

HOW STANDARDS PROLIFERATE:

(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC)



It's all about Identification

**The Andrew W. Mellon Foundation
Workshop on Reconciliation of Linked Open Data
New York, 1st December 2014**

Hugh Glaser

<http://eprints.soton.ac.uk/id/eprint/372358>

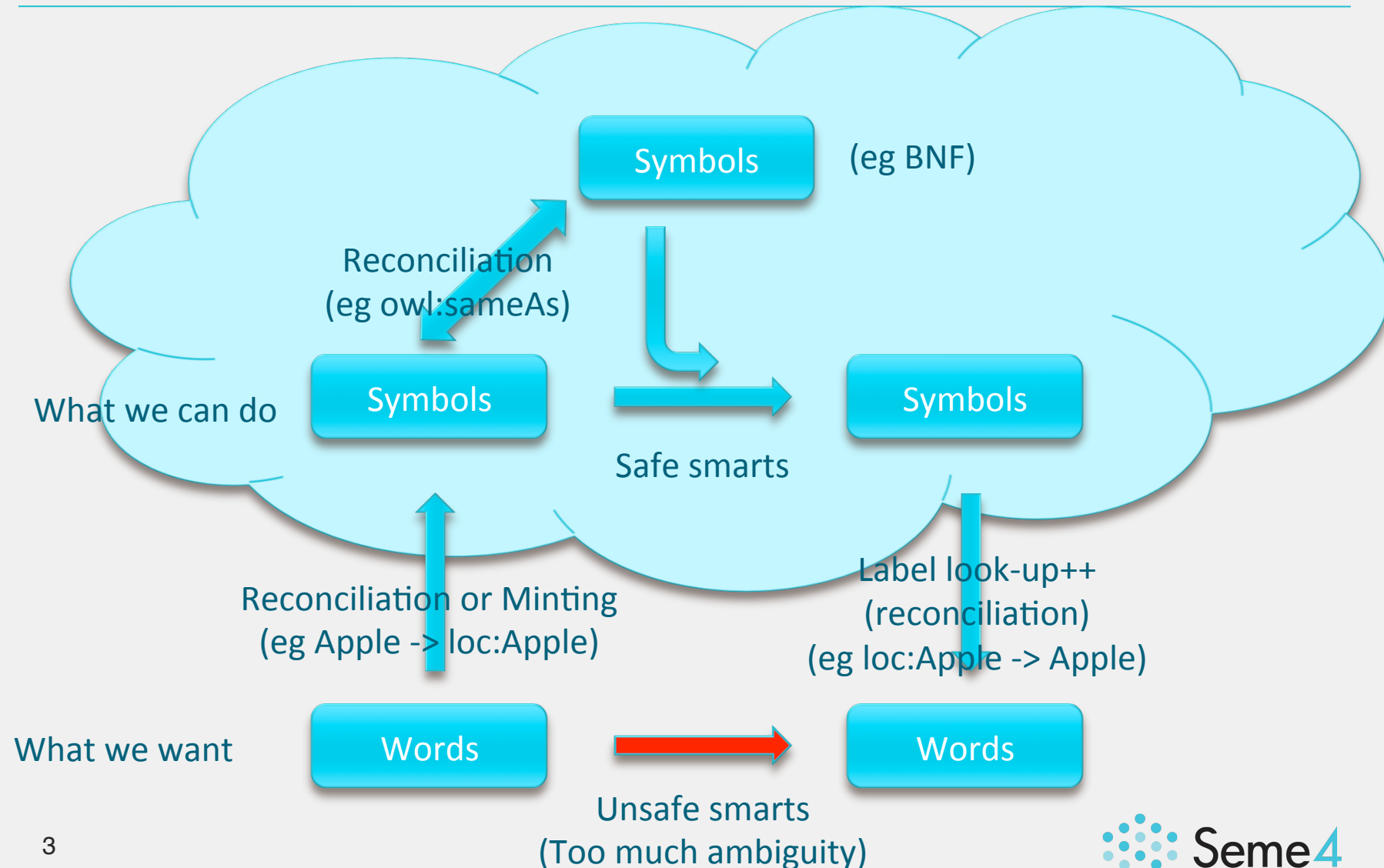
Seme4
18 Soho Square
London W1D 3QL
T : + 44 20 7060 1590

© 2014 Seme4

Seme4.com



Overview of Identification Issues





4

© Copyright Hamish Mackie
www.hamishmackie.com

Seme4
LINKED DATA SOLUTIONS

© 2014 Seme4
<http://hamishmackie.com/sculpture/figure-sculpture/nude-stepping-into-water/>

Heraclitus

- **"All entities move and nothing remains still"**
- **"You cannot step twice into the same stream"**

Cratylus (Pupil of Heraclitus)

- According to Aristotle, "ended by thinking that one need not say anything, and only moved his finger; and criticized Heraclitus for saying that one cannot enter the same river twice, for he himself held that it cannot be done even once"
- So do we want to be mute?
- We must build the assumption of “flow” into our systems

