The internet of things is a vision. It is being built today1; this is the simple but bold claim of Council, a European think tank established to manage and consult about the internet of things. Beneath this single statement lie years of complex development and a multiplicity of activities, products and business models, which currently pull understanding of the internet of things in so many different directions.

Depending on how you choose to chart its history, the internet of things is at least 23 years old and arguably started with a webcam pointing at a coffee machine2. Enabling a series of streaming images from a camera that could be accessed through a web browser was revolutionary in 1991. At the time the coffee-cam was generally presented in the popular media as a gimmick. This first step in an internet of things was almost dismissed because the majority of commentators could not imagine any wider application or a viable business model for webcams.

Now, in 2015, webcams are commonplace in the home and business environment as well as regularly being used on traditional television news broadcasts. For most users they would not even consider their webcam as part of the internet of things. The internet of things was almost dismissed because the majority of commentators could not imagine any wider application or a viable business model for webcams. Now, in 2015, webcams are commonplace in the home and business environment as well as regularly being used on traditional television news broadcasts. For most users they would not even consider their webcam as part of the internet of things.

The internet of things is IBM’s Adept project3, a very early home automation system written as a private primary application of Beacon so far has been to push out customised vouchers to suitably activated mobile phones. What becomes clear in the development of a retrospective internet of things is that any unique thing, even if it is online, by itself is of little value. A network of sensors and the monitoring of changes in these sensors will produce an interesting and compelling use case for a retrospective internet of things. However, a sufficiently large and successful retrospective internet of things is yet to materialise.

The prospective IoT

More speculatively and still primarily the domain of R&D departments in larger technology companies is the prospective internet of things. The development of a prospective internet of things is the riskier and more fraught route for development. Misterhouse4, a very early home automation system written as a private blockchain and BitTorrent as well as a secure communications protocol to enable a more sophisticated fully communicative internet of things. Embedding the use of a cryptocurrency technology into the system adds something genuinely new into digital things – recognisable exchange value. Integration of things with a currency and giving them a value would add new impetus to the development of a network thing where real exchange value could be built directly into items and, in effect, integrate things automatically into a familiar economy that can be managed by existing tools and platforms including Amazon and eBay.

The internet of things is being built today. It was being built 20 years ago and it will still be under construction in 20 years time. The challenge right now is to create a small aspect of a prospective internet of things that produces real value and benefit. The internet of things is not a marketing device and will only be of use when consumers can see transparent value, not just because it is ‘on the internet’, but because their lives genuinely benefit.

The challenge right now is to create a small aspect of a prospective internet of things that produces real value and benefit.

The internet of things is IBM’s Adept project3, a very early home automation system written as a private project, has been in development since 2000 with some interest and installations, but is far from receiving any sort of general acceptance. LG also attracted significant headlines in 2000 with its Diós refrigerator5.

Fourteen years later the world is still trying to understand the benefits of an internet-connected fridge while silently in living rooms around the world television sets have increasingly become ‘smart’.

This quiet change has happened with less emphasis on the device being online, but significant attention put onto the increased range of options, content and close integration with ‘things’ that we already take for granted as being online – phones, tablets and laptops.

By stealth and very patiently, a form of Misterhouse is developing with household devices that actually benefit from being digital by being able to talk to each other. Over time the Philips Hue Lighting System and other more and more mundane devices will become part of this network of things as the benefits of their networked interconnectivity is recognised by everyday consumers.

The prospective internet of things embeds connectivity into the core of a device – for these things being offline appears to be almost nonsensical and when they are offline the user experience is a significantly frustrating experience.

Cisco’s Planetary Skin project6 is exactly the type of internet of things that could not be realised even in part without the support of a large technology company. The concept of creating a planetary network of interconnected sensors was part of the prospective internet of things in its ambition, but is too tied to the ethos of the retrospective internet of things as the benefits of their networked interconnectivity is recognised by everyday consumers. The project makes use of the Bitcoin blockchain and BitTorrent as well as a

References
1. www.theinternetofthings.eu
2. www.technologyreview.com/article/401059/coffee-cam
3. www.talesofthings.com

Notes:
1. Fourteen years later the world is still trying to understand the benefits of an internet-connected fridge while silently in living rooms around the world television sets have increasingly become ‘smart’.

2. Enabling a series of streaming images from a camera that could be accessed through a web browser was revolutionary in 1991.

3. Adept project

4. Misterhouse

5. LG

6. Cisco’s Planetary Skin

7. Philips Hue Lighting System

8. Misterhouse

9. Misterhouse

10. IBM’s Adept project

Gordon Fletcher MBCS, International Operations and Information Management, discusses the ever-growing promise of the internet of things (IoT).

GLOBAL VISION