**Software Project Management - SOEN 6841**

**Learning Journal – 2 Chapter - 3**

**Student Name:** Vishnu Rameshbabu

**Course:** Master Of Software Engineering

**Journal URL:** <https://github.com/VishnuRameshbabu/SOEN6841>

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**Key Concepts Learned:**

I had the opportunity to go through the slides as I got enrolled pretty late into the class. Key concepts that I observed was, Effort estimation and it’s techniques like by Analogy or by Expert Judgement, Function point analysis and calculation of 5 function types, UFP and VAF calculation tables. Delphi method for effort estimation, Algorithmic models and COCOMO cost modelling estimation.  
  
To summarize, project and effort estimation is needed to be done during the designing phase, since this will determine the development trajectory of the project. And various methodologies are being introduced like in Estimation by Analogy which adds a multiplication factor based on a previous project like the project in design phase.

And there’s estimation based on experience where Function Point Analysis (FPA) is performed to measure software features that the user receives. It calculates the Unadjusted Function Point (UFP) by counting the five function types, ILF, EIF, EI, EO, EQ and ranking them based on their complexity.

Delphi is another effort estimation technique based on experiences by the project members and calculating based on a range.

Finally, COCOMO2 modelling which is a proven model and also provides various sub models like Application composition, Early design, Reuse and Post Architecture model.

**New Terms introduced:**

COCOMO2, Algorithmic cost modelling, Function point analysis, Delphi, Unadjusted function point.

**Application in Real world projects:**I believe these concepts can be applied in any business organization when the project is initially in the requirements gathering phase. This will give a rough estimate of the effort for the project from which we can infer a deadline and make the project set in that direction.   
  
Practical difficulties might be the margin of error when the project manager/ requirements engineer decides to put a multiplication factor which might be slightly more or less than the final effort made by the team.

To give a real world example:

Effort Estimation Techniques: Let us take a software development team that uses Analogy and Expert Judgment for effort estimation by drawing parallels with past projects or consulting experienced team members.

Function Point Analysis (FPA): During the design phase, the team employs FPA, counting five function types (ILF, EIF, EI, EO, EQ) to calculate Unadjusted Function Points (UFP) and understand the software features from the user's perspective.

Cost Modeling (COCOMO2): The team adopts COCOMO2, a well-established model offering sub-models like Application Composition, Early Design, Reuse, and Post Architecture to refine cost estimates in various project stages.

**Challenges Faced:**

I had no difficulty in understanding the concepts for this week but it would be even better if there’s a real time project demonstrating these cost estimation techniques.

But there can be a small activity in the class hours which can demonstrate, a project description where project estimation techniques needs to be performed, which can give us a more practical view of the concepts.  
  
It can be used to compare peers estimation methods and the margin of error each one of us face and a small discussion on how it can be minimized.   
  
**Peer Interactions:**

I got the opportunity to interact with my peers and discuss about cost estimation and how project managers choose which type of estimation method must be followed. These discussions were fruitful as we had insights on how project cost estimations can be done and for the course project as well.

**Goals for Next Week:**

The goals for next week would be to read chapter 4 slides along with the respective chapter in the book. Also I have to collaborate with team members and start on the project deliverable.