What is human computer interaction?

Human Computer Interaction
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Objectives

• Difference between good and poor design
• Interaction design (IxD) and human computer interaction (HCI)
• Usability and user experience
Bad designs

– Elevator controls and labels on the bottom row all look the same, so it is easy to push a label by mistake instead of a control button

– People do not make same mistake for the labels and buttons on the top row. Why not?

From: www.baddesigns.com
Why is this vending machine so bad?

- Need to **push button first** to activate reader
- Normally **insert bill** first before making selection
- Contravenes well known convention

From: [www.baddesigns.com](http://www.baddesigns.com)
Good design

- Marble answering machine (Bishop, 1995)
- Based on how everyday objects behave
- Easy, intuitive and a pleasure to use
- Only requires one-step actions to perform core tasks
Good and bad design

- What is wrong with the remote on the right?
- Why is the TiVo remote so much better designed?
  - Peanut shaped to fit in hand
  - Logical layout and color-coded, distinctive buttons
  - Easy to locate buttons
Activity

• How does making a call differ when using a:
  – Cell phone
  – Public phone box?

• Consider the kinds of user, type of activity and context of use
Human computer interaction

- **Context of use:** Social organization and work, human-machine fit, application domains
- **Design:** Design approaches, prototyping, evaluation
- **Human:** Information processing, communication, interaction, ergonomics
- **Computer:** Computer graphics, dialog techniques, input-output devices

**HCI**
Which kind of design?

- Interaction design is the umbrella term covering all of these aspects
  - fundamental to all disciplines, fields, and approaches concerned with researching and designing computer-based systems for people

- Terms emphasize what is being designed, e.g.
  - user interface design, software design, user-centered design, product design, web design, experience design (UX)
Interaction design: academic disciples and design practices
Working in multidisciplinary teams

• Many people from different backgrounds involved

• Different perspectives and ways of seeing and talking about things

• Benefits
  – more ideas and designs generated

• Disadvantages
  – difficult to communicate and progress forward the designs being create

www.id-book.com
Interaction design in business

• Increasing number of ID consultancies, examples of well known ones include:
  – **Nielsen Norman Group**: “help companies enter the age of the consumer, designing human-centered products and services”
  – **Cooper**: ”From research and product to goal-related design”
  – **Swim**: “provides a wide range of design services, in each case targeted to address the product development needs at hand”
  – **IDEO**: “creates products, services and environments for companies pioneering new ways to provide value to their customers”
  – **Adaptive path**: *We help companies create products and services that deliver great experiences and improve people’s lives.*
What do professionals do in the ID business?

- **interaction designers** - people involved in the design of all the interactive aspects of a product

- **usability engineers** - people who focus on evaluating products, using usability methods and principles

- **web designers** - people who develop and create the visual design of websites, such as layouts

- **information architects** - people who come up with ideas of how to plan and structure interactive products

- **user experience designers (UX)** - people who do all the above but who may also carry out field studies to inform the design of products
ID business in Lithuania

http://www.ideacode.eu/

http://www.metasite.net/

Our mission is to create the most compelling Digital Brand Experiences, to be the trusted strategic IT development partner, and to deliver business insights that help our customers achieve outstanding performance.

http://www.metasite.net/
What is involved in the process of interaction design

- Establishing requirements
- Evaluating
- Developing alternatives
- Prototyping
Save development costs

The number of possible designs decreases as the cost to make changes increases (Ehlich and Rohn, 1994, p. 80).

Why go to this length?

• Help designers:
  – understand how to design interactive products that fit with what people want, need and may desire
  – appreciate that one size does not fit all
    e.g., teenagers are very different to grown-ups
  – identify any incorrect assumptions they may have about particular user groups
    e.g., not all old people want or need big fonts
  – be aware of both people’s sensitivities and their capabilities
Bibliography