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Government Linked Data: A Tipping Point for the Semantic Web

Professor Nigel Shadbolt FREng
UK Government Information Advisor

ASWC 2009, Shanghai 8 December 2009

Nigel Shadbolt

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Structure

- Review the principles of Linked Data
- The growing Web of Linked Open Data
- Describe the UK Making Public Data Public Project
- Lessons Learnt
- Implications and opportunities

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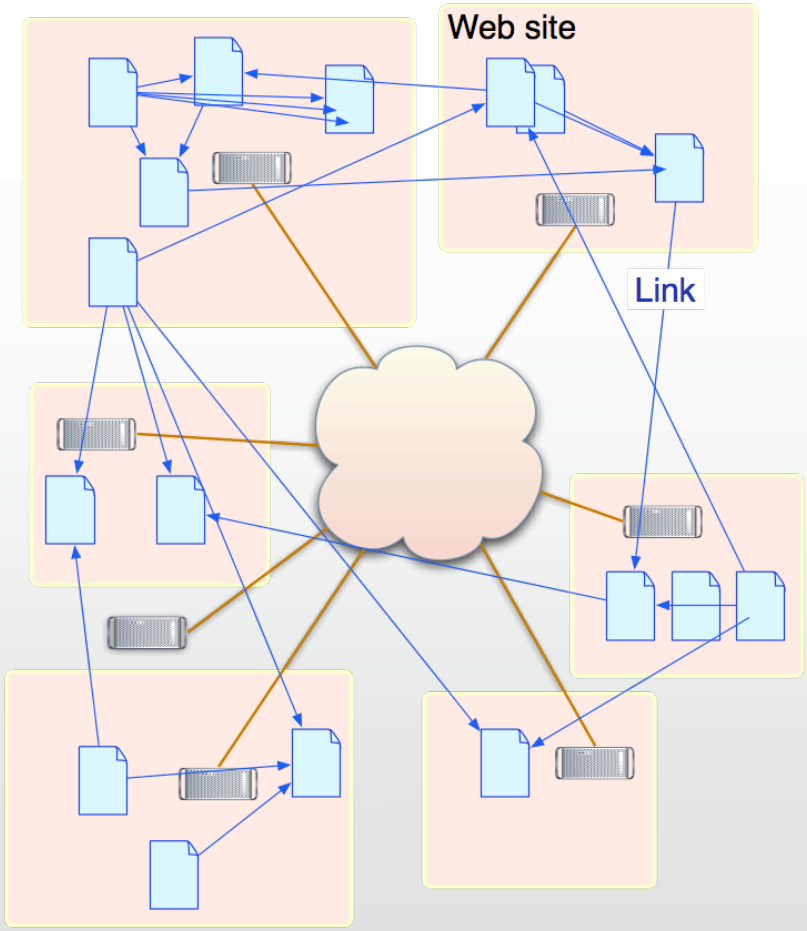
From a Web of documents…



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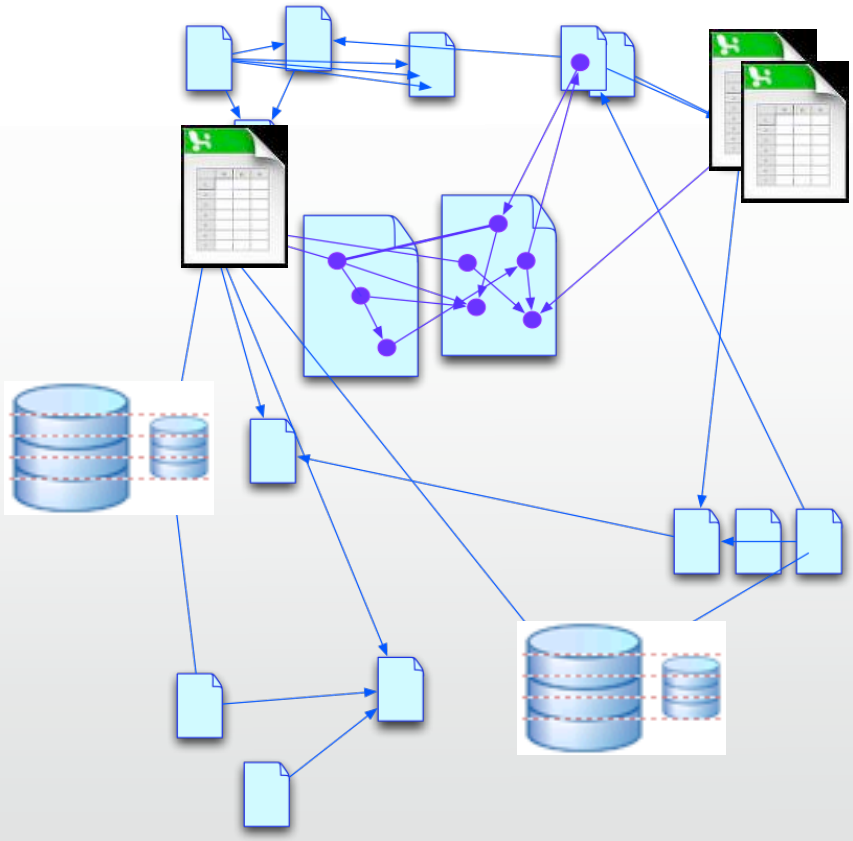
To a Web of data…



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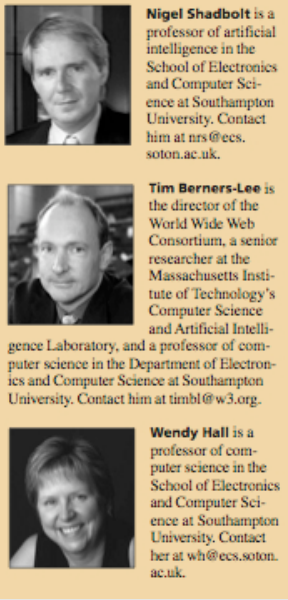
Technical Principles

The four micro principles of the Semantic Web

1. All entities of interest, such as information resources, real-world objects, and vocabulary terms should be identified by URI references.
2. URI references should be dereferenceable, meaning that an application can look up a URI over the HTTP protocol and retrieve RDF data about the identified resource.
3. Data should be provided using the RDF/XML syntax
4. Data should be interlinked with other data.

The Semantic Web Revisited

Nigel Shadbolt and Wendy Hall, *University of Southampton*
Tim Berners-Lee, *Massachusetts Institute of Technology*



Nigel Shadbolt is a professor of artificial intelligence in the School of Electronics and Computer Science at Southampton University. Contact him at nrs@ecs.soton.ac.uk.

Tim Berners-Lee is the director of the World Wide Web Consortium, a senior researcher at the Massachusetts Institute of Technology's Computer Science and Artificial Intelligence Laboratory, and a professor of computer science in the Department of Electronics and Computer Science at Southampton University. Contact him at timbl@w3.org.

Wendy Hall is a professor of computer science in the School of Electronics and Computer Science at Southampton University. Contact her at wh@ecs.soton.ac.uk.

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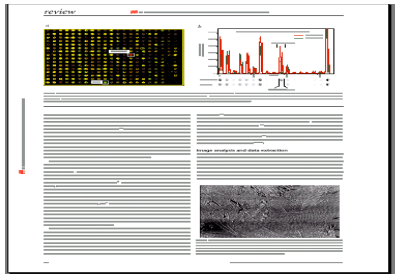
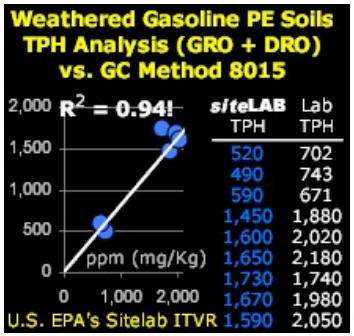
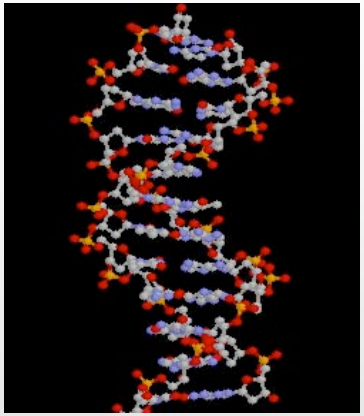
Can mark up and link any resource…

- Publications…
- Multimedia…
- Databases…
- Scientific structures…
- Workflow…
- People…





Web data set (XHTML)



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Principle 1: URIs

- Uniform Resource identifier
- A Web based identifier
- You can dereference them – get something back
- Information about objects, relations, properties and values

http://id.ecs.soton.ac.uk/person/2686

http://rdf.ecs.soton.ac.uk/person/2686

http://rdf.ecs.soton.ac.uk/project/464

http://rdf.ecs.soton.ac.uk/publication/11065

http://education.data.gov.uk/doc/school/120805

http://southampton.rkbexplorer.com/id/person-02686

http://dbpedia.org/resource/Nigel_Shadbolt

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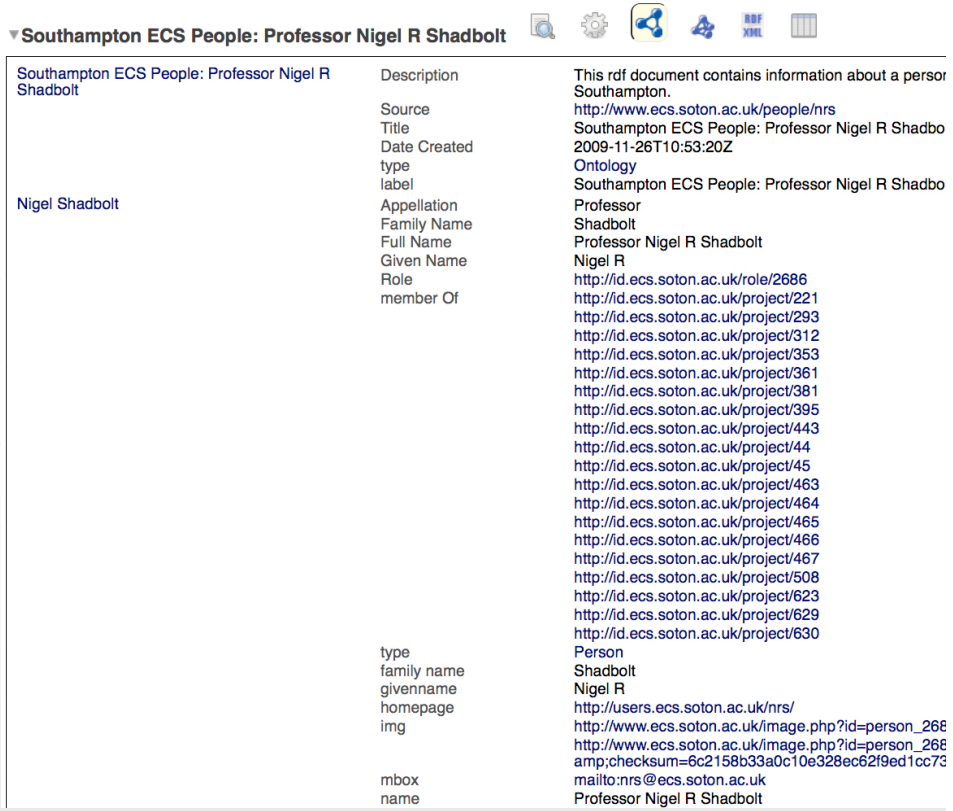
Principle 2: Dereferencable

- Uniform Resource identifier
- A Web based identifier
- You can dereference them – get something back
- Information about objects, relations, properties and values



Southampton ECS People: Professor Nigel R Shadbolt

Southampton ECS People: Professor Nigel R Shadbolt	Description	This rdf document contains information about a persor Southampton.
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	Date Created	2009-11-26T10:53:20Z
	type	Ontology
	label	Southampton ECS People: Professor Nigel R Shadbo
Nigel Shadbolt	Appellation	Professor
	Family Name	Shadbolt
	Full Name	Professor Nigel R Shadbolt
	Given Name	Nigel R
	Role	http://id.ecs.soton.ac.uk/role/2686
	member Of	http://id.ecs.soton.ac.uk/project/221
		http://id.ecs.soton.ac.uk/project/293
		http://id.ecs.soton.ac.uk/project/312
		http://id.ecs.soton.ac.uk/project/353
		http://id.ecs.soton.ac.uk/project/361
		http://id.ecs.soton.ac.uk/project/381
		http://id.ecs.soton.ac.uk/project/395
		http://id.ecs.soton.ac.uk/project/443
		http://id.ecs.soton.ac.uk/project/44
		http://id.ecs.soton.ac.uk/project/45
		http://id.ecs.soton.ac.uk/project/463
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		http://id.ecs.soton.ac.uk/project/466
		http://id.ecs.soton.ac.uk/project/467
		http://id.ecs.soton.ac.uk/project/508
		http://id.ecs.soton.ac.uk/project/623
		http://id.ecs.soton.ac.uk/project/629
		http://id.ecs.soton.ac.uk/project/630
	type	Person
	family name	Shadbolt
	givenname	Nigel R
	homepage	http://users.ecs.soton.ac.uk/nrs/
	img	http://www.ecs.soton.ac.uk/image.php?id=person_268
		http://www.ecs.soton.ac.uk/image.php?id=person_268 amp;checksum=6c2158b33a0c10e328ec62f9ed1cc73
	mbox	mailto:nrs@ecs.soton.ac.uk
	name	Professor Nigel R Shadbolt

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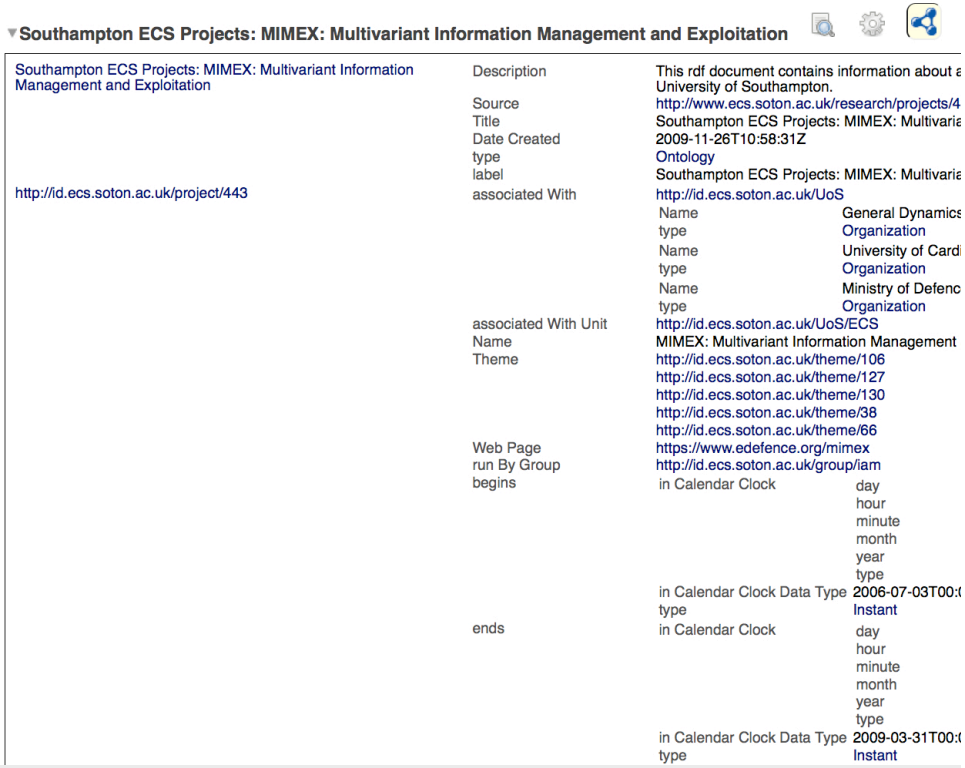
Principle 3: RDF back

- Uniform Resource identifier
- A Web based identifier
- You can dereference them – get something back
- Information about objects, relations, properties and values



Southampton ECS Projects: MIMEX: Multivariant Information Management and Exploitation

Southampton ECS Projects: MIMEX: Multivariant Information Management and Exploitation	Description	This rdf document contains information about a University of Southampton.
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		Name: General Dynamics
		type: Organization
		Name: University of Cardi
		type: Organization
		Name: Ministry of Defenc
		type: Organization
	associated With Unit	http://id.ecs.soton.ac.uk/UoS/ECS
	Name	MIMEX: Multivariant Information Management
	Theme	http://id.ecs.soton.ac.uk/theme/106
		http://id.ecs.soton.ac.uk/theme/127
		http://id.ecs.soton.ac.uk/theme/130
		http://id.ecs.soton.ac.uk/theme/38
		http://id.ecs.soton.ac.uk/theme/66
	Web Page	https://www.edefence.org/mimex
	run By Group	http://id.ecs.soton.ac.uk/group/iam
	begins	in Calendar Clock: day, hour, minute, month, year, type
		in Calendar Clock Data Type: 2006-07-03T00:(
		type: Instant
	ends	in Calendar Clock: day, hour, minute, month, year, type
		in Calendar Clock Data Type: 2009-03-31T00:(
		type: Instant

