Addressing can be an Existential Problem

4 BILLION PEOPLE DON'T HAVE AN ADDRESS

A recent joint AGI/British Computer Society Address Day provided several perspectives but none more important than the difficulty of establishing an identity without an address. Around the world four billion people do not have a legal identity and cannot establish one without some form of address. Lack of an address is an existential problem. The UK 'address wars' are trivial in a global context, says Robin Waters.

Steve Coast (founder of OpenStreetMap) said last year that "Address data is really the most important and interesting thing to work on [right now]" (Techcrunch 2014). Did this event support this comment? Arguably, yes. But it might depend on where you live or work.

In the UK and most of the developed world we take it for granted that we have an address which we use as part of our identity – for passport, driving licence, delivery, emergency service access, etc, etc. We don't give it a second thought unless it is to make sure we have the right postcodes for our satnavs or to rail at the mismatch between our administrative and postal boundaries! And we don't have to pay for our individual address – it is created by our local authority, given a postcode by Royal Mail and geocoded by Ordnance Survey. Its structure seems, usually, completely logical – house name/number; street name; locality; post town; postcode.

We may complain about the county no longer being required by Royal Mail or that we shouldn't use a vanity locality to give us higher status, but we do have an address that any organisation can check and verify for application forms or on-line orders. Providing, that is, that they pay a fee to use the address databases provided by Royal Mail or the Ordnance Survey. Individually we are free; institutionally we are licensed and restricted.

A Roof But No Address

But, as Anthony Beck, from the University of Nottingham explained, there are four billion people in this world who cannot claim a unique address, much less have it codified and made available for identity checking or delivery of goods or services. Most of these people actually have a roof over their heads and can show you where it is. It will have a GPS measured latitude and longitude, which runs to about 18 digits, that will locate their home uniquely to anyone with a GPS or a web map service. So how do we achieve an internationally acceptable address for anyone, anywhere?

Two of the presenters addressed this as an international problem; the other two stuck to the UK. All of them were forced to discuss the issues of access, open data and costs. Jenni Tennison (Open Data Institute) kicked off with her heartfelt plea to back the Open Addresses initiative recently launched by the Open Data Institute with the backing of Cabinet Office funding. She believes that addresses are a 'public good' that should be made available to anyone (individual or organisation) that can make use of them – whether for profit or not. In Denmark, there has been a tenfold increase in the use of address data since it was made open and the benefits exceed costs by a factor of 70.

The current UK position is that a start-up company building an application needing address data faces prohibitive costs and prohibitive licensing complexity, not to mention potential competition from the monopoly data providers. Many people think that the sale of the Postcode Address File with Royal Mail was a mistake and that, combined with the Ordnance Survey pricing and licensing regime, it is important to try to set up an Open Data alternative to PAF or the AddressBase products.

Infected by Existing IPR could Leave you Barking

Jenni would much prefer that the government took action to provide these 'definitive' datasets on an Open Data licence so that everyone can benefit and she is quite sanguine about the difficulties of achieving the Open Address goals in any reasonable timescale. It will only be achieved if substantial chunks of address data can be sourced from individual inputs prior to verification against any of the PAF or AddressBase products. Organisations (companies, charities, etc) can provide raw data from addresses captured on their websites before it is 'infected' by existing IPR. To start with many addresses will be inferred from the data available and her graph shows the database reaching 80% of the 25-30 million target within 12 months.

It is clear that a considerable amount of effort is going into trying to gather, match, validate (in so far as that is possible) and infer or interpolate missing addresses. Many in the audience were rather sceptical. Even Jenni herself admitted that this is a 'second best' solution that can never be definitive. She also deliberately declined to define an address and admitted that the initial offering would not include geocodes. How would the Open Addresses be paid for? By so called 'Freemium' services such as validation, auto-completion and geocoding. One member of the audience described the exercise as 'barking mad'!

