

Linking Education Data



emtacl10

emerging technologies in academic libraries

Keynote, Day 2, 27th April 2010
emtacl10, Trondheim, Norway

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chris.clarke@talis.com

#1 Technology evolution



The diagram illustrates the evolution of information technology across four eras, plotted on a graph with 'Semantics of Information Connections' on the vertical axis and 'Semantics of Social Connections' on the horizontal axis. A dashed diagonal line represents the progression of time and technological advancement.

- PC Era (1980 - 1990):** Includes PC's, File Systems, Email, FTP, IRC, USENET, Windows, MacOS, BBS, SQL, SGML, and Groupware Databases. A green label 'Desktop' is also present.
- Web 1.0 (1990 - 2000):** Includes VR, SOAP, XML, HTML, HTTP, P2P, RDF, Flash, Javascript, Java, OpenID, OWL, SPARQL, SWRL, RSS, ATOM, Office 2.0, Weblogs, Wikis, SaaS, Social Networking, Social Media Sharing, Lightweight Collaboration, Keyword Search, Directory Portals, Websites, and Browsers.
- Web 2.0 (2000 - 2010):** Includes Semantic Search, Semantic Databases, Widgets, Distributed Search, Intelligent personal agents, and The WebOS.
- Web 3.0 (2010 - 2020):** Includes Semantic Web, Semantic Search, Semantic Databases, Widgets, Distributed Search, Intelligent personal agents, and The WebOS.
- Web 4.0 (2020 - 2030):** Includes Semantic Web, Semantic Search, Semantic Databases, Widgets, Distributed Search, Intelligent personal agents, and The WebOS.

WEEKLY WORLD

NEWS®

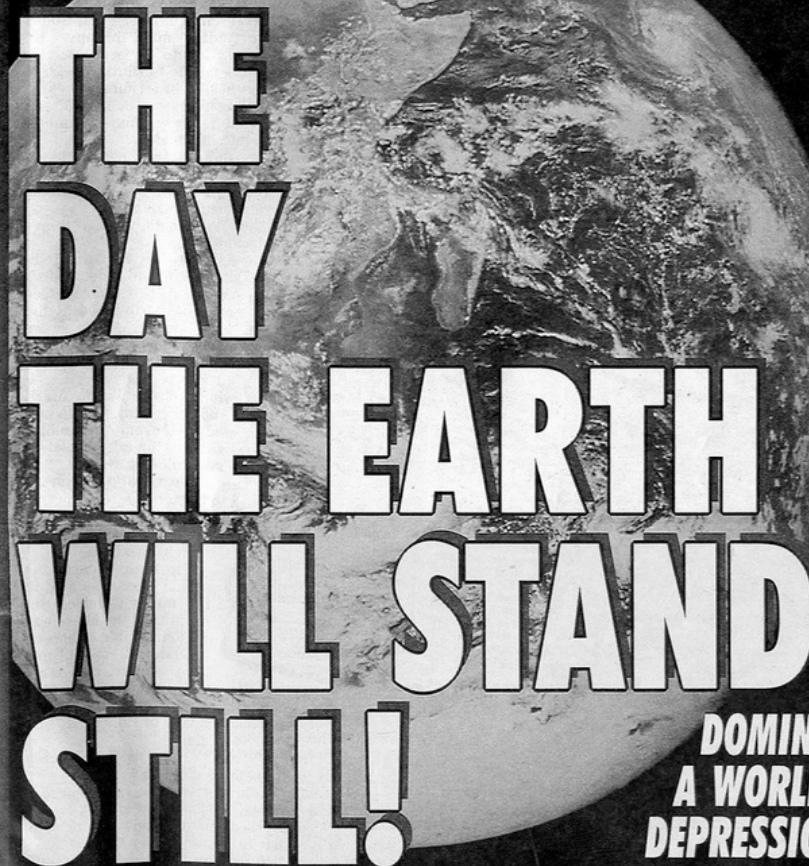
September 15, 1998

\$1.39 U.S.

\$1.59 CANADA/70p U.K.

THE COMPUTER CRASH OF THE MILLENNIUM!

JANUARY 1, 2000



THE DAY THE EARTH WILL STAND STILL!

ALL BANKS WILL FAIL!

