Human Computer Interaction
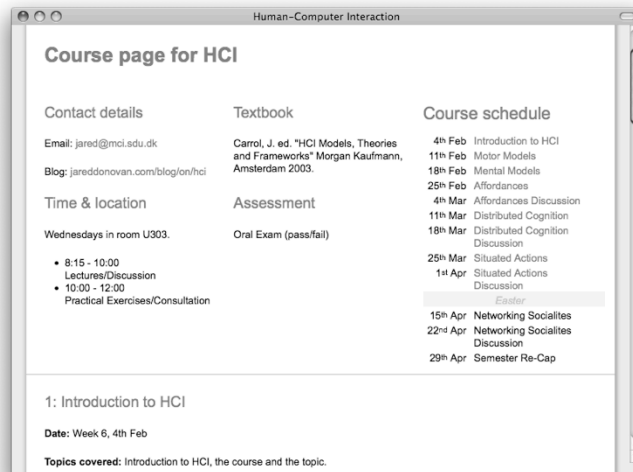

Jared Donovan the University of Southern Denmark

HCI is concerned with understanding how people make use of devices and systems that incorporate or embed computation, and how such devices and systems can be more useful and more usable
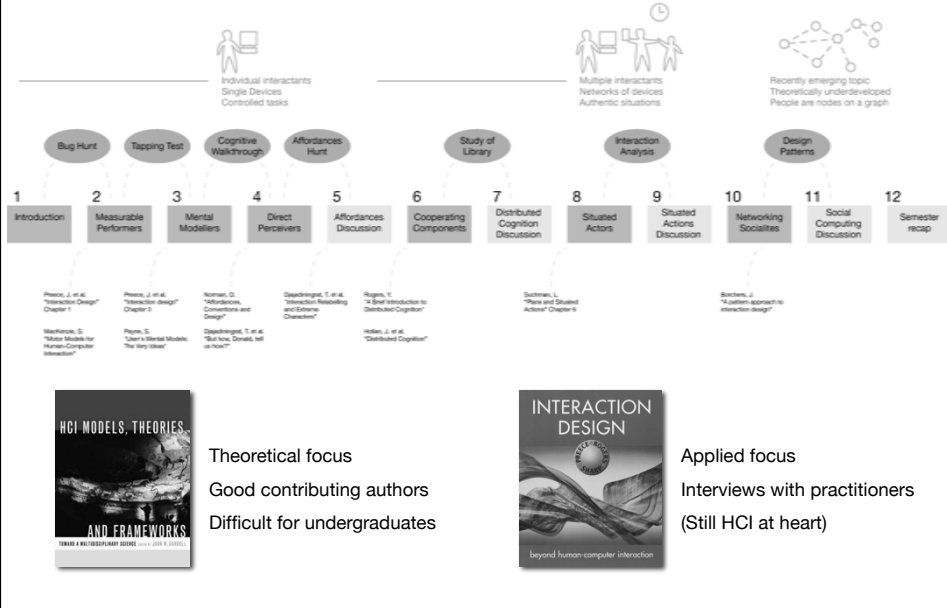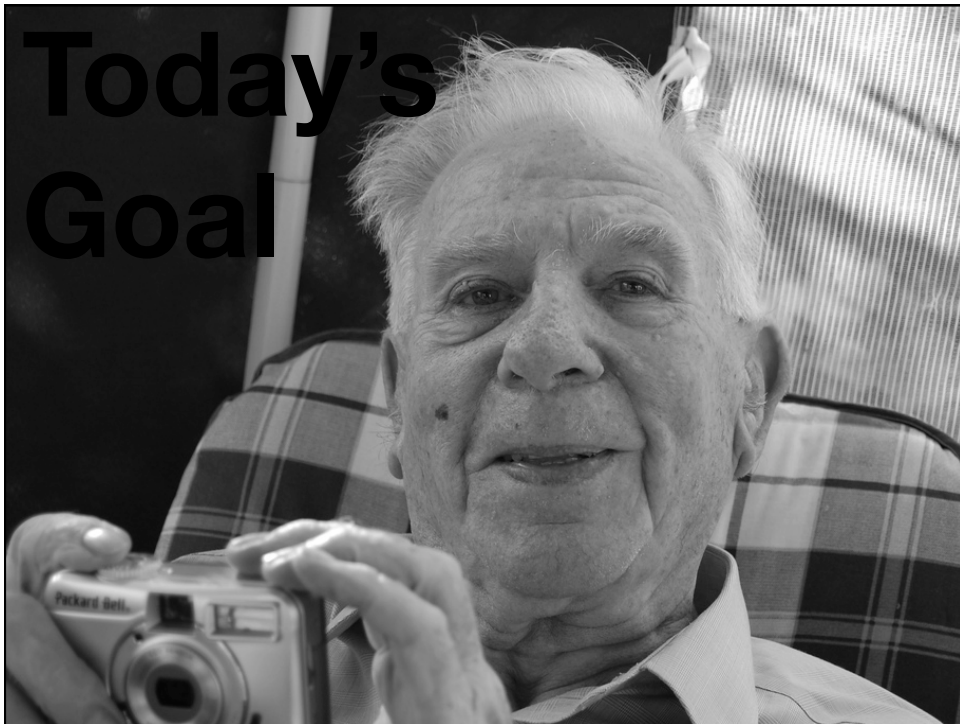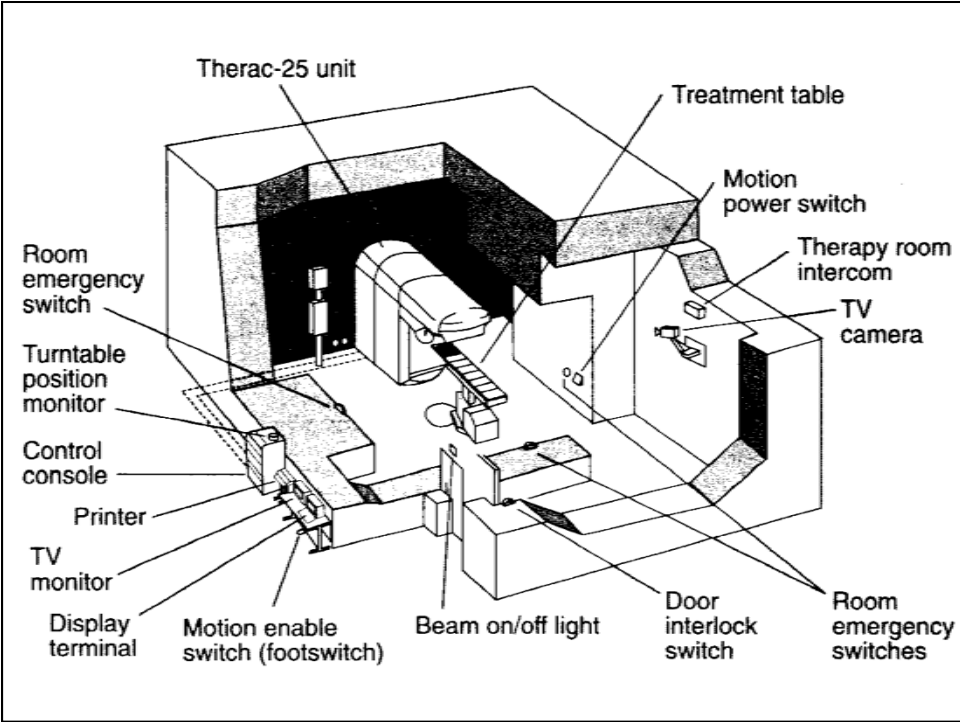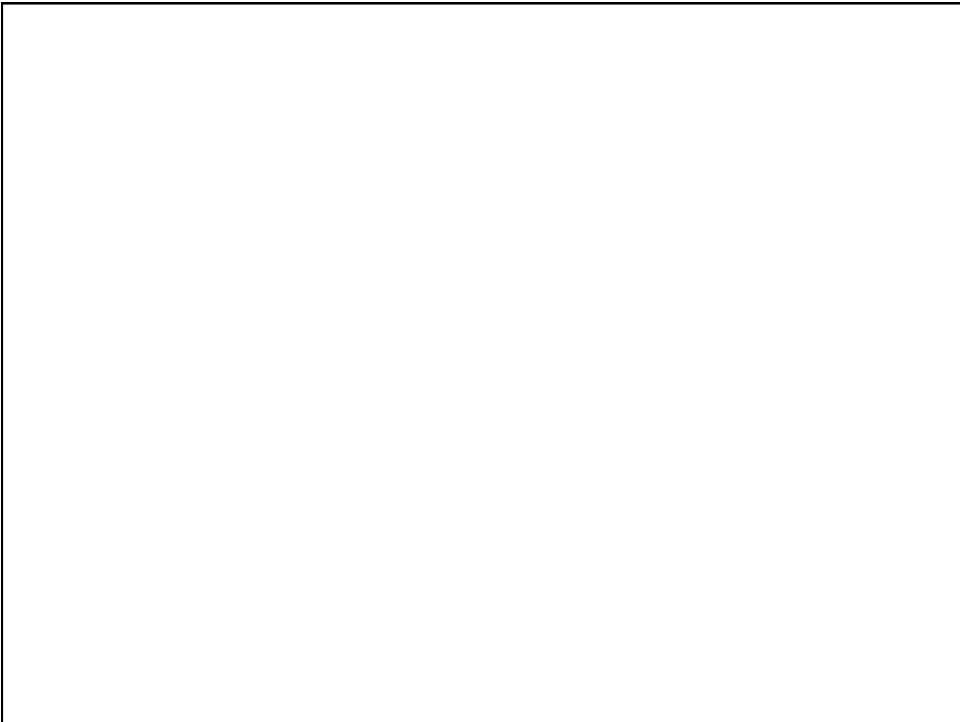
(Carroll 2003, p.1)