Identification Management

- **Specialist Knowledge Base**
- **No Authority**
 - What price
 - ISNI
 - ORCID
 - VIAF
 - ENS (okkam)
- **In fact no Agreement needed must be a principle**
- **Dynamic, not Static**
- **Distributed**

The Web

- **You cannot control what others say**
 - No *de jure* IDs
- **You can say what you want to**
 - *de facto* IDs
- **You can consume what you choose**
- **Others consume what they choose**
- **Ideally there is the data to inform such decisions**
- **And the technology to action the consequences**

Doing the Reconciliation of Words to Symbols

- **The Context of Words is ambiguous**
 - Project immediately to Symbols
 - Probably mint lots of Symbols
 - Then use the “safe” context of the structured data
- **Compare High School Algebra – “Variables”**
 - There are 3 times as many pears as oranges. A group of children receive 5 oranges and 8 pears each ...
 - Let p be the number of pears ...
 - Not: Well I guess the number of pears may be the same as Mary has, which is q ...
- **By the way, People do it badly**
 - They don't have the expertise
 - Eg Profs giving the job to their PGs
 - They unknowingly step outside their expertise
 - Eg Engelbert Humperdinck

My Solution for Management

- **“sameAs” identification Knowledge Bases**
- **Supports issues around reconciliation**
- **Result storage**
- **Result publishing**
 - How to make the results public?
 - How to reuse within the organisation?
- **Can be a lookup resource**
- **Equivalence Identification**
- **Label Identification**


<sameAs>

interlinking the Web of Data

The Web of Data has many equivalent URIs.
This service helps you to find co-references
between different data sets.

Enter a known URI, or use Sindice to search first.

<sameAs>



Equivalent URIs for http://dbpedia.org/resource/London –

- <sameAs> {
1. <http://dbpedia.org/resource/London>
 2. <http://dbpedia.org/resource/Leondeon>
 3. <http://dbpedia.org/resource/Lundúnir>
 4. [http://dbpedia.org/resource/London_\(UK\)](http://dbpedia.org/resource/London_(UK))
 5. [http://dbpedia.org/resource/London_\(Britain\)](http://dbpedia.org/resource/London_(Britain))
 6. [http://dbpedia.org/resource/London_\(England\)](http://dbpedia.org/resource/London_(England))
 7. [http://dbpedia.org/resource/London_\(Great_Britain\)](http://dbpedia.org/resource/London_(Great_Britain))
 8. [http://dbpedia.org/resource/London_\(United_Kingdom\)](http://dbpedia.org/resource/London_(United_Kingdom))
 9. <http://www.okkam.org/ens/id1d7d3fb0-44f8-41a1-8866-89c1458a1c66>
 10. <http://www.okkam.org/entity/oke0ab0619-e28a-438d-b53b-cdd5c8157f30>
 11. <http://os.rkbexplorer.com/id/osr7000000000041428>
 12. <http://data.ordnancesurvey.co.uk/id/7000000000041428>
 13. <http://linkedgedata.org/triplitify/node/107775#id>
 14. <http://mpii.de/yago/resource/London>
 15. <http://rdf.freebase.com/ns/guid.9202a8c04000641f8000000000242b2>
 16. <http://statistics.data.gov.uk/id/eer/07>
 17. <http://statistics.data.gov.uk/id/eer?name=London>
 18. <http://sw.opencyc.org/concept/Mx4rvVjWPJwpEbGdrcN5Y29ycA>
 19. <http://sw.opencyc.org/2008/06/10/concept/en/CityOfLondonEngland>

sameAs™

- **I run sameAs.org as a service to the community**
 - Long-standing, mature technology
- **Linking without authority**
 - Remember the XKCD Cartoon
- **Simply:**
 - Given a symbol ID, it tells you which other symbol IDs are the “same”
- **The glue for the Open Data world**
- **Sort of like Google for Linked Data**
 - In fact Google send me their sameAs data
 - As do Library of Congress, British Library, BNF, DNB, to name a few
- **You too can have a sameAs store, to publish such data**

What does sameAs do?



- One Thing Well
- $\text{symbol} \rightarrow \{\text{symbol}_1, \text{symbol}_2, \dots, \text{symbol}_n\}$
- PUT symbol pair
- GET on a symbol
- DELETE symbol pair




<sameAs>

interlinking the Web of Data

The Web of Data has many equivalent URIs.
This service helps you to find co-references
between different data sets.

Enter a known URI, or use Sindice to search first.

<sameAs> 
Consult the main sameas.org as well? 

 
Consult the main sameas.org as well? 

This is a sub-service of the sameAs service, and contains **only** information that is provided by a third party.

The data presented here relates to Hugh's experiment in gathering together library subject and associated data from good sources. It is likely to form part of a forthcoming project in the library area.