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Essential RDF

- Statements about resources in the from of subject-predicate-object
- A knowledge representation language for the Web
- Represents information as sets of triples
- Every element of a triple can be a URI or literal
- Sets of RDF triples can be represented as graphs

```
rc:cygri        rdf:type          foaf:Person.
rc:cygri        foaf:name         ”Richard Cyganiak" .
rc:cygri        foaf:based_near   dbpedia:Berlin .

dbpedia:Berlin  dp:population     “3,405,259”
dpedia:Berlin   skos:subject      dp:Cities_in_Germany.
```

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Essential RDF

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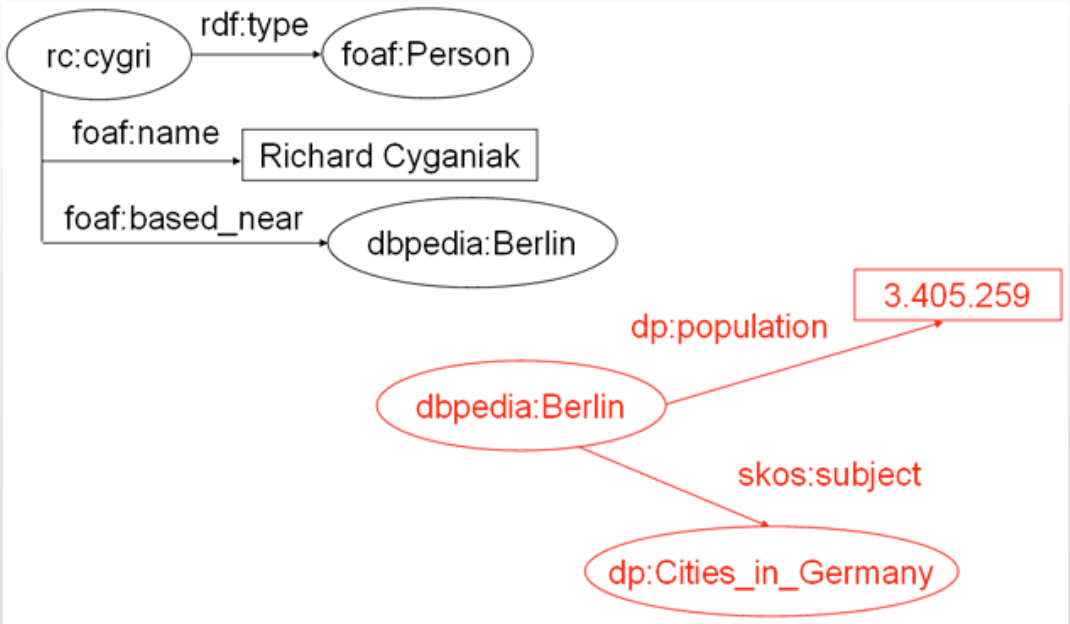

Chris Bizer et al

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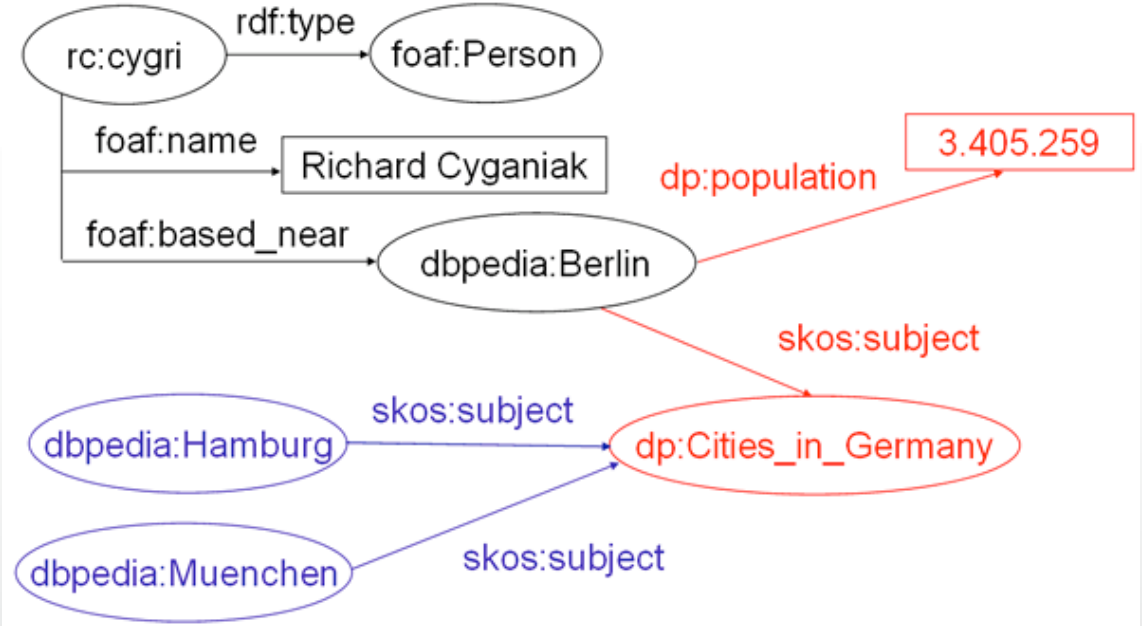
Principle 4: Link data



Chris Bizer et al

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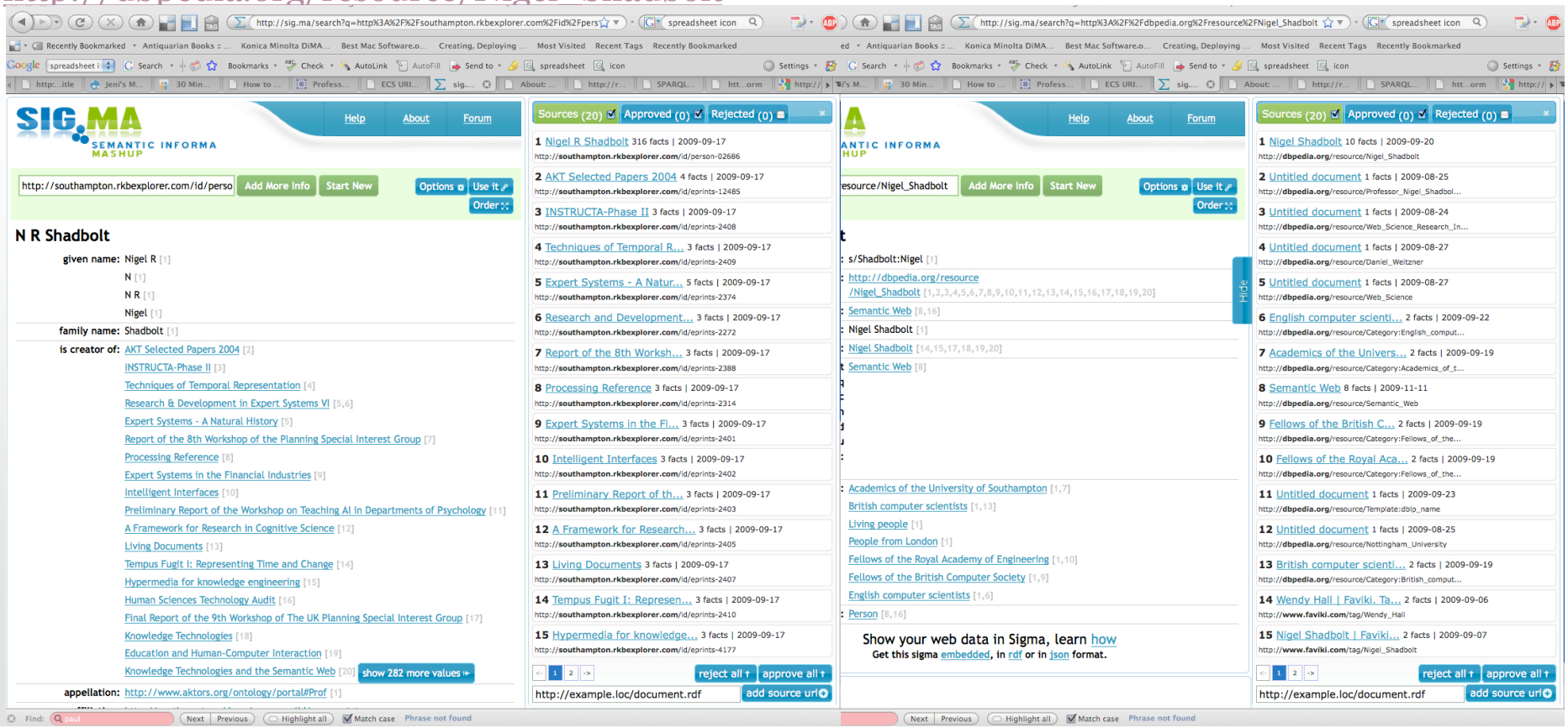
Principle 4: Link data

http://rdf.ecs.soton.ac.uk/person/2686

http://southampton.rkbexplorer.com/id/person-02686

http://dbpedia.org/resource/Nigel_Shadbolt



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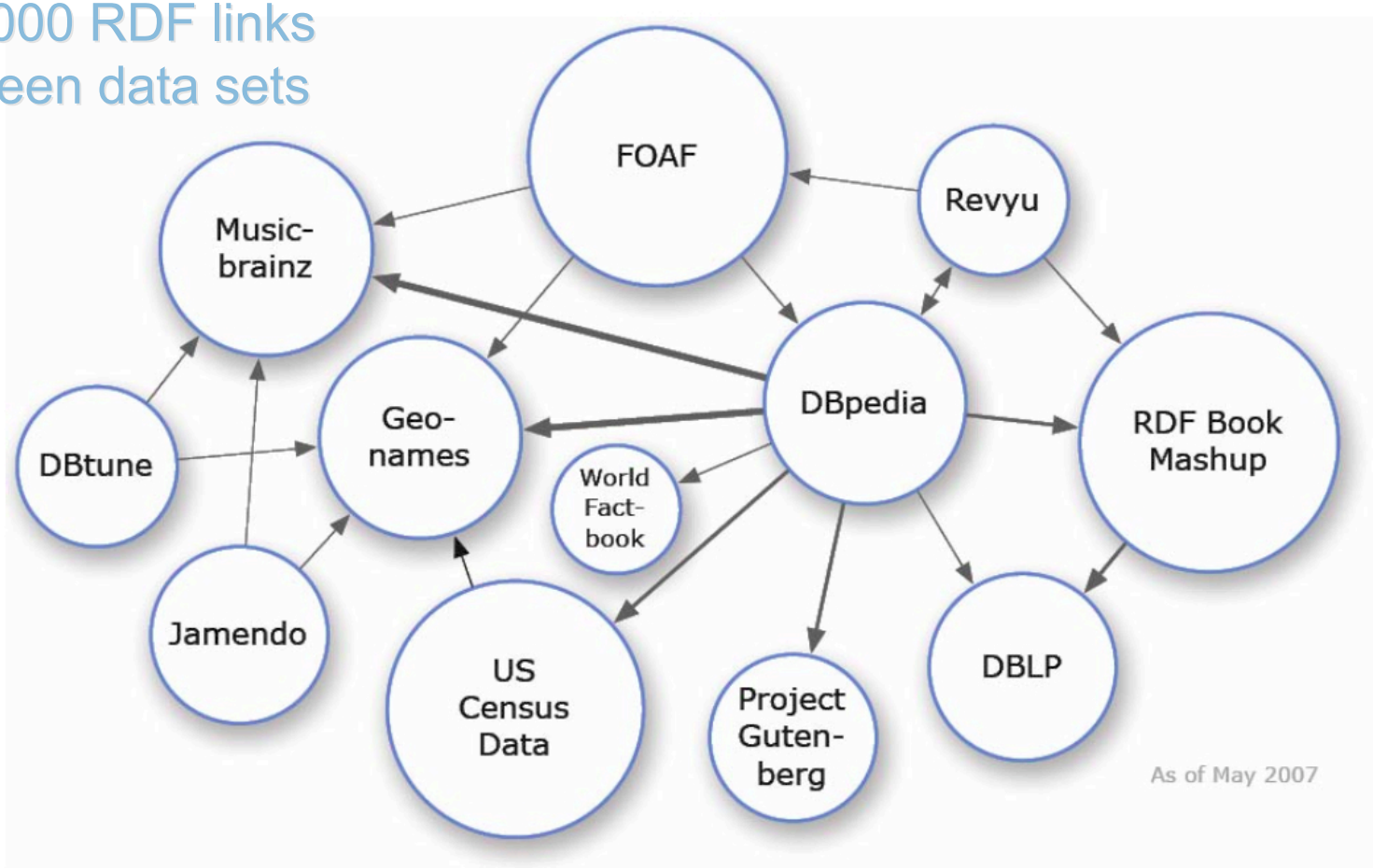
Linked Data on the Web: May 2007

500 Million RDF Triples
120,000 RDF links
between data sets



Richard Cyganiak

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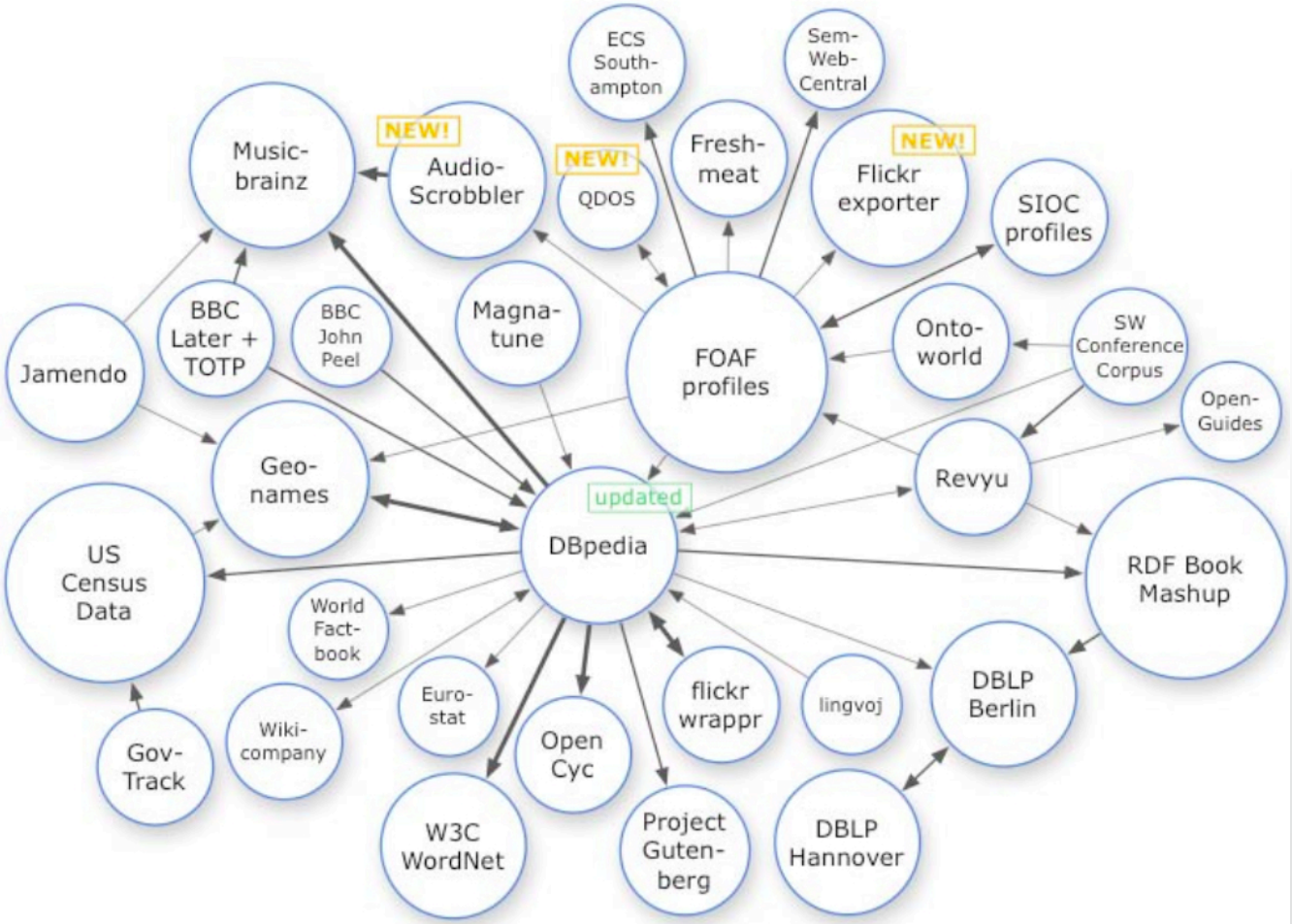
Linked Data on the Web: February 2008



