CS4826
Week 5

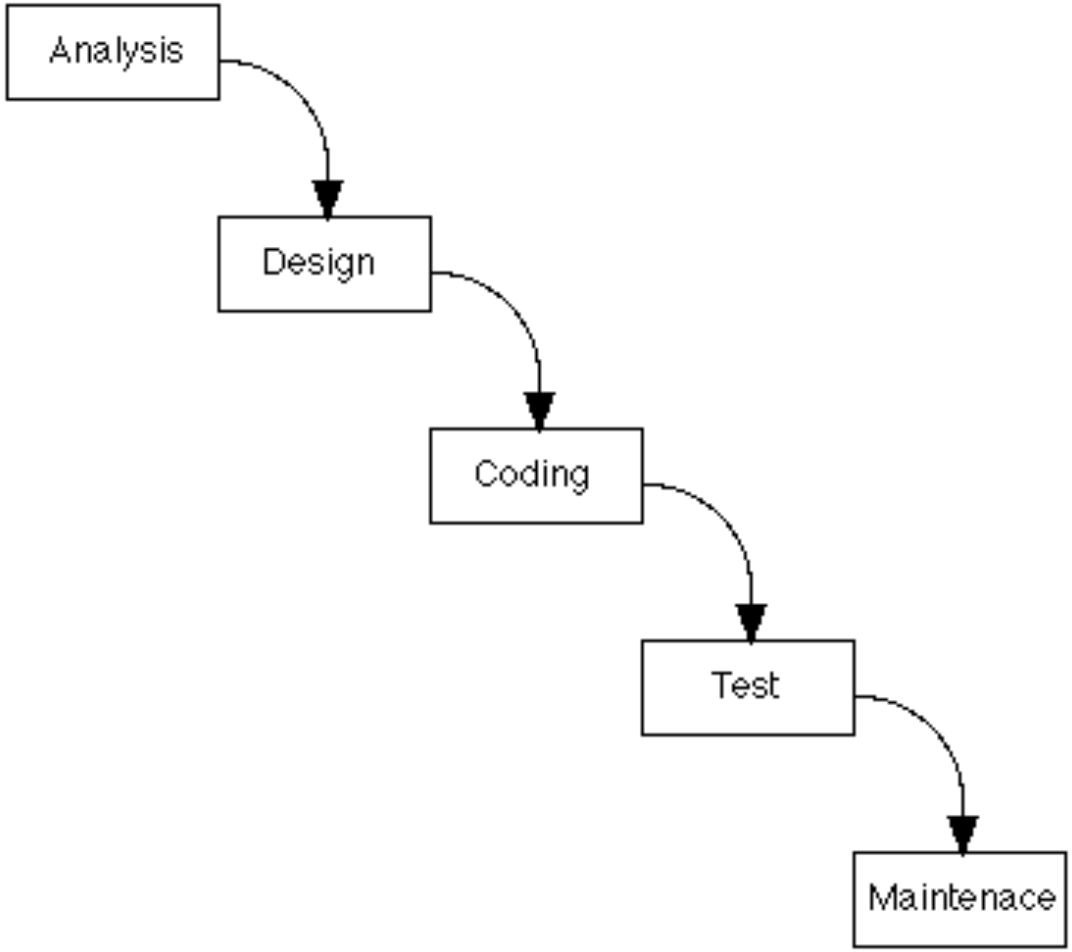
HCI Models

- What are the steps describing Human-Computer Interaction work?
- How to develop the design or re-design of interactive systems?
- How do HCI activities connect to each other?