You can find URIs that are on the following domains, obtained from the sources, with their help and permission:

<http://bnb.data.bl.uk>
<http://d-nb.info>
<http://data.bibsys.no>
<http://nektar.oszk.hu>
<http://viaf.org>
<http://id.loc.gov>
<http://id.ndl.go.jp>
<http://stitch.cs.vu.nl>
<http://datos.bne.es>
<http://data.bnf.fr>

with some links to
<http://dbpedia.org>

KELLE Store
<http://sameas.org/store/kelle/>

Equivalent URIs for <http://bnb.data.bl.uk/id/person/ReaganRonald> –

- <sameAs> {
1. http://dbpedia.org/resource/Ronald_Reagan
 2. <http://bnb.data.bl.uk/id/person/ReaganRonald>
 3. <http://d-nb.info/gnd/118598724>
 4. <http://d-nb.info/gnd/http://d-nb.info/gnd/118598724>
 5. <http://data.bibsys.no/data/notrbib/authorityentry/x90052261>
 6. <http://libris.kb.se/resource/auth/237204>
 7. <http://nektar.oszk.hu/resource/auth/523530>
 8. <http://viaf.org/viaf/76321889>
 9. <http://viaf.org/viaf/104721224>
 10. <http://viaf.org/viaf/150795308>
 11. <http://viaf.org/viaf/76321889/#foaf:Person>
 12. <http://www.idref.fr/027091775/id>

[rdf+xml](#) · [n3](#) · [json](#) · [text](#) · [show fewer items](#)

Facilitates

- **Collaboration**
 - Many reconcilers can work together
 - And can be different from the data providers
- **Avoids the n^2 problems of owl:sameAs**
- **Avoids duplication of information**
 - No labels for Linked Data – it's at the URI
- **Dynamic identification identification**
- **Separation of Concerns**
- **Multiple Reconciliation Views**
 - For different contexts and uses
- **Can be Used for Simple Reconciliation in Restricted Domains**
 - Zip codes
 - British actors

What To Do

- **Publish the Data (Raw Data Now)**
 - Mostly with “natural” IDs/URIs
 - RDF
- **Use It**
 - So it is loved and maintained
- **Publish Your Linkages/Reconciliations**
- **Make your systems sameAs aware**
- **Encourage and help others to Reconcile over it**
- **Federate sameAs stores**
 - Transitive closure
- **Canonise if Appropriate**
 - Republish the RDF with preferred URIs
 - Deprecate the old ones – they become keys but not values in the sameAs store


You Really Can Build Complex Apps


- <http://www.ukphotonics.org>
- <http://apps.seme4.com/see-uk/>
- <http://apps.seme4.com/see-soton/>
- <http://www.dotac.info/explorer/>
- <http://genealogy.ragld.com/>
- <http://ysgolion.com>
- <http://hampshire.data.seme4.com/services/visualisation/>

Tim Berners-Lee :: dotAC Explorer

http://www.dotac.info/explorer/#person/http://southampton.rkbexplorer.com/id/person-07113


Google


Tim Berners-Lee



Profile

Photo:



Name:
[Tim Berners-Lee](#)
[T Berners-Lee](#)
[ティム・バーナーズ＝リー](#)

Address:
[University of Southampton, SO17 1BJ, United Kingdom](#)

Tel:
[+44 \(0\)23 8059 6669](#)
[+1-\(617\)-253-5702](#)
[+442380596669](#)

Web:
<http://www.ecs.soton.ac.uk/people/timbl>
<http://www.w3.org/People/Berners-Lee/>
http://en.wikipedia.org/wiki/Tim_Berners-Lee
<http://www.w3.org/People/Berners-Lee/Overview.html>

Email:


Colleagues & Collaborators

Nigel Shadbolt	?
Daniel J. Weitzner	?
Wendy Hall	?
James A. Hendler	?
Lalana Kagal	?
Tom Heath	?
monica schraefel	?

Workplaces & Affiliations

MASSACHUSETTS INSTITUTE OF TECHNOLOGY	?
World Wide Web Consortium	?
CSAIL - MIT	?
School of Electronics and Computer Science	?
The Queen's College, Oxford	?
University of Southampton	?

Location of Person



POWERED BY Google

Publications

Information accountability.	?
Web science: an interdisciplinary approach to understanding the web.	?
A Framework for Web Science.	?
The Semantic Web Revisited.	?
Creating a Science of the Web	?
From the Semantic Web to social machines: A research challenge for AI on the World Wide Web	?
Journal publishing and author self-archiving: Peaceful Co-Existence and Fruitful Collaboration	?

Related Research Areas

C.2.1. Network Architecture and Design	?
C.2.1.6. Network communications	?
C.2.2. Network Protocols	?
C.m. MISCELLANEOUS	?
H.3.4. Systems and Software	?
I.7.2. Document Preparation	?
Semantic Web	?

differentFrom!

