<div align="center">**Learning Journal Week #1**</div>

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Course: COMP 6841

Journal URL: https://github.com/mstfky/COMP6841-Software-Project-Management-Journals

Dates Rage of activities: 13.01.2025 - 28.01.2025

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Key Concepts Learned

- **What is software project management?**
  Software project management is the process of achieving specific software development goals within defined resources, budget and time constraints.

- **What are various components of a software project?**
  A software project includes the software system as the "brain," hardware components for support, and integration with fields like robotics or automation to form a functional IT system.

- **What are applications of software systems in some industries?**
  Automobiles, Robotics, Avionics, Financial Systems, Manufacturing industry, Retail and distribution etc.

- **What is a project?**
  A project is a temporary effort aimed at achieving a specific goal, such as creating a unique product, service, or result. It has a clear start, end, and timeline, focusing on delivering value or driving change.

- **What is a software project?**
  A software project involves developing, maintaining, or improving software systems, including creating new applications, updating existing ones, or fixing issues.

- **What processes are involved in a software project?**
  Software projects involve gathering requirements, planning tasks and timelines, designing the system architecture, coding the software, testing for functionality, deploying it for users, and maintaining it through updates and issue resolution.

- **How are people, processes, tools, and technology integrated in a project?**
  Integrating people, processes, tools, and technology in a project ensures alignment to achieve goals through effective communication, collaboration, and coordination, supported by management methodologies and development tools.

- **What are the characteristics of a good project manager?**
  A good project manager demonstrates leadership, clear communication, strong organization, problem-solving, adaptability, risk management, decisive decision-making, and the ability to build a collaborative team environment.

- **What are the subprocesses in project management processes?**
  Project management processes include initiation to define objectives, planning to outline scope and resources, execution to implement the plan, monitoring to track progress, and closing to finalize and deliver the project.

- **What management metrics are measured in software projects?**
  Software project management metrics include effort estimation accuracy, schedule adherence, defect density, requirements stability, customer satisfaction, resource utilization, and budget adherence to monitor performance and ensure project success.

- **How is a project initiated?**
  1. **Identifying the Need**: Recognize a problem, opportunity, or requirement for a new product or service within the organization.
  2. **Feasibility Study**: Assess whether the project is practical by evaluating technical, financial, legal, and operational factors.
  3. **Stakeholder Engagement**: Identify stakeholders, understand their needs, and align their expectations with the project's goals.
  4. **Sponsor Approval**: Secure approval and resources from a senior executive or sponsor to proceed with the project.
  5. **Initiation Document**: Create a document detailing the project's purpose, scope, objectives, stakeholders, and initial plan to guide future activities.

- **What is a project charter?**
  A project charter is a formal document that authorizes a project and grants the project manager authority to use resources. Created in the initiation phase, it includes the project's purpose, objectives, scope, key stakeholders, manager's authority, and initial risks and constraints.

- **What is a project scope?**
  Project scope outlines the project's boundaries, detailing what is included and excluded. It defines the work required to achieve objectives and meet stakeholder expectations, serving as a baseline for planning and execution.

- **What are project objectives?**
  Project objectives are SMART goals (specific, measurable, achievable, relevant, and time-bound) that clearly define what the project aims to accomplish. Outlined in the initiation document, they guide the team throughout the project lifecycle.

- **What project activities are performed during the project initiation?**
  1. **Project Identification**: Recognizing the need or opportunity for the project.
  2. **Feasibility Analysis**: Assessing technical, financial, and operational viability.
  3. **Stakeholder Identification**: Identifying those affected by or influencing the project.
  4. **Sponsor Approval**: Securing formal support and approval from a project sponsor.
  5. **Project Initiation Document (PID)**: Creating a detailed document outlining project details.
  6. **Project Charter**: Developing a formal document to officially authorize the project.
  7. **Objective Definition**: Clearly defining the project's specific goals.
  8. **Scope Definition**: Outlining project boundaries and deliverables.
  9. **Risk Assessment**: Identifying potential risks and constraints.
  10. **Resource Identification**: Securing the necessary resources for the project.

Applications in Real Projects

Project Overview
A software development team is working on version 4.0 of a cutting-edge project management tool designed for medium-sized construction companies in North America and Asia. The project includes three development phases leading to the final release of version 4.0, encompassing initiation, planning, execution, monitoring, control, closure, risk management, and cost estimation processes.

Project Initiation
A detailed initiation process was conducted for version 4.0, focusing on aligning stakeholder needs with the new feature. For each development phase, lightweight initiation processes were implemented. The main requirement was to introduce a feature allowing contractors to monitor resource allocation and predict material shortages to avoid project delays.

Software Functionality
The software provides a resource tracking module where contractors can monitor material usage and predict shortages. It also enables suppliers to receive automated restock requests, ensuring timely delivery. Subcontractors are notified of schedule changes in advance, helping them optimize their workflows. The system calculates costs based on resource usage, transportation, and labor, enabling better budget management and minimizing disruptions.

Peer Interactions
Engaged in collaborative discussions with peers on software project management topics, particularly focusing on effort estimation techniques and their real-world applications. These interactions provided valuable insights and different perspectives on managing project complexities.

Challenges Faced
Balancing diverse ideas and opinions from team discussions to reach a consensus on project strategies was initially challenging but ultimately enriched the learning experience.

Personal Development Activities
This week, I focused on understanding Chapters 1 and 2 of the course material and completed assignments 1.1 and 2.2. I actively communicated with group members to discuss and finalize the project proposal and took the initiative to set up a GitHub repository for managing weekly journals, assignments, and the project.

Goals for the Next Week
For the upcoming week, my goals include reading Chapters 3 and 4 of the textbook to prepare for the next class and meeting with group members to review updates and track project progress.