

SKUA: practical semantics

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University of
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JISC

SKUA

addresses (at least) two problems

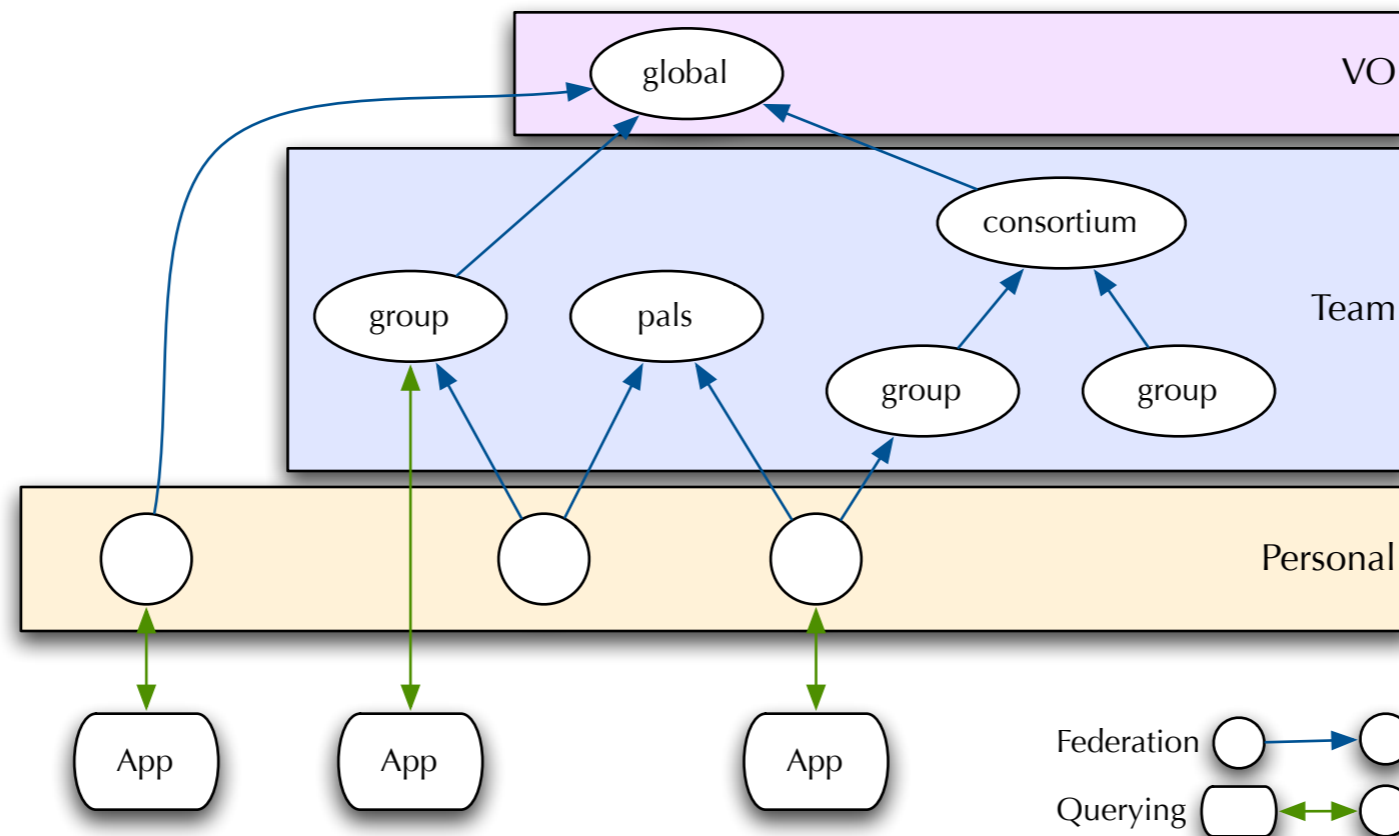
- SKUA provides easy shareable and persistent state
- SKUA provides easy access to semantics

- 'Semantic Knowledge Underpinning Astronomy'
- JISC funded, mid-2008 to July 2009
- Norman Gray (Leicester), Tony Linde (Leicester) and Kona Andrews (ROE)
- Originally in the penumbra of AG/VOtech – inspired by the problems

