

# Design from/ with/by Data

Professor Chris Speed  
@chrisspeed



design  
informatics





Centre for Design Informatics



Chris Speed / Chair / **Design**  
Maria Wolters / Reader / **Health Informatics**  
Dave Murray-Rust / Lect / **Social Computing**  
Larissa Pschetz / Lect / **Interaction Design**  
Benjamin Bach / Lect / **Data Visualisation**  
Ewa Luger / Chancellors fellow / **Ethics, Consent and Privacy**  
Robin Hill / Research fellow / **Neuropolitics**  
Bettina Nissen / Lect / **Interaction Design**  
Ella Tallyn / PDRA / **User Experience**  
Chris Elsdon / PDRA / **Human Computer Interaction**  
Katya Gorkovenko / PDRA / **Human Centred Design**  
Susan Lechelt / PDRA / **Human Computer Interaction**  
Jonathan Rankin / PDRA / **Product Design**  
Pip Thornton / PDRA / **Human Geography**  
Evan Morgan/ Software engineer / **Civic Tech**  
Eddie Boyle / Software engineer / **Full Stack**  
Billy Dixon / Product Designer / **Internet of Things**

Joe Revans / Product Designer / **Internet of Things**  
Esteban Serrano/ Design engineer / **Internet of Things**  
Kam Chan / Administrator / **Finance**  
Catie Cundall / Administrator / **Research, Engagement & Teaching**  
Jane Macdonald / Events Coordinator / **Art & museum curation**  
Michaela Turner / EI Consultant / **Innovations**  
Anna Orme / Officer / **Evaluation**  
Nicola Osborne / Manager / **Production & Delivery**  
Liam Upton / Officer / **Comms, Marketing and Engagement**  
Mark Kobine / Technician / **Interaction Design**  
Luis Soares / PDRA / **Science Technology Studies**  
Sarah Bennett / PhD student / **Ethics & AI**  
Hector Fried / PhD student / **Digital Anthropology**  
Hadi Mehrpouya / PhD student / **Digital Art & Design**  
John Morrison / PhD student / **Social Digital Ethnography**  
Zezhong Wang / PhD student / **Data Viz**  
Liquan Chai / PhD student / **Social Computing**

# Team

***Design from data:*** when systems are designed by people, where they are inspired by measurable features of humans, computers, things, and their contexts.


***Design with data:*** when systems are designed by people, where they take into account the flows of data through systems, and the need to make data manifest, reduce its obfuscation and improve trust.

***Design by data:*** when systems are designed by other systems, largely autonomously, where new products and services can be synthesised via the data-intensive analysis of existing combinations of humans, computers, things, and contexts.

<https://www.drs2016.org/433>

Design *from/with/by* Data





#1

**Design from Data**



***Design from data:*** when systems are designed by people, where they are inspired by measurable features of humans, computers, things, and their contexts.

***Design with data:*** when systems are designed by people, where they take into account the flows of data through systems, and the need to make data manifest, reduce its obfuscation and improve trust.

***Design by data:*** when systems are designed by other systems, largely autonomously, where new products and services can be synthesised via the data-intensive analysis of existing combinations of humans, computers, things, and contexts.

Design *from/with/by* Data





[www.pwc.com/us/en/technology-forecast/blockchain/digital-business.html](http://www.pwc.com/us/en/technology-forecast/blockchain/digital-business.html)

