

Semantic Web Vocabularies and Applications

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32/3019

Overview

- Social Networking
- Bibliographic Metadata
- News Aggregation
- Cultural Heritage
- Knowledge Organisation
- Web Annotation
- Semantic Web Services
- Research Information
- Business Intelligence
- Collaborative Working
- Public Sector Information
- Medical Imaging
- e-Science

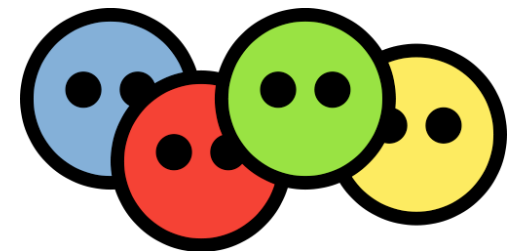


Social Networking

<http://www.flickr.com/photos/bigblackbox/4269397346/>

Friend of a Friend (FOAF)

- Semantic Web realisation of “six degrees of separation”
- Fully distributed system
 - Each user writes an RDF file describing themselves and who they know (using the FOAF schema)
 - Files are harvested and aggregated
 - Data is presented in a variety of interfaces
- Avoids siloing of existing social networking systems
- Data from many providers (LiveJournal, etc)



Multiple Interfaces


Daniel "eikeon" Krech: FOAF: Web View - Mozilla

File Edit View Go Bookmarks Tools Window Help

http://eikeon.com/foaf/?mbox=nmg%40ecs.soton.ac.uk

[eikeon.com | foaf]

FOAF: Web View

Nick Gibbins | Nick Gibbin | Nicholas 

Show depictions



Nickname
nmg

Homepage
<http://purl.org/net/ngibbins/>

workplaceHomepage
<http://www.soton.ac.uk>
<http://www.iam.ecs.soton.ac.uk>
<http://www.ecs.soton.ac.uk>

A current project this person works on.
_:VZaWRjew4126
_:VrHOMgya2612

Knows
Brian Kelly
Dan Brickley
Ian Hickson
Isobel Stark
Libby Miller | libby | Libby Miller
Max Froumentin

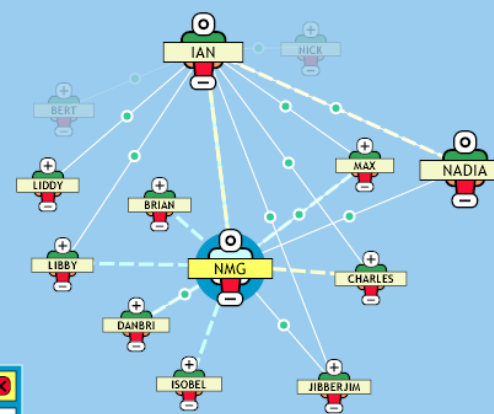
This site is running on  Redfoot 1.8.0 / RDFLib 1.3.0 and is  RDF Powered

foafnaut - Microsoft Internet Explorer


File Edit View Favorites Tools Help

Address http://jibbering.com/foaf/foafnaut.svg

foafnaut



NMG



NMG

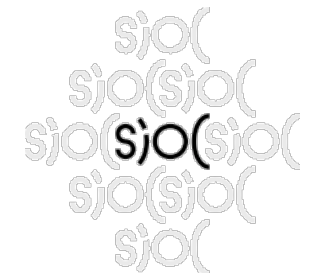
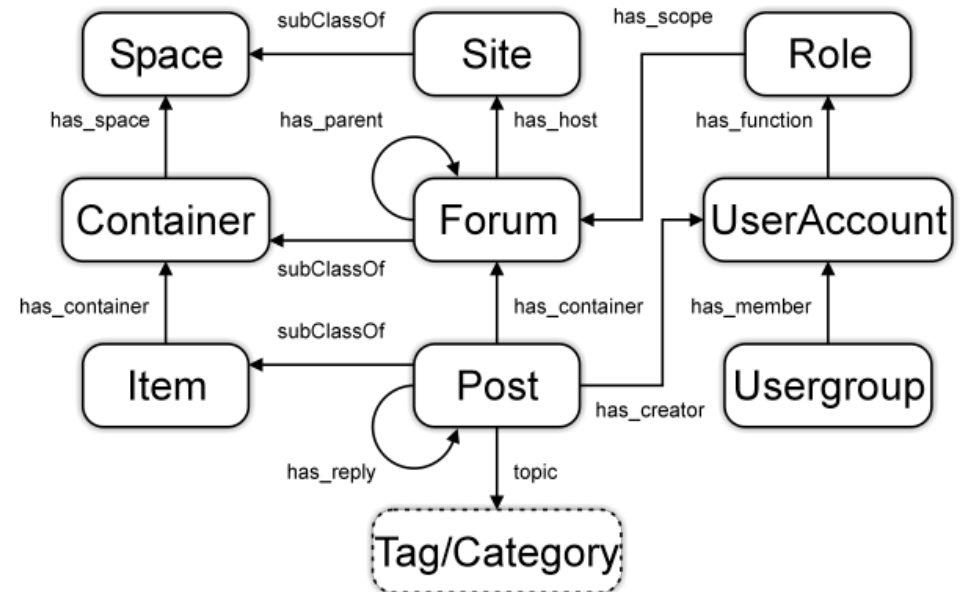
NICK GIBBINS
nmg@ecs.soton.ac.uk
nick@totl.net
nick@gark.net

Knows: 6
Codepictions: 4
Known by: 1
[homepage](#)

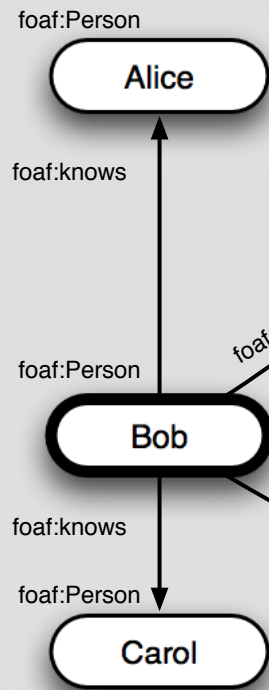
Internet

Semantically-Interlinked Online Communities (SIOC)

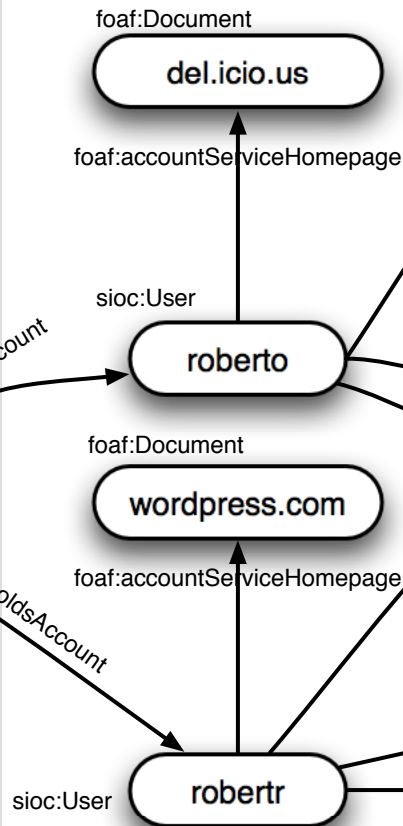
- Ontology for describing wikis, bulletin boards, blogs, etc
- Designed to interoperate with FOAF



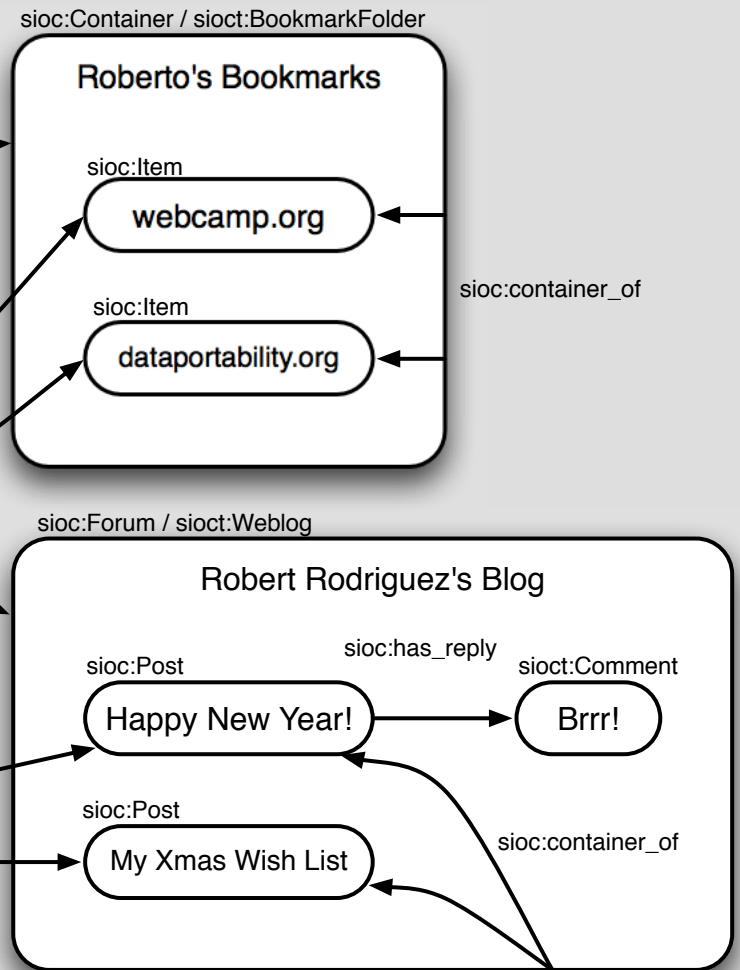
People



Services and User Accounts



Containers and Content Items





568 GAL. DE VST

eiusdem sunt generis, maxime
guerint musculis: quidam
que sinum magnum adhibet
tys rariora sunt
gumentum, quod omnia
libus offa sunt laxata

Bibliographic Metadata

Dublin Core

- A standard set of 15 metadata elements for cross-domain information resource description
- Formally endorsed by ISO, NISO and CEN
- Representation language-neutral
 - Plain XML serialisations in addition to RDF/XML
 - Predates RDF (started in 1995)
- Possibly the most widely used Semantic Web vocabulary
 - Libraries (electronic and physical)
 - Museums
 - Web archives
 - Open Directory Project
 - UK Mirror Service
 - MusicBrainz
 - ...



Dublin Core Element Set

- Title
- Creator
- Subject
- Description
- Publisher
- Contributor
- Date
- Type
- Format
- Identifier
- Source
- Language
- Relation
- Coverage
- Rights

Bibliographic Ontology

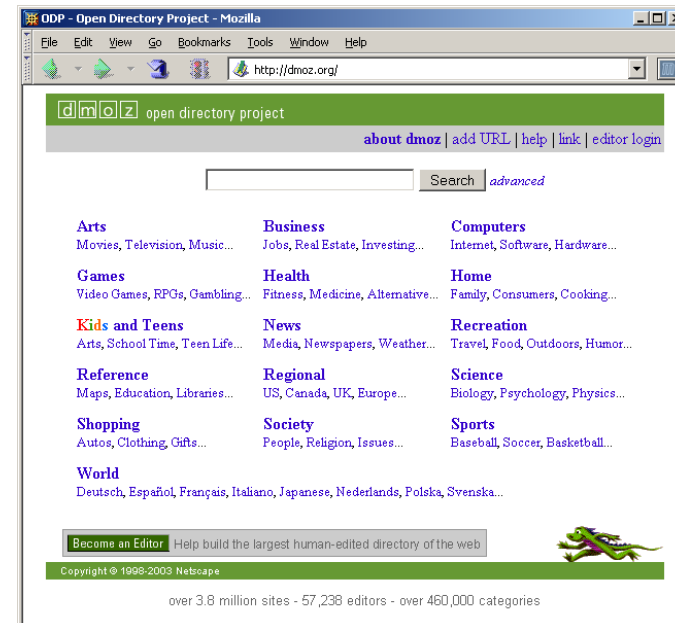
- More detailed bibliographic ontology
- Describes types of publication
 - Conference paper
 - Journal article
 - ...
- Builds on Dublin Core

<http://bibliontology.com/>



Open Directory Project

- An open replacement for Yahoo and similar commercial Internet directories
- Involves the Internet community by encouraging users to help build a subject taxonomy and classify web sites against it



<http://dmoz.org/>

Open Directory Project

- Designed for reuse
 - Directory data – information about web sites and the subject taxonomy – is provided for free in RDF format
 - ODP data is integrated into many other internet services – more specialised subject portals, search engines, etc
- Vocabularies used
 - Dublin Core for bibliographic metadata
 - Custom schema for expressing topic hierarchies

Open Directory Project users

Google Directory - Reference > Libraries > Library and Information Science > Technical Services > Cataloguing...