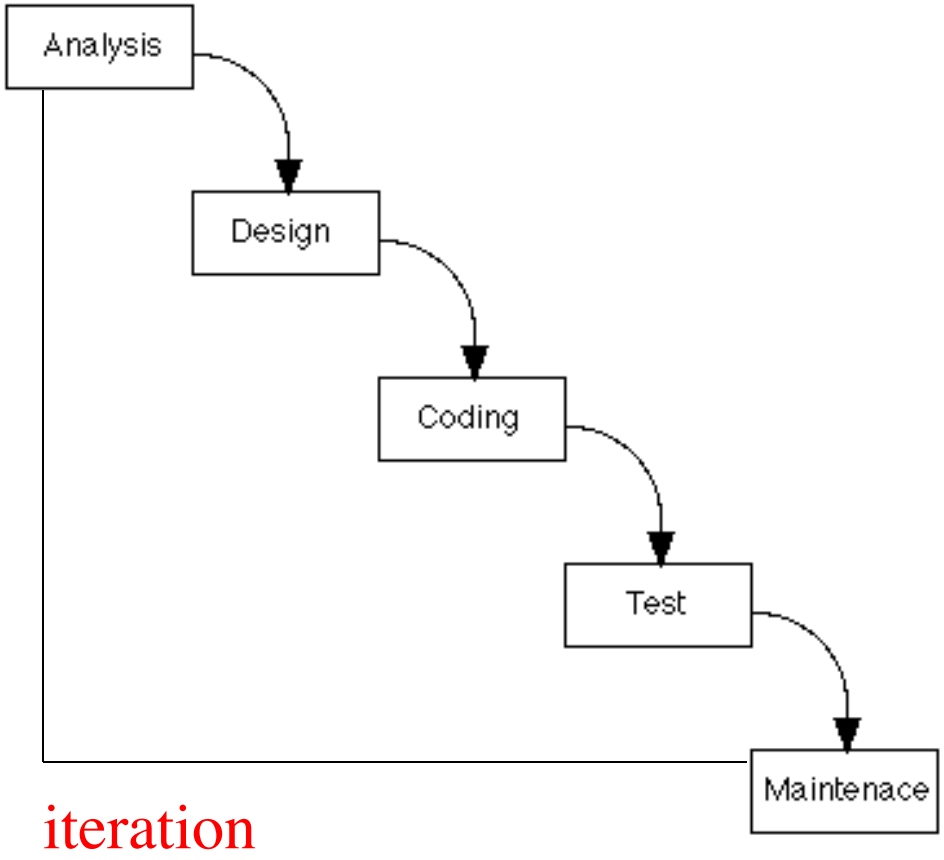
HCI Models

- Different models and processes have been used to describe HCI lifecycles
- A number of original models have also been developed within HCI research
- A short history…

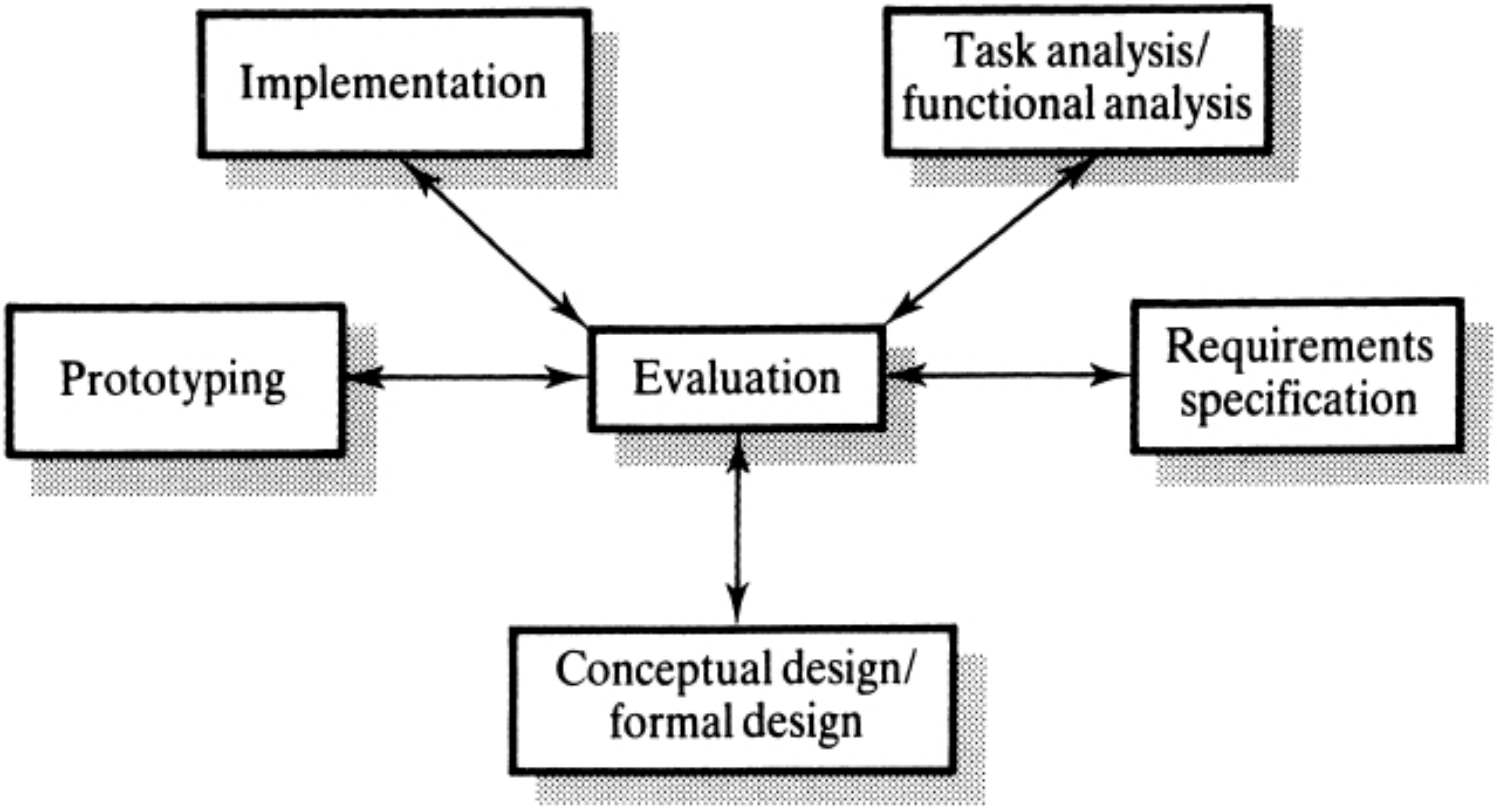
The Waterfall Model (from software design)