**FOOD SUPPLIES
WILL BE DEPLETED!**

**ELECTRICITY
WILL BE CUT OFF!**

**THE STOCK MARKET
WILL CRASH!**

**VEHICLES USING
COMPUTER CHIPS
WILL STOP DEAD!**

**TELEPHONES WILL
CEASE TO FUNCTION!**

**DOMINO EFFECT WILL CAUSE
A WORLDWIDE
DEPRESSION!**





systems of record



**Library Management
System**



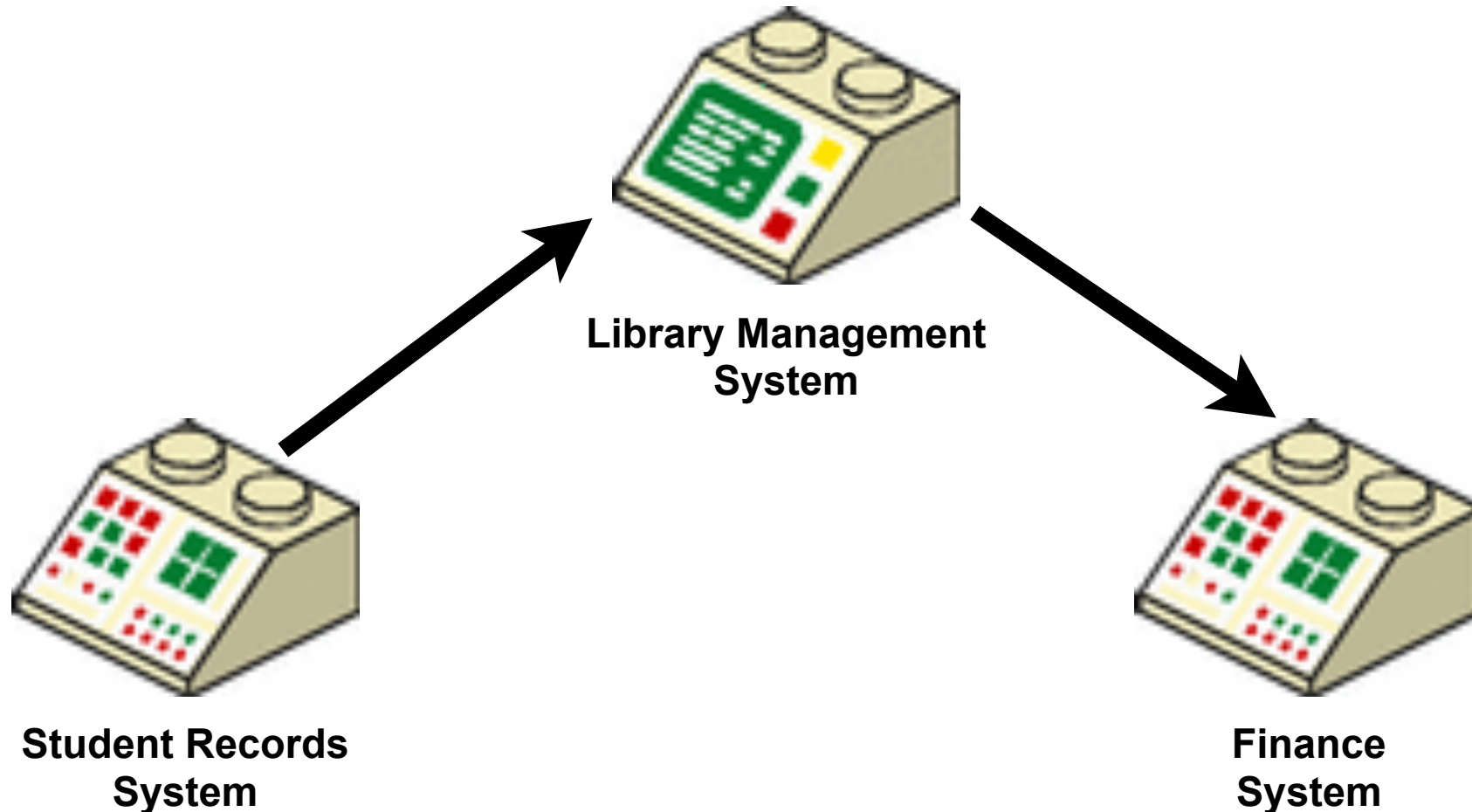
**Student Records
System**

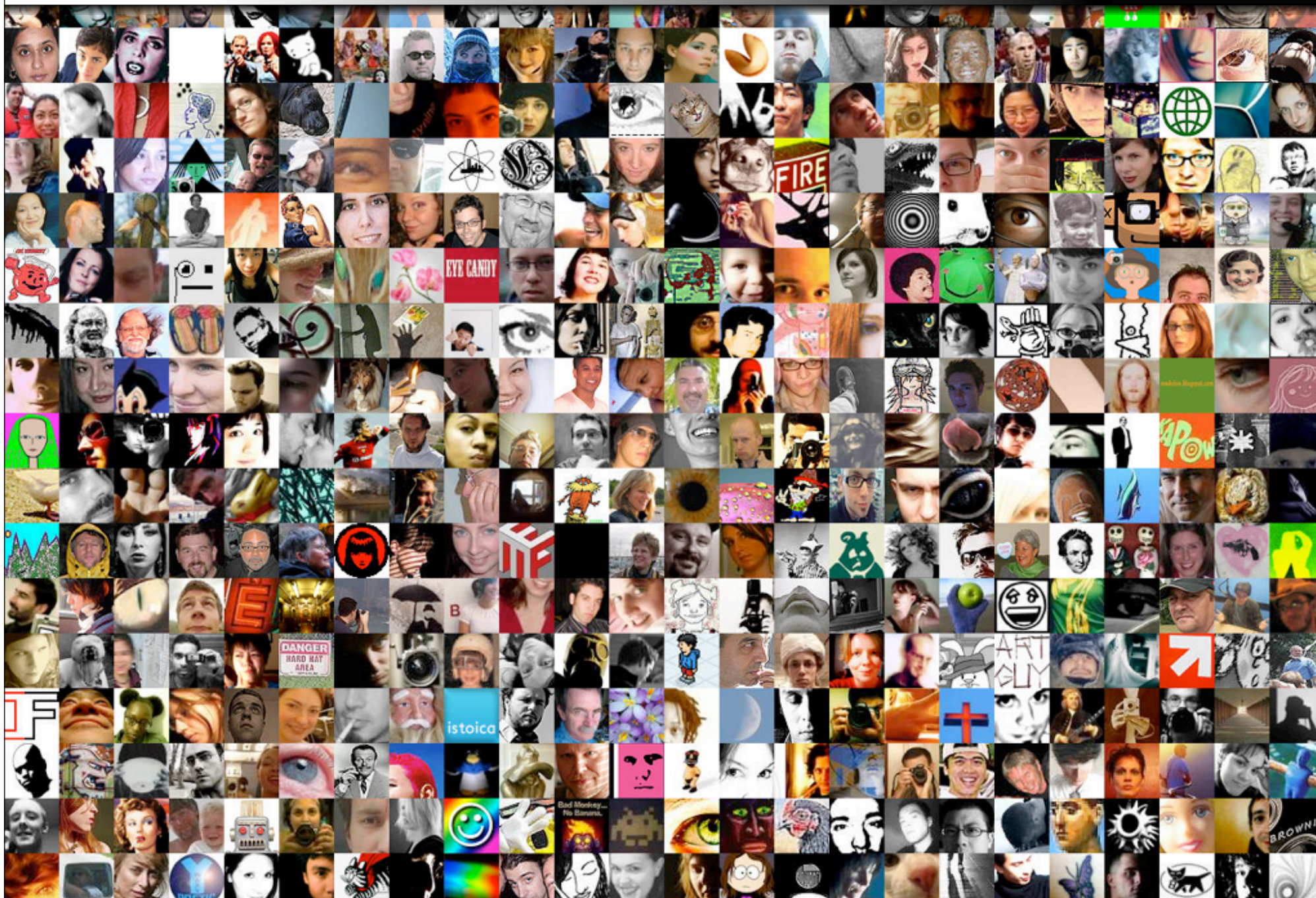


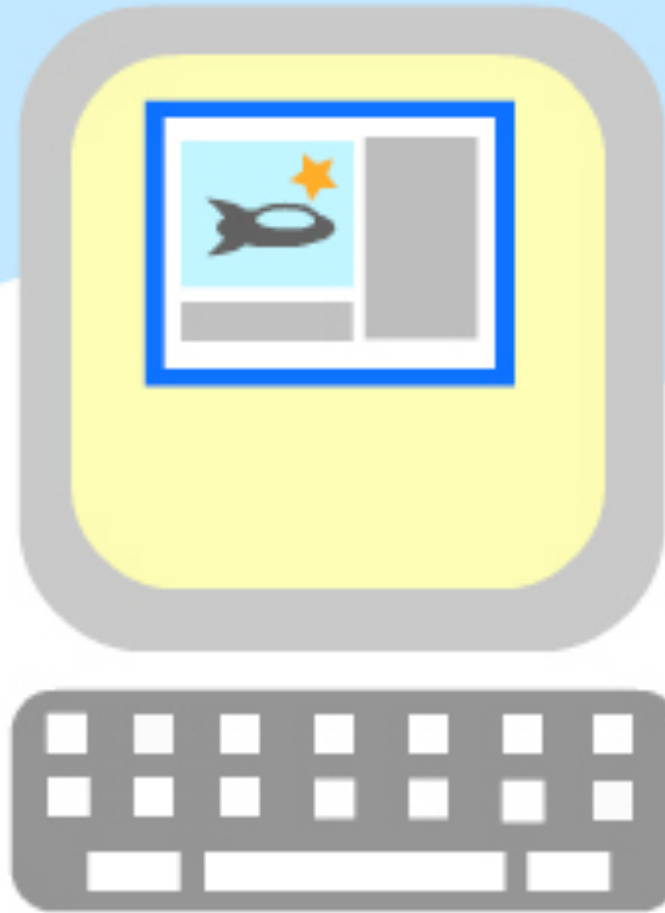
**Finance
System**



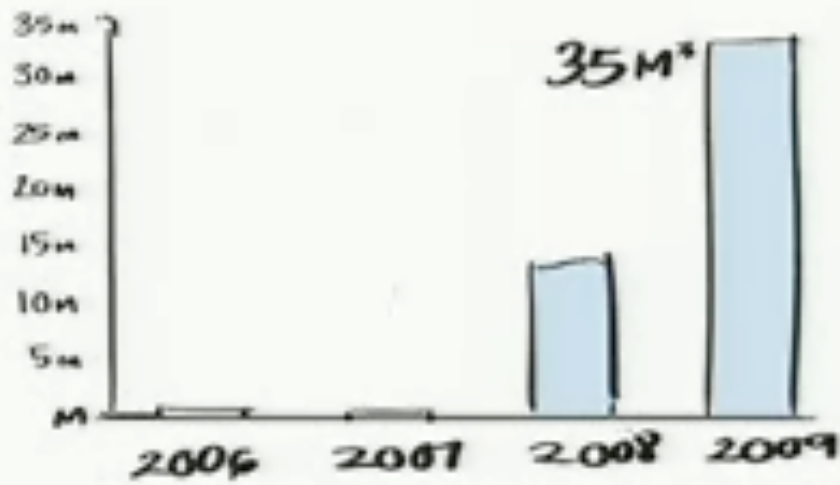
integration has to be planned







Netbook (Shipments)



