



UPPSALA
UNIVERSITET

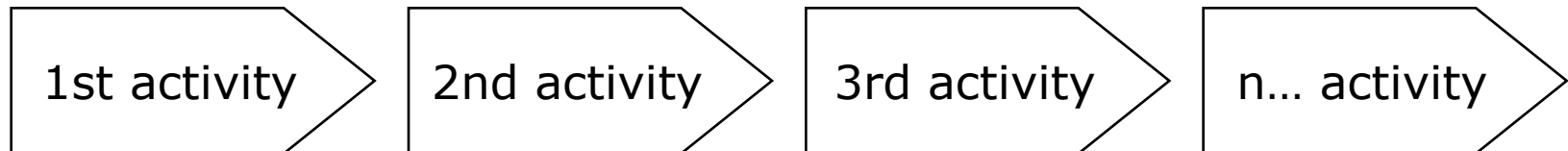
L13 – User-Centered Systems Design As A Process

Bengt Göransson

bengt.goransson@it.uu.se

To Structure a Development Process

- Is it important to have an explicit process? Give five motives!
 - Two by two, 5 minutes.
- Main phases in a development process?



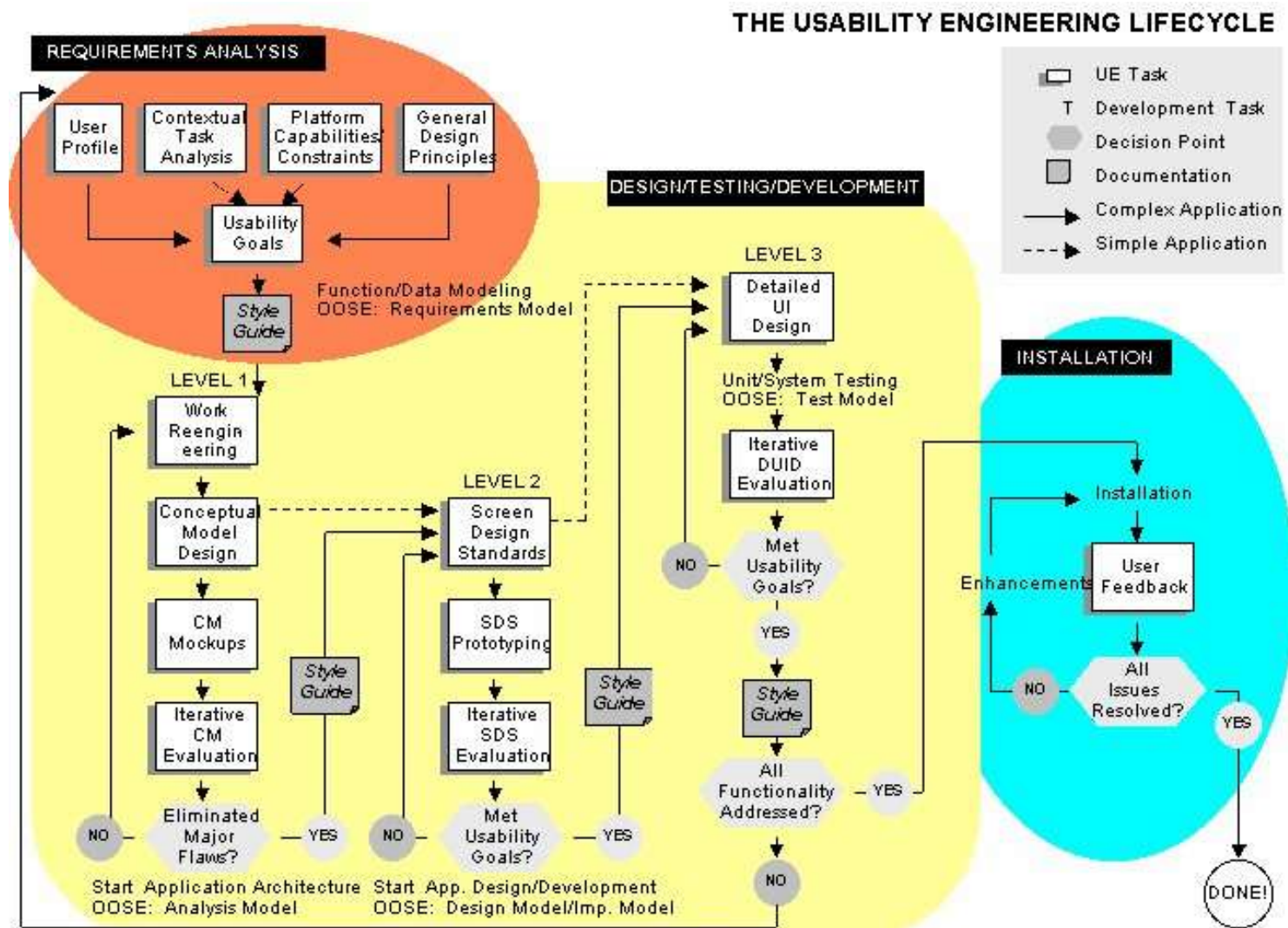
In Order To...

- Explain and visualize...
- Understand what to do...
- Plan a project...
- Know what to do...
- Assure quality...
- Be able to repeat, in a controlled way...
- Learn by mistakes, improve by learning...
- Communicate and sell...