Design *from* Data

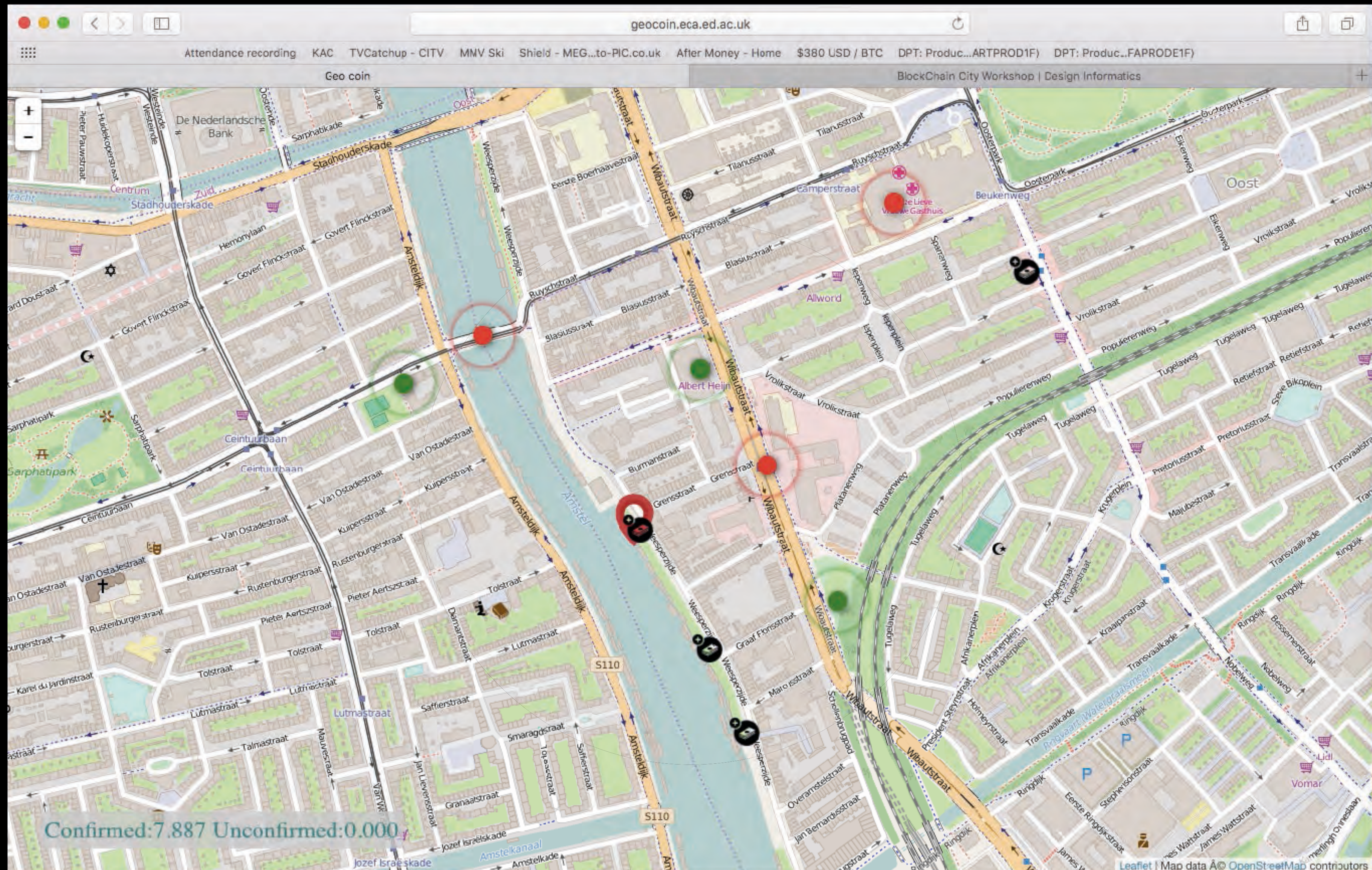


# Knowledge Mile Amsterdam

## 19-22 APRIL 2016

THREDDANK.ORG





Design *from* Data





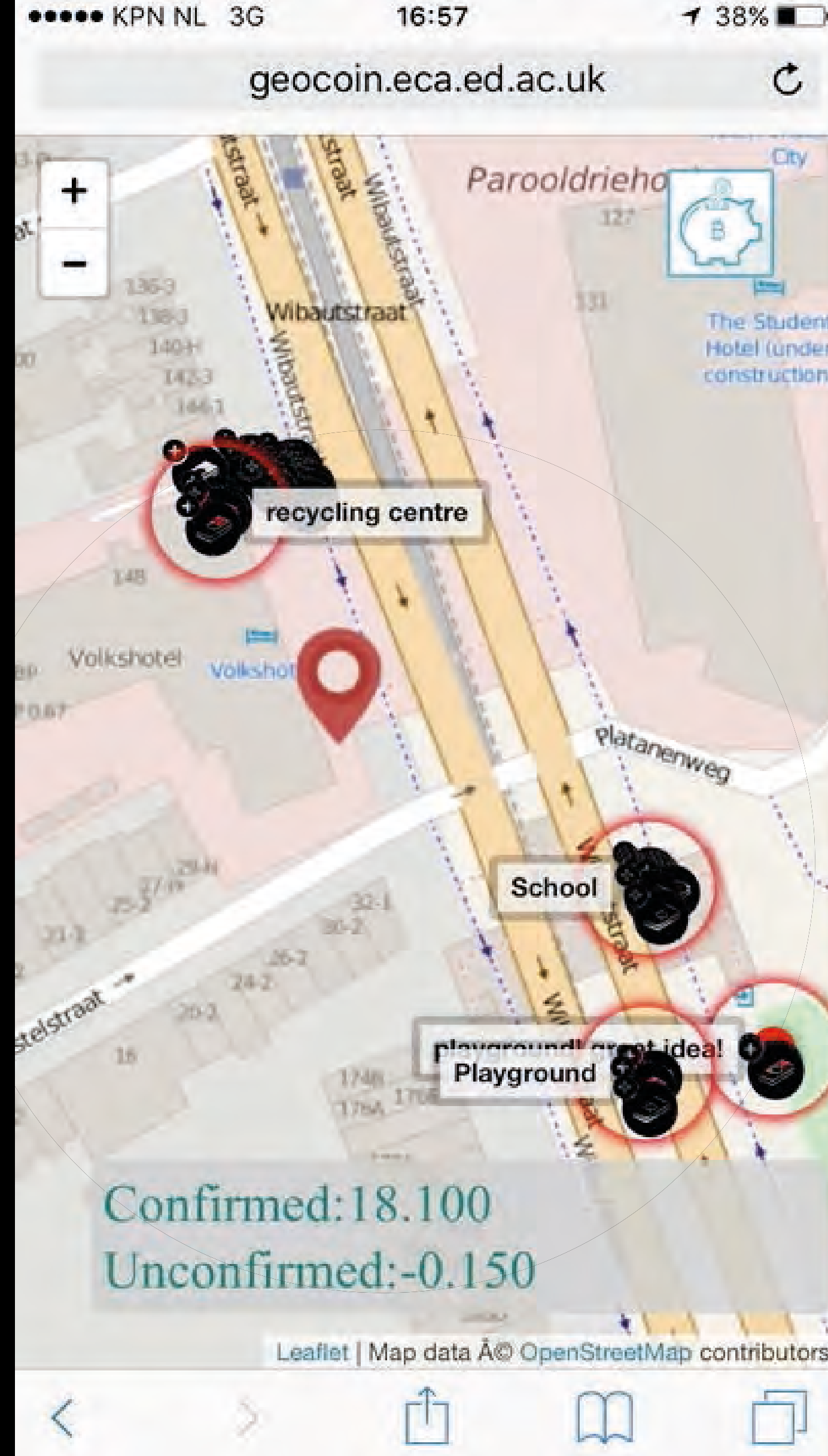
Design *from* Data





Design *from* Data





Design *from* Data





Design *from* Data





Design *from* Data





Design *from* Data





Design *from* Data





Design *from* Data





Design *from* Data





Design *from* Data





Design *from* Data





Design *from* Data





Design *from* Data





Design *from* Data





Design *from* Data





Design *from* Data





Design *from* Data





#2

**Design with Data**



***Design from data:*** when systems are designed by people, where they are inspired by measurable features of humans, computers, things, and their contexts.

***Design with data:*** when systems are designed by people, where they take into account the flows of data through systems, and the need to make data manifest, reduce its obfuscation and improve trust.

***Design by data:*** when systems are designed by other systems, largely autonomously, where new products and services can be synthesised via the data-intensive analysis of existing combinations of humans, computers, things, and contexts.

