ARTICLE - ADDRESS FULFILLMENT IN WEBFORMS

By Tony Reynolds

We all want our websites to be as quick and easy to use as possible. There are many detailed techniques which can contribute to this. One of these is "address fulfillment": that is, generating the visitor's full address from the postcode. We're very fortunate in the UK to have a fine-grained postal code system whereby in almost every case the postcode gives the street name as well as the town. As an example, CB1 7EA expands into: "Finchingfield Road, Steeple Bumpstead, Haverhill, Suffolk, CB1 7EA". In this case, the user made 7 keystrokes to get 54 characters of data. In addition of course, typos are eliminated and the official address is guaranteed.

You've almost certainly used this yourself on the Internet and wondered how difficult it would be to implement and how much it would cost. The good news is that it's very easy when using one of the several webservices available to recover the data and it costs very little – typically between 1p and 3p per lookup.

To remind ourselves of how it can work in practice see Fig.1 and Fig.2. The user types in his or her postcode and clicks the "Find Address" button. The code behind the button goes off and looks up the postcode and fills the form. The cursor is left at the start of the first address box so the user can add the house number. Of course, it's a good idea to allow the address to be filled in manually to allow for very new postcodes or for those that can't use a postcode for some reason.

Various sets of addressing data are available, but the most popular source is the Royal Mail. It charges a licence fee for the use of its data which is calculated using several criteria. Firstly, it distinguishes between "thoroughfare-level" data where as above you get the address from the street name downwards and "premise-level" data where you also get a list of the house numbers and names at a postcode and the organisation names. Broadly speaking, premise-level data is twice the cost of thoroughfare-level. The most common situation is that consumer sites use thoroughfare data because in most cases the visitor only has to type one or two characters to add their house number and this is likely to be faster than selecting from a drop-down list of alternatives.

Business-to-business sites commonly use premise data because getting the organisation name as well as its building name and number – say "International Widget Corporation Ltd, Widget House" – reverses the situation. Another consideration is that as there are on average 14 premises per postcode, all but the smallest roads have several postcodes. Therefore checking the premise number against the postcode forms a useful error check which could be valuable where security is important.

For Internet use, all but the most popular websites now use "transaction based" or "per click" licensing. The Royal Mail licences in blocks of 100 lookups, so this number of addresses can be generated for a fixed fee. Again, a premise-level lookup is twice the cost of the thoroughfare-level equivalent. It's important to note that while the per-click cost for public websites is quite low, the cost for internal use on an "Intranet" is almost ten times as high. For use within an organisation, it's usually better to licence on a per-computer basis.

To understand the way that an address fulfilment webservice works, carefully type the following into your browser:-

www.addressgeo.co.uk/perclick/lookup.aspx?user=test&password=password &function=getroadaddress&postcode=CB1 1DU

You'll be presented with this block of XML data in reply:-

```
<?xml version="1.0" encoding="utf-8" ?>
<Result>
    <Label>Prospect Row;CAMBRIDGE;CB1 1DU</Label>
    <STR>Prospect Row</STR>
    <TWN>Cambridge</TWN>
    <CTY>(Cambridgeshire)</CTY>
    <PCD>CB1 1DU</PCD>
</Result>
```


Fig.1

Fig.2

If you're writing in PHP a single line of code will suffice. Simply put together the URL above with the appropriate postcode at the end and code the following line:-

$xmlResult = file_get_contents($url);

$xmlResult will contain the full XML block which can easily be parsed and put into the webform. Note that with this particular webservice run by Arc en Ciel Ltd, the brackets around the county name indicate that it wouldn't normally be displayed because it derives from the town name. Other services use broadly the same method of operation.

The Royal Mail also offer ancillary data associated with the postcode which goes under the generic name of "postzon". This consists of the map reference accurate to 100m; the Local Authority Electoral Ward; the NHS Authority and the Mailsort code which is used to give discounts on bulk mailing. Postzon used to be a popular data set but since April 2010 the government has arranged that the Ordnance Survey provide almost identical data for free under the name "Code-Point Open". This is downloadable from the Ordnance Survey site at www.ordnancesurvey.co.uk/oswebsite/products/code-point-open. Not only is the data free, but the map references are much more accurate at +/- 1m. This data is therefore ideal for a "Where's My Nearest" facility or calculating delivery costs. Webservices similar to the above that incorporate this data are available.

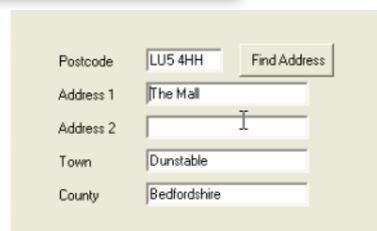*ends*