ICS 3207/MIT 3105 SOFTWARE/IT PROJECT MANAGEMENT

CHAPTER 1

Introduction to Software/IT Project Management

What is a project?

- Any planned undertaking that:
  - takes or consumes resources.
  - Has a starting and ending time.
  - Results in a finished product.

Project

- Two essential features of a project that must be present in every project:
  - All projects must be planned out in advance, if they are to be successful.
  - The execution of the project must be controlled to ensure that the desired results are achieve.

Activity or Task

- This is the smallest unit of work effort within the project and consumes both time and resources which are under the control of the project management.

Project Management

- The use of techniques and skills in planning and controlling tasks and resources needed for the project from both inside and outside the organisation to achieve results.
- The purpose of project management is to achieve successful completion with the resources available.

Characteristics of a successfully completed project

- Completed on time.
- Completed within its cost budget.
- Performs to a technical or performance criteria.

Purpose of Project Management

- To achieve successful project completion with the resources available.
- The effectiveness of project management is critical in ensuring the success of any project.
- Planning, control and implementation are some of the areas of responsibility for the project manager.

Successful Project

- To be successful, a project must have the following characteristics:
  - A clearly defined business objective.
  - A partnership approach.
  - A project sponsor.
  - Support of senior management.
  - Regular progress reporting.
  - Consistent progress reporting.
  - A proven project management methodology.
  - Benefits realization.

Responsibilities of a project Manager

- Planning all aspects of the project.
- Controlling the organisation of manpower needed by the project.
- Controlling the basic technical definition of the project, ensuring that technical versus cost trade-off is determined, and the specific areas where optimization is necessary.

Responsibilities of a project Manager

- Leading the people and organizations assigned to the project at any given point in time.
- Monitoring performance, costs, and efficiency.

Responsibilities of a project Manager

- Completing the project on schedule and within costs, these being the overall standards by which performance of the project manager is evaluated.

Reasons for project failures

- Project goals are not clearly defined.
- Constraints arising from the different objectives of short-time scale, resource availability, quality factors and human factors.

Problems with project Goals

- The project sponsor or client has inadequate idea of what the project is about at the start.
- Failure of communication between the client and the project manager, and due to lack of technical knowledge on the part of the clients and use of jargons by the project manager.

Problems with project Goals

- Specifications may be subject to constant change due to problems with individual clients, decision making processes, at the client end, or environmental changes.
- The project goals are unrealistic and unachievable and this may only be realised once the project is started.
- Project may be highly complex and may have a number of objectives that contradict each other.

Properly defined and Achievable Goals

- The client specification is clear and understandable.
- This is done through establishing the objectives of the project.
- This can be validated by finding answers to the following questions:
  - What is it that the organisation is setting out to achieve?
  - Will the suggested project fulfill these objectives?

Questions ?

- Has all the alternatives been considered and is the choice option the best one available?
- Has the full effects of the project, both inside and outside the organisation been considered.

SMART Goals

- Specific: Goals are clear to everyone with the basic knowledge of the project.
- Measurable: Goals must have an indicator to show that the goal is achievable.
- Agreed-upon: there must be agreement between users and the project team on the goals.

SMART Goals

- Realistic: The goals can be accomplished with resources, knowledge and time available.
- Time-framed: The time needed to accomplish the goal should be determined.

Constraints on the completion of the Project

- Time.
- Resource Availability.
- Quality Factors.

Constraints on the completion of the Project: Time

- There is likely to be some relationship between the time taken for a project and its cost.
- Trade-off between the 2 constraint factors (time & Cost) may then be necessary.

Constraints on the completion of the Project: Resource Availability

- The overall resource available may in theory be insufficient to complete the project.
- However, there may be difficulties arising from the way in which the project has been scheduled.

Constraints on the completion of the Project: Quality Factors

- The project should deliver the goals or products of the right qualities.

Techniques to overcome constraints

- Budgeting.
- Project planning
- Project Control.