Millions of users living in the cloud



Laptops

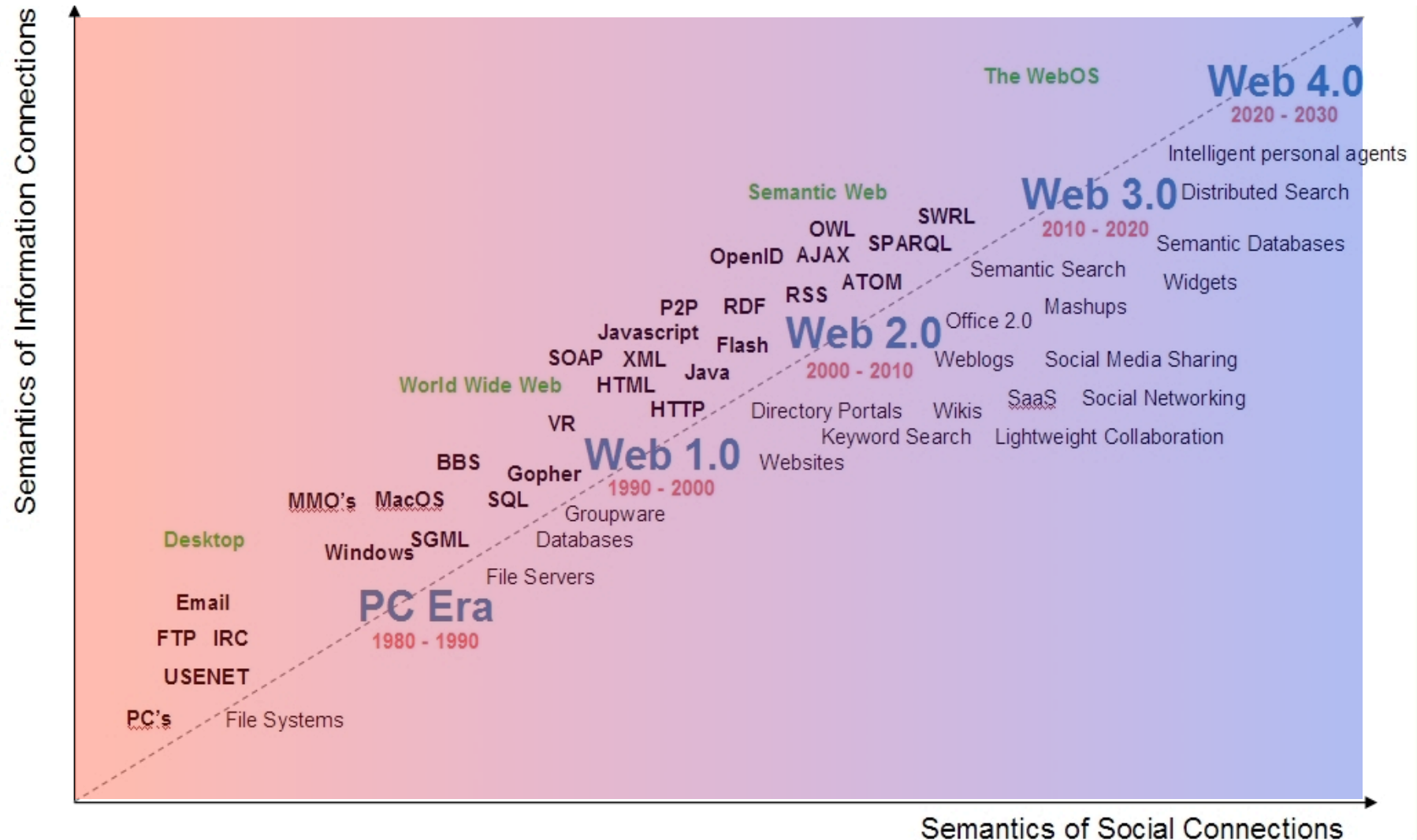
Netbooks

Tablets

Phones



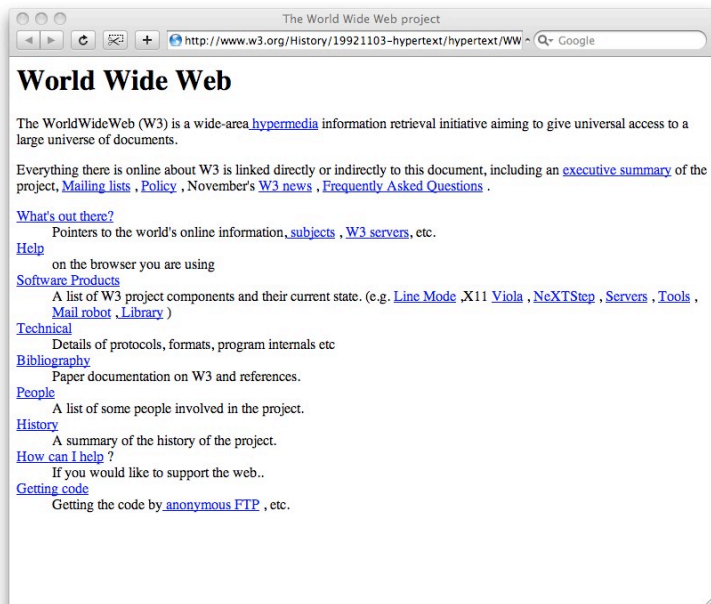
transactions vs. interactions

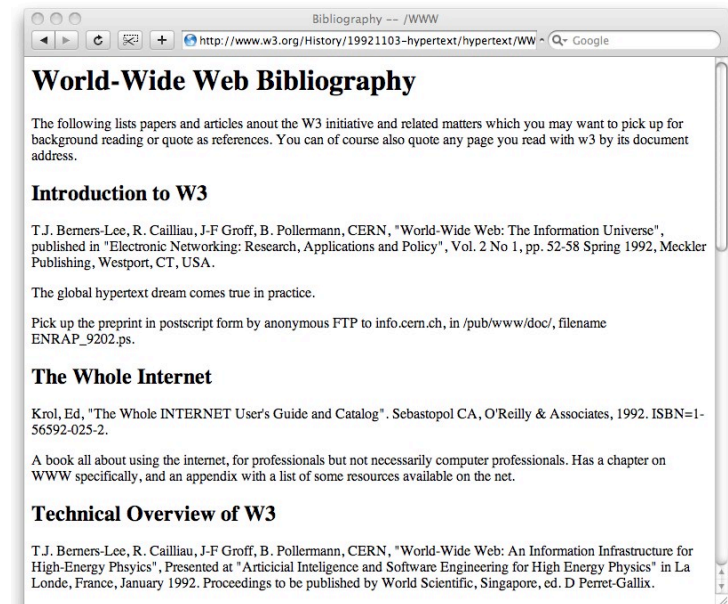


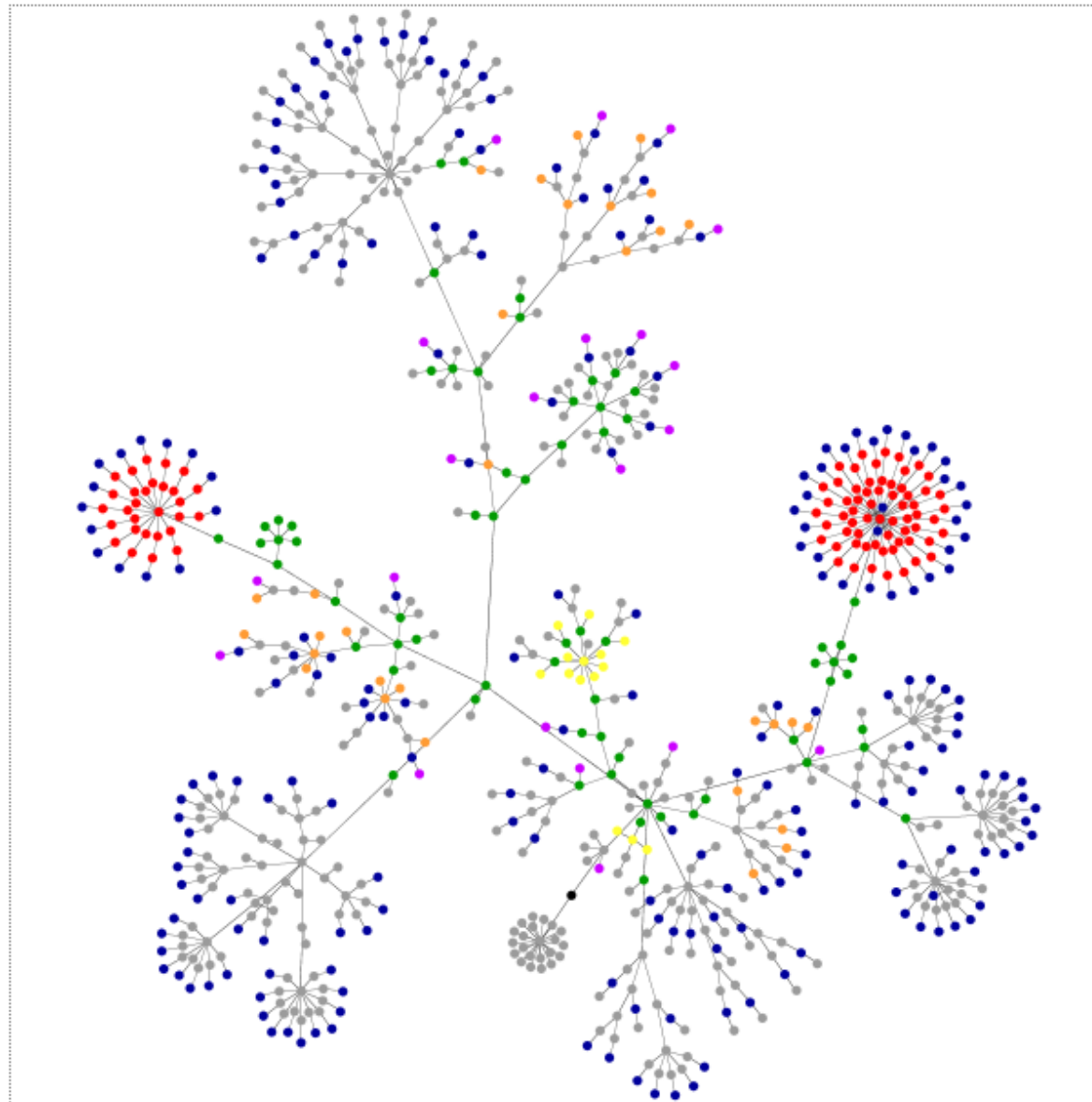
Source: Radar Networks & Nova Spivack, 2007 – www.radarnetworks.com

[illegible]

