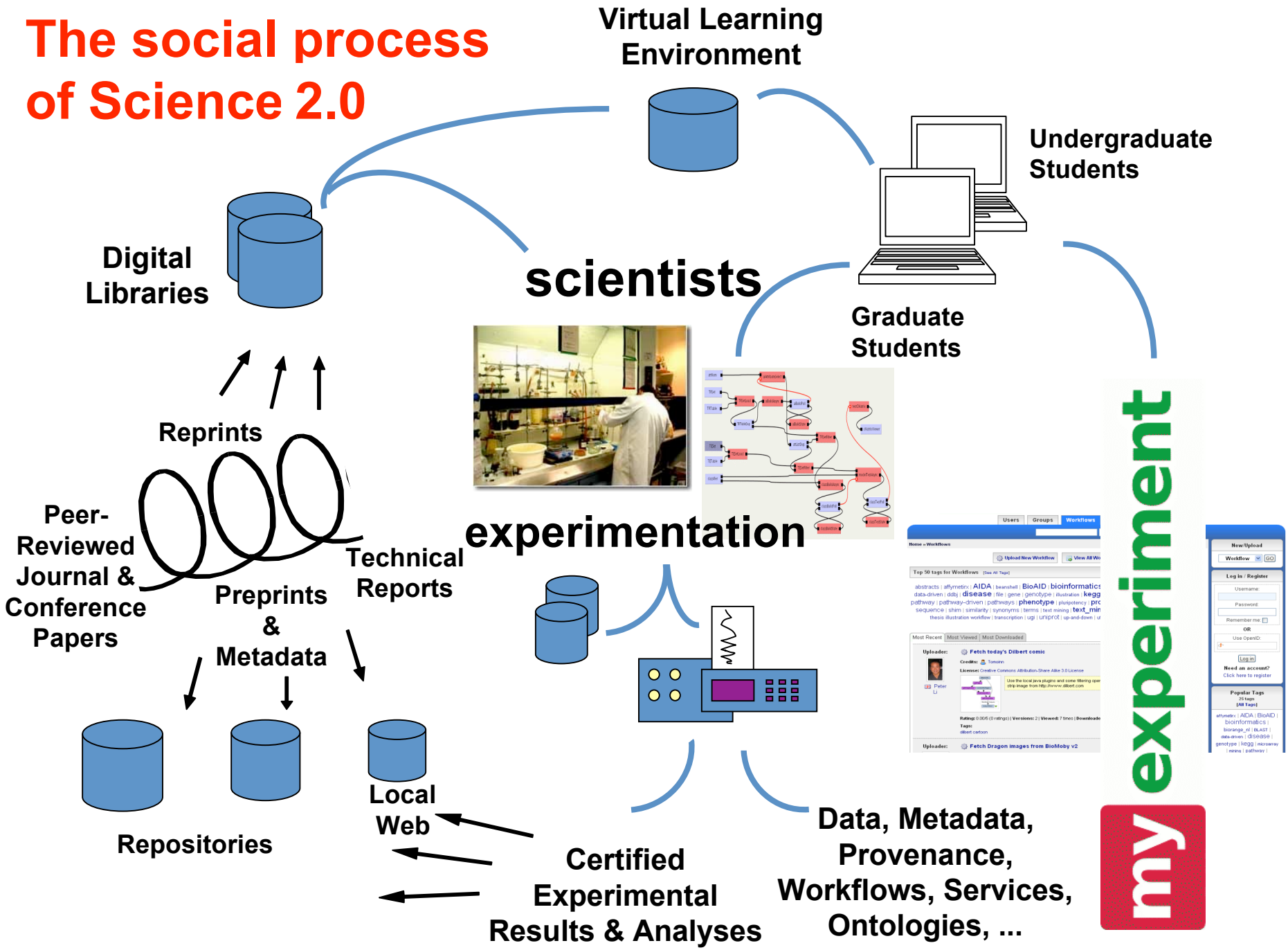
David De Roure (1145)

myGrid
MANCHESTER 1824
UNIVERSITY OF Southampton School of Electronics and Computer Science
JISC
EPSRC
Microsoft
omii-uk www.omii.ac.uk