- **Don't Forget differentFrom (differentFrom.org)**
- **More costly knowledge than sameAs**
- **It's your Regression Tests**
- **And You need to manage that Data**
- **And Publish it, just like sameAs**

Thank You

- **Next slides are about examples**

Product: UK Photonics Portal

- <http://www.ukphotonics.org>
- A dynamic portal for the UK Photonics Industry
- Linked Data integrates across multiple sources
 - avoids curating own copy of data
 - no “staleness” problem
 - bring in data where possible “from source”
- Comprehensive equivalence mapping between synonyms
- Integrated within Wordpress CMS

UK PHOTONICS

The knowledge-driven photonics portal

[Home](#)[About](#)[Community News](#)[Photonics resources](#)[Capabilities & Techniques](#)[Researchers](#)[Organisations](#)[Equipment & Facilities](#)[Useful links](#)[Events](#)[Portal News](#)[Frequently asked Questions](#)[Advanced Search](#)

EPSRC Centre for Innovative
Manufacturing in Photonics

EPSRC

Engineering and Physical Sciences
Research Council

General Engineering Research Institute (GERI) - John Moores University

Byrom Street, Liverpool, L3 3AF, United Kingdom

w: <http://www.ljmu.ac.uk/geri/>

General Engineering Research Institute (GERI) - John Moores University is part of
Liverpool John Moores University.

Sub groups

- Coherent and Electro-Optics Research Group
- Electronic and Ultrasonic Engineering
- Photonics in Engineering
- The Advanced Manufacturing Technology Research Laboratory

Members

- Mr Peter Moran
- Mr. Guang Ming Zhang
- Dr. Francis Lilley
- Mr Adam Rosowski
- Dr. Mark Murphy
- Dr Martin Sharp
- Dr Tahsin Tecelli Opoz
- Dr Michael N Morgan
- Professor Allan Hobson
- Professor Xun Chen
- Dr. Frederic Bezombes
- Professor Michael J. Lalor
- Dr. Paul French
- Professor David M. Harvey
- Dr Andre Batako
- Professor David R. Burton

SEARCH PORTAL CONTENT

or try [advanced search](#)

PORTAL NEWS

Public launch of UK Photonics Portal

A guide to Freebase

Data sources... exposed

New data sources integrated

Refinements to search

Data in the portal is gathered with minimum editing from many sources. As a result there can be significant variations in how people describe themselves and their organisations' capabilities. Care is therefore advised when searching to produce fully inclusive results. Our [hints](#) and [tips](#) will help, as will our [example queries](#).

NEWS HIGHLIGHTS

EPSRC funded projects

TSB funded projects

Where to find Photonics in H2020

Photonics in H2020 KTN meeting Dec 2013

Tweets

[Follow](#)

