DEPARTMENT OF COMPUTER SCIENCE AND SOFTWARE ENGINEERING CONCORDIA UNIVERSITY
SOEN 6841 Winter 2024
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Learning Journal

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Course: Software Project Management [SOEN 6841]

Journal URL: https://github.com/Shalvi-Saxena/SPM-Journal

Week 1: Jan 18 - Jan 27

Date: 02 Feb 2024

Key Concepts Learned:

1. A brief introduction to Software Project Management.
2. Phases of project -
    a. Project initiation
    b. Project planning
    c. Project monitoring & control
    d. Project closure

3. Project Charter defined the purpose of the project and scope includes functionalities and quality of the software product.
4. Project Division technique is used for better project effort and cost estimate.

Application in Real Projects:

Case Study 1: Developing a Healthcare Information System

This case study aids in the organization and oversight of the team across various developmental phases. Utilizing project phases, initiation tasks, and software life cycle processes can structure the upgrade project, encompassing planning for requirements gathering, design modifications, testing, and implementation tasks. A comprehension of project attributes such as resource utilization, time constraints, and budget considerations enables project managers to allocate resources effectively, plan budgets, and manage project limitations.

The discourse on quality characteristics essential for software project metrics serves as a guide for the company in establishing and assessing crucial quality indicators. This encompasses metrics pertaining to code quality, testing effectiveness, and customer satisfaction.

Peer Interactions:

I engaged in a conversation with my friend, delving into various job titles. During our discussion, I gained insights into the distinctions between the roles of a software developer and a Scrum Master. Additionally, I learned that a Scrum Master plays a pivotal role in facilitating the Scrum framework. Some of their key responsibilities include fostering collaboration within the team, removing impediments to progress, ensuring adherence to Scrum principles, and promoting continuous improvement. They also serve as a mediator, aiding communication between team members and stakeholders, while actively supporting and coaching the team in adopting Scrum practices. This multifaceted role highlights the Scrum Master's crucial contribution to the efficiency and success of agile projects.

Challenges Faced:

As a software developer, I have implemented numerous software management techniques without fully understanding their consequences. Currently, I am focused on acquiring a comprehensive understanding of software management to enhance my knowledge in this area.

Personal development activities:

Concentrating on the project management aspect rather than development will contribute to expanding experiences as a developer.

Goals for the Next Week:

I will read chapter 3 and 4.

Week 2: Jan 28 - Feb 03

Date: 03 Feb 2024

Key Concepts Learned:

This week's emphasis was on resource estimation and a thorough analysis of effort estimation methods. Key insights were understanding how engineers manually create software products, what influences resource estimation, and how important it is to take skill types into account. The necessity of selecting the best approach in accordance with project requirements was highlighted by the comparison of effort estimation methodologies.

Reflections on Case Study/course work:

Important insights were provided by the case study employing the Delphi technique for team-based effort estimation. It was illuminating to estimate project components collaboratively, talk about individual estimations, and reach a consensus. This hands-on activity demonstrated the cooperative nature of managing software projects and the value of mutual comprehension throughout the estimation phase.

Further Research/Readings:

This week's additional readings included pieces discussing the shortcomings of experience-based methods, particularly in light of quickly developing technologies like machine learning. These books shed light on the necessity of flexible estimation techniques and an attitude of constant learning in the field of software project management.

Collaborative Learning:

My comprehension of the Delphi technique exercise was much enhanced by working with peers. A comprehensive understanding of effort estimating was promoted by hearing many viewpoints and debating individual estimations. This activity's collaborative style complemented last week's discussion of the value of group participation in effort estimation methods.

Adjustment to Goals:

Upon reviewing the objectives established for the week prior, a significant shift was observed in the recognition of the complexities associated with resource estimation. The emphasis pivoted towards a more nuanced comprehension of how skill sets, project duration, and individual variations in speed impact the requirements of resources. Consequently, adjustments were implemented to prioritize a more in-depth exploration of adaptive estimation techniques, building upon the insights acquired during the week.

Week 2: Feb 03 - Feb 10

Date: 08 Feb 2024

Key Concepts Learned:

SPM

Ch-4

i) Internal risk → risk arises due to an aspect being dealt with by project team. All other are external risk.

ii) External risk that cannot be managed → obsolescence of technology. (E.g)

iii) Initial limits → deliver within time, s/w quality, within budget

iv) An elaborate set of quality constraints are imposed from start to finish.

v) Major causes of risks → Bad negotiation, Cost constraints, Quality constraints, Disinterest, res. unavailability, Attrition, Scope creep, poor management, Human error, Unrealistic estimate...

* Scope creep → affects most (changing requirement)

vi) Risk Categories → Budget, resource, quality, schedule and technology

Budget risk → should include reserve funds (main risk)

Time risk → if deadline is missed its business opp. loss for ex. project schedule slippage. (Add risk buffer)

Resources risk → emp. may leave. Don't keep reserve emp. keep pipeline open for these risks.

* emp leaving → biggest risk for project. can be mitigated by implement. Knowledge manag. sys. to distribute knowledge in whole team.

Quality risk → quality planning must be integrated tightly, in every task.

vii) Project Risk matrix → Proj. Manag. lists all risks & their impacts.

* needs to be revised at regular intervals.

Risk Category	Risk	Probability	Impact
Budget	Task budget overrun	High	High ...

viii) Balancing Act → No proj. can be executed 100% as per proj. plan.
* PM must decide what limits to cross & what to abide with.
* PM → remove ambiguities

ix) Risk due to large no. of requirements → long gestation period, large upfront commitment, High management costs, Req. changes, Miscommunicatio

x) Risks associated with waterfall model are miniaturized or eliminated with the iterative model.

xi) Outcome of risk management planning is risk management document. Containing list of risks, their impacts, probability & what measures to be taken to overcome. Doc. should be updated regularly.

xii) Risks → manageable
unmanageable → no mitigation strategy

Reflections on Case Study/course work:

Important insights were provided by the case study by the SaaS Vendor's Risk Management are -

1. Early Risk Identification: Crucial for proactive mitigation strategies.

2. Proactive Mitigation: Key to addressing challenges like offshore team viability and communication gaps.

3. Adaptability and Flexibility: Essential for responding to dynamic project environments.

4. Quality Assurance Priority: Emphasized through regular reviews to ensure high-quality deliverables.

5. Team Collaboration and Communication: Vital for effective risk management across distributed teams.

6. Continuous Improvement: Reflecting on challenges and refining strategies for better outcomes.

Further Research/Readings:

Collaborative Learning:

Adjustment to Goals:

I intended to finish chapters 4 and 5, but I couldn't complete chapter 5 due to other priorities. For next week, my goal is to finish chapters 5 and 6 and proceed with the next steps of the project.