The HomeSense project

Making it easier and more productive for social researchers to use digital sensors and understand sensor data.

Demonstrate the use of sensors via household trials

Catalogue technical, methodological and ethical issues

Create guidelines for using sensors

HomeSense
digital sensors in social research

UNIVERSITY OF SURREY

cress

5G INNOVATION CENTRE

Microsoft

NCRM National Centre for Research Methods

E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

Development and adaptation

Issues of practicability and dependability

Ultra-thin 8mm battery

Battery capacity: 41 mAh
Battery type: lithium polymer
Input current: 25 mA(TYP)
Input voltage: DC 5.0 V

Military-grade accelerometer by ADI

Premium-quality Bluetooth® chip by Dialog

Bluetooth® version: 4.0

Microphone

Ranging sensor

Particulate sensor

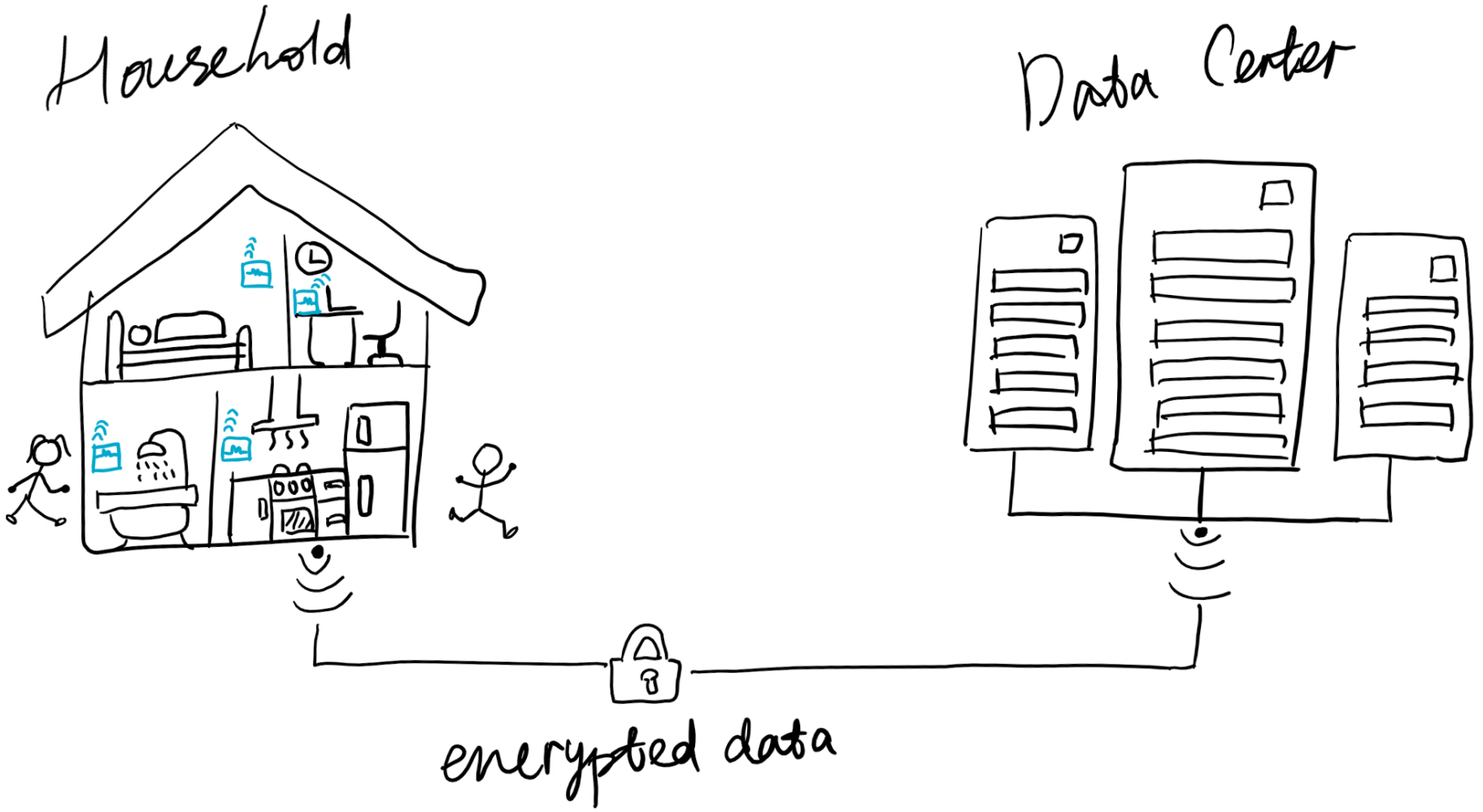
Temperature & humidity

RGBC Light & gesture sensor

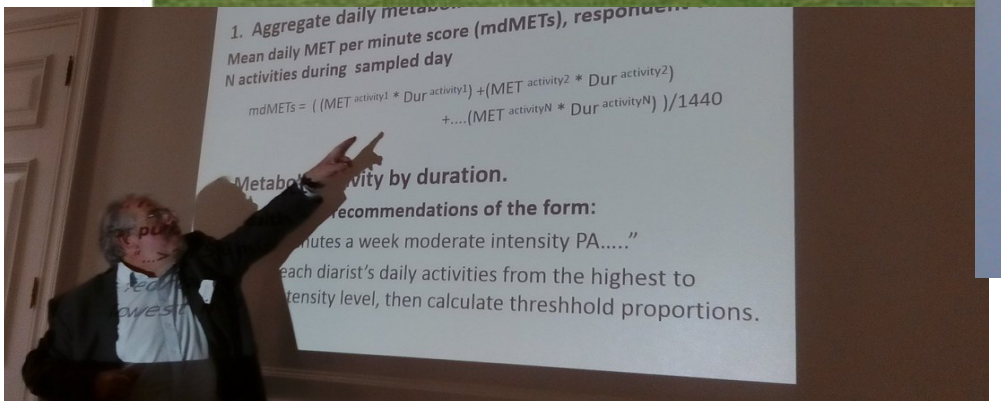
WiFi™

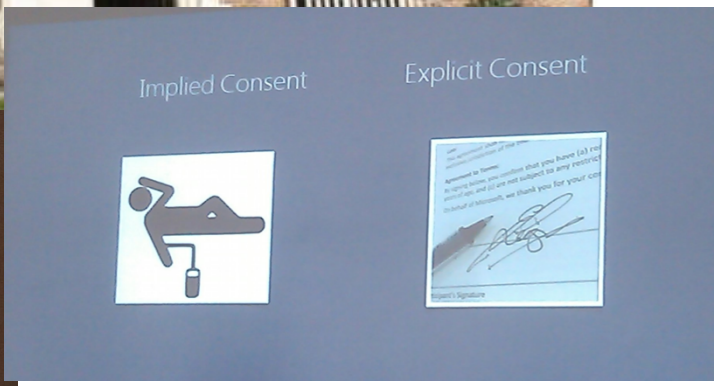
Development and adaptation

Issues of data transmission and security



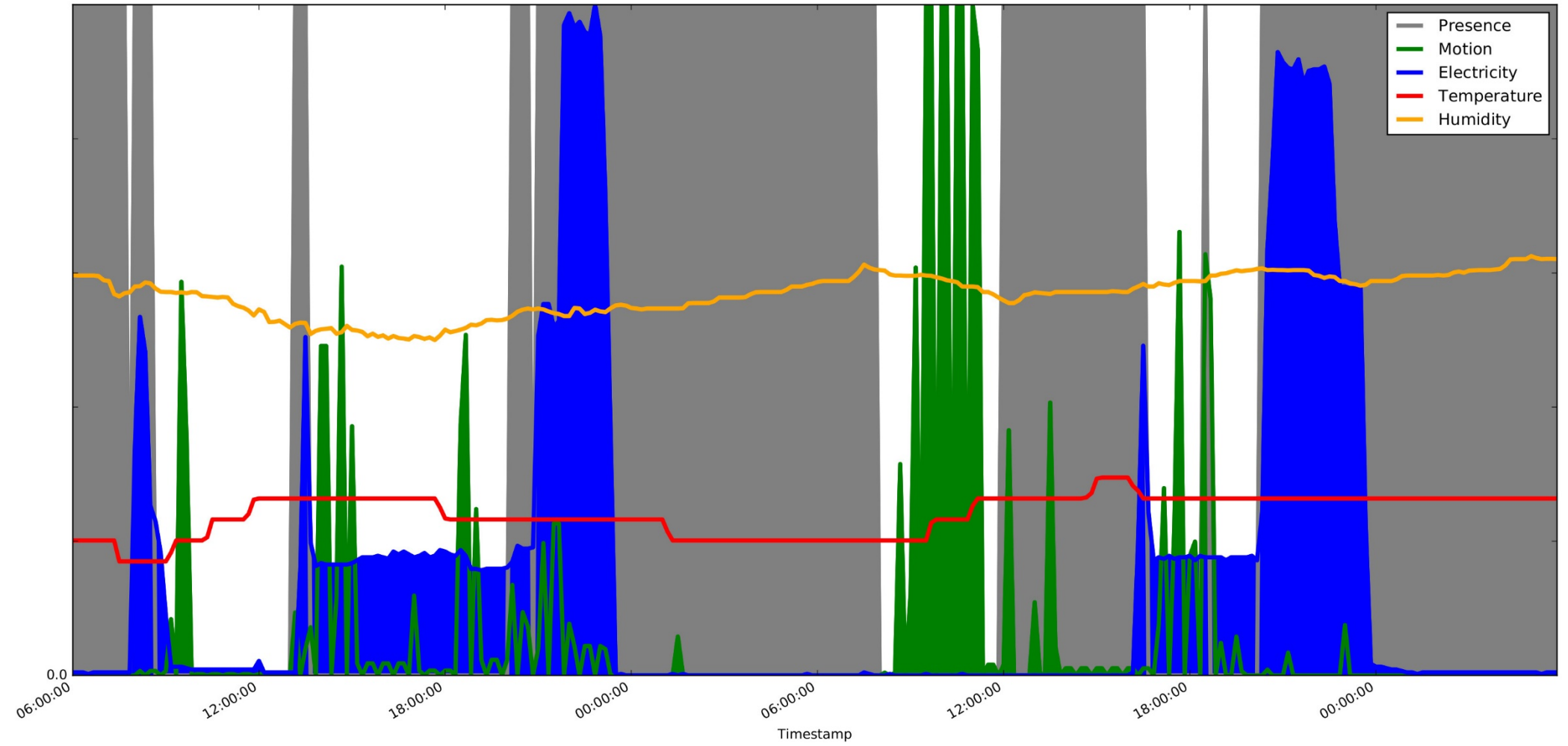
INSIGHTS: bringing together sensor technology and social research