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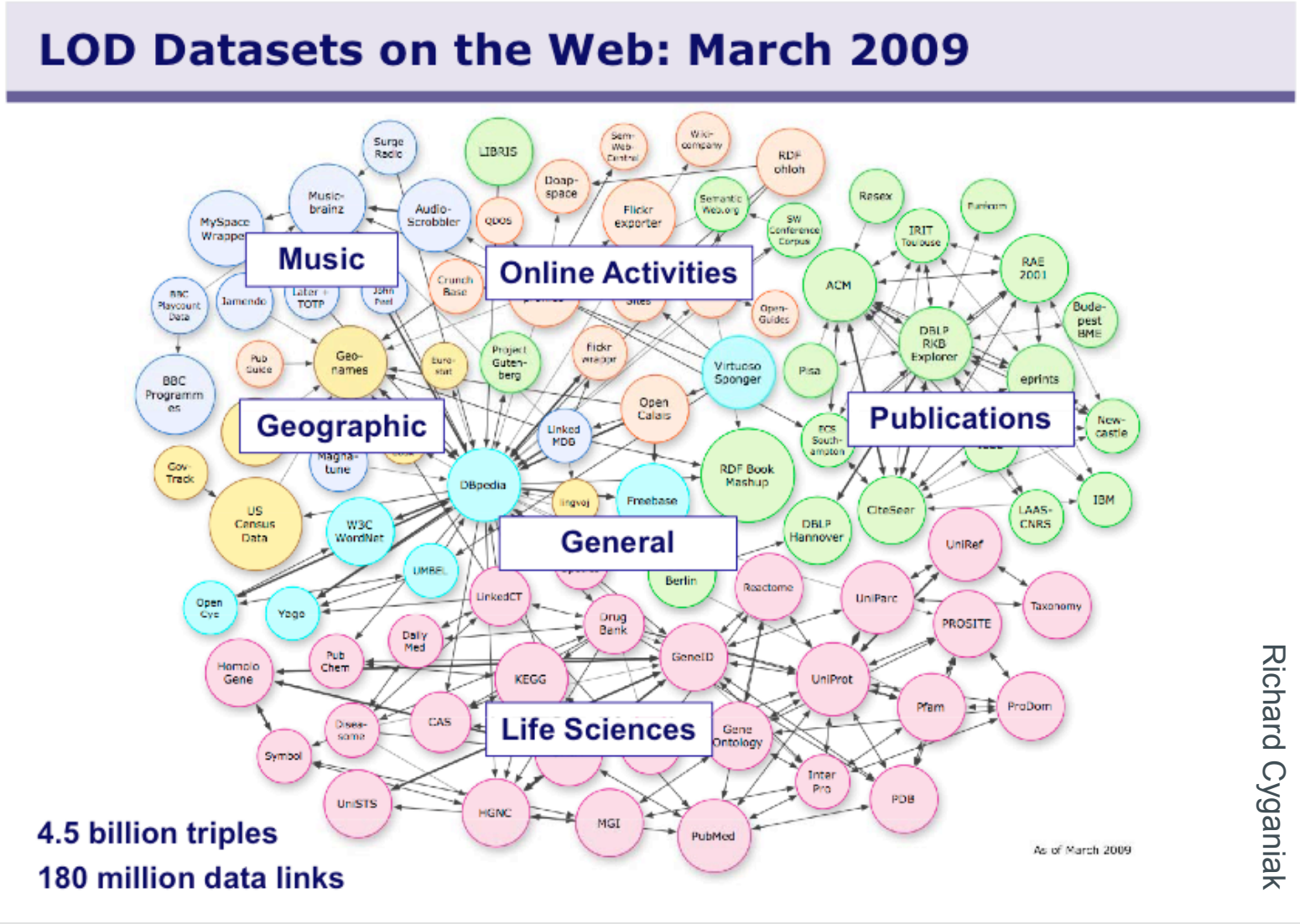
Linked Data on the Web: March 2009



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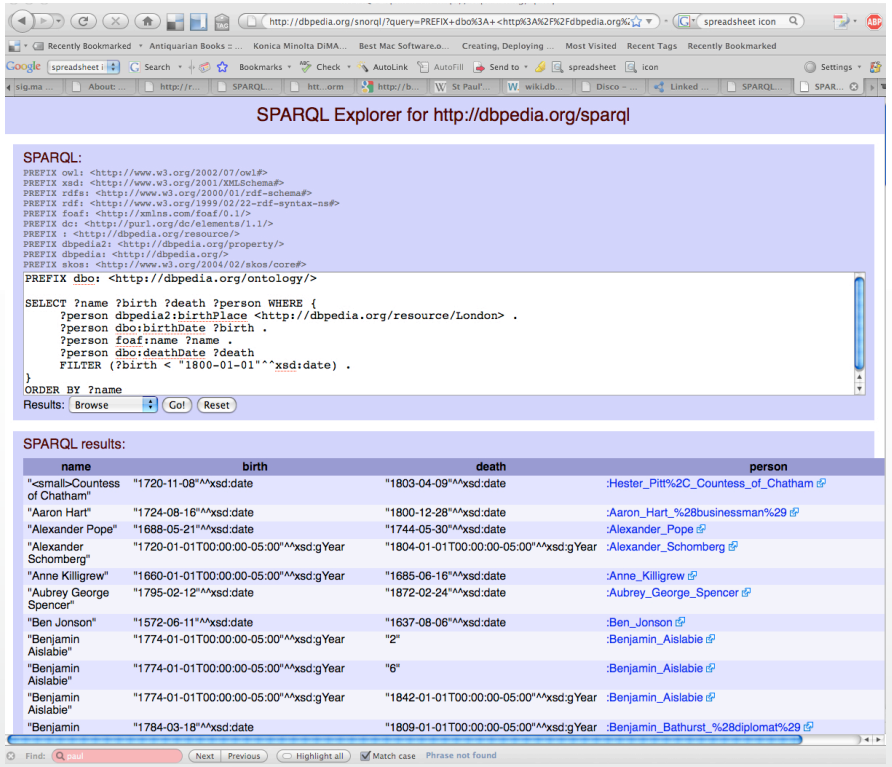
SPARQL

- A data access language for RDF triples on the Web
- Queries across diverse data sources, whether the data is stored natively as RDF or viewed as RDF via middleware
- SPARQL contains capabilities for querying required and optional graph patterns along with their conjunctions and disjunctions



SPARQL Explorer for http://dbpedia.org/sparql

SPARQL:

```
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX foaf: <http://xmlns.com/foaf/0.1/>
PREFIX dc: <http://purl.org/dc/elements/1.1/>
PREFIX : <http://dbpedia.org/resource/>
PREFIX dbpedia2: <http://dbpedia.org/property/>
PREFIX dbpedia: <http://dbpedia.org/>
PREFIX skos: <http://www.w3.org/2004/02/skos/core#>
PREFIX dbo: <http://dbpedia.org/ontology/>

SELECT ?name ?birth ?death ?person WHERE {
      ?person dbpedia2:birthPlace <http://dbpedia.org/resource/London> .
      ?person dbo:birthDate ?birth .
      ?person foaf:name ?name .
      ?person dbo:deathDate ?death
      FILTER (?birth < "1800-01-01"^^xsd:date) .
}
ORDER BY ?name
```

Results: Browse Go! Reset

SPARQL results:

name	birth	death	person
"<small>Countess of Chatham"	"1720-11-08"^^xsd:date	"1803-04-09"^^xsd:date	:Hester_Pitt%2C_Countess_of_Chatham
"Aaron Hart"	"1724-08-16"^^xsd:date	"1800-12-28"^^xsd:date	:Aaron_Hart_%28businessman%29
"Alexander Pope"	"1688-05-21"^^xsd:date	"1744-05-30"^^xsd:date	:Alexander_Pope
"Alexander Schomberg"	"1720-01-01T00:00:00-05:00"^^xsd:gYear	"1804-01-01T00:00:00-05:00"^^xsd:gYear	:Alexander_Schomberg
"Anne Killigrew"	"1660-01-01T00:00:00-05:00"^^xsd:gYear	"1685-06-16"^^xsd:date	:Anne_Killigrew
"Aubrey George Spencer"	"1795-02-12"^^xsd:date	"1872-02-24"^^xsd:date	:Aubrey_George_Spencer
"Ben Jonson"	"1572-06-11"^^xsd:date	"1637-08-06"^^xsd:date	:Ben_Jonson
"Benjamin Aislabie"	"1774-01-01T00:00:00-05:00"^^xsd:gYear	"2"	:Benjamin_Aislabie
"Benjamin Aislabie"	"1774-01-01T00:00:00-05:00"^^xsd:gYear	"6"	:Benjamin_Aislabie
"Benjamin Aislabie"	"1774-01-01T00:00:00-05:00"^^xsd:gYear	"1842-01-01T00:00:00-05:00"^^xsd:gYear	:Benjamin_Aislabie
"Benjamin	"1784-03-18"^^xsd:date	"1809-01-01T00:00:00-05:00"^^xsd:gYear	:Benjamin_Bathurst_%28diplomat%29

Office of
PUBLIC SECTOR INFORMATION

Land Registry
Cymraeg

national STATISTICS

LONDON

CabinetOffice

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The proof of concept

Unlocking the Potential of Public Sector Information with Semantic Web Technology

Harith Alani[1], David Dupplaw[1], John Sheridan[2], Kieron O'Hara[1], John Darlington[1], Nigel Shadbolt[1], and Carol Tullo[2]

[1] Intelligence, Agents, Multimedia
School of Electronics and Computer Science
University of Southampton, Southampton, UK
{h.alani, dpd, jd, kmo, nrs}@ecs.soton.ac.uk
[2] Office Of Public Sector Information
Admiralty Arch, The Mall
London, UK
{john.sheridan, carol.tullo}@opsi.x.gsi.gov.uk

ISWC 2007

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The proof of concept

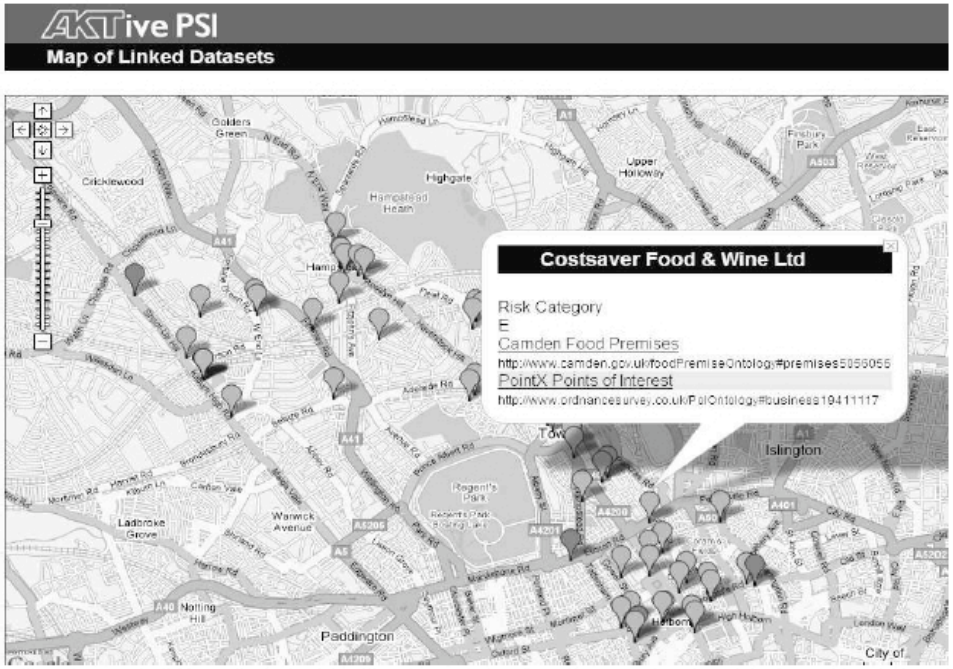

Fig. 2. Google Maps mashup of the Camden Food Premises dataset made possible by mapping the data to the OS Address Layer II and PointX dataset

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The approach became embedded

Office of PUBLIC SECTOR INFORMATION

the national archives

The United Kingdom Implementation of the European Directive on the Re-use of Public Sector Information

- the first two years

A Report by the Office of Public Sector Information

July 2007

AKTive PSI: Leading by Example

4.20 The UK public sector is a source of rich, high quality and sought after data. While much of this information is published and available for re-use by others, it is often trapped by poor data structures, locked up in legacy data formats or in fragmented databases.

4.21 To explore the issues more fully, in 2005-6, OPSI worked with Advanced Knowledge Technologies (AKT),[36] an inter-disciplinary research project led by the University of Southampton. OPSI's work with AKT, in a research project called AKTive PSI, had two aims:

- to raise awareness about and disseminate the capabilities of semantic web technologies amongst government departments, agencies and local authorities;
- to show what is possible using this technology.

4.22 OPSI brought together a diverse collection of public sector information assets to experiment with. A number of public sector organisations were involved in the project, including Ordnance Survey, the Met Office, the Department for Communities and Local Government, the Office for National Statistics, the Department for Environment, Food and Rural Affairs, the Environment Agency and the London Boroughs of Camden and Lewisham. The project underlined the potential for the use of semantic web technology in large scale integration of public sector information and the benefits such aggregation would bring. Semantic Web technology provides the best model for a range of interoperability issues. If widely adopted it would do much to harness the re-use of public sector information.

4.23 AKTive PSI has spawned further work in government using Semantic Web technology[37]. OPSI is using this technology in the following ways:

And then the unanticipated Information Advisors to HMG

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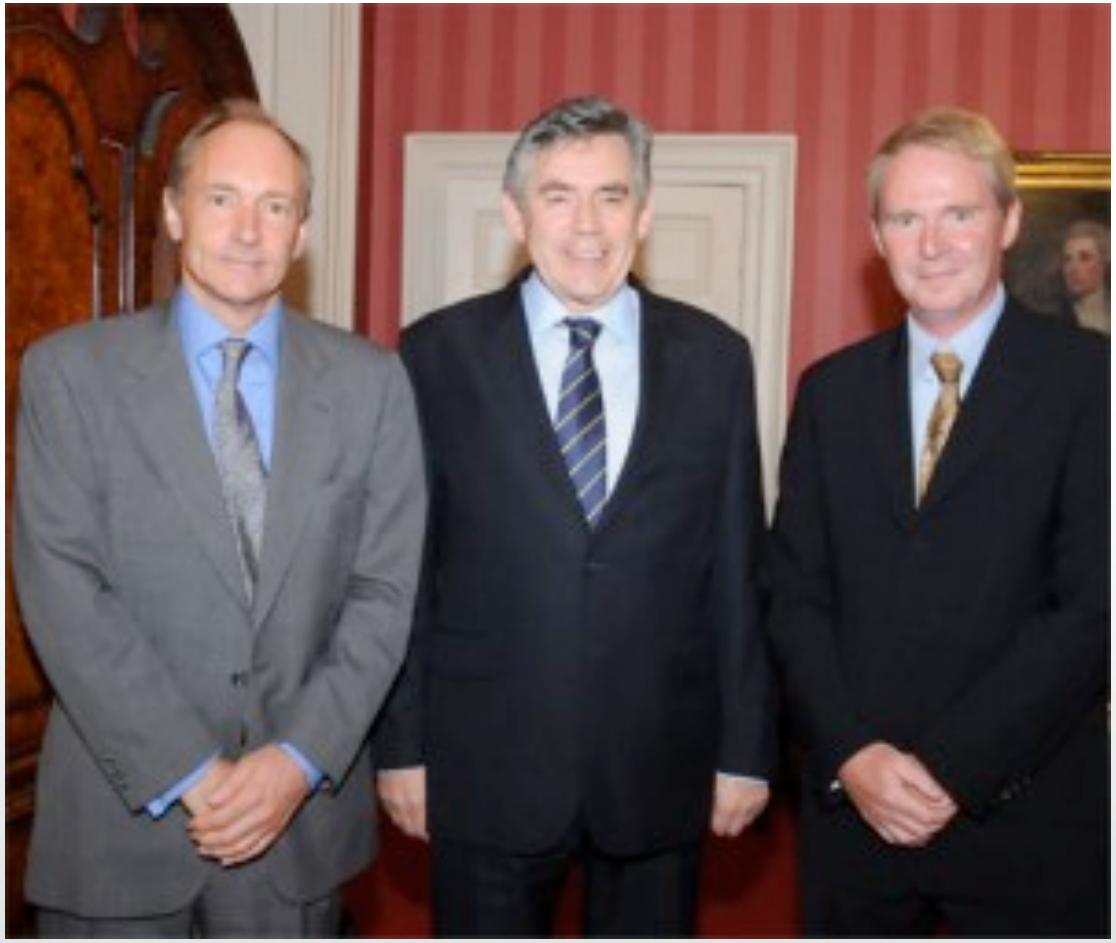