The social process of Science 2.0



myexperiment

- "Facebook for Scientists" ...but different to Facebook!
- A repository of research methods
- A community social network
- A Virtual Research Environment
- Open source (BSD) Ruby on Rails application with HTML, REST and SPARQL interfaces
- Project started March 2007
- Closed beta since July 2007
- Open beta November 2007

myExperiment currently has 1800 registered users, 145 groups, 600 Taverna workflows plus 80 others, and 50 packs

Go to www.myexperiment.org to access publicly available content or create an account

Keep up to date

Get the latest news about what your online community is doing and what's happening with your Research Objects.

Form Friends & Groups

Explore and manage the social network. You have fine control over the privacy and sharing of your Research Objects.

Find Workflows

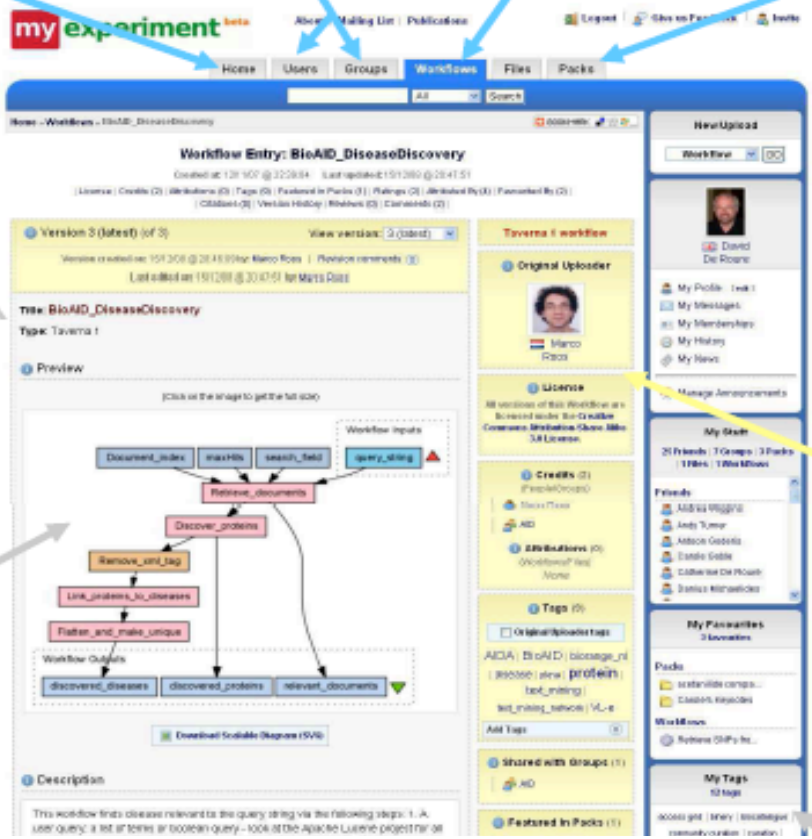
See the latest and most popular workflows: discover, view, download, run, tag and rate. Upload your workflows.

Build Packs

Share collections of items as individual packs — like all the digital items in an experiment. Include external items too.

Content types

We provide special support for workflow systems including Taverna and Trident, as well as experiment plans, providing a foundation for the e-Laboratory.



Curating process

Workflows capture pieces of research process which are curated by their authors, experts and the community. These curation models are also used in the Biocatalogue service registry.

BioCatalogue

All about the Research Object

See and manage all the essential extrinsic information and 'social metadata' — licence, tags, sharing, ratings.

Credits and attributions are an essential feature to support flow of rights and reputation.

All about me

Easy navigation using a dashboard of all the things relating to me and my social network.

