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**User Researcher**

Research Associate

## Portfolio

I am a user researcher and user experience designer, passionate about doing research at the intersection of technology, design, and psychology. I design, conduct, analyze and publish design research, which aims to understand user behaviors.

Here I present a few recent studies I have designed, conducted, analysed, and published as lead researcher. For more: [gorkovenko.weebly.com](http://gorkovenko.weebly.com)

## Research Sills

- Affinity mapping
- Contextual inquiry
- Cognitive load testing
- Card sorting
- Descriptive statistics
- Data visualization
- Ethnography
- Experience sampling
- Focus groups
- Heuristic evaluations
- In-depth interviews
- Observational studies
- Participatory design
- Surveys
- Thematic analysis
- Usability testing
- User testing
- Workshops

# Data driven product design study

## Attitudinal research, Workshops

Connected devices present new opportunities to advance design through data collection in the wild, however it is still unclear how. Through a series of workshops, we investigated industry and academia perspectives on the *preferable future* of data-driven product design.

### Problem

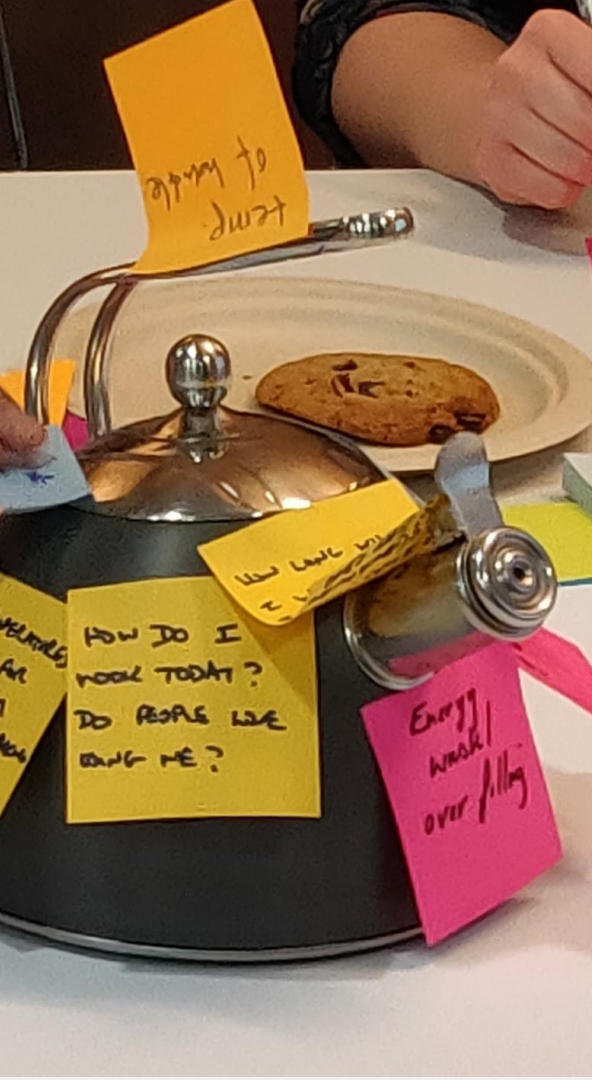
Once released onto the market, physical products can be used in contexts and for purposes that the designers may not have anticipated or observed within controlled testing. Insights into these contexts could be valuable for product design and development.

### Opportunity

Data-driven approaches are standard design research tools within the digital industry, for example A/B testing. The growth of connected products, such as smart consumer devices, is creating opportunities to similarly rethink the way that physical products are developed.

### Research aims

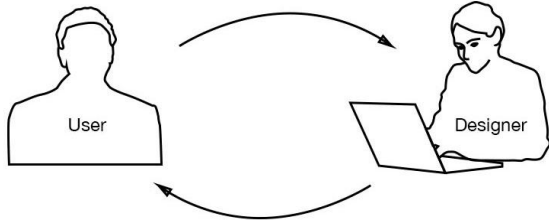
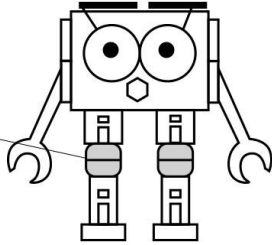
This work aims to map the space of choices available to design teams. To try and shed light on how real-time data streams might be better utilised to accelerate and enhance design cycles, we conducted a series of workshops with experts working within product design and IoT.



