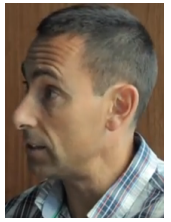
GENIUS WP300

Nigel Hambly
Institute for Astronomy
University of Edinburgh (UEDIN)

The team

- Nigel Hambly (UEDIN): technical coordinator
  - 4 SM, front-loaded from Q1 2014
- Stelios Voutsinas & Mike Read (UEDIN): interface designers/engineers/VO services
  - 37 SM, ramp-up from Q2 2014
- Enrique Solano (CSIC): VO standards
  - 6 SM, from QX 201X
- Jerome Berthier (CNRS): VO web services
  - 2 SM, from QX 201X
- Riccardo Smareglia (INAF-OATs): VO publishing
  - 18 SM, from QX 201X (asap)

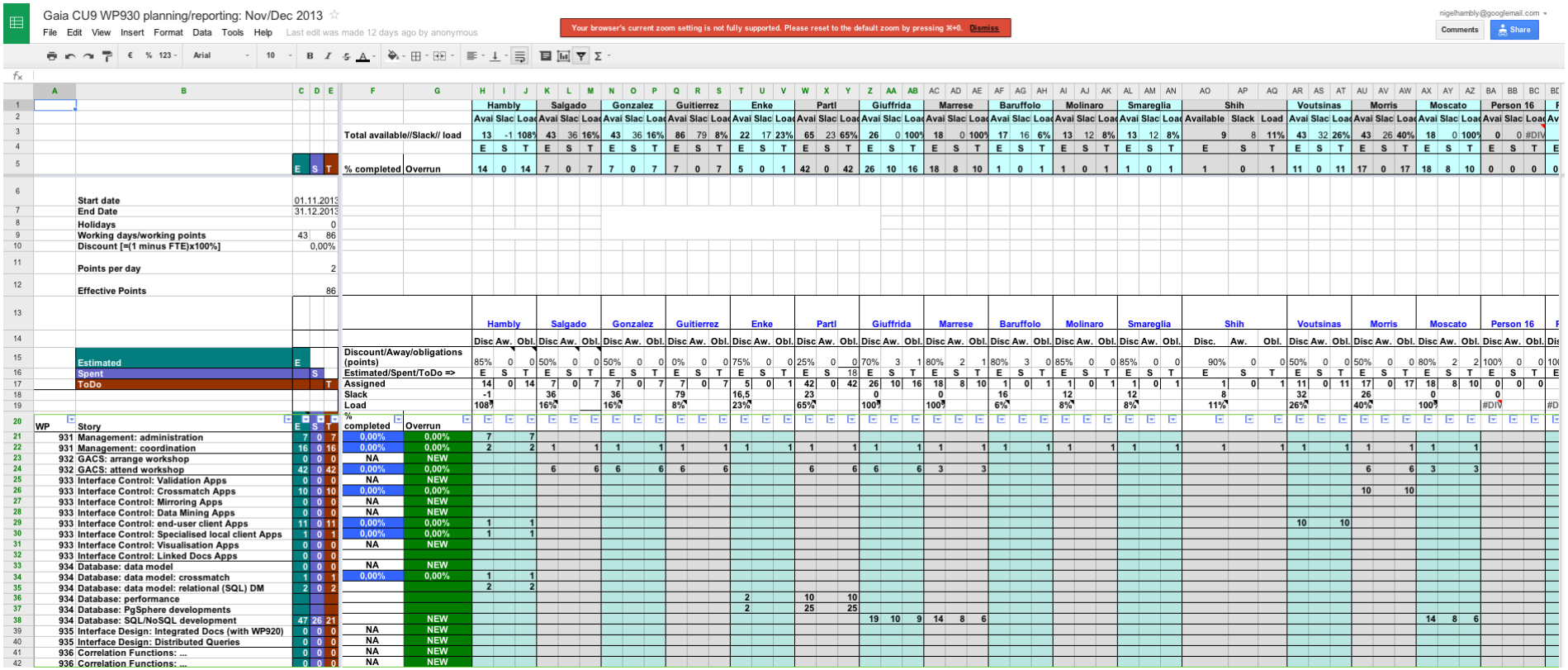


Organisational aspects

- UEDIN:
  - Administration through European Office within “ERI”
  - We have complementary funding though UK STFC for CU9 work at the ~0.5 FTE level from Q4 2013 for NCH and Dave Morris
  - NCH is the DPAC CU9 WP930 manager:
    - DPAC CU9 WP930 > GENIUS WP300
    - DPAC CU9 WP933 > GENIUS WP310
    - DPAC CU9 WP934 > GENIUS WP340
    - DPAC CU9 WP935 > GENIUS WPs 320, 330 & 350
- Other participants:
  - Also have resources from national funding agencies

How to keep all this under control…



https://docs.google.com/spreadsheet/ccc?key=0Au7Whcj5gyhOdFRIdzRQa2xVYmlBYWNKd1BYS2luSmc&usp=drive_web#gid=24

Aspects of archive system design

Nigel Hambly
Institute for Astronomy
University of Edinburgh (UEDIN)

Context

- ESAC Science Archive Team (SAT)
  - Will design and implement Gaia Archive Core System (GACS)
  - Are open to collaboration and contribution concerning archive components
  - Require clean interfaces between DPAC CU9 (incl. GENIUS) contributed components and GACS

