THE USER INTERFACE

Basic Principles

Complete System Design

- Major categories:
  - functional element
  - information / data element
  - user interface
  - quality

User Interface Design

- separate set of design concerns
  - end-user driven
  - representation mechanisms
- separate design and implementation language
- less formalised than other design issues
  - rules and principles
  - (horizontal) prototyping

Functions of the User Interface

- (re-)presents
  - system behaviour
  - information / data
- interacts with
  - the end-user
  - the system
H C I

• HCI - Human Computer Interface
• the end-user oriented side
  of the user-interface
• computer science overlaps
  with cognitive science

Issues in HCI Design

• study of people
  – human perception
  – user-profile
• technology issues
  – styles of interaction
  – consistency
  – user-friendliness

Customer and End-User

• customer
  – the one who pays
• end-user
  – the one who has to live with the system
  – applies functionality and information
  – gets frustrated with the user-interface

Human Perception

• dominating senses
  in human-computer interaction:
  – visual
  – auditory
  ==> graphical communication
  ==> text
  ==> with multi-media bonus

User Skills - Interface Handling

• depends on frequency of use of the system
• different needs for
  syntax support, navigation, interaction style...
  ==> "power" user
  ==> occasional user
  ==> provide for both types (adaptability)
User Skills - Level of Expertise

- depends on domain specific knowledge
- capacity to understand / provide information
- determines style of information representation

==> expert user
==> "layman"
==> different systems?

User Profile - Beginner / Novice

- Frequency of use:
  - new to the system
- Expertise:
  - appropriate (expert or layman), but must be mapped to the given representation, structure, etc.
==> provide guidance for the use of the HCI
==> help with system contents

User Profile - Advanced User

- Frequency of use:
  - part of daily routine
  - part of the job profile
- Expertise:
  - high
==> provide shortcuts, special functions
==> allow for parameterization of the HCI
==> allow for extension of the HCI

User Profile - Occasional User

- Frequency of use:
  - on occasion (with varying intensity)
  - has past experience with the system
- Expertise:
  - good and stable
==> wide variety of possible profiles
==> find the deficiency (syntactic / semantic)
==> provide variable support

End of Section 10a

coming up:
styles of interaction