Learning Journal Week 4

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Course: Software Project Management
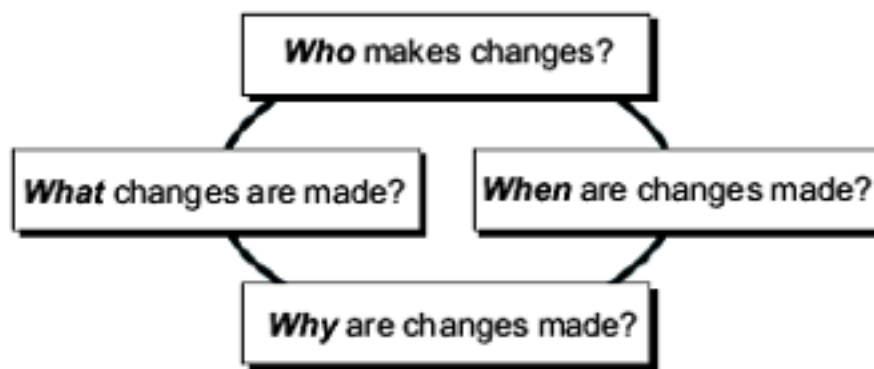
Journal URL: https://github.com/raemonx/SOEN6841/tree/main
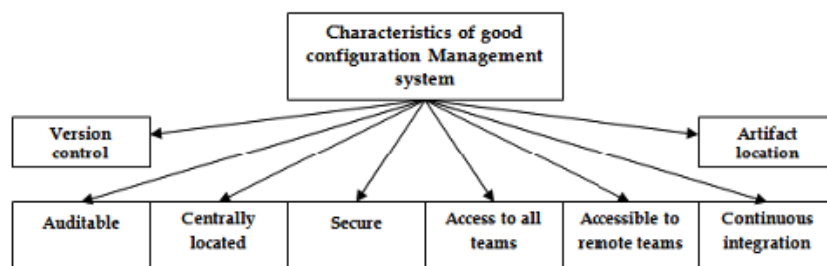
Weeks: 11 Feb – 18 Feb (Chapter 5-6)
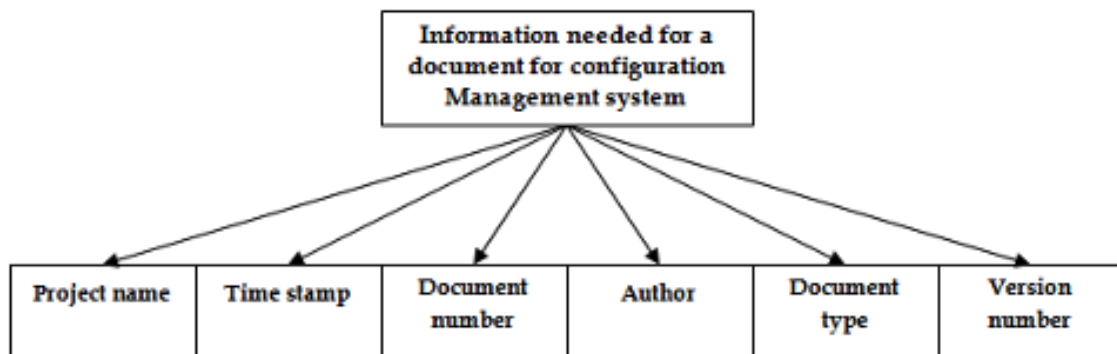
Date: 16 February, 17 February

Key Concepts Learned/Analysed:

❖ **Configuration Management -** Managing change requests and different versions of the software product