## Data driven product design study

### Key Findings

Current sensor in leg joints can reveal when and at what pressure the legs get broken.



**Live Data Gathering** Capture sensor and functional data to observe user behaviours, wear and tear, functional failures, and contexts of use.

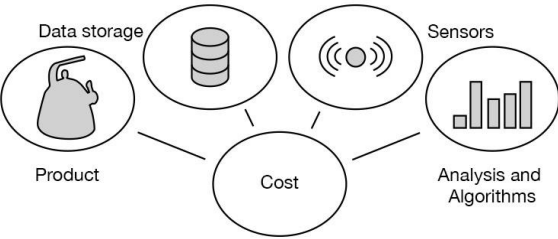
**Generate Design Insight** Explore research questions through A/B testing, usability tests and ethnographic explorations, supported by data dashboards, ML, and user feedback.

**Product Development and Re-design** Evolving algorithms extend the product's capability and continuously optimise its design. Designers focus on the fringes of the user group.

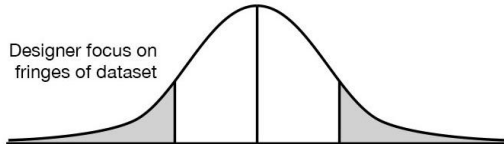
**User-centred Design** A combination of live data and communication with users can enable user-centred design and facilitate co-design or co-creation.

**Support and Service Products** Data-driven processes will enable predictive maintenance, live user support and software updates.

**Issues** Cost, including sensorizing products, analysing and storing data; Ethical Issues: Process can disempower users by reducing privacy, manipulate behaviours, limit informed consent.



ML optimisation



# Data Enabled Contextual Inquiry Study

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Design ethnography, Contextual inquiry, Technology probes

We developed and tested a method that enables sensemaking around live data. The method was explored through the deployment of a collection of Bluetooth speakers that capture and stream live data about their movement and operation. Researchers monitored a visualisation of the real-time data to build up a picture of how the speakers were being used, responding to moments of activity within the data, initiating text conversations and prompting participants to capture photos and video.

## Problem

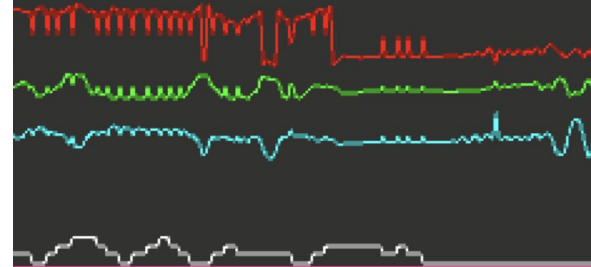
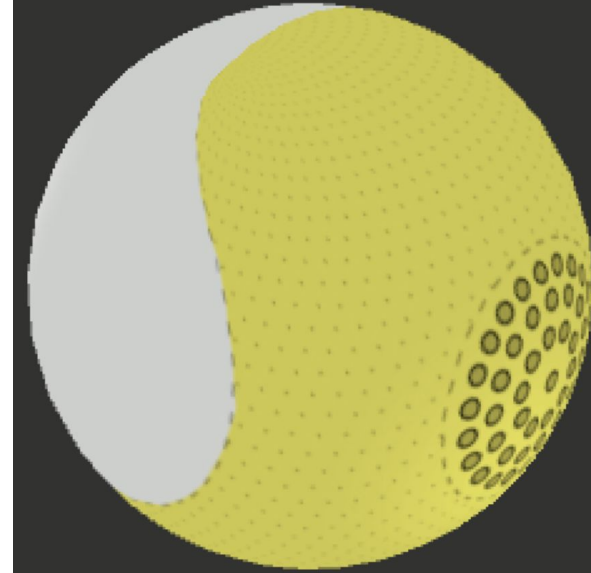
A key challenge in carrying out product design research is obtaining rich contextual information about use in the wild.

