Working with Oxpoints

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Where's my book?

"Find the nearest copy of a book from a reading list (bearing in mind which libraries you can use, and the opening hours of libraries)"

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Ingredients

First catch your data...

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What we had

- Locations of (many) libraries already present in Oxpoints
- A list of libraries, with unique codes:
  http://www.lib.ox.ac.uk/libraries/byoliscode/
- The OLIS search results page, showing library holdings
  http://library.ox.ac.uk/...
  This includes:
  - Info about the availability of the book
  - Links to info about the individual libraries

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What we didn't have

- Links between library codes and Oxpoints locations
- Patron data (e.g. which libraries you're allowed to use)
- Opening hours (in a consumable form)

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Unconsumable ingredients

Example of opening hours:

Term time: Mon-Fri 9.00-22.00, Sat 10.00-16.00 University of Oxford dates of full term: Hilary 2009: Sunday, 18 January to Saturday, 14 March Trinity 2009: Sunday, 26 April to Saturday, 20 June Michaelmas 2009: Sunday, 11 October to Saturday, 5 December Hilary 2010: Sunday, 17 January to Saturday, 13 March Trinity 2010: Sunday, 25 April to Saturday, 19 June

Vacation: Mon-Fri 9.00-19.00, Sat 10.00-16.00

Closed: Christmas Eve to New Year's Day, Good Friday to Easter Monday, August Bank Holiday weekend.

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Preparation

Finely chop your data...

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Screen-scraping

Walk through the table of OLIS codes:

```
<table class="olis" border="0" cellpadding="4">
 <tbody>
  <tr class="library" valign="top">
   <th>
    <p>
     <b>All S.</b>
    </p>
   </th>
   <th>
    <p>
     <b>ASC</b>
    </p>
   </th>
   <th>
    <p>
     <b>
      <a name="ASC">All Souls College Library</a>
      <a
         href="http://www.lib.ox.ac.uk/libraries/guides/ASC.html"
         target="_top"
         title="Information about All Souls College
Library">Information</a> |
      <a
```

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Structuring

... to get something more structured:

```
<?xml version="1.0"?>
<libs>
 <lib code="VHL">Vere Harmsworth Library (Rothermere American
   Institute)</lib>
 <lib code="NDA">Nuffield Dept. of Anaesthetics</lib>
 <lib code="SCA">Social and Cultural Anthropology Library</lib>
[...]

</libs>
```

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Joining the dots

Difficulties:

- Different names - fuzzy matching
- Different schemes of uids with no translator/correspondence
- Different concept of a 'unit' between schemes
- Relationships between libraries (particularly Bodleian/OULS/etc)

Solution:

- Edit by hand (yes we can!)

```
<place type="library" olisCode="ASC" xml:id="O_lib_asc">
 <placeName>All Souls College Library</placeName>
[...]

</place>
```

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Taking shape

- Not really a mashup yet
- But it allows us to query Oxpoints by OLIS code...

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Example queries

All libraries:

- `http://m.ox.ac.uk/oxpoints/type/Library.kml`
- `http://maps.google.co.uk/?z=17&q=http://m.ox.ac.uk/oxpoints/type/Library.kml`

Individual libraries:

- `http://m.ox.ac.uk/oxpoints/hasOLISCode/BOD.kml`
- `http://maps.google.co.uk/?z=17&q=http://m.ox.ac.uk/oxpoints/hasOLISCode/BOD.kml`

Combinations:

- `http://m.ox.ac.uk/oxpoints/hasOLISCode/JES|EXE|LIN.kml`
- `http://maps.google.co.uk/?z=17&q=http://m.ox.ac.uk/oxpoints/hasOLISCode/JES%7CEXE%7CLIN.kml`

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Joining the dots (again)

With a bit of JavaScript on a page we can

- pick out an OLIS code (by its location in the HTML)
- add a link to Google Maps with Oxpoints KML using that code

```
<table
   border="1"
   width="100%"
   cellspacing="4"
   class="data-holdings"
   summary="This table contains a row for each copy held, with
columns for Location, Shelfmark, and Status.">[...]
<tr valign="top">
   <td align="left">Balliol<br/>
       BLL Main Libr
   <br/>
    <a
       href="http://maps.google.co.uk/?q=http://m.ox.ac.uk/oxpoints/hasOLI
library on a map</a>
   </td>
   <td align="left" colspan="1">0050e 007</td>
   <td align="left" colspan="1">Available</td>
   <td>
```

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A pinch of JavaScript

Greasemonkey (Firefox extension) lets us add JavaScript to page

```
var bodDetails = codeTD.innerHTML.split("<br>");
bodCode = bodDetails[1];
bodCode = bodCode.replace(newLines, "");
if (bodCode.match(/ /)) {
    encodedBodCode = bodCode.replace(/ /g, "%252B");
    bodCode = bodCode.replace(/ /g, "+");
}
        if (bodCode.match(/^[A-Z]{3}/)) { bodCodes[i-1] = bodCode }
var oxpmaplink = '<a href=\"http://maps.google.co.uk/?z=16&q=http://m.ox.
codeTD.innerHTML = codeTD.innerHTML + '<br>' + oxpmaplink + "Show library
```

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Demo

- Install greasemonkey script:
  olismapall.user.js
- Show links working on library search:
  `http://library.ox.ac.uk/`

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Adding value

What else can we do?

- Show *all* these libraries on the same map?
- Add a map to the page itself?
- Show information about availability on the map?
- Add user location to the map?

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Beyond Greasemonkey

- Can't use Google maps API to add a map to the page
- Can't pass much useful information into the KML

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External map

- Still using JavaScript/Greasemonkey to write in links...
- ...but these pass info to an external map/script
- Easier to manipulate data and control display

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Demo

- Greasemonkey working on library search:
  http://library.ox.ac.uk/
- All libraries on one (external) map
- Availability

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Where are you?

Google Gears can (sort of) tell your location...

In practice there are probably better ways of doing this:

- User sets/chooses location(s)
- Native apps for mobile devices which use onboard GPS

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Demo

- Install Google Gears:
  http://gears.google.com/
- Back to library search...
- 'You are here'
- Directions

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Proof of concept?

Shows the general idea, but doesn't include:

- Patron data (who are you, & can you borrow the book?)
- Integration with book requests
- Combining with other locations
- . . .

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Is all this useful?

- Maybe more so in other contexts
- Useful as a demonstration
- Quick prototyping of ideas - easier to visualise
- Shows the value of consumable data

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