

Introduction to UCL Interaction Centre (UCLIC)

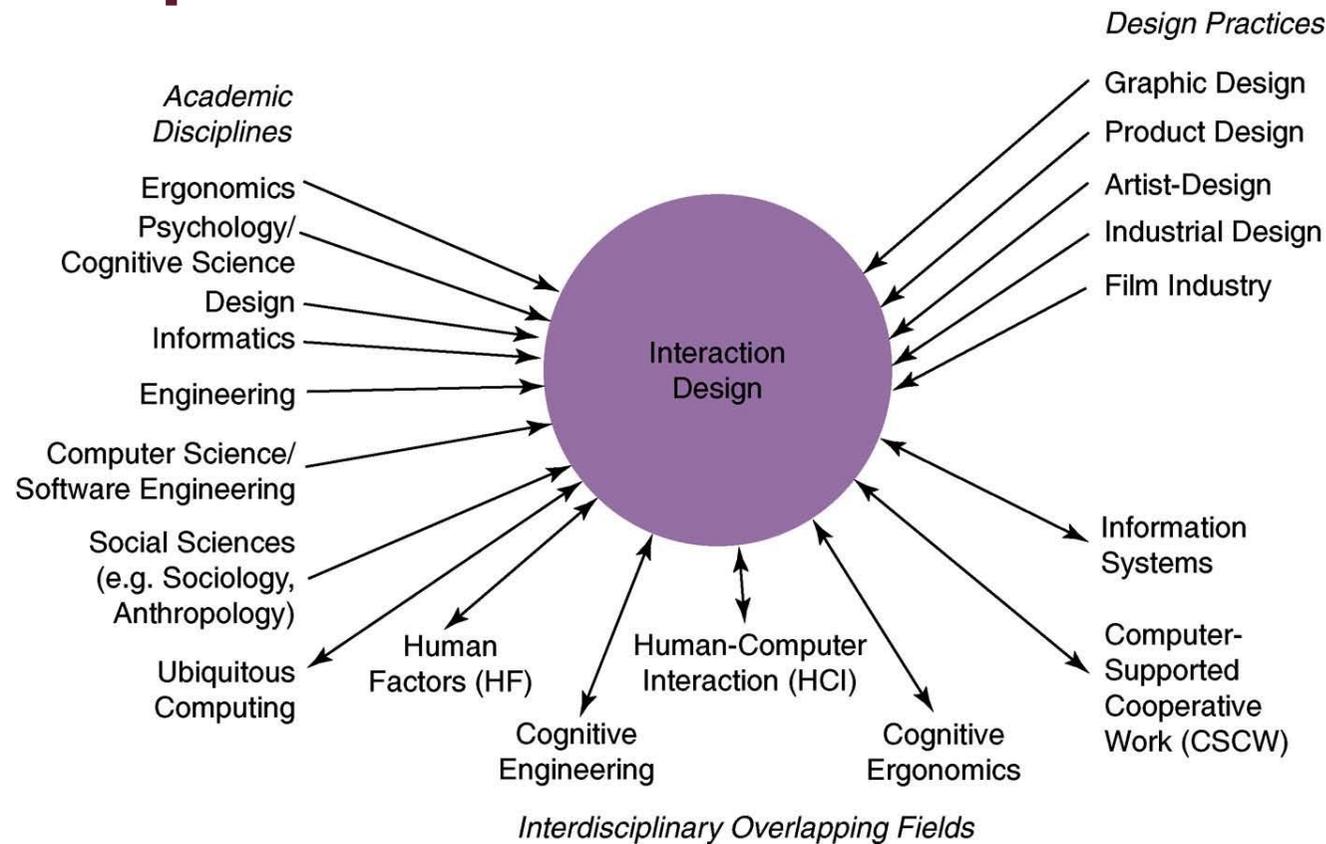
Paul Marshall, Lecturer in Interaction Design

UCLIC: Overview

- Focus on human interactions with technology
 - Research
 - Knowledge transfer
 - Teaching
- Usability labs & Interaction Research Lab
 - Including eye-tracking, motion capture, bio-sensor systems, Ubiquitous Computing technology development



Interaction Design/Human-Computer Interaction

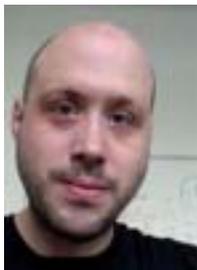


UCLIC: History

- Ergonomics Unit founded in the mid 1960s
 - Intercollegiate University of London structure
 - Centred on mechanical engineering
 - Focus on physical environment
- 1979 move to Department of Psychology
- Growth of HCI
- UCL
- Inter-faculty
 - Computer Science & Psychology
- UCL Interaction Centre
- MSc degree in HCI with Ergonomics