JISC EPSRC

Microsoft

myexperiment

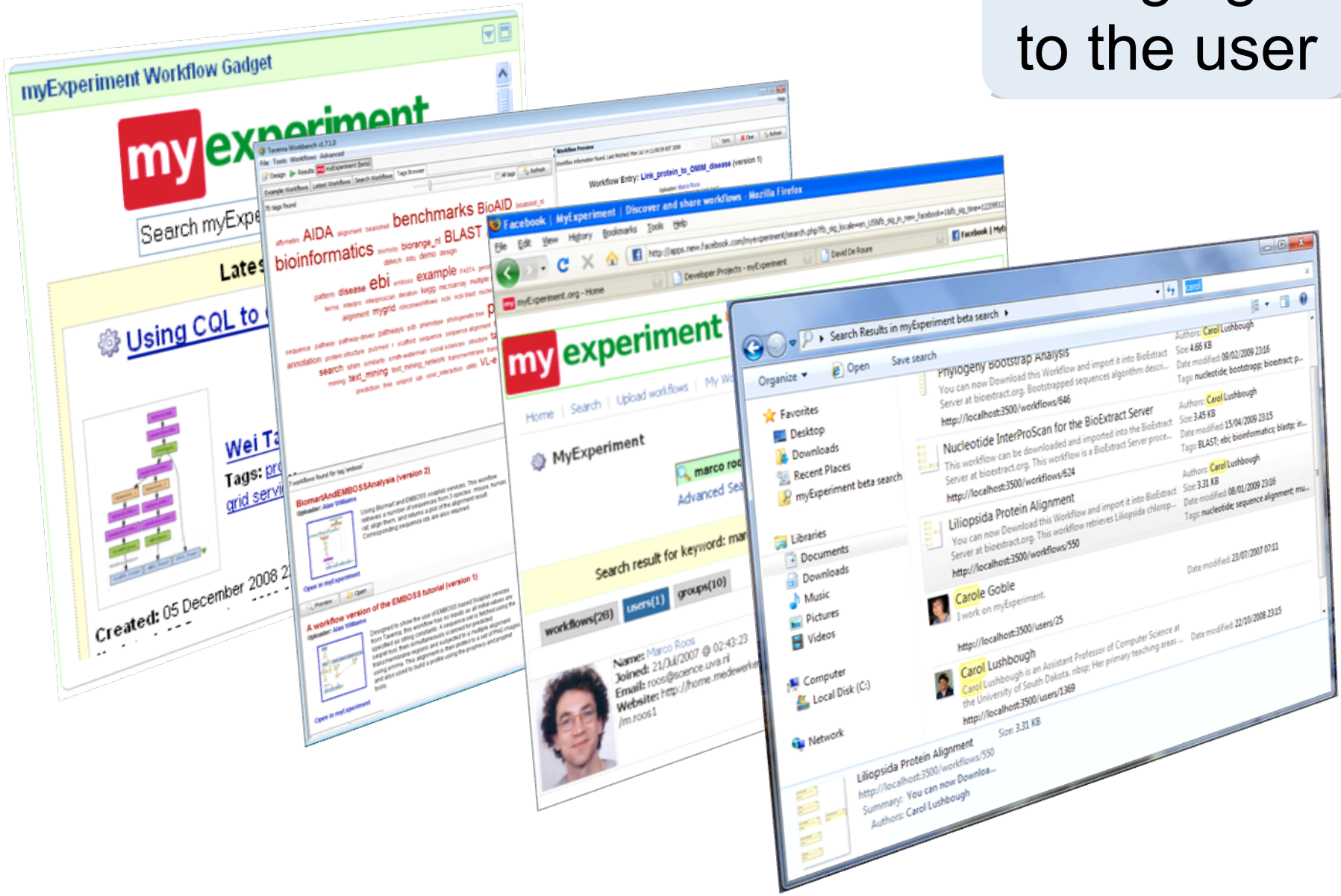
myExperiment Features

- User Profiles
- Groups
- Friends
- Sharing
- Tags
- Workflows
- Developer interface