## Opportunity

The development of ever smaller and cheaper sensors, which can be embedded within products brings about new opportunities for industry and researchers to understand how objects are used in the wild.

## Research aims

Investigate if sensor data can be used to complement and support design research by aiding remote real-time contextual inquiry.



# Data Enabled Contextual Inquiry Study

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## Key Findings



## Uses

Continuous communication with the participants revealed how, where and why they used their speakers throughout the duration of the study.

## Design Opportunities

The WhatsApp interactions aimed to explore design opportunities for the speakers by investigating the ways they meet the needs of the participants, and they ways they do not.

## Reflections on participation

The participants' perceptions of the experience of taking part in the study varied depending on how comfortable they felt with the lead researcher monitoring the data coming in, how they viewed the WhatsApp interactions, and to what extent they found the speaker useful.



# Online Political Discourse Tools Study

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Workshops, Speculative design, Interviews, Multi-Stakeholder research

Televised debates remain a key point in elections, during which there are vast amounts of online activity. I explore the issues and opportunities, using a design-led multi-stakeholder approach to understand both the audience and expert perspectives.

## Problem

Research indicates deep-rooted issues with the use of social media for political discourse, including fake news, filter bubbles, echo chambers and trolling.

## Opportunity

Amidst growing recognition of the influence of online political discourse, we explore the issues and opportunities arising at this specific point in election cycles.

## Research aims

Using a design-led approach, this research aims to identify the opportunities and challenges for political discourse alongside political debates from multiple perspectives, involving both viewers and experts, including politicians, television producers and academics.

# Online Political Discourse Tools Study

## Key Workshop Findings

### Opportunity 1

Increase informational value through supporting material.

### Opportunity 2

Create alternative participation methods.

### Opportunity 3

Support equal levels of anonymity or disclosure between all users.

### Opportunity 4

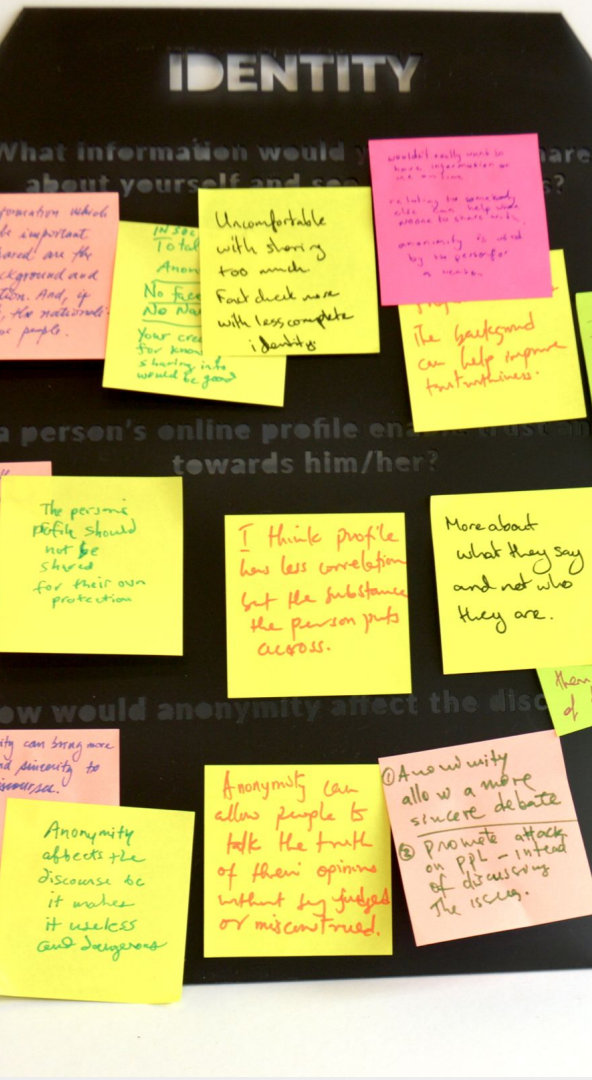
Create diversity in the discussion by curating groups of users.

### Opportunity 5

Reorient discussion around a fact base and smaller group discussions.