The web circa 1991



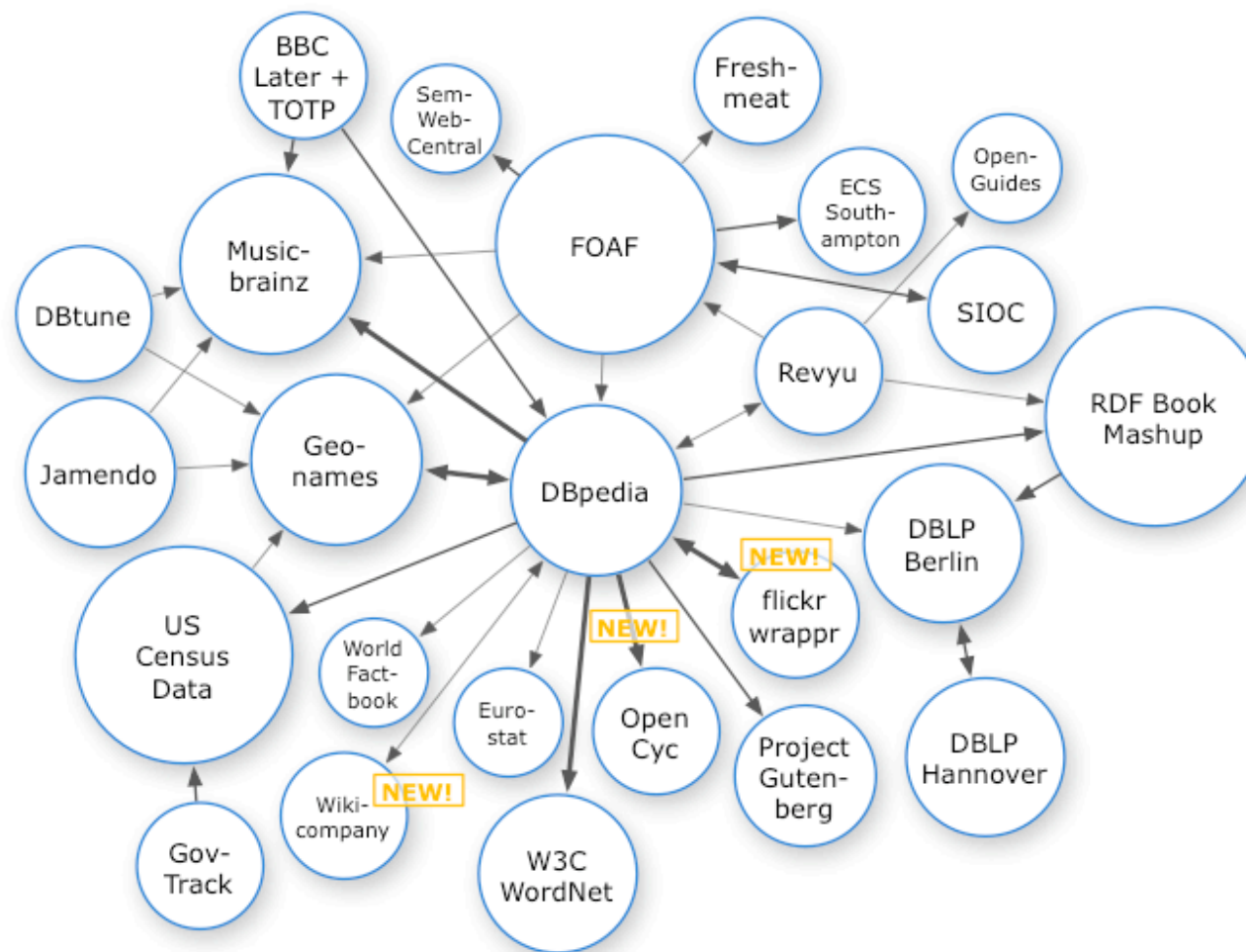




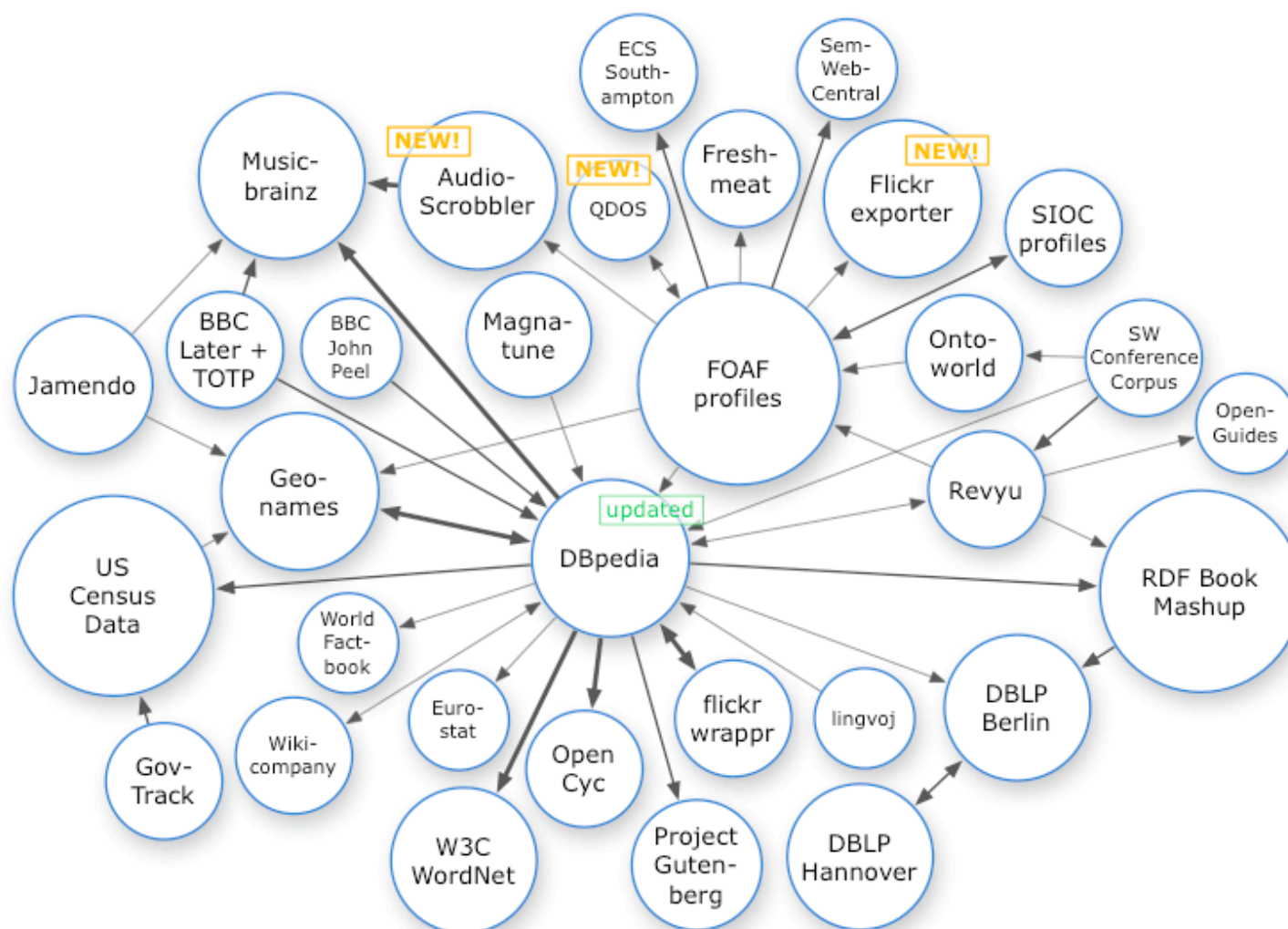


Designed for appropriation

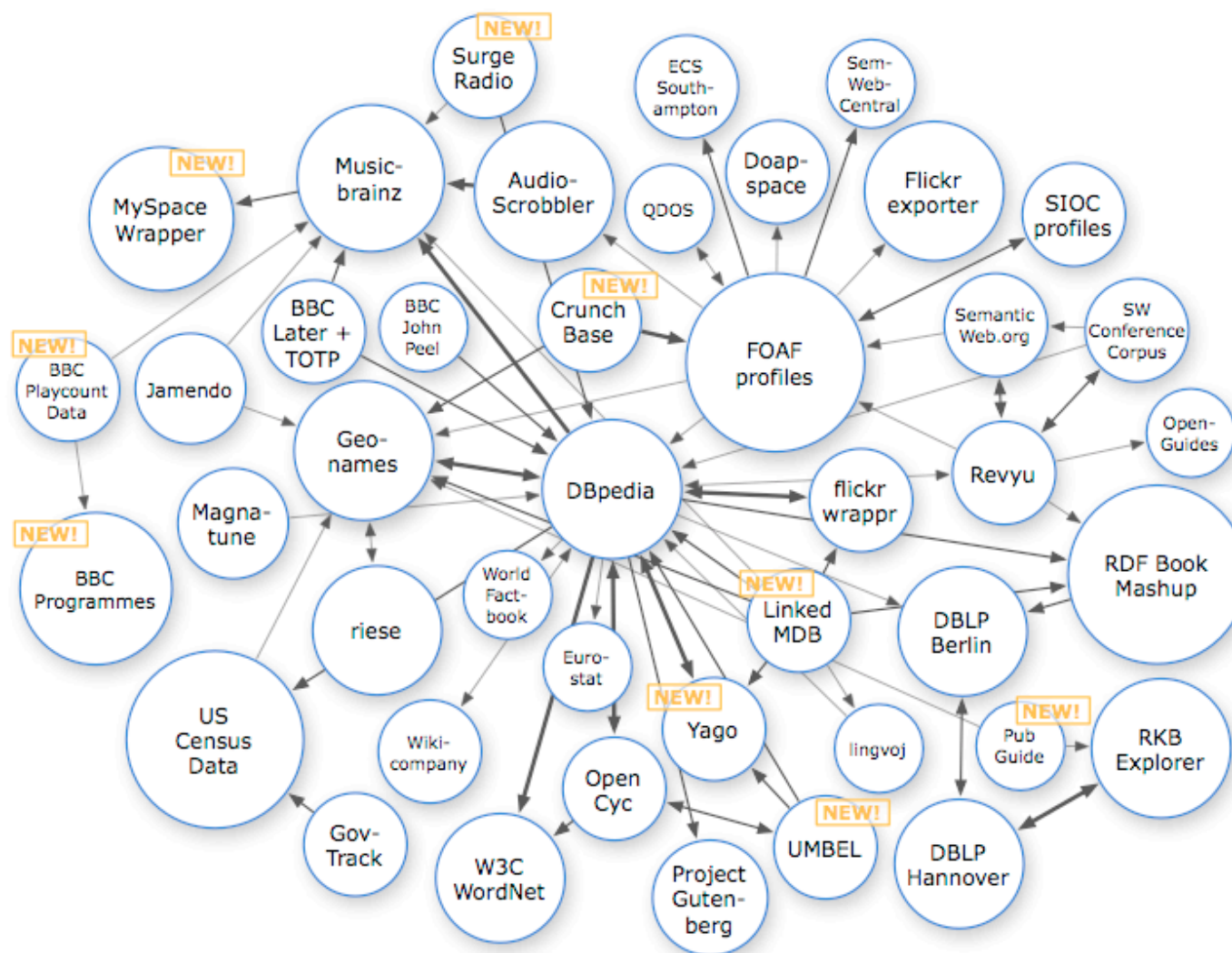




Oct 2007

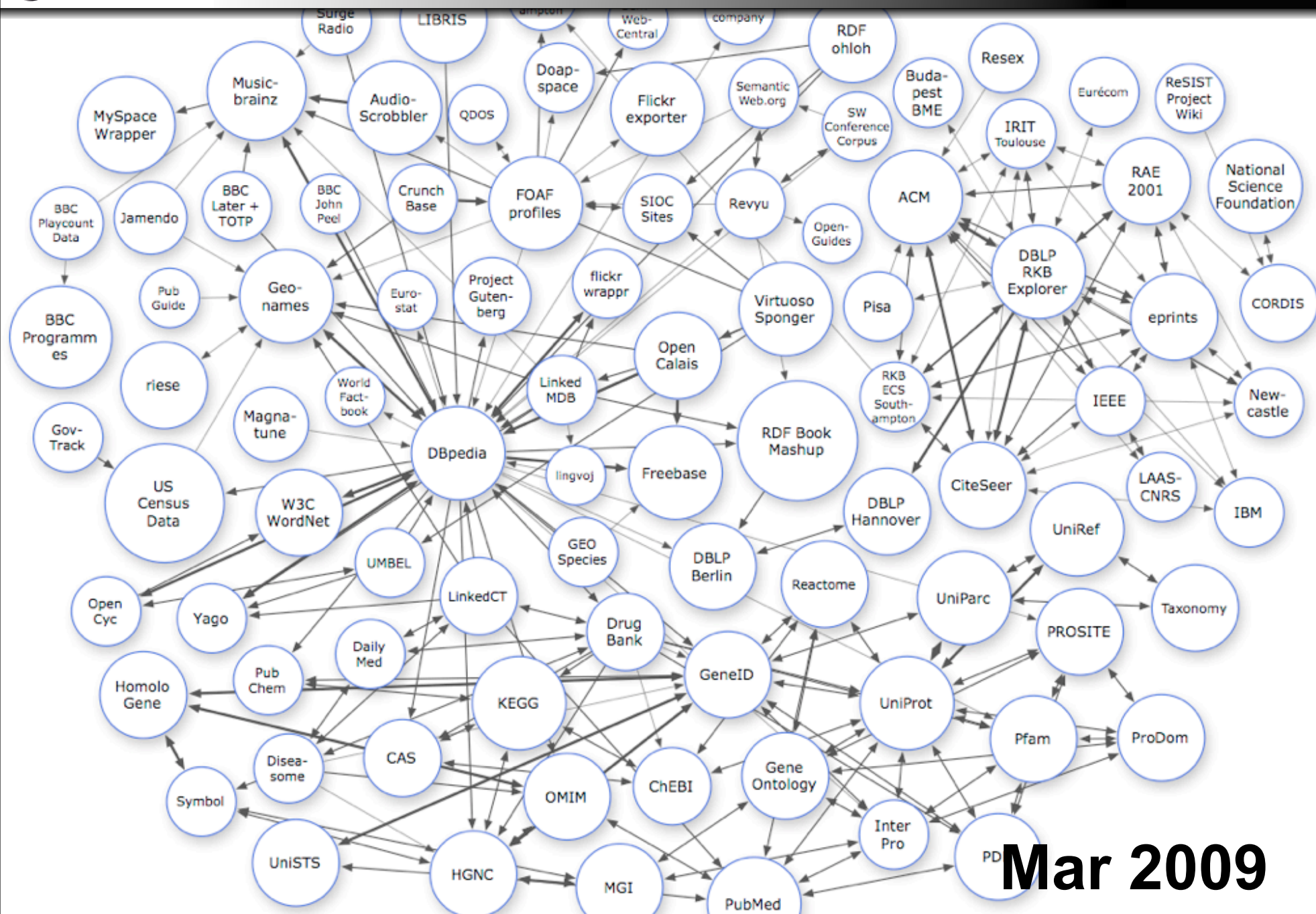


Feb 2008



As of September 2008

Sept 2008



LIBRIS

[http://libris.kb.se/?language=en](#)

[Quarterly Update](#)
[CIM paper](#)
[webmail](#)
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[Mark Twain \(1835–1910\)](#)
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BBC - Wildlife Finder - Deer (video, facts and news)

http://www.bbc.co.uk/nature/family/Deer


Quarterly Update - CIM paper - Add to My Bookmarks - Add To My Bookmarks - Webmail - Calendars - Aspire Demo - Salesforce - Add to My Bookmarks

BBC - Wildlife Finder - Deer (vide...