❖ **Sources of Changes** - Requirements, funding changes, New Technologies, Unexpected Changes, Not meeting Expectations, etc.
❖ **Need for CM –** Making Changes, Issue to invisibility of software, changes in components streamlined, manage issues like scope creep, rework.
❖ **Benefits of CM –** Creates order, better organisation, correct configurations, reduces legal issues, seamless conformance and provide a stable and compliant project environment.
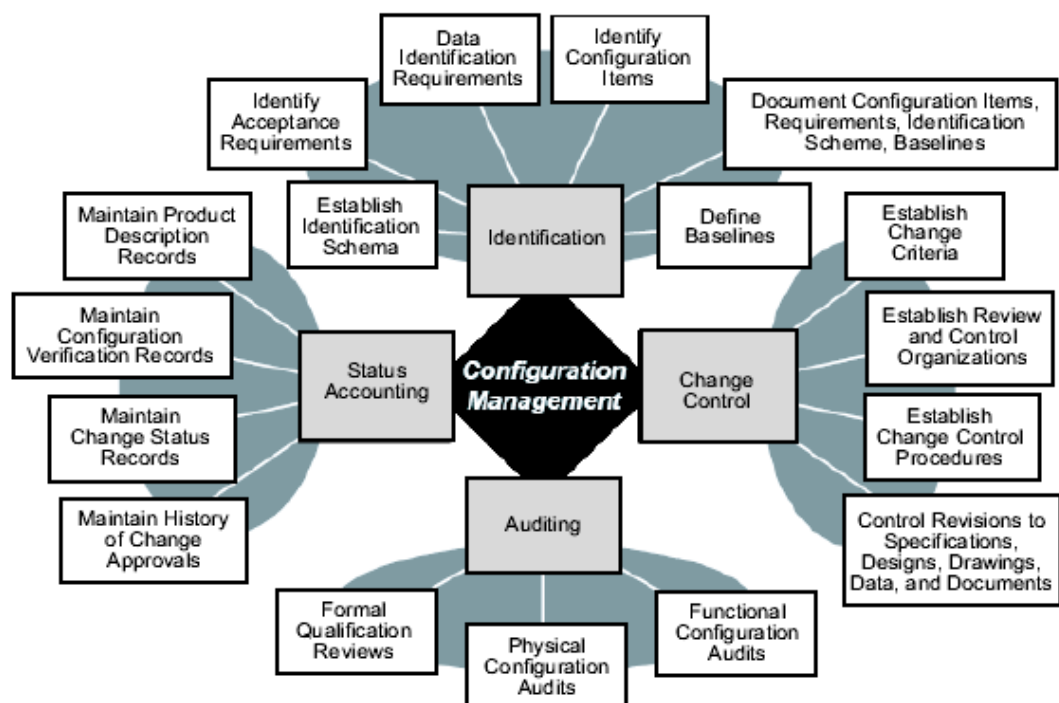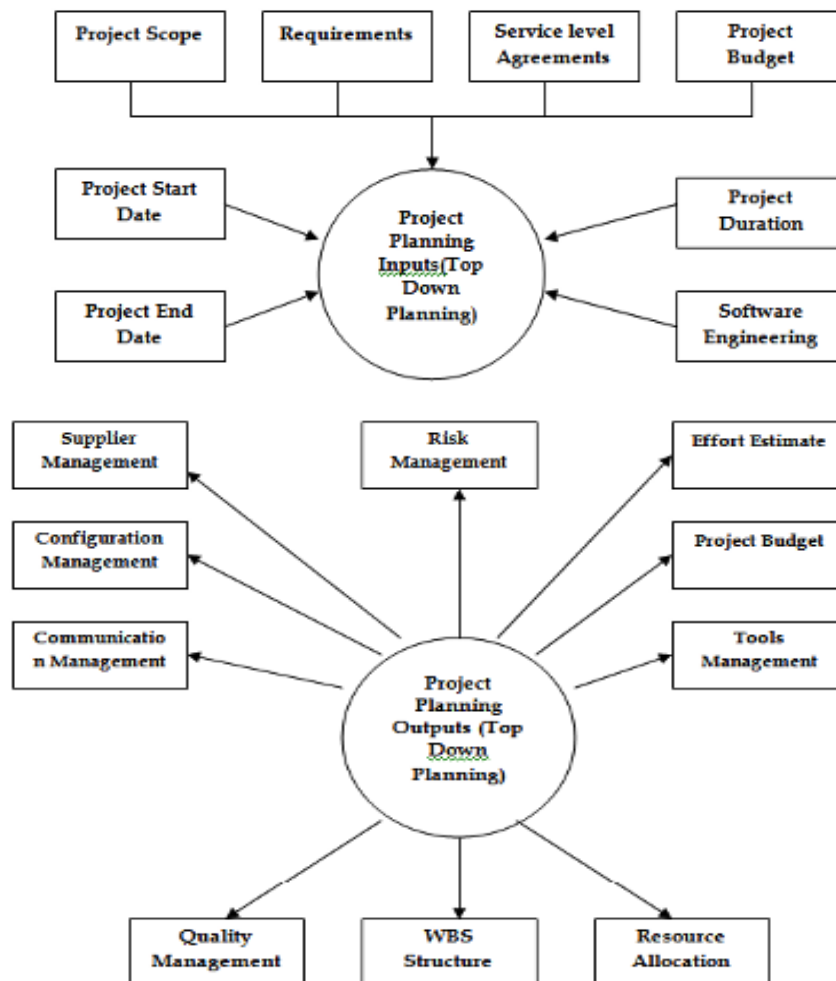
Information needed for a document for configuration Management system

