With the ever increasing concern over the lack of privacy of personal data in the forefront of so many people’s minds, Peter Ward, a director at Sunrise Consulting, shares some good news regarding a new programme, Hub-of-all-Things (HAT), that he is helping to develop, along with the University of Warwick, which aims to address many of these privacy fears.

2014 saw a big increase in our awareness that our personal data, now collected by everyone from banks and supermarkets to our fitness monitors and home automation systems, ends up being owned by the companies who collect it and not by us. While some companies will sell our data back to us, others do not even allow us to see what they have recorded about us.

As data collection has increased, so has our concern that our data is not being held securely. Whether it’s a result of deliberate attacks or accidental failures, we’re no longer certain that our private data will remain private. And as the growth in the internet of things (IoT) permits us and others to collect an increasing amount of private data about our lives, it’s time to consider how we can ‘reclaim our data’.

**Reclaiming our data**

A group of UK researchers is leading the field to change the way that our personal data is owned and shared.

The Hub-of-All-Things (HAT) programme (http://hubofallthings.org) starts with the position that data collected by and about us should belong to us. It should not belong either to those whose tools we use to collect it or to those who collect it as we interact with them.

From this starting point, the programme is researching how we might exploit our data for our own benefit when it’s all brought together.

Collecting the data together from multiple sources will let us know how to use it for direct personal benefit. This could mean that we can get a better deal from companies who sell our data back to us or that we can use our data to help us make better choices about our lives.

The programme is also researching how we can control our data and ensure that it is held securely. This could mean that we can decide who we share our data with and how it is used.

The programme is also researching how we can ensure that our data is not misused. This could mean that we can prevent companies from using our data in ways that we don’t agree with.

The programme is also researching how we can ensure that our data is not lost or destroyed. This could mean that we can prevent companies from losing or destroying our data.

The programme is also researching how we can ensure that our data is not stolen. This could mean that we can prevent companies from stealing our data.

The programme is also researching how we can ensure that our data is not used for illegal or unethical purposes. This could mean that we can prevent companies from using our data for illegal or unethical purposes.
sources puts it into context. Those who work with big data would love to have that, but they have to work with data where the context has been removed through aggregation and anonymisation.

HAT data, on the other hand, can be fully contextual because it can include information on everything that is going on in our lives. This makes it potentially very valuable.

As a simple example, imagine giving a company permission to read several of your data streams in context: to know what you eat using information from your supermarket loyalty cards, how much you exercise extracted from your fitness monitor, and the trend in your weight sent from your IoT-enabled scales.

It could analyse those streams together in context and offer advice or products that could help you personally in a way that just would not be possible while those pieces of information remain separate and anonymised. It becomes cost-effective for companies to treat you as a ‘market of one’, providing you with personalised offerings relevant specifically to you.

The HAT programme is, therefore, not just interested in making it possible to collect and store our data securely, but also in how we might then exploit the value of our data in context. It is creating a marketplace for our personal data so that we can exchange it for goods and services that are personally relevant to us as individuals.

The personal data vision
It starts with an encrypted database. We anticipate that this will be made available to you by a ‘HAT provider’. It may be in your home – perhaps on your laptop, your router or your home automation system – or in the cloud. In this HAT data store all your personal data from multiple ‘HAT-ready’ sources is brought together securely. Those sources will use application programming interfaces (APIs) to post their data into your database. You will be free to choose who can read your data.

You will be able to view your data using an app on your browser, phone or tablet. You will see how the data from multiple sources comes together in context to give you new insights into your own life. And you can trade those insights with others to get the products and services you want.

The trading process can take one of two forms. Firstly, you will be able to install apps that use data in your HAT database to engage with companies and other organisations. For example, there may be an app that uses your online supermarket’s API to reorder groceries or cosmetics based on your rate of consumption. Or an app to share information with the local homeless shelter on the food in your fridge that is close to its sell-by date so they can collect it for distribution instead of it going to waste. Or an app to share information on your weight and level of fitness with your doctor so they can recommend a new exercise regime.

Secondly, you can grant access to others to read specified subsets of your data in order for them to make personalised offers to you. An example might be to allow a high street retailer to access information on the clothes in your wardrobe so that it can propose the perfect new jacket that enhances what you already have.

You may charge the retailer a fee to see your wardrobe or it may offer you a discount; either way, you benefit financially from the transaction as well as receiving a personalised offer that would not be available to you otherwise. The retailer also benefits because its offer is shaped by your context and you are, therefore, more likely to accept it.

Whichever method you use to trade, your data remains safely stored in your own private database with its tight security under your control.

Ready for launch..?
So is this HAT research programme ready for prime time? Not quite! The concept is being tested in the lives of a small number of researchers. IoT-enabled devices – including some specially created for the programme – are feeding data into the researchers’ cloud-hosted databases, complemented by additional data extracted from their social media feeds.

The HAT user interface allows the researchers to analyse their own data, and apps are being written to support its exchange for products and services.

But are we ready to stand up to Google to reclaim ownership of our search data, and to Tesco for our shopping history? No. There’s still a way to go. But this research programme has made a start. It’s showing that it’s possible for us to own our personal data and to decide for ourselves who gets to see it.

In this way, a market can be created that will allow each of us to receive a return on the information we share, and it’s a unique market because that information is contextual and personalised. It will allow companies to relate to us personally, meaning that we can receive offers that we are much more likely to value.

We’re planning to move into limited pilot in early 2015 and if all goes well then we could see a rollout in mid-2015. To facilitate this we’re considering establishing a ‘HAT Foundation’ that owns the HAT specifications and approves HAT database providers. We’re targeting the first million HAT databases and have aggressive timescales, but if we’re going to reclaim our data then there’s not a moment to lose. If you want to join us then please visit: http://hubofallthings.org/join-the-hat-revolution to learn more.

Notes
The HAT program is funded by Research Council’s UK’s Digital Economy programme. It involves interdisciplinary researchers in the areas of economics, business, computing and the arts from the six universities of Warwick, Exeter, Cambridge, Nottingham, Edinburgh and the West of England. Its objective is to create a multi-sided market platform for personal data generated from connected services and products, in particular from IoT devices.