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The Context

- Berners-Lee and Shadbolt - Information Advisors
- Context - PoI Taskforce
- Previous work with OPSI
- Why do this?
  - Transparency and accountability
  - Economic and Social Value
  - Public Service Improvement
  - New Industries New Jobs

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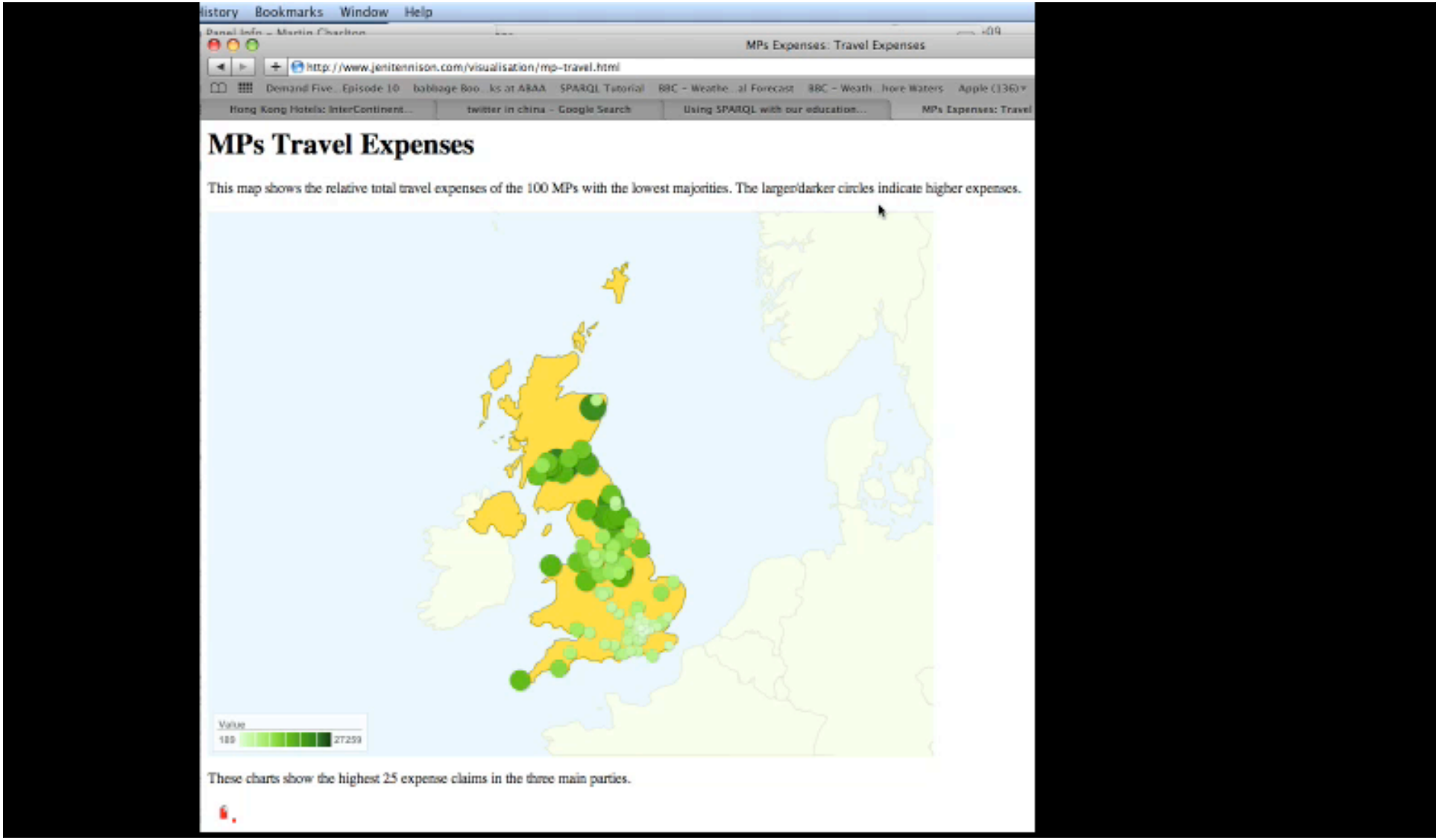
Transparency and Accountability



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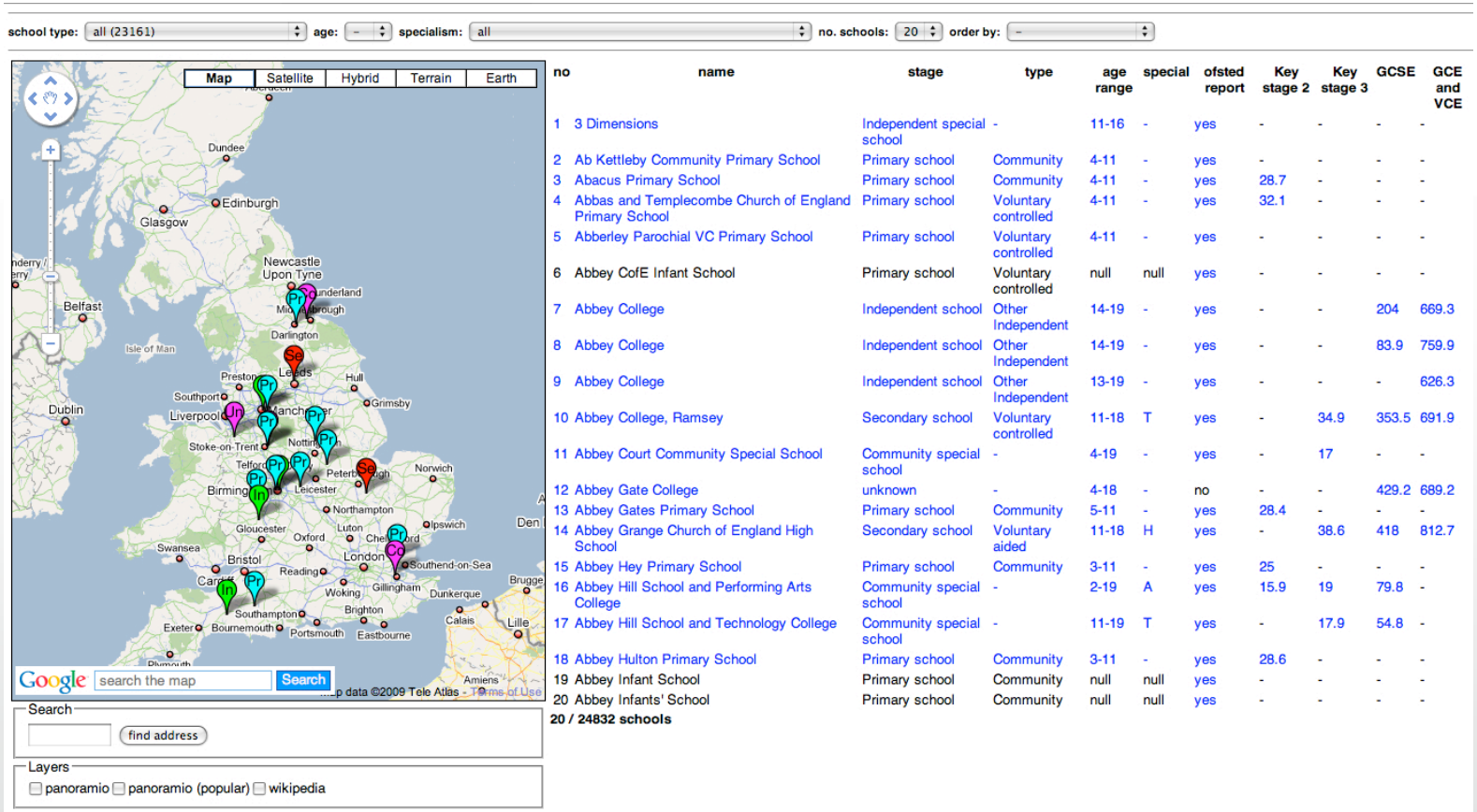
Social and Economic Value



no	name	stage	type	age range	special	ofsted report	Key stage 2	Key stage 3	GCSE	GCE and VCE
1	3 Dimensions	Independent special school	-	11-16	-	yes	-	-	-	-
2	Ab Kettleby Community Primary School	Primary school	Community	4-11	-	yes	-	-	-	-
3	Abacus Primary School	Primary school	Community	4-11	-	yes	28.7	-	-	-
4	Abbas and Templecombe Church of England Primary School	Primary school	Voluntary controlled	4-11	-	yes	32.1	-	-	-
5	Abberley Parochial VC Primary School	Primary school	Voluntary controlled	4-11	-	yes	-	-	-	-
6	Abbey CofE Infant School	Primary school	Voluntary controlled	null	null	yes	-	-	-	-
7	Abbey College	Independent school	Other Independent	14-19	-	yes	-	-	204	669.3
8	Abbey College	Independent school	Other Independent	14-19	-	yes	-	-	83.9	759.9
9	Abbey College	Independent school	Other Independent	13-19	-	yes	-	-	-	626.3
10	Abbey College, Ramsey	Secondary school	Voluntary controlled	11-18	T	yes	-	34.9	353.5	691.9
11	Abbey Court Community Special School	Community special school	-	4-19	-	yes	-	17	-	-
12	Abbey Gate College	unknown	-	4-18	-	no	-	-	429.2	689.2
13	Abbey Gates Primary School	Primary school	Community	5-11	-	yes	28.4	-	-	-
14	Abbey Grange Church of England High School	Secondary school	Voluntary aided	11-18	H	yes	-	38.6	418	812.7
15	Abbey Hey Primary School	Primary school	Community	3-11	-	yes	25	-	-	-
16	Abbey Hill School and Performing Arts College	Community special school	-	2-19	A	yes	15.9	19	79.8	-
17	Abbey Hill School and Technology College	Community special school	-	11-19	T	yes	-	17.9	54.8	-
18	Abbey Hulton Primary School	Primary school	Community	3-11	-	yes	28.6	-	-	-
19	Abbey Infant School	Primary school	Community	null	null	yes	-	-	-	-
20	Abbey Infants' School	Primary school	Community	null	null	yes	-	-	-	-

20 / 24832 schools

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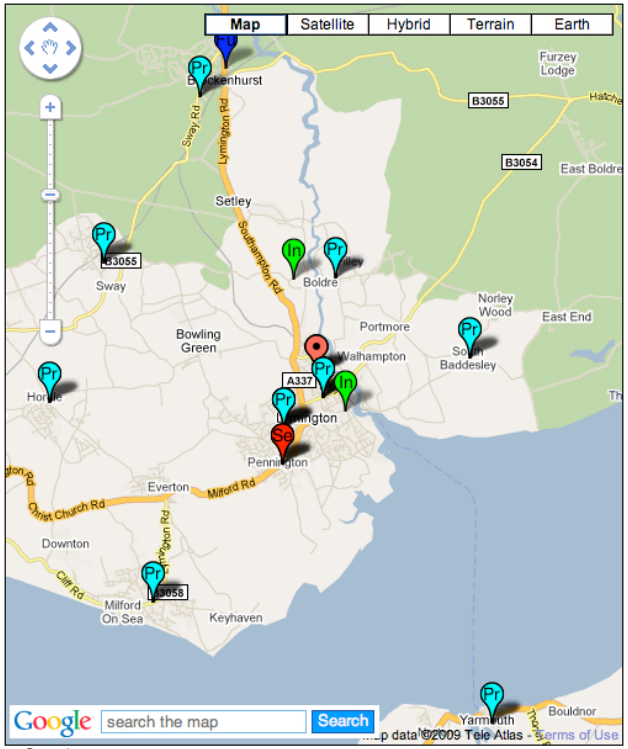
Social and Economic Value

school type: Primary school (12) age: – specialism: all no. schools: 20 order by: –



Search
so41 9du
find address

Layers
panoramio panoramio (popular) wikipedia

no	name	stage	type	age range	special	ofsted report	Key stage 2	Key stage 3	GCSE	GCE and VCE	distance
1	Brockenhurst Church of England Primary School	Primary school	Voluntary controlled	4-11	-	yes	30	-	-	-	7.052 km
2	Hordle CofE Primary School	Primary school	Voluntary aided	4-11	-	yes	28.8	-	-	-	6.811 km
3	Lymington Church of England Infant School	Primary school	Voluntary aided	null	null	yes	-	-	-	-	1.124 km
4	Lymington Junior School	Primary school	Community	7-11	-	yes	29	-	-	-	1.124 km
5	Milford-on-Sea Church of England Primary School	Primary school	Voluntary aided	4-11	-	yes	29.2	-	-	-	7.681 km
6	Our Lady and St Joseph Catholic Primary School	Primary school	Voluntary aided	4-11	-	yes	28.4	-	-	-	2.863 km
7	Pennington Church of England Junior School	Primary school	Voluntary controlled	7-11	-	yes	29	-	-	-	2.662 km
8	Pennington Infant School	Primary school	Community	null	null	yes	-	-	-	-	2.662 km
9	South Baddesley Church of England Primary School	Primary school	Voluntary controlled	4-11	-	yes	31.5	-	-	-	4.291 km
10	St Luke's Church of England Primary School	Primary school	Voluntary controlled	4-11	-	yes	30.1	-	-	-	6.402 km
11	William Gilpin Church of England Primary School	Primary school	Voluntary aided	4-11	-	yes	-	-	-	-	error
12	Yarmouth Church of England Aided Primary School	Primary school	Voluntary aided	null	null	yes	-	-	-	-	error

[calculate all]

12 / 12 schools

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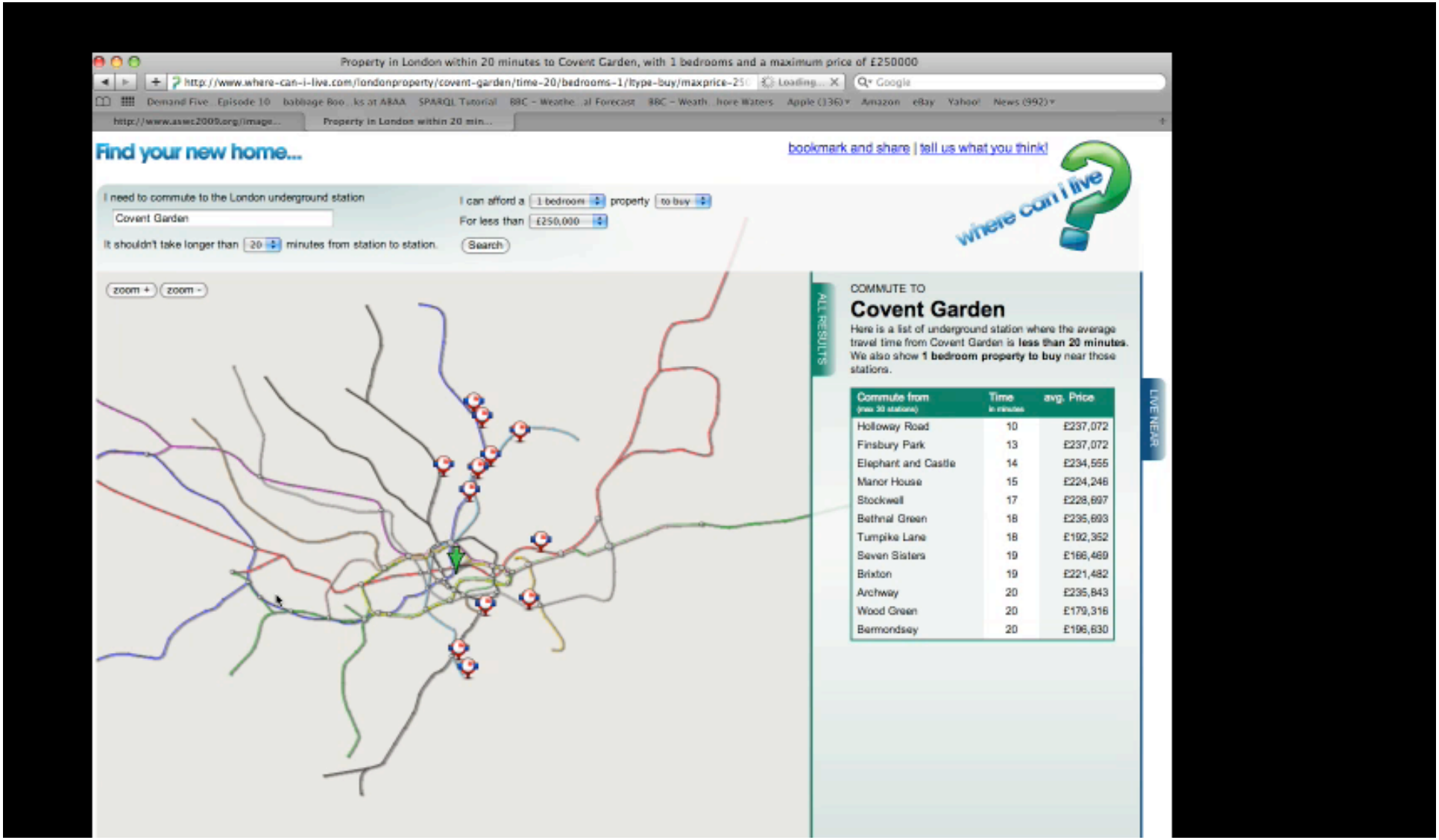
School of Electronics
and Computer Science

