Project planning

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Planning process

- Planning is the processes for the processes
- Planning is also a development perspective
- Planning is about refining processes:
  - the worldly level assigns activities to the process model, defines tasks and measures
  - the atomic level is detailed description of input and output

What is a project?

- A temporal organisation with specific goals:
  - Functions
  - Quality
  - Time
  - Resources

The project plan

- Shall always be written down.
- Shall be readable to all stakeholders of the project.
- We'll go through some important parts of a project plan with theory and recommendations.

Administrative information

- Project identity
- Members: name, role, phone, email
- Version number
- Mailing lists
- Home pages
- Customer contact
- Table of contents

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Overview

- Purpose
- Prioritised goal(s), sub goals, internal goals
- Limitations and constraints:
  - Hardware
  - Resources
  - Time
  - Technology
  - Knowledge
- Stake-holders: primary, secondary, indirect

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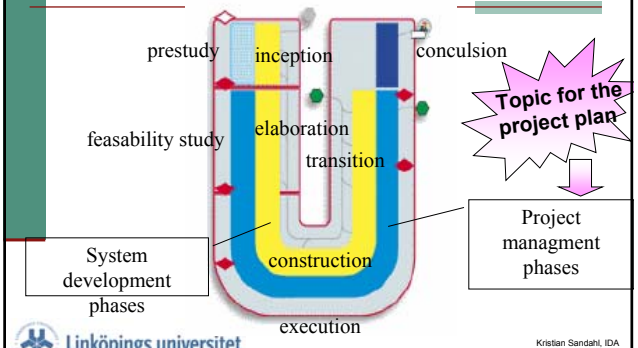
Phase plan



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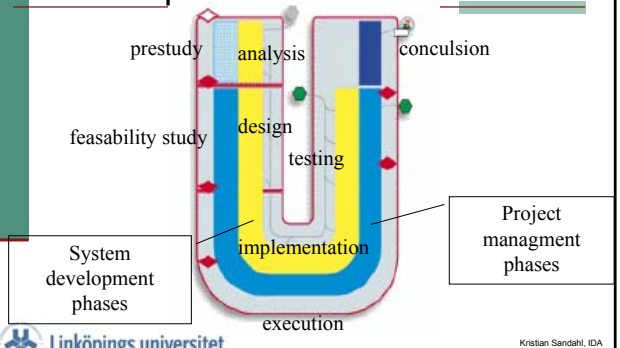
Same management, different development



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Organisation

- Place of the project
- Teams
- Roles
- Responsibilities
- Authorities
- Communications
- Documents
- Recommended roles:
  - Project leader
  - Lead analyst
  - Architect
  - Test leader
  - Librarian/Knowledge manager
- Testers should be independent

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Project manager

- Has the final word on all matters
- Manages resources
- Ensures goals
- Makes staffing
- Plans
- Reports internally, externally
- Leadership
- Social skills
- High technical skill

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Lead analyst

- Defines services provided
- Captures requirements
- Models the forthcoming system
- Handles contacts with customer and users
- Has the final word on requirements interpretations
- Assists marketing
- Writes requirements specification
- Very good communication skills
- High analytical skills
- Good domain and business knowledge

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Architect

- Has the final word in technical matters
- Decide and specifies:
  - target environment
  - high-level architecture
  - sourced components
  - external interfaces
- Ensures requirements
- Highest possible technical skills
- Leadership
- Social skills

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Test leader

- Evaluates requirements
- Creates and selects test cases
- Creates and maintains a test environment
- Feed-back test results
- Decides the status of the product
- Very high analytical skills
- Very high technical skills
- Skills in statistics
- Sometimes the default deputy PL

Librarian/Knowledge manager

- Keeps documents in good order
- Makes documents available
- Follow-up on administrative decisions'
- Collects time-reports
- Identifies reusable components
- Creates common experience
- Very high sense for good order
- Experience as developer

Other useful roles

- Development manager
- Procurement manager
- Economic controller
- Quality coordinator
- Deployment responsible
- Technical writer
- Course developer

Documentation plan

Internal:

- Minutes of meetings
- Meeting agendas
- Time reports
- Experience build-up
- Inspection records
- Accounting
- Group contract
- Mile-stone review

External:

- Requirements specification
- Design specification
- Test report
- Manuals
- Economic communication
- Promotion material
- Toll-gate preparation

Training and education

- Internal:
  - Tools
  - Techniques
  - Methods
  - Maturity
- External:
  - Customers
  - Users
  - Operation

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Resource plan

- People:
  - Expertise
  - Availability
- Premises
- Hardware
- Software
- Testing equipment
- Travelling
- Customer time
- Budget

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Meeting plan

- Type of meeting
- Frequency
- Process
- Participation

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Communication genres

Negotiations:
•Constructive
•Side-effects
Workshops:
•Reduced lead-time
•First-hand information is spread

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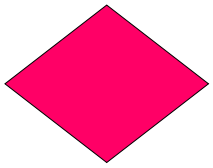
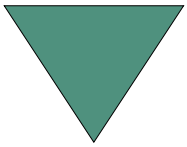
Mile-stone and tollgate plan

Toll-gate



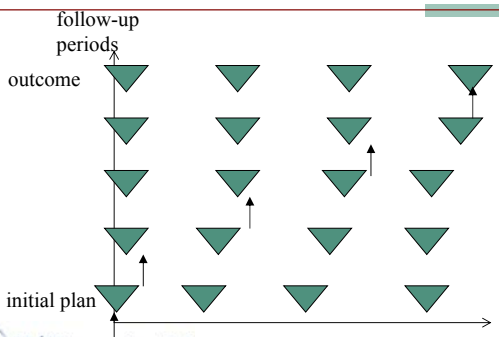
Decision about the continuation of the project by external committee

Mile-stone



Verifying sub-goal fulfilment. Can be done internally.

Plan and follow-up

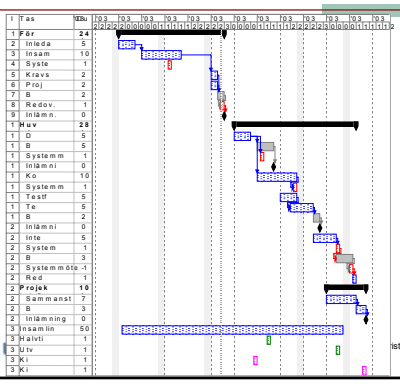


Activities

- Number
- Name
- Resources
- Duration
- Break down per person

no	descr	who	w1	w2	w3	w4	time(h)
1	interv	A,K	50	20	5	0	75
2	UML	K,U	5	50	50	25	130
3	spec	K	0	0	50	50	100
4	val	M,K	0	0	0	75	75
...	...	...	...	...	...	...	...

Gantt chart



Quality and Change

Quality plan:
- Tests:
  - unit test
  - system test
  - integration test
  - acceptance test
- Inspections
- Reviews
- Measurements
- Follow-up
- Experience feed-forward

Change plan:
- Request
- Process
- Decision
- Documentation
- Configuration management
- Follow-up

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Risk analysis

risk	probability	severity	risk
PL ill	3	2	6
delay	1	4	4

risk	risk	remedy cost	threat
PL ill	6	2	12
delay	4	4	16

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Introduction of project plan

- Project overview
- Main deliverables
- Main milestones
- Library for documents and code
- Definitions
- Communication with stake-holders

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Project management process

- Staffing
- Priorities
- Philosophy
- Risk management
- Task refinement
- Routines for reporting

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COCOMO

- Effort = C1 EAF (Size)^{P1}
  - Effort = number of staff months
  - C1 = scaling constant
  - EAF = Effort Adjustment Factor
  - Size = number of delivered, human produced source code instructions (KDSI)
  - P1 = exponent describing the scaling inherent of the process

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COCOMO

- Time = C2 (Effort)^{P2}
  - Time = total number of months
  - C2 = scaling constant
  - P2 = Inherent inertia and parallelism in management

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DELPHI

- Present information for expert panel
- Meet to discuss a common view
- Independent, personal estimates
- Summary
- Discussion and second round

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