UCLIC: People



MSc Course Structure

- Term 1:
 - Ergonomics for Design (Rachel Benedyk)
 - Design Practice (Duncan Brumby/Yvonne Rogers)
 - User-centred Evaluation Methods (Ann Blandford/Anna Cox)
 - Design Experience I (Rachel Benedyk)
- Term 2:
 - Applied Cognitive Science (Anna Cox/Duncan Brumby)
 - Organisational Informatics (Malcolm Ballantine)
 - Interfaces & Interactivity (John Dowell)
 - Affective Interaction (Nadia Berthouze)
 - Design Experience II (Paul Marshall/Rachel Benedyk)
- Term 3: Individual Projects

Undergraduate Teaching

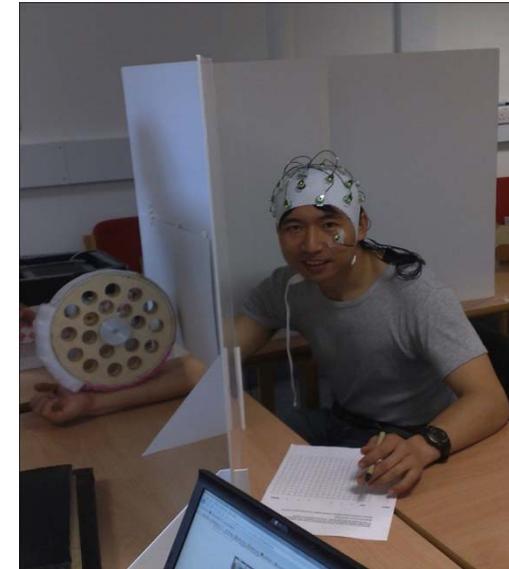
- HCI option for 3rd year Psychology students
- HCI lectures on 2nd year Software Engineering course
- Interaction design course
 - 3rd year Computer Science and Information Management and Business students
 - MSc Computer Science/Financial Computing option
- Psychology seminars

Some Research Projects in UCLIC

- EPSRC Platform Grant
 - “Healthy Interactive Systems in Healthcare”
 - *With FIT Lab, Swansea*
- EPSRC Programme Grant
 - “CHI+MED” safety-critical systems design
 - *Various partners*
- EPSRC Dream Fellowship
 - Yvonne Rogers: designing for creativity and wisdom
- EPSRC Responsive Mode Grant
 - “E/Motion” pain rehabilitation
 - *With Imperial & Leicester*