## Design *with* Data



**Hub of All Things:**  
Ng, Speed, Maull,  
Scharf, Rodden, Parry,  
Crowcroft, Luger



Design *with* Data

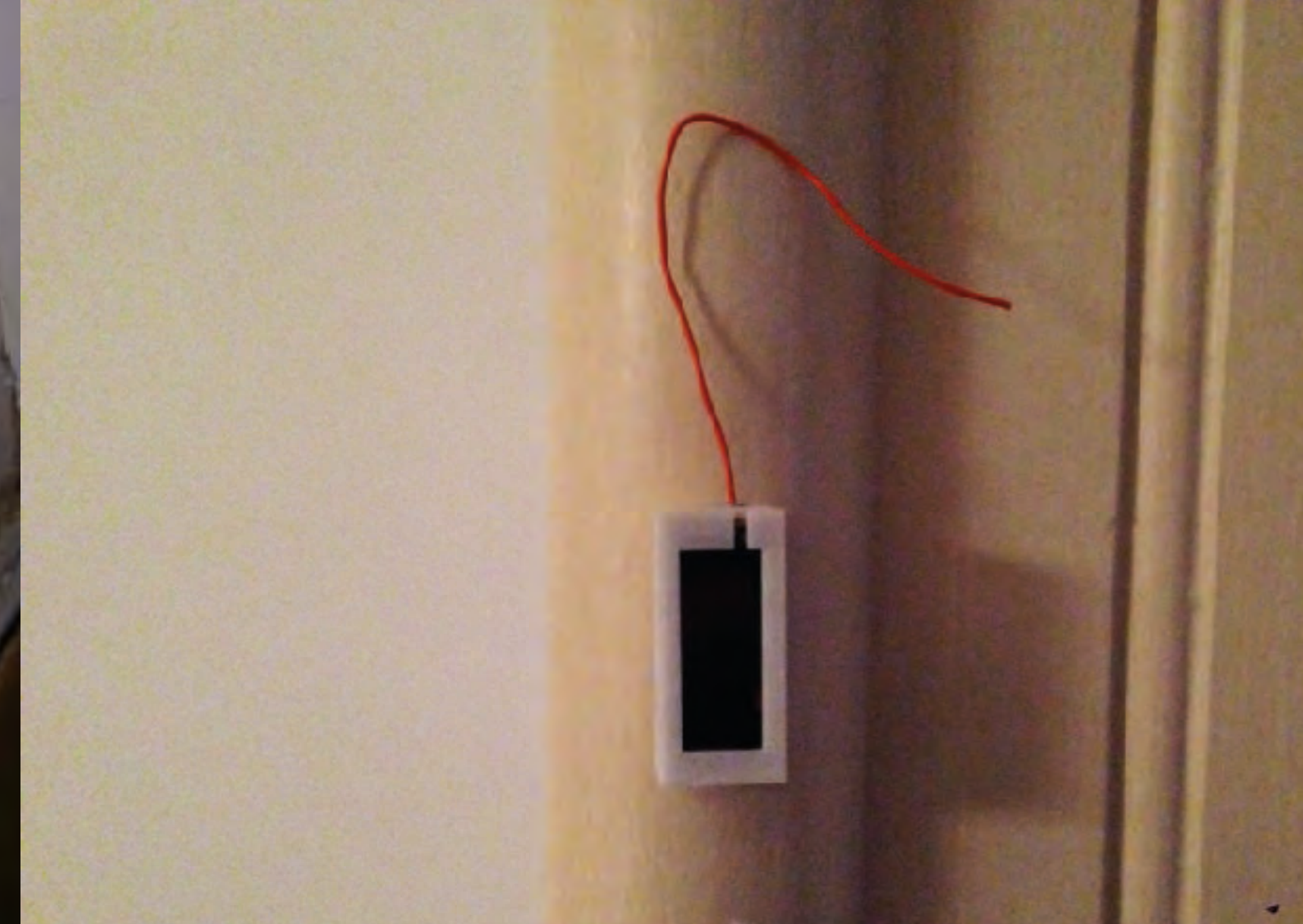


# Hub of All Things:

Ng, Speed, Maull,  
Scharf, Rodden, Parry,  
Crowcroft, Luger

# Design *with* Data





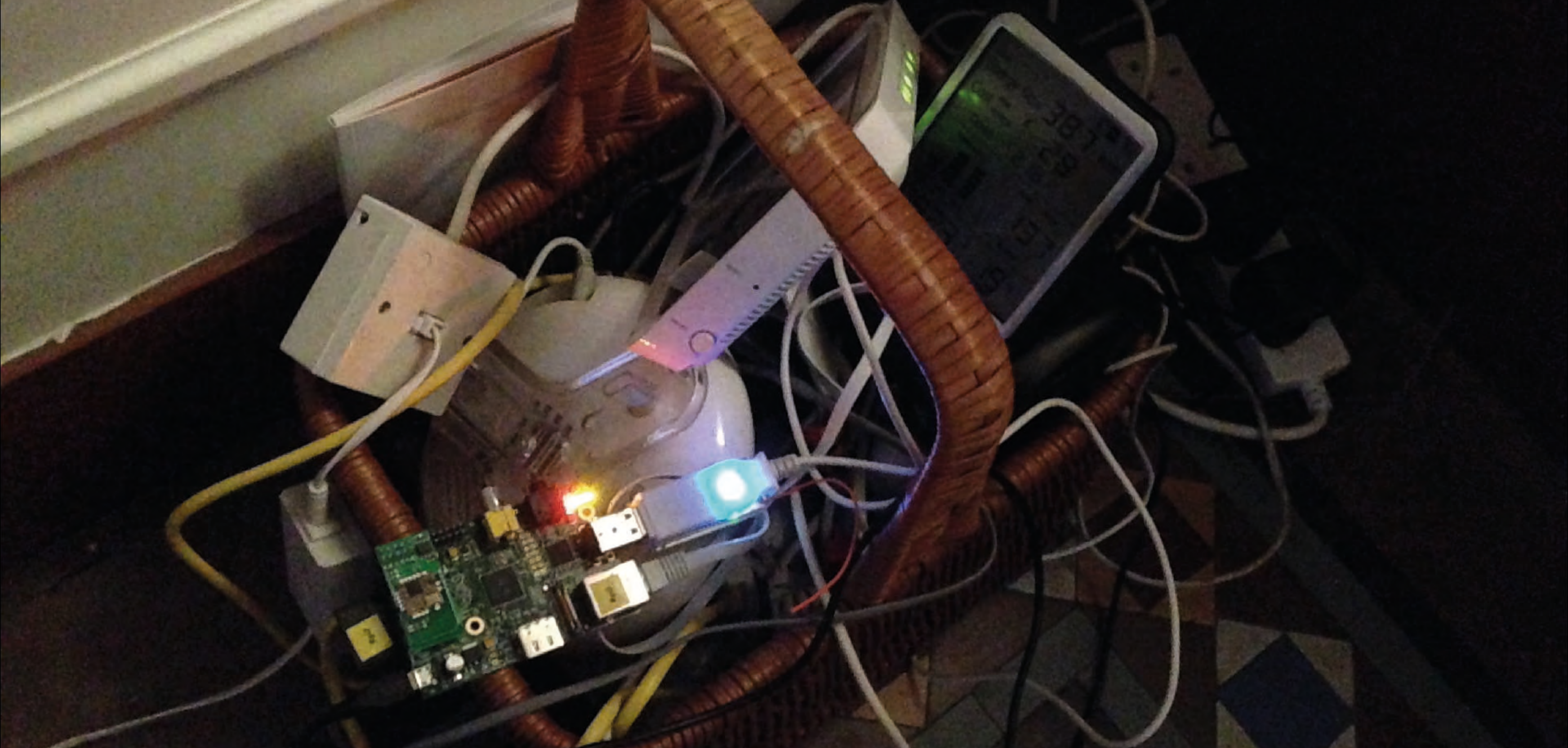
Design *with* Data





Design *with* Data

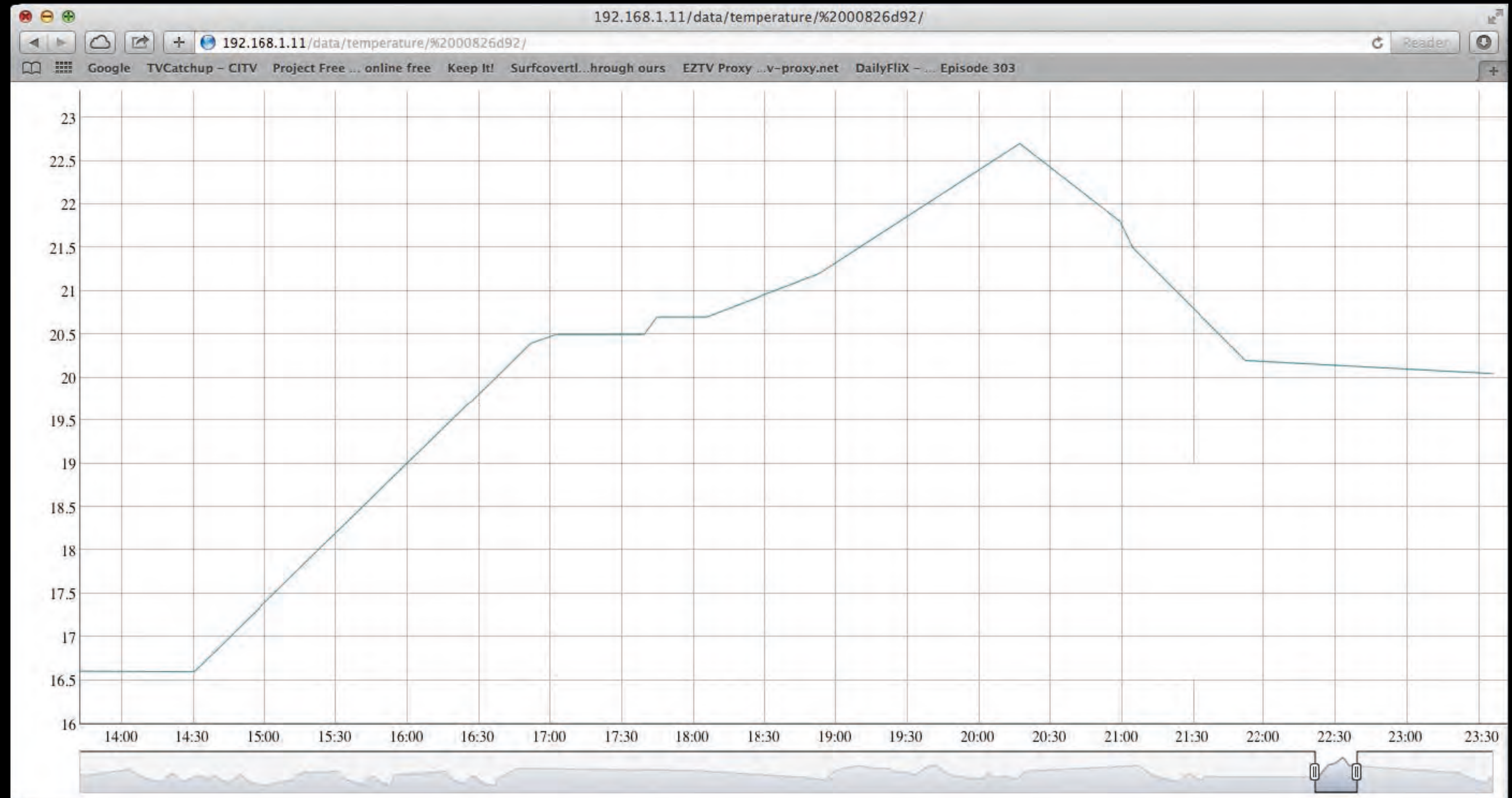




Design *with* Data



**Hub of All Things:**  
Ng, Speed, Maull,  
Scharf, Rodden, Parry,  
Crowcroft, Luger



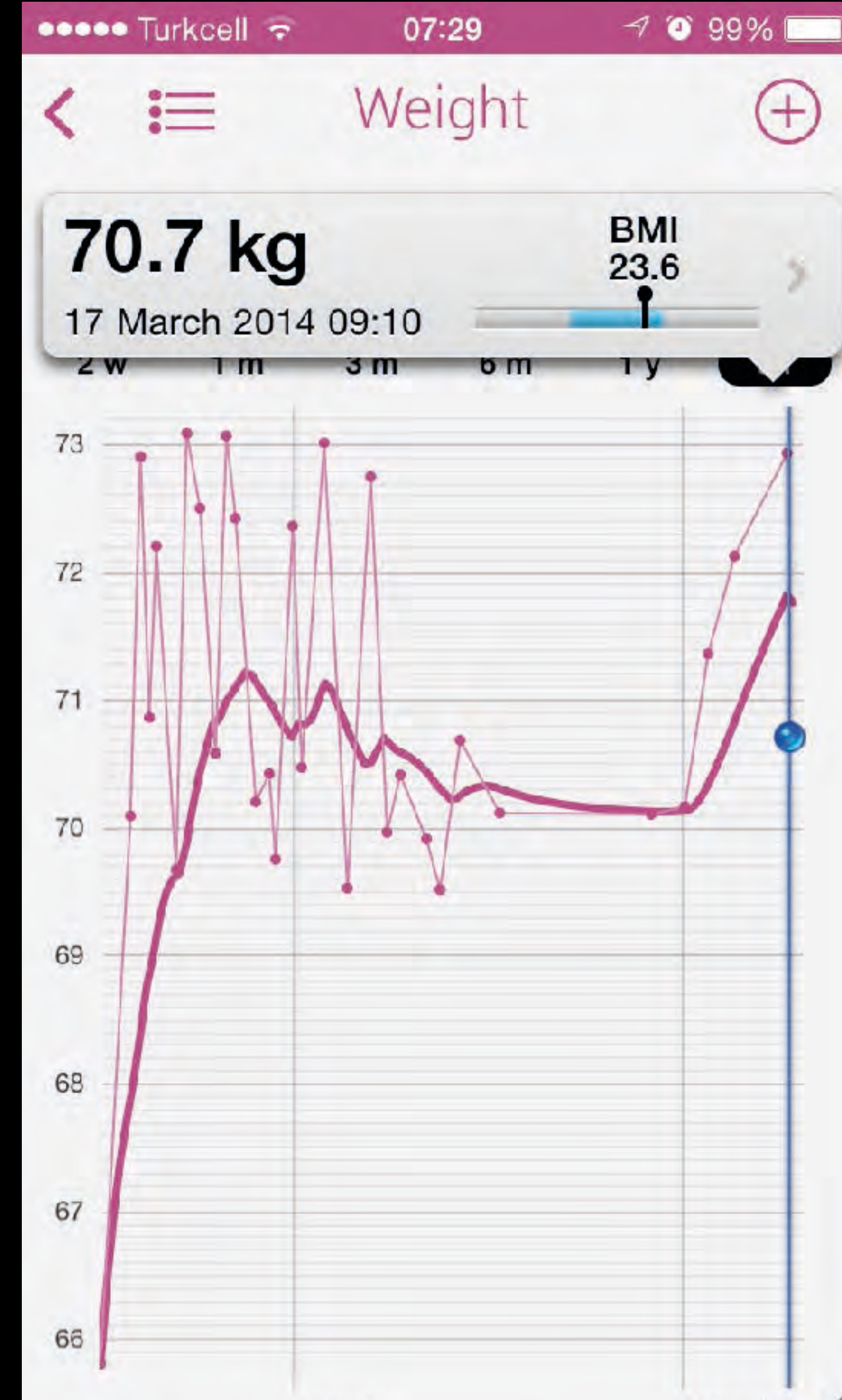
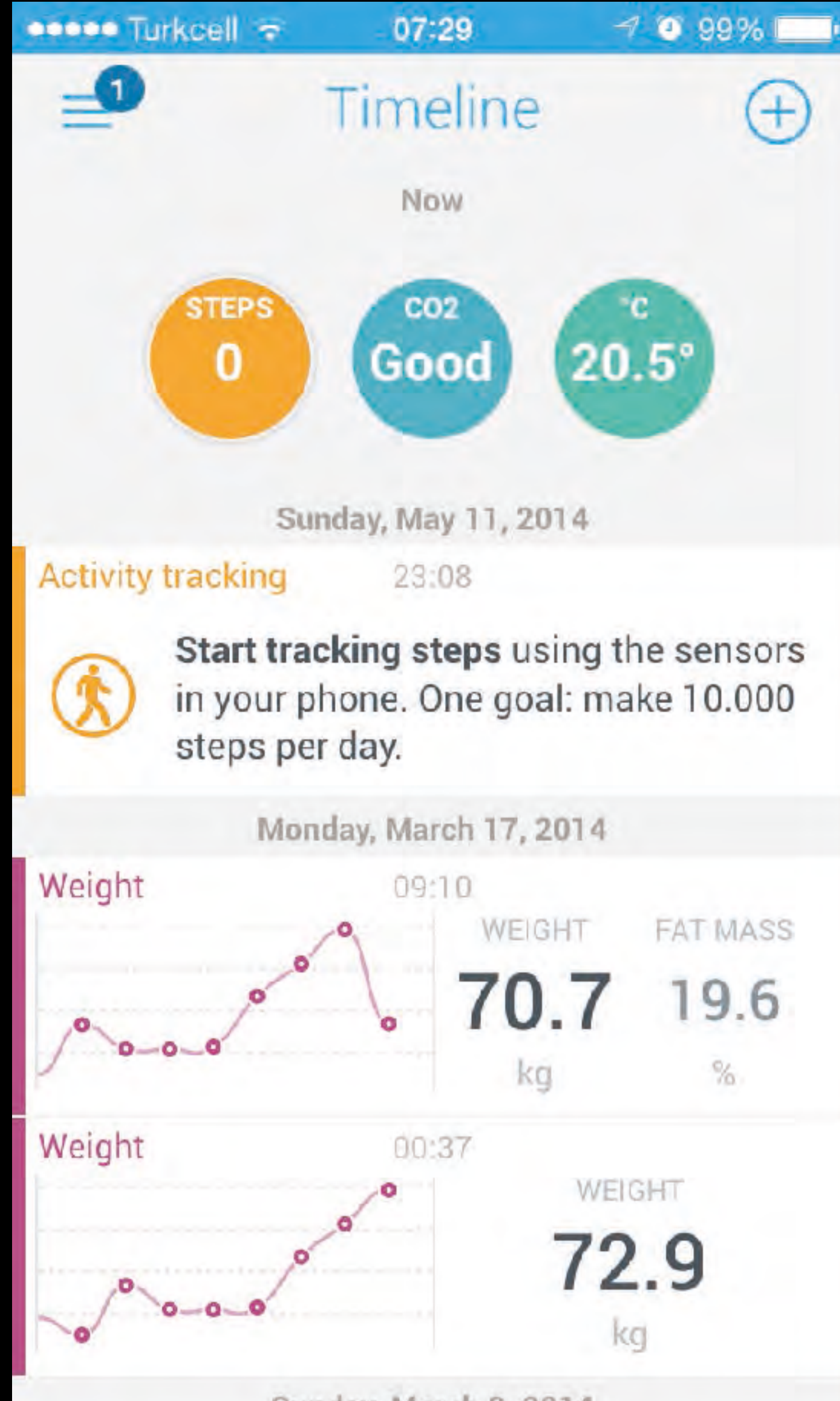
Design *with* Data





