Learning Journal

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Course: Software Project Management

Journal URL: https://github.com/nimijdv10/SPM-Winter24

Week 1: 28 Jan 2024 – 03 Feb 2024

Date: 01 February 2024

Key Concepts Learned:

- Learned about effort and cost estimation which can be done using experience-based techniques or algorithmic cost modeling.
- Experience-based technique is further divided into two sub-categories:
    1. Estimation by Analogy – compare similar past project to determine size measure
    2. Estimation by Expert Judgement – Effort estimation using this technique is done using 2 different methods:
        - *Function Point Analysis* – This is done in 5 steps:
            a. Detemining function count type
            b. Boundary and scope of count
            c. Calculating unadjusted function point count
            d. Applying adjusted factor
            e. Calculating adjusted function point count
        - *Delphi* – each team member estimates pieces of project individually and meet up to discuss and compare them

  Keywords – *Internal Logical files, External Interface file, External Input, External Output, External Inquiry, Unadjusted function point, Value Adjustment factor*

- I studied that Algorithmic cost modelling can be done using COCOMO 2 which has 4 sub-models:
    1. Application composition model
    2. Early design model
    3. Reuse model
    4. Post-architecture model

  PM (Person months) = A (constant) x $\text{Size}^{\text{B (Exponent term depending of few factors)}}$ x M (Multipliers)
  Keywords – *Person months, effort multipliers, exponent driver factors, development flexibility, risk resolution, team cohesion, process maturity, precedentedness*

Reflections on Case Study (Chapter 3):
The initial product development estimate of 500,000 SLOC estimated a cost of $3,200,000 over two years for a team of 22. Later, deciding on offshore development with more than 50 people resulted in a quarterly cost of $730,000. The current project entails creating an appointment scheduling engine and search functionality, with an estimated effort of around 300,000 SLOC, with a focus on thorough testing due to the logic's complexity.

Collaborative Learning:
Met with my team members for the group project, discussed about the project topic which is Intelligent Tutoring system and divided the work among ourselves.

Application in Real Projects: (Effort and cost estimation)

- Project managers can use previous projects with similar characteristics to estimate the effort and cost of new projects. This includes comparing size measurements, identifying similarities, and accounting for differences.
- Applying these techniques allows project teams to make informed decisions, set realistic expectations, and effectively plan resources, all of which contribute to successful project execution. Regularly updating and refining these estimates as the project progresses helps to maintain accuracy and adjust plans as needed.

Challenges Faced:

- COCOMO model was difficult to understand at first but went through some videos and contents online for a better understanding.

Further Research/Readings:

- Studied about how FPA and COCOMO model can be used and how they are calculated by watching some videos online.
- I have also done some research for project about Intelligent Tutoring systems and went through some papers online. Studied what all features are already implemented and what can be added to the existing software which could be helpful to the target audience.

Adjustments to Goals:

- Completed reading Chapter 3, currently reading Chapter 4.

Goals for the Next Week:

- Complete reading Chapter 4.
- Come with some new features for Intelligent Tutoring Features.
- Do some more research on it and prepare a project proposal and do market analysis.