

Search gets smarter with identifiers

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Credit: CORDIS

The future of computing is based on Big Data. The vast collections of information available on the web and in the cloud could help prevent the next financial crisis, or even tell you exactly when your bus is due. The key lies in giving everything – whether it's a person, business or product – a unique identifier.

Imagine if everything you owned or used had a unique code that you could scan, and that would bring you a wealth of information. Creating a database of billions of unique identifiers could revolutionise the way we think about objects. For example, if every product that you buy can be traced through every step in the supply chain you can check whether

your food has really come from an organic farm or whether your car is subject to an emergency recall.

But it's not just consumers who will benefit from a world of unique identifiers: governments and businesses are making use of them too. The company Okkam indexes unique identifiers for the vast amount of data available online. Okkam srl was created to commercialise technologies developed within the EU-funded research project OKKAM. One of their main customers is the regional government in Trentino which is using big data, as processed by Okkam srl, to improve their tax collecting activities.

"We are working with the regional government in Trentino to collect data about tax payers," says Paolo Bouquet, president of Okkam srl. "We use it to help discover tax evasion, which is, as you can imagine, a very hot topic in Italy."

The company is also working with the financial services industry to help prevent a deepening of the [financial crisis](#). By bringing together data about individual customers from banks, credit rating companies and the web, lenders can identify high-risk individuals and change their lending decisions accordingly. This will make it easier to prevent the high rates of defaulting that brought about the recent global financial meltdown.

Using identifiers to index the world

Okkam srl provides a centralised repository of identifiers (or labels) for people, organisations and things. Anyone can use these labels to index anything that might be of interest online or in private collections.

The difficulty with using [big data](#) is that the person or business named in one database might have a completely different name somewhere else. For example, news reports talk about Barack Obama, The US President,

and The White House interchangeably. For a human being, it's easy to know that these names all refer to the same person, but computers don't know how to make these connections. To address the problem, Okkam has created a Global Open Naming System: essentially an index of unique entities like people, organisations and products, that lets people share data.

"We provide a very fast and effective way of discovering data about the same entities across a variety of sources. We do it very quickly," says Paolo Bouquet. "And we do it in a way that it is incremental so you never waste the work you've done. Okkam's entity naming system allows you to share the same identifiers across different projects, different companies, different data sets. You can always build on top of what you have done in the past."

The benefits of a unique name for everything

It's not just data that benefits from Okkam's unique name register. Real world objects like bus stops and newspapers are getting the unique identifier treatment. Using simple technologies like QR codes (the black and white 'messy chessboard' type of bar code) and Near Field Communication (a radio frequency that allows mobile devices pass information back and forth), Okkam has made it possible to tag real objects with online, up-to-the-minute data.

For example, the province of Trentino has equipped each of its bus stops with unique QR codes. This means that passengers can scan the code and get the latest information about travel disruption or download timetables. The future 'internet of things' takes a step closer with this technology.

More information: 'Enabling the Web of Entities. A scalable and sustainable solution for systematic and global identifier reuse in decentralized information environments' website: www.okkam.org/

Provided by CORDIS

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