Distinctives

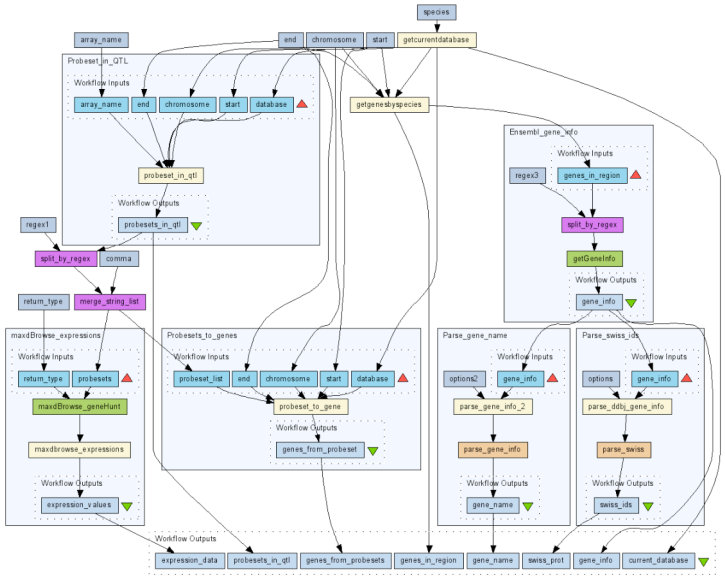
- Credits and Attributions
- Fine control over privacy
- Packs
- Federation
- Enactment

Bringing it to the user

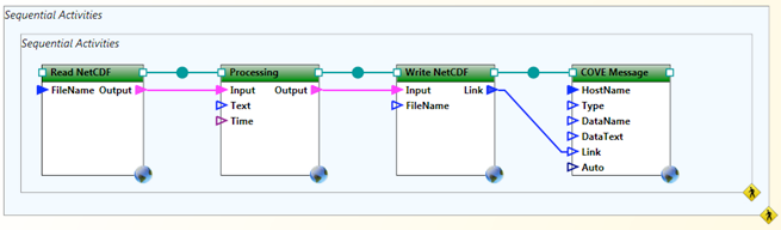


iGoogle Taverna Facebook Windows 7

Sharing pieces of process



http://www.mygrid.org.uk/tools/taverna/



http://www.microsoft.com/mscorp/tc/trident.mspx

Monitor the formation of an aromatic imine by HMR and CMR in CDCl3

1. Make up separate 1 mL of 1M solutions of piperonal and 5-methylfurfurylamine in CDCl3.
2. Take HMRs and CMRs of the aldehyde and amine. Use 5 sec relaxation time and acquire for about 15 mins for the CMR. This should be good enough based on James' results at 1M in methanol.
3. Combine the two solutions into a 1 dram vial and shake vigorously then transfer to an NMR tube.
4. Take HMR at 5, 10 and 20 minutes after mixing.
5. Take CMR at 25 min after mixing.
6. Take HMR at 40 min after mixing.
7. Take CMR at 45 min after mixing.
8. Take HMR at 80 mins after mixing.
9. Take CMR at 85 mins after mixing.
10. Continue to take NMRs after interval doubling until no more change is observed.

http://usefulchem.wikispaces.com/page/code/EXPLAN001

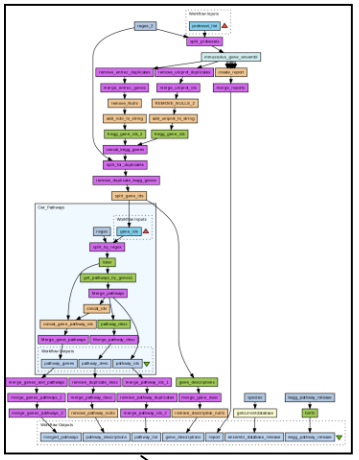
Reuse, Recycling, Repurposing

- Paul writes workflows for identifying biological pathways implicated in resistance to Trypanosomiasis in cattle
- Paul meets Jo. Jo is investigating Whipworm in mouse.
- Jo reuses one of Paul's workflow without change.
- Jo identifies the biological pathways involved in sex dependence in the mouse model, believed to be involved in the ability of mice to expel the parasite.
- Previously a manual two year study by Jo had failed to do this.