File Edit View Go Bookmarks Tools Window Help

http://directory.google.com/Top/Reference/Libraries/Library_and_Information_Science/

Google™ [Directory Help](#)

Search only in Metadata Search the Web

Metadata

Reference > Libraries > Library and Information Science > Technical Cataloguing > Metadata

Search Results - Mozilla

File Edit View Go Bookmarks Tools Window Help

http://search.netscape.com/nscp_results.adp?source=NSCPIndex&query=semantic+web

Netscape Search semanticweb powered by **Google**

Search again with these terms: semantic triangle | web browser | web advertising | free stuff on ...

Sponsored Links About This

- Semantic Web Solutions**
RDF Gateway 1.0 A Platform for the **Semantic Web**
www.intelldimension.com
- A Semantic Ontology that works.** See an ontology with rich semantics in production.
www.digitalharbor.com

Matching Results About This

- W3C Semantic Web**
Semantic Web. Definition: The **Semantic Web** is the representation of data on the World Wide Web. ... W3C **Semantic Web** ...
http://www.w3.org/2001/sw/
- Semantic Web roadmap**
... Editing status: Draft. Comments welcome. Up to Design Issues. **Semantic Web** Road map ...
Machine-Understandable information: **Semantic** ...
Category: Reference > Libraries > Library and Information Science > Technical Services > Cataloguing > Metadata > RDF > Technical Articles and TechNotes
http://www.w3.org/DesignIssues/Semant...
- SemanticWeb.org**
Send an empty email to semanticweb-subscribe@groups.com Call for **Semantic Web** Initiatives! ... **Semantic Web** Community Sites (provide Serv...
Category: Reference > Knowledge Management > Knowledge Representation > Semantic Web
http://www.semanticweb.org/
- The Semantic Web: An Introduction**
The **Semantic Web**: An Introduction. This document is designed as being a simple ... What Is The **Semantic Web**? The **Semantic Web** ...
Category: Reference > Libraries > Library and Information Science > Technical Services > Cataloguing > Metadata > RDF > FAQs, Help, and Tutorials

MARC (11)
MathML (13)
Meta-Object Facility Information (1)
RDF (240)

nt > Knowledge Repr
le PageRank order

Gracenote: Pink Floyd Fan Sites - Mozilla

File Edit View Go Bookmarks Tools Window Help

http://www.gracenote.com/music/fansites.html?Art=Pink+Floyd&Aid=181

gracenote

Napster's MP3 Music
Get Access to download & burn CDs, Music, Movies and MP3s. Enter Here!
http://www.mp3downloadq.com

Easy Music Downloads
Only \$1 a month. Get your own music movies & more. Unlimited downloads
www.mp3downloadq.com

HOME COMPANY INFO GRACENOTE PRODUCTS POWERED BY GRACENOTE DEVELOPER ZONE SEARCH CDDB

Gracenote's signature CDDB® service is the industry standard for music recognition services. The largest online database of music information in the world, CDDB® is used by over 30 million people in over 130 countries every month.

Search CDDB®
Digital Top Ten Index
How Does It Work
Products with CDDB®

2,119,910 CDS
27,100,060 SONGS

CURRENT CDDB® CATALOG

Quick Search

Artist Disc Song

Advanced Search

Recent Releases

Pink Floyd The Final Cut

Pink Floyd Fan Sites: 158 Links

- Brain Damage Online** ★
Related to the homonym magazine, contains news, tour information, articles, interviews, images and a mailing list.
...Bands_and_Artists#Pink_Floyd#Fan_Pages-- Submit | Edit
- Crazy D's Pink Floyd Bootleg Site** ★
Live concerts (rolo or bootleg) in MP3 format.
...Bands_and_Artists#Pink_Floyd#Downloads-- Submit | Edit
- Pink Floyd** ★
EMI site features audio samples and evocative pictures related to the band's albums. [Requires Flash]
...Bands_and_Artists#Pink_Floyd-- Submit | Edit
- A Fleeting Glimpse**
News, rare pictures, and stories from the Swinging Sixties.
...Bands_and_Artists#Pink_Floyd#Fan_Pages-- Submit | Edit
- A Saucerful of Echoes**
Pictures and information on lyrical references in the band's songs.
...Bands_and_Artists#Pink_Floyd#Fan_Pages-- Submit | Edit

Next 5 >

Help build the largest human-edited directory on the web.

ment of advanced software for information management and retrieval
e and XML.

MusicBrainz

- An open replacement for the CDDB Internet CD database
- Complementary to freedb.org
- Community-maintained service
 - Submissions and moderations
- Vocabularies used:
 - Dublin Core
 - Custom ontology for metadata specifically relating to audio recordings



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

Publishing Standards for Industry Standard Metadata

- Set of metadata vocabularies for automating publishing production processes and content exchange
- Simplified profile of RDF/XML
 - Lower hurdle to adoption
- Commercial users include
 - Time, Inc
 - Lexis-Nexis
 - McGraw-Hill
- Vocabularies used:
 - Dublin Core
 - Custom ontologies for
 - Controlled vocabularies
 - Relational information
 - Resource types
 - Rights management

BBC Programmes

- Simple ontology for describing programmes
 - Brands
 - Series (seasons)
 - Episodes
 - Broadcast events
 - Broadcast services
- Data describing all BBC programmes

<http://purl.org/ontology/po/>

<http://www.bbc.co.uk/programmes/developers>



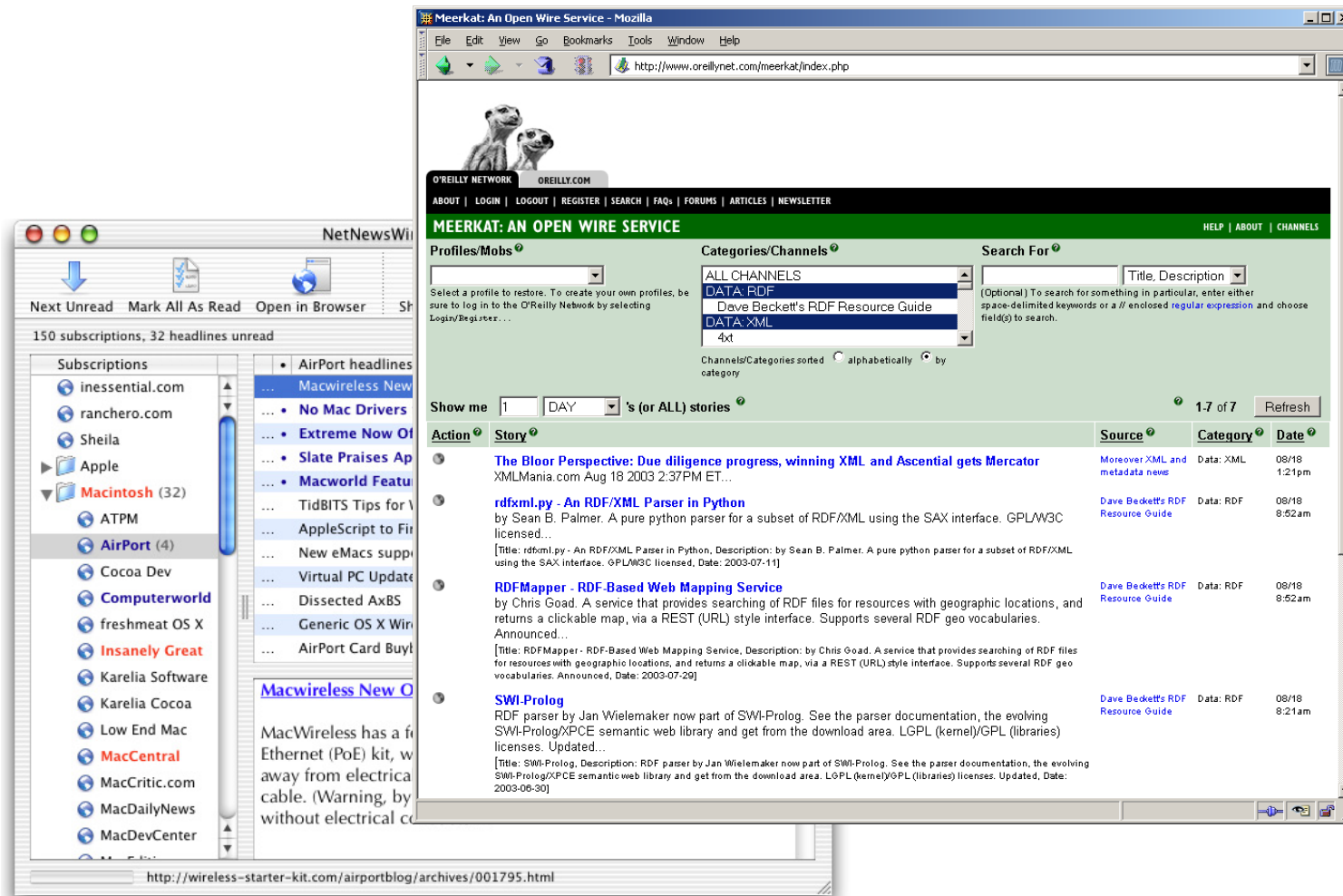
<http://www.flickr.com/photos/nicecupoftea/4104234460/>



News Aggregation

<http://www.shorpy.com/node/26>

Newsfeed aggregation



RDF Site Summary (RSS)

- Newsfeeds as time-ordered lists of articles
- RDF Site Summary (RSS 1.0) is a vocabulary for expressing such lists
 - Sites export their current headlines as RSS
 - Aggregation tools poll news sites for change to RSS
- Broad support from traditional news sources (BBC, Yahoo, InfoWorld, etc)
- Strong grassroots support in the weblogging community
- Ongoing work (via Atom)