Social and Economic Value



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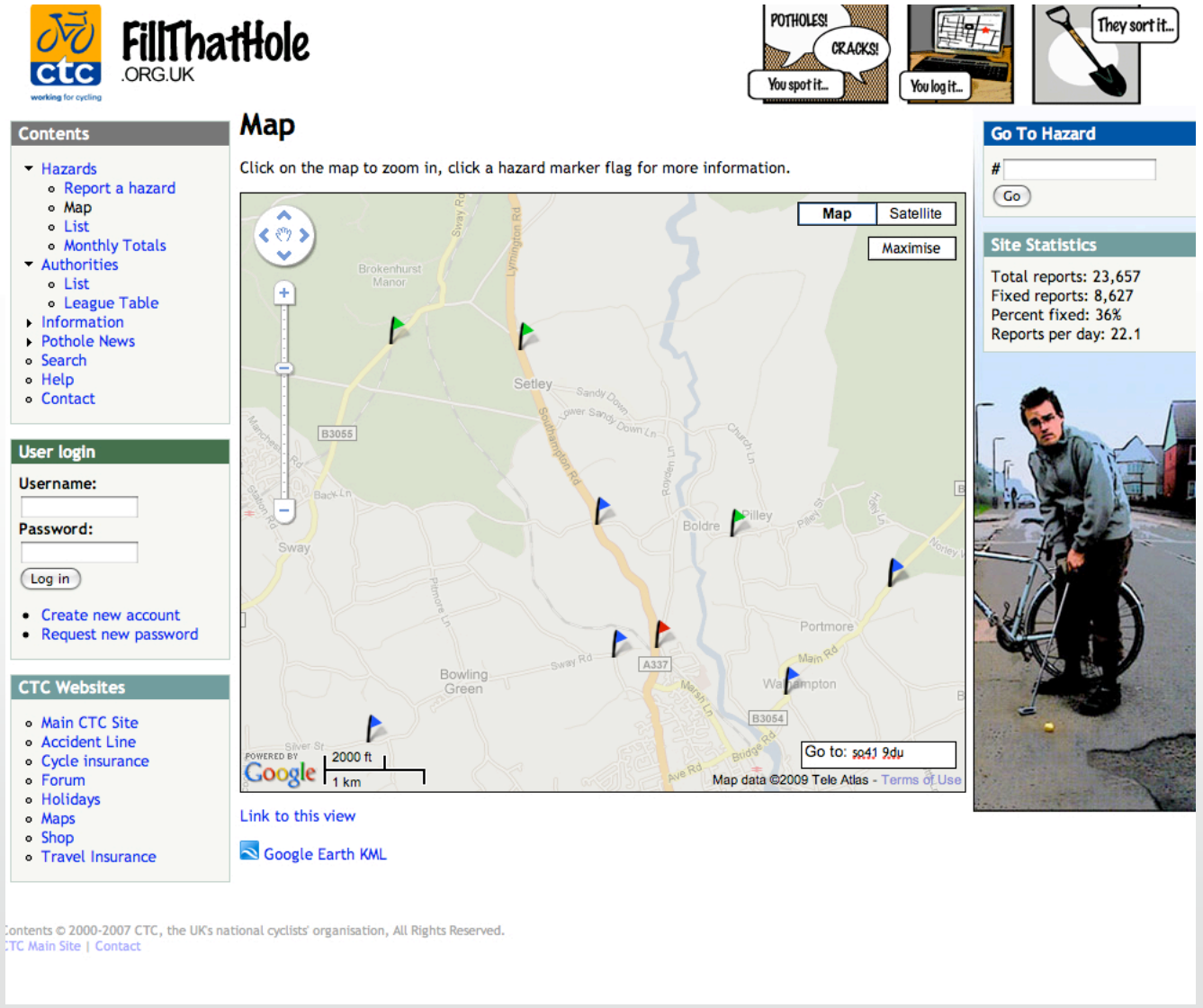
Improving Public Services



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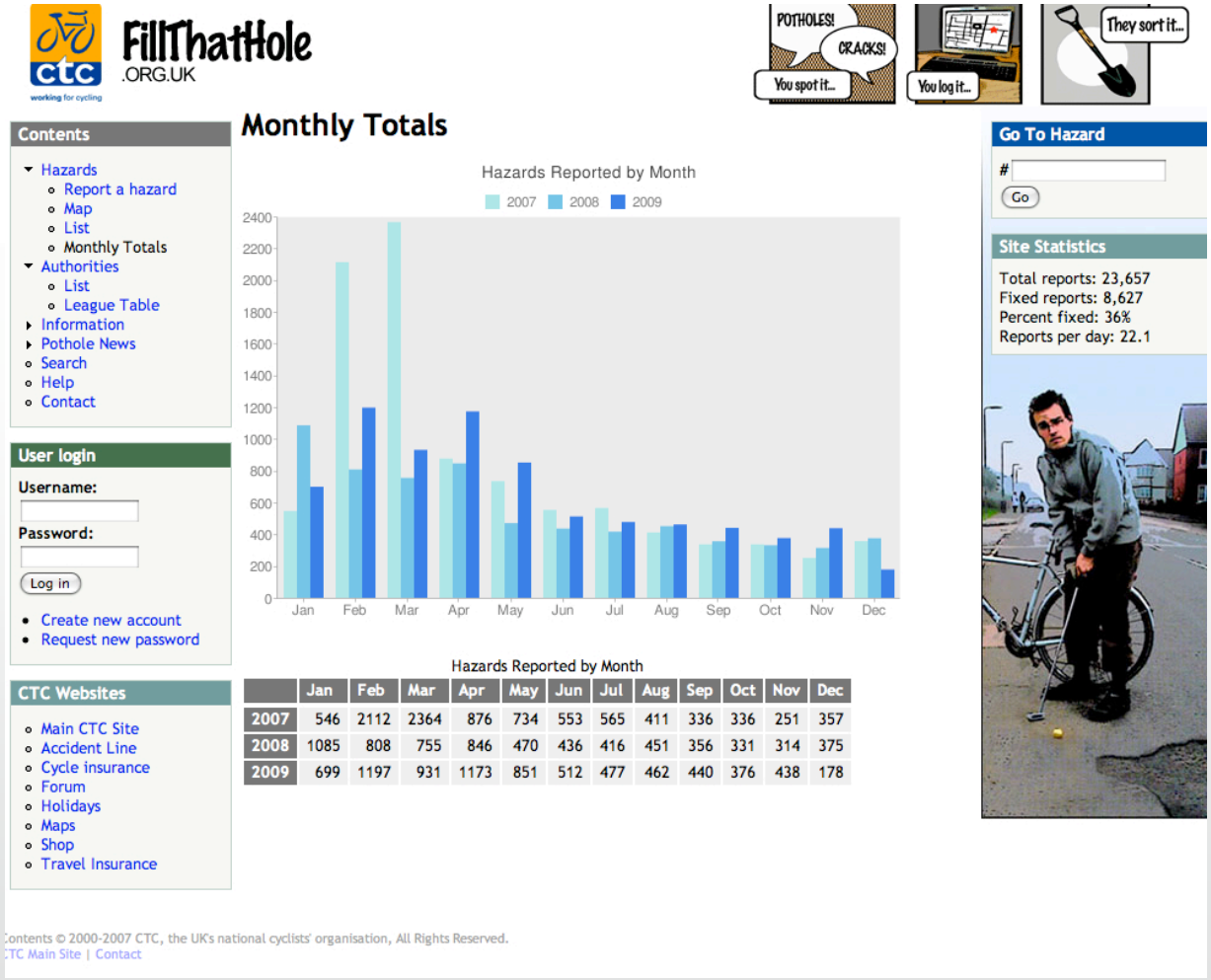
Improving Public Services



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Improving Public Services

FillThatHole.ORG.UK

Contents

- Hazards
  - Report a hazard
  - Map
  - List
  - Monthly Totals
- Authorities
  - List
  - League Table
- Information
- Pothole News
- Search
- Help
- Contact

User login

Username:

Password:

Log in

- Create new account
- Request new password

CTC Websites

- Main CTC Site
- Accident Line
- Cycle insurance
- Forum
- Holidays
- Maps
- Shop
- Travel Insurance

League Table

Rank (Fixed %)	Authority	Total Reports	Open Reports	Fixed Reports	Fixed %
1	Torfaen	3	0	3	100%
2	Cumbria	225	32	188	85%
3	East Ayrshire	11	2	9	82%
4	Gateshead	17	3	13	81%
5	Clackmannanshire	16	3	13	81%
6	Newcastle	75	14	59	81%
7	Northumberland	202	39	140	78%
8	Durham	54	12	41	77%
9	Sefton	16	4	12	75%
10	Bolton	59	12	33	73%
11	Bracknell Forest	18	5	12	71%
12	North Tyneside	86	23	49	68%
13	Luton	8	3	5	63%
14	Kirklees	108	42	63	60%
15	Scottish Borders	21	8	12	60%
16	Rutland	6	2	3	60%
17	Aberdeenshire	32	13	19	59%
18	Waltham Forest	36	15	21	58%
19	Slough	14	5	7	58%
20	Hounslow	325	129	173	57%
21	Blackpool	8	3	4	57%
22	Halton	7	3	4	57%
23	Blackburn	38	16	21	57%
24	Suffolk	254	106	139	57%
25	Northern Ireland Roads Service	64	27	35	56%
26	Sunderland	19	7	9	56%
27	Powys	20	8	10	56%
28	Plymouth	60	26	31	54%

Go To Hazard

Go

Site Statistics

Total reports: 23,657
Fixed reports: 8,627
Percent fixed: 36%
Reports per day: 22.1

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Improving Public Services

(Fixed %)		Reports	Reports	Reports	
177	Wakefield	23	17	5	23%
178	Isle of Anglesey	9	7	2	22%
179	Pembrokeshire	9	7	2	22%
180	Neath Port Talbot	23	18	5	22%
181	Leeds	501	395	106	21%
182	Central Bedfordshire	19	15	4	21%
183	Rotherham	48	38	10	21%
184	Glasgow	493	384	101	21%
185	Bromley	144	110	28	20%
186	Islington	258	204	51	20%
187	Bridgend	20	16	4	20%
188	Carmarthenshire	5	4	1	20%
189	Highways Agency	38	29	7	19%
190	Havering	33	27	6	18%
191	Stockton-on-Tees	23	18	4	18%
192	Inverclyde	22	18	4	18%
193	Croydon	423	346	76	18%
194	Coventry	219	180	38	17%
195	Isle of Wight	23	19	4	17%
196	Transport for London	189	155	30	16%
197	Argyll and Bute	19	16	3	16%
198	Monmouthshire	13	11	2	15%
199	Thurrock	7	6	1	14%
200	Darlington	22	19	3	14%
201	Barnsley	37	32	5	14%
202	South Ayrshire	8	7	1	13%
203	Conwy	40	36	4	10%
204	Dumfries and Galloway	91	74	8	10%
205	West Lothian	12	11	1	8%
206	West Dunbartonshire	9	8	0	0%
207	Bedford	7	7	0	0%
208	Ceredigion	4	4	0	0%
209	Merthyr Tydfil	3	3	0	0%
210	Shetland	2	2	0	0%
211	South Tyneside	1	1	0	0%

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Our ToR

1. Establish single point of access for all public UK datasets - data.gov.uk
2. Specific proposals to implement and extend to wider public sector PSI principle
   - Select and implement common standards for release of public data
   - Select, develop and implement common terms for data where necessary
   - Develop licenses - CC variants
   - Support exploitation and publication of distributed and decentralised information assets
   - Potential for reform of info regulatory framework
3. Drive use of internet to improve Gov consultation process
4. Engage with International dimension
5. Drive culture change in Whitehall - total publication of non-personal data using open standards

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Progess to date

- Top down
  - Ministerial
  - CIO/CTOs
  - Engaged key data holders
- Middle Out
  - Civil Servants
  - Inventory of Information Assets
- Bottom up
  - Engaging with developer community
  - Cross Gov URI workshops
  - data.gov.uk
- Dissemination

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data.gov.uk

- Currently under development scrutiny and extension
  - Over 1100 datasets
  - Over 1000 registered developers
  - The beginning of linked data
- Beta service to be released January 2010
- Access to OS from April 2010
- Clear schedule of release thereafter

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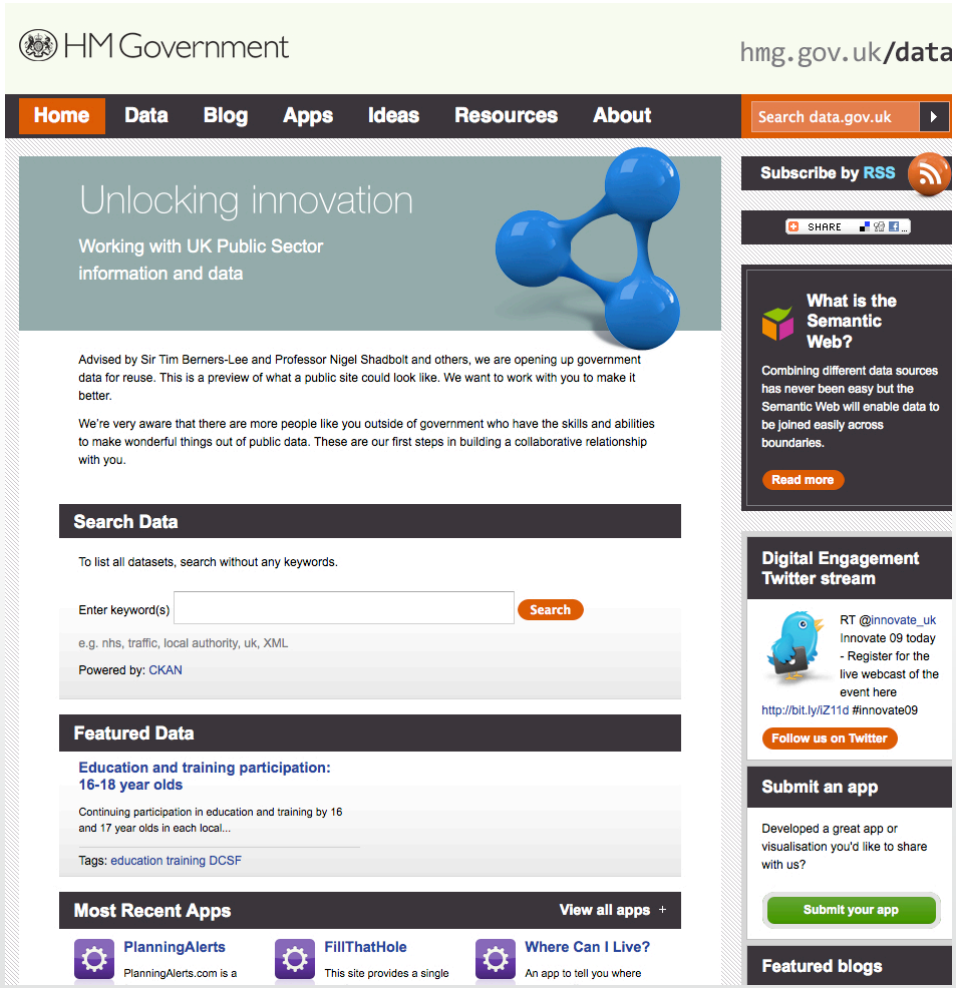
data.gov.uk