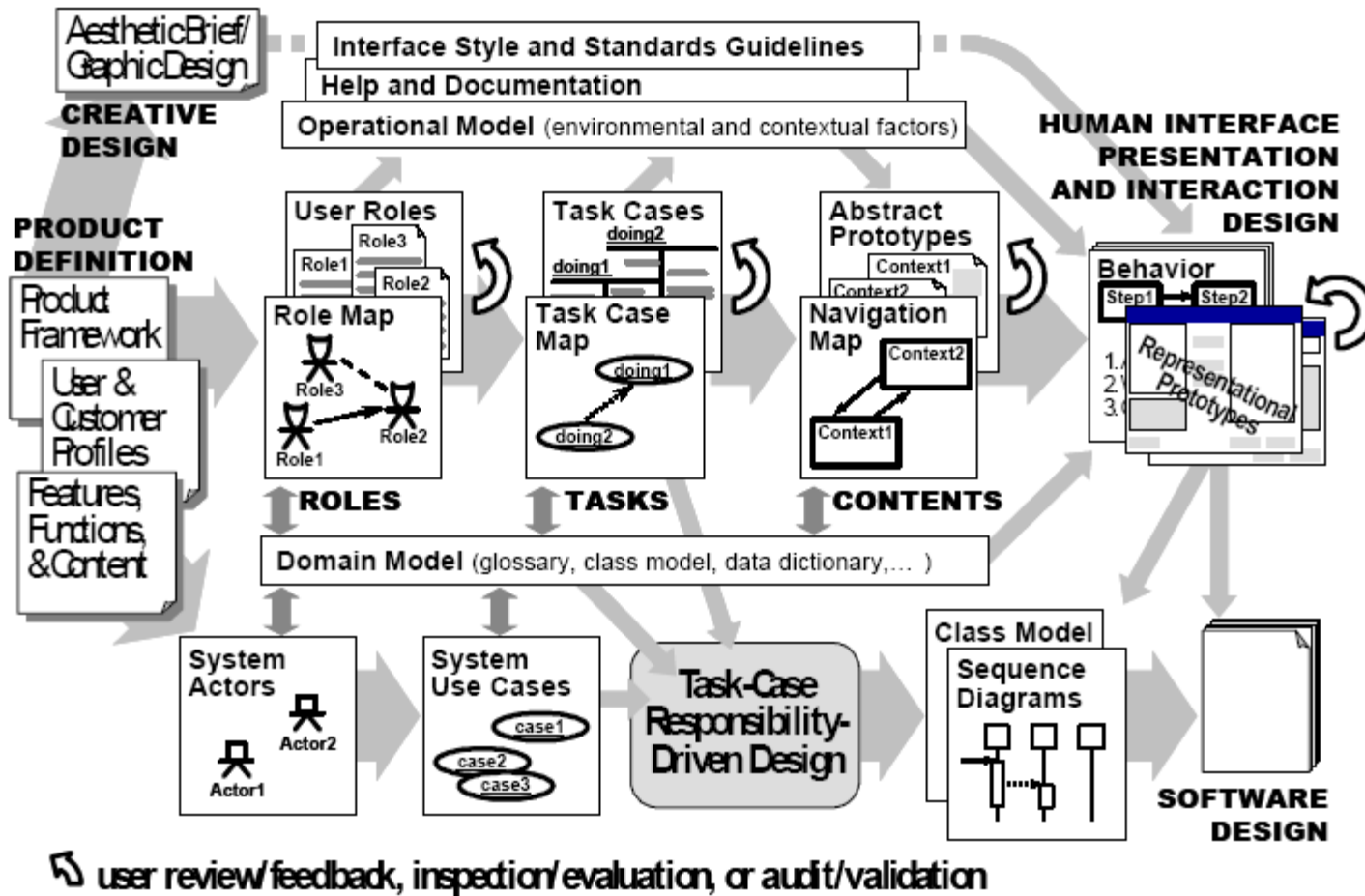
Process

Does the outline (syntax and semantics)
of the process matter has it any impact?