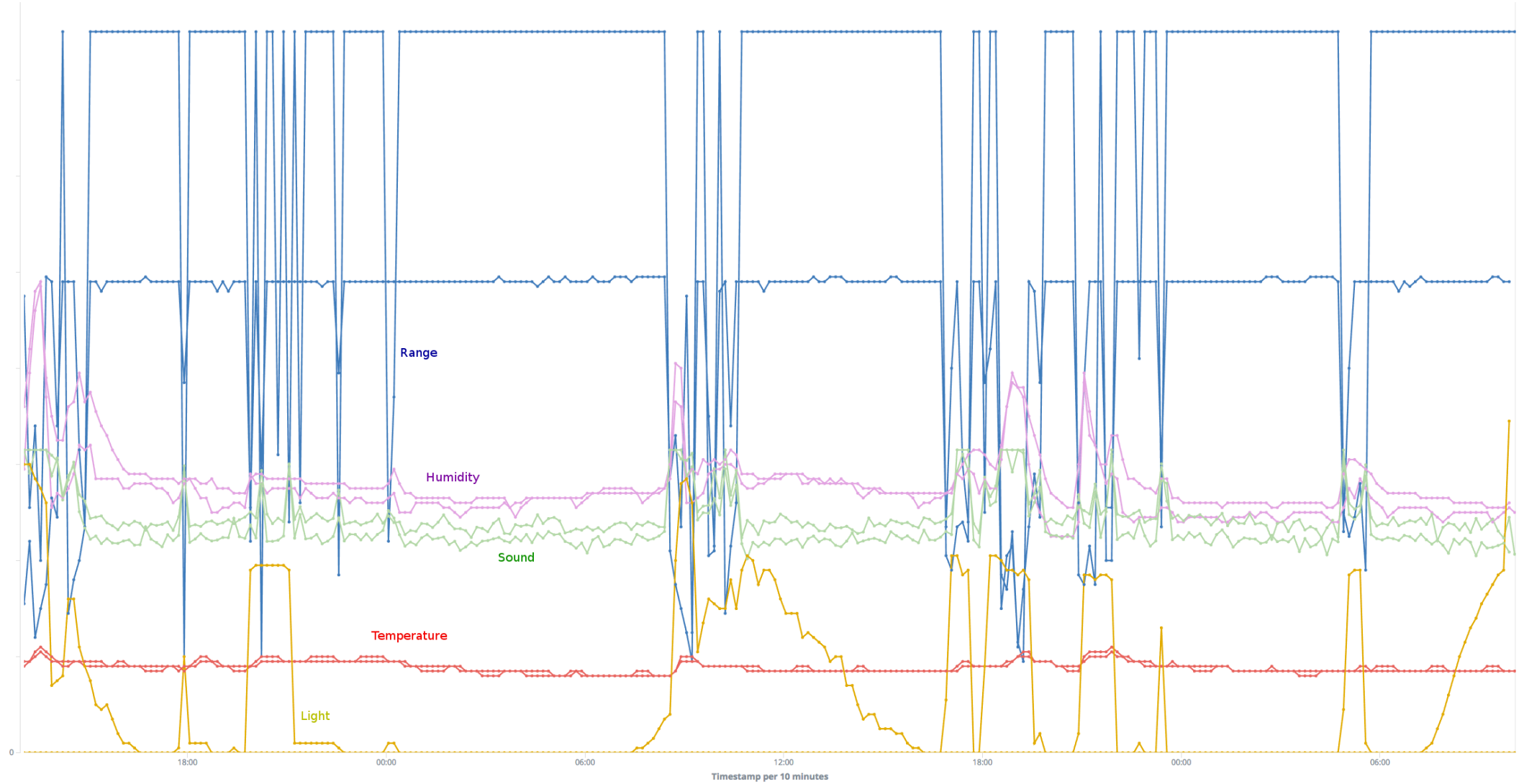
Testing: in a bedroom + study

*From **23 Sept** 6:00am until **25 Sept** 6:00am*



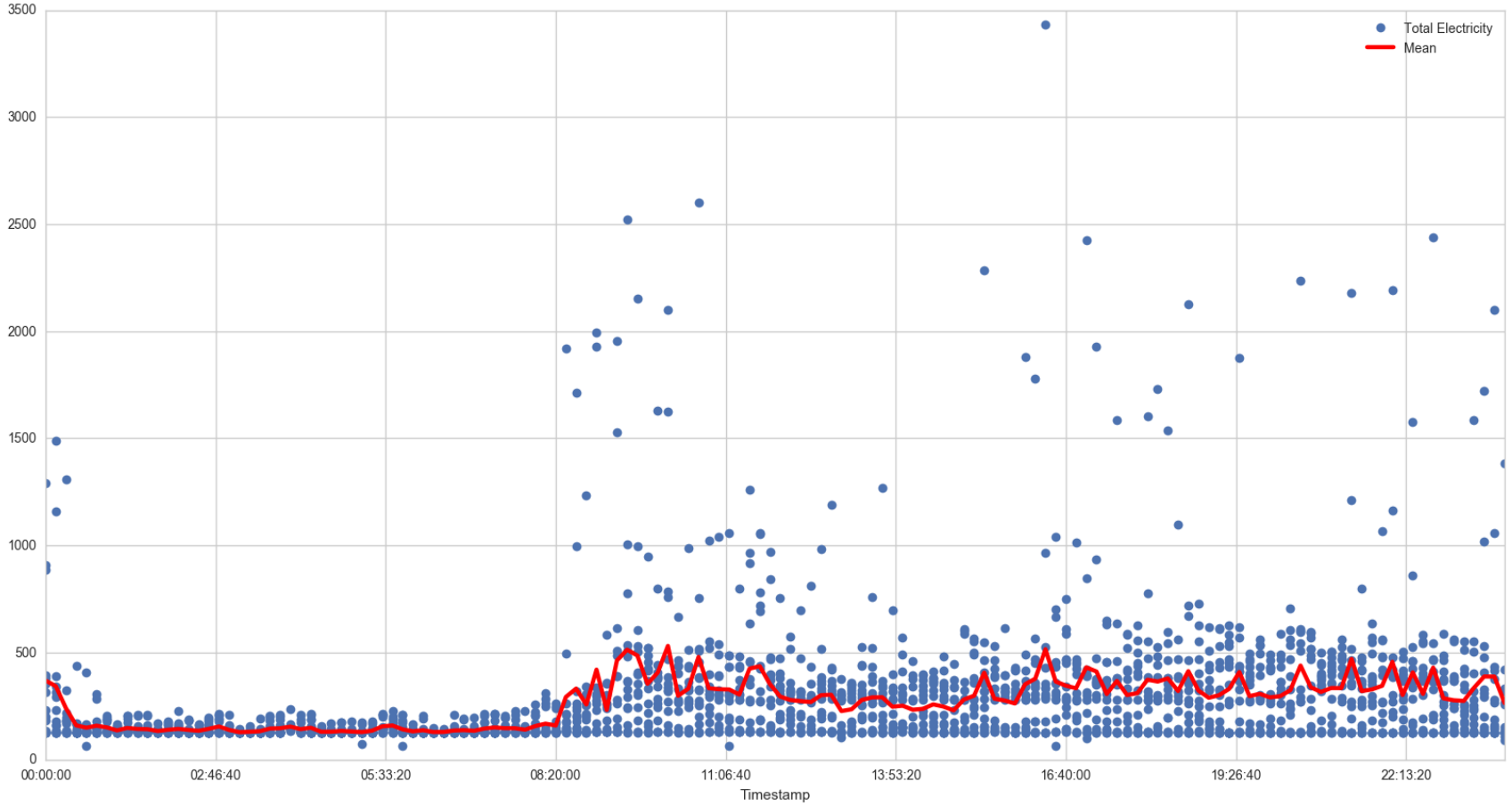
Testing: 45 hrs in a kitchen

*From **26 Nov*** 1pm to ***28 Nov*** 10am



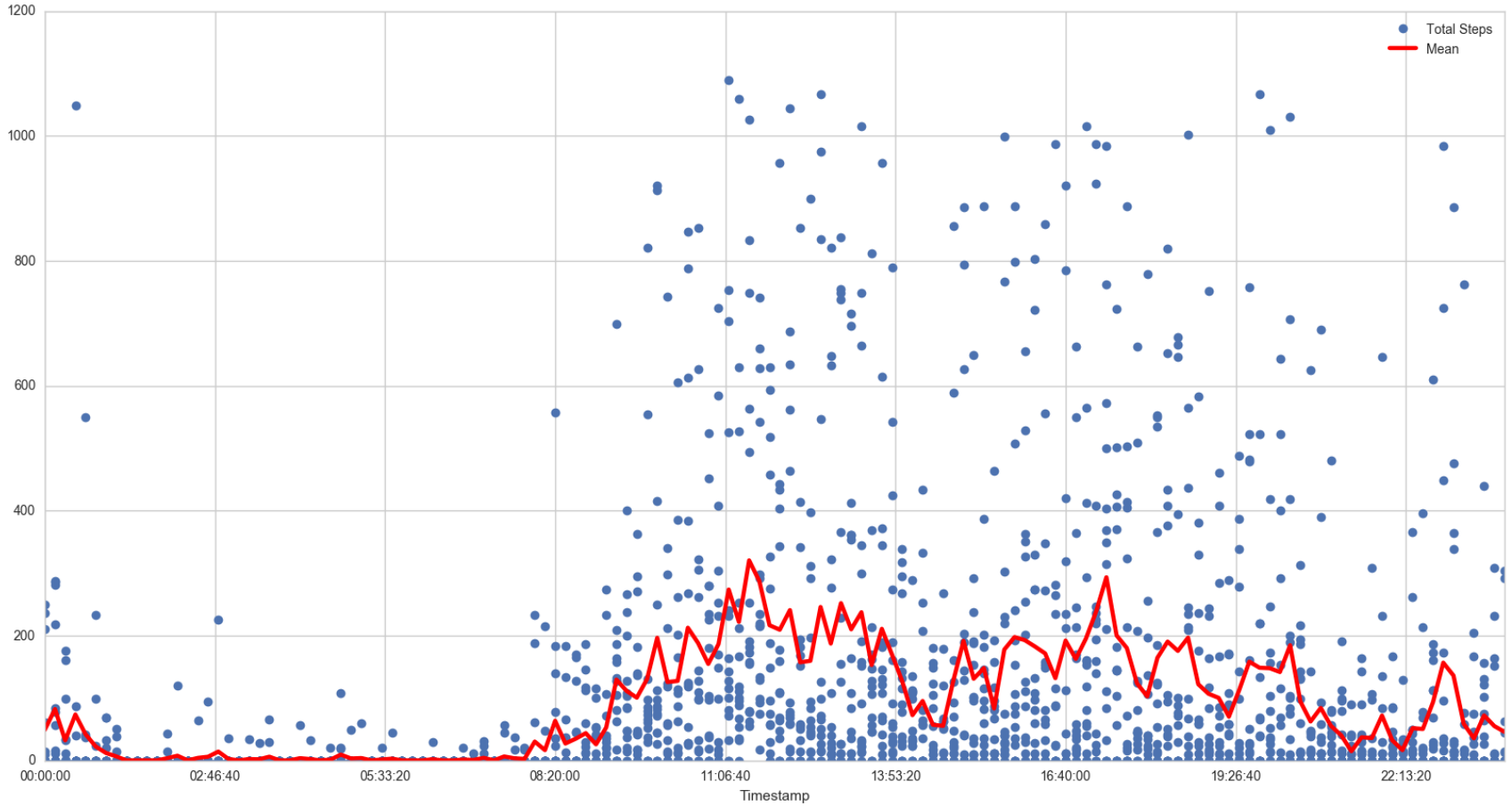
Testing: electricity daily distribution

*From **05-12-2016** to **05-01-2017***



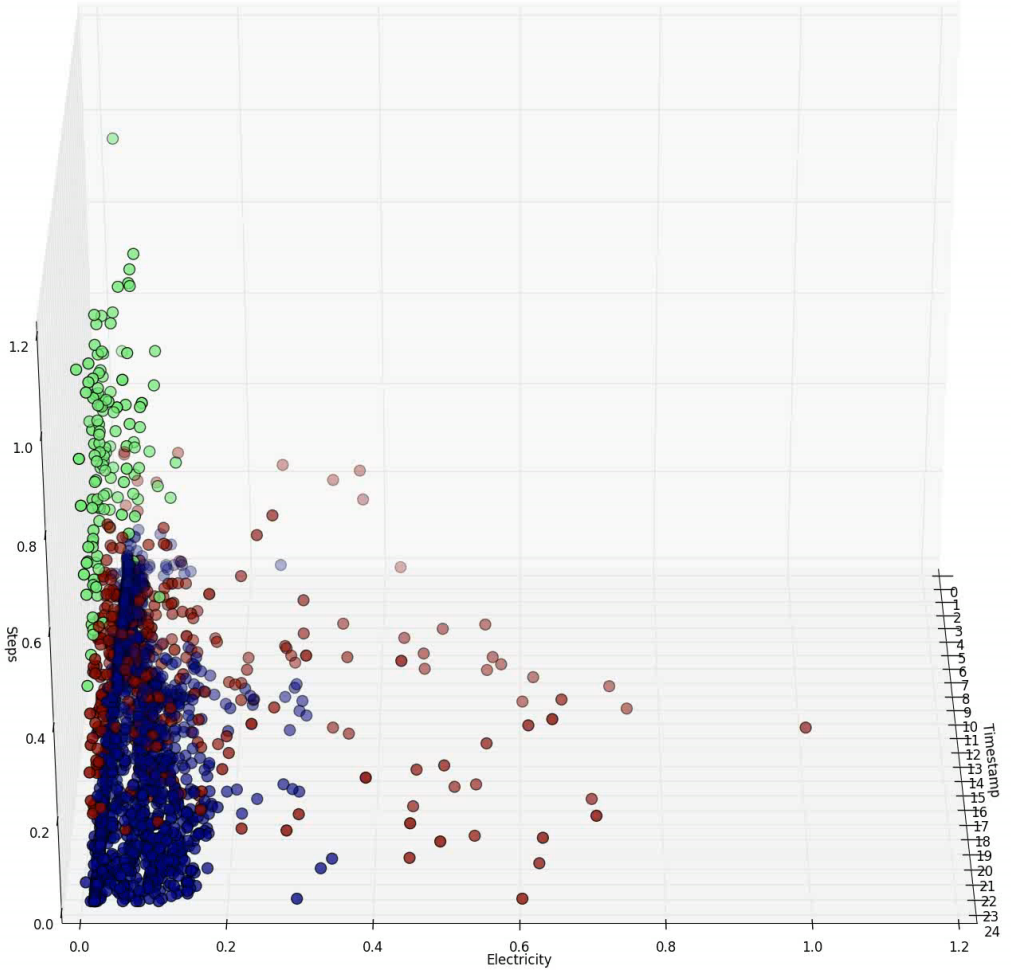
Testing: motion daily distribution

