. I learned that risks could be:

- **Technical Risks** (integration failures, security vulnerabilities).
- **Organizational Risks** (losing key team members, misalignment with business goals).
- **Schedule Risks** (scope creep, delays in task dependencies).

I also revisited risk mitigation strategies, including:

- **Avoidance** – Changing the plan to eliminate risks.
- **Mitigation** – Reducing the probability or impact of risks.
- **Transference** – Shifting risks to another party (outsourcing from third party).
- **Acceptance** – Acknowledging risks that can't be avoided but planning contingency measures.

3. Project Planning & Scheduling – Making Work Manageable

Breaking down a project into smaller, structured tasks using Work Breakdown Structure (WBS) makes resource allocation and scheduling easier. I also learned about:

- **Critical Path Method (CPM)** – Identifies the longest path of dependent tasks.
- **Goldratt's Critical Chain** – Helps eliminate unnecessary buffers in scheduling.

These methods ensure that projects don't run over budget or schedule due to poor planning.

Application in Real Projects: "Chatbot for Mental Health Support"

For our "Chatbot for Mental Health Support" project, we focused on key project management activities:

- **Planning for Effort Estimation & Scheduling** – We plan to apply Work Breakdown Structure (WBS) and Critical Path Method (CPM) to structure our project tasks and timelines.
- **Risk Management** – Identified potential risks such as AI bias, data security challenges, and user engagement issues and discussed strategies to mitigate them.
- **Configuration Management** – Explored best practices for document version control and change management to maintain project consistency.
- **Project Pitch Preparation** – Collaborated with my team to structure our upcoming project pitch, ensuring we effectively communicate our vision and key objectives.

Peer Interactions/Collaborations

- Refined our project pitch, preparing for its presentation next week.
- Discussed key project management techniques with teammates, focusing on effort estimation and risk mitigation.

Challenges Faced

Balancing exam prep and project work was a challenge. Managing both required strict time management, but breaking down study topics helped.

Personal Development Activities

Enhanced my skills in React.js for my HCI project, focusing on building interactive UI components. Created High-Fidelity prototype using Figma.

Goals for Next Week

1. Read Chapters 7 & 8 to learn about project monitoring, Agile methodologies, and project execution strategies.
2. Prepare for the project pitch presentation, refining key selling points and addressing possible concerns.