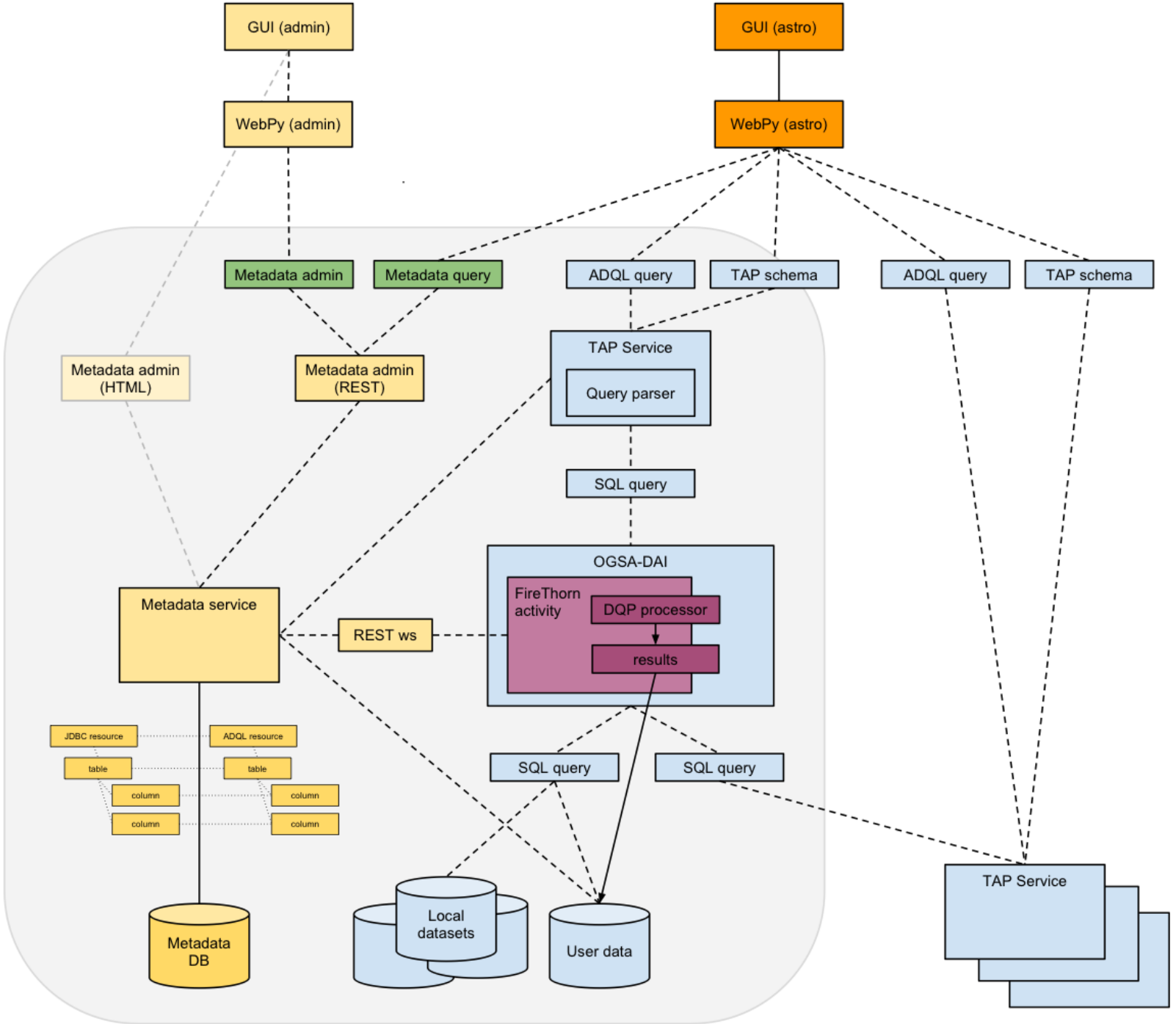
The Virtual Observatory