The Iterative Waterfall Model

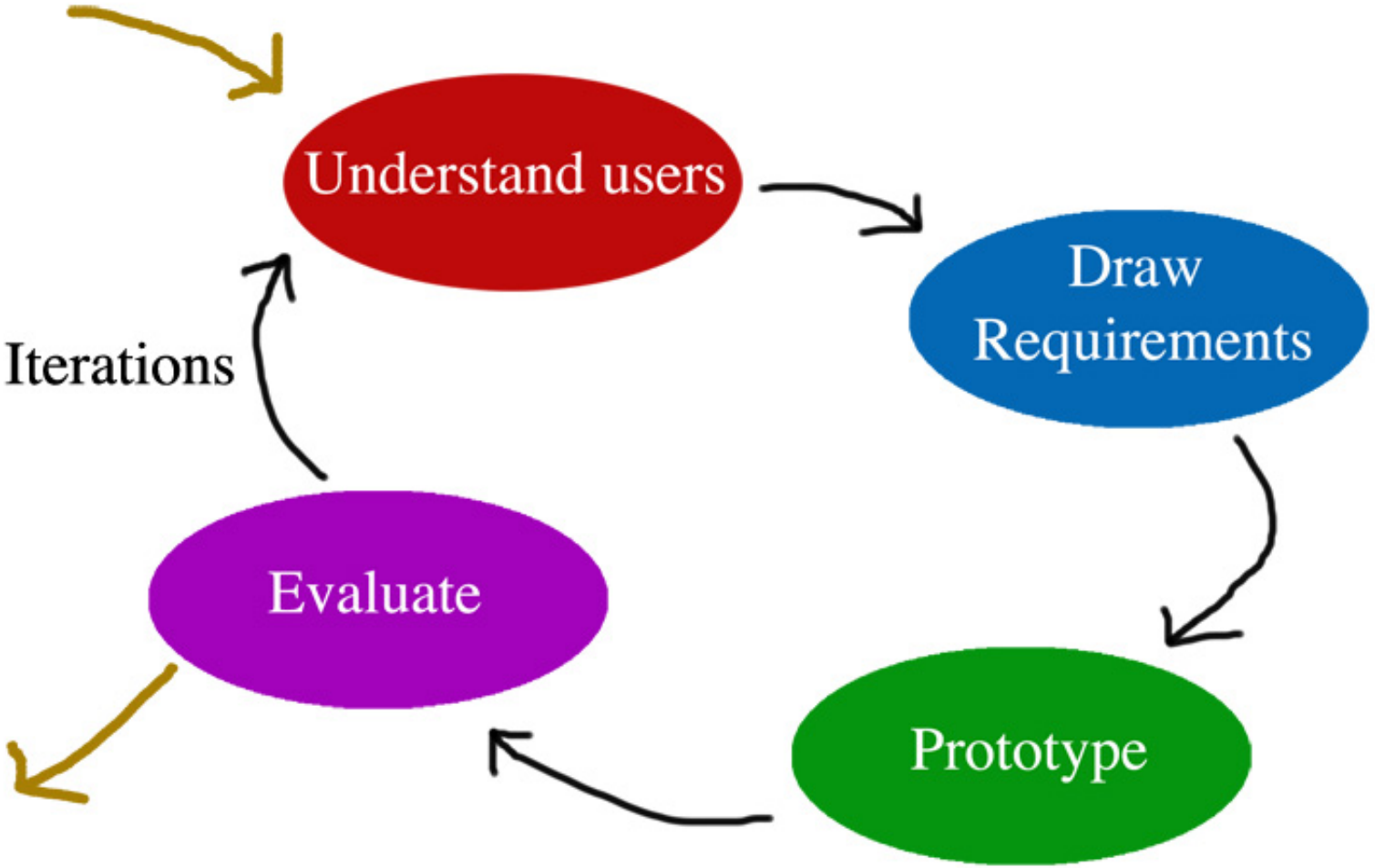


The STAR lifecycle



The star life cycle (adapted from Hix and Hartson, 1993).

The User-Centred Design Process



Understand Users

- who are the people on whom to target the design?
-What activities do they perform?
-What goals do they have?
-Do they have preferences, wishes, needs?
-Have they experience in using technology?

-Set of methods and techniques to answer these questions

Draw Requirements

- What are the system's requirements in terms of functionality, usability, learnability, etc.?
- How to set requirements based on the knowledge aquired from and about the users?

Prototype

- Prepare a mock-up, or prototype, of the system that incorporated the set requirements
- First attempt at including users' need into the design
- From simple to increasingly complex

Evaluation

- Testing the system's design
- Usefulness of prototypes for evaluation
- Evaluation can be done in may ways (e.g. difference between lab tests and field trials)
- Learn from evaluation for the next iteration of the process

An Iterative Model

- The User-Centred Design Process is an iterative one
