UNIVERSITÉ BISHOP'S UNIVERSITY

CS 410 / CS 560: Software Engineering

Software Engineering Management

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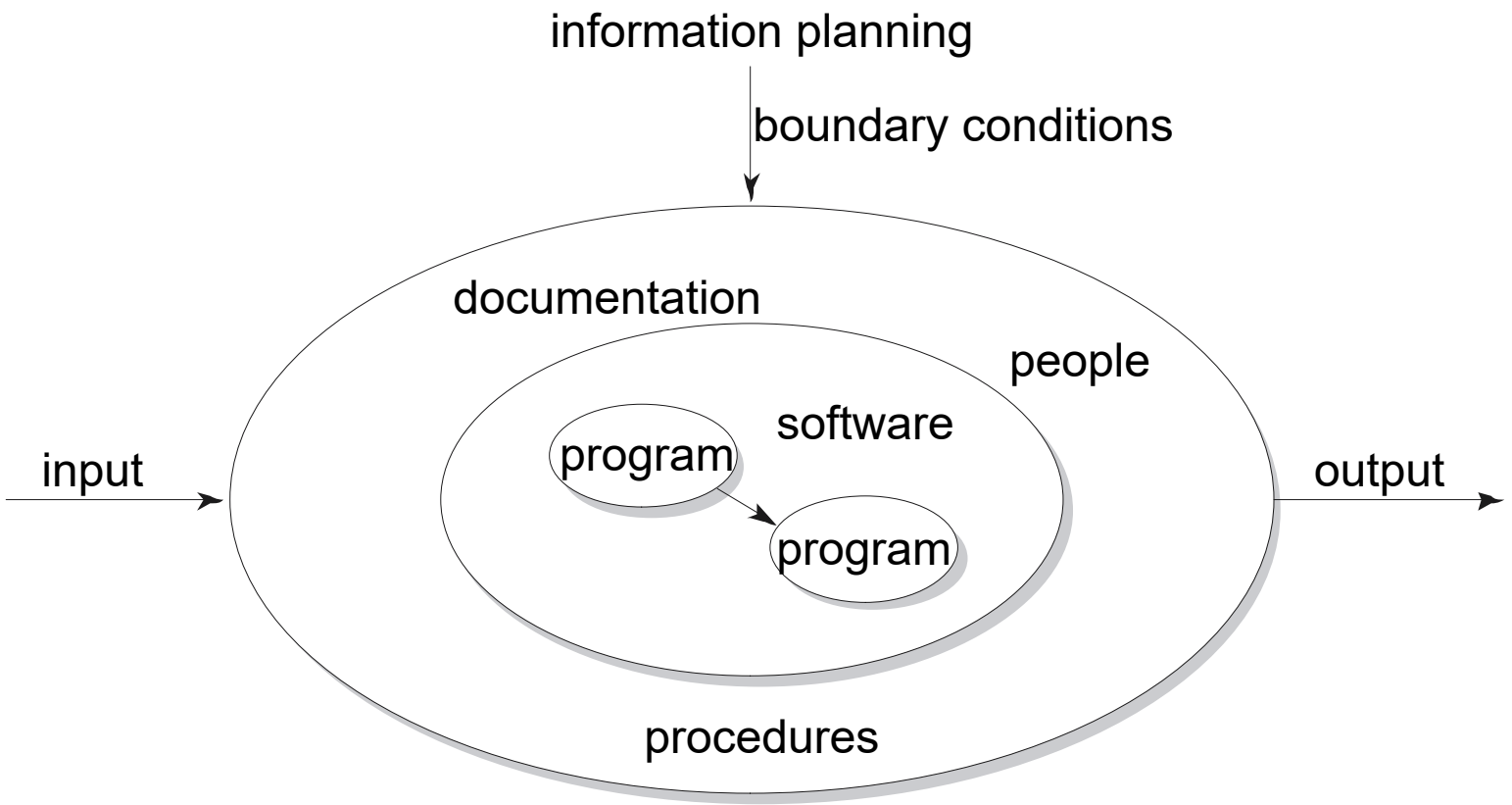
A broader view on software development



Example: Information plan of a university registration of student data

- Relations to other systems: personal data, courses, course results, alumni, …
- Use both by central administration, at faculty level, and possibly by students themselves
- Requires training courses to administrative personnel
- Authorization/security procedures
- Auditing procedures
- External links, e.g. to scholarship funding agencies, ministry of education

Contents of project plan

- Introduction
- Process model
- Organization of project
- Standards, guidelines, procedures
- Management activities
- Risks
- Staffing
- Methods and techniques
- Quality assurance
- Work packages
- Resources
- Budget and schedule
- Changes
- Delivery

