Interaction Design
Interaction Design?

- How can you design interaction?

- Communication Design?

- Interaction is a process!
Ping-pong-model

Idea'

NOISE

Idea''

Idea

Idea''
Interaction Design

- Purpose with Interaction?
- Sender vs. Receiver?
- Information Design and Content
- Controls, Messages, Metaphors
Interaction Design

- Not only interface design!
- Not only information design!
- Designing the “process” of information transfer + Functionality
- User Experience???
Goal-driven Interaction

- What is the goal of using the artefact?

- The interaction is (almost) never the goal

- Interaction to achieve something in the end

- Interaction design is intended to support interaction in order to reach the goal!
User interface design

- Design of controls

- Design of communicative means

- In the worst case:
  - Evaluation of the usability of the controls…

- In the best case:
  - Holistic view of the interface
User interface

- Not necessarily aimed at the interaction
- Mostly looking at form, not behaviour
- Looking at the possibilities to interact
User Interaction

- Aimed at both form and behaviour
- Looking at user needs and desires
- Interaction Design is more than Interface Design
Situational information

Exactly what is the dish-washer doing now?
Situational information

Exactly what is the dish-washer doing now?

Process or Selection?
Situational information

Exactly what is the dish-washer doing now?
Situational information

Exactly what is the dish-washer doing now?
Situational information

Process or Selection?

Thirty Minutes for What?

What does the dial tell us?

Exactly what is the dish-washer doing now?
Intention - Process

- Intention is to reach a goal
- Process is the way the goal is reached
- Interaction is the way the information about performing the process is communicated
Is it possible to design interaction?
Is it possible to design interaction?

Controls

Artifact

User
Is it possible to design interaction?

Controls

Artifact

Display

User
Is it possible to design interaction?
Is it possible to design interaction?
Is it possible to design interaction?

User

Artifact

Controls

Environment

Information

Display
Is it possible to design interaction?

Support

Controls

Environment

Information

Display

Procedures

User

Artifact
Is it possible to design interaction?

Support  Controls

Environment  Information  Display

Procedures  User Experience

User  Artifact
Is it possible to design interaction?

Support

Controls

Artifact

User

Information

Display

User Experience

Procedures
Is it possible to design interaction?
Is it possible to design interaction?
Yes!

User → Information → Artifact
Interaction Design is Complex

- Support
- Controls
- Artifact
- Environment
- Information
- Display
- User
- Procedures
- User Experience
Even small things matter...

Which unit in which outlet?

Weak visual cues
Visual Cues

Gestalt laws can support interaction design

Proximity
Visual Cues

Gestalt laws can support interaction design

Similar colours
(colourblindness?)
How can you minimize damage?

Not just avoiding errors!

Redesign to minimize damage in case of mistake!

How?
Interaction Design Thinking

- A general pattern of thought?

- Generalize from examples

- Use knowledge from psychology, linguistics, information science, etc.
Affordance and Constraints

- Interaction design is closely connected to

- Affordance

- Natural Constraints
Affordance

- Providing clues that improve interaction

- Contextual analysis
  - How is information interpreted?
  - How are controls perceived?
  - What is the situation of use?
Affordance

- Providing clues that improve interaction
  - Avoid luring people into wrong actions…

  Please, Don’t Press Me!

- Contextual analysis
  - How is information interpreted?
  - How are controls perceived?
  - What is the situation of use?
Constraints

- Avoid Explicit Constraints
  - Frustrating!

- Design Away Erroneous Actions
  - Implicit Constraints → You just can’t do it!

- Are Constraints Needed?
Designing Affordance and Constraints

- Lead the eyes and limbs to the right controls
  - Look and feel are important tools

- Lead the eyes away from the wrong controls

- Make dangerous controls difficult to use by mistake (!)
Natural (?) Controls

Easy to lock/unlock?

Easy to perceive the state?
Information

- Filtering unnecessary information
  - Remove unimportant information (cf. Simplicity)
  - Use empty space!

- Propagation of important information
  - Important information in focus
  - Simplify spatial orientation
    - E.g., use calibrated meters
Beware of ... information ...

... overload!
Multimodality

- Avoid perceptual conflicts
  - Sound and Text should sympathize with each other

- Think about situation of usage
  - Noisy environment?
  - Low-light conditions?
  - Vibrations?
Procedures

- In which order should things be done?
- Is the process order easy to find?
- Is it logical?
  - From whose point of view?
Controls

- Appropriate?
- Well designed?
- Usable?
- Long-term usage?
Interaction Design!

- Support
- Environment
- User
- Control
- Information
- Procedures
- Display
- User Experience
- Artifact
Interaction Design?

Support ← Controls → Artifact

Environment ← Information → Display

User ← Procedures → User Experience

Etc. etc.
Often just common sense!
Get back to yourself…

Almost two years to the day after being shipwrecked, Randy remembers he's a duck.
But remember!

Not everyone sees the world the same way…
Emotional Design?

- Todays reflection inspiration:

- How can you design the interaction in order to evoke EMOTIONS in the user? Is it possible? And should you?
Assignment Week 6

- Post to your blog, during a week (until Friday Feb. 10, noon) observations you make about creativity.
  - creative moments you have during this time,
  - inspiring things you see and people you meet,
  - ideas how to become more creative as a designer, and
  - signs of creativity