Master Software Technology
Software Project Management 2 – [04] Project Phases: Start

Learning Goals

✓ Understand the starting phase with a focus on activities
- ✓ Specifically, estimation and the planning process
- ✓ Use network planning techniques, esp. CPM, on examples

✓ Work with standard project planning tools on examples
- ✓ e.g. ProjectLibre as used in the lab
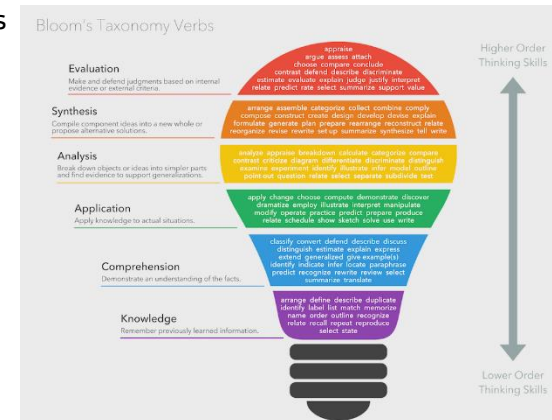
Agenda

Project Start
- Terminology
- Activities
- Project Definition
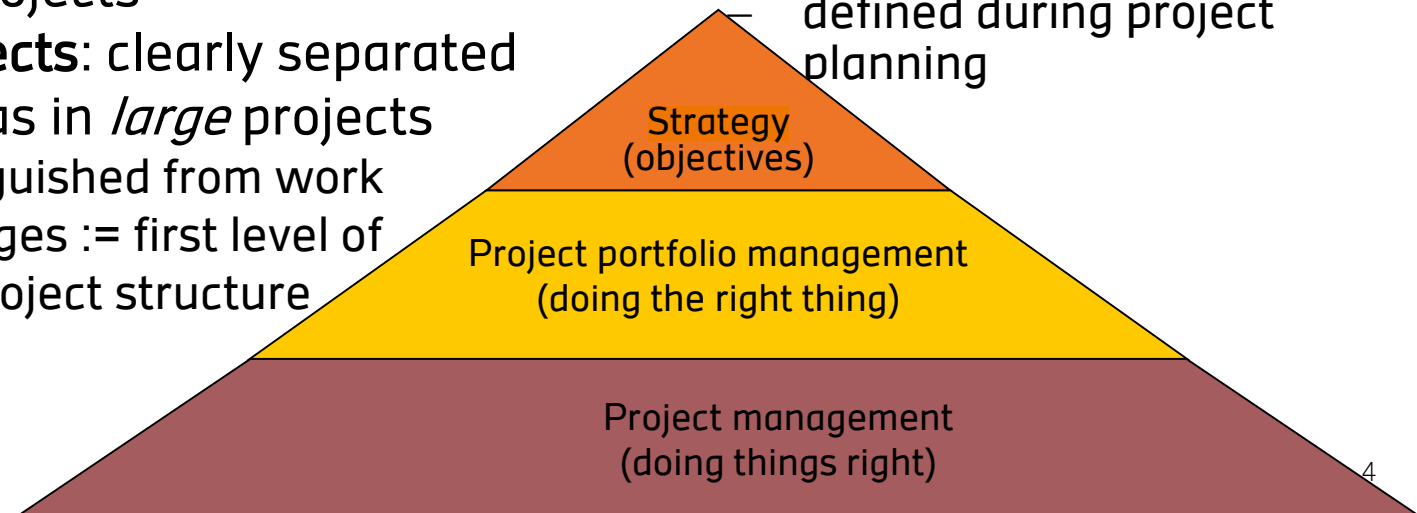- Requirements Analysis
- Frequent Problems

Project Planning
- Estimation
  - requirements w.r.t. estimates
  - ➢ *Are you already familiar with any estimation methods?*
  - distinction between size, effort and cost
  - categorization of different estimation methods
- Network planning techniques -> further topic
- Common planning pitfalls

Conclusions

Further ==Terminology==

- ==Strategy==: vision/mission
- ==Project Management Levels==
  - **Portfolio** := *all* projects in an enterprise
  - **Programme**: projects managed jointly
    - e.g, projects in a specific area
  - Single projects
  - **sub projects**: clearly separated task areas in *large* projects
    - distinguished from work packages := first level of any project structure

- Project proposal
- Project meetings
- Milestones (checkpoints)
  - content: well defined (partial) results
    - for project success: defined in advance, can be reviewed
  - deadline: completion date
    - defined during project planning

Strategy (objectives)

Project portfolio management (doing the right thing)

Project management (doing things right)

Project Start Activities

Project Idea
[Preliminary study (feasibility study)
– objectives not completely clear, achievement of objectives not guaranteed
– proving the technical and/or economic feasibility]
Defining objectives
Defining project scope and content with the client
Rough estimation
Rough project planning (methods similar to detailed)
Basis for subsequent decisions (go/no go)
Establishing the project
– fixing project procedures and organisation
– team building: project team
– defining project goals in workshops, involvement of all stakeholders
– communication of objectives to all stakeholders: kick-off & workshops
– developing a project culture
Detailed project planning, at least until the first milestone

stepwise procedure: feasibility study, analysis of economic efficiency, cost/benefit analysis, …

Basis for tender!

Project Definition Contents

project motivation
- ➢ business objectives

project objectives
- ➢ quantitative objectives in the triangle of costs, quality and time (functionality = fixed)

product and project results
- ➢ What are we going to provide?

project strategy
- ➢ planned procedures, time and budget plan, milestones

Project stakeholders
- ➢ identify all people to be affected

project organisation, project team
- ➢ organisation, structure, responsibilities

duties of the client

assumptions, opportunities and risks
- ➢ first risk considerations

Requirements Analysis

- Systematic process, using iterative and cooperative analysis to figure out requirements
- Certain methodology, e.g. use cases
- Goal: check problem understanding
- Results
  - system design specifications represented in a specific notation
  - agreed upon with and accepted by the customer
    → in classical methods: Part of the contract!

Requirements Analysis: <mark>Classes of Requirements</mark>

- <mark>functional</mark>
- <mark>non functional</mark>
  - efficiency, reliability, portability, maintainability, quantity structure, response times
- <mark>technical boundary conditions</mark>
  - capacities, platforms, ...
- <mark>economic boundary conditions</mark>
  - budget, time to market, ...
- <mark>standards</mark> (formal, industrial, de facto, de jure, …)
  - ISO, Windows compliant, ...

Requirements Analysis: <mark>Properties</mark>

unambiguous with respect to wording

complete

verifiable and testable with respect to requirements

consistent

– terms (homogenous and standardized terminology)

– with respect to requirements

maintainable

– table of contents, cross references, …

traceable

– with respect to decisions

– with respect to reasons

Project Start: Frequent Problems

➤objectives unrealistic, not clear, differing among stakeholders

➤lack of common understanding of project objectives

➤inefficient collaboration

– may be due to lack of organisational rules

➤project plans which the project team does not accept (at least not honestly or personally)

➤lack of management support

– e.g., lack of staff or any other resources necessary for the project

➤<further problems you might have experienced?>

➤ …

Questions? Questions!

THANK YOU VERY MUCH FOR YOUR ATTENTION!