The Website

http://jareddonovan.com/teaching/hci

The Course

Theoretical focus
Good contributing authors
Difficult for undergraduates

Applied focus
Interviews with practitioners
(Still HCI at heart)

Today's Goal

Why Bother?

Therac-25 unit — Treatment table — Motion power switch — Therapy room intercom — TV camera — Room emergency switch — Turntable position monitor — Control console — Printer — TV monitor — Display terminal — Motion enable switch (footswitch) — Beam on/off light — Door interlock switch — Room emergency switches

More examples?

It looks like you're
writing a letter.

Would you like help?

◉ Get help with
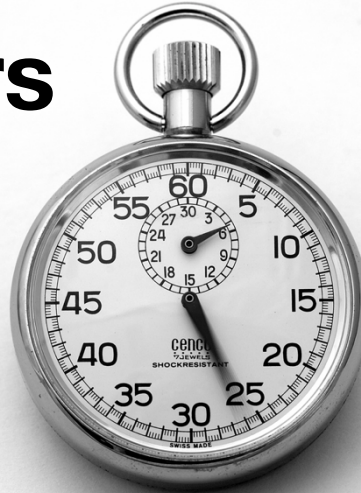   writing the letter

◉ Just type the
   letter without
   help

☐ Don't show me
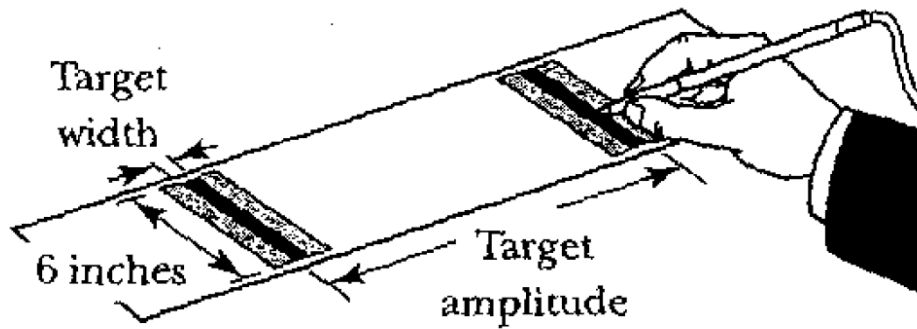   this tip again

Activity:
Usability Bug Hunt

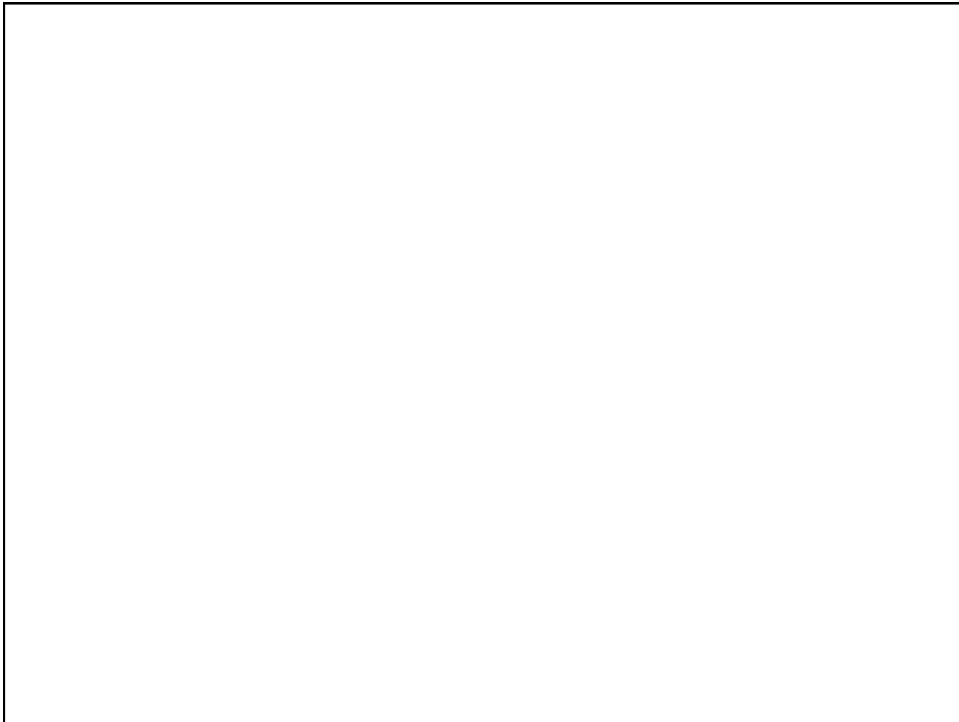# Measurable Performers

Predictive Models

Fitts' Law

Target width