Project name	Time stamp	Document number	Author	Document type	Version number

❖ **Characteristics of a good CM system** – Secure, CI, Branching, Centralised, Audit Facility

Characteristics of good configuration Management system

Version control — Artifact location

Auditable	Centrally located	Secure	Access to all teams	Accessible to remote teams	Continuous integration

❖ **Key Functions of CM –**

Data Identification Requirements

Identify Configuration Items

Identify Acceptance Requirements

Document Configuration Items, Requirements, Identification Scheme, Baselines

Maintain Product Description Records

Establish Identification Schema

Identification

Define Baselines

Establish Change Criteria

Maintain Configuration Verification Records

Status Accounting

Configuration Management

Change Control

Establish Review and Control Organizations

Maintain Change Status Records

Establish Change Control Procedures

Maintain History of Change Approvals

Auditing

Control Revisions to Specifications, Designs, Drawings, Data, and Documents

Formal Qualification Reviews

Physical Configuration Audits

Functional Configuration Audits
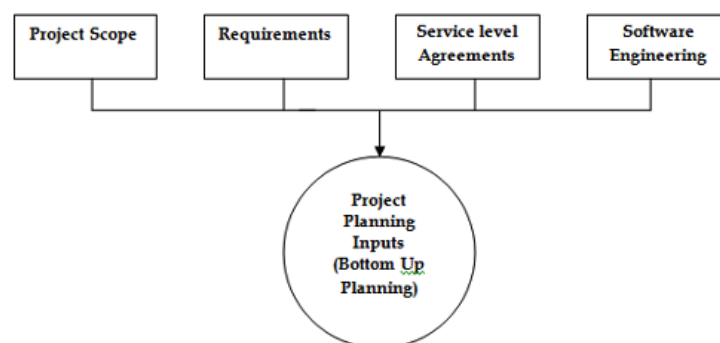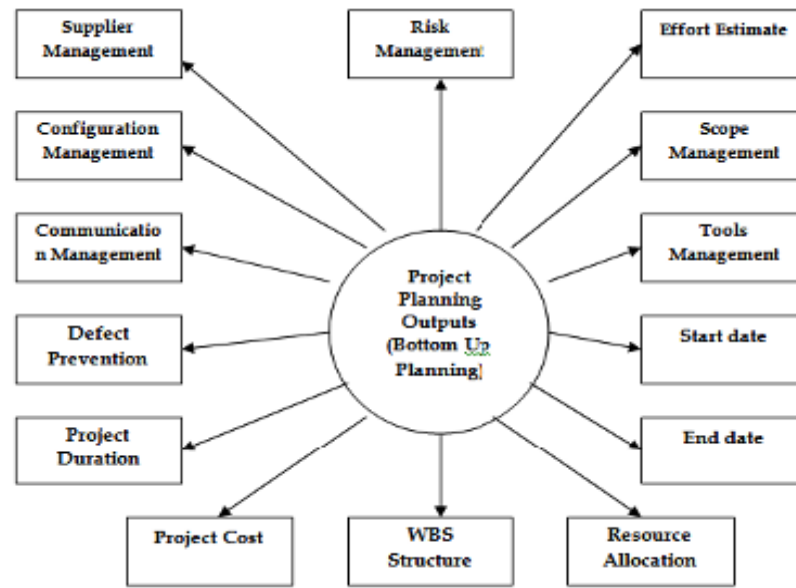
❖ **Project Planning -** Elaborate planning for all project components are made