The Usability Engineering Lifecycle – Deborah Mayhew

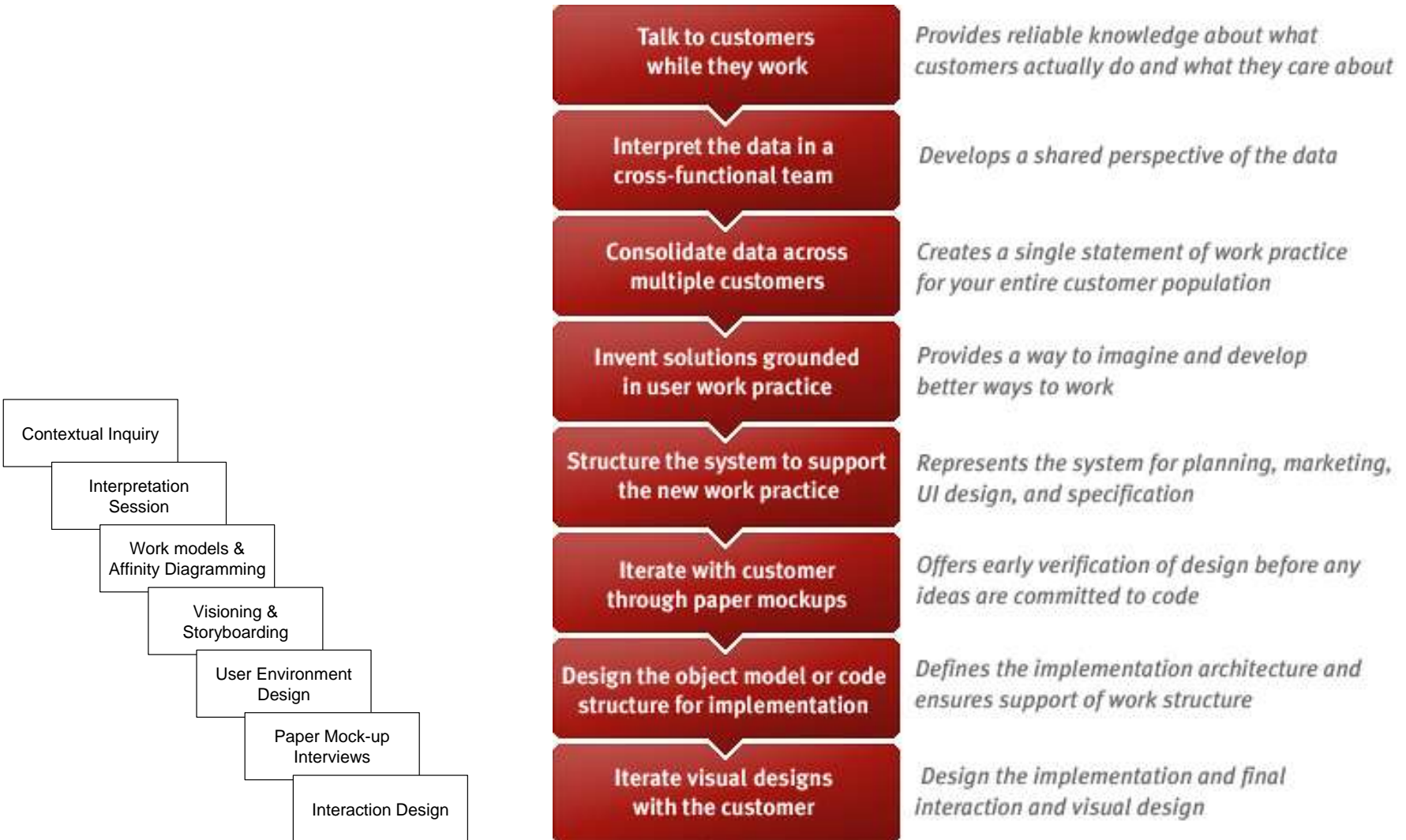


Usage-Centered Design



Usage-Centered Design and Software Engineering: Models for Integration,
Constantine, Biddle & Noble, www.se-hci.org/bridging/icse/p106-113.pdf