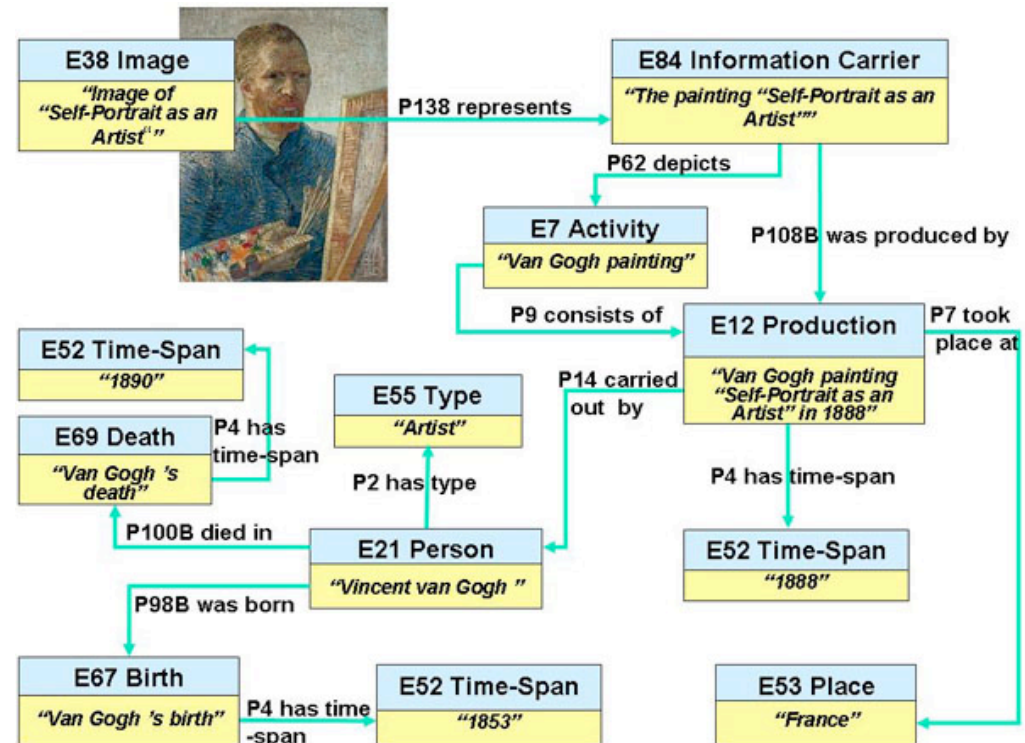


Cultural Heritage

<http://www.flickr.com/photos/juanilloo/476627356/>

CIDOC CRM

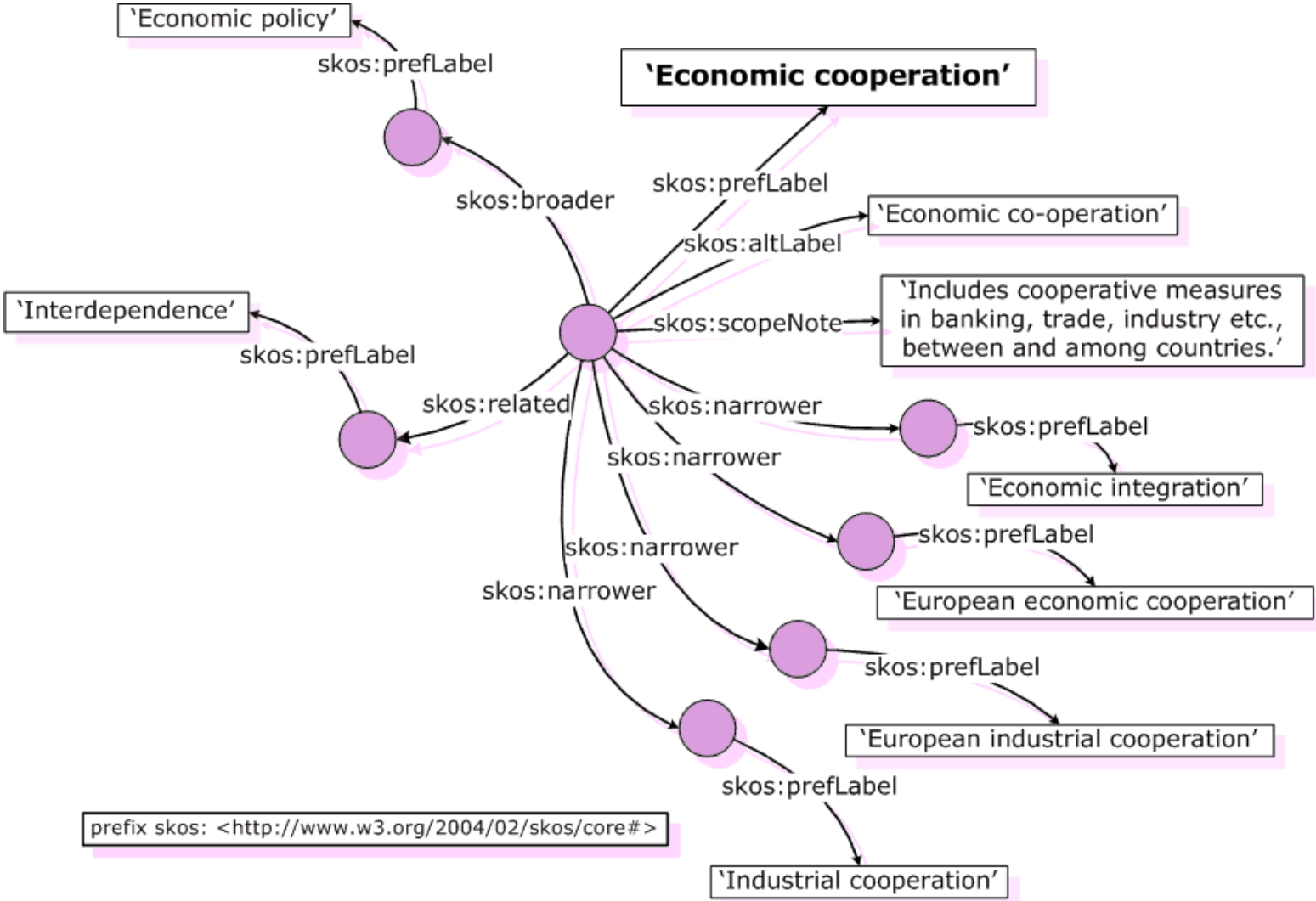
- Ontology for heterogeneous cultural heritage information
- Represents more than just bibliographic information
- Event-based model (compare with DC's attribute-based approach)



Simple Knowledge Organisation Systems Vocabulary

- Standard vocabulary to support thesauri, classification schemes, subject heading lists, taxonomies, and other types of controlled vocabulary
- Semantic relationships: broader, narrower, related terms
- Labels, preferred labels, alternative labels
- Notes, documentation, scope notes
- Mappings between vocabularies

SKOS Example



IEEE Standard Upper Ontology

- Ongoing effort to develop an ontology of terms which may be reused in other ontologies
- Facilitates translation of ontologies
- Concepts can be mapped onto terms in this common upper ontology
- Intent is not to build an ontology of everything (contrast with Cyc)
- Current version known as SUMO (Suggested Upper Merged Ontology)

IEEE Standard Upper Ontology

- Entity
 - Physical
 - Object
 - SelfConnectedObject
 - Substance
 - CorpuscularObject
 - Food
 - Region
 - Collection
 - Agent
 - Process
 - Abstract
 - SetOrClass
 - Relation
 - Quantity
 - Number
 - PhysicalQuantity
 - Attribute
 - Proposition

to the wabsanti. Otherways wesways like that provost scoffing
bedoueen the jebel and the jpysian sea. Cropherb the crunch-
bracken shall decide. Then we'll know if the feast is a flyday. She
has a gift of seek on site and she allcasually ansars helpers, the
dreamydeary. Heed! Heed! It may half been a missfired brick, as
some say, or it mought have been due to a collupsus of his back
promises, as others looked at it. (There extand by now one thou-
sand and one stories, all told, of the same). But so sore did abe
ite ivvy's holired abbles, (what with the wallhall's horrors of rolls-
rights, carhacks, stonengens, kisstyanes, tramtrees, fargobawlers,
autokinotons, hippohobbilies, streetfleets, tournintaxes, mega-
phoggs, circuses and wardsmoats and basilikerks and aeropagods
and the hoyse and the jollybrool and the peeler in the coat and
the mecklenburk bitch bite at his ear and the merlinburrow bur-
rocks and his fore old porecourts, the bore the more, and his

the
Salemto,
Season for
furn
out
it
25king
even 25k
it.
Any
question
may
perhaps
isell

on or side

refer to

unsure

very things

from 799in

frater names made notes

Friday

hacked world

falling up

off 25k

world

- new flow?
nadir?
desire to
be king
to follow
Indians?
moving
in 25k
the 25k
to
America
(compared to
the 25k
over which
Moses
wandered.

Web Annotation

third
use of
the word:
festas

also
shy
much

mecklenburk
(playmate?)

buried
cerd
Anfaulen
legend

and travels
through 25k:
Othello's
"zerophzi"

Annotea

- Shared annotations for the Web
 - User wishes to annotate a document
 - Annotea-enabled browsers create RDF that associates a region in the document with the annotation
 - RDF published to a server (cf. link server)
 - Annotea-enabled browsers can query server to obtain annotations for pages
 - Amaya
 - Mozilla (Annozilla)

Annotea

icons indicating
annotation locations

annotation
summaries

annotation text

File Edit View Go Bookmarks Tools Window Help

Back Forward Reload Stop

http://www.w3.org/2001/Annotea/

Sidebar

Annotations

Annotations for http://www.w3.org/2001/Annotea/

- Comment created by markus@koelmans...
- Annotea project
- Comment created by Anonymous on 200...
- Annotea is part of the Semantic ...
- Example created by CTH on 2...
- A
- Comment created by craig on ...
- Annotea project
- Comment created by Michael Collard on ...
- is open; it uses and helps to a...

This rocks!

W3C Annotea

About Annotea

- Overview
- Documents
- News
- Press

How to ...

- Use annotations
- Install a server
- Write clients

Annotea

- Servers
- Clients

Mailing list

- www-annotation

Annotea

- Vocabularies used
 - Dublin Core for bibliographic metadata about the annotation
 - Custom schema for relating annotation to annotated document
- XPath and XPointer used to identify region of document to be annotated



Semantic Web Services

<http://www.flickr.com/photos/sugree/3024637789/>

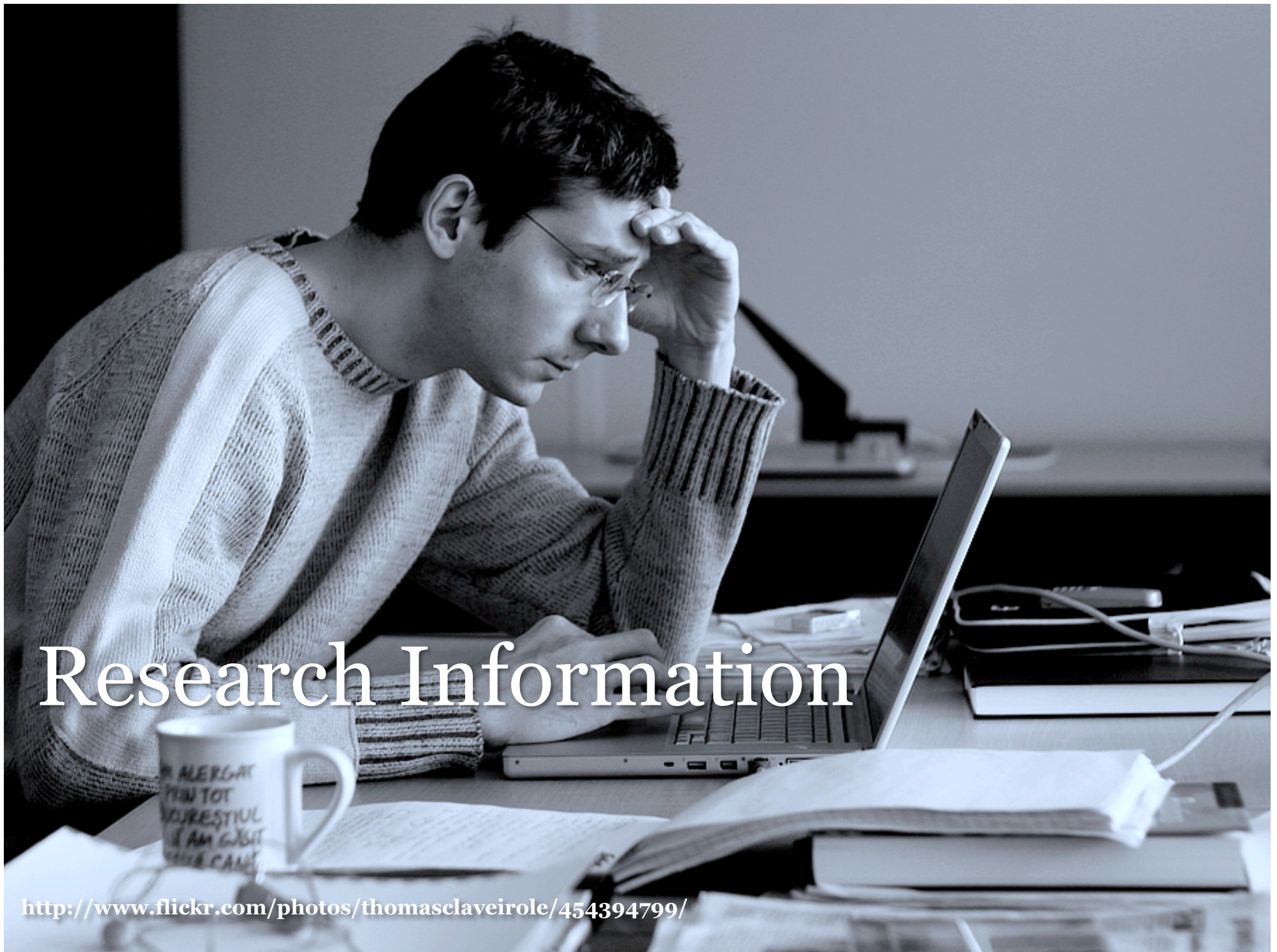
Web Services

- Web services are characterised as:
 - Distributed
 - Heterogeneous
 - Loosely-coupled
- Loose coupling is key issue
 - Allows opportunistic, ad-hoc reuse of component services
- Requirements:
 - Service description
 - Service discovery
 - Service invocation

- Web Service service descriptions deal primarily with the signature of a service
 - “this service takes a string and returns two numbers”
- We need richer service descriptions
 - “this service takes a town name and returns its latitude and longitude”
 - “this service takes the name of a football team and returns its last score”

Semantic Web Services

- Combine Web Services and Semantic Web
 - Ontologies of services
 - Ontologically-informed service parameters
 - (alternatively, web services for the Semantic Web)
- OWL-Services (was DAML-Services) and WSMO define a vocabulary for describing web services
 - Complements existing web services languages – SOAP, WSDL, UDDI
 - Semantic Annotations for WSDL (SA-WSDL)



Research Information

<http://www.flickr.com/photos/thomaslaveirole/454394799/>

CS AKTive Space (2003)

- Repurpose information gathered about CS researchers to help them understand and explore their community
- Data sources:
 - 2001 Research Assessment Exercise submissions
 - Research Council project data
 - Detailed data on personnel, projects and publications harvested for leading CS departments in the UK



AKT CS Aktive Space

[About this page](#) research area/region region/research area

Research area

probability and statistics
 discrete mathematics
 numerical analysis
 general

Information Systems
 information interfaces and presentation
 information systems applications
 information storage and retrieval
 database management
 general

Computing Methodologies
 document and text processing
 simulation and modeling
 pattern recognition
 image processing and computer vision
 computer graphics
 artificial intelligence
 symbolic and algebraic manipulation
 general

Computer Applications

Radial:

200 miles

Map:

uk-political



Researcher

NR Shadbolt
 PC Treleaven
 L Moreau
 H Hu
 LA Carr

Detail: NR Shadbolt

[browse](#)

Name Professor NR Shadbolt

Institution Department of Electronics and Computer Science, University of Southampton