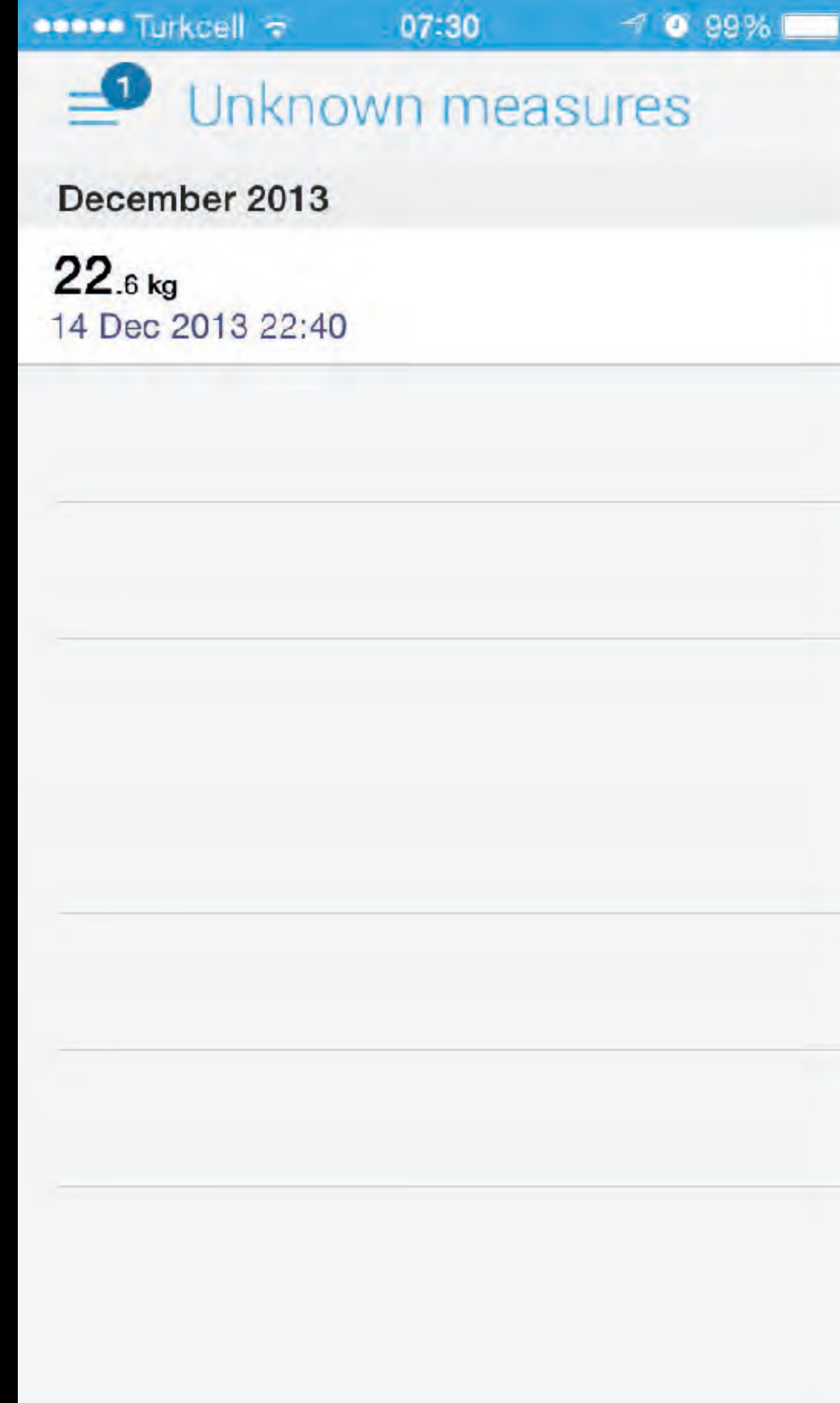
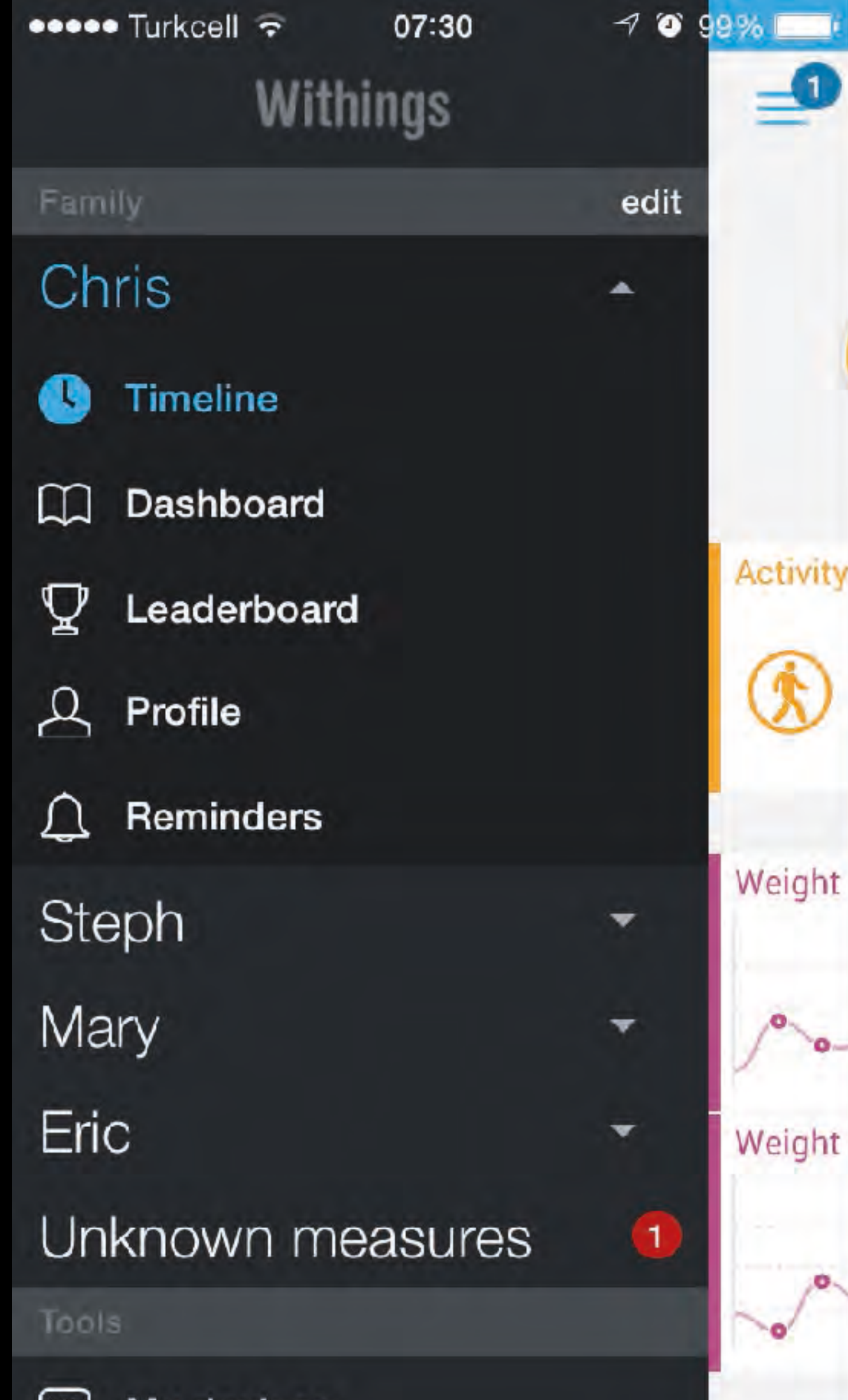
Design *with* Data