Contextual Design



Dynamic Systems Development Method – DSDM

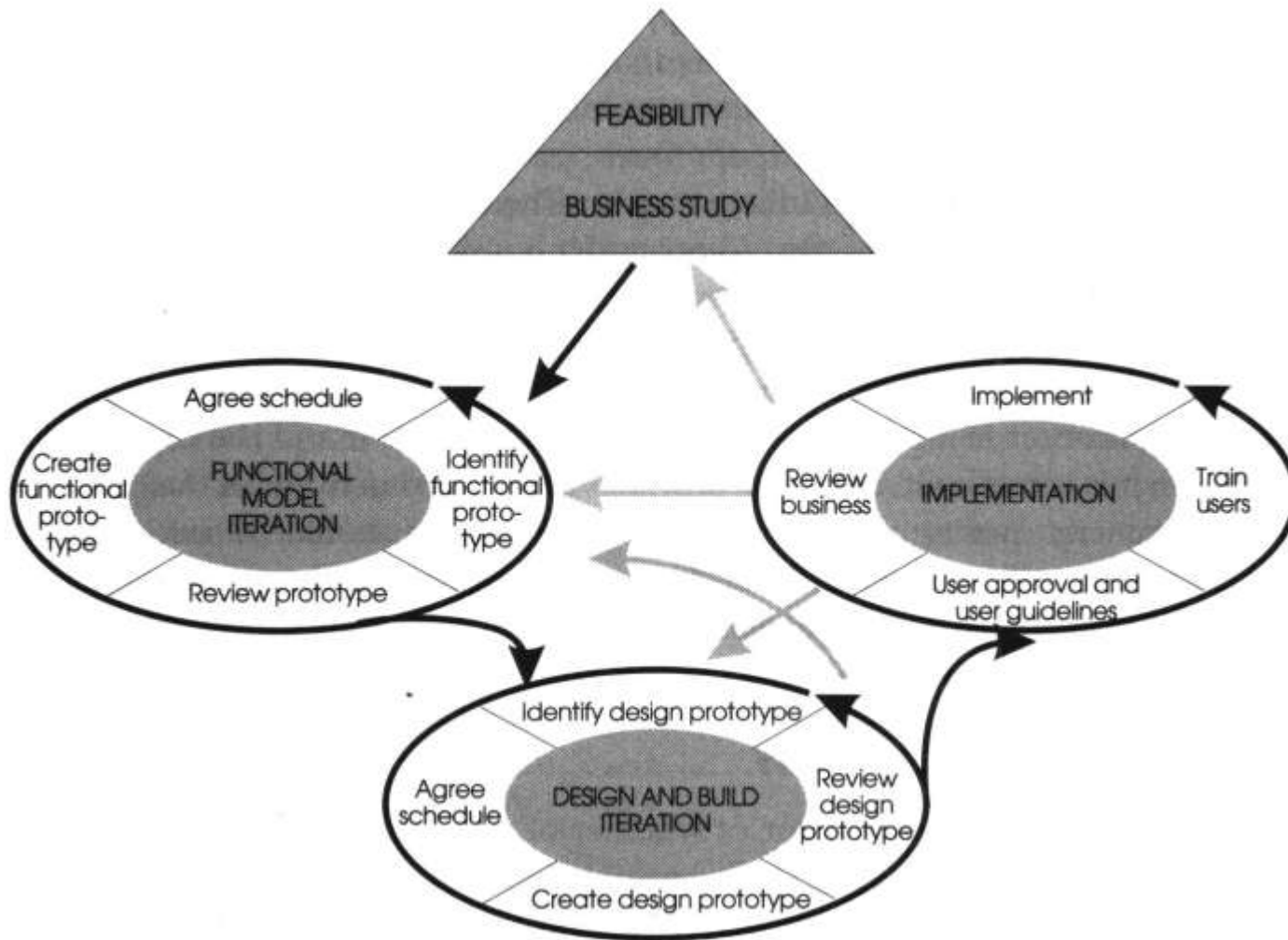
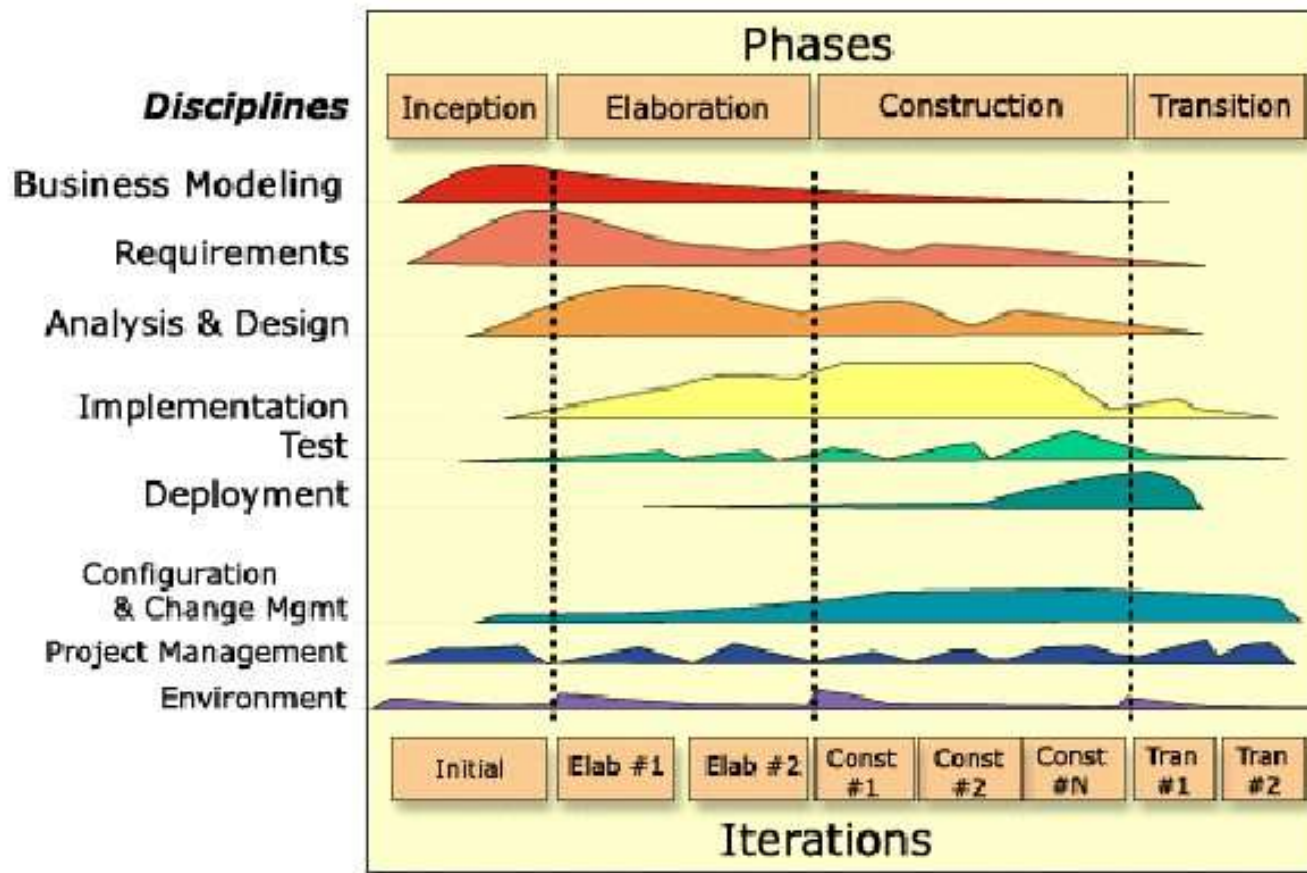
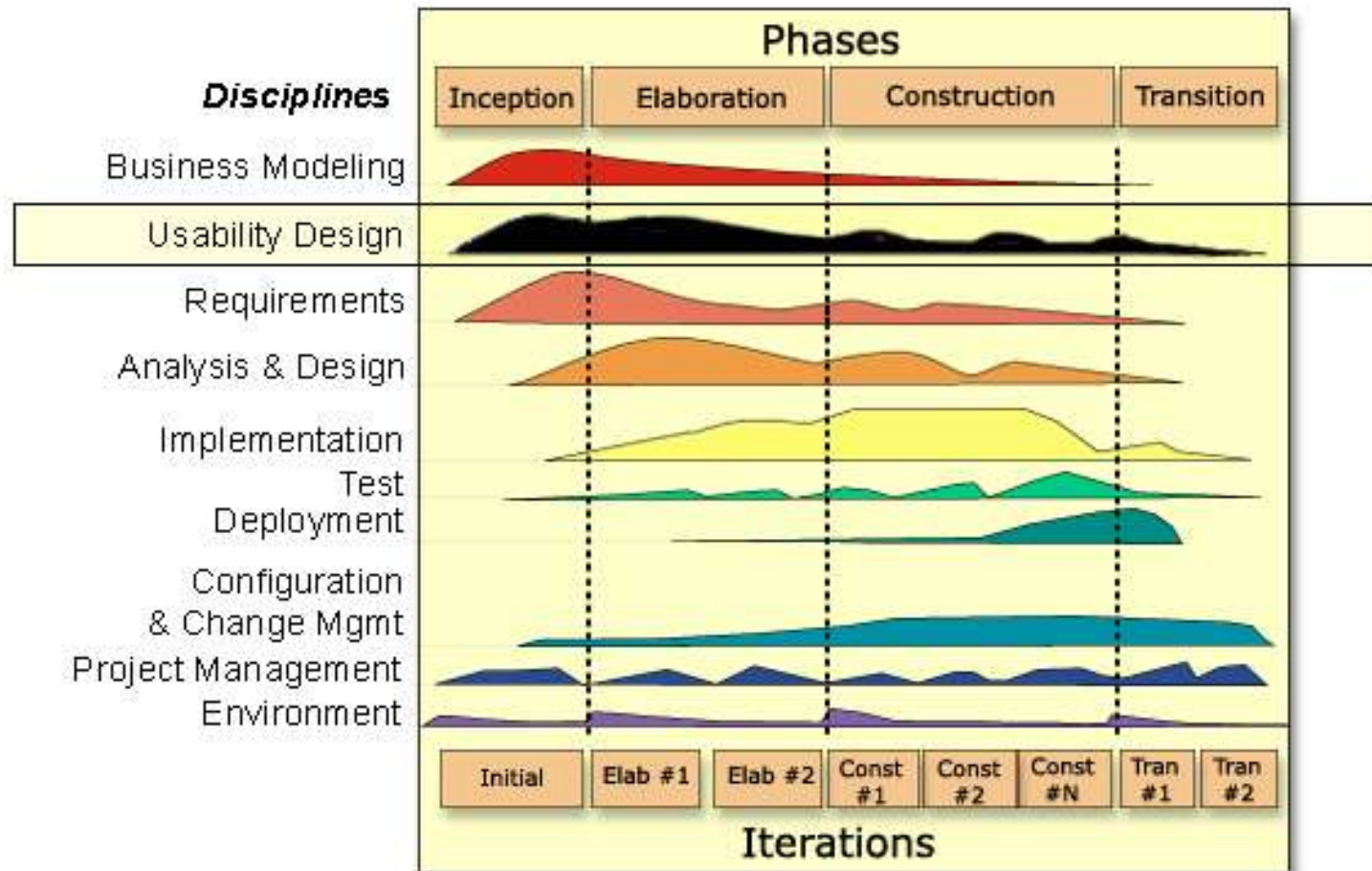


Figure 1.1 DSDM process diagram.