BBC Text only Help Search Explore the BBC

DEER


Wildlife Finder > Animals > Deer



The deer family (Cervidae) has 44 living species, including the moose, muntjac and caribou. The males of all species of deer except the Chinese water deer have antlers. In caribou, both sexes have antlers.

FEATURED IN THE FOLLOWING RADIO PROGRAMMES TV RADIO


CATCH UP




The Living World: Sika Deer

Listen now


GENUS>



Dama
↳ Fallow deer (species)



Elaphurus
↳ Milu (species)



Elk, red and sika deer
(Cervus)

SCIENTIFIC CLASSIFICATION

Kingdom: Animal (animalia)
 ↳ Phylum: Chordate (Chordata)
 ↳ Class: Mammal (Mammalia)
 ↳ Order: Even-toed ungulate (Artiodactyla)
 ↳ Family: **Deer (Cervidae)**

OTHER ARTIODACTYLA

- Antilocapridae (species: Pronghorn antelope)
- Camels, llamas and allies (Camelidae)
- Cattle, antelopes and allies (Bovidae)
- Giraffes and okapis (Giraffidae)
- Hippopotamidae (species: Hippopotamus)
- Hogs and pigs (Suidae)

ELSEWHERE ON THE WEB

- Animal Diversity Web (animaldiversity.ummz.umich.edu)
- Deer (wikipedia.org)

Find: Search Next Previous Highlight all Match case

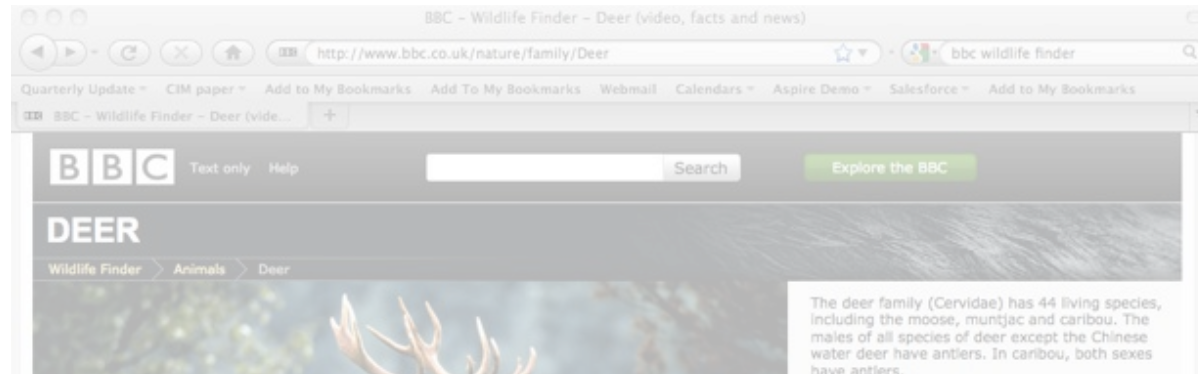
Done

S3 fox zotero

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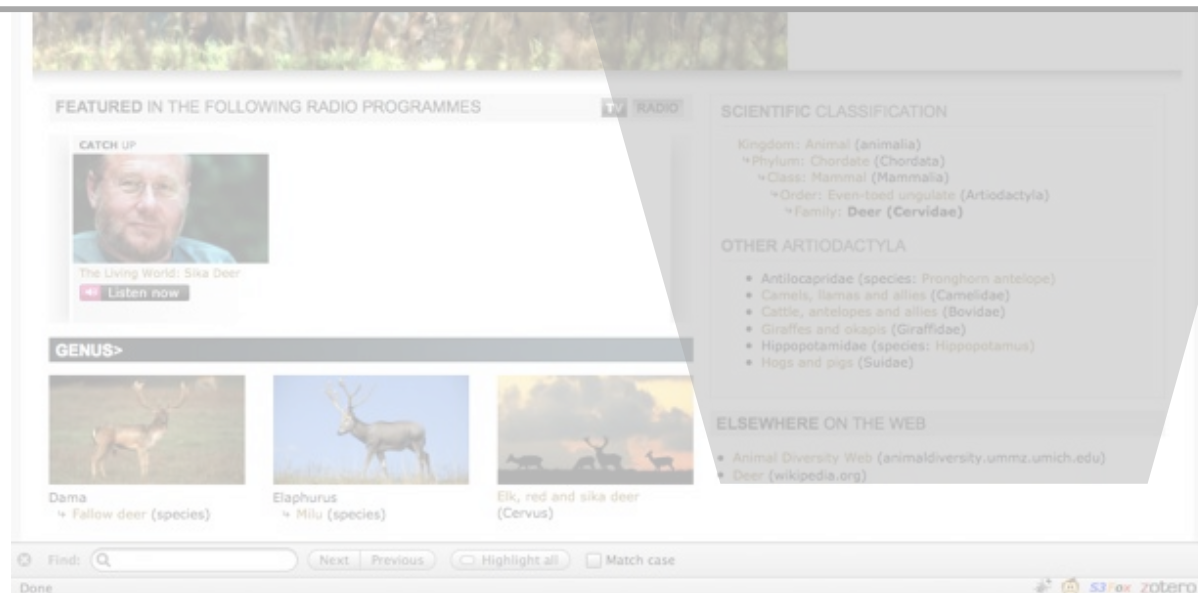
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  The deer family (Cervidae) has 44 living species, including the moose, muntjac and caribou. The males of all species of deer except the Chinese water deer have antlers. In caribou, both sexes have antlers.
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```



ELSEWHERE ON THE WEB

- **Animal Diversity Web** (animaldiversity.ummz.umich.edu)
- **Deer** (wikipedia.org)



Open data

The screenshot shows the data.gov.uk website in a web browser. The browser's address bar displays 'http://data.gov.uk/'. The website header includes the HM Government logo and the text 'data.gov.uk'. A navigation menu contains links for Home, Blog, Data, SPARQL, Apps, Ideas, Forum, Wiki, Resources, and About. A search bar is located to the right of the navigation menu. The main content area features a large banner with the text 'Unlocking innovation' and 'Working with UK Public Sector information and data', accompanied by a blue molecular structure graphic. Below the banner, a paragraph explains the site's purpose: 'Advised by Sir Tim Berners-Lee and Professor Nigel Shadbolt and others, government is opening up data for reuse. This site seeks to give a way into the wealth of government data and is under constant development. We want to work with you to make it better.' Another paragraph states: 'We're very aware that there are more people like you outside of government who have the skills and abilities to make wonderful things out of public data. These are our first steps in building a collaborative relationship with you.' A 'Latest news:' section lists three items: 'Read about our latest site changes', 'find out how the data.gov.uk team has been getting involved with the community', and 'listen to a Podcast on setting up data.gov.uk'. At the bottom, there are two buttons: 'Search Data' and 'Browse for Data'. Below these, a search bar with the placeholder 'Enter keyword(s)' and a 'Search' button are visible, along with a link to 'List all datasets'. The right sidebar contains several sections: 'Subscribe by RSS' with an RSS icon, 'Community Log in / Sign up', 'Local Data Panel', 'What is the Semantic Web?' with a colorful cube icon and a 'Read more' button, and 'Digital Engagement'.

Unlocking innovation
Working with UK Public
Sector information and data

Advised by Sir Tim Berners-Lee and Professor Nigel Shadbolt and others, government is opening up data for reuse. This site seeks to give a way into the wealth of government data and is under constant development. We want to work with you to make it better.

We're very aware that there are more people like you outside of government who have the skills and abilities to make wonderful things out of public data. These are our first steps in building a collaborative relationship with you.