  ➢ **Project Scheduling.**
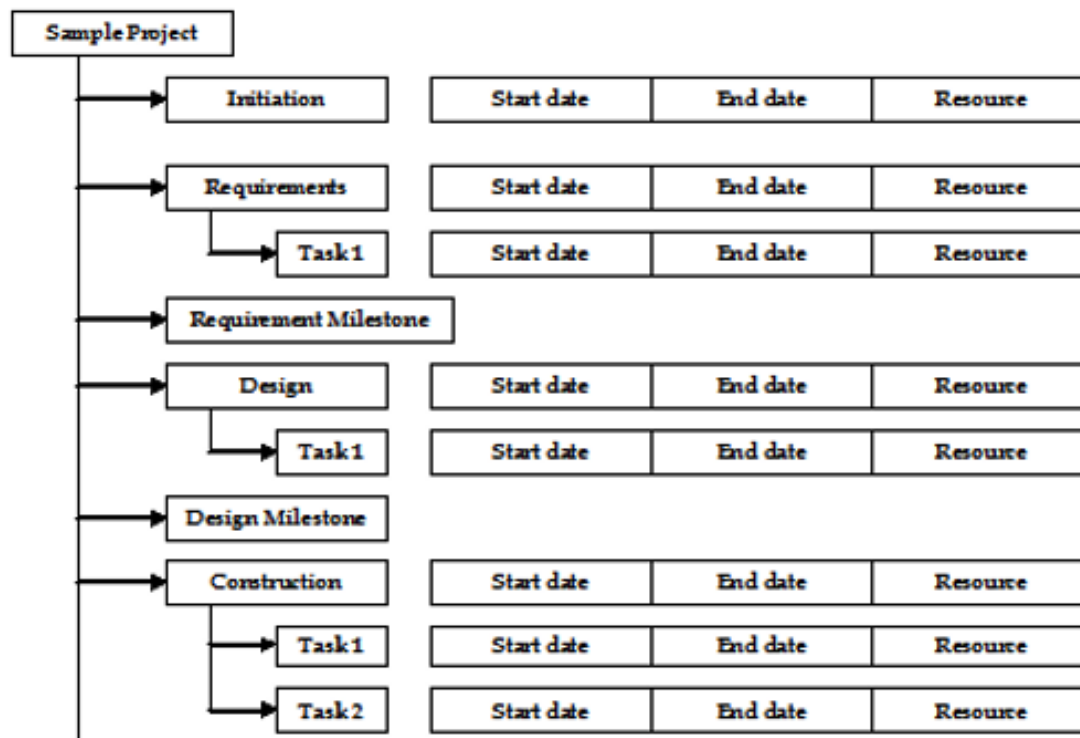   ▪ **Top- Down:** First assign time duration for the entire project, then smaller tasks

Project Scope	Requirements	Service level Agreements	Project Budget

Project Start Date

Project End Date

Project Planning Inputs(Top Down Planning)

Project Duration

Software Engineering

Supplier Management

Risk Management

Effort Estimate

Configuration Management

Project Budget

Communication Management

Project Planning Outputs (Top Down Planning)

Tools Management

Quality Management

WBS Structure

Resource Allocation

    ▪ **Bottom-Up:** Small tasks are assigned time first, then for the whole project

Project Scope	Requirements	Service level Agreements	Software Engineering

Project Planning Inputs (Bottom Up Planning)

Supplier Management

Risk Management

Effort Estimate

Configuration Management

Scope Management

Communication Management

Tools Management

Project Planning Outputs (Bottom Up Planning)

Defect Prevention

Start date

Project Duration

End date

Project Cost

WBS Structure

Resource Allocation

- ➢ **Project budgeting.**
- ➢ **Manpower planning.**
- ➢ **Communication planning.**
- ➢ **Quality planning.**
- ❖ **Work breakdown structure (WBS) -** Systematic way of breaking down the complete project work into smaller tasks.