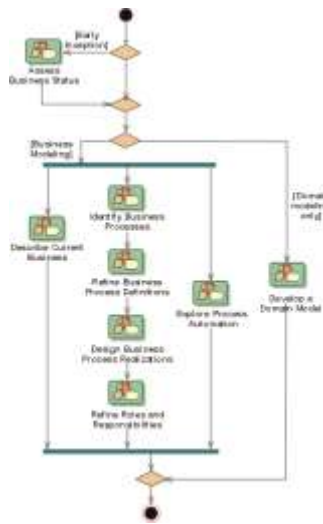
Rational Unified Process – RUP



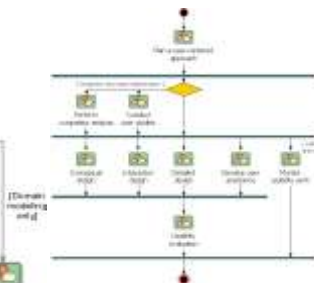
Usability Design Discipline



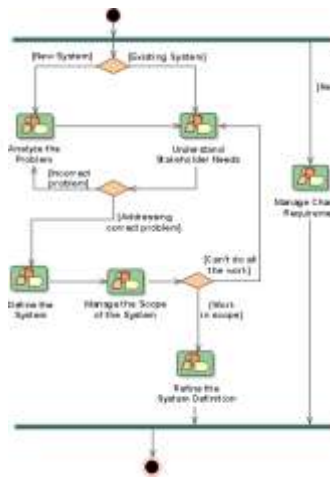
Business modeling



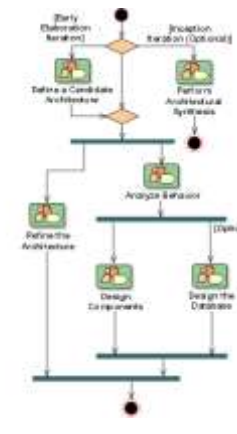
Usability Design



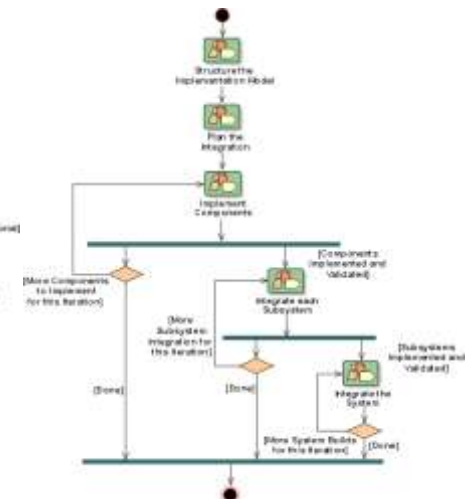
Requirements



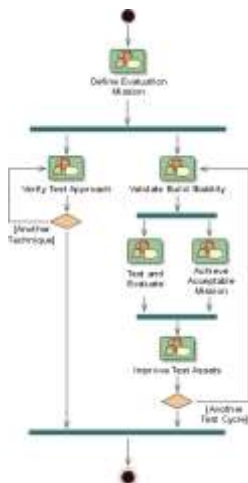
Analysis & design



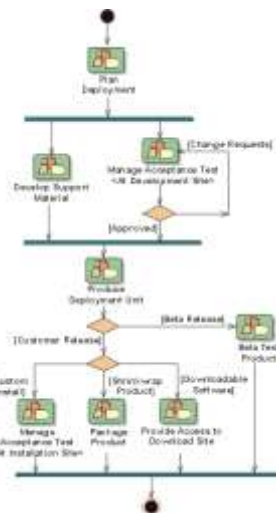
Implementation



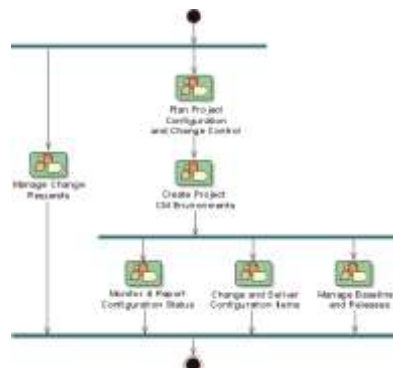
Test



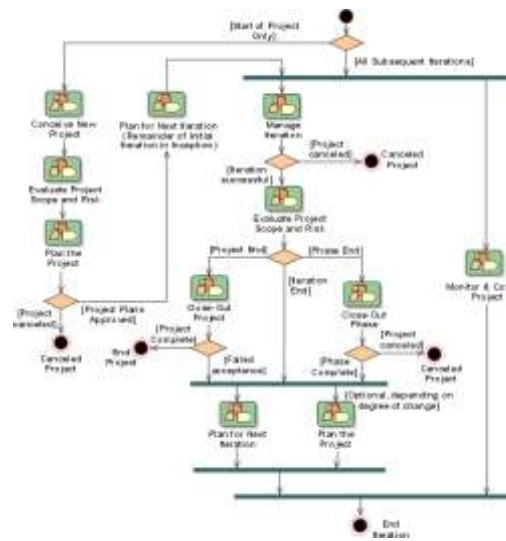
Deployment



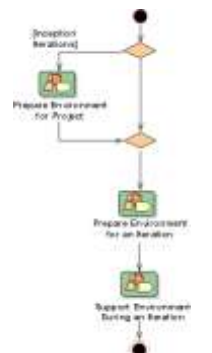
Configuration & Change Management: Overview