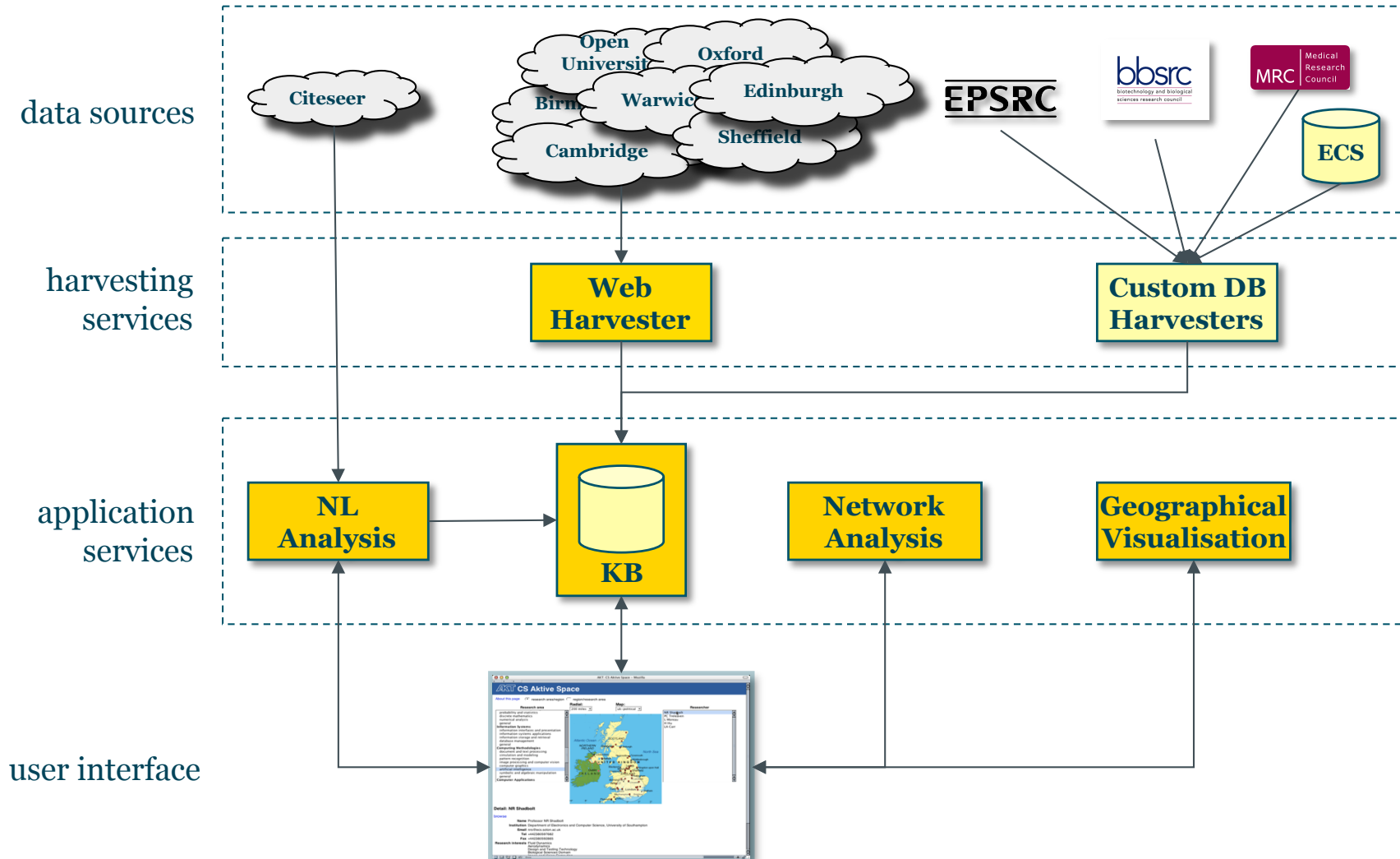
Email nrs@ecs.soton.ac.uk

Tel +442380597682

Fax +442380592865

Research interests Fluid Dynamics
 Aerodynamics
 Design and Testing Technology
 Biological Sciences Domain
 Image and Vision Computing

System Architecture



dotAC (2009)

- CS AKTive Space revisited
 - All UK Higher Education
 - Integrated data from institutional research repositories
 - Sustainable live data from research councils
 - Mapping from CERIF
- Extra services
 - Network analysis for related resources (communities of practice)
 - Coreference management – identify duplicates in data

<http://dotac.info/>

The screenshot displays the dotAC web application interface. The top section features a map titled "Location of Project Members" with a callout for "Andrew McGregor" in Southampton. To the right, a "Details" panel lists project information: Title: Readiness for REF, F/R, Begins: 01/04/2009, Ends: 01/03/2011, Web Address: <http://www.kcl.ac.uk/es/research/>, and Programme: etc.: Information Environment Programme. Below the map is a "Participating Organisations" list including King's College London and University of Southampton. A "Project Members" list includes Andrew McGregor, Dr. Leslie Carr, and Mary Davies. A "Related JISC Projects" list includes Repositories for Sharing Learning Resources in Distributed Social Spaces, Collaborative Orthopaedic Research Environment, Content Lifecycle Integration Framework, DISC-UK DataShare, From Entry to Ethos, and Institutional Repositories and Research.

The bottom section shows a network diagram with five nodes (1-5) and connecting lines. Below the diagram are two panels for coreference management:

- (1) Les Carr**: A table with one row: Full Name (http://full-name) | Les Carr
- (5) Hugh Glaser**: A table with five rows: Label (http://label) | Thomas Martinez, Full Name (http://full-name) | Thomas Martinez, Full Name (http://full-name) | David De Roure, Full Name (http://full-name) | Hugh Glaser. A red "X" icon is next to each row.



Business Intelligence

<http://www.flickr.com/photos/tetsu-k/393957103/>

AKTive Futures (2004)

- How do we produce a portal for end users within the “strategic decision making” process of an organisation?
- Inform strategic planning and market intelligence
 - Identify relevant drivers
 - Visualise trends in heterogeneous data
 - Present information contextually

Climate and environment

- Storms ahead: weather extremes
- Bio-diversity
- Global transport and industrialisation
- Abrupt climate change
- Sea level rises
- Water shortages
- Kyoto to 'Contraction and Convergence'

Geo-political economy

- US-dominated agenda
- International institutions
- North vs South
- China, India and Asia
- European social agenda
- Scramble for oil in Africa
- US interventionist
- Middle East
- US 'technological sublime'

Terrorism, total surveillance and security

- Global terror
- Future of 'remote wars'
- Everyone is watching
- Human rights
- Privacy and trust

Energy

- Post oil?
- Large to small scale networks
- Hydrogen fuel cells: mobility
- 'Hydrogen highway'
- Costs and pricing
- Demand cuts
- Wind, tidal, solar

Sustainability agenda

- Anti-science: the values debate
- Socio-political conflict over economics and business
- EU/regulatory drivers
- Public engage vs indifferent
- Corporate social responsibility

Bio-everything

- Bio-tech
- Bio-remediation
- Bio-terror
- Bio-error
- Bio-agriculture
- Bio-medical
- Bio-informatics
- Genomics
- Proteomics
- Bio-systems

Nano-science to nanotech

- Nanobots or goo?
- Materials science
- Nano-machines
- Sensors:RFIDS – MEMS
- Drug delivery
- Nano-filtration

Demographics, migration and ageing

- Cures for everything?
- Longer and better?
- Ageing West, pensions crisis, inter-generational tension
- Acceleration of migration

Augmented reality, pervasive and mobile computing

- 'Ambient' computing
- The Grid
- Broadband Mobile
- Wireless
- Bio-inspired computing
- Hybrid iDTV/web
- Remote sensing

Knowledge, Innovation

- The Semantic Web
- Private research
- Public knowledge
- Artificial intelligence
- Intellectual property vs open source
- E-science

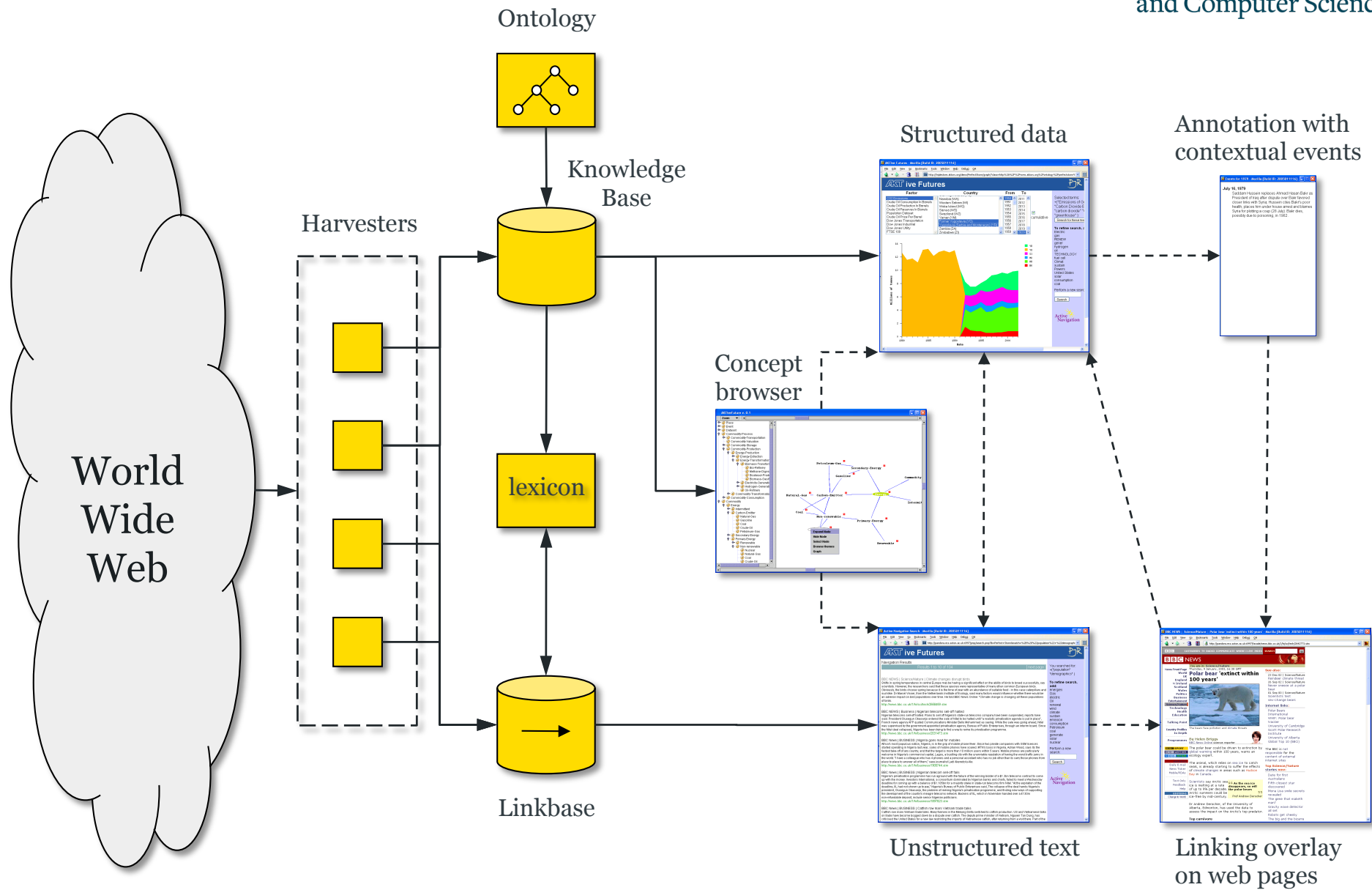
Socio-cultural

- Values, attitudes and lifestyles: fast trends
- Anti-corporate
- 'Open source' values
- New trust matrix: NGOs
- Ethical consumers
- Family life
- Young vs old
- Boomers age
- Hypermobility, transport and urban/rural futures
- Health 'economy'
- 'Care world'
- Culture of fear and anxiety

Media

- Conflicts over 'simple/certain' vs 'complex/uncertain'
- Plural
- Fragmented public media and discourse
- Single issue moral panics
- Smart mobs
- Mobile opinion formers