Latest news:

- Read about our latest [site changes](#)
- find out how the data.gov.uk team has been [getting involved with the community](#)
- listen to a [Podcast on setting up data.gov.uk](#)

Search Data **Browse for Data**

Enter keyword(s) [List all datasets](#)

Find: ☐ Highlight all ☐ Match case

Done

Subscribe by RSS

Community
Log in / Sign up

Local Data Panel

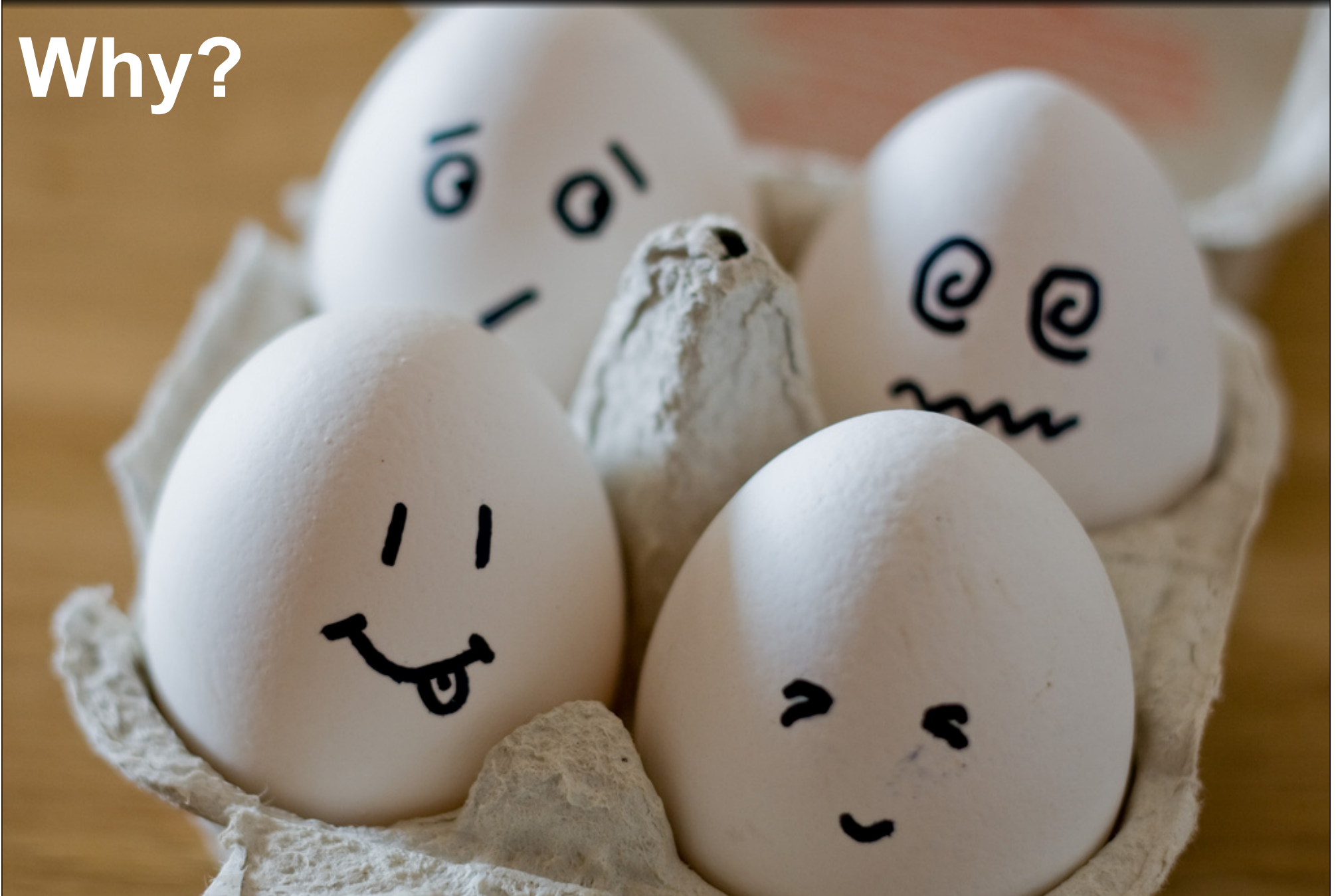
What is the Semantic Web?

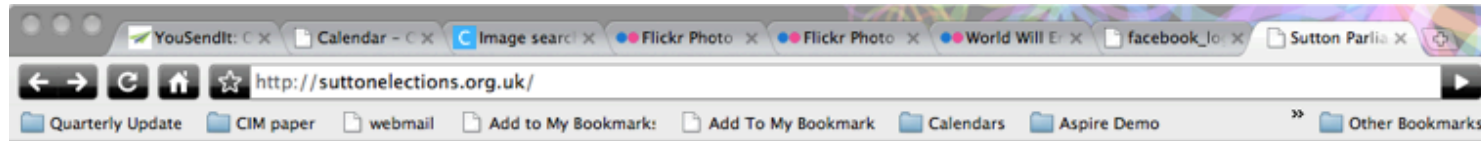
Combining different data sources has never been easy but the Semantic Web will enable data to be joined easily across boundaries.

[Read more](#)

Digital Engagement

Why?





Vote for your MP and councillors in Sutton

On 6 May 2010 you can vote to **choose your local MP** and help to decide the next government of the country.

You can also **elect your local councillors** and help to decide who runs Sutton Council.

Who you can vote for depends on where you live. You can find your local candidates and get more information on how the elections work here.

My postcode is

[Home](#)

[How the parliament election works](#)

[How the council election works](#)

[Sutton Council wards](#)


[About this website](#)



Browser tabs: YouSendIt, Calendar, Image search, Flickr Photo, Flickr Photo, World Will E, facebook, Where Did M

Address bar: <http://www.wheredidmytaxgo.co.uk/>

Bookmarks: Quarterly Update, CIM paper, webmail, Add to My Bookmark, Add To My Bookmark, Calendars, Aspire Demo, Other Bookmarks


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 UK Tax Calculators

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Where did my tax go?

Have you ever wondered where your tax payments went?
Well, enter your details below and we'll calculate it now.
Go on, it's **FREE** and only takes a few seconds, you can see:

- 1 how much you have paid in tax since 2003
- 2 ...and where it was spent!



Spread the word!
[Share](#) | [Facebook](#) | [Twitter](#)


Step One.
What was your Gross Income in each of these tax years?

2010/2011	<input type="text"/>
2009/2010	<input type="text"/>
2008/2009	<input type="text"/>
2007/2008	<input type="text"/>
2006/2007	<input type="text"/>
2005/2006	<input type="text"/>
2004/2005	<input type="text"/>
2003/2004	<input type="text"/>

Step Two.
Your Current Age and Sex?