 **UK Photonics Portal**
@UKPhotonics

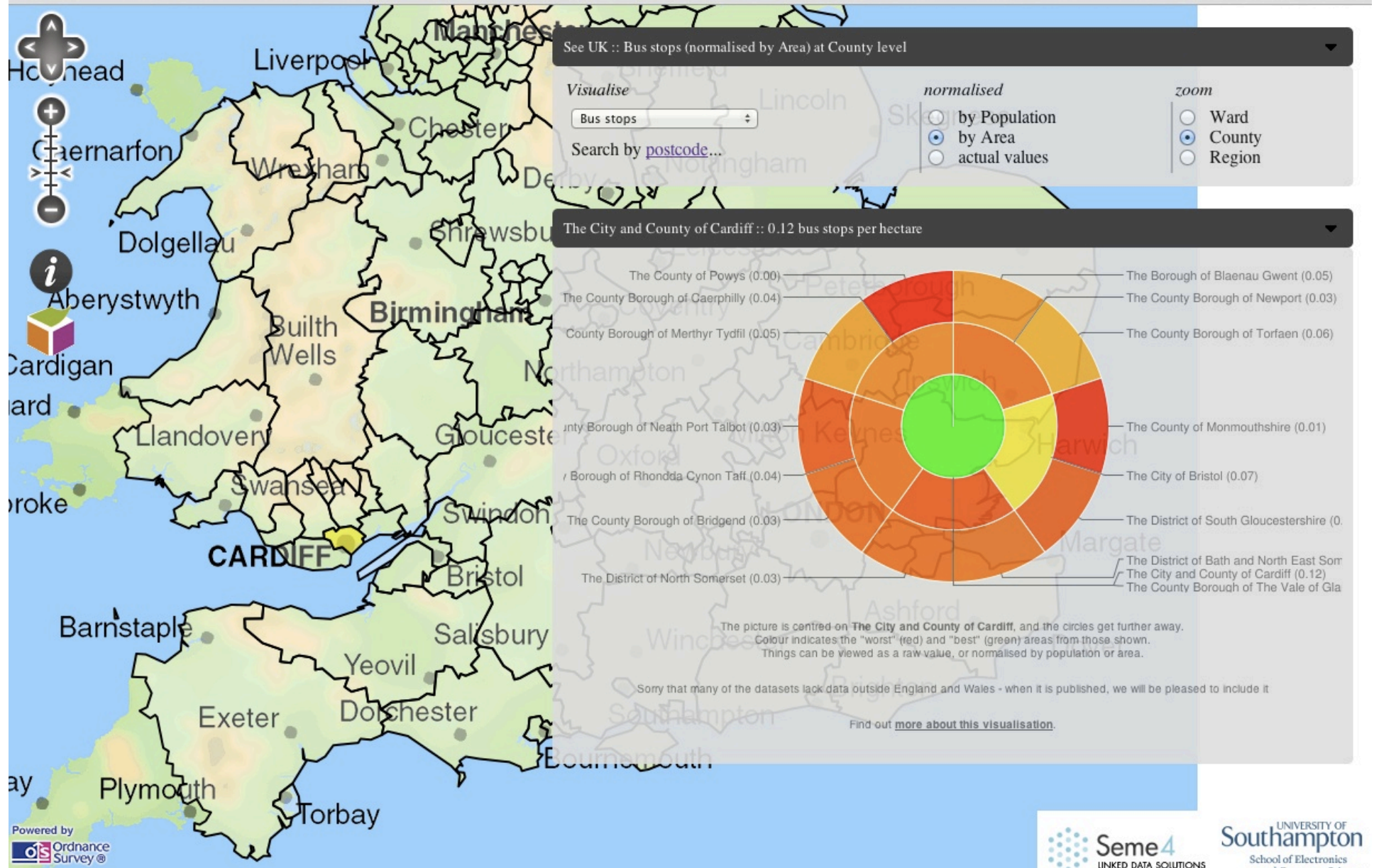
4h

Product: <sameAs>

- **sameAs.org is the de-facto resource for co-reference in the Open Linked Data cloud**
- **Primarily a discovery mechanism**
 - given a URI, what other URIs describe the same resource / concept?
- **Sub-stores for publishing rd3 party data**
 - used by Google, British Library, JISC,
 - Ordnance Survey, VIAF, LATC,
 - and many others

Demos: See-UK and See-Soton

- <http://apps.seme4.com/see-uk/k/>
- <http://apps.seme4.com/see-soton/>
- **Wide variety of coordinate based public sector information converted into Linked Data**
- **Point locations resolved to electoral wards**
- **Aggregations into higher level regions, and normalisations by area and population**
- **Web application compares neighbouring regions on a relative “good” to “bad” scale**
- **Custom lower level view for Southampton City Council, with additional city specific data**



See Soton :: Road Traffic Collisions (normalised by Population) at LSOA level

Visualise

Road Traffic Collisions

Search by postcode...

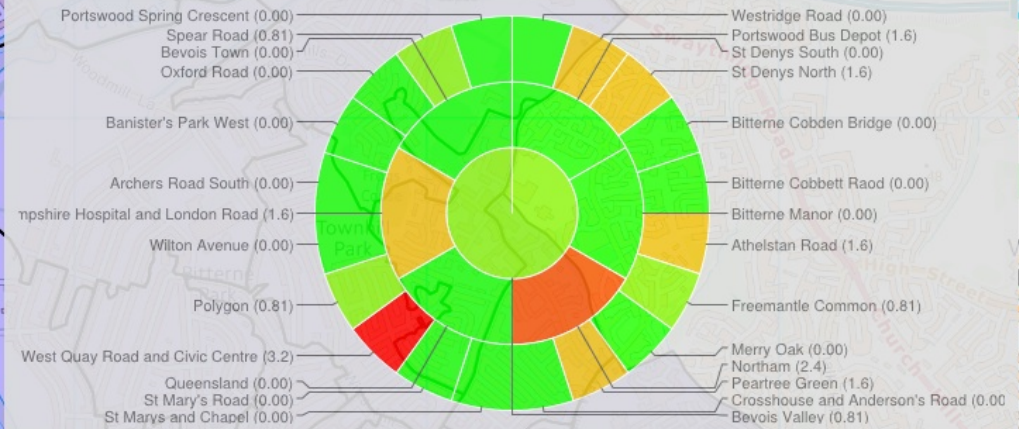
normalised

- ☒ by Population
☐ by Area
☐ actual values

zoom

- ☒ LSOA
☐ Ward

Bevois Valley :: 0.81 collisions per 1000 people



The picture is centred on Bevois Valley, and the circles get further away. Colour indicates the "worst" (red) and "best" (green) areas from those shown. Things can be viewed as a raw value, or normalised by population or area.

Find out [more about this visualisation](#).

Product: British Museum Integration

- http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=117631&partId=1
- **Linked data used to connect three separate internal systems**
- **Enables research and conservation data to be viewed and published live into BM website**

British Museum – Search object details

http://www.britishmuseum.org/research/search_the_collection_database/search_object_detail

Reader

lod diagram

Single (8) And same as sameas South America Stuff iPhone ECS UoS DH ReSIST MacOS X Football RKB ENT iPhone App

British Museum – Search object ...

