



## Design Informatics: Histories & Futures (DESI11023)

### Assignment 2: Designing From Data

Course Organiser: Bettina Nissen



After Money by Bettina Nissen and Shaune Oosthuizen (2017).  
Gathering data about people's personal financial persuasions.

## **Overview**

### **Technology Probes (taken from Hutchinson et al)**

Technology probes are a particular type of probe that combine the social science goal of collecting information about the use and the users of the technology in a real-world setting, the engineering goal of field-testing the technology, and the design goal of inspiring users and designers to think of new kinds of technology to support their needs. A well-designed technology probe should balance these different disciplinary influences.

On the social science side, technology probes reject the strategy of introducing technology that only gathers 'unbiased' ethnographic data. We assume that the probes will change the behaviour of our users - in our case, the character of inter-family communications. On the other hand, we recognize the benefits of collecting data in-situ - we were interested in observing how families' communication patterns and their interpretation of the technology changed over time. On the engineering side, technology probes must work in a real-world setting. They are not demonstrations, in which minor details can be finessed. Therefore, the main technological problems must be solved for the technology probes to serve their purpose.

Our technology probes involve installing a technology into a real use context, watching how it is used over a period of time, and then reflecting on this use to gather information about the users and inspire ideas for new technologies. A well-designed technology probe is technically simple and flexible with respect to possible use. It is not a prototype, but a tool to help determine which kinds of technologies would be interesting to design in the future. A successful technology probe is open-ended and explicitly co-adaptive: we expect the users to adapt to the new technology but also adapt it in creative new ways, for their own purposes.

### **Reference:**

Hilary Hutchinson, Wendy Mackay, Bo Westerlund, Benjamin B. Bederson, Allison Druin, Catherine Plaisant, Michel Beaudouin-Lafon, Stéphane Conversy, Helen Evans, Heiko Hansen, Nicolas Roussel, and Björn Eiderbäck. 2003. Technology probes: inspiring design for and with families. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '03)*. ACM, New York, NY, USA, 17-24. DOI=<http://dx.doi.org/10.1145/642611.642616>

### **Assignment 2 (worth 40% of the overall mark):**

Working in small groups, the assignment is to design and deploy a technology probe to gather lifestyle information about a fellow group of students.

You should follow Hutchinson's three primary objectives for your probe:

1. Identify what it is that you are trying to understand about an aspect of your participants lives.
2. Understand the technical challenges involved in gathering data from your participants through the use of the software and hardware provided to you, and develop appropriate solutions that ensure data is captured, stored and available for analysis.
3. Design and develop the form and interaction of a probe that fits into the lives of your participants in such a way that it engages them, and gathers appropriate types of data.

Remember "A well-designed technology probe should balance these different disciplinary influences."

In order to help you understand the technology platforms that you will be required to use, we will be running a series of 5 workshops from Week 2 to Week 7 in which you will be instructed in the building of a simple Arduino probe that gathers different forms of sensor data. Following the successful build of the device (by week 4) you will be then expected to use the tutorial time to redesign the probe according to the three principles above, making the most of the ECA workshops to develop a strong look and feel of your device.

**Assessed Outputs:**

- A: A designed artifact including electronics and software that has been designed to gather data from your participants presented on the day (and documented in your slides).
- B. A short video containing documentation of your technology probe, the data that it was seeking to gather, the engineering challenges and solutions to gather this data, visualizations of the data captured and video footage of people using and misusing the probe.

**Submission documents (as joint coursework with your probe partner):**

1. A 2-minute project video documenting your probe and how you could cheat or misuse it (submitted as URL in Learn and with short description as blog post on the DI blog)
2. Presentation slides documenting and reflecting on your research context, design process and your data capture (submitted as pdf on Learn)

**Overall, your presentation should include:**

**Context** (explain the setting in which the probe is placed, what data it is designed to capture, consider articulating a cultural context for the work that references the flow of data across networks)

**Design opportunity or problem setting** (how did you decide what you wanted to develop for the probe and what did you aim to investigate?)

**Design process** (document what methods or tactics you explored to develop your solution, and what inspired your design and aesthetic choices)

**Reflections** (reflect critically on what worked, what didn't work, the limitations and what you would have liked to be better. What data did your probe capture and what does this data may or may not mean or say about your context, participants or design space? No data analysis required, just a short critical reflection on your probe and the data it collected.)

**Deadlines for Assignment 2:**

Presentation: **Tuesday 29<sup>th</sup> October 2019**

Final submission: **Friday 1<sup>st</sup> November 2019 at 12pm (noon) on Learn**