System Architecture



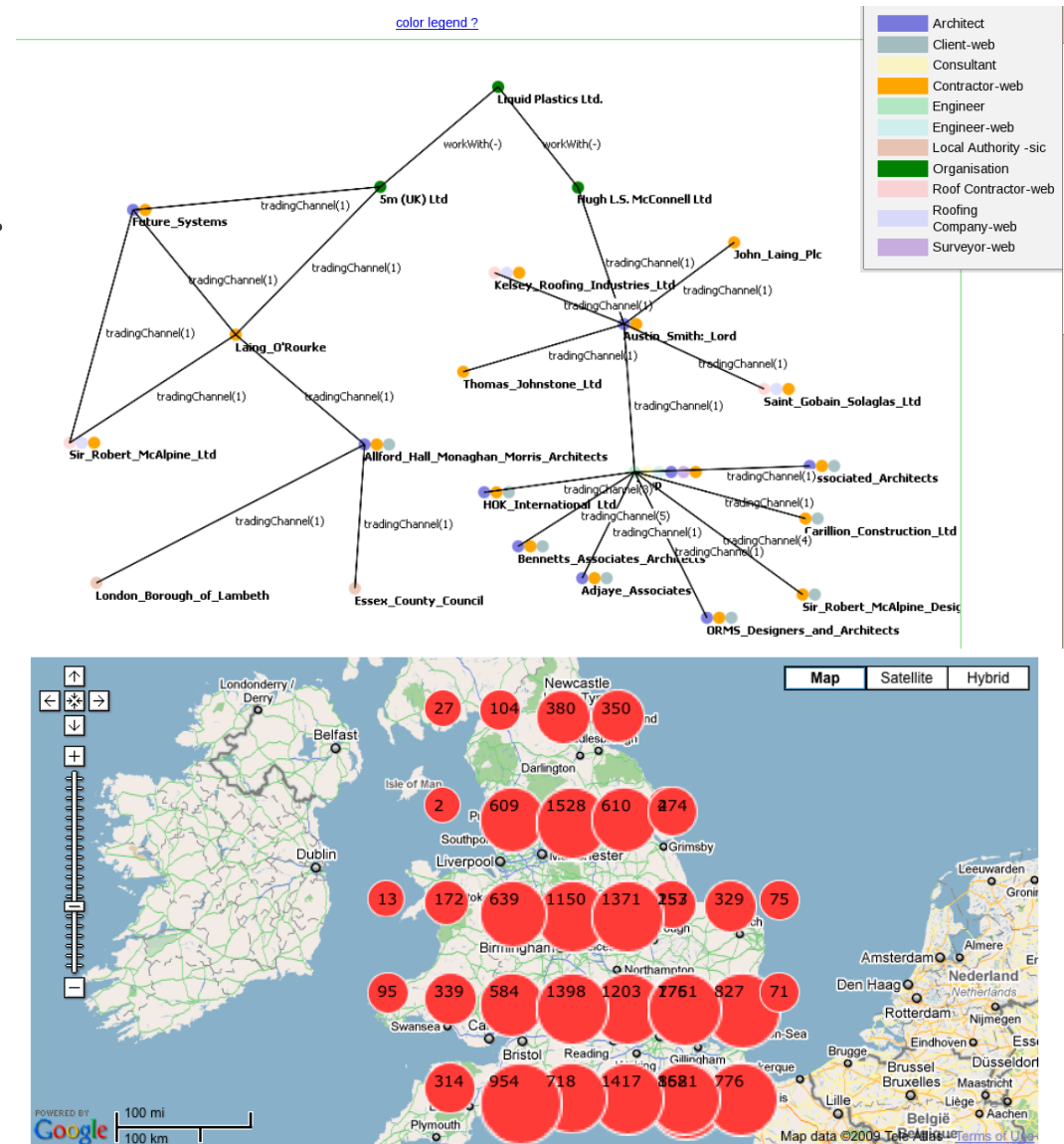
Market Blended Insight (2006-2010)

- Application of Semantic Web technologies to marketing strategies for the B2B sector
- Real data, real B2B processes to ensure real scenarios for the undertaken research
- Workflow:
 - Identify market segments
 - Identify value chains and key relationships
 - Identify opportunities and channels of communication
 - Refine and iterate



Data Sources and Visualisations

- UK business backbone:
~4M companies
- Ordnance Survey Address Layer
- UK SIC(92) industrial classifications
- Other sources:
 - Local publications
 - Trade publications
 - Contact data for ~300K companies, extracted from company web sites
 - London Gazette (all UK insolvencies)



Good Relations

- Standardised vocabulary for product, price, and company data
- Represents:
 - Prices
 - Accepted payment methods
 - Opening times
 - Delivery methods and charges
 - Warranty promises and scope
- Integrates with:
 - UNSPSC vocabulary for offerings
 - SIC codes for company type

<http://purl.org/goodrelations/>





Collaborative Working

Scenario

- Meeting rooms linked over network
- Potentially labs too – and smart spaces in general
- Events in rooms provide annotation, e.g.
 - Use of documents
 - Moving through agenda
 - Slide transitions
 - People arriving and leaving
 - Note taking

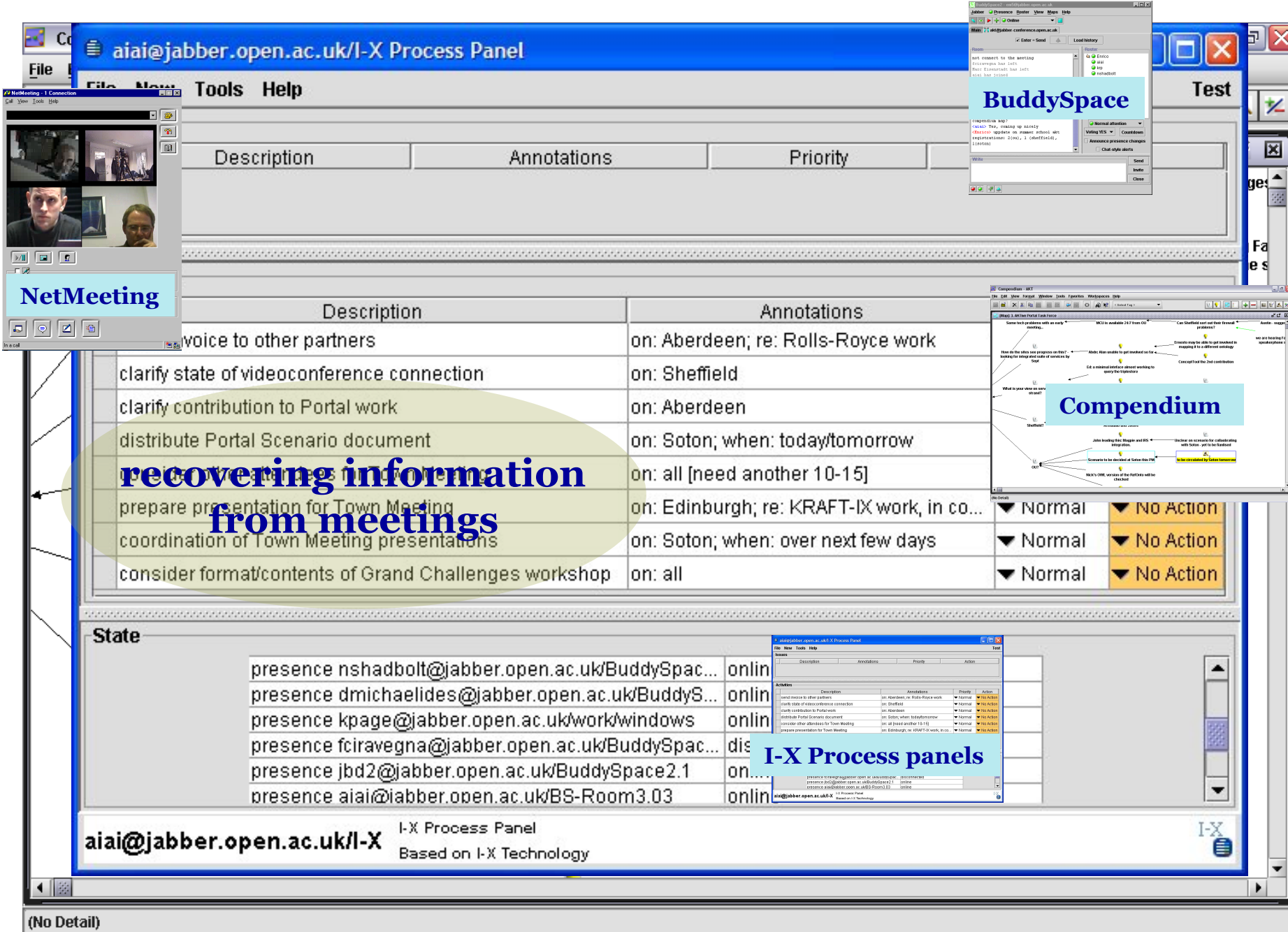


ACCESS GRID

Semantic Web meets CSCW

- Ontologies to enhance media-rich annotations of group problem solving
- Planning and knowledge based task support to enhance issue-based process/activity discussions
- Scholarly discourse and argumentation to enhance collaborative meeting structures
- Presence and visualisation to enhance group peripheral awareness at a distance

<http://www.aktors.org/coakting/>



recovering information from meetings

Description	Annotations	Priority
voice to other partners	on: Aberdeen; re: Rolls-Royce work	
clarify state of videoconference connection	on: Sheffield	
clarify contribution to Portal work	on: Aberdeen	
distribute Portal Scenario document	on: Soton; when: today/tomorrow	
prepare presentation for Town Meeting	on: all [need another 10-15]	
coordination of Town Meeting presentations	on: Edinburgh; re: KRAFT-IX work, in co...	▼ Normal ▼ NO ACTION
consider format/contents of Grand Challenges workshop	on: Soton; when: over next few days	▼ Normal ▼ No Action
	on: all	▼ Normal ▼ No Action

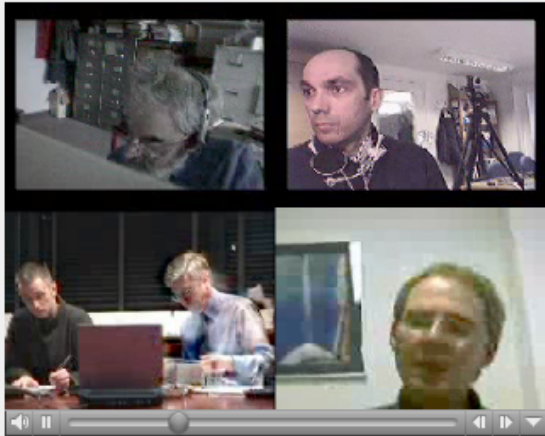
State

presence nshadbolt@jabber.open.ac.uk/BuddySpac...	onlin
presence dmichaelides@jabber.open.ac.uk/BuddyS...	onlin
presence kpage@jabber.open.ac.uk/work/windows	onlin
presence fciraveгна@jabber.open.ac.uk/BuddySpac...	dis
presence jbd2@jabber.open.ac.uk/BuddySpace2.1	on...
presence ai ai@jabber.open.ac.uk/BS-Room3.03	onlin

I-X Process panels

ai ai@jabber.open.ac.uk/I-X I-X Process Panel
Based on I-X Technology

(No Detail)



Play Pause Stop

Title: AKT PI Meeting, 20030310

Date: Mon Mar 10 12:16:01 2003

Participants: [Fabio](#), [Enrico](#), [Nigel](#), [Susan](#), [Austin](#),
[Dave](#), [Derek](#),

Agenda
 Compendium
 Speakers
 Austin
 Dave
 Derek
 Enrico
 Fabio
 Nigel
 Simon
 Susan

Agenda
 Compendium
 Speakers
 Austin
 Dave
 Derek
 Enrico
 Fabio
 Nigel
 Simon
 Susan

Agenda

- ◆ 1) Co-ordination of Research
- ◆ 2) Financial Issues Arising
- ◆ **3) AKTive Portal Task Force**
- ◆ 4) Forthcoming Events
- ◆ 4.1) Mid-Term Review
- ◆ 5) AOB
- ◆ 5.1) Grand Challenges
- ◆ 6) E-Science Projects

Compendium - AKT

File Edit View Format Window Tools Favorites Workspaces Help

[Map]: 3. AKTive Portal Task Force

(No Detail)



Public Sector Information

<http://www.flickr.com/photos/emsef/1398072554/>

AKTive PSI (2005)

- Use advanced knowledge management technology to improve the delivery of policy and public services across Government
- Build up a detailed picture of life in two London Boroughs, using as broad a collection of Public Sector Information as possible



Office of
PUBLIC SECTOR INFORMATION



Land Registry
Cymraeg



national **STATISTICS**

LONDON

CabinetOffice



Visualisations and Mashups

AKTive PSI - Mozilla Firefox
 http://sasoki/AKTivePSI/scrape/ch/?companyname=Abington+Autos

AKTive PSI
 Companies House Web Scraper

Company Name:
 Abington Autos
 Get Company Information

Suggested Searches:
 Abington Autos
 Abington Autocentre

Company Information

The closest company that matched your search was

ABINGTON AUTO'S LIMITED	MAYFIELDS INSOLVENT WEST MIDLANDS
Company No. 03869315	
Status	Dissolved 29/12/20
Date of Incorporation	01/11/1999
Country of Origin	United Kingdom
Company Type	Private Limited Company
Nature of Business (SIC(03))	5010 - Sale of motor vehicles
Accounting Reference Date	31/03
Last Accounts Made Up To	31/03/2001 (TOTAL)
Next Accounts Due	31/01/2003
Last Return Made Up To	01/11/2001
Next Return Due	29/11/2002
Last Members List	01/11/2001
Insolvency History	

AKTive PSI on Google Maps - Mozilla Firefox
 http://sasoki.ecs.soton.ac.uk/AKTivePSI/lr/maps/

