User centred systems development and prototypes

- Different development models
- Waterfall models vs. experimental/iterative models
- User centred development
- The role of the user
- Prototyping

Different development models

In a systems development project we shall:
- Specify requirements etc.,
- design and build the system,
- test it,
- implement it (deployment),
- evaluate,
- continuously support and develop it.

- There exist several models for this complex process.
What is an information system?

An information system consists of:
• Functionality
• Database
• User interface

The development is normally based on a task and a requirement specification.
See lecture 11.

Organization of development

• It is important to organize the work according to some efficient model.
• There exist several different such models.
• An important aspect concerns how users can be involved in the process. It is also important to focus on usability, not only on functionality.
• The use of prototypes supports an efficient model.
The waterfall model vs. experimental/iterative development

- In the “waterfall model” the different steps are taken strictly sequential until the final system is finished.
- In the experimental, or iterative, model the development is performed in successive cycles where the system is step by step improved until the evaluation shows that all requirements are fulfilled. This is also called the “spiral model”.

User centred development

- User centred development means that the users, i.e. those who will use the new system, are actively participating in the development process. They are experts in their own work.
- The developers are experts in the technical development, based on the requirements specified by the users.
- There is also a need for a usability expert, who can interpret the users’ demands and transform these into technical specifications, perform tests and evaluations etc.
The role of the user

- The user’s role must be specified and they must be given appropriate training.
- The users must not formulate their requirements in technical terms but in terms of work requirements.
- It can be difficult for the users to be visionary, i.e. to see future possibilities.
- The users must participate in all steps of the prototyping process. They must be given the chance to see how their future work will look like, using the new information system.
- The users must be given a clear mandate in the project. They can otherwise be controlled by the technical staff, i.e. they will become a “hostage”.

Prototyping…

We differ between different types of prototyping:

- Requirements animation. Simple illustrations without functional parts.
- Rapid prototyping. Prototypes which are thrown away successively.
- Incremental prototyping. Stepwise development of system parts.
- Evolutionary prototyping. The final system is based on earlier versions which are successively developed.

A prototype can be a pure illustration of the system under development or a part used in the final system.

- ”Throw-away” prototyping.
- Prototyping through stepwise development of system parts.