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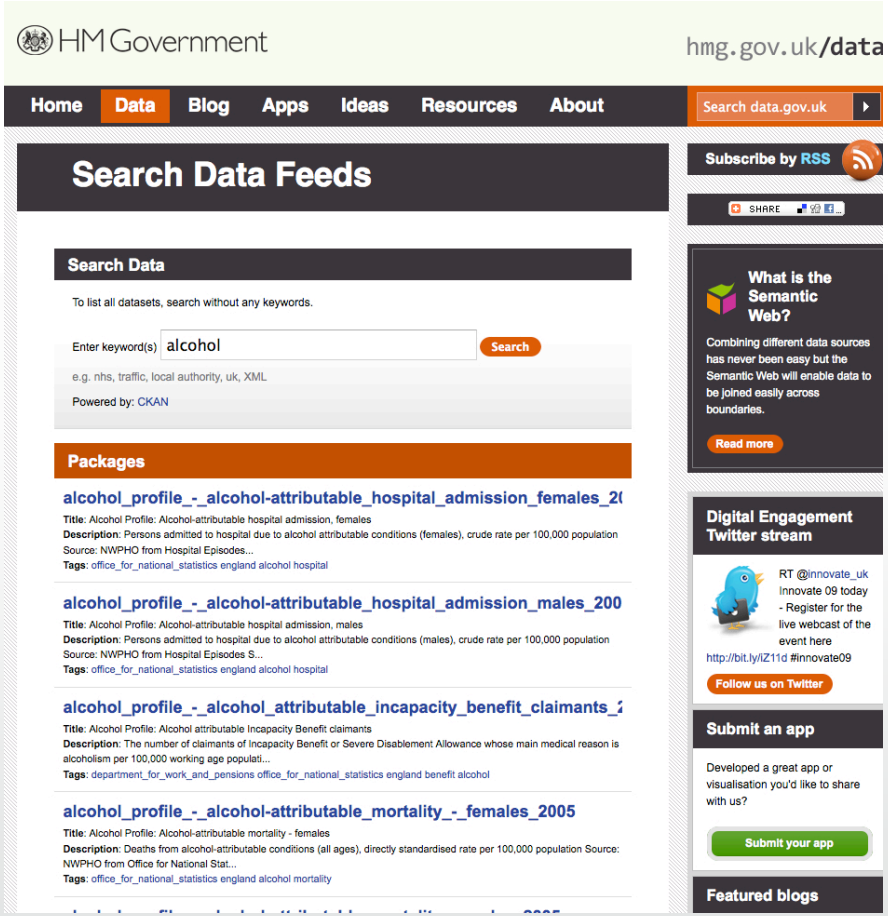
data.gov.uk



Alastair Dant (left) / David McCandless (right)

£ Massive Outgoings

Cost for average British taxpayer per day

GOVERNMENTS

ESSENTIALS

NHS £9.05

Schools £2.56

Defence £3.99

TRAVEL

Roads £3.10

LRT £0.14

BANKING CHARGES

Recapitalisations

The Royal Bank of Scotland
Lloyds TSB
northern rock
Bradford & Bingley*

£9.23

SECURITY

Police £0.53

Prisons £0.19

Afghanistan £0.32

GOING OUT

Arts £0.04

Museums

£0.03

HELPING OTHERS

Child support

£1.86

Job Seekers

£0.25

Housing benefit

£1.52

Disability benefit

£1.44

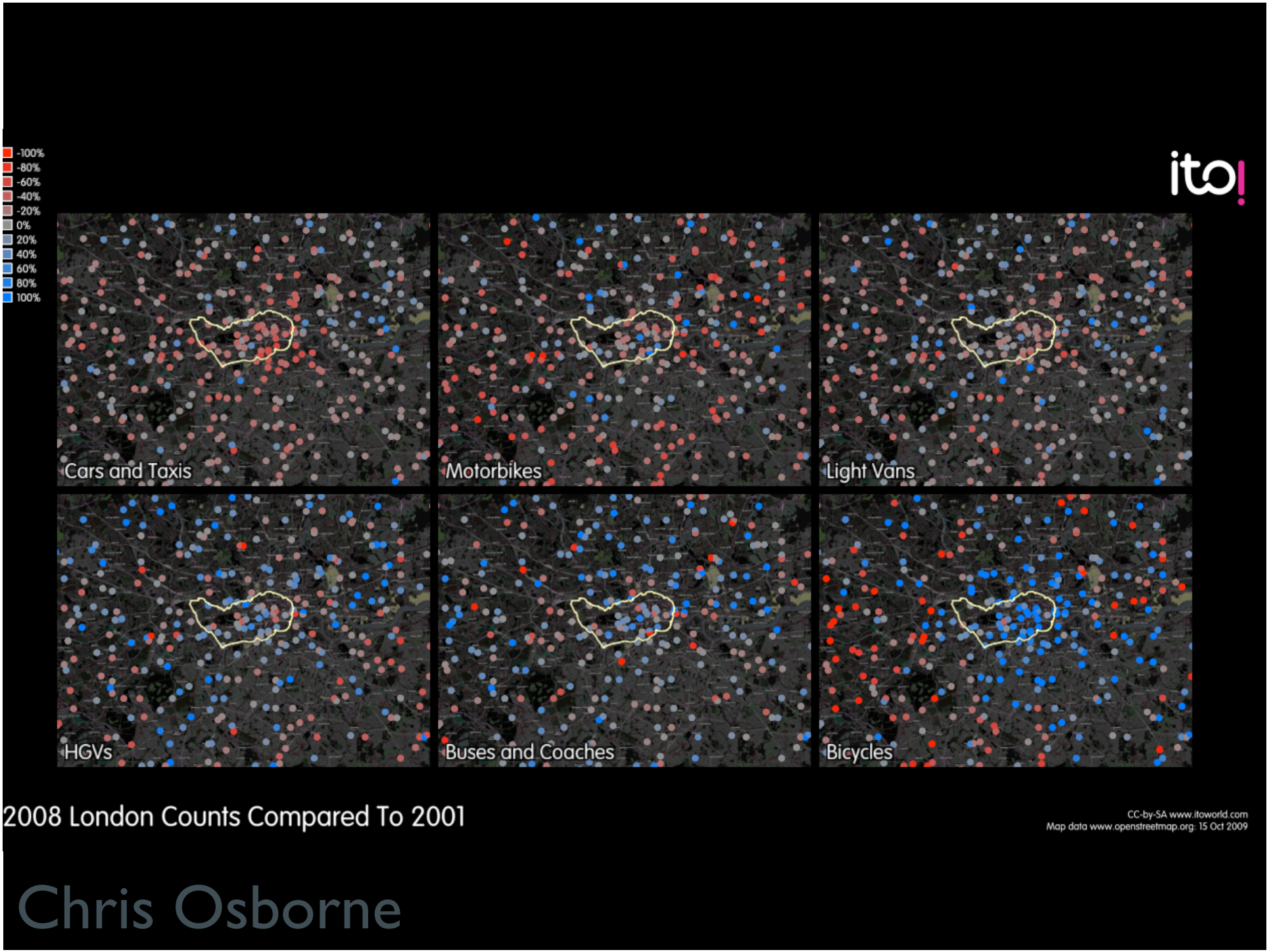
Pensions

£5.55

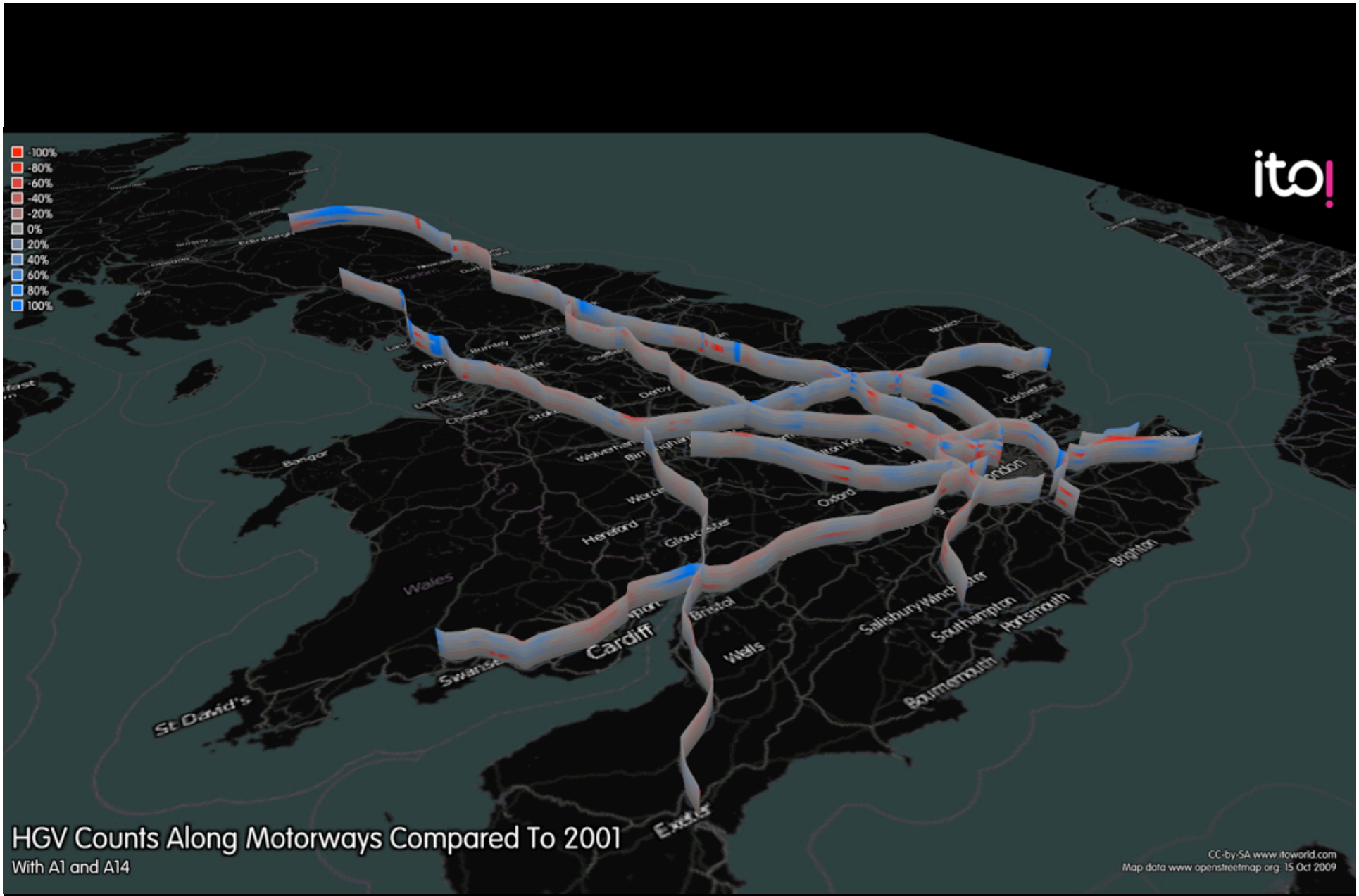
Overseas aid

£0.43

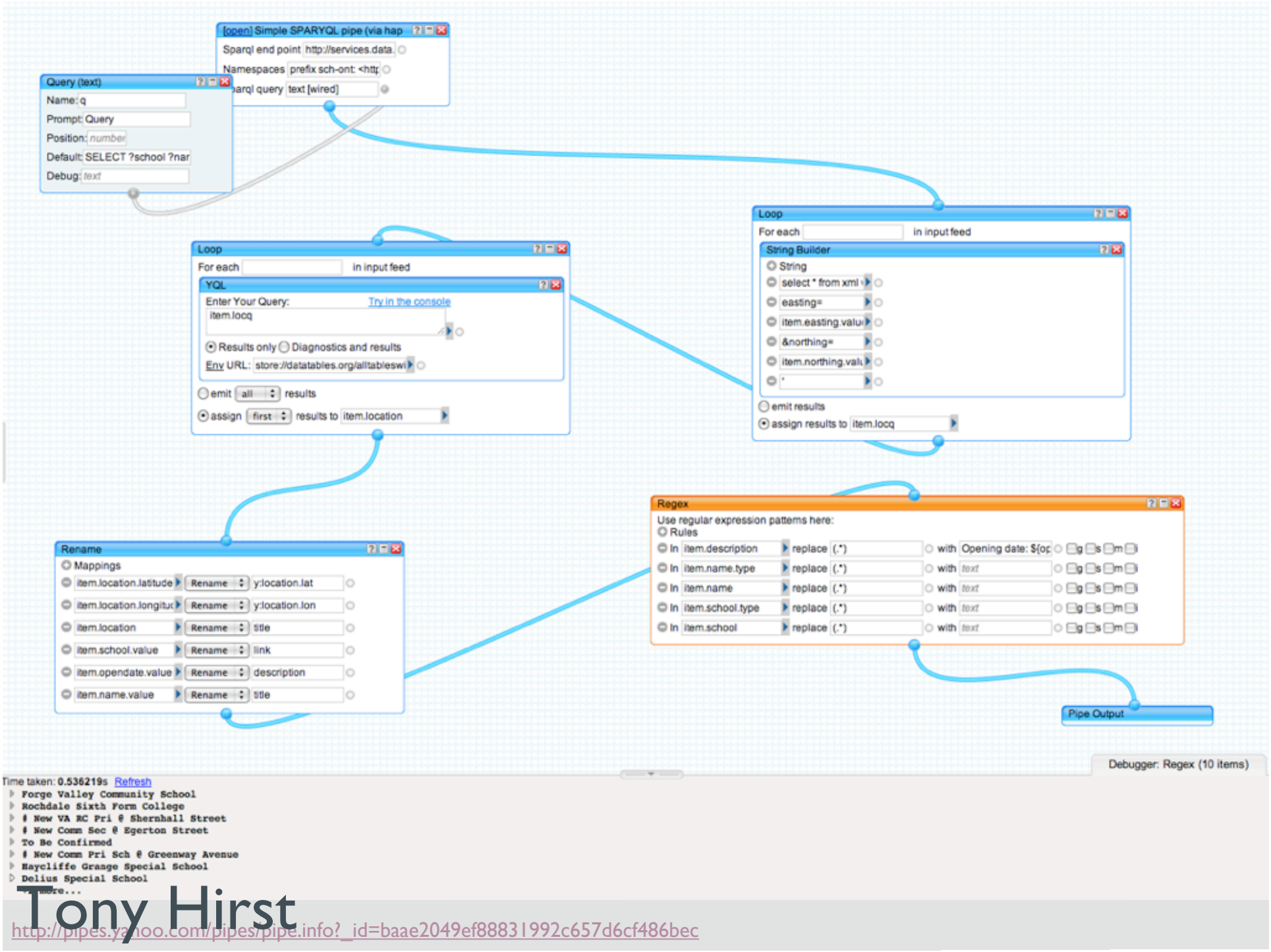
David McCandless



Chris Osborne



Chris Osborne



Tony Hirst

http://pipes.yahoo.com/pipes/pipe.info?_id=baae2049ef88831992c657d6cf486bec

Author:
Tony Hirst

data.gov.uk Education data demo

Pipe Web Address: http://pipes.yahoo.com/ouseful/baae2049ef88831992c657d6cf486bec