### Opportunity 6

Delegate moderation powers to users.

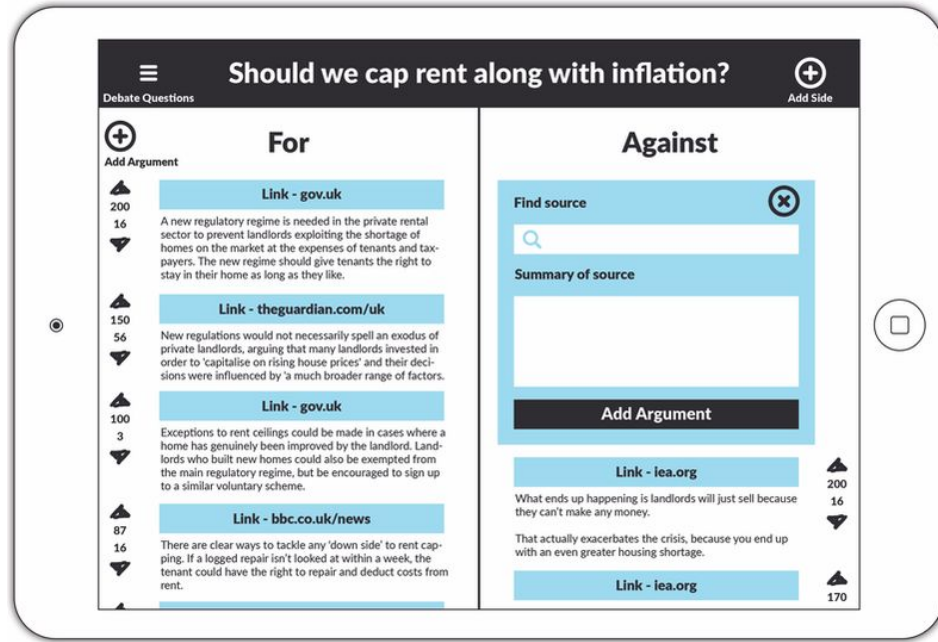


## Viewers Debate

This tool would allow debate viewers to find, submit and summarise links to external sources for and against policies being discussed during the debate. It would also enable the users to moderate the content by giving them the power to add new points of view and to vote content up or down on all sides of the argument.

# Online Political Discourse Tools Study

We adopted a speculative design approach to convey the workshop findings to experts in a way that would support discussion and reflection. We created a series of four design concepts to serve as mediators between the audience and expert perspectives.



