Research Objects & Nanopublications

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Capturing Workflows

- Apologies!
- MyExperiment
- WorkFlow4Ever
- Research Objects
MyExperiment

- www.myexperiment.org
- Started at Universities of Manchester and Southampton (supported by JISC and Microsoft Technical Computing Initiative)
- Now supported by FP7 and EPSRC
- Over 7500 members, 300 groups, 2500 workflows, 600 files and 300 packs
- Oxford became partner when Prof. Dave De Roure joined OeRC
- Video! [http://www.youtube.com/embed/x83pzMMw7lk](http://www.youtube.com/embed/x83pzMMw7lk)
WorkFlow4Ever

- [http://www.wf4ever-project.org/](http://www.wf4ever-project.org/)
- EU FP7 project
  - Formalise the structure of ResearchObjects (derived from MyExperiment “packs”)
  - Identify and disseminate best practice on the creation of research objects
  - Analyse the decay of research objects
Research Objects

- www.researchobject.org
- “an aggregation of resources that bundles a workflow specification and additional auxiliary resources, including documents, input and output data, annotations, provenance traces of past executions of the workflow, etc.”
- Based on:
  - OAI-ORE Aggregation (http://www.openarchives.org/ore/)
  - Annotation Ontology, now merged with Open Annotation (http://www.w3.org/community/openannotation/) – PROV-O
  - Research Objects Ontology (http://wf4ever.github.io/ro-primer/)
  - Intrinsic manifest means they can be easily wrappered for transport/archiving but equally, can be easily represented on a simple filesystem
- Includes API’s, code and toolsets (http://www wf4ever-project.org wf4ever-reference-implementation)
- Versioning, validation and star-ratings for feature-richness
Another go!
Decay

- Why/how do workflows stored/archived in resources like MyExperiment decay?
- [http://users.ox.ac.uk/~oerco033/preprints/why-decay.pdf](http://users.ox.ac.uk/~oerco033/preprints/why-decay.pdf)
- Identifies general principles that apply to many complex preserved objects:
  - Dependency on 3rd party resources
    - Importation of data
    - Avoidance
    - Careful selection
Nano-publications

- Annotation mechanisms such as Open Annotation provide a highly granular method of making assertions.
- Increasingly, online resources include comments and other scholarly contributions which are too small individually to publish via normal routes – yet, in aggregation, amount to significant intellectual content:
  - Early Modern Letters Online (http://emlo.bodleian.ox.ac.uk) 60886 letters with 32339 comments.
- Nano-publications (http://www.nanopub.org) are a simple mechanism for the publication/citation of individual RDF assertions (or aggregations of assertions):
  - Development of the idea started in early 2009 by CWA (Concept Web Alliance) with a focus on e-science.
  - Easily derived from OA.
  - Easily expressible.
Questions...