INTRODUCTION TO SOFTWARE PROJECT MANAGEMENT

Project Management is the discipline of defining and achieving targets while optimizing the use of resources(time, money, people, materials, energy, space, etc) over the course of a project(a set of activities of finite duration).

Why is project management important?

- Large amounts of money are spent on ICT (*Information and communications technology)*
- e.g. UK government in 2003-4 spent £2.3 billions on contracts for ICT and only £1.4billionson road building
- Project often fail–Standish Group claim only a third of ICT projects are successful. 82% were late and 43%exceeded their budget.
- Poor project management a major factor in these failures
- 1billion=100crore

Software Development Life Cycle:

The software development life-cycle is a methodology that also forms the framework for planning and controlling the creation, testing, and delivery of an information system.

The software development life-cycle concept acts as the foundation for multiple different development and delivery methodologies, such as the Hardware development life-cycle and Software development life-cycle. While Hardware development life-cycles deal specifically with hardware and Software development life-cycles deal specifically with software, a Systems development life-cycle differs from each in that it can deal with any combination of hardware and software, as a system can be composed of hardware only, software only, or a combination of both.

Four Project Dimensions

- People
- Process
- Product
- Technology

The5VariablesofProjectControl

1. Time - amount of time required to complete the project.

2. Cost-calculated from the time variable

3. Quality-The amount of time put into individual tasks determines the overall quality of the project.

4. Scope-Requirements specified for the end result.

5. Risk –Potential points of failure.

IMPORTANCE OF SOFTWARE PROJECT MANAGEMENT

Software is said to be an intangible product. Software development is a kind of all new stream in world business and there's very little experience in building software products. Most software products are tailor made to fit client's requirements. The most important is that the underlying technology changes and advances so frequently and rapidly that experience of one product may not be applied to the other one. All such business and environmental constraints bring risk in software development hence it is essential to manages of softtware projects efficiently.

Trade– off triangle:

The triangle illustrates the relationship between three primary forces in a project. Time is the available time to deliver the project, cost represents the amount of money or resources available and quality represents the fit-to-purpose that the project must achieve to be a success.

The normal situation is that one of these factors is fixed and the other two will vary in inverse proportion to each other. For example time is often fixed and the quality of the end product will depend on the cost or resources available. Similarly if you are working to a fixed level of quality then the cost of the project will largely be dependent upon the time available

(if you have longer you can do it with fewer people).

Project definition:

What is a project?

Some dictionary definitions:

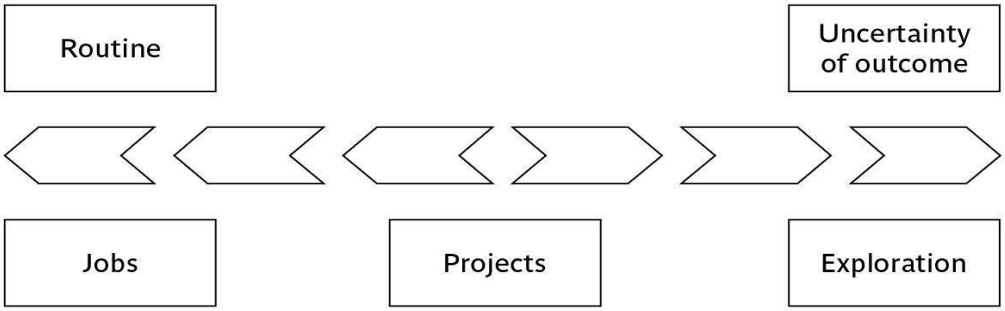
"A specific plan or design" "A planned undertaking"

"A large undertaking e.g. a public works scheme"

Longmans dictionary

Key points above are planning and size of task

Jobs versus projects



'Jobs'– repetition of very well-defined and well understood tasks with very little uncertainty

'**Exploration'** – e.g. finding a cure for cancer: the outcome is very uncertain **Projects** –in the middle!

- Jobs-Very Little Uncertainty
- Task is well defined and there is little uncertainty.
- Software Process Management vs Software Project Management

Projects

- Projects seem to come somewhere between these two extremes. There are usually **well-**defined hoped-for outcomes but there are risks and uncertainties about achieving those outcomes.
- Asoftwareprojectcanbedefinedasaplannedactivitythatdescribeshowwearegoingto carryout a task before we start.
- Itisaplannedactivityaboutdevelopingasoftwarebeforeuactuallydesignandimplementit.

Examples of Software Projects:

Putting a robot vehicle on Mars to search for signs of life.

- Relative novelty of the project
- International nature of the project

• Successful achievement of the project from engineering point of view is the safe landing of the robot, not the discovery of signs of life.

Characteristics of projects

A task is more 'project- like' if it is:

- Non-routine
- Planned
- Aiming at a specific target
- Carried out for a customer
- Carried out by a temporary workgroup
- Involving several specialism
- Made up of several different phases
- Constrained by time and resources
- Large and/or complex

Are *software* projects really different from other projects? Not really…but

- Invisibility

  –Bridge construction

- Complexity
- Conformity(Cement &steel physical law vs conform to human mind)
- Flexibility(Easy to change is strength)

Make software more problematic to build than other engineered arte facts.