

Learning Journal

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Course: Software Project Management

Journal URL: <https://github.com/Jinish-Vaidya/Software-Project-Management.git>

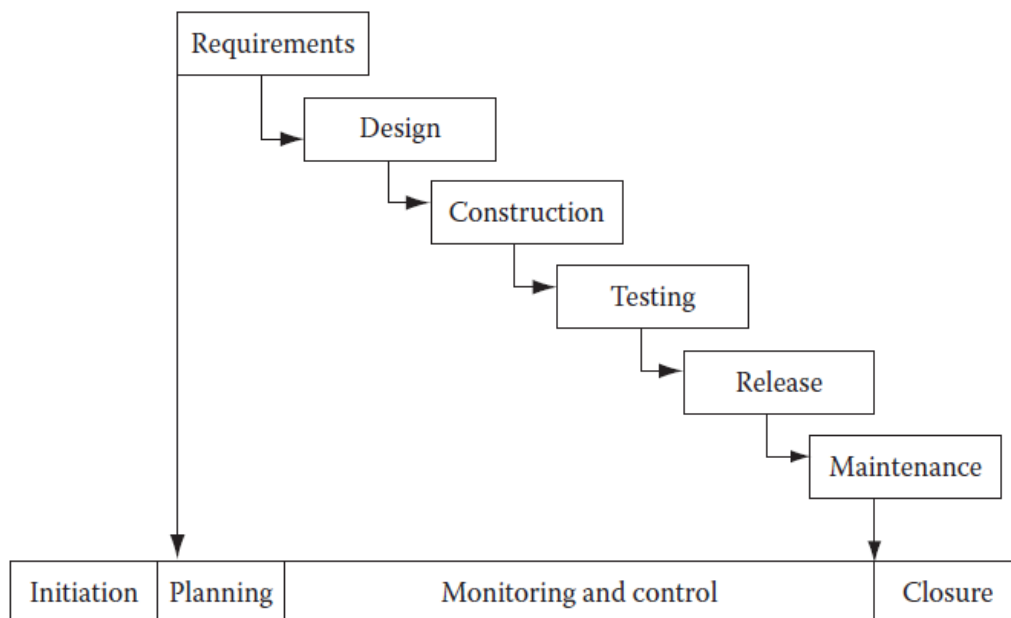
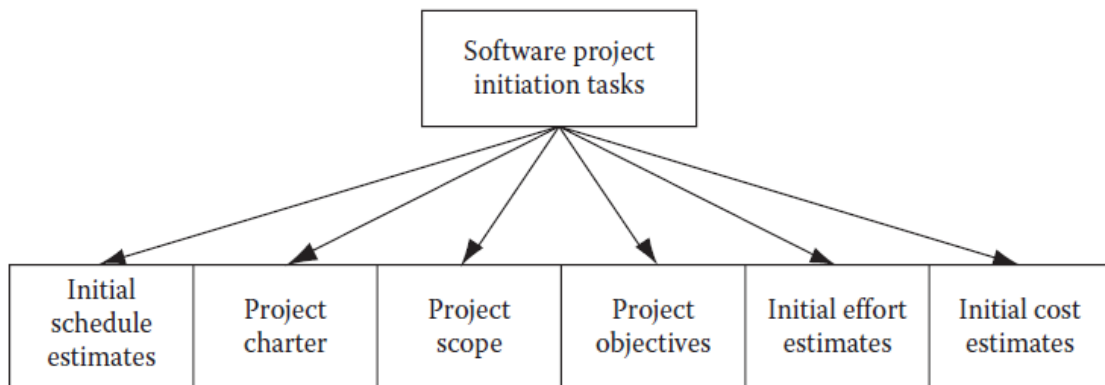
Week 1:

Date: 20th January to 24th January, 2023

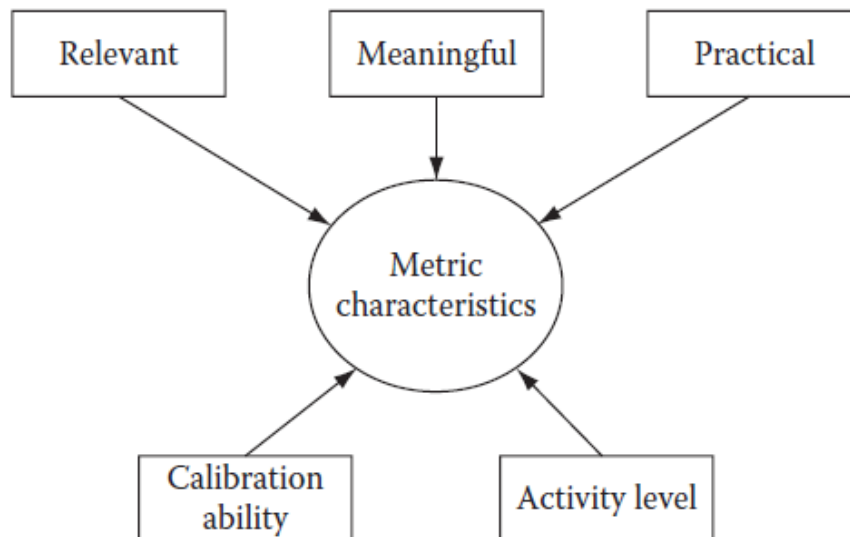
Key Concepts Learned:

- Growth of IT and software sector in present and future,
- Job vs project vs exploration
 - Job is repetition of task with very less uncertainty while project.
 - Project lies between job and exploration where there is particular start and end time in which one have to achieve some predefined goals.
 - When there is no guarantee of output then it is called exploration. Exploration is highly uncertain.
- What is project management?
 - Management of project with limited amount resources, budget, and time.
 - Phases involved- project initiation, project planning, project monitoring and control, and project closure.
- What is software project management?
 - Software project management = Project management + Software engineering
 - With different phases it also include requirement development, software design, software construction, software testing, and software maintenance in project planning and project monitoring phase.
- Difference of software project wrt project?
 - Invisibility
 - Complexity
 - Conformity
 - Flexibility
- IT and software difference- IT includes software system, hardware system, and other then it.
- Software development + software maintenance = software project.
- Software application vs software product
 - When software is developed for the use of organization itself then it is called software application.
 - When software is developed for the purpose of selling to customer and for the organization use then it is called software product. And the organization that develop it is called software vendors.

- Project management process
 - There are three kind of process running in an organization to develop software process and application that is software life cycle processes, project management processes, and organization level processes.
- How are these software products made? After all, development of these software products does not start with end-user requirements. ie software vendor sees a market opportunity of developing such a product.
- software application is created based on end-user requirements, a software product is made using market research data.



- Configuration and version control management
 - Change in requirement are encountered during project development life cycle. Due to this work done in project development life cycle also need changes. Due to which many versions are produced during all phases of project development life cycle. Managing all these work products is done using configuration and version control.
- The best solution for managing various requirement versions is to have a central repository where all versions of requirements can be stored.
- Management Metric
 - In the case of software development projects, the management metrics are the productivity data for the projects.



- Measurement should be done at minute level and not at gross level. Gross level measurements fail to point to the root causes of problems.
 - Many of these approaches use statistical process control (SPC) methods.
 - SPC approach is popularly known as the Seven Tools of Quality as it uses 7 distinct techniques.
- Different role of project manage of inhouse and outsource project for initial hiccups and false starts due to unclear project charter, an unclear project scope and unclear requirements.

Project charter

Project charter is made by the top management of the organization for starting a software project. Project charter basically defines the purpose for starting the project.

Project scope

Project scope is developed to define boundaries of the project. The scope will include what functionalities are needed in the software product to be developed. It will also define level of quality needed in the software product.

Project objective

The stakeholders state and set the project objectives. ie objectives should be stated in clear language and the set of objectives should be kept as small as possible.

Some of the factors that make project management vary for different projects are as follows:
Project size, Product quality, Technology, Code reuse.