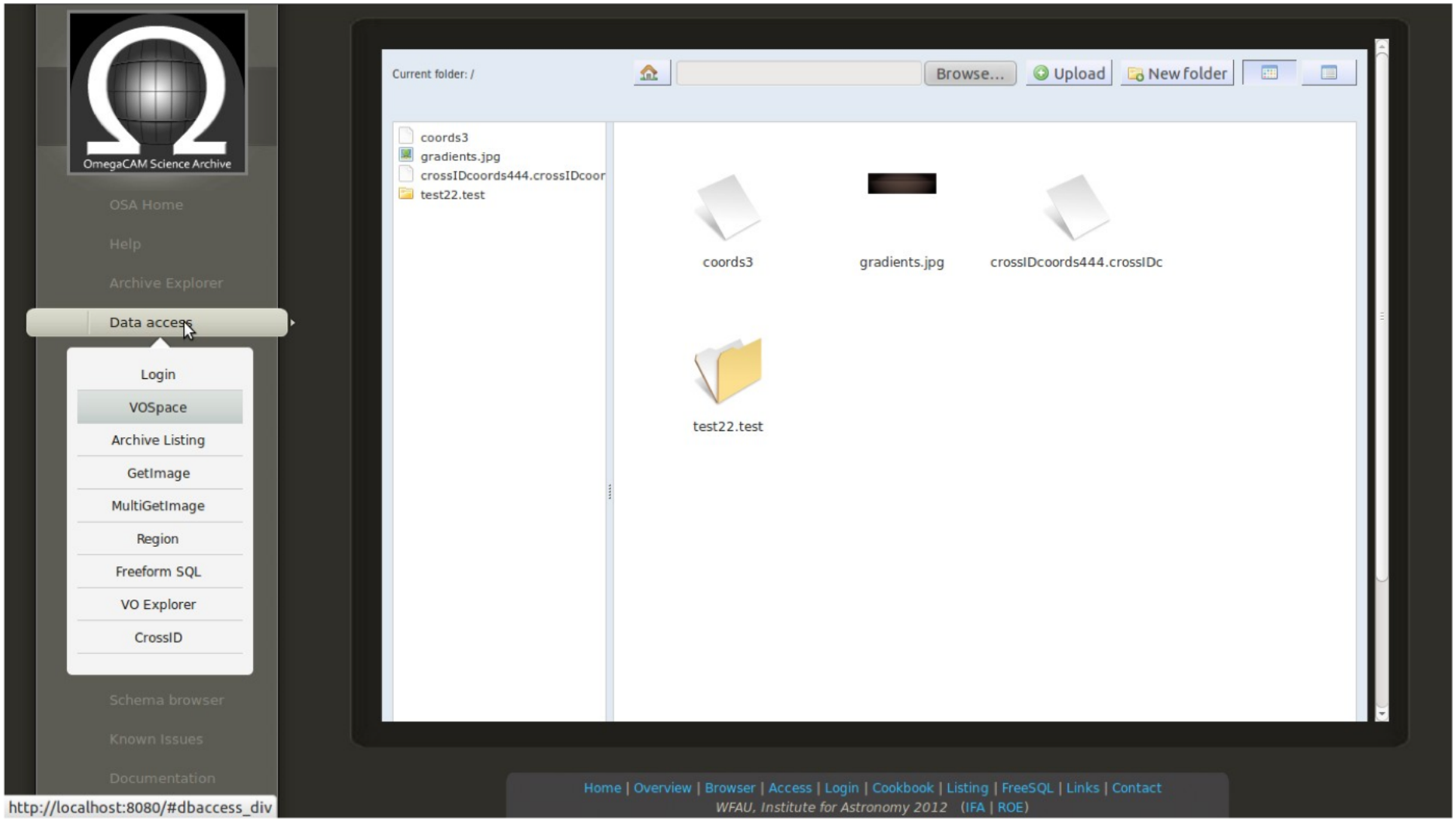
My (parochial) view:

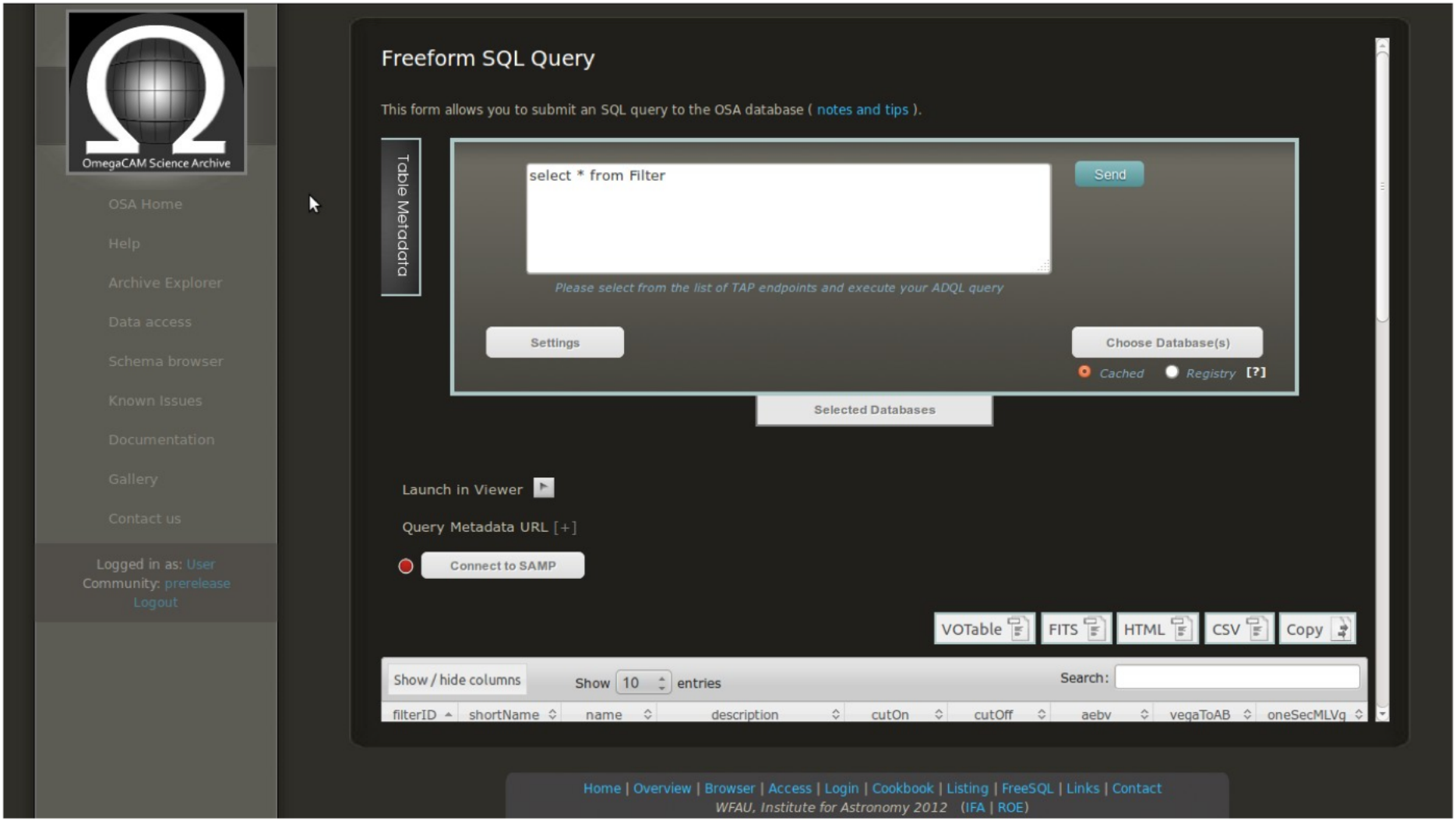
- VO is coming “of age”
  - Is now delivering on its promises
- and yet suffers from a certain amount of
  - Skepticism
  - Underfunding
- but all projects expect it to be available
  - “Data will be published via the VO.”
- It’s survival is now in the hands of data providers
  - Maintenance, deployment and development