AKTive PSI
 Land Registry Camden Sample Set

Show Markers

land and buildings on the south side of Platt Street at the Junction with Goodway

Title Number: NGL185462
 Owned by: CLARK KENT 1 Smith Street, London, E14 9NZ
 Tenure: Absolute Freehold
 Other Register Data:

Daisies Day Nursery

Risk Category
 B

Camden Food Premises
<http://www.camden.gov.uk/foodPremiseOntology/#premise5083310>

PointX Points of Interest
<http://www.ordnancesurvey.co.uk/PoiOntology/#business26453632>

Integrated Public Sector Vocabulary

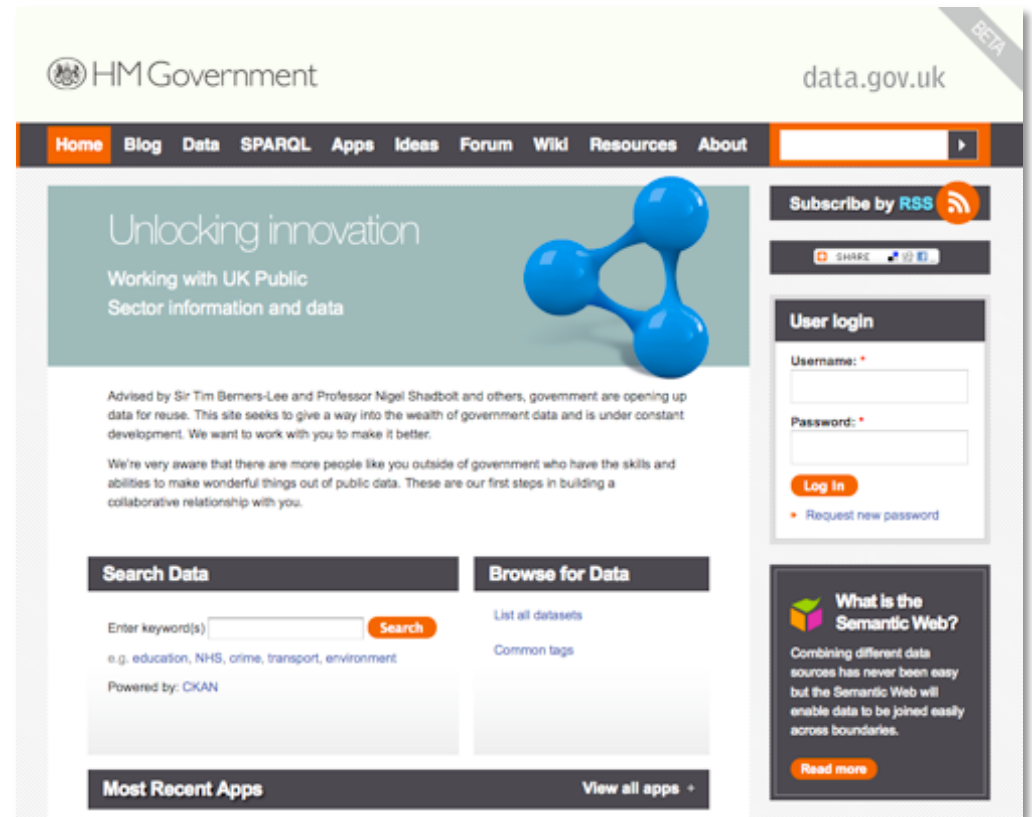
- Taxonomy for classifying public sector information resources
- Developed with the backing of the ODPM and the Cabinet Office e-Government Unit
- Available in a variety of formats, but RDF/XML is the definitive format
- Uses Dublin Core and SKOS

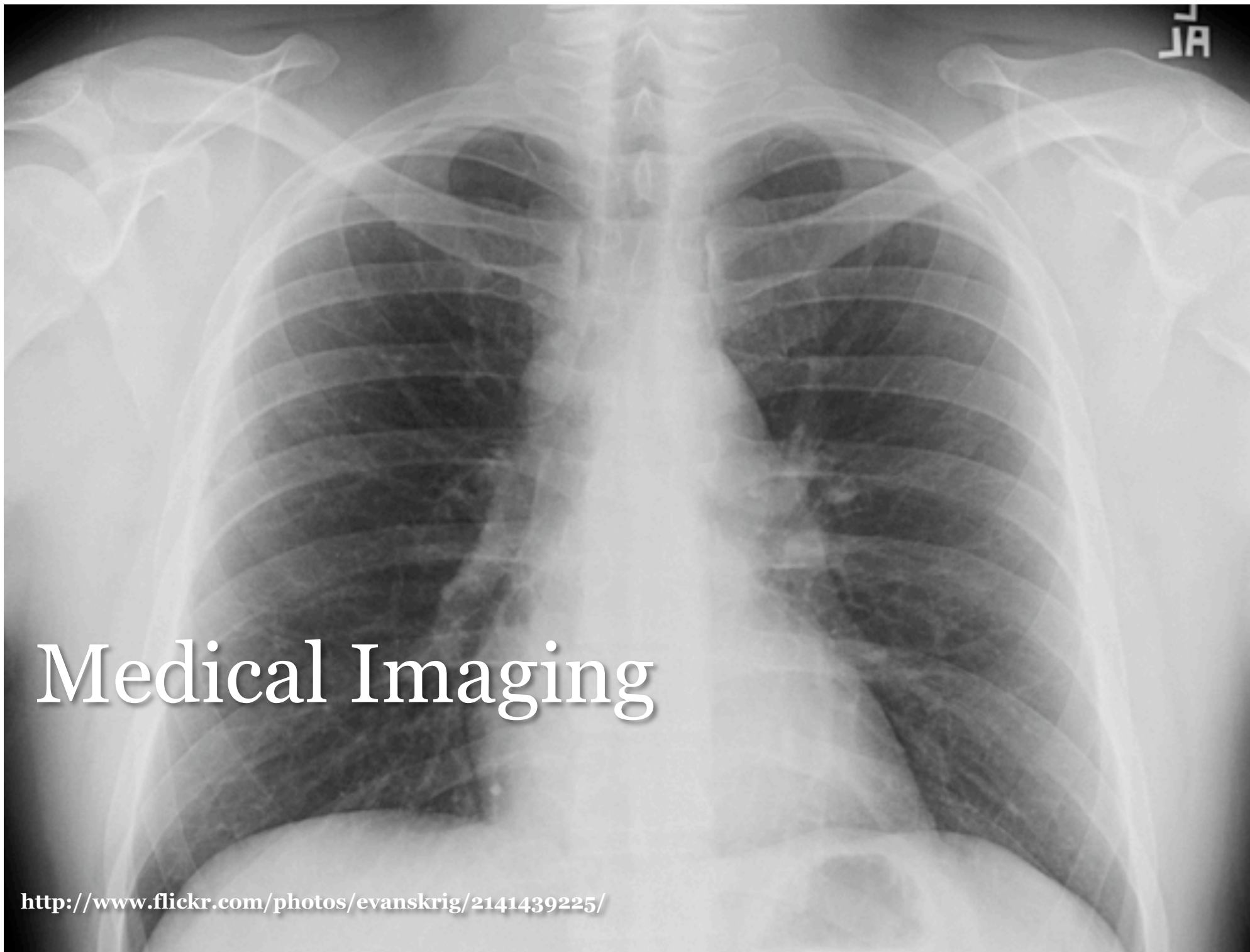
IPSV Top Level Headings

- Business and industry
- Economics and finance
- Education and skills
- Employment, jobs and careers
- Environment
- Government, politics and public administration
- Health, well-being and care
- Housing
- Information and communication
- International affairs and defence
- Leisure and culture
- Life in the community
- People and organisations
- Public order, justice and rights
- Science, technology and innovation
- Transport and infrastructure

data.gov.uk (2010)

- In 2009, Tim Berners-Lee and Nigel Shadbolt appointed as advisors to HMG on opening up public data
- data.gov.uk website went public on 21 Jan 2010
 - 2890 datasets from central and local government
 - Uses SW technologies to represent data



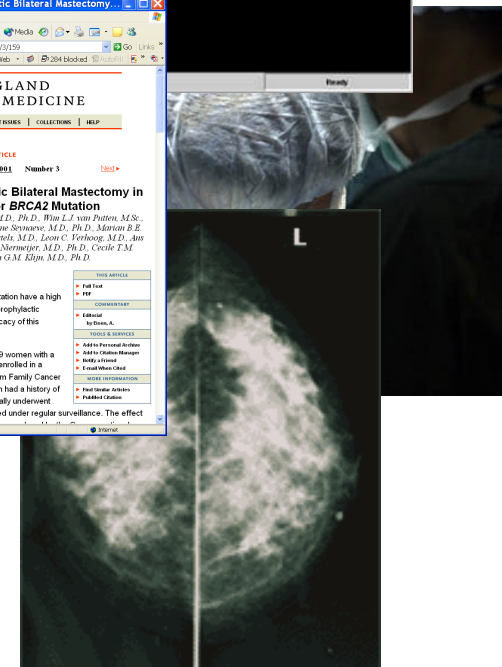
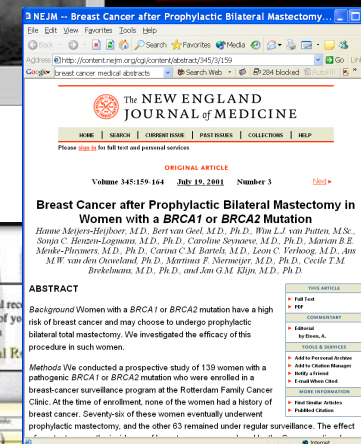
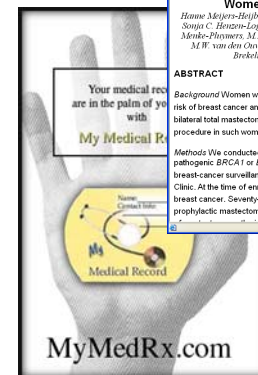
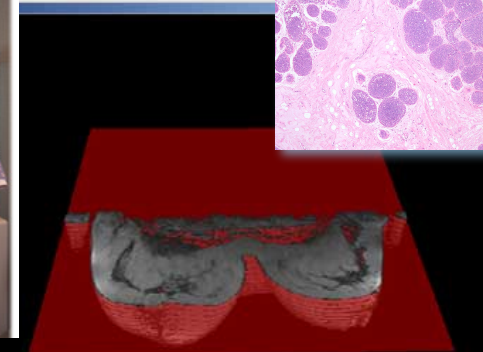
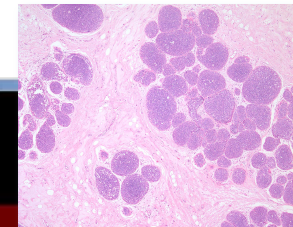


Medical Imaging

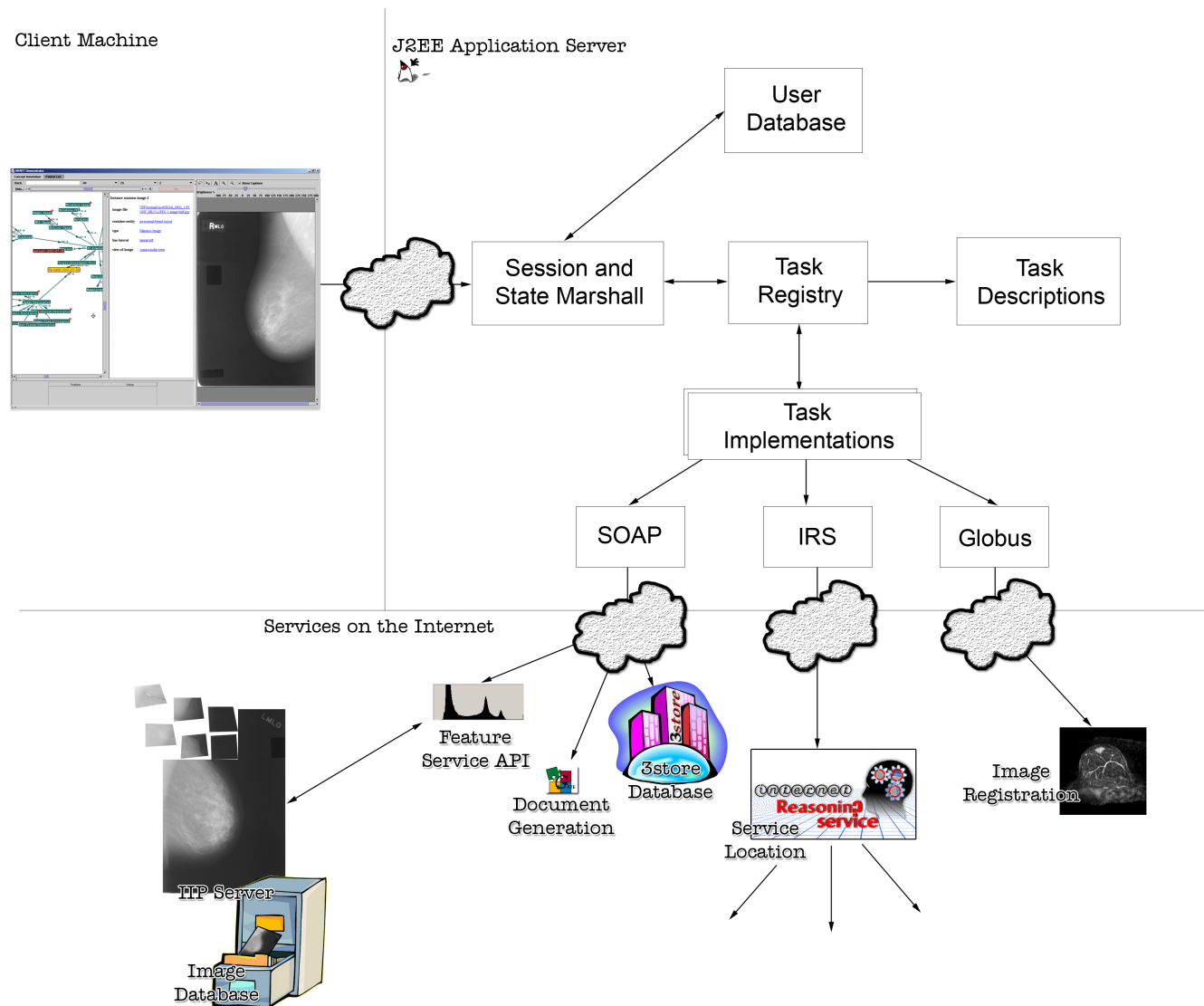
<http://www.flickr.com/photos/evanskrig/2141439225/>

