Learning Journal

Student Name: Meera Muraleedharan Nair

Course: SOEN 6841 : Software Project Management

Journal URL: https://github.com/Meera27/SOEN-6841---Learning-Journal

Week 1: Jan 18 – Jan 24

Date: January 23, 2024

Key Concepts Learned:
Started by looking at the idea of a "Project" and its defining characteristics. Explored the fundamental principles of Project Management, covering key stages such as project initiation, planning, monitoring and control, and closure. Progressed to investigate the tasks associated with various software projects, including those integrated into the Software Lifecycle.

Explored project initiation by defining it and delving into the importance of "project scope" in software management. Discussed initial budget costs and their significance in software projects. Addressed project schedule and the activities related to preparing a project charter and scope. Covered steps in the initial project cost and effort estimate, including the tentative project plan, schedule, and project size estimate. Emphasized the importance of setting SMART objectives and looked into goals or sub-objectives assigned to individuals within the project.

Application in Real Projects:
In real-life scenarios, the concept of a project can be beneficial. Understanding its defining characteristics sets the foundation for effective project management. During the project initiation phase, the project scope can be identified and set with which we can delve into the preliminary budget costs involved.

Further preparing the project charter is crucial, with which we can create a roadmap for the project which can help in better planning in schedule and project size. Setting SMART objectives can become crucial for the team. Additionally, allocating specific goals or sub-objectives to individuals plays a pivotal role in fostering accountability and clarity within the project. By assigning clear responsibilities to team members, everyone knows their role in achieving the overall project objectives. This not only enhances accountability but also promotes a more efficient and organized workflow.

On the flip side, challenges may arise during the implementation of these concepts. Uncertainties in the early stages of a project can make it difficult to establish concrete plans. Resource constraints, such as limited budgets or manpower, may pose obstacles to comprehensive project planning. Additionally, as project requirements evolve, adapting to these changes can be a demanding task.

Peer Interactions:
Initiated the project by holding initial discussions with peers. Explored the project and outlined the steps to be taken in the future, assigning duties and responsibilities to team members.
Through the collaborative discussions, we gained important insights for the project. We all now have a clear picture of what the project is about and what we want to achieve. By deciding who does what during our discussions, we made sure everyone knew their job and how they contributed. We also figured out the best ways to talk to each other, making sure information flows smoothly within the team. These results are helping us build a strong project structure and work together effectively.

Challenges Faced:

Encountered challenges in time management and initiating studies after the winter break. Procrastination was a factor, leading to the postponement of tasks and potentially causing heightened stress and last-minute work. Balancing work, social life, and academic responsibilities felt overwhelming.
I sensed the necessity to organise my time better and establish a consistent routine.

Personal development activities:

Registered for online courses, and subsequently, I engaged in educational materials by watching tutorials specifically focused on software development. This proactive approach allowed me to enhance my understanding of the subject matter and further my skills in the field.

Goals for the Next Week:

- Watch remaining tutorials for a comprehensive understanding
- Thoroughly complete one section to strengthen knowledge
- Engage in practical applications of the learned concepts
- Explore internship opportunities for hands-on experience
- Ensure the timely completion of assignments to reinforce learning

Week 2: Jan 28 - Feb 3

Date: January 31, 2024

Key Concepts Learned:
The discussion addressed challenges in estimating effort for software development, emphasizing the intangible nature of results. Experience-based and algorithmic cost modeling methods were distinguished, with a focus on techniques like Estimation by Analogy and Function Points Analysis. Algorithmic modeling, expressed as Effort = A * Size^B * M, highlighted the role of project managers and acknowledged the difficulty of estimating software size before project completion.

Transitioning to project risks, considerations included resource unavailability, service breakdowns, and technology issues. Various risk categories like technology, people, organizational, tools, requirements, and estimation risks were explored. Risk management processes encompassed identification, analysis, and prioritization, performed at the project's outset and reassessed with each iteration.

Risk planning, resolution, and monitoring were integral to the risk management approach, with response strategies such as acceptance, avoidance, transference, and mitigation discussed. The iterative software development lifecycle was underscored for its effectiveness in minimizing risks, emphasizing a proactive strategy through comprehensive risk identification, evaluation, and management at each project stage.

Reflections on Case Study/course work:
The project planning and initiation exercise yielded important insights into the critical elements of starting a software project. One of the most important lessons learned was how important it is to precisely define the project scope. During the course, we looked at how a clearly defined project scope establishes the parameters and standards for the work, making sure that all participants are aware of the objectives and deliverables.

Gaining insight into the significance of "project scope" clarified how it functions as the cornerstone of efficient project management. Project managers can prevent scope creep by providing a clear scope description. This will help them stay within budget and complete the project on schedule. This realization, which emphasizes the importance of scope in effective project management, is in line with the course material.