OS and GeoPlace's Answer

Chris Chambers (Ordnance Survey & GeoPlace) put the case for the latest OS products that incorporate PAF and claim to be as good as it gets for UK addresses. He was not fazed by his products having been described as infectious but boasted of the nearly 40 million addresses now available from AddressBase Premium. He insisted that licensing terms are relatively relaxed and that all public sector organisations have access 'free at the point of use' including the facility to share with other organisations where required. There are no plans, at the moment, for a centralised address service. But there are plans for more frequent updates than the present six-week cycle but he made the point that partners and customers cannot be forced to keep up with any particular update regime.

What are your Magic Words?

Looking further afield were Anthony Beck and Tim Williams from What3Words. Anthony introduced DAIS which stands for 'Determining Addresses which are Independent of infrastructure using a Spatial algorithm' which 'can be used as a benchmark to evaluate technology candidates'. But this is the technical side of addressing which, whether it is a national or international system, should meet some basic criteria for spatial referencing, transparency and accessibility.

There are several candidate systems which claim universality: from the Maidenhead Locator System (are you a radio ham?) through GeoHash, MapCode and the Natural Area Code to What3Words of which more later. Most of these translate a latitude and longitude into alphanumeric codes which are much more difficult to remember than the average UK postcode though they do provide a higher resolution. None of them have taken off to any extent except in specialised applications (like radio amateurs) – I guess a good analogy might be with Esperanto v English. Any system has to compete with ubiquitous WGS84 datum lats and longs available from every GPS enabled device on the planet.

What3Words started two years ago because Chris Sheldrake, the founder, couldn't communicate the exact venues (often in out of town fields) to the rock bands that he managed! Tim Williams explained that the 'three word' format enables anyone to communicate – by any media – a location that is accurate to a 3 × 3 metre square anywhere in the world with three English words. These three words will always be more easily memorised than 18 digit coordinates or 7 or 8 digit meaningless strings of characters. To find your location words just go to the What3Words website and find your location on the Google Map window. Anyone can then find it for themselves if you have shared the three words by email, in print or by word of mouth.

Thus the PV Publications office in Stevenage can be addressed as 'paint.goal.meant' while our proprietor lives at 'debit.agreed.stones' while a car in his drive might be at 'scales.tube.chemistry'. The squares are also labelled in 22 other languages including Arabic and Chinese. There is no cost to the casual user and only a nominal charge for a 'one word' solution that you can buy (I did!) but which is now being 'de-emphasised'.

The core algorithms and data are proprietary although use of the system by individuals is free and will remain so. The company is committed to putting these in the public domain if ever they are unable to maintain them or unable to hand over to a third party that can make the same commitment. The company prices its technology to match the need and the resources available – it is less expensive in 'low income countries' and for aid agencies. If you think this idea is whacky then think again. It was presented at the Esri Federal GIS Conference in Washington earlier this year and Steve Ramage – previously of Navteq, 1Spatial and Ordnance Survey – is now their director of strategy.

Enthused or Confused?

I came away from this meeting enthused and confused. Enthused by the importance of addressing and the evident innovation from some. Confused by our government's total schizophrenia. Are individuals' addresses vital to their very existence? Clearly they are. Are lists of definitive addresses a 'public good'? There is no doubt in my mind that they are. Should we therefore privatise and/or monetise them in monopoly organisations? Well we have done! Will we ever scrap our street address for three arbitrary words? I doubt it. Could the rest of the world do better with managing their address infrastructures than the UK? They ought to, but with politicians' dogma and entrenched profitable monopolies, don't bet on it.

At the final panel session, Tim Williams suggested that What3Words might not succeed as a company but that they would at least leave a 'good looking corpse'! I don't think we can be so sure about Open Addresses Ltd which really does seem to have set itself a very steep mountain to climb. And lest I sound too cynical I should report that a show of hands at the end of the meeting overwhelmingly supported a statement that the addressing scene in the UK had improved over the last five years.

See more at http://www.agi.org.uk/news/agi/674-bcs-agi-one-day-meeting-on-addressing-5-march-2015#sthash.g5AOwj5y.dpuf

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