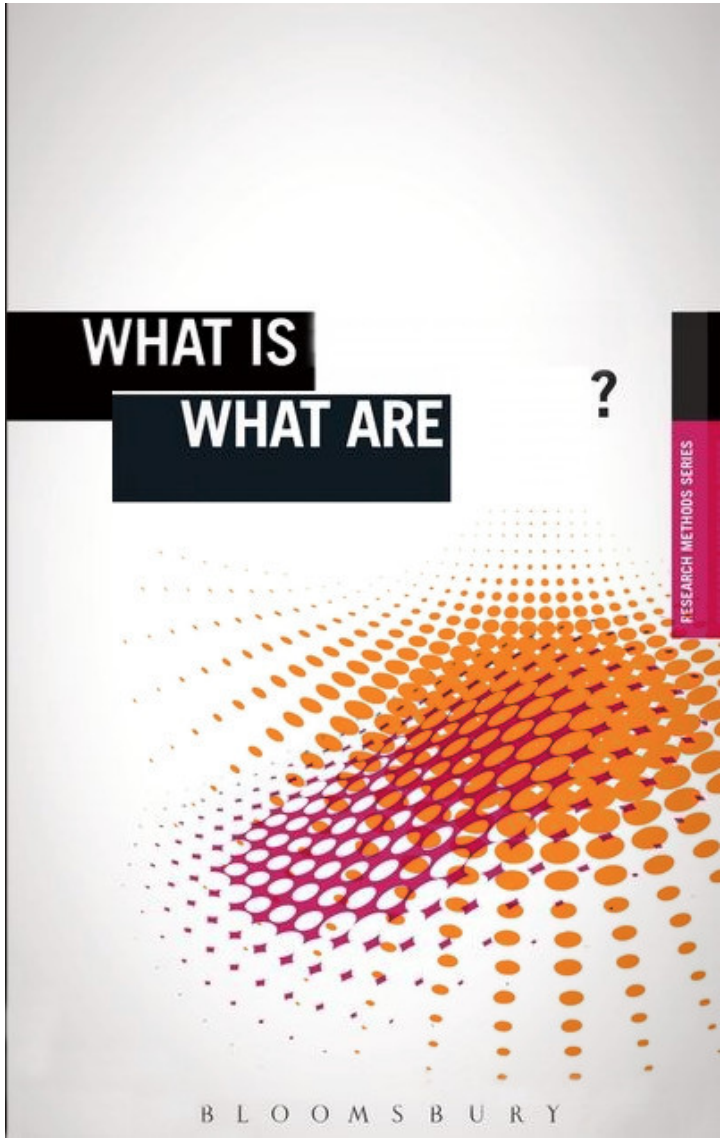
*From **05-12-2016** to **05-01-2017***



Clustering: Time-Electricity-Motion

*From **10-12-2016** to **25-12-2016***





'What is?' Research Methods series

Graham Crow (ed.) University of Southampton

What are sensors in social research?

HomeSense timeline

2016

1st February: Start date

February / March:
- Started testing wristbands
- First prototype test of the IoT Egg
- Reviewed the state-of-the-art in tracking, time use, profile analysis, etc.

April / May:
- Set up database
- Developed data processing and visualization techniques

June: Bloomsbury workshop
- Developed quantitative and qualitative research instruments

July / August:
- Drafted data collection guidelines
- Prepared and submitted ethics approval application

September / October:
- Tested sensors and other methods in 'friendly' household
- Liaised with meet-ups and other relevant groups to publicise HomeSense

November / December:
- Second pilot test (comprehensive)

2017

January / February:
- Ethics approval
- Start recruitment

March / April:
- Fieldwork
- Data collection and visualizations
- Submit book proposal

May / June:
- Fieldwork
- Data collection and visualizations
- Start developing data-analytic techniques

July:
- First NCRM course

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digital sensors in social research