Age

Sex



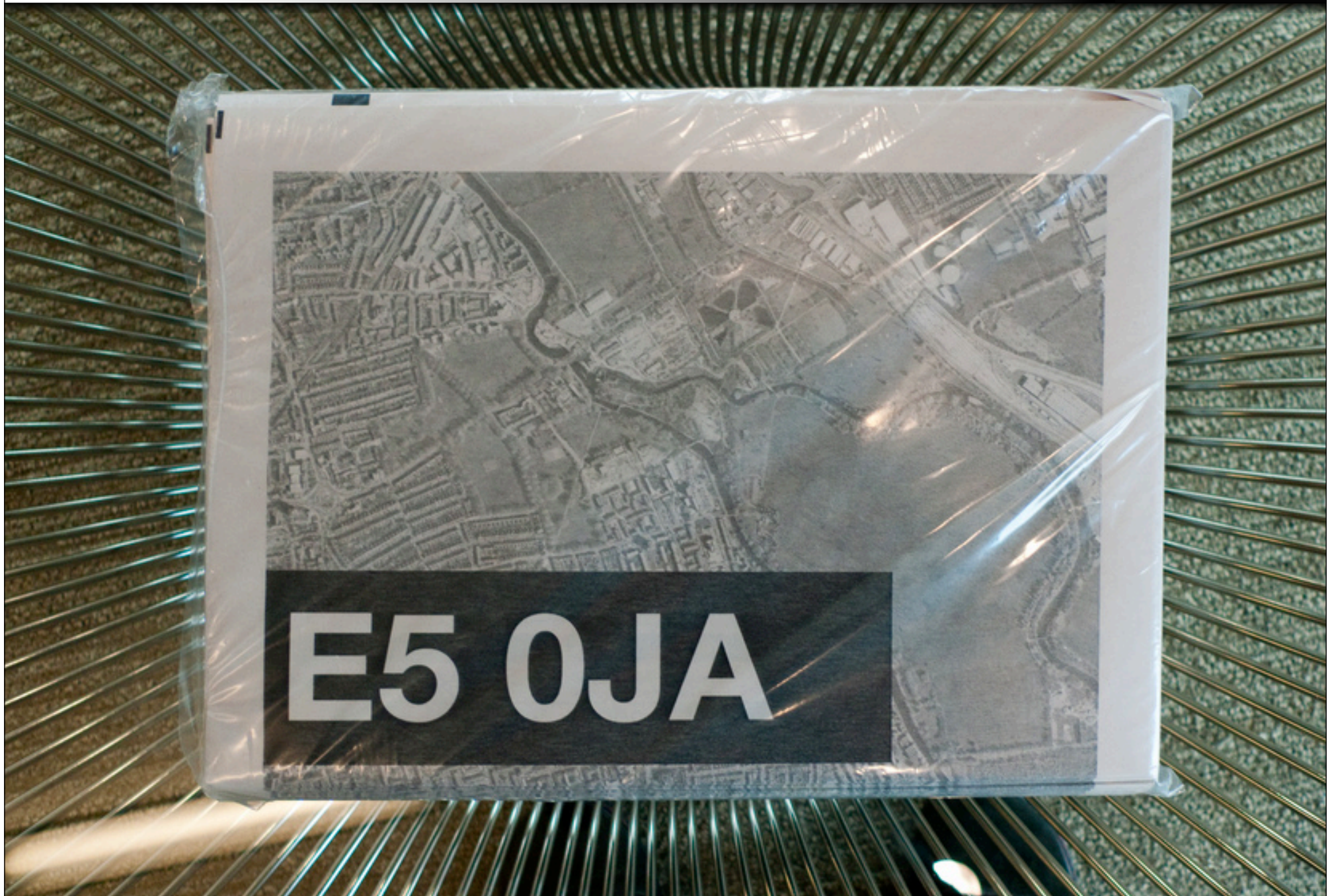
How it works

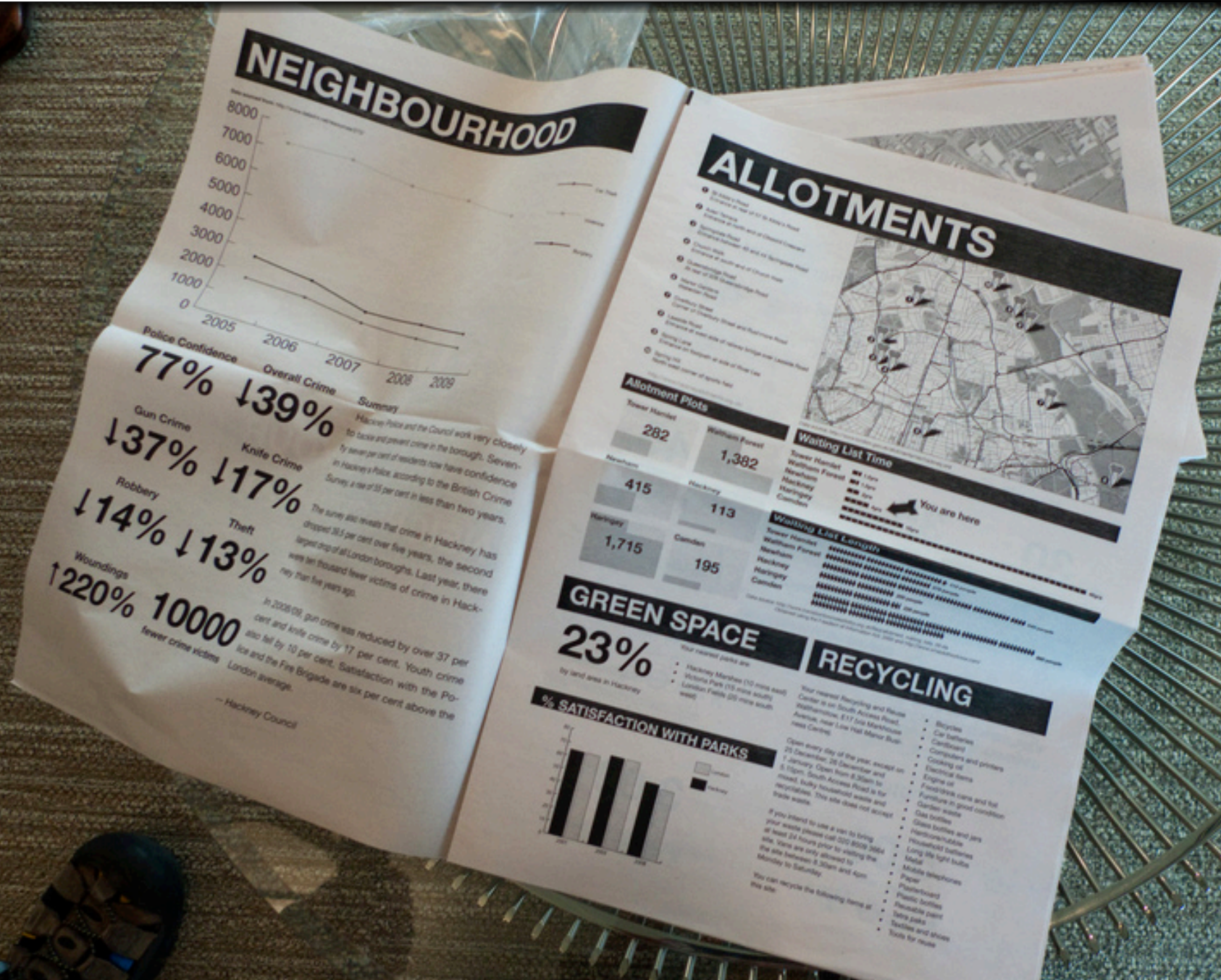
Please enter your total gross incomes for each of the tax years listed to the left and provide your sex and current age.

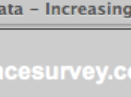
We will take your details and accurately calculate the total tax due for each of those tax years based upon your personal allowances and tax rates/bandings for that tax year.

We then use data taken from Public Expenditure Statistical Analyses (PESA) published by HM Treasury, using the percentage of **central government** spending per sector and apply it to the amount of tax/ni you paid in each year covered.


This gives details of where an approximate amount of your money has been spent by the government.








OS OpenData™




Mapping data and geographic information from Ordnance Survey

Create and support innovative, exciting ideas and applications using Ordnance Survey mapping. With OS OpenData you can access a selection of the most detailed mapping datasets available for Great Britain.



view


- Outline of Great Britain
- Overview of Great Britain
- MiniScale®
- 1:250 000 Scale Colour Raster
- OS Street View®
- Boundary-Line™



develop

- Create amazing web applications
- Enhance online projects
- Put Ordnance Survey maps on your website

Our API uses JavaScript to make web pages more interactive, anyone can create an application by following simple code and tutorials.

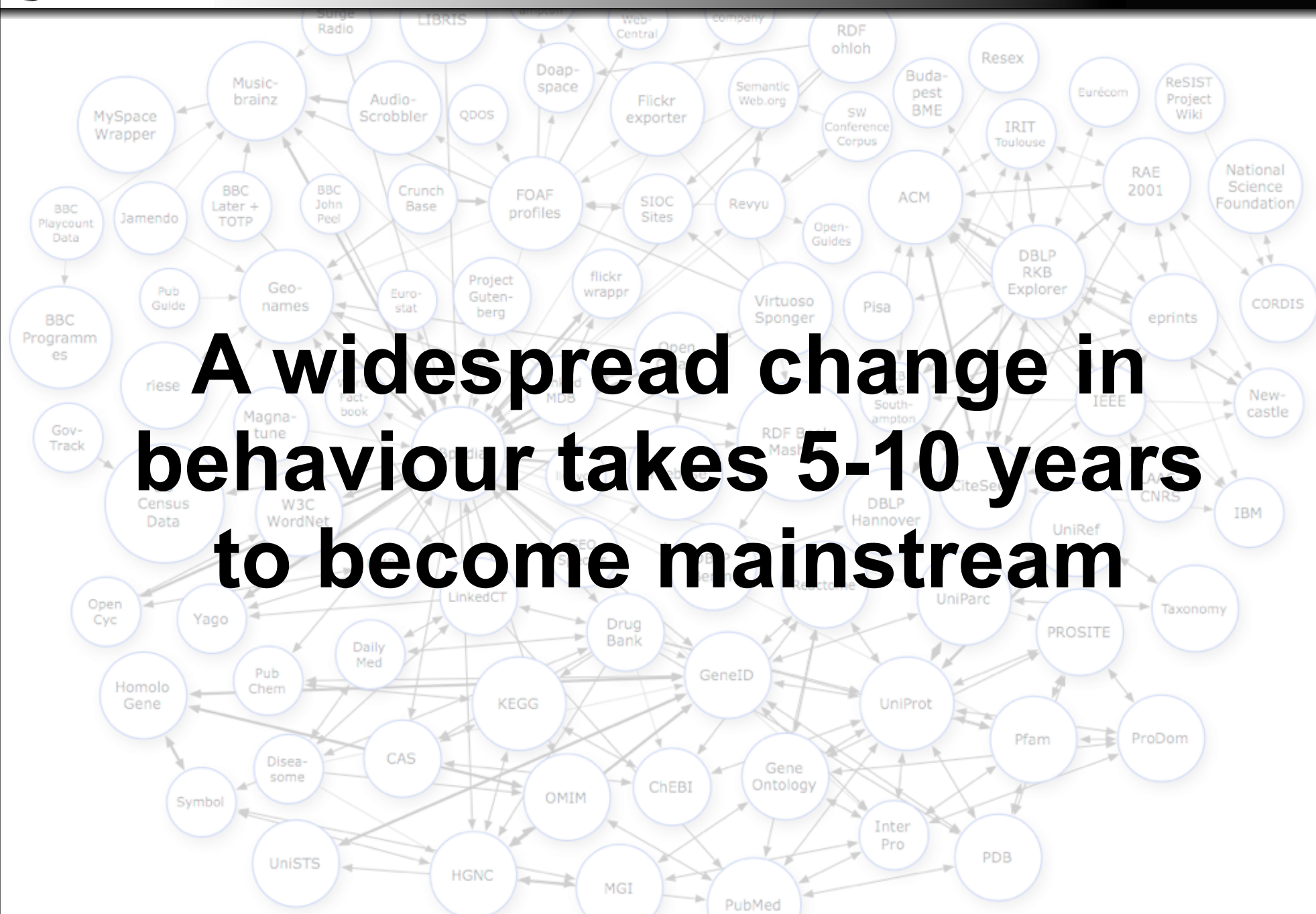


supply

Order OS OpenData on hard media or download direct to your PC, Mac or laptop (please note - **you may need specialist GI data software to view and use this data...**)

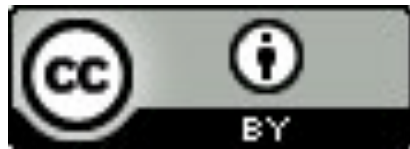


[illegible]



#3 Open education

the idea that the **world's knowledge** is a **public good** and that the Web provides an opportunity for **everyone** to **share, use, and reuse** knowledge



THE CAPE TOWN OPEN EDUCATION DECLARATION

find, reuse, remix.

technology-enabled



OPEN COURSEWARE
CONSORTIUM



MIT OPEN COURSEWARE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

p2pu | Learning for everyone

http://p2pu.org/

Quarterly Update CIM paper webcam Add to My Bookmark: Add To My Bookmark Calendars Aspire Demo Other Bookmarks

P2PU

Learning for everyone, by everyone, about almost anything

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Welcome to P2PU

Round 2 is officially underway, but it's a new website, more courses, a bigger community, two languages, and things will be a little rough around the edges at the beginning. We'll be back to our relaxed and seemingly effortless self soon. In case, you are looking for our pilot phase courses, go to <http://archive.p2pu.org>.

Sign-up for the next round of courses is tentatively scheduled to open in August 2010. However, you can still access all the course materials and even follow the discussions. Check out the running courses [here](#).

The Peer 2 Peer University (P2PU) is an online community of open study groups for short university-level courses. Think of it as online book clubs for open educational resources. The P2PU helps you navigate the wealth of open education materials that are out there, creates small groups of motivated learners, and supports the design and facilitation of courses. Students and tutors get recognition for their work, and we are building pathways to formal credit as well.

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- Frequently Asked Questions
- Team
- License

Courses

Start Learning, view our [Open Courses List](#).

Community

Find Your Peers, Sign Up now.

Contact Us

[Contact Us](#) for any further info.

Recent Courses

Green Action: Creating Sustainable Communities - Mar 2010	<i>This course is currently running. Sign-up is closed.</i>
Intro ao Pensamento de Paulo Freire - Mar 2010	<i>This course is currently running. Sign-up is closed.</i>
Managing Election Campaigns - Mar 2010	<i>This course is currently</i>

News

Sign-Up for Cycle 2 has Closed

The sign-up period for Cycle 2 at P2PU has now closed. We're looking forward to a great session of courses - thank you to everyone who has signed up. We'll be posting more information soon, but for now, please be aware that all classes are scheduled to begin on **Friday, March 12th**. If you have any questions, please feel free to give us a shout by using the [Contact Form](#)

Sign-Up for P2PU Extended!