THE BRITISH MUSEUM


Home Visiting What's on Explore Research Learning The Museum Membership Support us Shop

Search

Home > Research > Search the collection database

1 of 1

The Rosetta Stone






AN16456004

© The Trustees of the British Museum

Larger image

Use digital image

Print record



Side: right Side : left Full: Front

See all views (5)

Department: Ancient Egypt & Sudan

Registration number: .24

BM/Big number: 24

Additional IDs
BS.24

Bibliographic reference

Object types
stela ([all objects](#))

Title (object)
The Rosetta Stone

Materials
granodiorite ([all objects](#))

Place (findspot)
Excavated/Findspot Fort Saint Julien ([all objects](#))

Date
196BC

Period/Culture
Ptolemaic ([scope note](#) | [all objects](#))

Description

Part of grey and pink granodiorite stela bearing priestly decree concerning Ptolemy V in three blocks of text: Hieroglyphic (14 lines), Demotic (32 lines) and Greek (53 lines).

Inscriptions

Inscription Type: inscription
Inscription Language: Greek

Inscription Type: inscription
Inscription Script: hieroglyphic
Inscription Language:

Inscription Comment: The inscription is a decree passed by a council of priests, one of a series that affirm the royal cult of the 13 year-old Ptolemy V on the first anniversary of his coronation.

Inscription Type: inscription
Inscription Script: demotic
Inscription Language:

Dimensions

Length: 112.3 centimetres (max)
Width: 75.7 centimetres
Thickness: 28.4 centimetres

More about object

Conservation

June 1999 – Temporary Exhibition

April 1992 – Examination

© 201

Products: RKBExplorer and dotAC

- <http://www.rkbexplorer.com/>
- <http://www.dotac.info/explorer/>
- **Members of the Seme4 team created many of the first Open Linked Data resources, detailing researchers, publications and projects**
- **The infrastructure hosts many individual Linked Data datasets, helping define emerging best practices**
- **Addresses problems of equivalence mapping and distributed querying across multiple sources**
- **Applications give synergistic view over data, highlighting which resources are related, and (equally importantly) why they are related**

RKBExplorer » People » Carl Lagoze

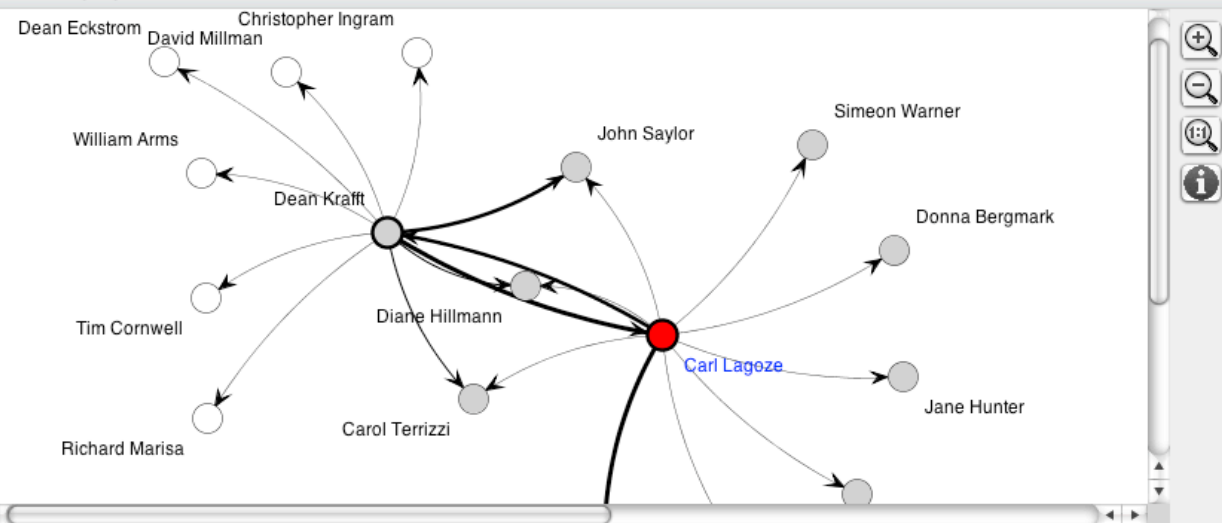
Search...

Search

- about
- help
- contact
- system requirements
- data sources
- acknowledgements



Related people



Details

Full Name:

[Carl Lagoze](#)

Email Address:

lagoze@cs.cornell.edu

Raw Linked Data:

[Resolvable URI](#)

[All Known Co-reference Data](#)

View in external viewer:

[Zitgist Data Viewer](#)

[OpenLink Data Explorer](#)

[Tabulator \(Firefox only\)](#)

People

[Herbert Van de Sompel](#)

[Dean Krafft](#)

[Donna Bergmark](#)

[James R. Davis](#)

[John Saylor](#)

[Pavel Dmitriev](#)

[Simeon Warner](#)

[Carol Terrizzi](#)

[Diane Hillmann](#)

[Jane Hunter](#)

Research Areas

[H.3.7. Digital Libraries](#)

[H.3.5. Online Information Services](#)

