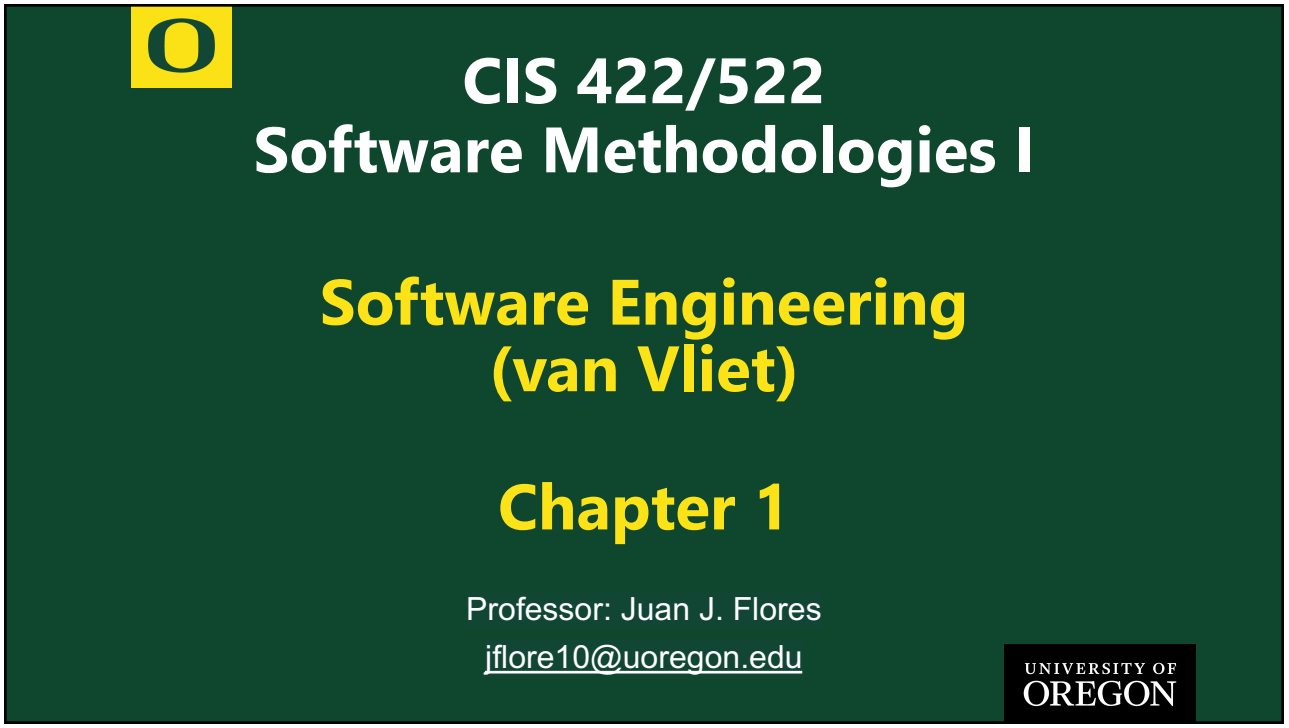

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Overview

The main goal is to understand

- A project plan
- Major dimensions of a Software Development Project

2

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Overview

- We will study
  - design
  - specification
  - implementation
  - testing

  of software systems

- =>Satisfy our customers' demands better

3

3

Overview

- Software projects are not isolated
- Not from scratch (often)
- Information planning – interproject relationships
- To ensure interoperability between systems
  - Use standards
  - Data interchange formats
  - Security policies
  - Web page layout

  imposed on every project

4

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Overview

Software projects generally

- Are not developed in isolation
- Are not developed from scratch
- Extend existing software
- Use existing libraries
- Build upon an existing framework

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Overview

- Software Development Project – a misnomer
- We do not just develop software
- =>We develop systems
- Software is an important ingredient of systems

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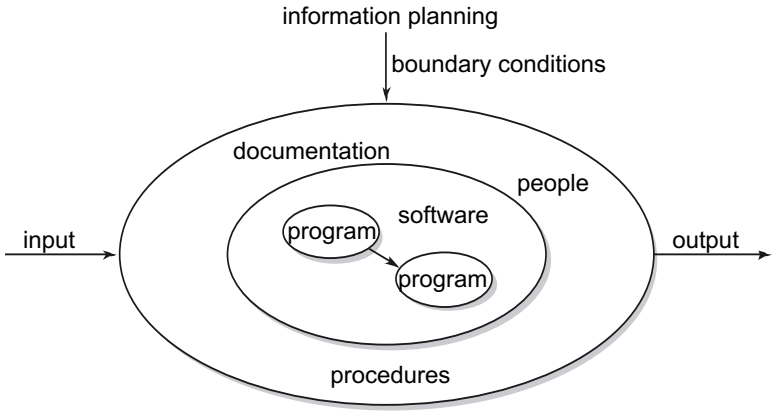
6

A broader view on software development



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Example

Information plan of a university registration of student data

- Relations to other systems:
  - Personal data
  - Courses
  - Course results
  - Alumni
  - …
- Use by central administration, faculty, and students

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Example

Information plan of a university registration of student data

- Requires
  - Training courses to administrative personnel
  - Authorization/security procedures
  - Auditing procedures
  - External links, e.g. to scholarship funding agencies, ministry of education

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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

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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

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Managing time

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

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Managing information

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

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Managing people

- Managing expectations
- Building a team
- Coordination of work

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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

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Managing cost

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

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Summary

- Project control concerns
  - Time
  - Information
  - Organization
  - Quality
  - Money
- Agile projects do less planning than document-driven projects