Collaborative Learning:
Explored the project and outlined the steps to be taken. Engaged in face-to-face discussions with team members. Further looked into the first stage in project submission and started with it. Having in-person conversations with team members and working together to explore the project was an important step in helping me to better comprehend project management. My understanding of numerous aspects was greatly aided by my interactions with peers during this process. Collaborating with

colleagues afforded the chance to acquire perspectives from people with varying backgrounds, experiences, and specialties. A variety of viewpoints were brought by this.

Further Research/Readings:

Continued with my online courses, and in educational materials by watching tutorials specifically focused on software development and management. This proactive approach allowed me to enhance my understanding of the subject matter and further my skills in the field.

Adjustments to Goals:

- Successfully completed watching the tutorials for a comprehensive understanding
- Thoroughly completed the current section to strengthen knowledge
- Engaged in practical applications of the learned concepts
- Explored internship opportunities for hands-on experience
- Ensured the timely completion of assignments to reinforce learning

  I successfully achieved the objectives set for the previous week, but encountered difficulties in managing my time effectively.

Week 3: Feb 4 - Feb 10

Date: February 8, 2024

Key Concepts Learned:

We started off by talking about configuration management and how important it is for monitoring changes to systems brought about by changing needs, shifting budgets, and advances in technology. We emphasized its importance in handling the ever-changing nature of software components, such as code and documentation, as well as potential difficulties like finding the most recent version of the source code or recurring bugs.

Moving on to project planning, we discussed how comprehensive it is and how it involves creating a baseline structure for execution and oversight as well as detailed planning for various project aspects. We talked about the significance of the Work Breakdown Structure (WBS), top-down and bottom-up planning methodologies, and scheduling difficulties like productivity barriers and difficulty estimation.

Next, we looked at representation and scheduling strategies, including the use of graphical notations like activity networks and bar charts as well as the critical path method to estimate project timelines. We also talked about the differences in project planning between waterfall and iterative lifecycle models, as well as planning for configuration management and quality assurance.

All things considered, project planning includes a variety of activities designed to successfully fulfill project requirements and ensure project delivery and execution.

Reflections on Case Study/course work:

In reviewing the case study or coursework, it's essential to gauge the practical application of configuration management and project planning principles. This entails evaluating the efficacy with which various lifecycle models were aligned, scheduling complexities, and system changes were addressed. To guarantee the delivery of high-quality software products, assess how configuration management and quality assurance are integrated into the project planning process. Through an analysis of these factors, knowledge about the efficiency of project management techniques and potential areas for development in subsequent projects can be obtained.

A critical examination of the case study or course material will clarify how configuration management and project planning concepts are applied in practical settings. Take into account how well strategies handle scheduling difficulties, system changes, and their compatibility with the selected lifecycle model. To guarantee the delivery of software products that satisfy stakeholders, evaluate how well configuration management and quality assurance are integrated into the project

planning process. This analysis provides insightful information that can be used to improve project management procedures in the future.

Collaborative Learning :

Divided various tasks among us team members, and started researching about Personal Mental Health App. To gain a better understanding of the app's viability and possible impact, we carefully considered its advantages and disadvantages. Held meetings to go deeper into the specifics of our project and had in-person conversations with my team members throughout this process. These exchanges were quite helpful in expanding my knowledge of different project-related topics. Working with colleagues gave us the chance to learn from people with different experiences, backgrounds, and specialties, which added a wide range of viewpoints to our discussions.

Further Research/Readings:

Used what I had learned to look into possible flaws in already-available apps, pushing the boundaries of our work and coming up with creative and better solutions for our project. Continued with online tutorials as before, actively went through the instructional materials specific to software development and management. I was able to improve my understanding of the subject and hone my skills in the field.

Adjustments to Goals:

- Successfully completed watching the tutorials for a comprehensive understanding
- Explored internship opportunities for hands-on experience
- Ensured the timely completion of assignments to reinforce learning

  I successfully achieved a few of the objectives set for the previous week but was unable to complete a few of them, due to difficulties in managing my time effectively.

Week 4: Feb 10 - Feb 17

Date: February 15th, 2024

Key Concepts Learned:

We started off by talking about configuration management and how important it is for monitoring changes to systems brought about by changing needs, shifting budgets, and advances in technology. We emphasised its importance in handling the ever-changing nature of software components, such as code and documentation, as well as potential difficulties like finding the most recent version of the source code or recurring bugs.

Moving on to project planning, we discussed how comprehensive it is and how it involves creating a baseline structure for execution and oversight as well as detailed planning for various project aspects. We talked about the significance of the Work Breakdown Structure (WBS), top-down and bottom-up planning methodologies, and scheduling difficulties like productivity barriers and difficulty estimation.

Next, we looked at representation and scheduling strategies, including the use of graphical notations like activity networks and bar charts as well as the critical path method to estimate project timelines. We also talked about the differences in project planning between waterfall and iterative lifecycle models, as well as planning for configuration management and quality assurance.

All things considered, project planning includes a variety of activities designed to successfully fulfil project requirements and ensure project delivery and execution.