Examples of work in progress:

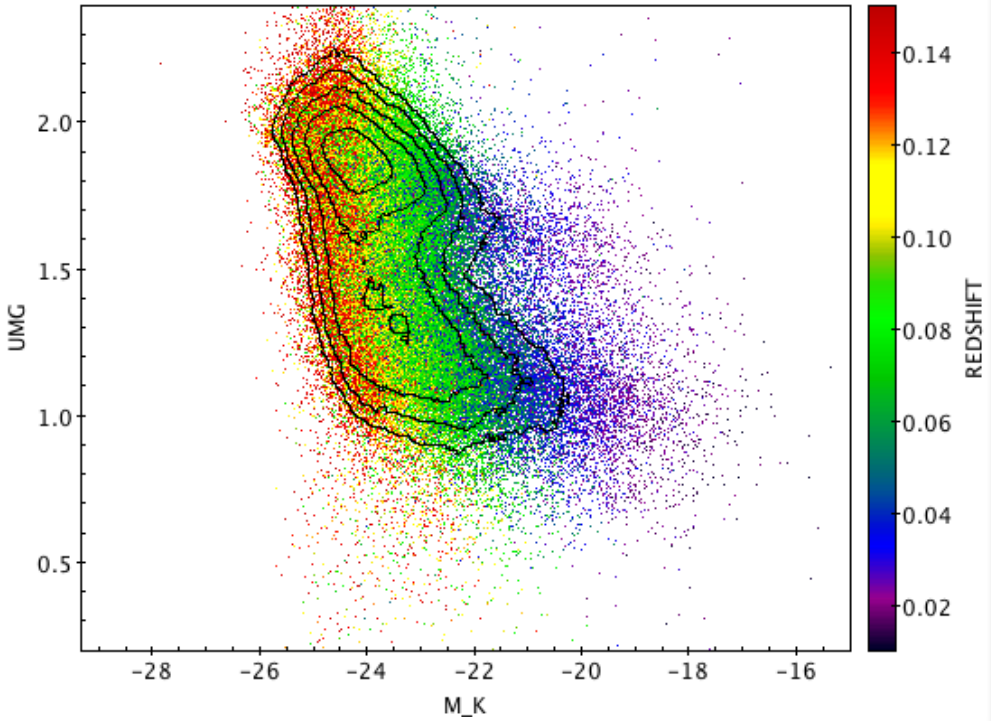
- VO tools
- “Web2.0” client-side interfaces that exploit VO infrastructural developments
- Infrastructural elements: TAPFactory
- Generalised catalogue cross-querying using TAP, Distributed Query Processing and OGSA-DAI