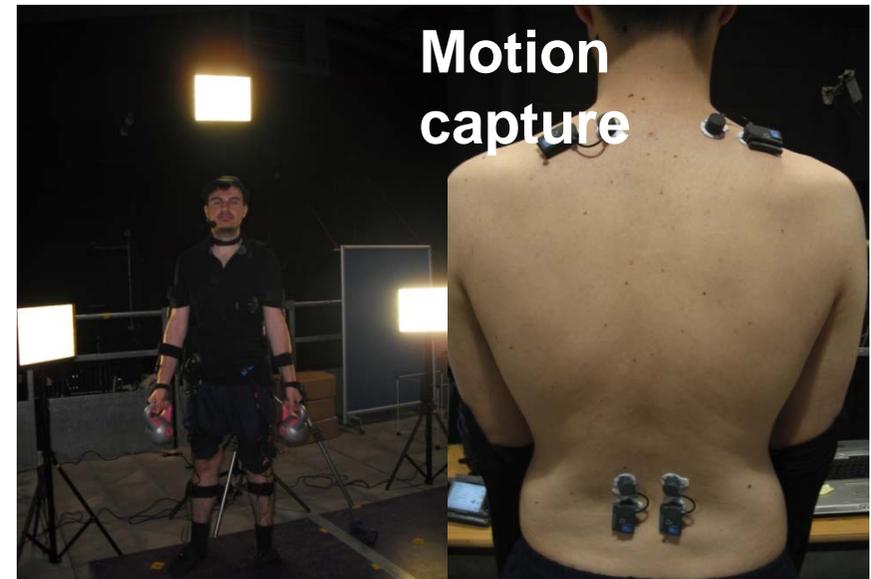
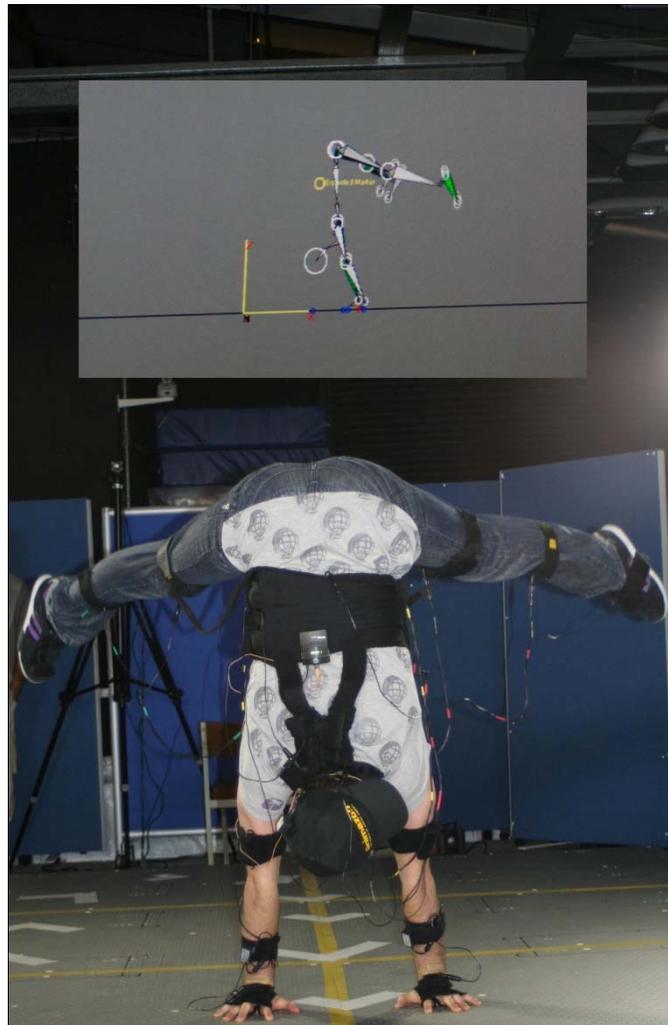


Affective Interactions



- **Digital Sensoria:** Recognizing and sharing tactile perceptions of textiles (Berthouze)
- Other projects on understanding laughter and immersion in games (Cox)

Affect and Health: Emo&Pain Project



Safety in Healthcare



- Improving the HCI science and engineering of widely used safety-critical systems, taking interactive medical devices as exemplars
- Developing theory of human error and resilience
- Methods for reasoning about interactions “in the wild”
- Novel designs and assessment methods
- Public engagement activities
- See www.chi-med.ac.uk

chi+med
making medical devices safer

Safety in the Car: Studies of multitasking



- devices are increasingly coming along for the ride
- we know they can be distracting and dangerous

EPSRC Dream Fellowship (Yvonne Rogers, 2011-2013)

- Yvonne's vision is making ubiquitous computing more engaging and exciting
 - enable people to be creative, imaginative and solve increasingly complex problems
 - to profoundly change how they live
- Her dream is...
 - New understandings of creativity
 - New designs of technology that move beyond sharing memories
 - Rethinking ageing and ICT...



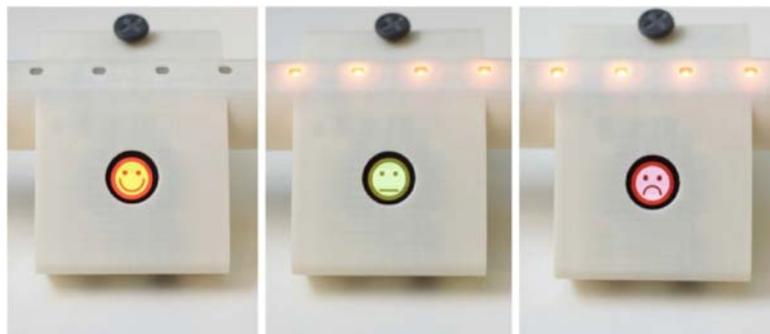
Behaviour Change

- Encourage taking the stairs instead of the lift
- Reduce energy consumption
- Wellbeing and healthiness
- Help people concentrate better
- Help motivate learning
- Encouraging cycling and walking
- Personal finance management



Changing Shopping Behaviour

- salience – show two pieces of product information using LEDs
- social norm – smiley to show how aggregate of a shopper's trolley compares to others