Design *with* Data





Design *with* Data





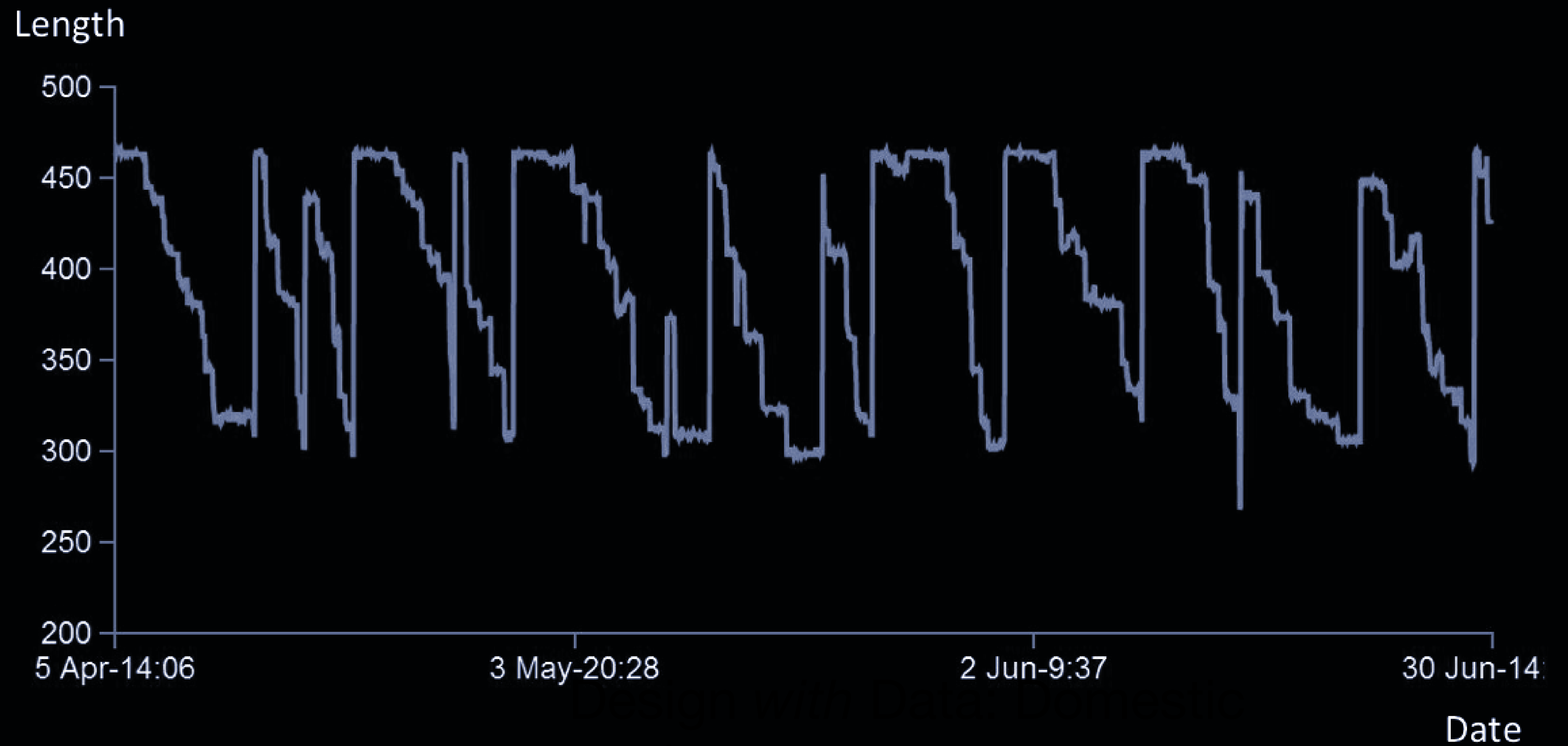
Design *with* Data





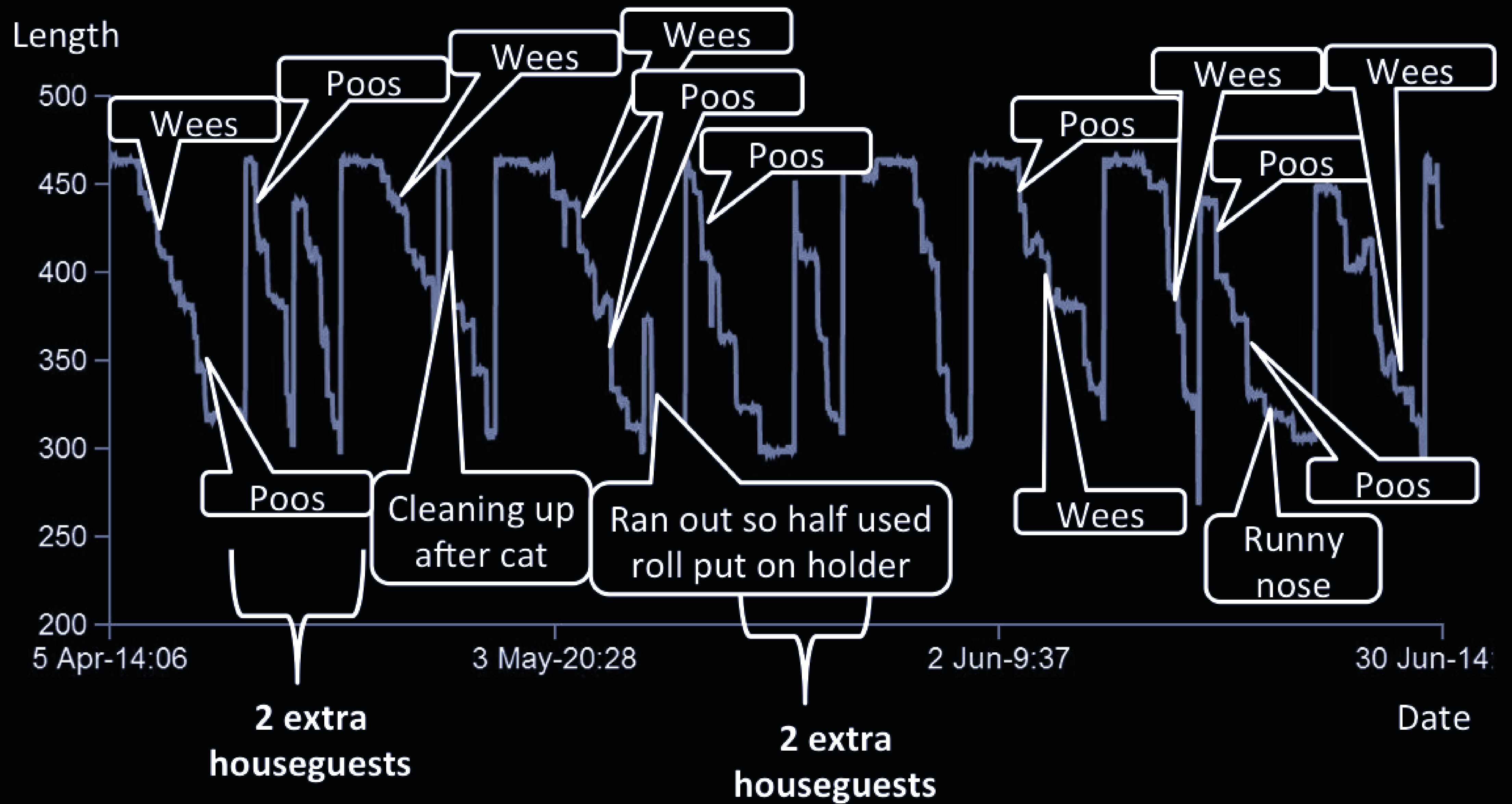
Design *with* Data





Design *with* Data





Design *with* Data





#3

**Design by Data**



***Design from data:*** when systems are designed by people, where they are inspired by measurable features of humans, computers, things, and their contexts.

***Design with data:*** when systems are designed by people, where they take into account the flows of data through systems, and the need to make data manifest, reduce its obfuscation and improve trust.

***Design by data:*** when systems are designed by other systems, largely autonomously, where new products and services can be synthesised via the data-intensive analysis of existing combinations of humans, computers, things, and contexts.

# Design *by* Data



“By 2017, a significant disruptive digital business will be launched  
that was conceived by a computer algorithm.”