Logs

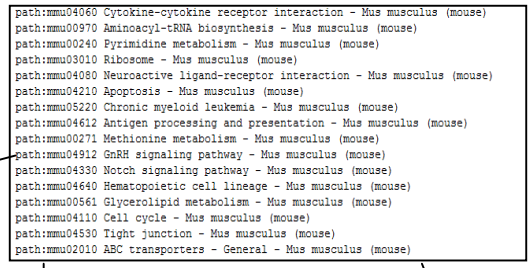
Results

Workflow 16

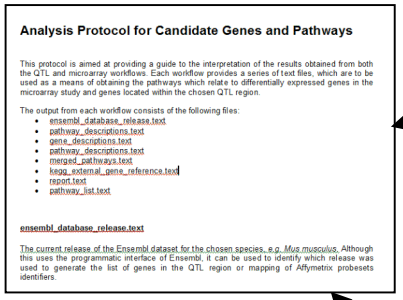


QTL

produces



Included in



Published in

Included in

Feeds into

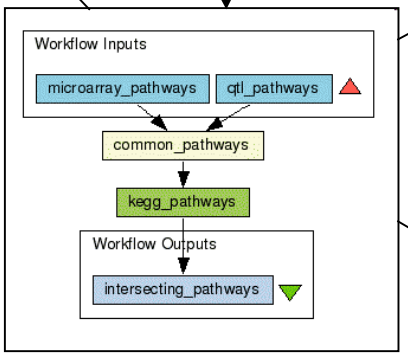
complete.ppt

produces

Included in

Included in

Metadata



Slides

Paper

Common pathways

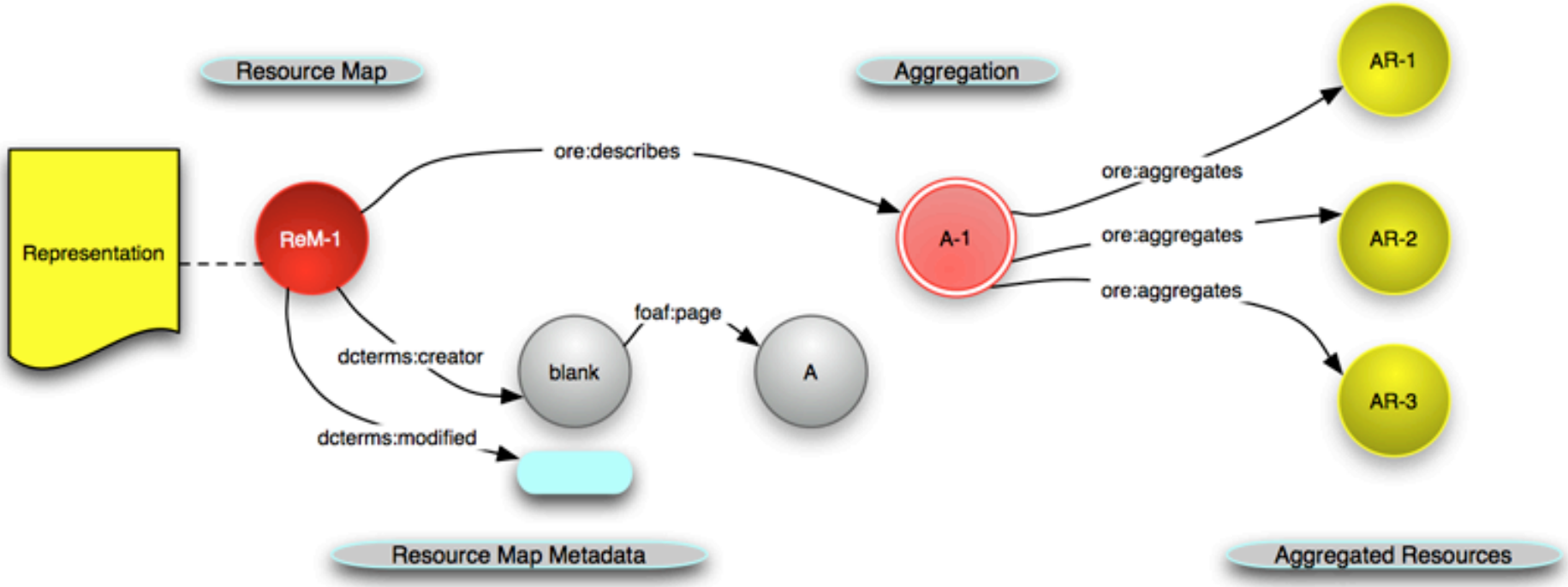
Workflow 13

Primer Name	Left Flank Nucleotide sequence	Right Flank Nucleotide sequence
DAXX_1274_1812	CAGGAGGAATGGCGAGTG	AGCTTAGTCCTTCCCAAGCC
DAXX_140754_456_1070	CTTGTAGGATTGGGACTGGG	TCTCCTCCTCTTCCTCCTCC
DAXX_2270_2720	TGGGCAGGAGAGATGGTTC	ATGGTTCAAGGGAAGGGAAA
DAXX_2644_3187	TGTGTGATTGGCTGGTTGTT	GCAAATACGAGGAGTCTGGG
DAXX_exon5	TCCTCCTCCTACCAATCAAA	AGCAGAACTAACACCACAAGG
Daxx_Upst_479_1104	CAGGCTTCCTCATCAACACC	TGTCTCTATGGCTGTGCAGG

