Human-Computer Interaction

Computer Science Tripos Part II
Alan Blackwell

Add a button to turn the screen yellow.

Why did you want the screen to be yellow?

I want it to look like gold.

Connotations relate not to a word's actual meaning, or denotation, but rather to the ideas or qualities that are implied by that word. A good example is the word "gold." The denotation of gold is a malleable, ductile, yellow element. The connotations, however, are the ideas associated with gold, such as greed, luxury, or avarice.
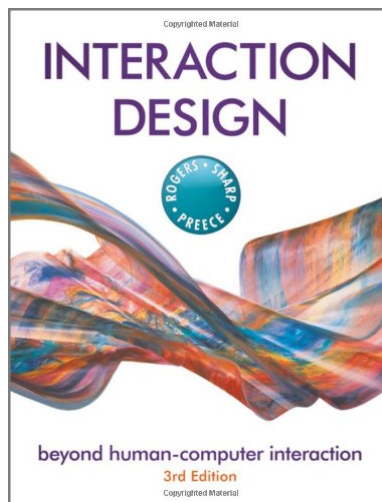
How to design buttons and screens?

- Human-Computer Interaction (HCI)
- Interaction Design
- User Experience Design (UX)
- Interactive Systems Design
- Cognitive Ergonomics
- Man-Machine Interface (MMI)
- User Interface Design (UI)
- Human Factors
- Cognitive Task Design
- Information Architecture (IA)
- Software Product Design
- Usability Engineering
- User-Centred Design (UCD)

2013 votes on course objectives

- Learn interesting stuff about humans — 20
- Prepare for professional life — 7
- See cool toys — 9
- Find an alternative perspective on CS — 9
- Take an opportunity to be more creative — 6
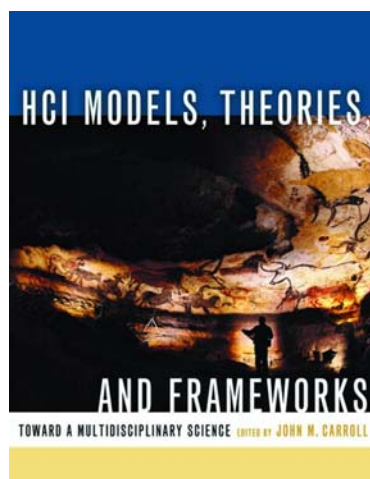- Get easy marks in final exam — 14

Textbooks

- Sharp, Rogers & Preece *Interaction Design: Beyond human-computer interaction* 3rd Edition 2011
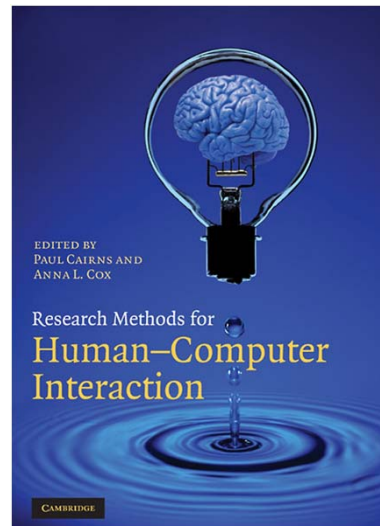 - Practical design methods, at forefront of current practice

Textbooks

- Carroll (Ed.) *HCI Models, Theories and Frameworks: Toward a multidisciplinary science* 2003
  - Best introduction to research trends and advanced methods
  - (but out of print ☹)

Textbooks

- Cairns and Cox (eds) *Research methods for human-computer interaction* 2008
  - Advanced techniques, academic context

Supervision exercises

- Preparation/evaluation for Part II projects
  - Selecting research and evaluation methods, within strict constraints (much as for a professional project).
- Experimental comparison of user interfaces
  - Study changes in learning, efficiency or accuracy that result from modifications to a user interface.
- Cognitive Dimensions in Comp Sci research
  - Identify what makes advanced programming languages useful to real programmers.