Gartner Report 2014, [www.networkedworld.com](http://www.networkedworld.com), October 2014

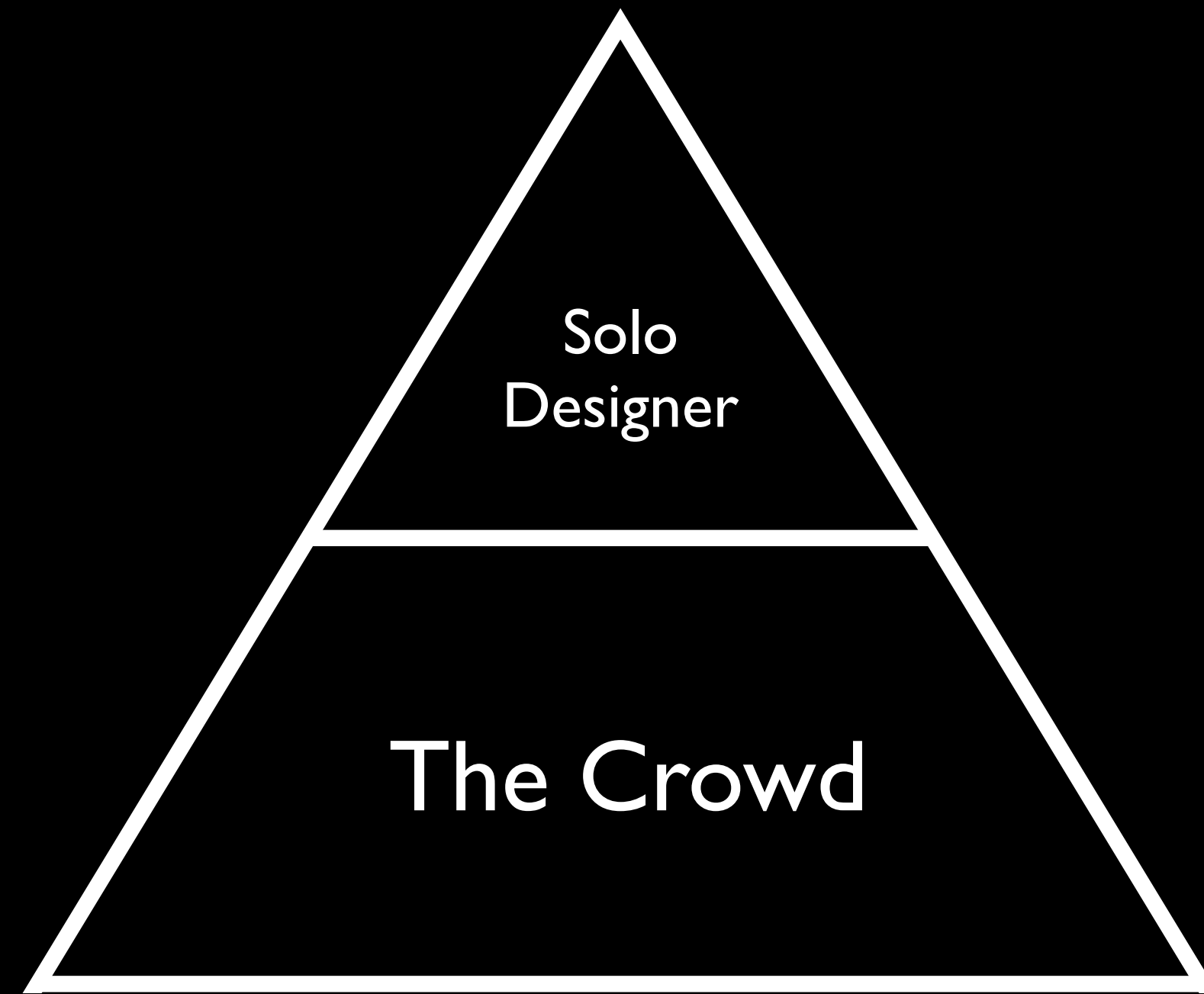
Design *by* Data





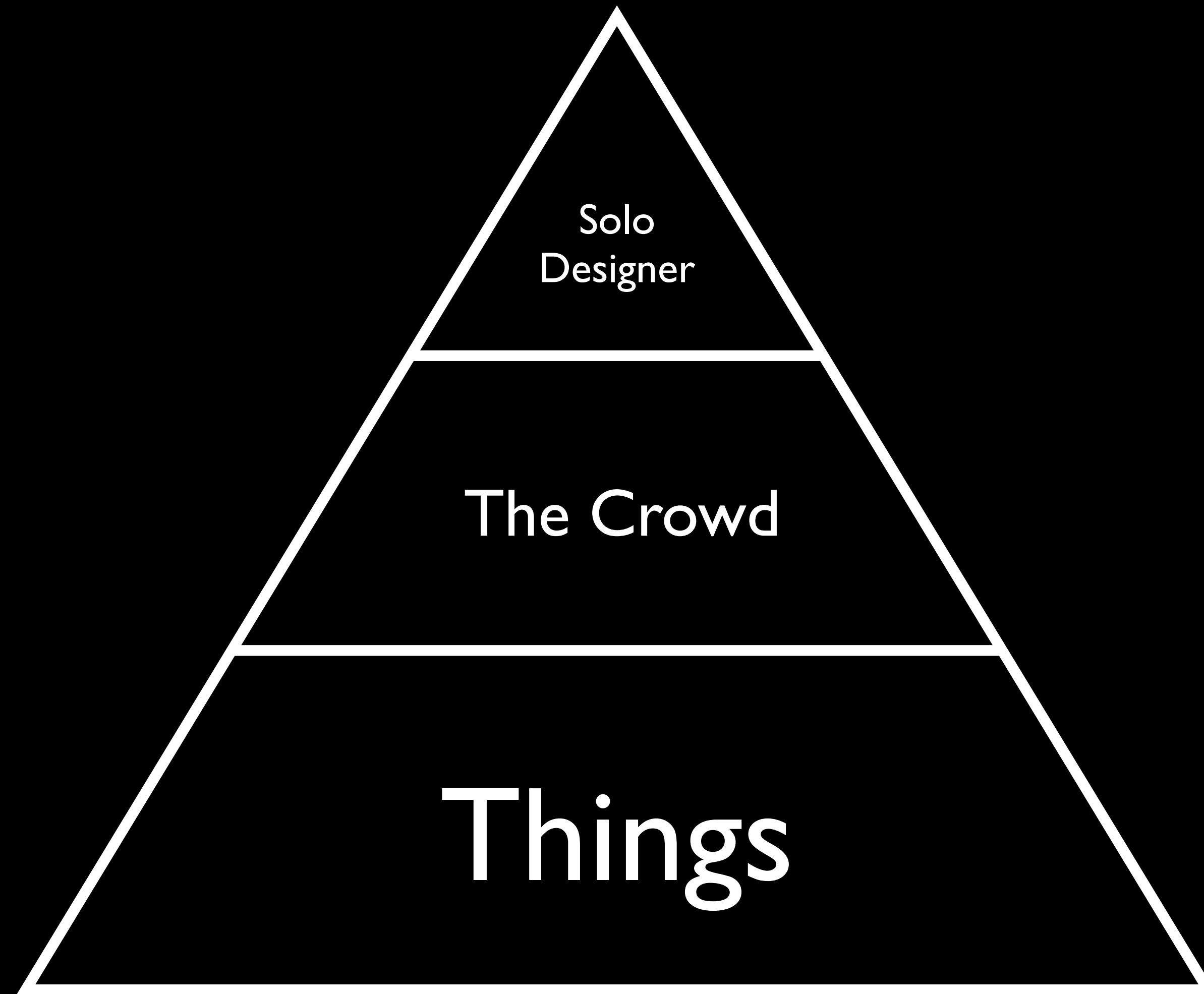
Design *by* Data





Design *by* Data





Design *by* Data





Design *by* Data





Design *by* Data





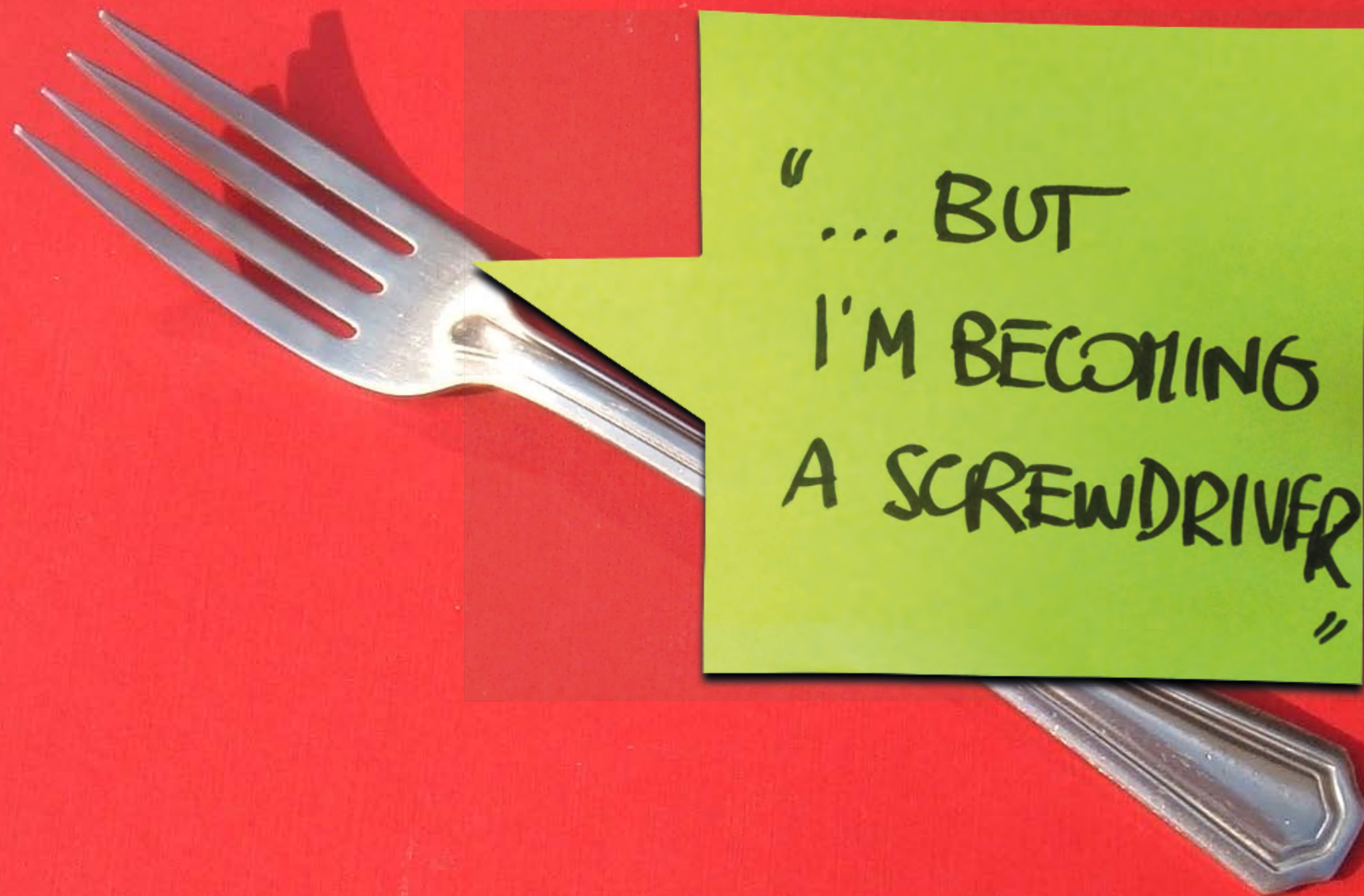
Design *by* Data





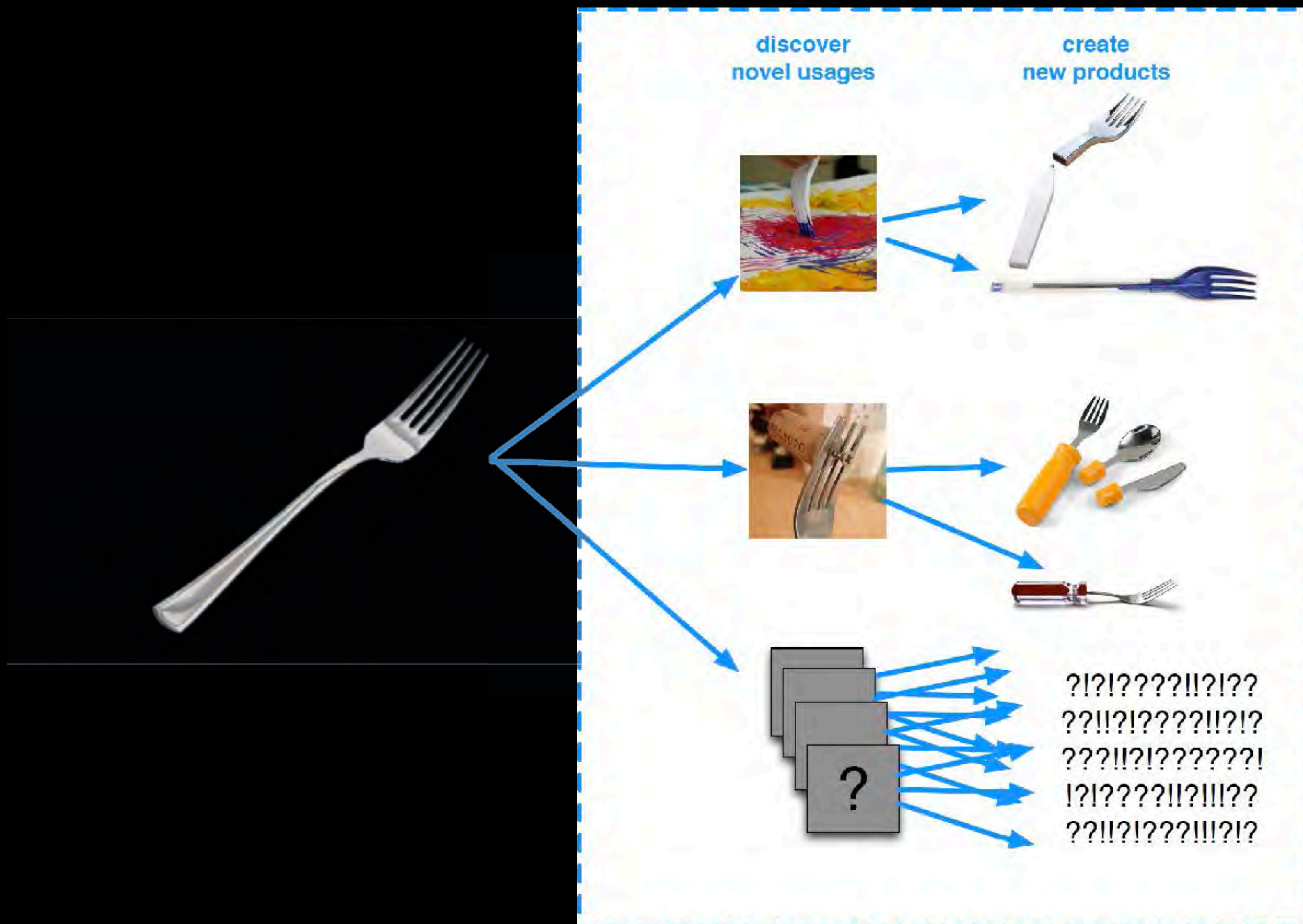
Design *by* Data





Design *by* Data





Design *by* Data



# Deviation

- Object is used for a different purpose (than originally intended)