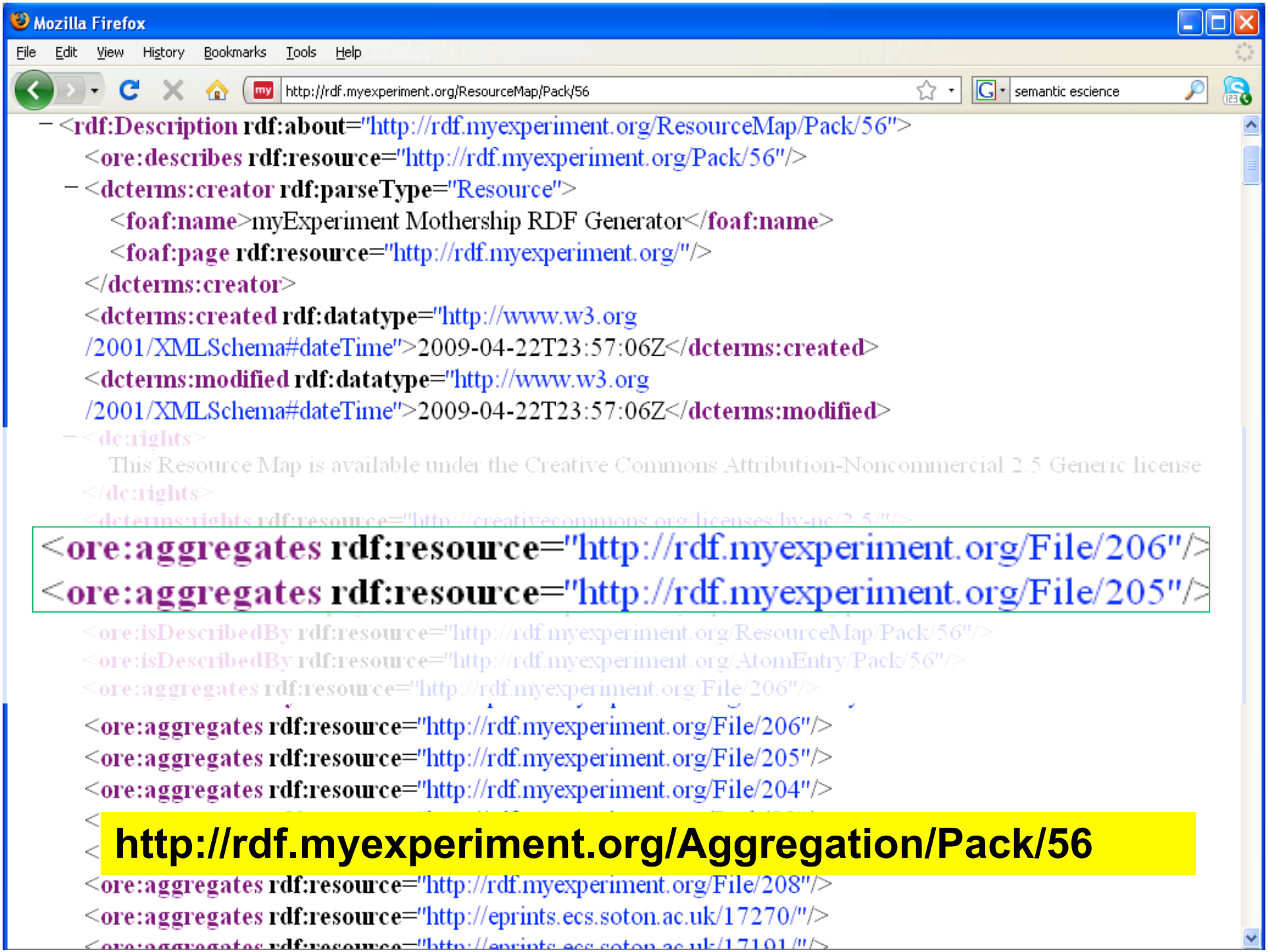
Published in

Results

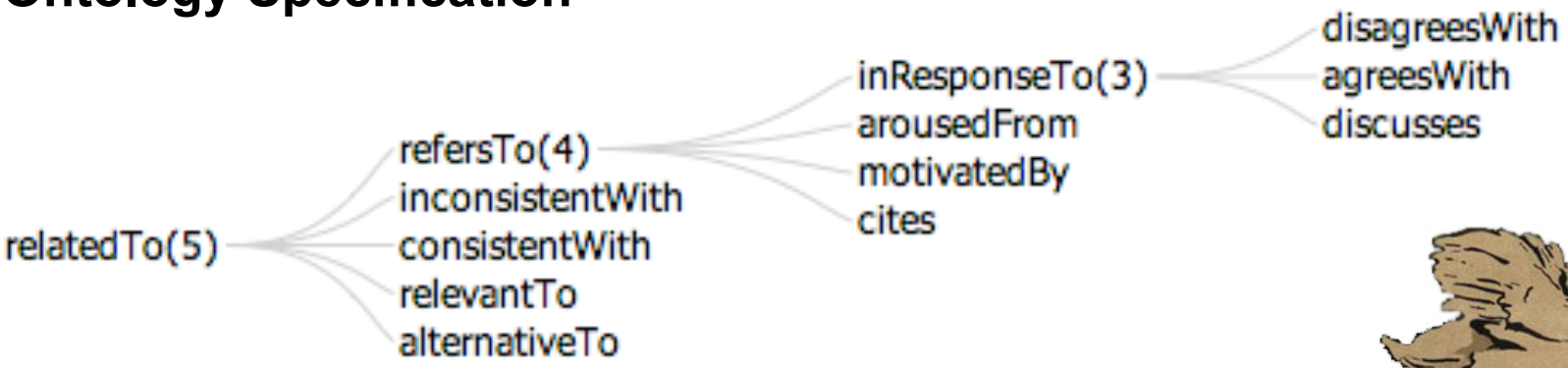
Exporting packs



Open Archives Initiative
Object Reuse and Exchange


Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://rdf.myexperiment.org/ResourceMap/Pack/56
semantic escience
<rdf:Description rdf:about="http://rdf.myexperiment.org/ResourceMap/Pack/56">
<ore:describes rdf:resource="http://rdf.myexperiment.org/Pack/56"/>
<dcterms:creator rdf:parseType="Resource">
<foaf:name>myExperiment Mothership RDF Generator</foaf:name>
<foaf:page rdf:resource="http://rdf.myexperiment.org/"/>
</dcterms:creator>
<dcterms:created rdf:datatype="http://www.w3.org
/2001/XMLSchema#dateTime">2009-04-22T23:57:06Z</dcterms:created>
<dcterms:modified rdf:datatype="http://www.w3.org
/2001/XMLSchema#dateTime">2009-04-22T23:57:06Z</dcterms:modified>
<dc:rights>
This Resource Map is available under the Creative Commons Attribution-Noncommercial 2.5 Generic license
</dc:rights>
<ore:aggregates rdf:resource="http://rdf.myexperiment.org/File/206"/>
<ore:aggregates rdf:resource="http://rdf.myexperiment.org/File/205"/>
<ore:isDescribedBy rdf:resource="http://rdf.myexperiment.org/ResourceMap/Pack/56"/>
