People at the heart of ICT

Caroline Jay
School of Computer Science, University of Manchester
Understanding the ‘human’ aspect
Understanding the ‘human’ aspect

Why are we doing the research?
Understanding the ‘human’ aspect

Why are we doing the research?

How should we do research?
Understanding the ‘human’ aspect

Why are we doing the research?

How should we do research?

Ensuring the research reflects the domain
Understanding the ‘human’ aspect

Why are we doing the research?

How should we do research?

   Ensuring the research reflects the domain

   Ensuring the results work for all users
Understanding the ‘human’ aspect

Why are we doing the research?

How should we do research?

  Ensuring the research reflects the domain

  Ensuring the results work for all users

  Promoting an understanding of technology
Benefits

Understand when an approach doesn’t work

Optimise an approach

Consider from a completely different perspective
Challenges
Challenges

But my research doesn’t involve people!
Challenges

But my research doesn’t involve people!

Identifying stakeholders
Challenges

But my research doesn’t involve people!

Identifying stakeholders

Developing methods
Methods

Co-design
Empiricism
Communication
EEG sensor development

Targeted stimulation:
- In time.
- Matching underlying brain state (frequency, phase, ...).

Stimulation artefacts
Clean data

Low latency signal processing
Clean data

Trials with a face presented
No face presented
EEG sensor development

Factors:
- Base material
- Coating
- Length
- Number
- Width
- Spacing
- Tip profile
Data analytics and computational modelling
Modelling the effects of air quality on health
Modelling the effects of air quality on health
Modelling the effects of air quality on health
Control systems
Thermal modelling for smart building control
System architecture
Virtual memory

How do we page information in and out of memory?
Virtual memory

How do we page information in and out of memory?

Solution: understand how people write programs.
Questions?
Machine vision
Automated behavioural coding
Experiment 1: OpenFace

Accuracy vs. Training time (mins)

- **Source**: front, kinect
Automated behavioural coding
Healthcare technologies

- Health and social care pull: 10%
- Technology push: 10%
- Other: 50%
Healthcare technologies

- Health and social care pull: 10%
- Technology push: 50%
- Most EPS people want to be here: 10%