Revision

Reading List

- Sharp, H., Rogers, Y., & Preece, J. (2007). Interaction Design: beyond human-computer interaction. New York: John Wiley & Sons, Inc.
  - NOTE THE HANDOUTS AND LECTURE NOTES DO NOT REPLACE THE CORE READING
- Benyon, D., Turner, P., & Turner, S. (2005). *Designing Interactive Systems*. Harlow England: Addison-Wesley.

On-line resources

- http://www.id-book.com/
  - companion website for Preece et al.'s book
- http://hcc.cc.gatech.edu/
  - web portal maintained by Georgia Tech.
- http://www.baddesigns.com/
  - illustrated examples of things that are hard to use because they do not follow human factors principles

Interaction design

- Interaction design
  - a goal-directed problem solving process informed by intended use, target domain, materials, cost, and feasibility
- PACT analysis
- User-centred system design
  - Identify needs and establish requirements
  - Design potential solutions (re-design)
  - Choose between alternatives (evaluate)
  - Build the artefact
- Usability and User experience goals

Design principles

- Visibility
- Feedback
- Constraints – cultural – logical - physical
- Mapping
- Consistency
- Usability principles

Users

- Attention
- Perception and recognition
- Memory
- Mental models

Understanding Interactions

- Problem space -> design space
- Conceptual design based on
  - Activities
    - Giving instructions
    - Conversing
    - Manipulating and navigating
    - Exploring and Browsing
  - Objects/Metaphor
  - Interaction mode, style, and paradigm

User requirements

- Requirements type
  - Elicitation techniques
  - Problems with data gathering
- Task descriptions
  - Scenarios
  - Task analysis – HTA
- Early prototyping
  - Story-board
  - Sketches

Task analysis

- Task descriptions are often used to envision new systems or devices
- Task analysis is used mainly to investigate an existing situation
- It is important not to focus on superficial activities
  - What are people trying to achieve?
  - Why are they trying to achieve it?
  - How are they going about it?
- Many techniques, the most popular is Hierarchical Task Analysis (HTA)

	Usability testing	Field studies	Analytical
Users	do task	natural	not involved
Location	controlled	natural	anywhere
When	prototype	early	prototype
Data	quantitative	qualitative	problems
Feed back	measures & errors	descriptions	problems
Type	applied	naturalistic	expert

Method	Usability testing	Field studies	Analytical
Observing	x	x	
Asking users	x	x	
Asking experts		x	x
Testing	x		
Modeling			x

Field studies

- Observer immerse in the field – must have a very good knowledge of the context
  - Data is collected primarily by
    - observing natural behaviour
    - interviewing people
    - participants may also be required to fill out electronic or paper diary – distance evaluation

User based evaluation

- Formative – summative
- Techniques
  - Observing users, asking users, testing user performance
  - questionnaire
- DECIDE framework

Prototyping

- Low Fidelity
  - Story board
  - Sketching
  - Experience prototyping
  - Role play
  - Videos
- Medium fidelity
  - Pictive
  - WOZ
  - Photoshop
- High Fidelity
- Vertical/horizontal