6 inches

Target amplitude

Try it out

Scary Looking Equations

$$ID = \log_2(A/W + 1)$$
$$MT = a + b * ID$$

Descriptive Models

Guiard's Model of Bimanual Skill
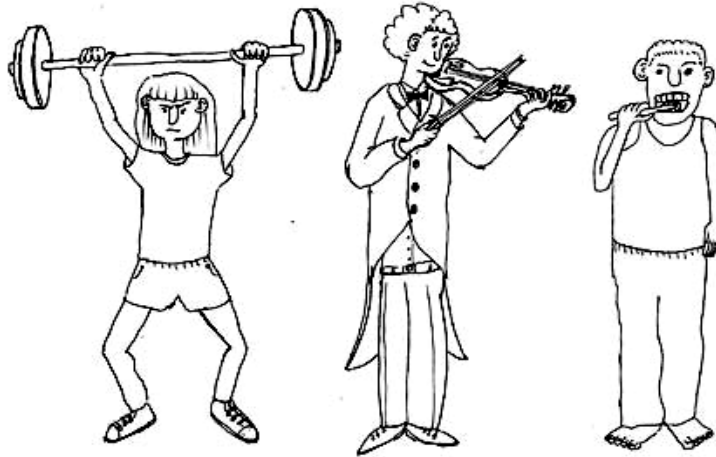
Hand	Role & Action
Non-preferred	•Leads the preferred hand •Sets spatial frame of reference •Performs coarse movements
Preferred	•Follows the non-preferred hand •Works within the established frame •Performs fine movements

Touch Paint?

Usability Goals

- Effective to use (effectiveness)
- Efficient to use (efficiency)
- Safe to use (safety)
- Have good utility (utility)
- Easy to learn (learnability)
- Easy to remember how to use (memorability)

Readings

- Preece, J., Sharp, H. & Rogers, Y., 2002. "Interaction design : beyond human-computer interaction", New York: J. Wiley & Sons. Chapter 1
- MacKenzie, S., 2003 "Motor Behaviour Models for Human-Computer Interaction" in Carroll, J (ed) "HCI Models, Theories, and Frameworks" London, Morgan Kaufman.