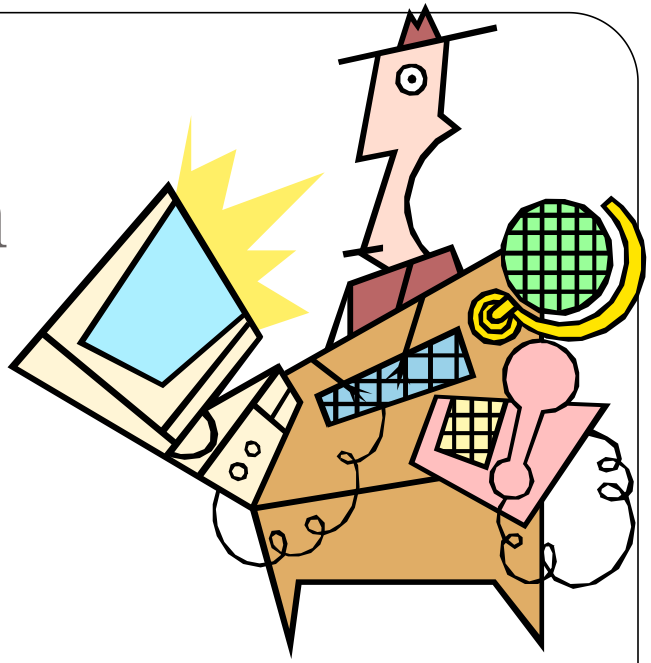
Project control

- Time, both the number of man-months and the schedule
- Information, mostly the documentation
- Organization, people and team aspects
- Quality, not an add-on feature; it has to be built in
- Money, largely personnel

Managing time

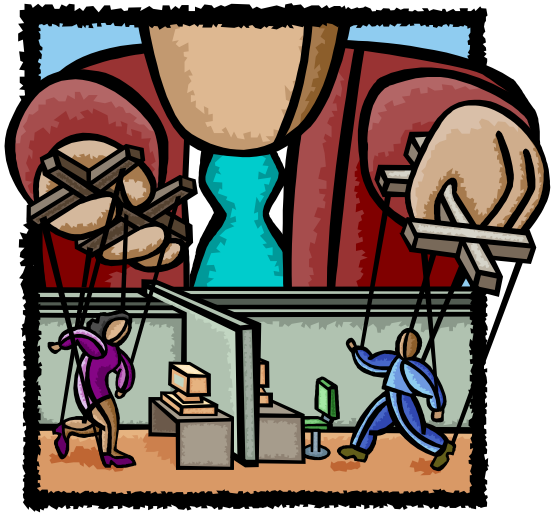
- Measuring progress is hard ("we spent half the money, so we must be halfway")
- Development models serve to manage time
- More people ⇒ less time?
  - Brooks' law: adding people to a lae project makes it later

Managing information



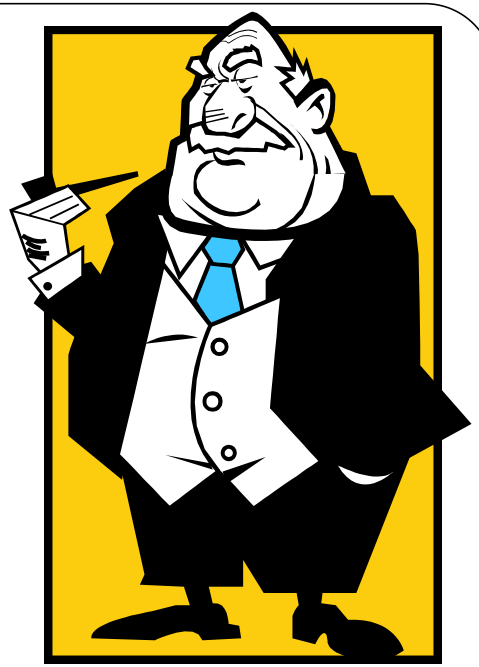
- Documentation
  - Technical documentation
  - Current state of projects
  - Changes agree upon
  - …
- Agile projects: less attention to explicit documentation, more on tacit knowledge held by people

Managing people



- Managing expectations
- Building a team
- Coordination of work

Managing quality



- Quality has to be designed in
- Quality is not an afterthought
- Quality requirements often conflict with each other
- Requires frequent interaction with stakeholders

Managing cost

- Which factors influence cost?
- What influences productivity?
- Relation between cost and schedule

Summary

- Project control concerns
  - Time
  - Information
  - Organization
  - Quality
  - Money

- Agile projects do less planning than document-driven projects