Project Management

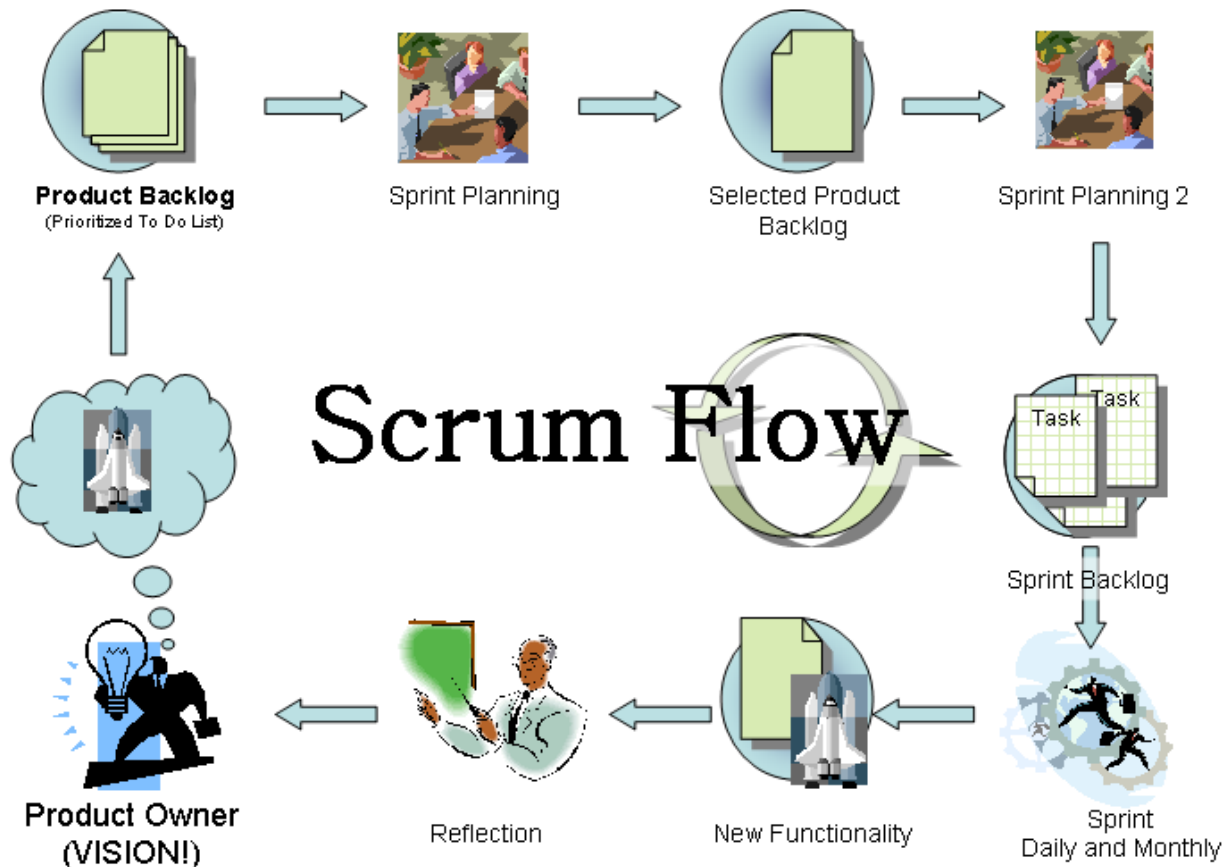


Environment



SCRUM

- Scrum is a project management method for agile software development.