GUI (admin)
GUI (astro)
WebPy (admin)
WebPy (astro)
Metadata admin
Metadata query
ADQL query
TAP schema
ADQL query
TAP schema
Metadata admin (HTML)
Metadata admin (REST)
TAP Service
Query parser
SQL query
OGSA-DAI
FireThorn activity
DQP processor
results
Metadata service
REST ws
JDBC resource
ADQL resource
table
table
column
column
column
column
SQL query
SQL query
Metadata DB
Local datasets
User data
TAP Service


OmegaCAM Science Archive
OSA Home
Help
Archive Explorer
Data access
Login
VOSpace
Archive Listing
GetImage
MultiGetImage
Region
Freeform SQL
VO Explorer
CrossID
Schema browser
Known Issues
Documentation
http://localhost:8080/#dbaccess_div
Current folder: /
Browse...
Upload
New folder
coords3
gradients.jpg
crossIDcoords444.crossIDcoor
test22.test
coords3
gradients.jpg
crossIDcoords444.crossIDc
test22.test
Home | Overview | Browser | Access | Login | Cookbook | Listing | FreeSQL | Links | Contact
WFAU, Institute for Astronomy 2012 (IFA | ROE)


OmegaCAM Science Archive
OSA Home
Help
Archive Explorer
Data access
Schema browser
Known Issues
Documentation
Gallery
Contact us
Logged in as: User
Community: prerelease
Logout
Freeform SQL Query
This form allows you to submit an SQL query to the OSA database (notes and tips).
Table Metadata
select * from Filter
Send
Please select from the list of TAP endpoints and execute your ADQL query
Settings
Choose Database(s)
Cached
Registry
[?]
Selected Databases
Launch in Viewer
Query Metadata URL [+]
Connect to SAMP
VOTable
FITS
HTML
CSV
Copy
Show / hide columns
Show 10 entries
Search:
filterID
shortName
name
description
cutOn
cutOff
aebv
vegaToAB
oneSecMLVg
Home | Overview | Browser | Access | Login | Cookbook | Listing | FreeSQL | Links | Contact
WFAU, Institute for Astronomy 2012 (IFA | ROE)

WP934: e.g. crossmatch scale-up




```
SELECT ...
       (modelMag_u-extinction_u) -
        (modelMag_g-extinction_g)    AS umg,
/* Einstein-de Sitter cosmology distance modulus
   (note no K-correction, no evolution correction
    and no internal extinction):  */
       (kPetroMag-ak) - 25 - 5*(
        LOG10(2*2.998e5*(1+z.z-SQRT(1+z.z))/75)
       ) AS M_K
FROM   lasSource                AS s,
       lasSourceXDR7PhotoObj AS x,
       BestDR7..PhotoObj       AS p,
       BestDR7..SpecObj        AS z
WHERE
/* Join criteria:  */
       z.specObjID=p.specObjID    AND
       s.sourceID = x.masterObjID AND
       p.objID = x.slaveObjID     AND
       x.distanceMins IN (
       SELECT MIN(distanceMins)
       FROM   lasSourceXDR7PhotoObj
       WHERE  masterObjID = x.masterObjID AND
              distanceMins < 2.0/60.0
       ) AND ...
```

- IR-optical galaxy catalogue on-the-fly
  - 10^8 row, local solution needs scale-out over WAN for arbitrary catalogues for Gaia usage scenarios

DQP under the covers