Sample Project

Initiation	Start date	End date	Resource
Requirements	Start date	End date	Resource
Task 1	Start date	End date	Resource
Requirement Milestone			
Design	Start date	End date	Resource
Task 1	Start date	End date	Resource
Design Milestone			
Construction	Start date	End date	Resource
Task 1	Start date	End date	Resource
Task 2	Start date	End date	Resource

- ❖ **Activity organization**
  - ➢ *Milestones* are the endpoint of a process activity. (Assess progress)
  - ➢ *Deliverables* are project results delivered to customers. (Delivered to the customer)
- ❖ **Presenting schedule**
  - ➢ Calendar-based - activities or resources against time. **(Bar charts)**
  - ➢ Activity networks - task dependencies **(Activity charts)**
- ❖ **Project activities (tasks)** - Duration, Effort estimate, Defined endpoint
- ❖ **Goldratt's critical chain method -** Emphasizes the importance of resource constraints and project buffers.
- ❖ **Critical Path** – At least one (**longest path)** path through the network joining critical activities.
- ❖ **New Terms** - Configuration Management, Project Scheduling, Communication Planning, Quality Planning, Work Breakdown Structure (WBS), Activity Organization, Milestones, Activity Networks, Goldratt's Critical Chain Method, Critical Path
- ❖ **Methodologies -** Top-Down Scheduling, Bottom-Up Scheduling, Calendar-based Scheduling, Activity Networks, Critical Chain Method, Critical Path Method

Application in Real Projects:

Let us consider we are managing a project with an aim to create a new mobile app with latest features.
- ❖ **Configuration Management (CM):** As per user feedback, frequent updates and feature enhancements can be done using CM templates.
  - ➢ **Challenge:** CM does not overhaul the development process.
  - ➢ **Benefit:** Reliable and up-to-date application meeting user expectations.
- ❖ **Work Breakdown Structure (WBS):** The project will be broken down into steps like project planning, scheduling, etc.
  - ➢ **Challenge:** WBS might become too extensive
  - ➢ **Benefit:** Better project planning
- ❖ **Critical Chain Method:** Prioritize tasks requiring resources that are critical and add buffers to manage the project timeline.
  - ➢ **Challenge:** Accurate estimation of task durations and buffer sizes.
  - ➢ **Benefit:** Timely delivery of project.

Peer Interactions:

- ❖ Me and my friend searched out Automated tools for version control and change management. We discussed how automation improves efficiency and accuracy.
- ❖ We attended an online workshop on Project Management and learned new insights into the concepts learned.
- ❖ Had a discussion on applying the Critical Chain Method in project scheduling. We found out how resource management and buffers help meet expected project timeline

Challenges Faced:

❖ I faced some issues while understanding the concept of CM and how really helps manage changes without breaking the original development already done.
❖ I tried to create a WBS but faced difficulty of estimating task durations and resources accurately.
❖ I failed to understand how to find the paths in activity diagrams for finding the critical path, a further study on the topic might help me.

Personal development activities:

❖ I attended online workshop to better understand the complexities of project planning
❖ I researched on the different topics on YouTube to have a better visualisation of the topics concerned.
❖ I tried to create a sample WBS for understanding how the tasks are distributed in the time frames.
❖ I also studied the case study provided and understand how the different methodologies were performed for better project management.

Goals for the Next Week:

- For the next week, I will be revising all the chapters and the case studies.
- More specifically, I will be preparing for the mid midterm exams.
- Moreover, I will try to understand the artifacts discussed in this week such as WBS, Activity charts, Bar charts, etc.
- I will try to look into real life examples of finding the critical path by looking into the activity charts
- I will also read the book and understand more on the chapters 1-6 to better prepare for my exams.
- Also, I will go through all the journals I had made over the weeks for better preparations.