- The idea is that what is learned through each phase informs the subsequent phase, and that the cycle is repeated several times
- Evaluation is key

Emphasis on **users**:

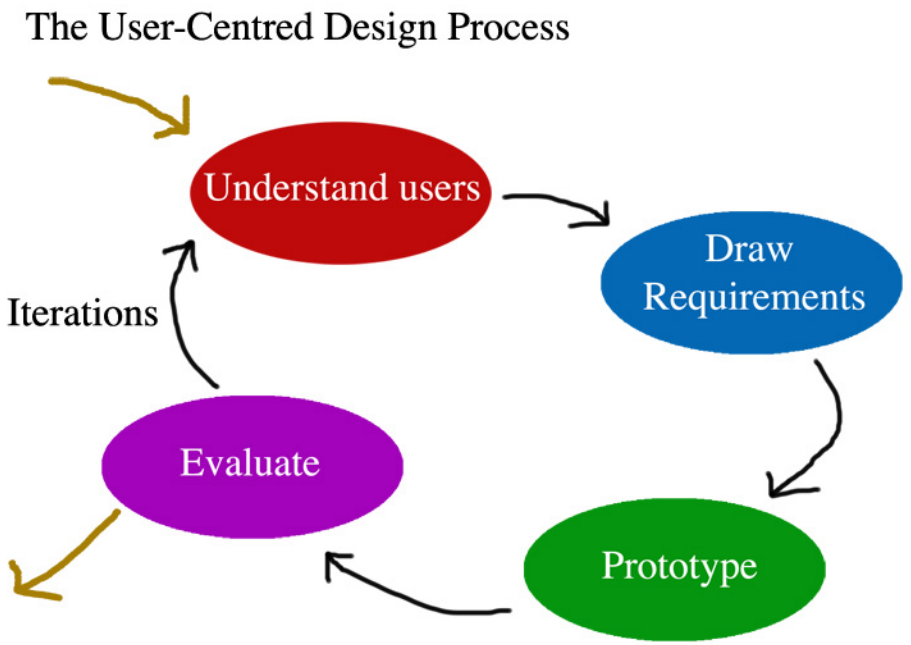
From human factors to human ***actors***

Usability concerns

Importance of the ***process***

Choice of methodologies

Iterative Process



Defining the design problem

- What is the design intervention aimed at?
-What are the problems to solve?
-Are there problems with an existing system or is there a need to introduce technology into a domain for the first time?

The domain

-What is the domain where the intervention is needed?
-Is it a work or leisure domain?
-What are its main features?
-Is there other technology present?

The constraints in place

- cultural
-Individual
-Financial
-Physical
-Ethical
-social

- surrounding factors (such as ethics, culture, management structures, etc.)

… Is there more to look at? It depends of what the design problem is!
The broader and more open the design problem is, the more issues become involved with it

Not everything can be analysed or modelled, but awareness is important

Know where you stand!

On this basis, you can then plan the work to be done