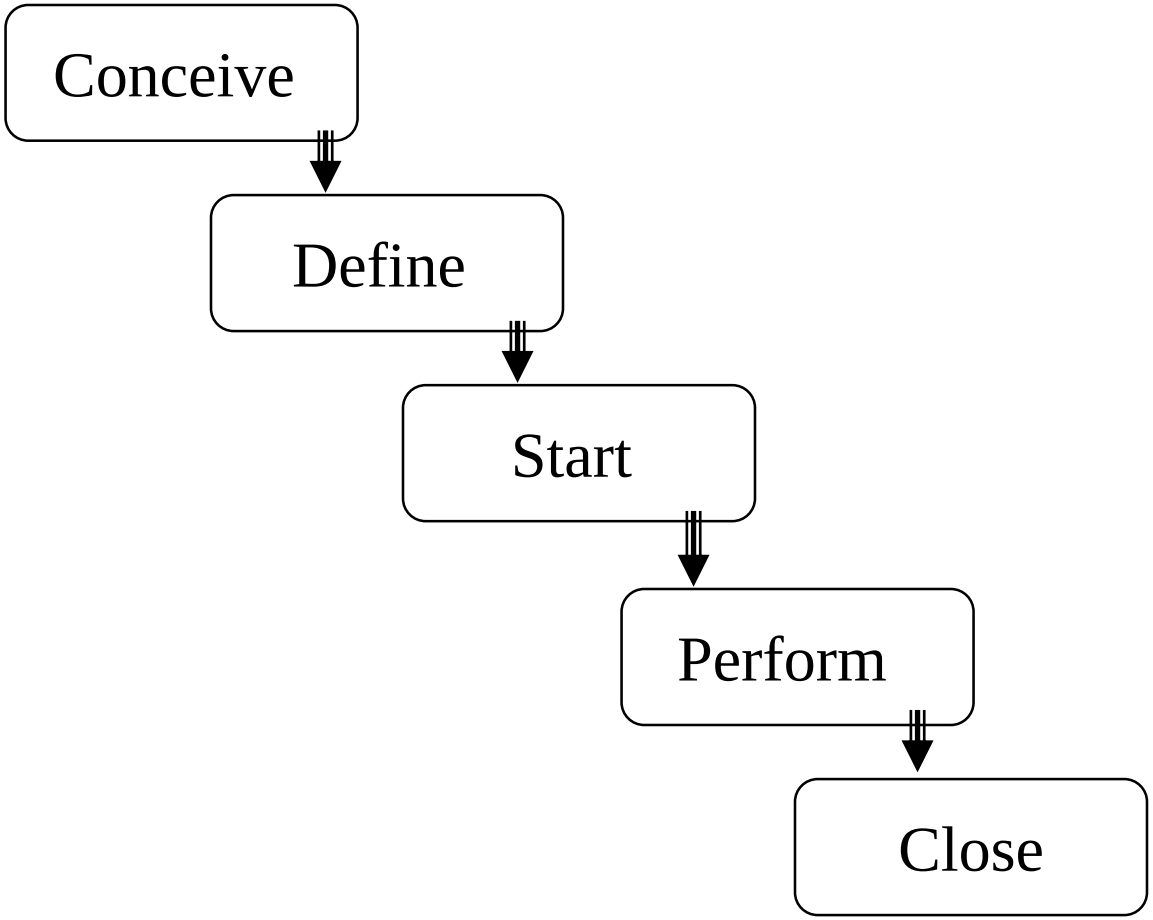
Defining a Project

- Effective project management involves careful operations and clear thought out processes.
- Before any tools or techniques can be used in the process of project management, the project must be clearly defined.

Defining a Project

- The 3 key components that need to be considered and understood are:
  - Specific outcomes of the project: e.g. goals, results, deliverables and products.
  - Deadlines.
  - Established budgets for finances, personnel and equipments.

Project life Cycle



Conceive Phase

- Is concerned with the idea and the potential for the project.
- It is critical because the decision to pursue a project or not is taken according to the measures of the project.

Conceive Phase

- Key questions asked are:
  - Should the project be done?
  - Can the project be done?

Define Phase

- The project plan is the key to defining the project and must include the following:
  - Reasons for the project.
  - Details of results of products.
  - Listing of all work or tasks to be performed.
  - Detailed schedule of work and tasks.
  - Budgets for work
  - Assumptions made.
  - Contingency plans.

Start Phase

- The key tasks in this phase are:
  - Assigning people to roles.
  - Giving and explaining tasks to all members.
  - Defining how the team will perform tasks.
  - Setting-up necessary tracking systems.
  - Announce project to organisation.

Perform Phase

- Tasks done are:
  - Comparison of planned and actual project performance is made.
  - Problem solving: proactive problem solving can help in avoiding major deviations from planned project work and keeping the deviations within allowed contingency.

Close Phase

- This phase involves stopping tasks and accepting or approving results and deliverables.

Common problems with software projects

- Lack of quality standards.
- Lack of measurable milestones.
- Making progress visible is difficult.
- Poor communication.
- Poor documentation.
- Frequent changes of requirements.
- Over budget and late delivery of software.

End of Chapter 1