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BIG DATA - Quantified Self

Big Data London Conference – 7th May 2014

Ruth Thomson

8 May 2014

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- Over 400 engineers, designers, scientists, and consultants.
- Delivering innovative product development for our clients across many market sectors including medical, sports & fitness, enterprise, and personal care.
- We work with our clients at all stages from concept generation, through prototyping to transfer to manufacture & implementation of systems.

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Quantified self

- What is it?
- Why are we interested?
- Why now?
- What's next?

Quantified self – what is it?

- The Quantified Self is a movement to incorporate technology into **data acquisition** on aspects of a **person's daily life** in terms of inputs (e.g. food consumed, quality of surrounding air), states (e.g. mood, arousal, blood oxygen levels), and performance (mental and physical).

Ref: http://en.wikipedia.org/wiki/Quantified_self

- Data measurements about me and/or my surroundings, to provide me with actionable information to enable me to be healthier / fitter / better at X, Y, Z

Ref: me

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There are many different names for this area and related areas

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Whoever we are, we have many questions about our bodies and our surroundings…

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So we have lots of questions!

…and there are lots of parameters about our bodies & our surroundings that we can measure / infer to give us the answers…

- ECG
- Ambient temperature
- EEG
- Distance travelled
- Pulse ox
- Speed
- Medication adherence
- Calories burned
- Activity level
- Galvanic skin response
- Glucose levels
- EMG

→ explosion of new products/systems

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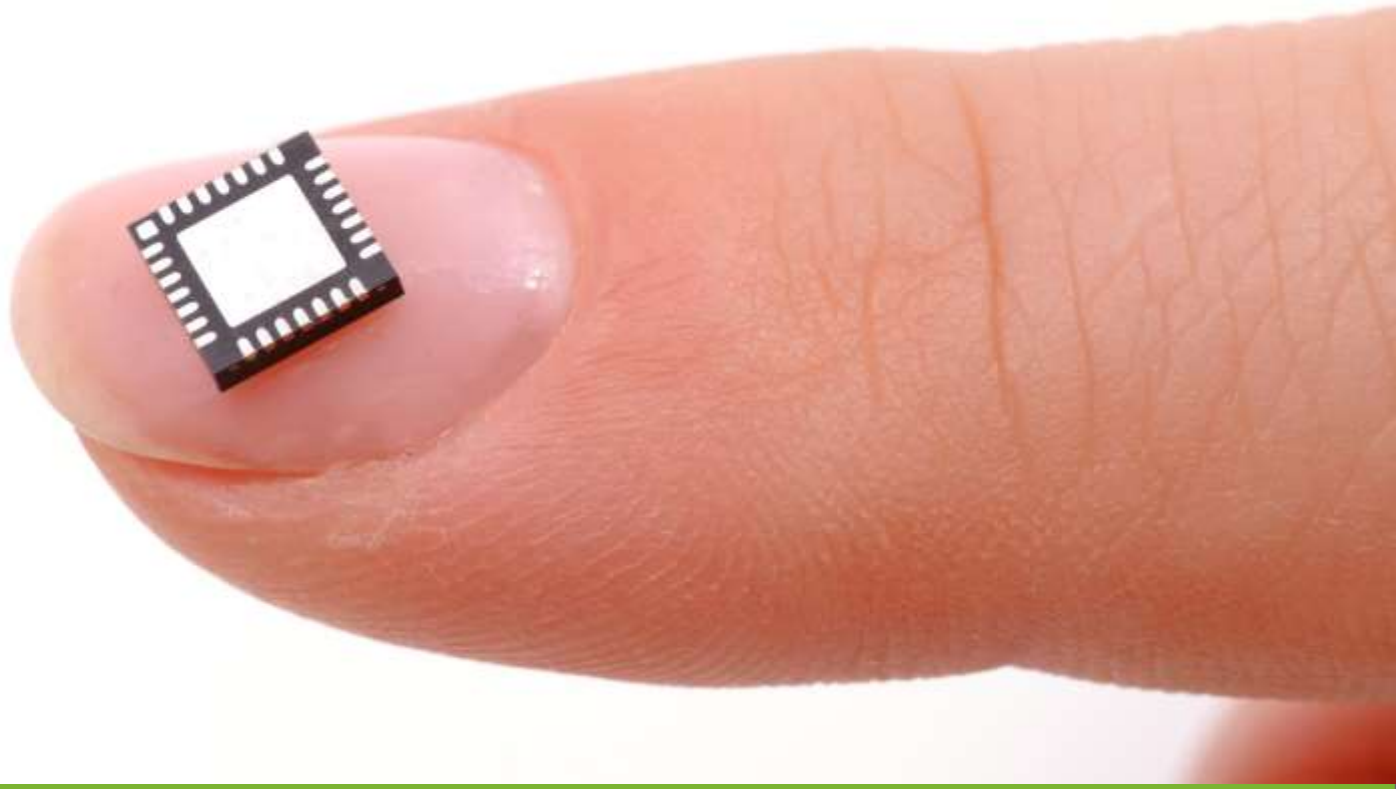
Technology availability

- The necessary components are now available at a cost, size and performance that makes new products/systems possible



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Uptake of smartphones reduces the cost of entry for new products/systems…

- The uptake of smartphones means that most consumers already have part of the system in their pocket
- Quantified self systems can effectively ‘piggy back’ on this existing infrastructure
  - Cost benefits
  - Data capture is effectively omnipresent

On average, there were two smartphones for every nine people on earth, or 1.4 billion smartphones, by the end of 2013.
ref: www.businessinsider.com

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Data storage and accessibility in the cloud

- The rising adoption of cloud storage means that consumers have a place to store all the data that they are gathering about themselves
- The increasing smart infrastructure of data storage means that it can be accessible and secure

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Internet of thing → internet of things

- Today we are limited to single devices communicating in silos to the cloud
- We are moving towards a future of truly connected devices where the devices will communicate intuitively with each other, gathering data about you and the environment and allowing smart inferences on what you want/need

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The hub moves beyond the smart phone

- Today the smart phone provides a convenient hub for connection to the cloud
- However it is not the ideal hub for many scenarios… bathrooms, exercising…

- We are moving towards a future of intelligent passive nodes

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→real BIG data

We're just at the start…. It's extremely exciting to be part of the next stages in this trend!

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At Cambridge Consultants we are the best team in the world to develop and implement innovative connected systems

- We have all the required technical skills under one roof AND the experience of designing and implementing system architectures such that we can balance the requirements across the system to ensure we meet your commercial and technical requirements.
- Contact us if you'd like to learn more about how we could support your connected system development

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A bit about the presenter…

Ruth Thomson leads the Consumer business at Cambridge Consultants. She has more than 12 years' experience of working with consumer brands, using technology to deliver innovative customer experiences across a range of products and services.

Cambridge Consultants brings significant skills & experience to the development of novel connected systems and Ruth is increasingly applying these skills in the Consumer sector. Work includes sports & fitness technology development, wellness and other personal care applications. Across these areas we are using low cost sensors in a smart system design to measure aspects of their performance, technique and well-being to provide actionable information to the consumer.

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