Tidy Street: Nudge Techniques

- **Social norm** – how does my electricity usage compare to the street average and my city?
 - Website graphs
 - Street display
- **Salience** – how much electricity am I using?
 - Website graphs
 - Daily recording of electricity usage
 - Appliance meters

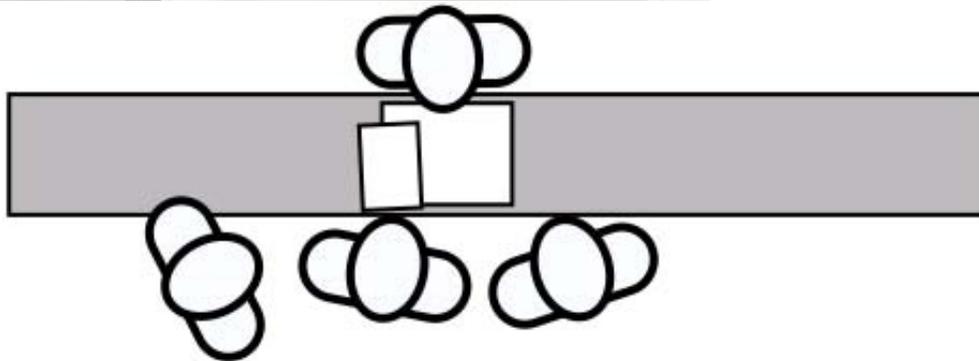


Public Street Display

- Daily reminder of the project
- Generated a sense of community pride
- Led to interactions with passersby – participants became champions of the project

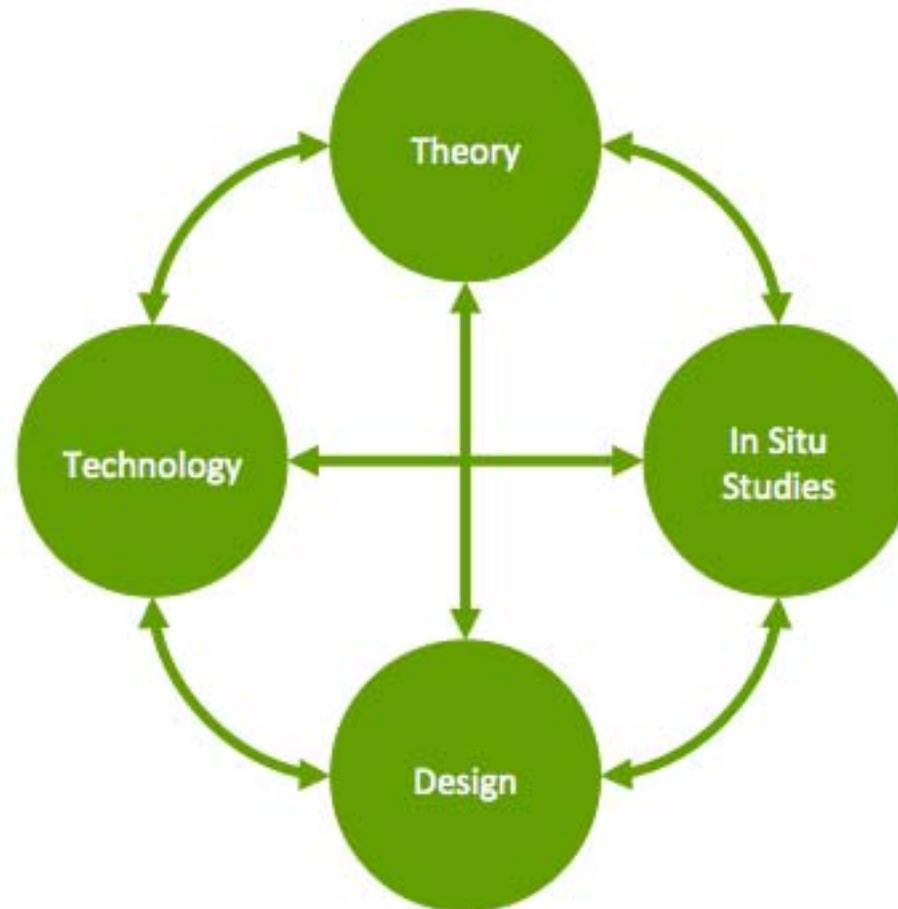


Interactions in the Wild





Interactions in the Wild



Future Directions...

- Physical computing
- Digital fabrication
- Extending the range of user experiences
- Innovative technologies (haptics, multi-touch, distributed iPads, augmented reality, etc)
- Homes, public places, cities
- Evaluating new technologies and user experiences in the wild