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In reviewing the case study or coursework, it's essential to gauge the practical application of configuration management and project planning principles. This entails evaluating the efficacy with which various lifecycle models were aligned, scheduling complexities, and system changes were addressed. To guarantee the delivery of high-quality software products, assess how configuration management and quality assurance are integrated into the project planning process. Through an analysis of these factors, knowledge about the efficiency of project management techniques and potential areas for development in subsequent projects can be obtained.

A critical examination of the case study or course material will clarify how configuration management and project planning concepts are applied in practical settings. Take into account how well strategies handle scheduling difficulties, system changes, and their compatibility with the selected lifecycle model. To guarantee the delivery of software products that satisfy stakeholders, evaluate how well configuration management and quality assurance are integrated into the project

planning process. This analysis provides insightful information that can be used to improve project management procedures in the future.

Collaborative Learning :

Divided various tasks among us team members, and started researching about Personal Mental Health App. To gain a better understanding of the app's viability and possible impact, we carefully considered its advantages and disadvantages. Held meetings to go deeper into the specifics of our project and had in-person conversations with my team members throughout this process. These exchanges were quite helpful in expanding my knowledge of different project-related topics. Working with colleagues gave us the chance to learn from people with different experiences, backgrounds, and specialties, which added a wide range of viewpoints to our discussions.

Further Research/Readings:

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Adjustments to Goals:

- Successfully completed watching the tutorials for a comprehensive understanding
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  I successfully achieved a few of the objectives set for the previous week but was unable to complete a few of them, due to difficulties in managing my time effectively.

Week 5: Feb. 18- Mar. 9

Date: March 09, 2024

Key Concepts Learned:

Chapter 7 focuses on Project Monitoring and Control within the field software project management.

- It highlights how crucial it is to compare actual work progress to scheduled dates, use milestones, and use a project plan as a baseline to measure progress.
- Methods for monitoring schedule and budget progress are highlighted, such as Earned Value Management (EVM).
- Differentiated between the purpose of monitoring and control and explained their roles in ensuring project delivery according to schedule, cost, and quality.
- Setting up baselines, measuring performance, analysing variance, and creating corrective action plans are important ideas.
- Provides essential understanding on how to keep a project on track and manage deviations effectively.
- EVA uses dollar value rather than time to assess progress by combining schedule and cost.
- While resource metrics measure load and efficiency, project metrics compare results to the plan.
- Timely project completion is ensured through schedule optimization through slack reduction.

  Key Concepts learned include **Project monitoring and control techniques, including EVM and the establishment of project baselines.**

Chapter 8 focuses on project closure and further discusses the activities performed during project closure.

- Talked about the critical deliverables before a project closure.
- Includes the software product, user manuals, user training, software product installation, resource release, and the documentations.
- Talked about source code version management on a project wherein the original source code is modified over and over various cycles.
- Project measured metrics data filtration for archiving
- Discussed process for filtering raw project data before archiving.
- Various categories of lessons learned during a software project like identifying more efficient approaches to tasks, developing improved project management strategies, enhancing customer negotiation techniques were discussed.

  Key Concepts learned include **importance of project closure, detailing the need to complete all deliverables, and reflect on lessons learned to enhance future project management practices.**

Application in Real Projects:

Project Monitoring and Control can be used in real-life software development projects. We can make use of it to track the progress, see if everything is within budget, notice delays, resource allocations, timelines etc.

Project Closure being an important aspect, once the software is completed we can make use of the steps for further review of the entire software development cycle. Can review all the challenges faced, go through the documentation manuals etc.

Peer Interactions/collaboration:

- Participated in a Capture The Flag (CTF) event named @hack, providing a platform to engage with the cybersecurity community and challenges.
- Met numerous professionals in the field, enhancing my network and understanding of emerging trends in IT and practices.
- made a number of worthwhile contacts that might eventually result in collaborations or job opportunities.
- Took part in a career fair associated with the event, offering insights into the job market and the chance to meet potential employers.
- Discussed the objectives and deliverables for the second phase of a project.
- Contributed to the development of the report
- Started initial discussion for posterathon, formed a team of 2 and selected a topic.

Challenges Faced:

- Participating in the Hack CTF presented significant challenges, especially since I was unfamiliar with CTF challenges.
- We also encountered difficulties in distributing topics among ourselves for the report. However, a discussion was initiated where each team member could express their preferences and expertise and select a topic of their choice.
- Thus by open communication and discussion we bypassed these challenges successfully.
- I sensed the necessity to organise my time better and establish a consistent routine as time management posed a challenge to me.

Further Research/Readings:

- Practised Data Structures and Algorithms
- Continued with online tutorials as before, actively went through the instructional materials specific to software development and management.
- Further tailored my resume
- Applied for internships for the summer term.

Adjustments to Goals:

- Practised money management
- Completed the video lectures on Web Development
- Applied for internships

I successfully achieved most of the objectives set for the previous week but missed a few of them, due to difficulties in managing my time effectively.