☆ View Source Clone

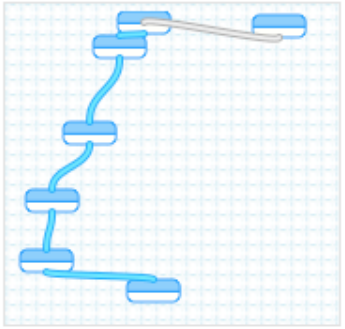
Properties

Not published
0 runs
7 clones

Bookmark / Share

Modules (8)

fetchdata
regex
rename
textinput
strconcat
subpipe
loop
yql



View Source

Configure this Pipe

Query SELECT ?school ?name ' Run Pipe

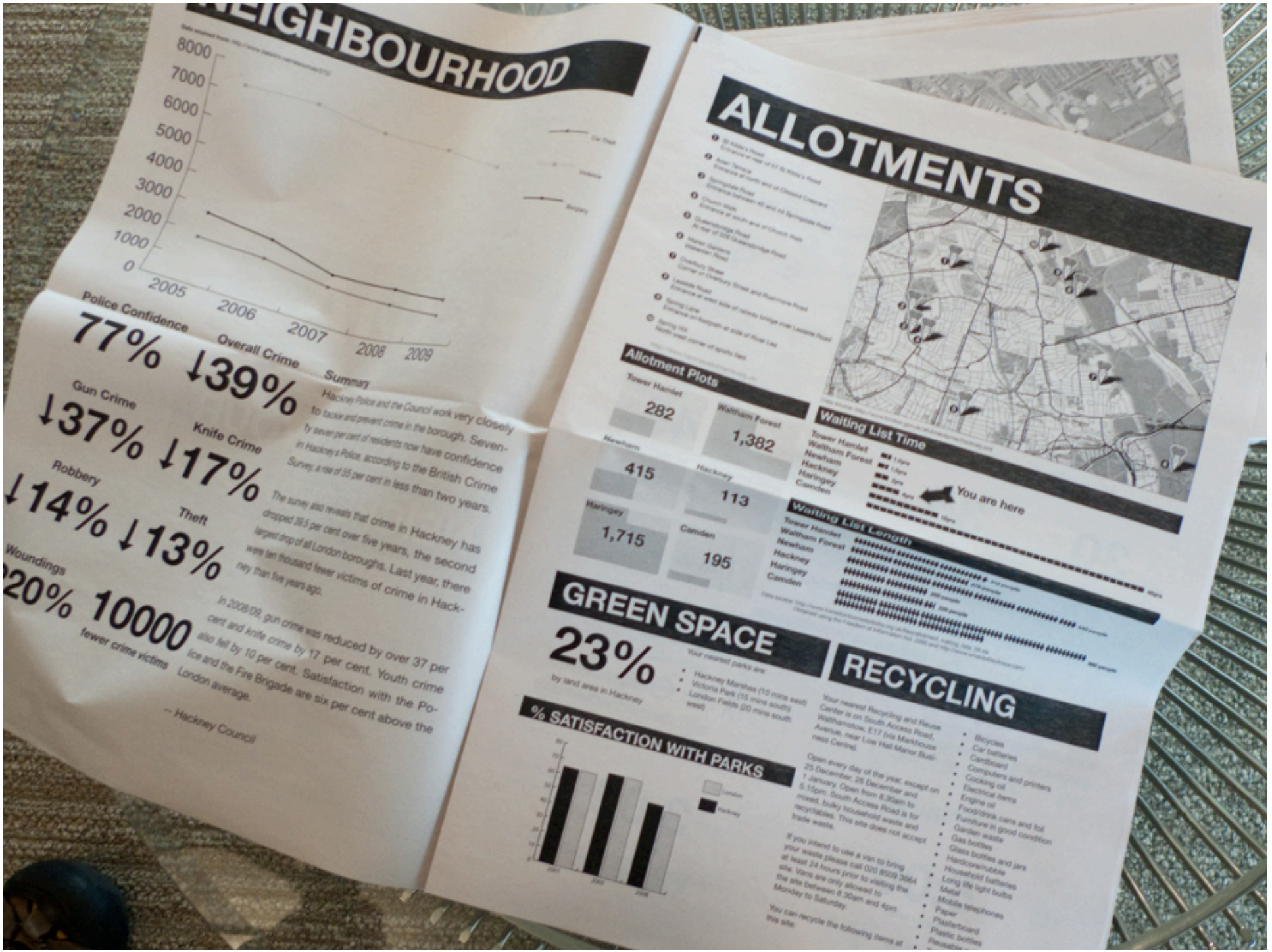
Use this Pipe

Get as a Badge MY YAHOO! Google Get as RSS Get as JSON More options

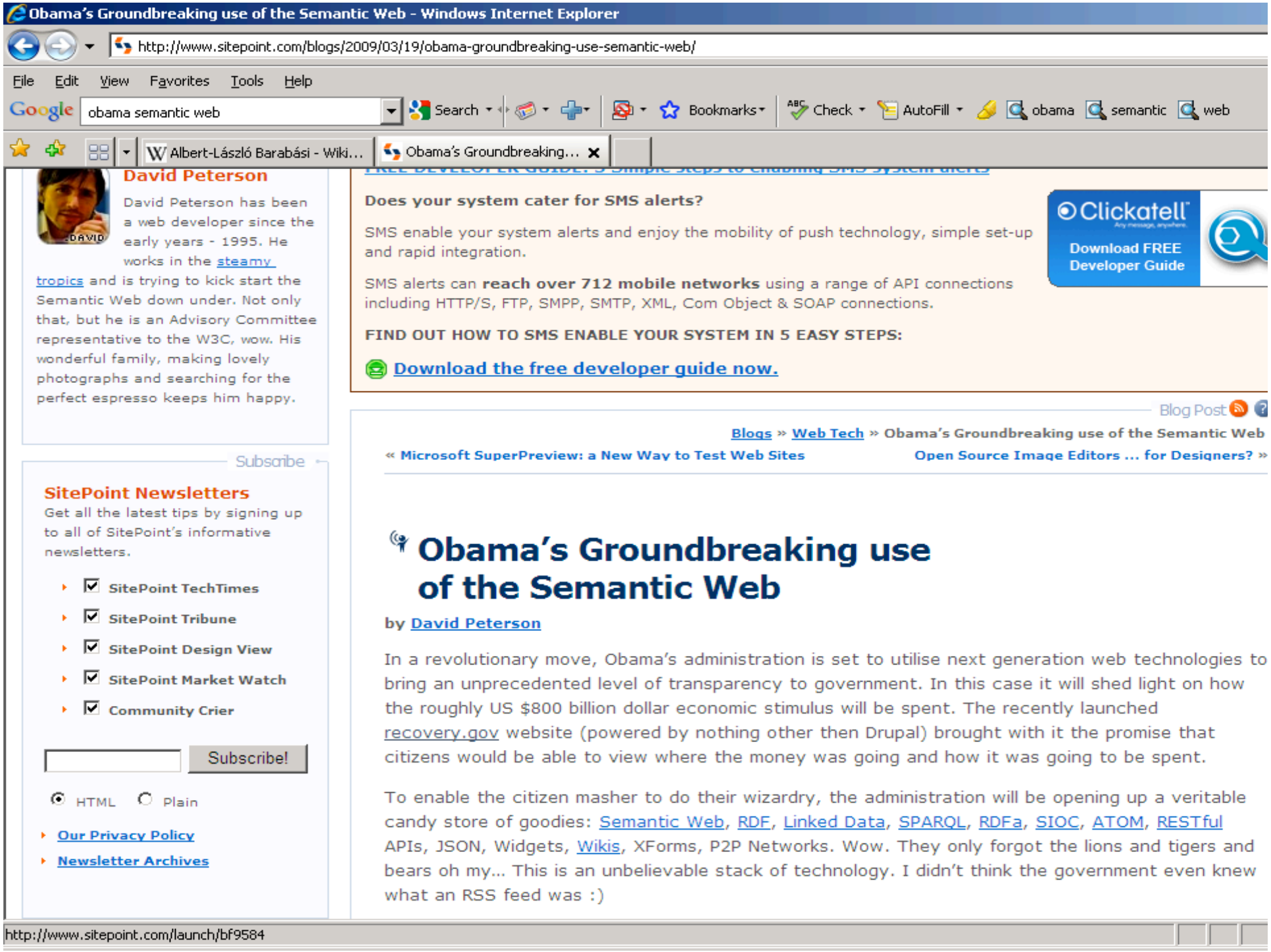
Map List 10 items

Report abusive Pipe

E5 0JA


EIGHBOURHOOD
8000
7000
6000
5000
4000
3000
2000
1000
0
2005
2006
2007
2008
2009
Police Confidence
77%
Overall Crime
↓39%
Gun Crime
↓37%
Knife Crime
↓17%
Robbery
↓14%
Theft
↓13%
Woundings
20%
10000
fewer crime victims
Summary
Hackney Police and the Council work very closely to tackle and prevent crime in the borough. Seventy seven per cent of residents now have confidence in Hackney's Police, according to the British Crime Survey, a rise of 55 per cent in less than two years.
The survey also reveals that crime in Hackney has dropped 39.5 per cent over five years, the second largest drop of all London boroughs. Last year, there were ten thousand fewer victims of crime in Hackney than five years ago.
In 2008/09, gun crime was reduced by over 37 per cent and knife crime by 17 per cent. Youth crime also fell by 10 per cent. Satisfaction with the Police and the Fire Brigade are six per cent above the London average.
-- Hackney Council
ALLOTMENTS
Allotment Plots
Tower Hamlet
282
Waltham Forest
1,382
Newham
415
Hackney
113
Haringey
1,715
Camden
195
Waiting List Time
Tower Hamlet
Waltham Forest
Newham
Hackney
Haringey
Camden
You are here
Waiting List Length
GREEN SPACE
23%
by land area in Hackney
Your nearest parks are:
Hackney Marshes (10 mins east)
Victoria Park (15 mins south)
London Fields (20 mins south west)
% SATISFACTION WITH PARKS
RECYCLING
Your nearest Recycling and Reuse Center is on South Access Road, Walthamstow, E17 b/da Marshouse Avenue, near Low Hall Manor Business Centre).
Open every day of the year, except on 25 December, 26 December and 1 January. Open from 8.30am to 5.15pm. South Access Road is for mixed, bulky household waste and recyclables. This site does not accept trade waste.
If you intend to use a van to bring your waste please call 020 8509 3964 at least 24 hours prior to visiting the site. Vans are only allowed to the site between 8.30am and 4pm Monday to Saturday.
You can recycle the following items at this site:
Bicycles
Car batteries
Cardboard
Computers and printers
Cooking oil
Electrical items
Engine oil
Foods/drink cans and foil
Furniture in good condition
Garden waste
Glass bottles
Glass bottles and jars
Hardcore/rubble
Household batteries
Long life light bulbs
Metal
Mobile telephones
Paper
Plasterboard
Plastic bottles

TRAVEL TIMES
Oxford Circus
41
mins
42
mins
Tottenham Court Road
37
mins
47
mins
King's Cross
30
mins
35
mins
Victoria
51
mins
45
mins
Manchester
2:44
hours : mins
Paris
3:00
hours : mins
Edinburgh
5:00
hours : mins
Bristol
3:00
hours : mins
LOCAL TRANSPORT
Route finder
Destination finder
For free cycle training in Hackney, call 020 8356 2897


Obama's Groundbreaking use of the Semantic Web - Windows Internet Explorer
http://www.sitepoint.com/blogs/2009/03/19/obama-groundbreaking-use-semantic-web/
File Edit View Favorites Tools Help
Google obama semantic web
Search Bookmarks Check AutoFill obama semantic web
Albert-László Barabási - Wiki...
Obama's Groundbreaking...
David Peterson
David Peterson has been a web developer since the early years - 1995. He works in the steamy tropics and is trying to kick start the Semantic Web down under. Not only that, but he is an Advisory Committee representative to the W3C, wow. His wonderful family, making lovely photographs and searching for the perfect espresso keeps him happy.
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Newsletter Archives
Does your system cater for SMS alerts?
SMS enable your system alerts and enjoy the mobility of push technology, simple set-up and rapid integration.
SMS alerts can reach over 712 mobile networks using a range of API connections including HTTP/S, FTP, SMPP, SMTP, XML, Com Object & SOAP connections.
FIND OUT HOW TO SMS ENABLE YOUR SYSTEM IN 5 EASY STEPS:
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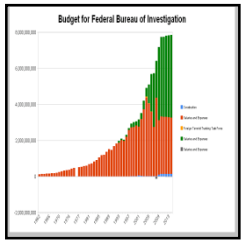
Blog Post
Blogs » Web Tech » Obama's Groundbreaking use of the Semantic Web
« Microsoft SuperPreview: a New Way to Test Web Sites
Open Source Image Editors ... for Designers? »
Obama's Groundbreaking use of the Semantic Web
by David Peterson
In a revolutionary move, Obama's administration is set to utilise next generation web technologies to bring an unprecedented level of transparency to government. In this case it will shed light on how the roughly US $800 billion dollar economic stimulus will be spent. The recently launched recovery.gov website (powered by nothing other then Drupal) brought with it the promise that citizens would be able to view where the money was going and how it was going to be spent.
To enable the citizen masher to do their wizardry, the administration will be opening up a veritable candy store of goodies: Semantic Web, RDF, Linked Data, SPARQL, RDFa, SIOC, ATOM, RESTful APIs, JSON, Widgets, Wikis, XForms, P2P Networks. Wow. They only forgot the lions and tigers and bears oh my... This is an unbelievable stack of technology. I didn't think the government even knew what an RSS feed was :)
http://www.sitepoint.com/launch/bf9584

Semantic Web Architecture for Government Data

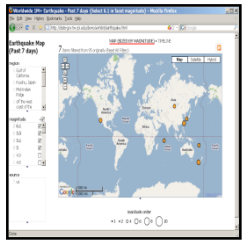
View & Use Data

Sem Wiki

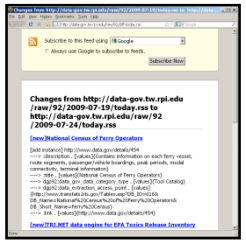
Tabulator



Google Viz



MIT Exhibit



RSS 1.0

tagCloud

Link & Enrich Data

XSLT Service | Diff Service | Link Annotator | RSS Generator | ...

Data Processors
(Web Services & Analyzers)

SPARQL End Point

SPARQL Web Service

RDF/XML

RDF/XML

GOV data
(RDF)

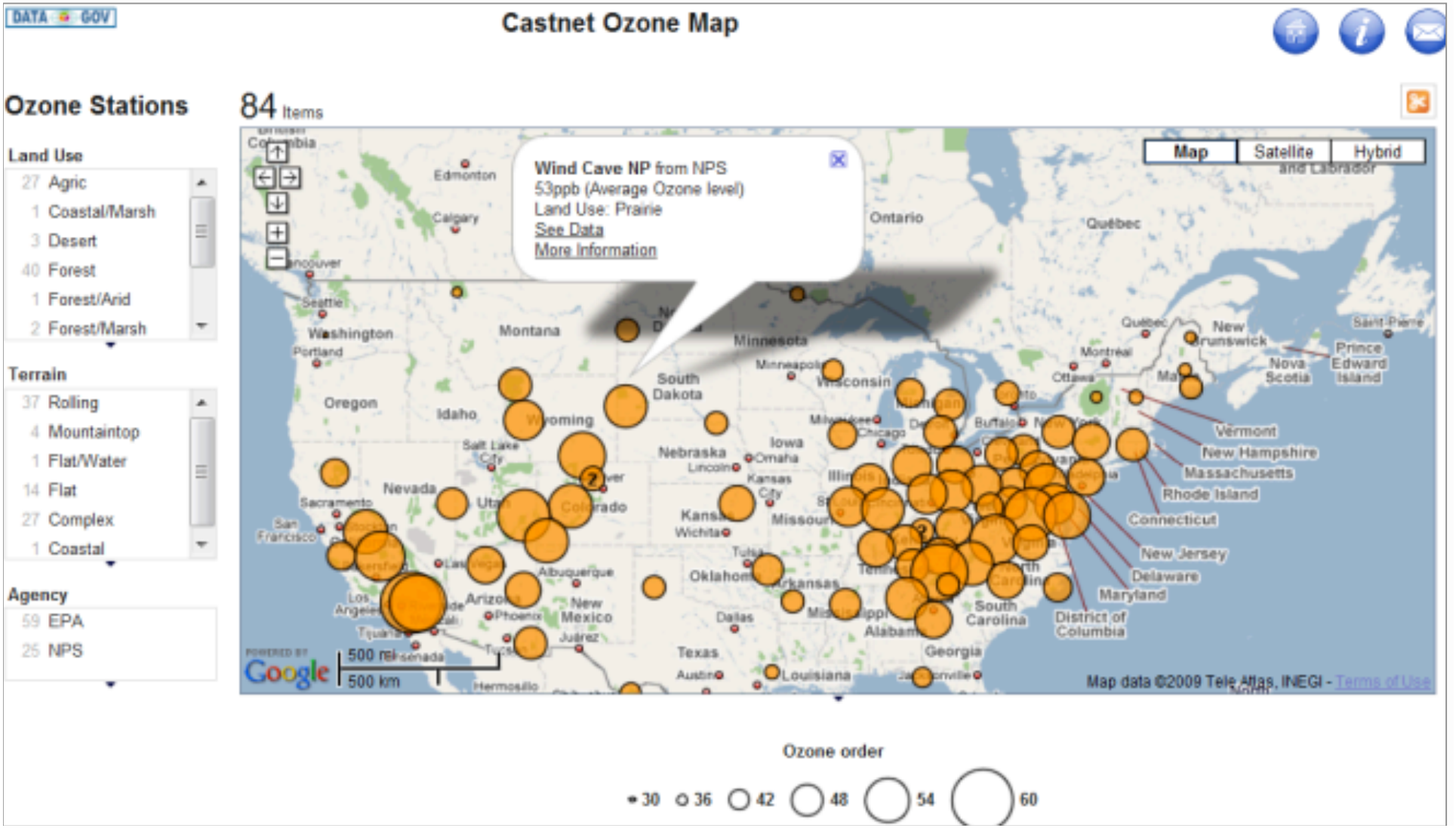
Linked
Data

Convert Data

DATA.GOV

CSV
XSL
...