Estimate Initial Project Size

Why Initial project size is needed?

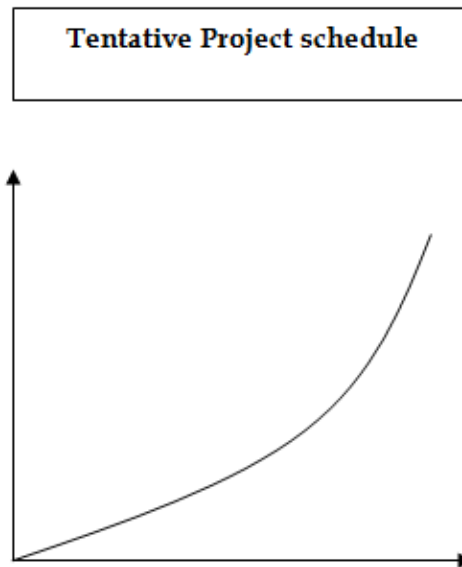
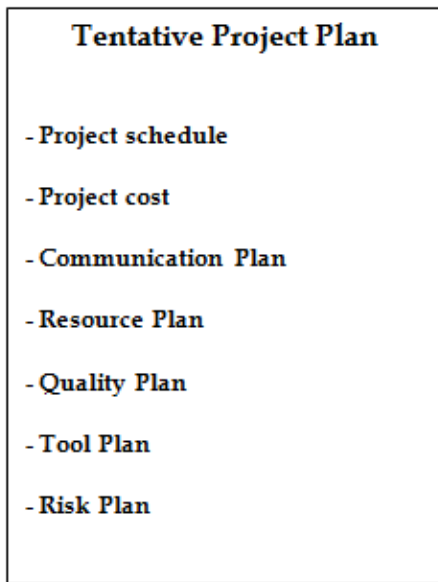
Rough project size should be estimated so that a sketch of the initial project plan can be realized.

Estimate Initial Project Effort and Costs

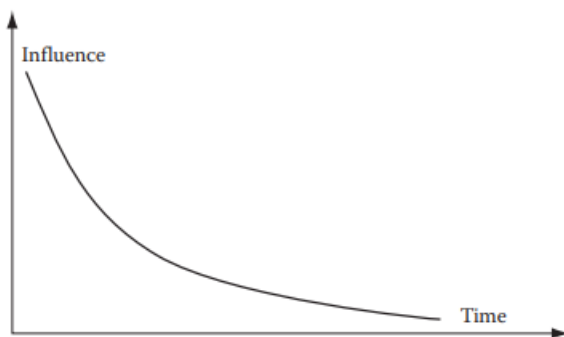
The initial project cost estimates are determined based on team productivity, effort estimates, hours contributed by software professionals, and their hourly rates. Stakeholders prioritize cost considerations, and if a project exceeds budget expectations, it may be reconsidered or scaled down. Using data from Figures 2.1 through 2.3, a project with a 14-month schedule and 56 man-months effort is estimated. With an average team member salary of \$4000/month and 15% overhead costs, the tentative development cost is \$268,800. Early cost estimation is crucial for customer satisfaction and project initiation.

Project schedule

Project schedule is vital for gaining a competitive edge, with time-sensitive objectives driving stakeholders to push for timely software implementation. During initiation, stakeholders may prioritize an accelerated schedule, even if it leads to increased costs. In such cases, the project manager must adjust the plan and resource allocation to meet stakeholders' timeline requirements.



Stakeholder Influence graph



Application in Real Projects:

- Third-party logistics service providers (3PL) to get instant information about the need to have trucks for transportation of goods by its customers.
- It can be used in a very sophisticated appointment scheduling of trucks at both receiving and shipping warehouses.
- Project charter, Project scope, and project object should be clearly define so that initial hiccups and false starts can be prevented up to greater extent.

Benefits

- The warehouse staff just has to execute as per available details.
- There will be no loss of time anywhere right from truck arrangement for loading to unloading of truck.

Goals for the Next Week:

Go through chapter 3,4 and 5