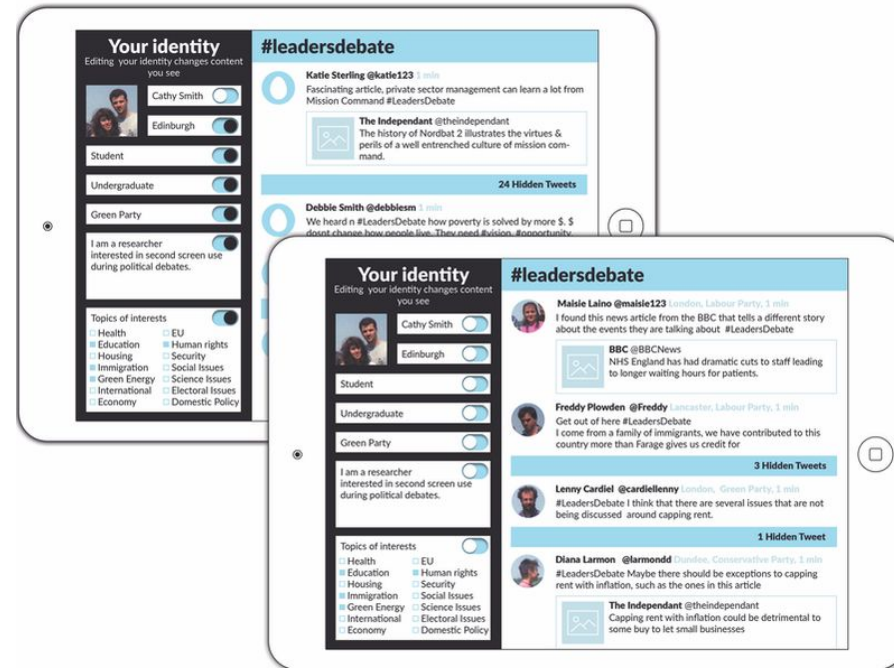


## Identity Equality

Anonymity can give people power to abuse others online. This tool would promote equality between users. It would give users full control and choice in their self-representation online, allowing them to reveal as much or as little about themselves as they wish, but would only allow them to see and interact with content from accounts that have made the same level of public personal information available. This enables them to interact with others on an equal basis within discussion spaces that suit their preferred interaction experience.

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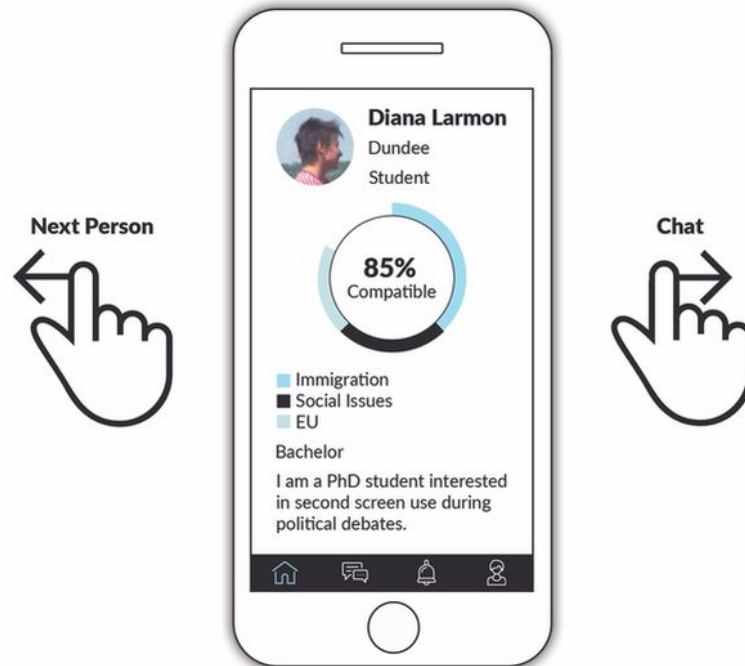


# Online Political Discourse Tools Study

## Political Date App

Rather than start romantic relationships, this Political Date App would enable personal communication between people with different political ideologies. This design concept aims to encourage civil interaction between users by fostering personal one-on-one conversation. Profiles on the app would summarise the users' stance on different issues (e.g. healthcare and immigration), allowing comparison with other users on both points of similarity and difference between them.

We adopted a speculative design approach to convey the workshop findings to experts in a way that would support discussion and reflection. We created a series of four design concepts to serve as mediators between the audience and expert perspectives.

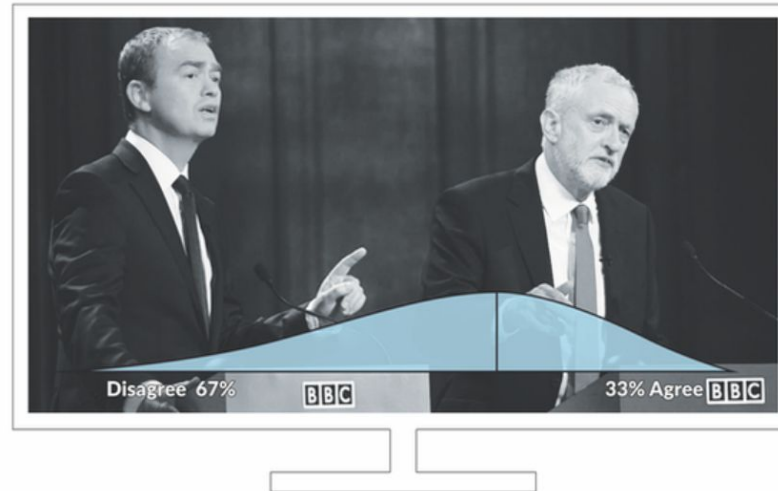


## Online Political Discourse Tools Study

### Live Feedback

The Live Feedback tool will utilise voice assistant technology as a hands-free interface, removing the need for the 'second screen' and allowing the viewers to focus on the broadcast. The tool would listen to the viewer in order to detect key words, phrases and verbal reactions indicating either agreement and disagreement to the arguments brought forward by the politicians. The device would collect representative opinions from across the country in real time. The feedback would then be visually overlaid onto the debate through a wave-like visualisation reflecting the quantity and attitude of viewer opinion.