- Object is not modified



Design *by* Data



# Hybridization

- The object is used for a different purpose than originally intended, however in order to perform additional function the object is modified.



Design *by* Data



# Partial Hybridization

- Object adopts some of the desirable properties of another object
- Usage is unchanged



Design *by* Data



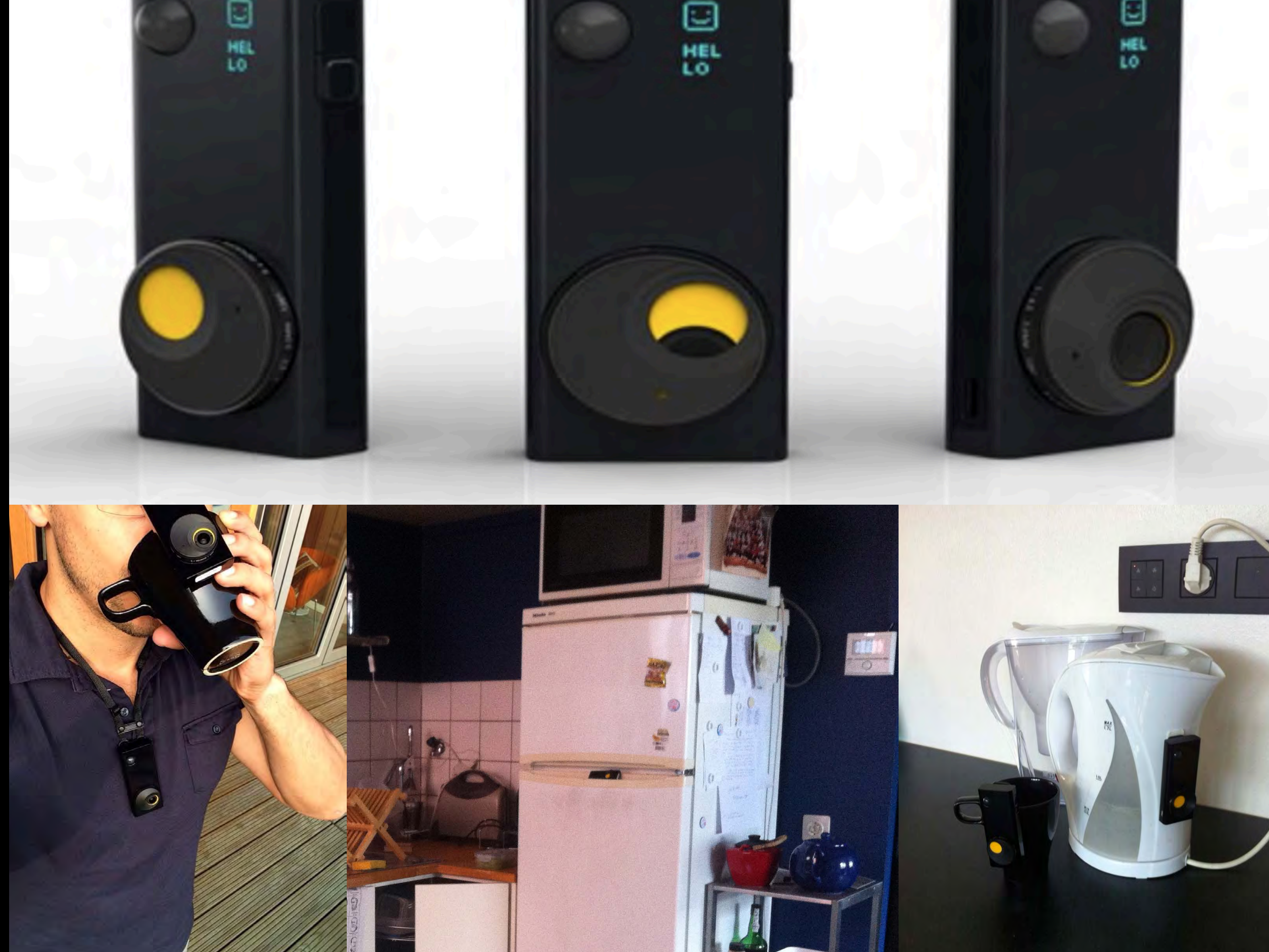
# Repurpose

- Object is modified for new usage
- Object is no longer able to perform its original function