Good news for anyone who can't decide which course to sign-up for - we've decided to extend the sign-up period for another few days. All courses will remain open for sign-up until **Wednesday 3rd of March**. The courses will begin the following **Friday, 12th of March**. But be sure to sign-up quickly - many of the courses are filling up fast!


[Sign up is open](#)

Welcome | Flat World Knowledge

http://www.flatworldknowledge.com/

Quarterly Update CIM paper webmail Add to My Bookmark: Add To My Bookmark Calendars Aspire Demo Other Bookmarks

flatworld KNOWLEDGE CATALOG EDUCATORS STUDENTS SIGN UP OR LOG IN




Remixable textbooks by expert authors.
Free online and affordable offline.

We preserve the best of the old — books by leading experts, peer-reviewed and developed to high editorial standards, fully supported by review copies, teaching supplements and great service. Then we change everything. Our textbooks are:

- **Free** online
- **Affordable** offline
- **Open**-licensed
- **Customizable** by educators

Educators choose the book — students choose format and price. Everybody wins.


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Find a book by title, author, discipline or subject [Search](#)



Student Class Finder

Use the search box below to find the book for your class. Can't find it? [Browse the full class list.](#)

Find your class by school, professor or course name [Search](#)



The screenshot shows a web browser window with the URL <http://www.openhighschool.org/>. The browser's address bar and bookmarks are visible. The website itself has a blue header with the Open High School of Utah logo and a navigation menu. Below the header, there are three main columns: a left column with a student using a laptop, a middle column with a group of students, and a right column with a mission statement. At the bottom, there are three boxes for social media, calendar, quick links, and enrollment.

Open High School of Utah

<http://www.openhighschool.org/>

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MISSION STATEMENT

Our mission is to facilitate lifelong success by meeting the needs of the 21st century learner through individualized, student-centered instruction, innovative technology, service learning, and personal responsibility.

LEARN MORE

Learn more about our innovative **teaching model**, our world-class **open curriculum**, and find answers to **frequently asked questions**, or attend an **Openhouse**.

APPLY TO ENROLL

Once you decide the Open High School of Utah is right for you, applying to enroll for the school year is easy with our **online enrollment system**.

MEET OUR TEAM

Meet the incredible people involved with the Open High School of Utah, including our **board members**, director, **teachers**, **staff**, **parents** and **students**, and don't miss the **OHSU Blog**.

CALENDAR & ANNOUNCEMENTS
Subscribe to Trailblazer Newsletter

QUICK LINKS: OHSU Blog | Start Class | Tech Ticket

ENROLL TODAY!
Registration | Revise Application

Composing for the films | Un. X

http://liblists.sussex.ac.uk/items/82070712-A03E-BFFB-25B1-7D867967544A.html

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Composing for the films

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Book

Authors Adorno, Theodor W.
Eisler, Hanns,

Date 2005

Edition New introduction by Graham McCann.

ISBN-10 0826499023, 0826480160

Publisher Continuum

Volume Athlone contemporary European thinkers

My Notes

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This item appears on..

List: Composing for Film and Media II
Section: Core Reading
Next item: Logic Pro 8 tips and tricks

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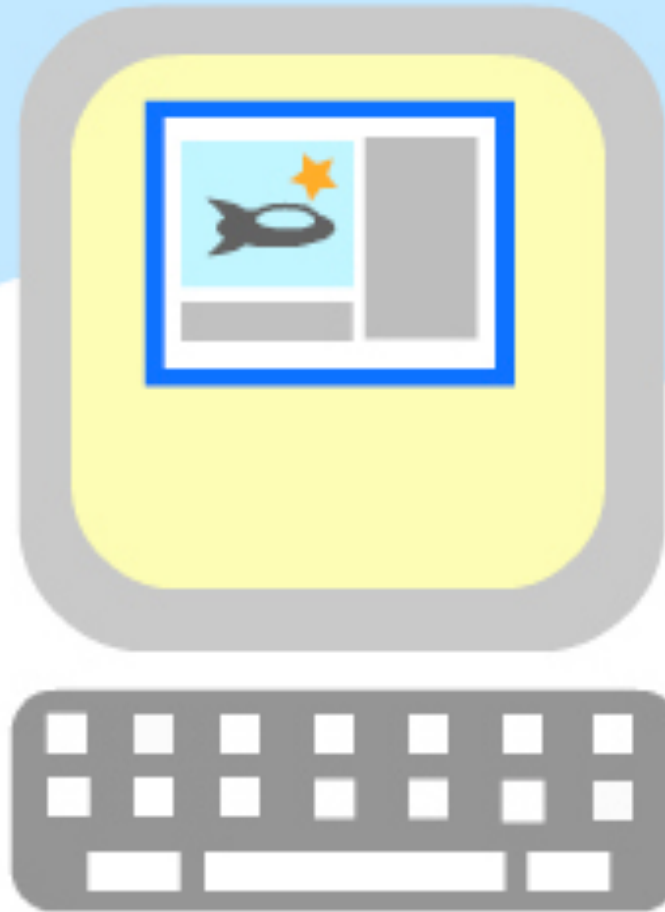
Amazon price: £10.81 (Usually dispatched within 24 hours)

New: 18 available from £6.19

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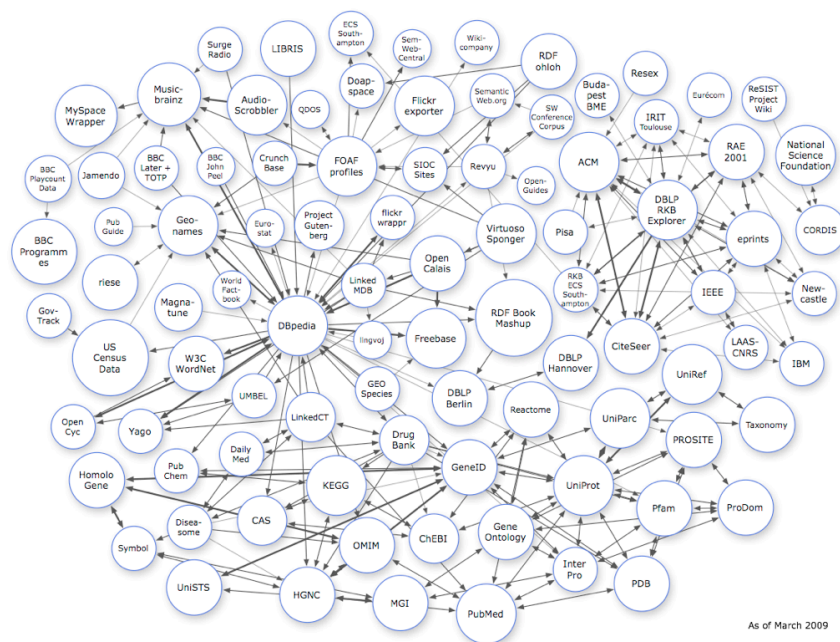
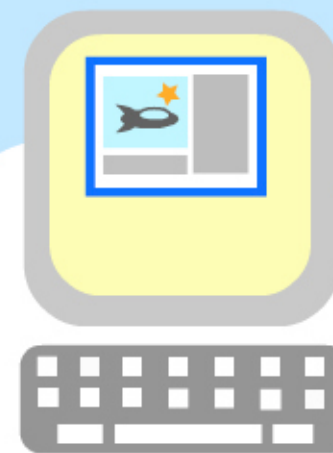
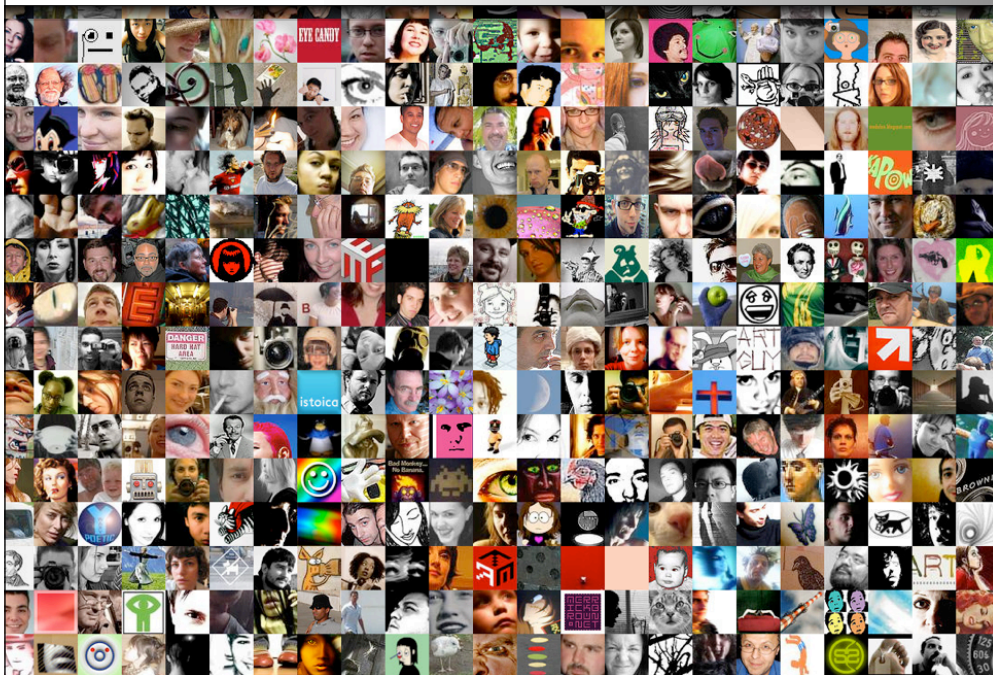
the real disruption:



changing policies, approaches to licensing, challenging data ownership.



THE CAPE TOWN OPEN EDUCATION DECLARATION



As of March 2009



key takeaways:

systems of record still important

**embracing linked data will allow
unconstrained and unplanned innovation**

**the challenge is not technology it is
policy and mindset**

Over to you....



Over to you....

What data can you open up?

What innovations might this enable?

Who is going to be the first open data university?

Over to you....

<http://linkeddata.org>

<http://www.data.gov.uk>

<http://www.talis.com/nodalities>

<http://www.talis.com/education>



shared innovation™



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