<ore:isDescribedBy rdf:resource="http://rdf.myexperiment.org/AtomEntry/Pack/56"/>
<ore:aggregates rdf:resource="http://rdf.myexperiment.org/File/206"/>
<ore:aggregates rdf:resource="http://rdf.myexperiment.org/File/206"/>
<ore:aggregates rdf:resource="http://rdf.myexperiment.org/File/205"/>
<ore:aggregates rdf:resource="http://rdf.myexperiment.org/File/204"/>
http://rdf.myexperiment.org/Aggregation/Pack/56
<ore:aggregates rdf:resource="http://rdf.myexperiment.org/File/208"/>
<ore:aggregates rdf:resource="http://eprints.ecs.soton.ac.uk/17270/"/>

Scientific Discourse Relationships Ontology Specification

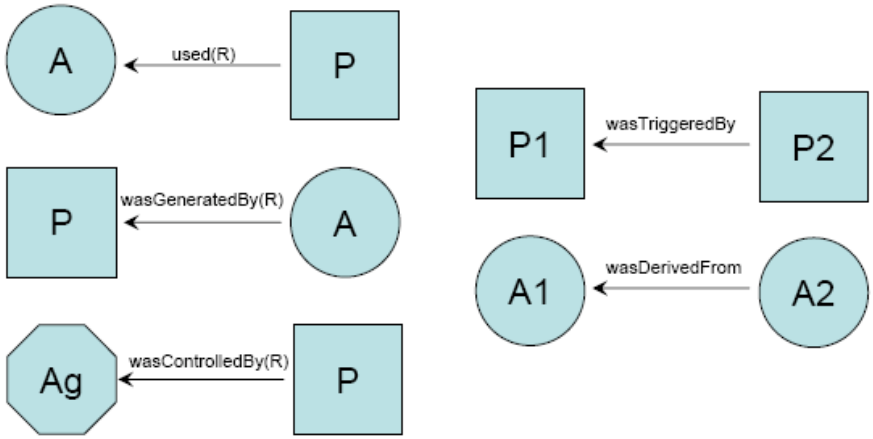


THE PROVENANCE OF ELECTRONIC DATA

It would include details of the processes that produced electronic data as far back as the beginning of time or at least the epoch of provenance awareness.

Provenance is well understood in the study of fine art where it refers to the documented history of some art object. Given that documented history, the object attains an authority that allows scholars to understand and appreciate its importance and context relative to other works. Art objects that lack a proven history may be viewed with skepticism by those who study them.

If the provenance of data produced by computer systems could be determined, then users would be able to understand how documents had been assembled, how simulation results were determined, and how financial analyses were carried out. Computer applications should thus



Open Provenance Model

Communications of the ACM 51, 4 (Apr. 2008), 52-58

Curation

Self by Service Providers

Experts

refine validate

seed

refine validate

seed

my experiment

BioCatalogue

refine validate

seed

seed

refine validate

Social by User Community

Automated

Summary

- Understand the next generation of researchers
- Understand the changing nature of research practice
- Papers will be replaced by discoverable and shareable Research Objects that are:
  - Repeatable
  - Replayable
  - Reproducible
  - Repurposeable
  - Robust

myexperiment

UNIVERSITY OF Southampton
School of Electronics and Computer Science

MANCHESTER 1824

Contact

David De Roure

dder@ecs.soton.ac.uk

Carole Goble

carole.goble@manchester.ac.uk

Visit **wiki.myexperiment.org**

myexperiment