RUP
and modern SE
Standish Group, Chaos 1994

- Tvivelaktiga: 53%
- Lyckade: 16%
- Misslyckade: 31%
Standish Group, Chaos 2007
Waterfall model

• Delays the possibilities to confirm critical risks
• Measures progress via measures that do not predict the remaining time
• Delays integration and testing and makes it more difficult
• Prohibits early usage
• Leads to large and unplanned iterations
Rational Unified Process

- A Software Engineering Process
- Model based
- Uses UML
  - Unified Modelling Language
- Provides tools
- Customizable (configurable)
We already know how to do software well. It may finally be time to act on what we know.

R. N. Charette, president of ITABHI Corp. Chair of the ISO/IEEE committee, IEEE, Spectrum 2005-09-14
Best practice

• Method or process commonly used in successful organizations, e.g.:
  – Iterative development
  – Requirements management
  – Component-based architectures
  – Visual modelling
  – Verifying software quality
  – Traceability (keeping track of changes)
Two dimensions

• Time
  – stages
  – iterations

• Workflows
  – processes
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**Iterations**: Initial, E1, E2, C1, C2, Cn, T1, T2
Stages

• Inception
  – Defines scope of project
• Elaboration
  – Planning of project, structure, properties
• Construction
  – Building the product
• Transition
  – Delivery of product to end users
What is missing?
User Centered Parts of RUP

Requirements:
- System Analyst
  - Capture a Common Vocabulary
  - Find Actors and Use Cases
- Software Architect
  - Prioritize Use Cases
  - Detail a Use Case
- Requirements Specifier
  - Detail the Software Requirements
- Develop Vision
  - Manage Dependencies
  - Structure the Use-Case Model
- User Requirements Specification
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- User Requirements Specification

Analysis & Design:
- User Interface Designer
- Design the User Interface
- Prototype the User Interface
- View the User Interface

Deployment:
- Course Developer
  - Develop Training Materials
- Technical Writer
  - Develop Support Materials

Conceptual Road Map:
- Usability Engineering

Guidelines:
- Role playing
- Interviews, Storyboarding
- User Interface etc

Use Cases
- Ux Plug-In

Concepts:
- User-Centered Design
- Usability Testing
User Centricity in RUP

Positive:

• Use cases
• Focus on requirements
• Iterative development
• Interdisciplinary cooperation

Negative:

• Usability is not prioritized and can be "forgotten" and just demoted
• No coordinating, responsible role
• Weakly described
This is often missing...
The Design and Usability Process

• Integrates in RUP as a planned process

• Not part of standard RUP

• Makes usability issues part of the whole process
  – Integration in process
Using RUP

• RUP - a complex process, a framework

• RUP requires an implementation strategy
  – Not too intricate

• RUP has to be adapted
  – To the company
  – To the project
Weaknesses…?

• Complex
  – Many documents that MAY be used in the project

• RUP on-line
  – Difficult to understand
  – High learning threshold
  – Varying quality

⇒ Easy to misinterpret
⇒ Difficult to use
And...

Inadequate and insufficient support for user-centered design (in its original version).
Challenges

• Iterative development
• Development processes have to be adapted (not specific to RUP)

• IT-projects always lack money and time
  – (not specific to RUP)
    ⇒ short perspective
    ⇒ difficult to design for change
Advantages with RUP

• Idea driven, based on sound principles
  – Best practices

• Iterative, risc driven development

• Relatively complete
  – Also a disadvantage!

• Commercial world standard
RUP - A shooting star???

• Agile methods (next lecture)
• OpenUP (IBM, Eclipse)

• EssUp (Jacobsson)