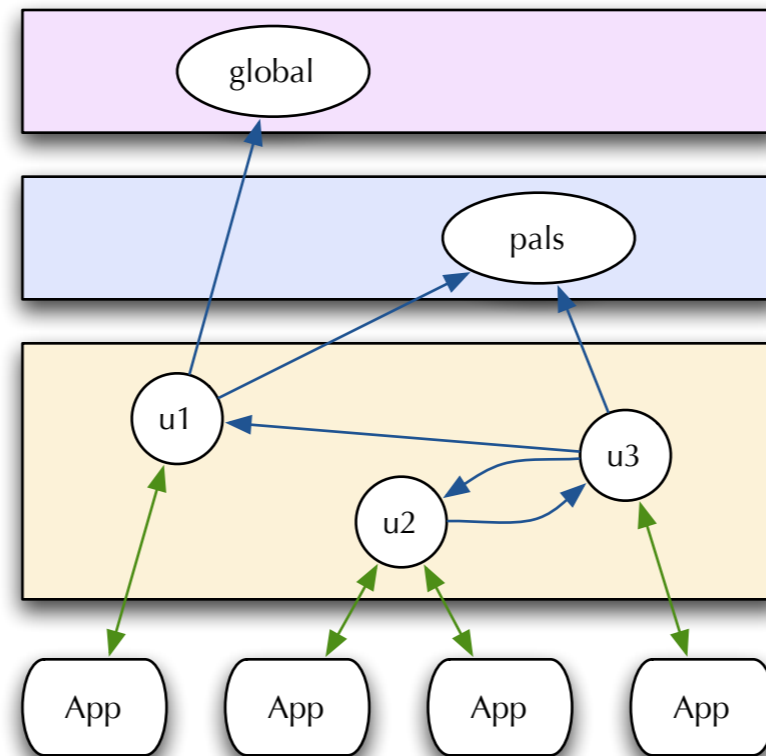


- an architecture for saving and sharing annotations concerning astronomical and other resources
- ‘Semantic Annotation Collections’, which can be updated and queried via a RESTful API
- SKUA’s target audience is application programmers
- lightweight semantic knowledge, but agnostic about what information is stored
- astronomical semantic del.icio.us

skua architecture



or peer-to-peer



...and built on that

- spacebook – an adaptation of myExperiment.org (with fairly natural integration with Taverna, including AstroGrid's Taverna, which handles astronomy workflows)
- suggestions server – 'give me more resources like this'

other applications

These are intended to illustrate and test the SKUA framework. The framework is intended to be useful to other applications, as a network-based, sharable 'memory' for an application, which provides some semantic goodness for free. For example:

- paperscope? – bookmarks for interesting papers
- VODesktop? – bookmarks for interesting resources, notes, tags, keywords and recommendations (demo!)
- CDS portal? – persistent user data

screenshot demo

VO Explorer - Cone search examples

Contents of Cone search examples - 5 resources

Flag...	Title	Capability	Valida...	Date	Tags
	2MASS All-Sky Extended Source Catalog			2008-04-07	
	IRAS Point Source Catalog, Version 2.0			2008-10-03	
	Third Reference Catalog of Bright Galaxies			2008-10-03	
	USNO-B1 Catalogue			2007-04-11	aakeys:Ep

Information Table Metadata

USNO-B1 Catalogue

Short Name USNO-B1 ID ivo://fs.usno/cat/usnob
 Type CatalogService Created 2005-03-29T20:18:15 Updated 2007-04-11T08:52:38

Content Type catalog Subject astrometric catalogue, optical astronomy, finding charts, photographic images Level secondary education, community college, university, research, amateur

USNO-B is an all-sky catalog that presents positions, proper motions, magnitudes in various optical passbands, and star/galaxy estimators for 1,042,618,261 objects derived from 3,643,201,733 separate observations. The data were obtained from scans of 7435 Schmidt plates taken for the various sky surveys during the last 50 years. USNO-B1.0 is believed to provide all-sky coverage, completeness down to V=21, 0.2" astrometric accuracy at J2000, 0.3 mag photometric accuracy in up to five colors, and 85% accuracy for distinguishing stars from nonstellar objects. A brief discussion of various issues is given here, but the actual data are available from the US Naval Observatory Web site and others. [Further Information...](#)

Annotations:

- Flag
- Highlight
- Alternative title:
- Notes: Important astrometric catalogue
- :Catalogs Catalogue

Actions: Query

About: Selection: CatalogService, Further Info, Email Curator

vodesktop annotations

- VODesktop already has an annotation interface, which saves to a local file
- ... and can now save to a SKUA node
- ... and read from your own and your friends' SKUA nodes

Annotate

Flag 

Highlight  

Alternative title

Notes

Important astrometric catalogue

aakeys:Epemerides :

query using vocabulary relations

SPARQL query:

```
prefix skua: <http://myskua.org/claimtypes/1.0#>
prefix aa: <http://www.ivoa.net/rdf/Vocabularies/AAkeys#>
prefix skos: <http://www.w3.org/2008/05/skos#>

SELECT ?uri ?kw
WHERE {
  ?claim skua:ref [ skua:uri ?uri ].
  ?claim skua:keyword ?kw.
  ?kw skos:broader aa:AstrometryAndCelestialMechanics.
}
```

Response:

```
% curl --data-binary @get-astrometry.rq \  
  -H content-type:application/sparql-query -H accept:text/csv \  
  http://localhost:8080/qsac/sac/desktop-sac  
uri,kw  
ivo://fs.usno/cat/usnob,http://www.ivoa.net/rdf/Vocabularies/AAkeys#Ephemerides  
%
```

status

- release 0.2, 2008 September 28; fortnightly iteration releases
- supports updating, persistence, querying & delegation; vocabulary-aware querying available but undocumented; easier sharing and per-user security coming soon
- core interface is RESTful, wrapped in a Java library for even easier integration
- developments driven by user-stories: <http://code.google.com/p/skua/wiki/UserStories>

practical semantic astronomy



University
of Glasgow

PRACTICAL SEMANTIC ASTRONOMY 2009

2-5 MARCH 2009

GLASGOW, UK



<http://www.dcs.gla.ac.uk/workshops/semast09/>

urls & downloads

- myskua.org is the public page
- the project is hosted at skua.googlecode.com: repository, wiki, bugtracking and downloads
- skua-discuss@googlegroups.com
- release 0.2 was made 2008 September 28; there are also (roughly) fortnightly iteration releases
- the 'installation notes' are still rather rudimentary – comments and suggestions are welcome

- | myskua.org
- | skua.googlecode.com
- | nxg.me.uk

