Advanced Interaction Design

Conceptual Design
Concept

What does it really mean?

"Your hard disk is fragmented!"
Semantics

- We use words to describe the world

- Sometimes we take the words for granted

- Classic problem:
  Define what we mean by a game
Communication

- Lat. Communicare = ”make common”
  - Community, common etc.

- i.e. Share thoughts, ideas
Two parts

- To present idea – concept generation
- To accept idea – concept interpretation
Conceptual Design

- Designing the "common base" for a system

- Finding and defining the correct terminology
  - Correct with respect to the user

- Jargon

- "Natural concepts"
Explicit design

Modelling the concepts from the beginning
Implicit Design

- Design which is un-planned

- As we have always done
  - Even in new things

- Non-considered decisions
  - The first thought that came to mind

- Following the wide road
Explicit design

- Systematic preparation of the design
- Details are considered
- Alternatives are considered
- The Concept is understood
- Design through decisions
Explicit vs. Implicit

- Implicit design can bring inconsequences
  - Different understanding of the purpose of the product
  - Different understanding of the concepts

- Explicit design promotes a holistic view of the product
  - Many cues that indicate the usage
  - Good and well designed communication
E.g. Central concepts

- What are the central concepts in the system?
  - What is the product?
    What is it not?

- What is the purpose of the product?
  - Why is it used?
  - By whom?

- Brainstorming, Focus Groups
Concept definition

- Everybody contributes with their points of view
- Finding the weak points in the definitions
- Describes the main parts of the product
- A base for the remaining steps
- Affects the interface design
Design levels (linguistic parallel)

- Lexicon: Lexical (physic) design
- Syntax: Syntactic design
- Semantics: Semantic design
- Pragmatics: Conceptual design
Lexikal level

- Placement and shape of UI elements
  - Icons
  - Graphics
  - Fonts
  - Colours
  - Pixel level
Syntax level

- Relative arrangement of items in UI
  - Order of menus
  - Order of buttons (OK – Cancel or Cancel – OK)
  - Wording of texts
  - Ordering of events
Semantic level

- The meaning of the elements in the UI
  - Windows
  - Scrolling
  - Meaning of commands
  - Tools
Conceptual level

- The ideas that are underlying the UI
  - The intention of the tool
  - The roles of the Objects
  - Properties
  - Events
  - Connections between concepts
Conceptual design

All levels need to be designed
Or we may get it all wrong
Good interaction design

1. Good Conceptual Design
   - User-centered
   - What is it?
   - What can it do?
   - How is it to be used?

2. Good representation in user interface
   - Semantic design
   - Syntactic design
   - Physical design (Lexicon)
Bad Conceptual Design

- Promotes wrong associations with the user
- Makes the interface difficult to understand
- Decreases the memorability
- Increases the number of erroneous actions
Conceptual design

Essentially

- to actively work with the design
  - On all levels

- to consider what things we put in the interface mean
  - To the user

- to plan the design before we think "interface"
Un-linked levels

- Solving a problem on one level will not solve (but may cause) problems on another

- Changing the font in then menus will not affect:
  - Spelling errors (Syntax)
  - The meaning of the command (Semantics)
  - The correctness of the idea (Conceptual)
Changes

- Conceptual errors need to be changed early
  - Presentation is not so important initially

- Presentation is easier to change later
  - Towards the end, the ideas show much greater inertia
  - Late change in ideas, also often causes consequential changes in the other levels
Early interface design

- Locks up the imagination and hinders inventive thinking
- Delimits further possibilities
Early interface design

- Locks up the imagination and hinders inventive thinking

- Delimits further possibilities

- However, it CAN be inspiring too…
Conceptual Interface Design

- Sometimes the interface can be the first thing being designed

- Conceptual level

- No detail drawing
  - Pencil sketches
  - Prototypes
"Fragmented hard disk"

What is it?
From a user perspective?
"Scroll bar"

What is it?
From a user perspective?
Homework

- Think about the concepts you see in computer software
  - Are they well defined?
  - Are they "natural"?
  - Are they explicitly designed?