[H.3.3. Information Search and Retrieval](#)

[H.3.4. Systems and Software](#)

[H.3.6. Library Automation](#)

[H.5.3. Group and Organization Interfaces](#)

[I.7. DOCUMENT AND TEXT PROCESSING](#)

[C.2.1. Network Architecture and Design](#)

Publications

[The oreChem Project: Integrating Chemistry Scholarship with the Semantic Web](#)

[A Web-Based Resource Model for eScience: Object Reuse & Exchange](#)

[Object Re-Use & Exchange: A Resource-Centric Approach](#)

[Detecting research topics via the correlation between graphs and texts.](#)

[The OAI-ORE effort: progress, challenges, synergies.](#)

[Augmenting interoperability across scholarly repositories.](#)

[Automatically Constructing](#)

Projects

[DLI-2: Security and Reliability in Component-based Digital Libraries](#)

[DLI-International: Integrating and Navigating Eprint Archives through Citation-Linking](#)

[DLI-International: Metadata for Resource Discovery of Multimedia Digital Objects](#)

[SGER: Advancing the State of eChemistry: Workshop and Pilot Study](#)


[Collaborative Project: Core Integration - Leading NSDL Toward Long-Term Success](#)


[NSDL Technical Network Services: A Cyberinfrastructure Platform for STEM](#)

Tim Berners-Lee :: dotAC Explorer

http://www.dotac.info/explorer/#person/http://southampton.rkbexplorer.com/id/person-07113


Google


Tim Berners-Lee



Profile

Photo:



Name:
[Tim Berners-Lee](#)
[T Berners-Lee](#)
[ティム・バーナーズ＝リー](#)

Address:
[University of Southampton, SO17 1BJ, United Kingdom](#)

Tel:
[+44 \(0\)23 8059 6669](#)
[+1-\(617\)-253-5702](#)
[+442380596669](#)

Web:
<http://www.ecs.soton.ac.uk/people/timbl>
<http://www.w3.org/People/Berners-Lee/>
http://en.wikipedia.org/wiki/Tim_Berners-Lee
<http://www.w3.org/People/Berners-Lee/Overview.html>

Email:


Colleagues & Collaborators

Nigel Shadbolt	?
Daniel J. Weitzner	?
Wendy Hall	?
James A. Hendler	?
Lalana Kagal	?
Tom Heath	?
monica schraefel	?

Workplaces & Affiliations

MASSACHUSETTS INSTITUTE OF TECHNOLOGY	?
World Wide Web Consortium	?
CSAIL - MIT	?
School of Electronics and Computer Science	?
The Queen's College, Oxford	?
University of Southampton	?

Location of Person



POWERED BY Google

Publications

Information accountability.	?
Web science: an interdisciplinary approach to understanding the web.	?
A Framework for Web Science.	?
The Semantic Web Revisited.	?
Creating a Science of the Web	?
From the Semantic Web to social machines: A research challenge for AI on the World Wide Web	?
Journal publishing and author self-archiving: Peaceful Co-Existence and Fruitful Collaboration	?

Related Research Areas

C.2.1. Network Architecture and Design	?
C.2.1.6. Network communications	?
C.2.2. Network Protocols	?
C.m. MISCELLANEOUS	?
H.3.4. Systems and Software	?
I.7.2. Document Preparation	?
Semantic Web	?

Demo: Genealogy Viewer

- <http://genealogy.ragld.com/>
- Rapid application to visualise family tree
- Client-side javascript / ajax web application
- Server-side uses only stock services
- Location data included from Wikipedia

Edith Nora Brandham

**Edith Nora Brandham**

Born: 1912-09-02

Windmill Road, Flitwick, Beds

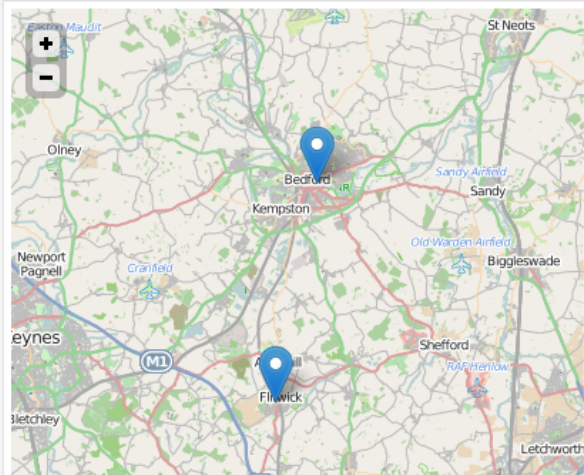
Died: 2007-08-06

[Bedford Hospital](#)

Life span : 95 years

Married : [Reginald Kenneth Goodwin](#)