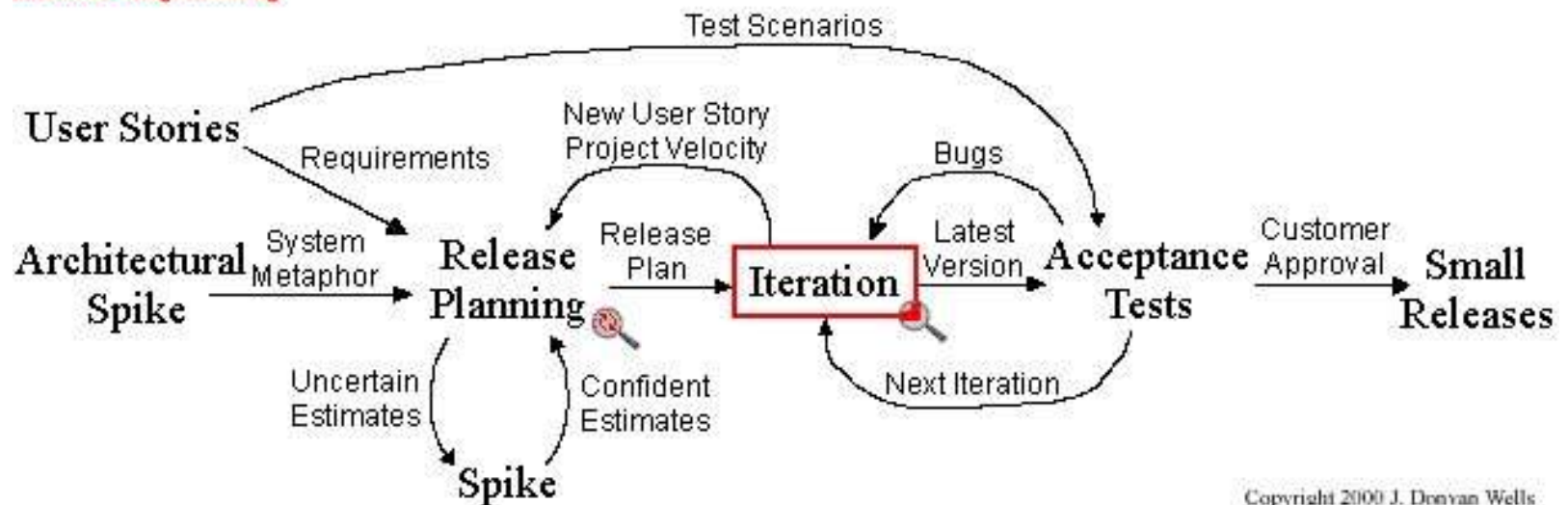


Wikipedia, 20/11 2007

XP



Extreme Programming Project

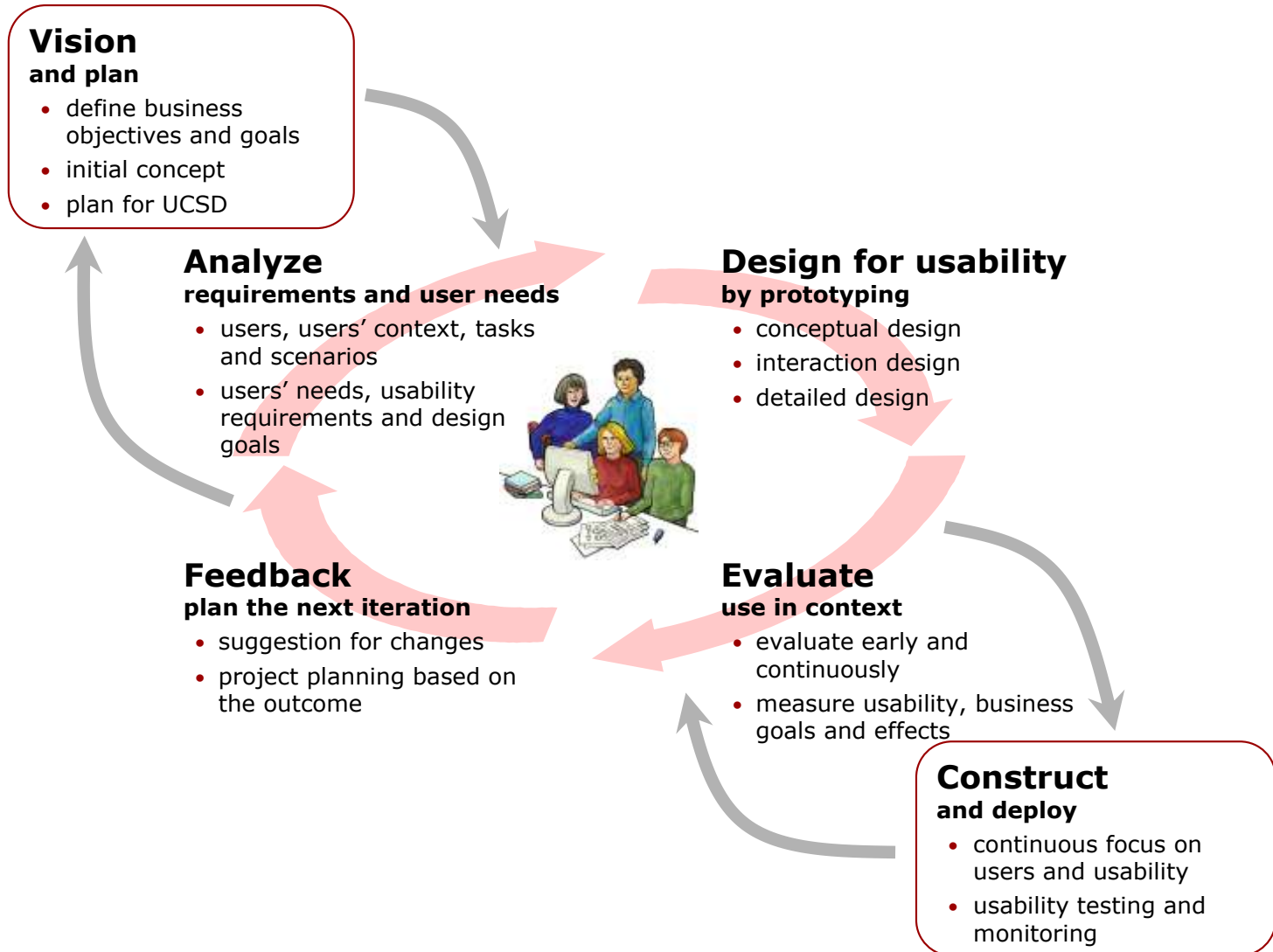


Copyright 2000 J. Donovan Wells

This and That...

- *Usability* is a quality in use. It measures how well a product or a system supports me, as a user, in getting my work done and reach my goals in a given context.
- *User-Centered Systems Design* is an attitude to development, and a process, that leads to usable products and systems.

A User-Centered Process



UCSD – In Retrospect

What's Characteristic for a User-Centered Process?

- You will get answers as you ask -> the "art" (competence) of doing interviews, **field** and user **studies** — analysis.
- It's just by testing you really learn what's going to work and not -> **prototypes** and "simple" sketches.
- Measure if it works -> **usability evaluations**.

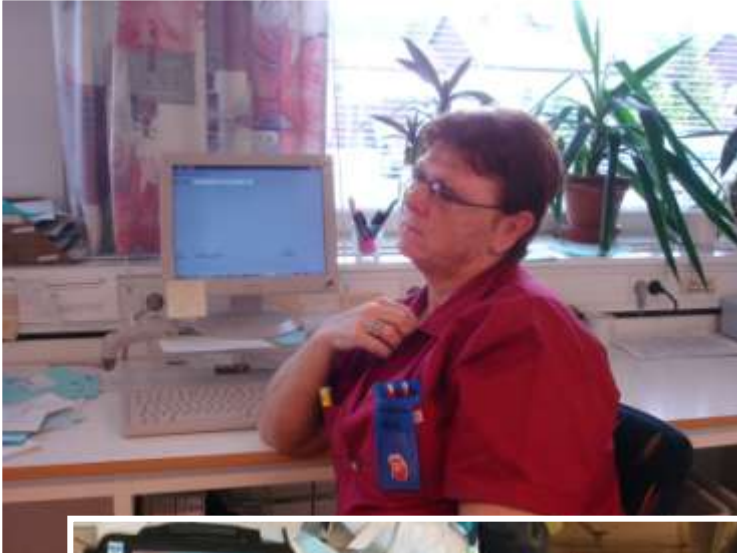
Analysis of Users' Work Situation – Field Studies

Observing users' in their real work situation, at their workplace.

