

## Learning Journal Template

**Student Name:** Nikita

**Course:** Software Project Management

**Journal URL:** <https://github.com/Nikitakhera01/SPM.git>

**Week 1:** 18 Jan – 24 Jan

**Date:** 24 Jan

### Key Concepts Learned:

Key Concepts: -

1. Software Project management and its importance
  - A software project will have processes like software life cycle processes (requirement gathering, software design, software construction, software testing, deployment and maintenance), software project processes, software configuration management.
  - There are four steps involved in software management process such as **Project Initiation, Project Planning, Project Monitoring & Control and Project Closure.**
  - Project Management is an essential and crucial thing because if the project is not properly planned, it can be a failure.
  - Software project management offers strategic alignment, leadership, planning, practicality, quality assurance, and proven processes to combat chaos and complexity.
2. Processes involved in Software project management
  - Project Initiation - It includes application initiation, product initiation and product implementation initiation. During these phases, project charter, scope, objectives, risk and effort estimation, team scheduling and roadmap are defined.
  - Project Planning - After initiating the project, specific requirements from stakeholders gets finalised. A design document has been built, and based on that development activities start.
  - Project Monitoring & Control - Testing and maintenance go hand in hand after every deployment. Other control measures also taken by project manager to deliver good quality product.
  - Project Closure - During project closure, all the artifacts are analyzed and completed. Data from these artifacts are transferred to central repository so that these data can be used for future projects.
3. Things to define during project initiation phase
  - **Project Charter** - A project charter is an elevator pitch of your project objectives, project scope, and project responsibilities to get approval from key project stakeholders. In the charter, you should provide a short, succinct explanation of the main elements of your project before you get started.
  - **Project Scope** - Project scope is a way to set boundaries on your project and define exactly what goals, deadlines, and project deliverables you'll be working towards. By

clarifying your project scope, you can ensure you hit your project goals and objectives without delay or overwork.

- **Project objectives** - A project objective states the aim of a project. It tells us what the project team wants to accomplish.

#### 4. Effort estimation and its techniques

- Effort estimation is a crucial aspect of project management, setting real timelines and allocating right resources at right place. It involves predicting the amount of time and effort required to complete a particular task or project.
- Function Point Analysis, COCOMO, Wide Band Delphi are some widely used techniques used for calculating efforts required for the project.

#### 5. Effort Estimation Techniques

- **Function Point Analysis – Historical Project data + Current Project Data**  
It is a software measurement technique used to evaluate the size and complexity of a software application. It quantifies the functionality provided by the software from a user's perspective, irrespective of the technology used for implementation. Function points are a standardized measure of software size, and the analysis is often used for estimating effort, cost, and duration of a software development project.
- **COCOMO – Current Project Data**  
COCOMO provides a structured way to estimate software project parameters, but it's important to note that it relies on historical data and assumptions, and the accuracy of the estimates depends on the accuracy of the input data and the similarity of the current project to past projects used for calibration.
- **Wide Band Delphi – Current Project Data**  
It is an iterative and structured approach to gather expert opinions and reach a consensus on a particular topic, such as effort estimation, project scheduling, or risk assessment. The technique is an adaptation of the Delphi method, designed to improve the efficiency and accuracy of the estimation process.

#### 6. Cost, Schedule and resource estimation

- **Cost Estimation** - Cost estimation in project management is the process of calculating the cost and other resources needed to deliver the project.
- **Schedule estimation** - Schedule estimation is composed of making lists of tasks and estimating time required for each task.
- **Resource Estimation** - Resource estimation is the process of estimating the number of resources required for the project.

#### 7. Risk definition and its causes

- Risks are unforeseen or unplanned happenings, which, when occur can devastate or adversely affect project delivery.
- There are many causes that may affect project processes such as cost constraints, human error, unrealistic estimate, poor management etc.

#### 8. Risk management

- Risk may occur at any phase of the development process. That's why risk management is important. It is the process of identifying the errors and making some plans before to prevent project failure.

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

- Case studies give real life examples of implementing a software project management to fulfil the needs of the organization.
- These concepts help to better understand what the team is going to face during implementing it in real life.
- It gives some useful insights how to use budget and resources to its fullest.
- Management processes involved in software development gives a clear understanding of the path to be followed.
- Role of manager is also properly defined which is essential for a successful delivery.
- Uncertainties and risks can be reduced.

#### **Peer Interactions:**

- During this week, I had a chance to get to know others who are enrolled in this course. I already knew some of them from my previous semester.
- Also, I get to know about my team members. We discussed about the project and how we are going to move forward with it.
- Class interactions are also very engaging, both with the professor and other students.

#### **Challenges Faced:**

- The exercises took some time to think.
- Balancing multiple assignments, classes, and other responsibilities is a task.
- It was challenging to allocate sufficient time to read and write for the journal.
- Some extra research on the topics online was time consuming.

#### **Personal development activities:**

- All the readings activities surely helped to enhance my reading skills.
- Interactions with others also helps in communication and inter-personal skills.
- Working with groups also helps in team management and co-ordination.

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

- Work more on all the personal development activities next week as well.
- Learn about the course material so that I can implement all these methods and technologies in real life projects.
- Work on the project submission.
- Review class notes from the previous week.
- Schedule dedicated study sessions for challenging subjects.