Multi-Disciplinary Assessment

- Heterogeneous content
- Clinical examination
- Imaging
 - X-ray, ultrasound, MRI
- Microscopy
 - Histopathology
- Treatment
 - Protocol Records
 - Re-assessment
- Medical Records
 - Case sets
 - Individual patient records
- Published background
 - Epidemiology
 - Medical Abstracts

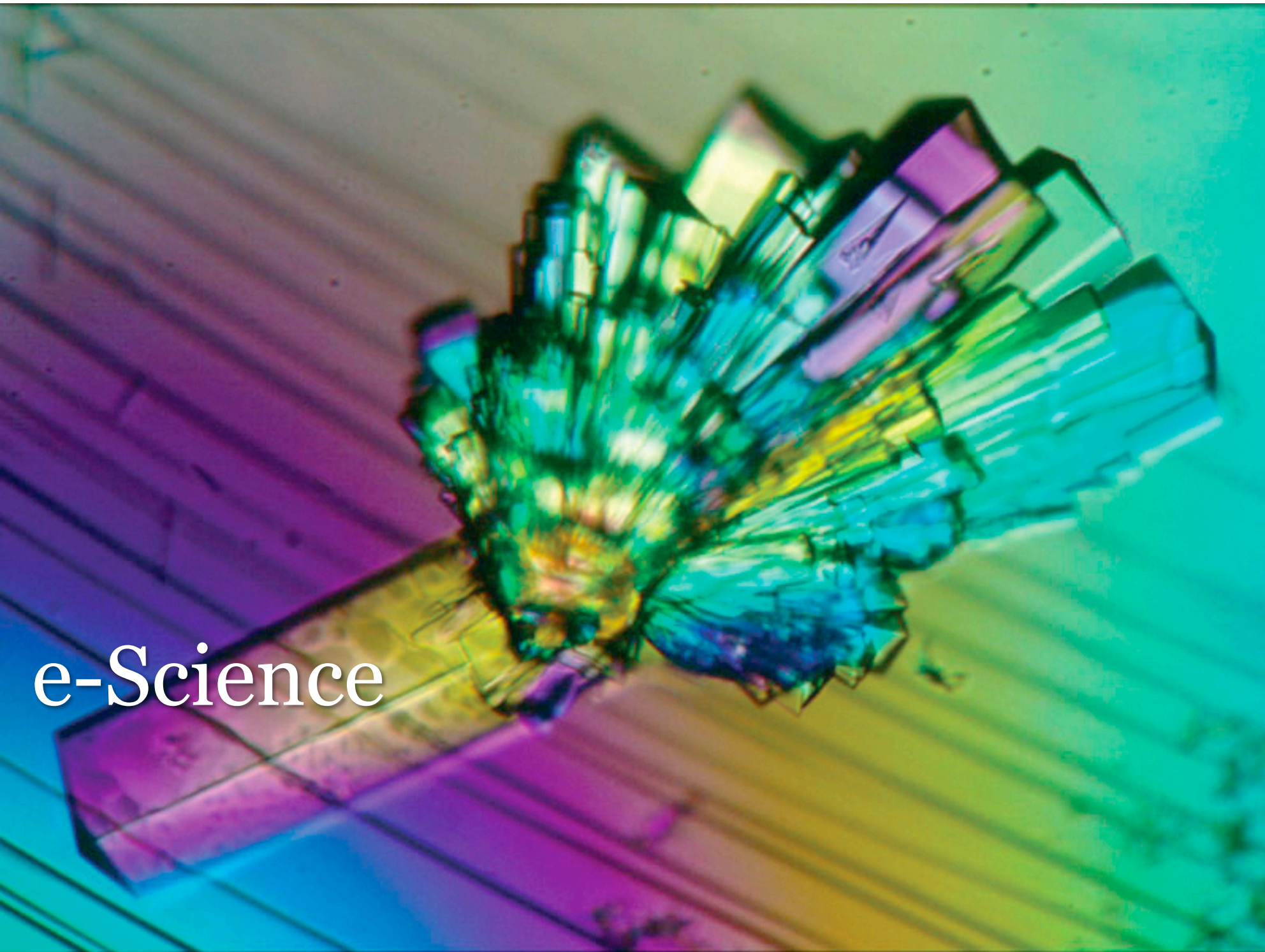


MIAKT Framework (2005)



MIAKT Services

- Image Analysis Services
 - XRay Mammogram Analyser (Oxford)
 - MRI Mammogram Analyser/Classifier (KCL)
- Classification Services
 - Abnormality Naïve Bayes Classifier (Soton)
 - MRI Lesion Classifier (KCL)
- Patient Data Retrieval Services (OU)
- Image Registration (KCL)
 - GRID service invoked via web-service
- Natural Language Report Generation (Sheffield)
 - Generate a patient report from RDF description
- UMLS Lookup (Sheffield)
- Patient Records (Soton)
 - RDF triplestore

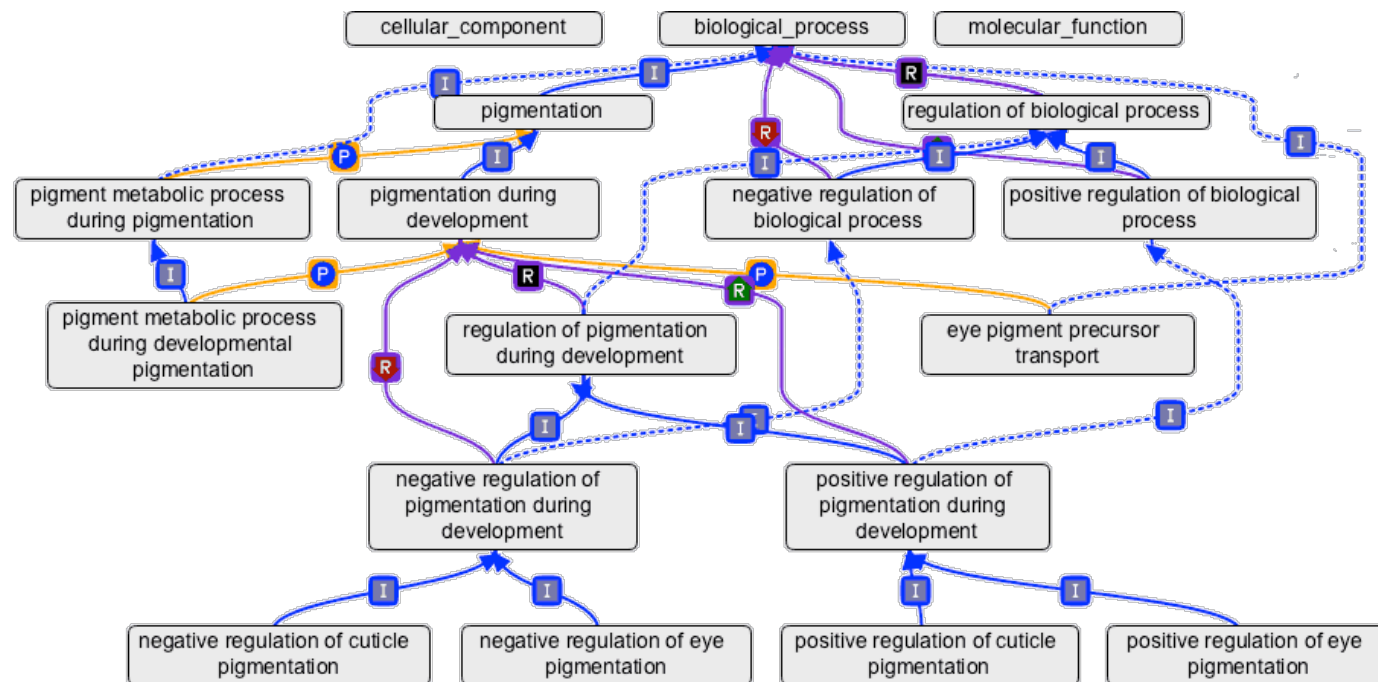


e-Science

e-Science

- e-Science characterised as:
 - Large-scale science
 - Distributed global collaborations
 - Very large data collections
 - Very large scale computing resources
- Data integration will be a major issue
 - Capture, publish, reuse data
 - Agreed vocabularies for data exchange

- Controlled vocabularies for the consistent description of gene products
- Simplified profile of RDF/XML
- Multi-view ontology
 - Molecular function
 - Biological process
 - Cellular component



Search GO

 Exact Match

 Terms

 Gene Symbol/Name

[Advanced Query](#)
[Query By Sequence](#)

Gene Product Filters

Species

- All
- A. japonica
- A. niger
- A. platyrhynchos

Datasource

- All
- FlyBase
- SGD
- MGI

Evidence Code

- All Curator Approved
- IC
- IMP
- IGI

[XML](#)
[Flat File](#)
[Permalink](#)

Last updated: 2006-01-05

all : all (166170)

GO:0008150 : biological_process (118045)

GO:0000004 : biological process unknown (33123)

GO:0009987 : cellular process (70992)

GO:0007275 : development (12234)

GO:0040007 : growth (3010)

GO:0051704 : interaction between organisms (1392)

GO:0051705 : behavioral interaction between organisms (196)

GO:0042710 : biofilm formation (17)

GO:0000746 : conjugation (204)

GO:0000128 : flocculation (10)

GO:0009292 : genetic transfer (70)

GO:0044419 : interspecies interaction between organisms (820)

GO:0044402 : competition with another organism (0)

GO:0044403 : symbiosis, encompassing mutualism through parasitism (818)

GO:0051703 : intraspecies interaction between organisms (8)

GO:0051706 : physiological interaction between organisms (135)

GO:0007582 : physiological process (72983)

GO:0043473 : pigmentation (86)

GO:0050789 : regulation of biological process (13235)

GO:0000003 : reproduction (3883)

GO:0050896 : response to stimulus (13945)

GO:0016032 : viral life cycle (289)

GO:0005575 : cellular_component (103652)

GO:0003674 : molecular_function (114778)

obsolete_biological_process : obsolete_biological_process (0)

obsolete_cellular_component : obsolete_cellular_component (0)

obsolete_molecular_function : obsolete_molecular_function (0)

Graphical View

[Term]

id: CL:0000540

name: neuron

def: "The basic cellular unit of nervous tissue. Each neuron consists of a body\, an axon\, and dendrites. Their purpose is to receive\, conduct\, and transmit impulses in the nervous system." [MESH:A.08.663]

xref_analog: FBbt:00005106

xref_analog: FBbt:00005146

is_a: CL:0000393 ! electrically responsive cell

is_a: CL:0000404 ! electrically signaling cell

relationship: develops_from CL:0000031 ! neuroblast

The Smart Tea Project

UNIVERSITY OF
Southampton
School of Electronics
and Computer Science



- Improving the information environment for chemists – both within and beyond the lab
- Supporting chemists in the preparation, execution, analysis and dissemination of their work



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

2-21-39

Prep. of Benzene azo compound

179 g aniline

1750 cc dil. H_2SO_4 (168 cc conc. H_2SO_4)

} cool to zero
with rapid stirring

137 g $NaNO_2$ in 1050 cc of water

244 g $NaOH$ in 7000 cc aq. containing 100 g $NaOH$.

3000 cc aq. containing 240 g $NaOH$.