We adopted a speculative design approach to convey the workshop findings to experts in a way that would support discussion and reflection. We created a series of four design concepts to serve as mediators between the audience and expert perspectives.



# Online Political Discourse Tools Study

## Key Expert Findings

**Fact-Based, Informed Content:** Most felt that this claim was problematic. Political discourse is often speculative and opinion based.

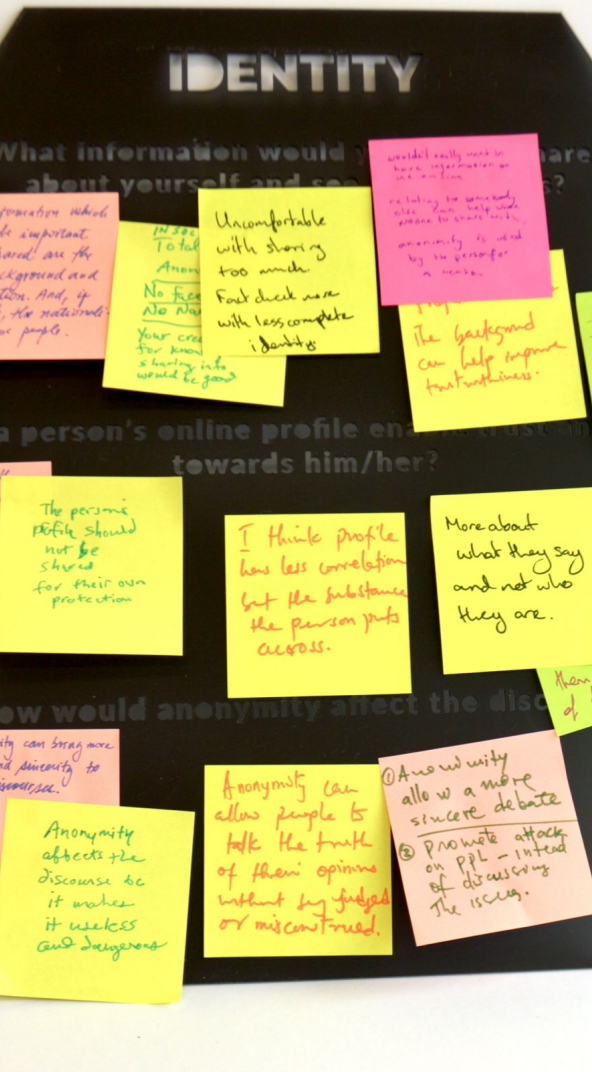
**Uncivil Communication**  
There was an overall agreement on the issues caused by uncivil behaviour: "it is a very hostile environment and people are often right to step away from it" (E4).

**Filter Bubbles and Echo Chambers**  
Filter bubbles were seen as contributing to people's perceptions of a lack of informed consent.

**Effects of Different Media**  
In the context of political debates, current second screen tools can feel inaccessible to the general public.

**Identity and Anonymity**  
The experts also agreed that anonymity is linked to abusive behaviour.

**Regulation and Moderation**  
E1, who works for a major social network, felt that it is possible to enable more civil and productive discussion by empowering the public to moderate together like in Viewers' Debate.



# Interactions with Data Visualisations

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Lab study, Cognitive Load Testing, Usability Testing, Attitudinal interviews

It can be difficult for people to understand the meaning of data. Presenting data to the public in an appropriate way may also increase citizen's willingness to participate in data collection. This study explores how large screens can support data exploration. This research project is part of a wider open government initiative, which aims to create computational models to help predict and reduce the spread of diseases and understand how contiguous phenomena are linked to mobility and human behaviour.