Locations



Grandparents

Annie
AnsellJeremiah
Brandham

Henry Hill

Amy
Turney

Parents



Lizzie Hill

Ernest
Brandham

Siblings

Arthur
Ralph
Brandham

Children



Linked Data Browser

Edith Nora Brandham<http://gothwin.data.seme4.com/id/person/I0276>

ancestors	Amy Turney, Ann Osborn, Ann Tearle, Ann Unknown, Annie Ansell, Elizabeth Unknown, Ernest Brandham, George Hinson, Henry Hill, Jeremiah Brandam, Jeremiah Brandham, Jeremiah Brandham, Job Turney, John Ansell, Lizzie Hill, Mary Unknown, Sarah Hinson, Thomas Tearle, William Brandham (and 3 others)
children	David Roger Goodwin
descendants	Daniel Edward Goodson, David Roger Goodwin, Jane Elizabeth Goodwin, John David Goodwin and Lucy Jane Goodson
event	372 and 413
family name	Brandham
family unit	F085 and F093
gender	female
given name	Edith Nora
grandchildren	Jane Elizabeth Goodwin and John David Goodwin
grandparents	Amy Turney, Annie Ansell, Henry Hill and Jeremiah Brandham
label	Edith Nora Brandham
name	Edith Nora Brandham

Demo: Ysgolion – tell me about schools

- <http://ysgolion.com>
- “Ysgolion” application (meaning “schools”)
- Combines data from a number of disjoint government departments about secondary schools in the Cardiff area
- Application enables users to compare statistics, subjects offered and performance of different schools within the area
- Contrasts these with public sector indices of multiple deprivation etc. for each region of Cardiff

Ysgolion - Welsh Schools: Cardiff Secondary

Statistics

These are only examples

Exclusions (12 month)

Free School Meals

GCSE: 5 at A*-C

Language

Pupil/Teacher Ratio

SEN Register

Spending Per Student

Students on Roll

Value Added Score

Departments

Art

Art & Textiles

Astronomy

Autistic Spectrum Condition

Biology

Business Studies

Careers

Child Development

Classics

Design & Technology

Awards

Active Marc

ASDAN

CAB

Cardiff Arts Mark

Careers Wales

Cisco Networking Academy

Sort By: [name](#) [Spending Per Student](#) [Value Added Score](#) ↓

1 Radyr Comprehensive School

Spending Per Student: £3987.26
Value Added Score: 7.03

2 St Illtyds R.C. High School

Spending Per Student: £4083.66
Value Added Score: 6.38

3 Willows High School

Spending Per Student: £4369.09
Value Added Score: 6.22

4 Michaelston Community College

Spending Per Student: £4470.17
Value Added Score: 4.49

5 The Bishop Of Llandaff C.I.W. High School

Spending Per Student: £3966.72
Value Added Score: 4.12

6 Rumney High School

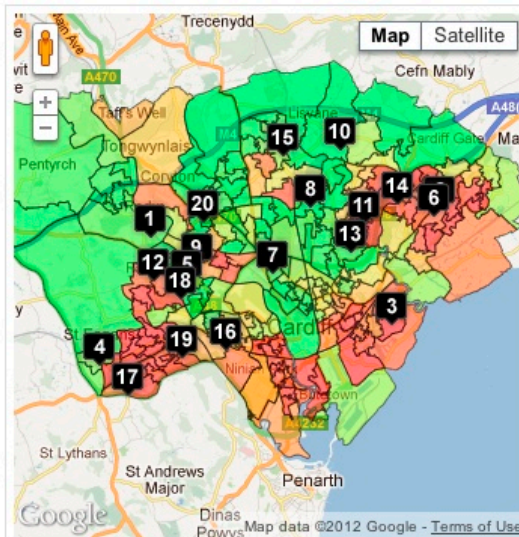
Spending Per Student: £4437.85
Value Added Score: 4.04

7 Cathays High School

Spending Per Student: £4465.48
Value Added Score: 3.06

8 Cardiff High School

Spending Per Student: £4173.31
Value Added Score: 2.01



None Crime Population Environment Health Housing
Employment Education **Income** Community Services

The overlay above provides an indication of income, based on factors including the proportion of people receiving income related benefits.

News feed

Mary Immaculate High School

14 Jan 2012, 8:38 am

Thank you to Yr7 Families feedback from Parents Evening on Wednesday. 97% believe the school provides an 'Excellent' quality of education.

Mary Immaculate High School

14 Jan 2012, 8:36 am

Congratulations to the Yr11 students who sat linear Maths in November. 56% of those entered achieved their target and now passed! Well done

Demo: Hampshire Open Data

- <http://hampshire.data.seme4.com/services/visualisation/>
- **Rapidly Assembled (one person day)**
- **Combination of many different datasets**
- **Catchment areas data from multiple sources**

Hampshire Open Data

[Services](#)[Visualisation](#)[About](#)

- ☐ LSOAs
 - ☐ Wards
 - ☐ Parishes
 - ☐ Constituencies
-
- Primary Schools
 - ☐ Schools
 - ☐ Catchments
 - Secondary Schools
 - ☒ Schools
 - ☒ Catchments
-
- Street lighting
 - ☐ Lights & bollards
-
- Map options
 - ☐ Fade background map