- To understand needs and see potential improvements.
- To understand how information is used.
- To encounter things that the users are not aware of. Things they normally don't express.

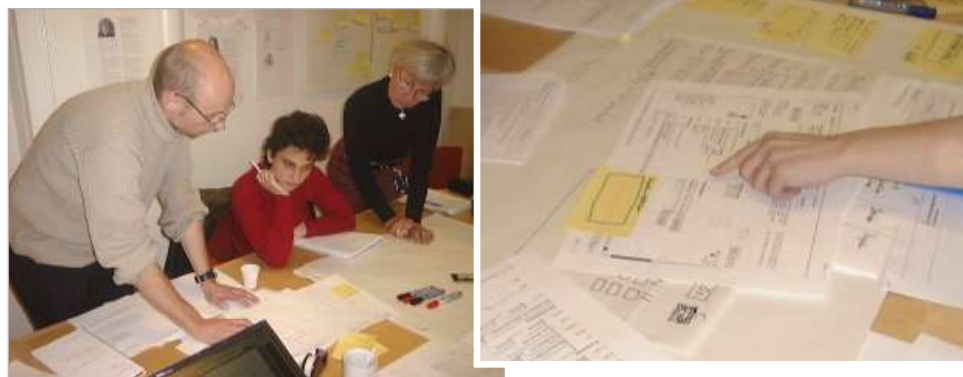


Context of Use is Crucial

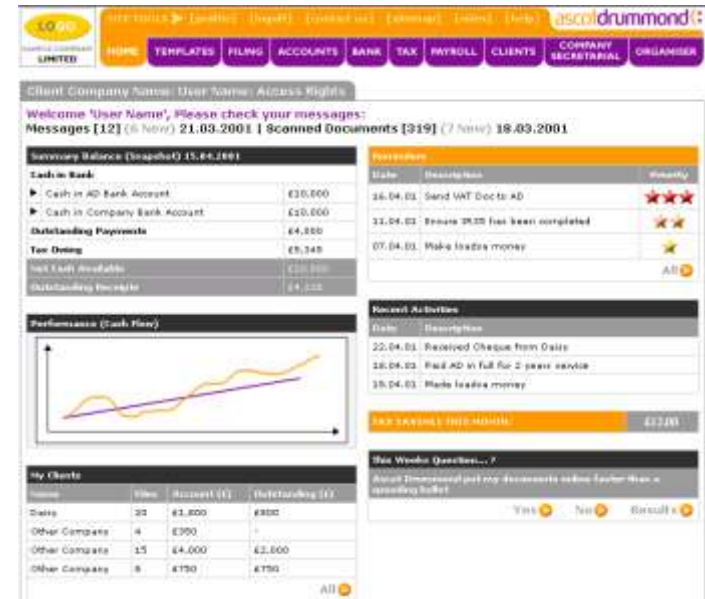
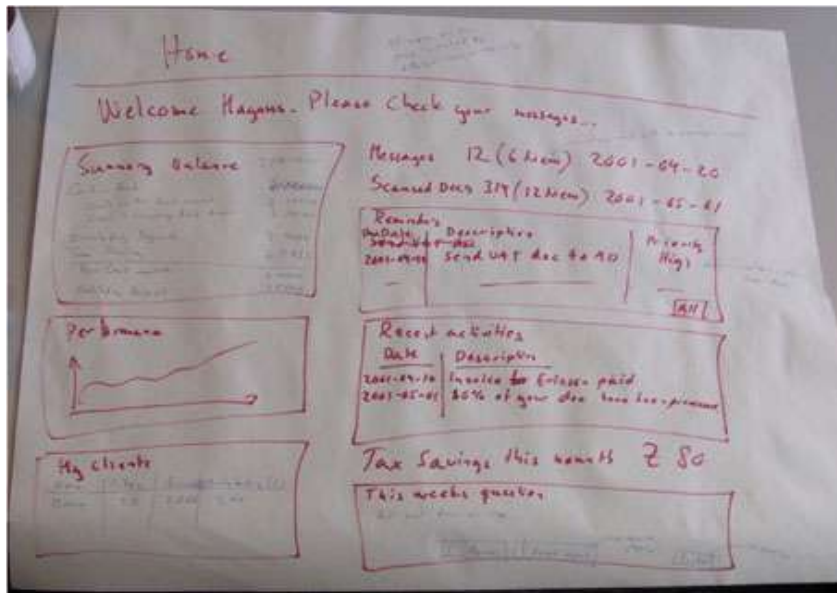


Cooperative Design Sessions

- Team exercises.
- The users cooperate in the design, not just contributes.
- A usability person is running and facilitating the session.
- Not necessarily “correct” design, but a good way of eliciting needs and exploring possibilities.
- Easier to communicate and express in pictures than in words.



Prototype Driven Design



- Paper sketches, storyboards and prototypes, evolve over time.
- Usage descriptions — starts at task level, then more detailed, down to interaction sequences and events.

Evaluation with Users

- Let users do pre-defined and realistic work tasks.
- Observe and interview.
- Not just what the users think (subjectively), but what they really do and experience.
- Evaluate sketches, prototypes, beta versions and releases.
- Quantitative measures against metrics (summative) and qualitative design guiding informal evaluations (formative).
- In a controlled laboratory environment or in users' working environment.



Exercise

Exercise: Describe a User-Centered Process

- You shall propose and describe a user-centered process — a project concept, tender, in order to get a contract on re-designing SJ's Ticket-vending Machines.
- It's a hypothetical procurement from SJ.
- You really want to get this assignment!
- Convince the client that you are the right company for the job and that your process promise to deliver business value.

Example: SJ's Ticket-vending Machines



The Ticket-vending Machine



Describe the Tender and the Process

- What's the first thing you would propose to do?
- Phases and activities?
- Resources?
 - Time
 - Money
- Involving users? How? Convincing SJ to let you involve users, how?
- Choice of methods?
- How should you sell-in your process and tender?



UPPSALA
UNIVERSITET

Thank You For Cooperating!

bengt.goransson@it.uu.se