MSc / MRes AID

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course outline

- **techniques**
  - mon - intro & scenarios
  - tue - task analysis
  - wed - dialogue design
  - thur - state definition
  - fri - architecture

- **the human**
  - colour
  - 3D vision
  - closure

- **issues**
  - experience and value
  - media
  - networks and web
  - ubiquitous interaction
  - time

- **examples**
  - excel (modes, closure)
  - hci search (value)
  - car courtesy lights

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**textbooks**


**edited collections**

- Perspectives on HCI, A. Monk and N. Gilbert, Academic Press, 1995 (hard to get hold of now)

  **due out by next spring ...**


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**what you will learn (I hope!)**

- **facts** (read the book!)
  - about systems and about humans

- **analysis**
  - deep understanding of issues

- **design**
  - from understanding to solutions

- **attitude**
  - thinking about real use and real users

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**HCI changes and trends**
Increasing multiplicity

- 1980s - personal computers
  - one man and his machine
  - and they were men!

- Late 1980’s & 1990s - CSCW
  - lots of people
  - geographically remote
  - but ...
  - one person per machine

Increasing multiplicity

- 1980s - personal computers
- Family use, global networks, ubiquitous devices

Families and friends

Lots of people, together and remote

How many ...

- Computers in your house?
- Computers in your pockets?

Ubiquitous & wearable computing

Sensors and devices everywhere
from - dialogue with the computer

to - dialogue with the environment

ubicomp – no computer/artefact divide
wearable/cyborg – no computer/user divide

work and fun

• traditional HCI methods
  – tasks, goals, work, work, work
  – and the odd game
• now
  – e-shopping, communities, home
  – experience and enjoyment
  – more decision points

useful, usable and used

• useful
  – functional, does things
• usable
  – easy to do things, does the right things
• used
  – attractive, available, acceptable to organisation

what is design?

achieving goals within constraints

• goals - purpose
  – who is it for, why do they want it
• constraints
  – materials, platforms
• trade-offs

design
golden rule of design
understand your materials

for Human-Computer Interaction
understand your materials
- understand computers
  - limitations, capacities, tools, platforms
- understand people
  - psychological, social aspects
  - human error
- and their interaction ...

many roots
psychology
computing
sociology
business & management
etc. etc. etc.

many branches
visualisation
CSCW
computer supported cooperative work
ubiquitous computing
e-learning
e etc. etc. etc.

interaction design process
what is wanted
scenarios
task analysis
design
guidelines
dialogue
notations
precise specification
precise specification
implement and deploy
evaluation
heuristics
prototype
architectures
documentation
documentation
help

prototyping
prototyping
• you never get it right first time
• if at first you don’t succeed ...

pitfalls of prototyping
• moving little by little … but to where
• Malverns or the Matterhorn?
  1. need a good start point
  2. need to understand what is wrong

first steps

know your user
• who are they?
• probably not like you!
• talk to them
• watch them
• use your imagination

scenarios
• stories for design
  – communicate with others
  – validate other models
  – understand dynamics
• linearity
  – time is linear - our lives are linear
  – but don’t show alternatives

scenarios …
• what will users want to do?
• step-by-step walkthrough
  – what can they see (sketches, screen shots)
  – what do they do (keyboard, mouse etc.)
  – what are they thinking?
• use and reuse throughout design