Design *by* Data

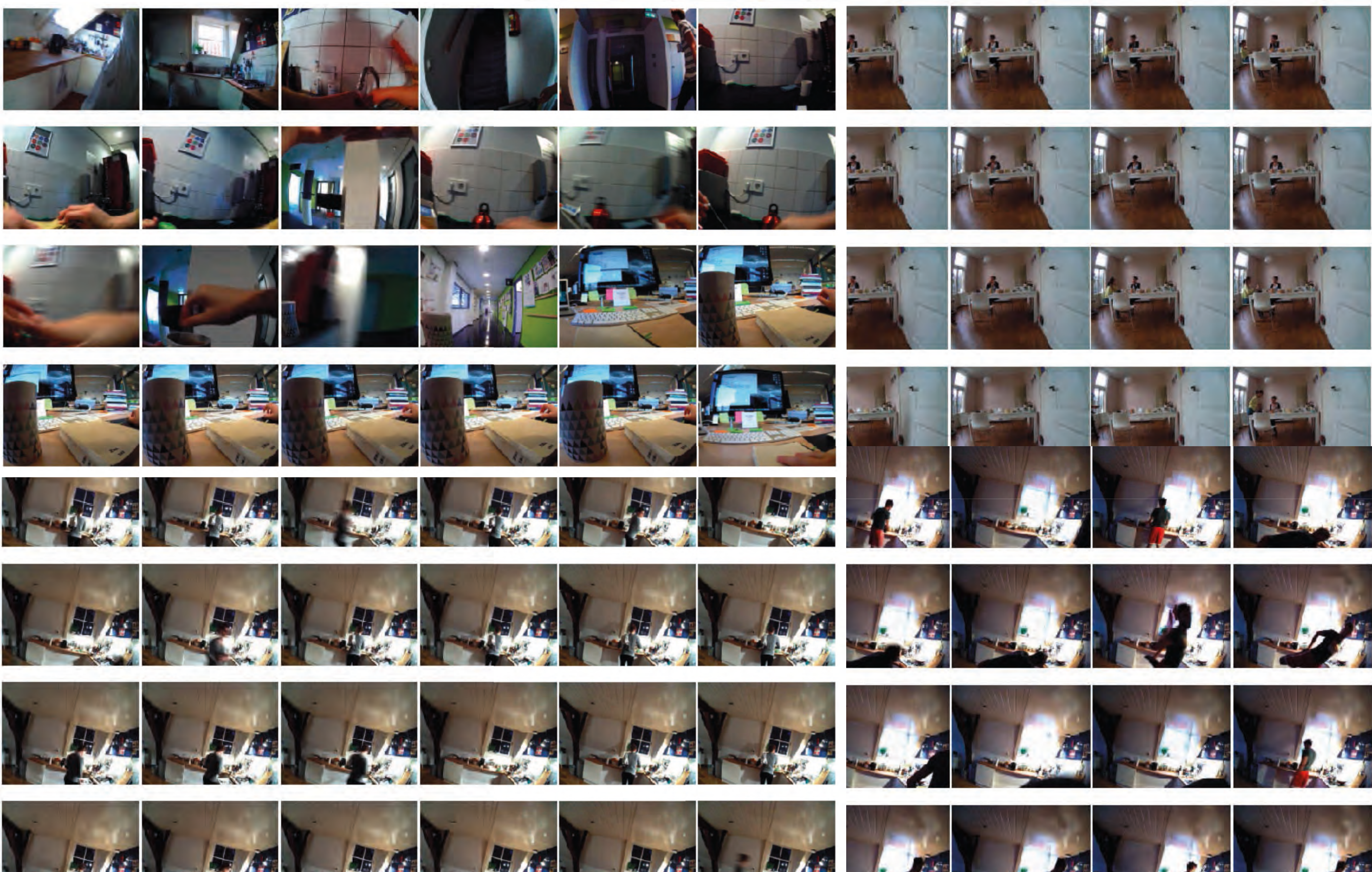




Giaccardi, E., Cila, N., Speed, C. & Caldwell, M. (2016) Thing Ethnography: Doing Design Research with Non-Humans, Proceedings of the 2014 companion publication on Designing interactive systems.

# Design *by* Data





Design *by* Data





Design *by* Data





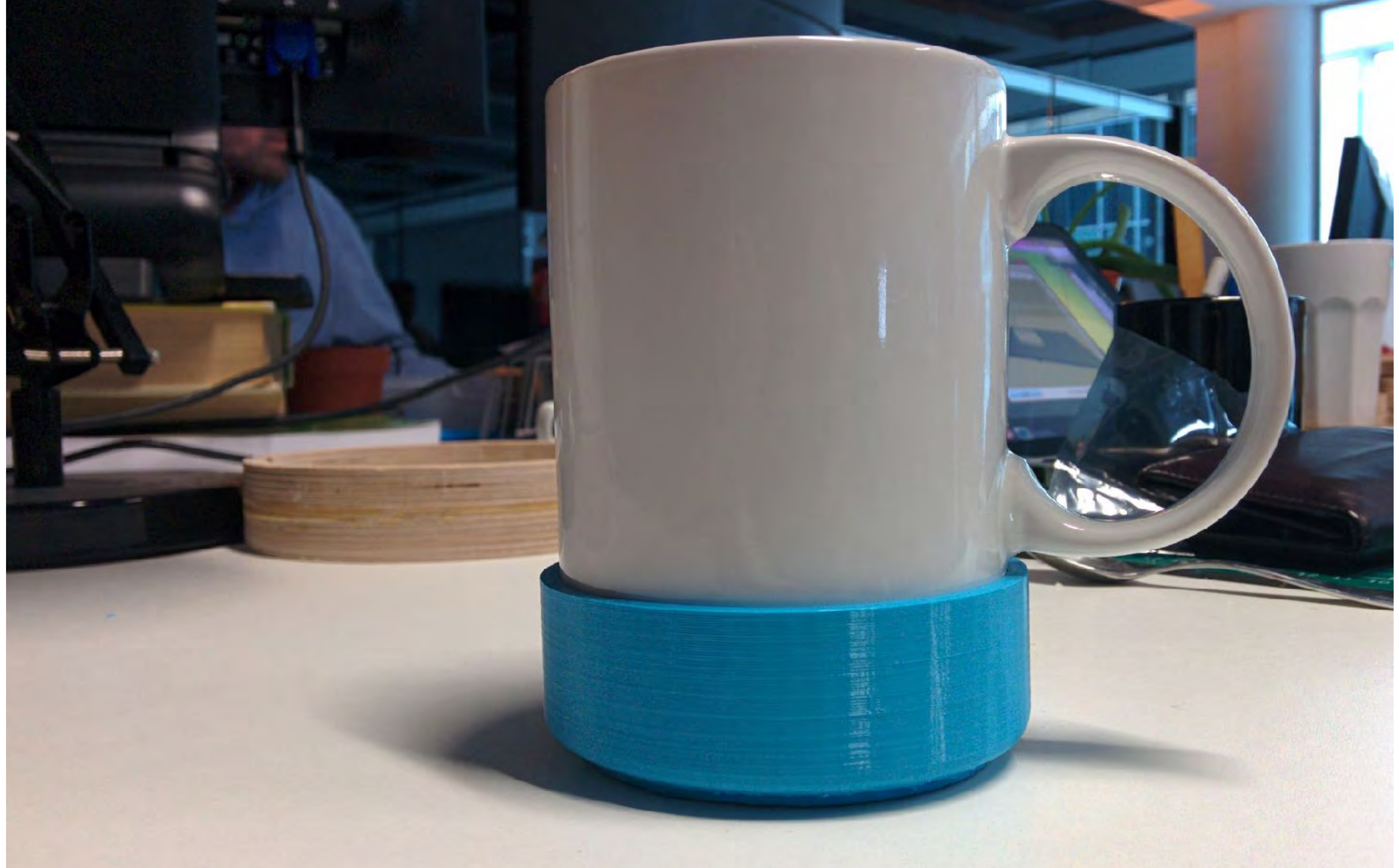
Design *by* Data





Design *by* Data





Design *by* Data







Design *by* Data





Design *by* Data





Design *by* Data



***Design from data:*** when systems are designed by people, where they are inspired by measurable features of humans, computers, things, and their contexts.

***Design with data:*** when systems are designed by people, where they take into account the flows of data through systems, and the need to make data manifest, reduce its obfuscation and improve trust.

***Design by data:*** when systems are designed by other systems, largely autonomously, where new products and services can be synthesised via the data-intensive analysis of existing combinations of humans, computers, things, and contexts.

Speed, C. & Oberlander, J. (2016) Designing from, with and by Data: Introducing the ablative framework. Proceedings of the International Design Research Society Conference 2016. University of Brighton, June 2016.

<https://www.drs2016.org/433>

# Design *from/with/by* Data



# Design from/ with/by Data

Professor Chris Speed  
@chrisspeed



design  
informatics