Data.gov + epa.gov



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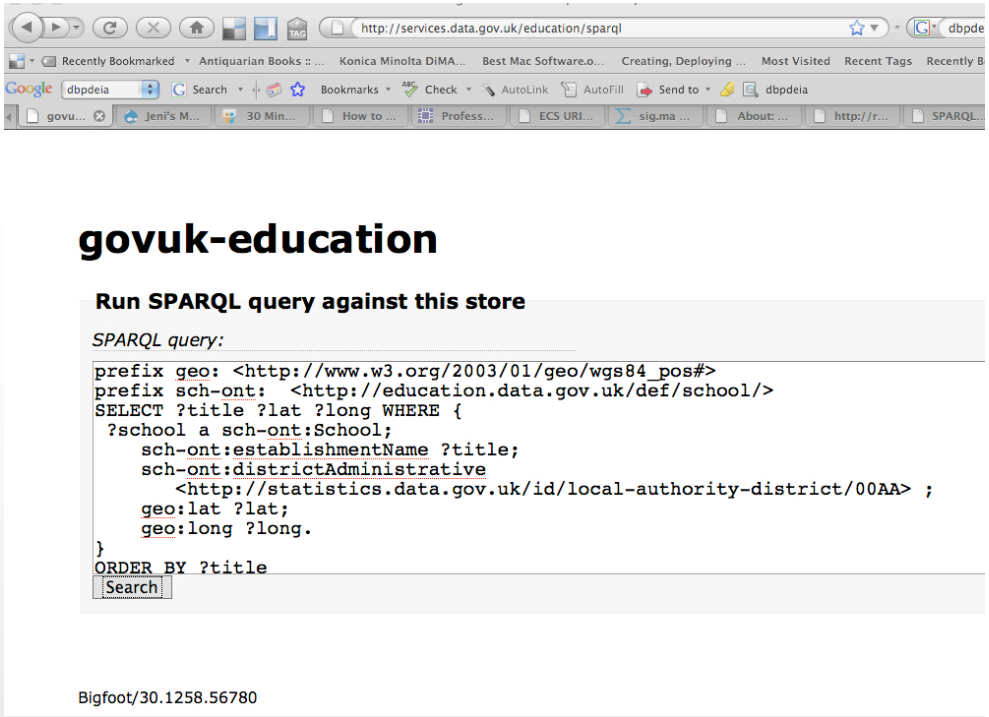
School of Electronics and Computer Science

Linking outside data.gov.uk

- Example from one of our education datasets
- A SPARQL query against data.gov.uk
- A transformation into KML
- A representation on Google Maps
- A link to the dbpedia URI for one of our schools
- This is information enrichment



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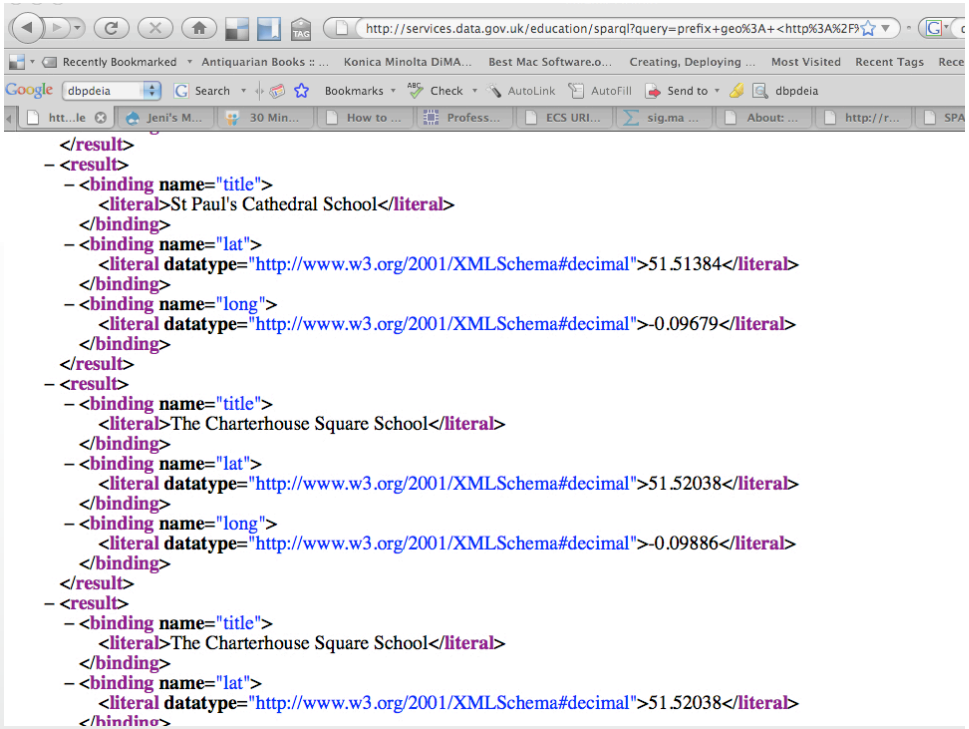

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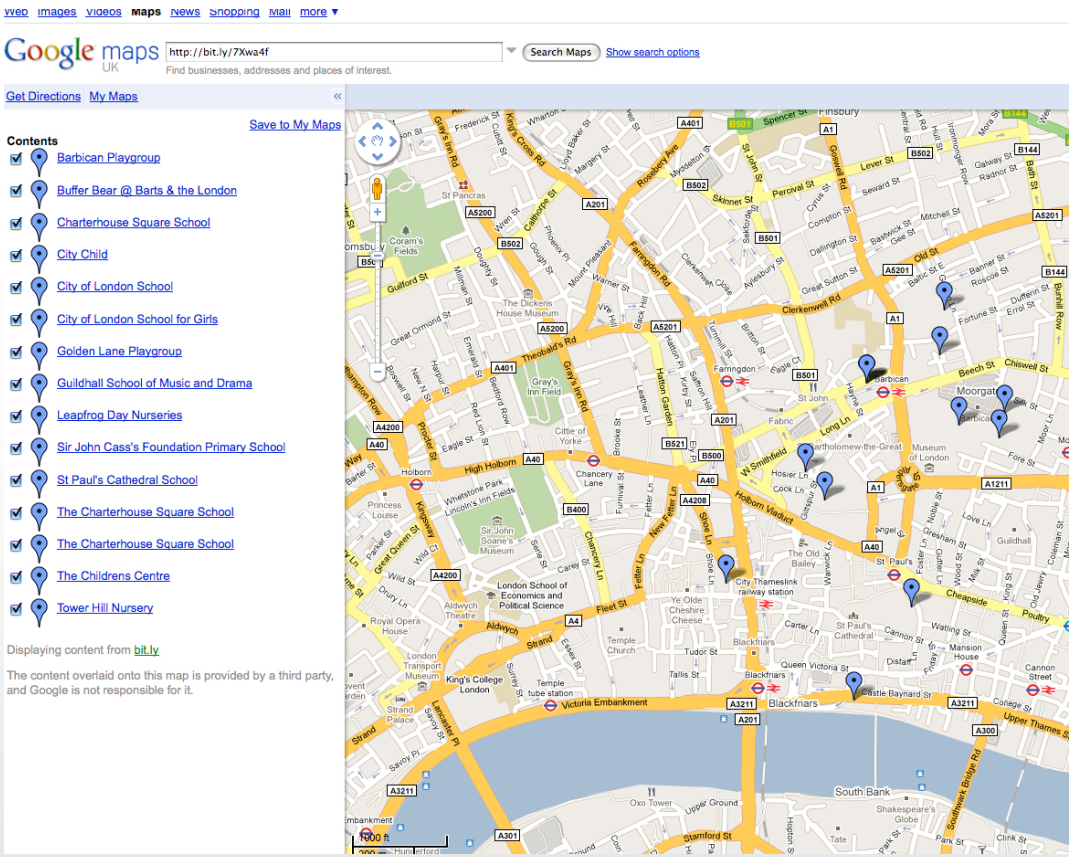

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Linking outside data.gov.uk

- Example from one of our education datasets
- A SPARQL query against data.gov.uk
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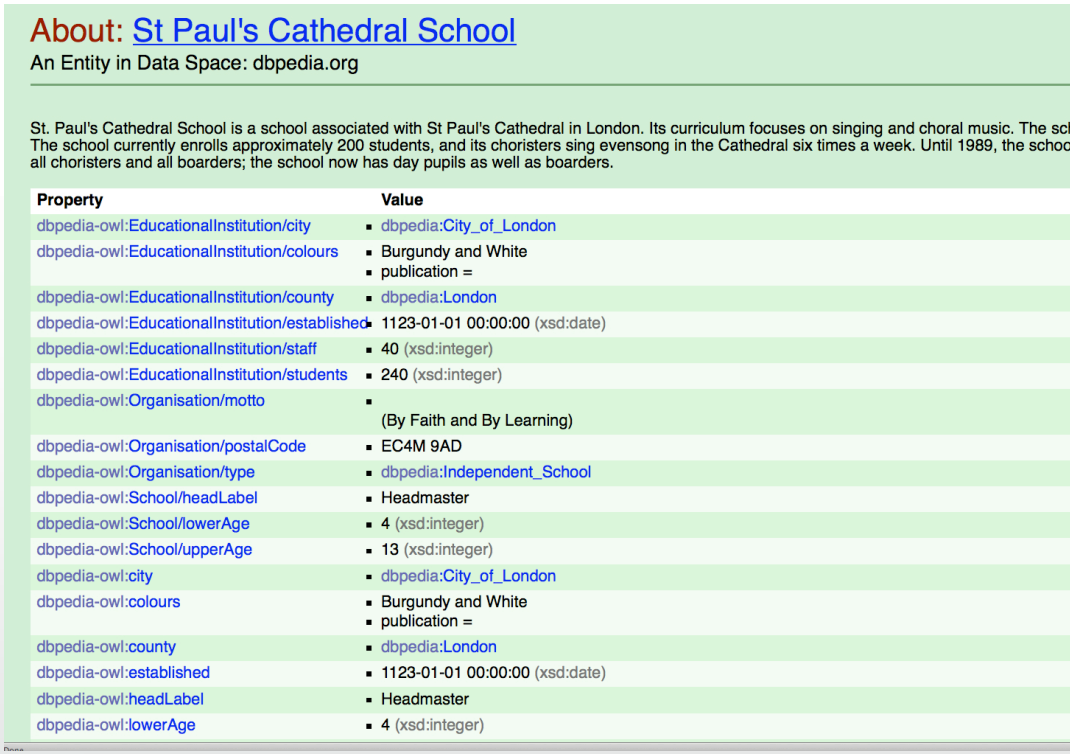

About: St Paul's Cathedral School

An Entity in Data Space: dbpedia.org

St. Paul's Cathedral School is a school associated with St Paul's Cathedral in London. Its curriculum focuses on singing and choral music. The scl
The school currently enrolls approximately 200 students, and its choristers sing evensong in the Cathedral six times a week. Until 1989, the schoo
all choristers and all boarders; the school now has day pupils as well as boarders.

Property	Value
dbpedia-owl:EducationalInstitution/city	dbpedia:City_of_London
dbpedia-owl:EducationalInstitution/colours	Burgundy and White publication =
dbpedia-owl:EducationalInstitution/county	dbpedia:London
dbpedia-owl:EducationalInstitution/established	1123-01-01 00:00:00 (xsd:date)
dbpedia-owl:EducationalInstitution/staff	40 (xsd:integer)
dbpedia-owl:EducationalInstitution/students	240 (xsd:integer)
dbpedia-owl:Organisation/motto	(By Faith and By Learning)
dbpedia-owl:Organisation/postalCode	EC4M 9AD
dbpedia-owl:Organisation/type	dbpedia:Independent_School
dbpedia-owl:School/headLabel	Headmaster
dbpedia-owl:School/lowerAge	4 (xsd:integer)
dbpedia-owl:School/upperAge	13 (xsd:integer)
dbpedia-owl:city	dbpedia:City_of_London
dbpedia-owl:colours	Burgundy and White publication =
dbpedia-owl:county	dbpedia:London
dbpedia-owl:established	1123-01-01 00:00:00 (xsd:date)
dbpedia-owl:headLabel	Headmaster
dbpedia-owl:lowerAge	4 (xsd:integer)

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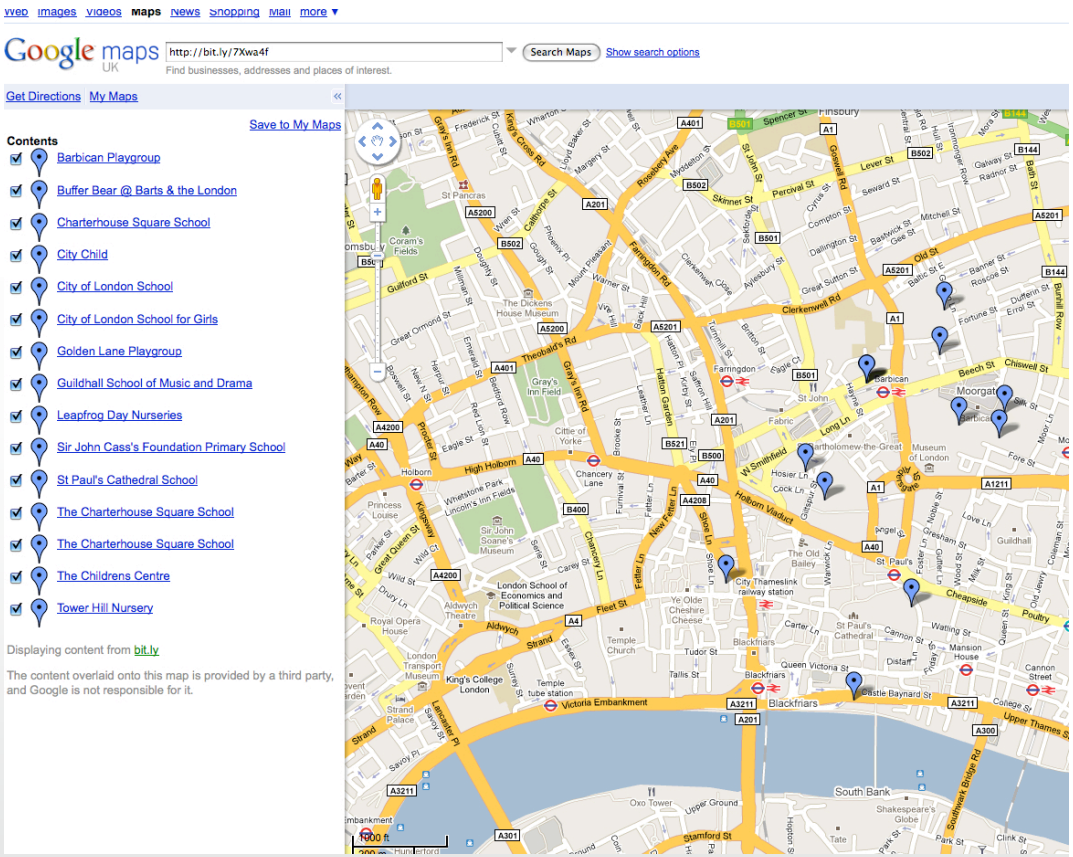

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Challenges to free Public Data

- The ubiquity of spreadsheets
  - Large amount of data is in spreadsheets
  - The challenge of implicit and variable semantics in these
- The importance of good URI schemes
- Publish the raw data
  - The perfect is the enemy of the good
  - Don't get into format wars
- Praise the data holders and appreciate their challenges
- The importance of location and time

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Challenges to free Public Data

- Cultural & Organisational
  - Data hugging
  - We have released it - sort of…
  - License impediments
- Worries about
  - Confidentiality
  - How it will be Interpreted
  - QoI
  - Lost value
  - Disrupted workflow
  - New IT procurement
- Importance of local authority and other public bodies
- Capability
  - What assets have we got (no duty to hold register of public non-personal datasets)
  - Who can do this work
  - How to share best practice
  - Minting URIs
- Policy
  - Extending the principle to all public sector bodies
  - Consistency in what is published, how it is licensed and its format
  - Range of exceptions do need to be appreciated
  - Confidentiality, accuracy, liability and reputation

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Why this matters to us

- More governments, municipalities, cities and media getting machine readable mark up
- The sum is greater than the parts
- Exploitation of
  - open data
  - open standards
- Can apply to data intranets as well as extranets
- Government linked data is showing how heterogeneous information cab be shared, linked, mapped and enriched