



PROJECT PLANNING

- Management activities
- Project planning
- Project scheduling
- Risk management

Software project management

- Concerned with activities involved in ensuring that software is delivered **on time and on schedule and in accordance with the requirements** of the organisations developing and procuring the software.
- Project management is needed because software development is always subject to **budget and schedule constraints** that are set by the organisation developing the software.

Software management distinctions

- The product is intangible.
- The product is uniquely flexible.
- Software engineering is not recognized as an engineering discipline with the same status as mechanical, electrical engineering, etc.
- The software development process is not standardised.
- Many software projects are 'one-off' projects.

Management activities

- Proposal writing.
- Project planning and scheduling.
- Project costing.
- Project monitoring and reviews.
- Personnel selection and evaluation.
- Report writing and presentations.

Management commonalities

- These activities are not peculiar to software management.
- Many techniques of engineering project management are equally applicable to software project management.
- Technically complex engineering systems tend to suffer from the same problems as software systems.

Project staffing

- May not be possible to appoint the ideal people to work on a project
 - Project budget may not allow for the use of highly-paid staff;
 - Staff with the appropriate experience may not be available;
 - An organisation may wish to develop employee skills on a software project.
- Managers have to work within these constraints especially when there are shortages of trained staff.

Project planning

- Probably the most time-consuming project management activity.
- Continuous activity from initial concept through to system delivery. Plans must be regularly revised as new information becomes available.
- Various different types of plan may be developed to support the main software project plan that is concerned with schedule and budget.

Types of project plan

Plan	Description
Quality plan	Describes the quality procedures and standards that will be used in a project. See Chapter 27.
Validation plan	Describes the approach, resources and schedule used for system validation. See Chapter 22.
Configuration management plan	Describes the configuration management procedures and structures to be used. See Chapter 29.
Maintenance plan	Predicts the maintenance requirements of the system, maintenance costs and effort required. See Chapter 21.
Staff development plan.	Describes how the skills and experience of the project team members will be developed. See Chapter 25.

Project planning process

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Establish the project constraints
Make initial assessments of the project parameters
Define project milestones and deliverables
while project has not been completed or cancelled loop
    Draw up project schedule
    Initiate activities according to schedule
    Wait ( for a while )
    Review project progress
    Revise estimates of project parameters
    Update the project schedule
    Re-negotiate project constraints and deliverables
    if ( problems arise ) then
        Initiate technical review and possible revision
    end if
end loop
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The project plan

- The project plan sets out:
 1. The resources available to the project;
 2. The work breakdown;
 3. A schedule for the work.

Project plan structure

- Introduction.
- Project organisation.
- Risk analysis.
- Hardware and software resource requirements.
- Work breakdown.
- Project schedule.
- Monitoring and reporting mechanisms.

Activity organization

- Activities in a project should be organised to produce tangible outputs for management to judge progress.
- *Milestones* are the end-point of a process activity.
- *Deliverables* are project results delivered to customers.
- The waterfall process allows for the straightforward definition of progress milestones.