## Problem

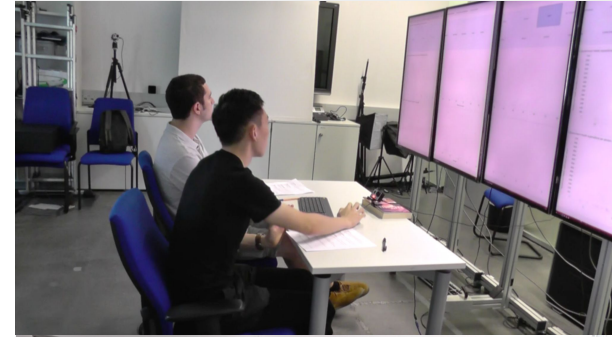
Data is pivotal to open government initiatives, where citizens are often expected to be informed and actively participate. Yet, it can be difficult for people to understand the meaning of data.

## Opportunity

Current technology offers a range of solutions, which can help spread information and facilitate understanding. Data visualisation software is becoming increasingly more accessible and interactive. Furthermore, the technology that can be used to present visualised data now ranges from a smartphone to large displays many meters across.

## Research aims

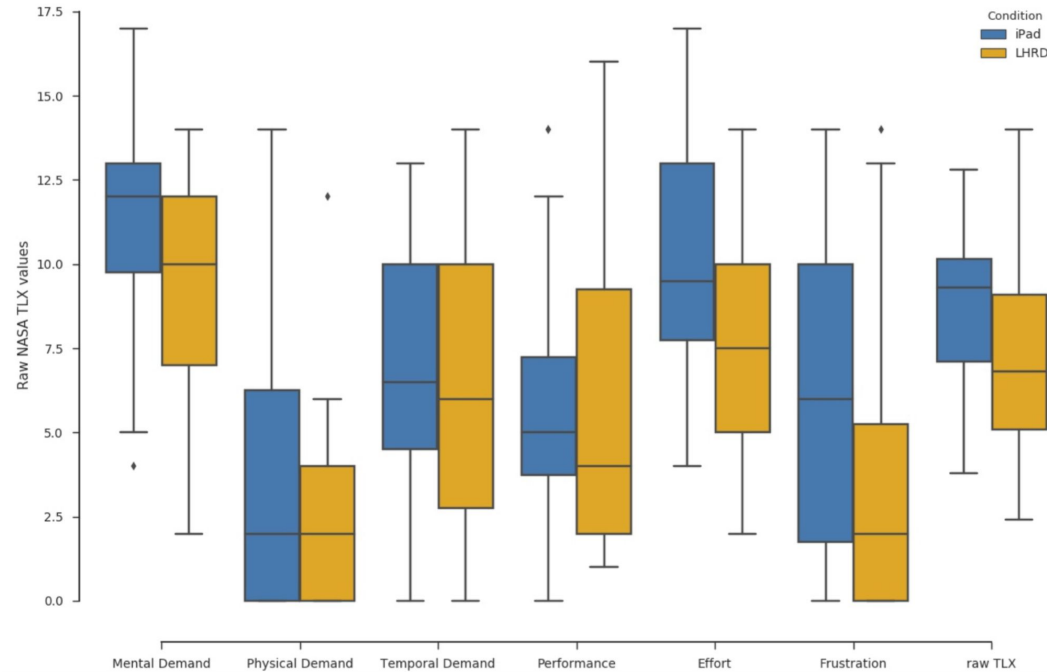
This study explores how large screens can support socially relevant data exploration. In a between subject laboratory experiment, we analysed how pairs of participants explored data visualisations on a high-resolution display (LHRD) and a tablet.



# Interactions with Data Visualisations



## Key Findings



## Usability

To compare the rating of the system usability, which utilised a SUS questionnaire we performed a Wilcoxon rank sum test with continuity correction. The test revealed no statistically significant differences between the LHRD and the tablet condition.

## Cognitive load

While large displays were perceived as less mentally demanding than tablets within the same set of data exploration tasks on Spotfire, tablets lead to more turn taking and shared control of the interface.

## Personal Health data sharing

The participants in both scenarios felt more comfortable with sharing their own data with us after the study.