Making Location Information Accessible
Service Orientated Architecture (SOA)

Paul Wither - Cadcorp
The Argus

WEEKEND
YAWNING
ALMOST
KILLED
MAN

The Argus

GeoDATA 2010
Service Orientated Architecture (SOA)

- Service Oriented Architecture (SOA) is a paradigm for organizing and utilizing distributed capabilities that may be under the control of different ownership domains.
- One computer agent’s requirements being met by a computer agent belonging to a different owner.
- SOA is a means of organizing solutions that promotes reuse, growth and interoperability.
- In general, entities (people and organizations) offer capabilities and act as service providers.
- Those with needs who make use of services are referred to as service consumers.

oasis-open.org
"SOA is the underlying structure supporting communications between services." (www.techtarget.com)
OK...using what?
The W3C defines a "web service" as "a software system designed to support interoperable machine-to-machine interaction over a network. It has an interface described in a machine-processable format (specifically Web Services Description Language WSDL). Other systems interact with the web service in a manner prescribed by its description using SOAP messages, typically conveyed using HTTP with an XML serialization in conjunction with other web-related standards."

Wikipedia
Or more simply...

- Provide specific functional capability, available on request
- Work as part of an overall solution to manage and provide responses to requests
- Reliance on standards for communication and establishment of web services
- Can be public (standard) or internal (custom)
SOA Simplified

Request – (ask) expected input

Respond – (tell) expected response
SOA Really Simplified
Why?
But really because....

PEOPLE DEMAND INFORMATION.....NOW!
Data, damned data and GIS data
How can SOA help?

• Bring data together (all relevant)
• Connect disparate systems
• Provide bespoke specific tools
• Re-usable ‘building blocks’
• Standards based
• Improve Accessibility and Currency
• Eliminate IT Silos (become service providers)
Web Services
Linking Information
Web Services & GIS

(standard)

- OGC Web Map Server (WMS)
- OGC Web Feature Server (WFS)
- OGC Web Coverage Service (WCS)
- OGC Catalogue Service Web (CS-W)
- GeoRSS
Other Location Information Services

Other Data about Location

- Council Tax
- Crime rates
- Domestic Rates
- Any other data about location....
GIS and SOA
Web GIS?
This is your Salford

This information is based on the following property:

11 Park Street
Salford
M7 4NJ

Easting: 382537
Northing: 401951
Unique Property Reference Number (UPRN): 010004673826

Democracy

The ward for this property is Kersal.
The councillors for the area are:
- Cllr Ann-Marie Humphreys
- Cllr Peter Connor
- Cllr George William Wilson

Find out how the council works
Your neighbourhood area is East Salford.

Domestic refuse and recycling

<table>
<thead>
<tr>
<th>Type</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household waste (black bin)</td>
<td>Collected every Wednesday. Your next collection will be 31 March 2010</td>
</tr>
<tr>
<td>Garden waste (magenta lid)</td>
<td>Collected every second Monday. Your next collection will be 5 April 2010</td>
</tr>
<tr>
<td>Paper and cardboard (blue bin)</td>
<td>Collected every second Wednesday. Your next collection will be 31 March 2010</td>
</tr>
<tr>
<td>Glass, cans, plastic (brown bin)</td>
<td>Collected every second Wednesday. Your next collection will be 7 April 2010</td>
</tr>
</tbody>
</table>

More information about recycling.
The following recycling sites are within 1 kilometre of the property:
- The Servite Parish Centre, Broughton
- Higher Broughton Conservative Club, Broughton
- Horseshoe Inn, Broughton

More information about rubbish and recycling.

Council tax

The council tax band for this property is D.

<table>
<thead>
<tr>
<th>Band</th>
<th>Year</th>
<th>Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>2009-2010</td>
<td>£1,511.94</td>
</tr>
<tr>
<td>D</td>
<td>2010-2011</td>
<td>£1,523.29</td>
</tr>
</tbody>
</table>

- Check your balance.
- Pay a bill online?

Thermal heat loss

The estimated amount of heat loss for your property is average. More information about home energy efficiency.

Planning information

To see planning information about this area you can use our planning applications look up service.

Local facilities and amenities

All places listed are within 1 kilometre of the property.

Schools:
- St Phillip’s RC Primary School
- Brentnall Primary School
- Broughton Jewish Cassel Fox Primary School
- St Pauls CE Primary School, Kersal
- Bois Yaakov High School

Find details of other schools in the city.

Libraries:
- Broughton Library
Mashup or SOA?
Huge benefits can be realised by allowing data to be accessed as a service using IT standards.

<table>
<thead>
<tr>
<th>INSPIRE Services</th>
<th>Based on:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discovery services</td>
<td>OGC Catalogue service, with the ISO Application Profile : OGC CS-W 2.0 ISO AP</td>
</tr>
<tr>
<td>View services</td>
<td>Web Map Service : ISO 19128 WMS 1.3</td>
</tr>
<tr>
<td>Download services</td>
<td>- OGC Web Feature Service (ISO 19142),</td>
</tr>
<tr>
<td></td>
<td>- OGC Web Coverage Service,</td>
</tr>
<tr>
<td></td>
<td>- HTTP File download</td>
</tr>
</tbody>
</table>

Rationalises existing investment in GIS by making it available through Services, bringing it inline with mainstream IT.

Data flow moving from Hard Media to automated digital transfer – REQUEST / RESPOND.

Improves data Accessibility, Currency and Usefulness.
SOA is becoming widely accepted and adopted in mainstream IT
What are you?

- Service Provider?
- Service Consumer?
- Both?
Demo