179 g of aniline (1.93 moles) was dissolved in 1750 cc of dil. H_2SO_4 contg. 2.98 moles H_2SO_4 (168 cc conc. H_2SO_4). Cooled to zero with rapid stirring. The with end of dropping funnel below surface, 137 g (1.98) moles of $NaNO_2$ in 1050 cc of water were added very slowly, rate being so, that no large excess of nitrous acid at any time. Allowed to stir for two hours at 0° , at which time a slight starch iodide paper test.

Weigh-Station #1

11-Feb-2004 16:04:40

dj **djbj3403**

Experiment Details

Name	Planned	Actual
Fluorinated biphenyl	0.9000 g	0.9031 g
Br11OCB	1.5900 g	1.5918 g
Potassium Carbonate	2.0700 g	2.0719 g
	40.0 ml	40.0 ml

Bench-Station #1

11-Feb-2004 16:05:38

dj **djbj3403**

Experiment Details

Stage	Instructions	Done
3	Heat at reflux for 1.5 hours	<input checked="" type="checkbox"/>
4	Cool and add Br11OCB	<input checked="" type="checkbox"/>
5	Heat at reflux until completion	<input checked="" type="checkbox"/>

Hand-drawn diagram of a reaction setup. A central flask is labeled "TLC" in a circle. To its left is "CB011Br" and to its right is "CB0110BF4". Below the flask is a reaction scheme showing a biphenyl derivative with a triflate counterion (OTf) and a triflate ion (OTf⁻).

All tasks completed.

Escape
 Quit Weigh Liquid-Measure Bench Store

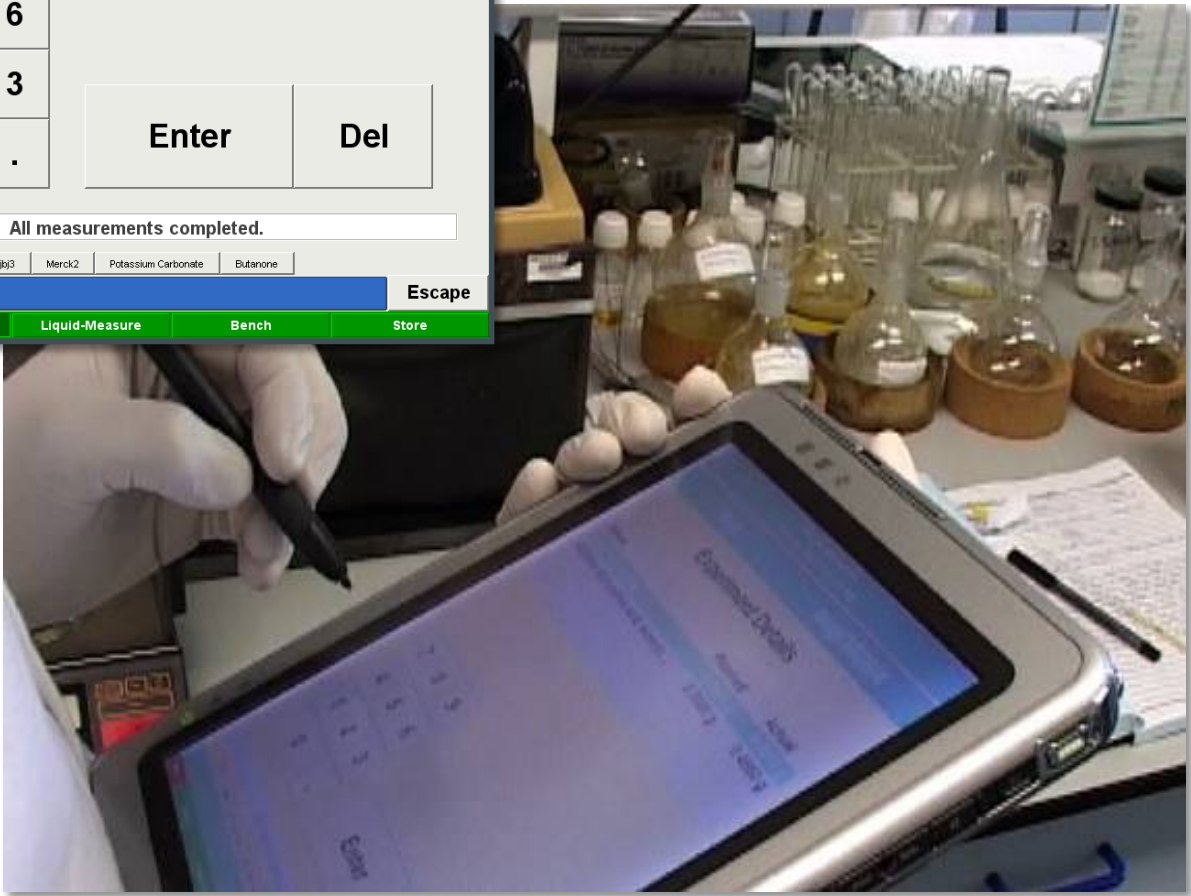
9
6
3
.

Enter Del

All measurements completed.

djbj3 Merck2 Potassium Carbonate Butanone

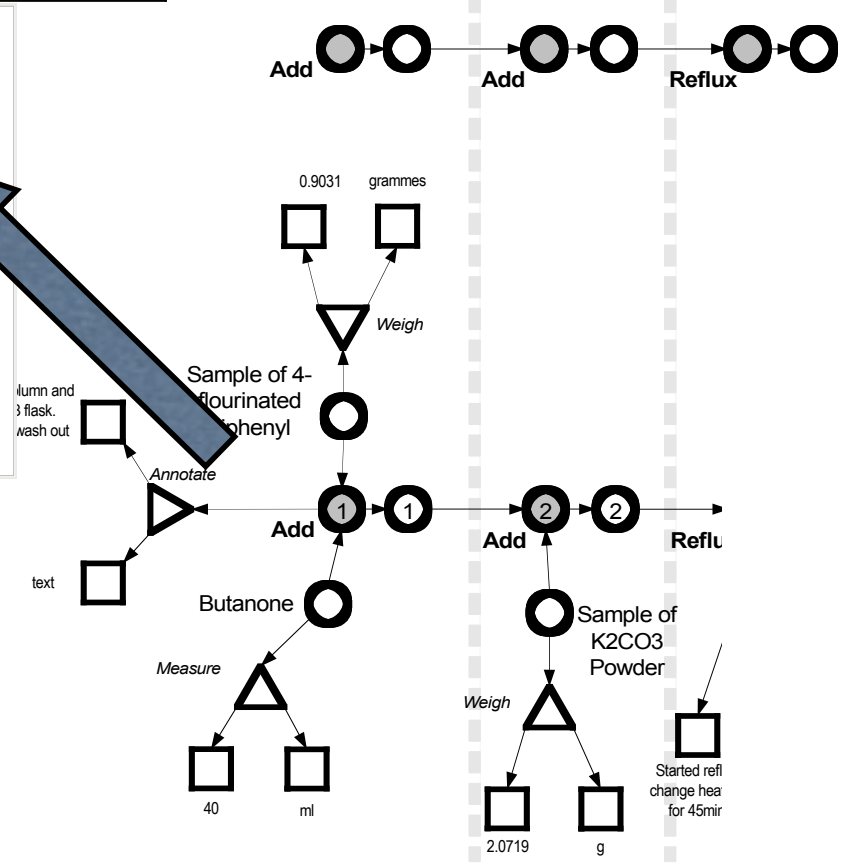
Escape
 Liquid-Measure Bench Store



Ingredient List	
Fluorinated biphenyl	0.9 g
Br11OCB	1.59 g
Potassium Carbonate	2.07 g
Butanone	40 ml

Butanone dried via silica column and measured into 100ml RB flask
 Used 1ml extra solvent to wash out container

Dissolve 4-flourinated biphenyl in butanone Add K₂CO₃ powder Heat at reflux for 1.5 hours



Publish and Reuse

University of Southampton Crystal Structure Report Archive

Home About Browse Search Register User Area Help Single

5- Cyano- 2- methyl- 4- phenyl- 1- (5,6,7- tris(acetoxy)- 2,10- dioxo- 3,9- dioxo- undeca- 4- yl)- 2- aza- 7- thiabicyclo[2.2.1]heptane- 3- one

M. J. Arevalo, M. Avalos, R. Babiano, P. Cintas, M. B. Hursthouse, J. L. Jimenez, M. E. Light and J. C. Palacios.

University of Southampton
C28H32N2O11S

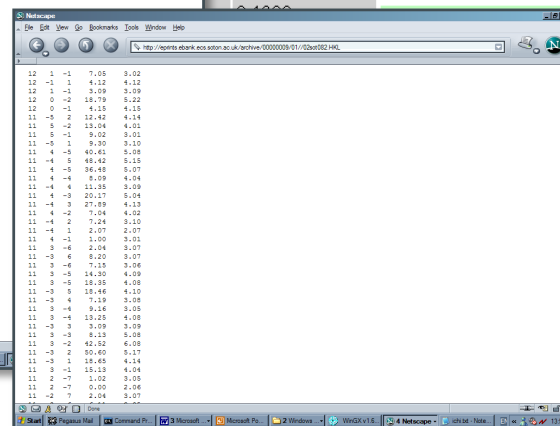
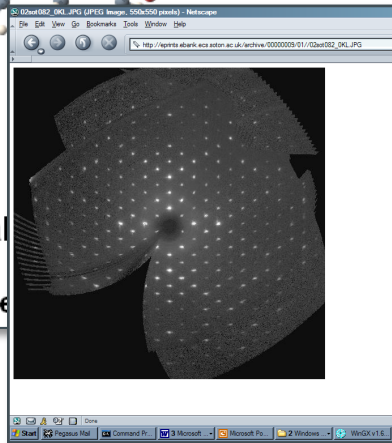
InChI Code: C28H32N2O11S,1H3-15(31)37-14H2- 23H(38-16(2H3)32)24H(39- 17(3H3)33)25H(40-18(4H3)34)26H(41- 19(5H3)35)27- 13H2-22H(7- 29)28(42-27,21(36)30(27)6H3)20- 11H- 9H- 8H- 10H- 12H- 20 ([google for ichi](#))

Compound Class: Organic
Keywords: Controlled Keywords
UNSPECIFIED
Creation Date: 26 September 2001
Deposited By: [Susanne L. Huth](#)
Deposited On: 03 August 2004

Available

Final Re

Data collection parameters		
Chemical formula	C28 H32 N2 O11 S	01esp301_data/01esp301.CIF 17k
Crystallisation Solvent		01esp301_data/01esp301.cml 11k
Crystal morphology		01esp301_data/01esp301_inchi.cml 1k
Crystal system	Orthorhombic	Validation
Space group symbol	P2(1)2(1)2(1)	01esp301_data/01esp301_cif.html 15k
Cell length a	10.9877(7)	Refinement
Cell length b	11.9703(8)	01esp301_data/01esp301.res 10k
Cell length c	22.4663(18)	01esp301_data/01esp301_xl.lst 48k
Cell angle alpha	90.00	Solution
Cell angle beta	90.00	01esp301_data/01esp301.PRP 6k
Cell angle gamma	90.00	01esp301_data/01esp301_xs.lst 47k
Data collection	120(2)	Processing
		01esp301_data/01esp301.HKL 468k
		01esp301_data/01esp301.HTM 6k
		Other Files
		01.DOC 290k
		01.mol 6k
		is record



<http://ecrystals.chem.soton.ac.uk>

Exchange Vocabularies

- BioPax Ontology (biological pathways)
 - Metabolic and signalling pathways, molecular interactions
- Gene Ontology (genes and gene products)
 - Molecular function, cellular component, biological process
- NCI Cancer Ontology
 - Diseases, drugs, anatomy, genes

(and many others from other disciplines)

Advanced Visualisations

The screenshot displays the DOPE Browser interface. The main window is titled "DOPE Browser" and contains several panels:

- File Panel:** Shows the "Focus Term" as "acetylsalicylic acid". A search box contains "aspirin" and a "Go!" button. A "Navigate Thesaurus..." button is also present.
- Co-occurring Terms Panel:** A list of terms with their respective document counts and checkboxes. The "practice guideline" term is selected with a checkmark.
- Term Overlap Display Panel:** A central visualization showing overlapping clusters of terms. The clusters are labeled with terms and their document counts: "mortality (8/37)", "practice guideline (4/12)", "warfarin (3/25)", and "blood clot lysis (23/23)". Each cluster is represented by a group of colored spheres (yellow, white, green, blue, red) connected by lines.
- Document List Panel:** A list of documents related to the selected term. It shows "Documents 1 to 10 out of 23" and includes a "previous" link and a "next" link. The list contains two entries:
 1. Antithrombotic Therapy for Acute Myocardial Infarction. O'Donnell, C.J.; Ridker, P.M.; Hebert, P.R.; Hennekens, C.H. (1995). Full-length article. Journal of the American College of Cardiology 25 (7), pp. 23S-29S. [<http://linkinghub.elsevier.com/pii/S073510979500105D>]
 2. Can the MADIT Results Be Applied to Myocardial Infarction Patients at Hospital Discharge?.

The status bar at the bottom of the window shows "Ready".