

# Science Deliverables to end 2005

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# Summary:

Key Aim: engage ~50 astronomer users of the AG system by mid-late 2005

- Provide a number of 'common' (and easily accessible) capabilities through AG
  - The key 4 AG services: redshift maker, colour cutter, movie maker and astro-swift scope
  - Access to the AVO Jan 2005 demo functions
  - Focus on getting users to use Astrogrid for parts of their research, not all of their work
- Provide access to relevant data sets
- Provide adequate supporting documentation
- Provide a 'testbed' system with sufficient level of service

# Redshift Maker

- Based on the ExtraGalactic Dec 2004 AG demo
  - <http://wiki.astrogrid.org/bin/view/Astrogrid/AgDemoDec2004Extragalactic>
- Allow user access to WFS, WFCAM, own, image data
  - At a point (RA, Dec, Rad) return image files
  - Generate catalogues from these
  - Federate catalogues
  - Feed into redshift apps (hyperz, bpz) and return redshifts
- **(Potentially) data intensive service**
  - One WFS 5-colour pointing, 20 files > 320 MB

# Colour Cutter

- Based on the Galactic Dec 2004 AG demo
  - <http://wiki.astrogrid.org/bin/view/Astrogrid/AgDemoDec2004Galactic>
- User inputs (RA, Dec, Rad, colour cut) and relevant objects returned
  - Inputs are image data (defined as WFS, WFCAM)
    - Generate catalogues
  - Inputs are catalogues (from WFS, Vizier)
  - Colour selected object return
  - **Catalogue handling: database queries**

# Movie Maker

- Based on the Solar Dec 2004 AG demo
  - <http://wiki.astrogrid.org/bin/view/Astrogrid/AgDemoDec2004Solar>
- User inputs flare event or time range and is returned a movie of that flare
  - Input data: Trace, CDS, EIT
    - Thus choice of movie – EIT is full disk
  - Data and compute intensive

# Astro-Swift Scope

- Adds value to the NVO dDataScope
  - <http://heasarc.gsfc.nasa.gov/cgi-bin/vo/datascope/init.pl>
- User queries a RA, Dec, radius position
  - Return UK plus global resources
  - Option of return of resources to MySpace
    - Allows for access to data in workflows etc
  - **Data intensive service returns to MySpace**
  - Interface to NVO service

# AVO Demos 2005

- Build on Galaxies Demo Jan 2005
  - <http://www.euro-vo.org/twiki/bin/view/Avo/AvoDemo2005Gal>
- User compares observed SEDs with models
  - Pegase, GALXEV, Starbursts99
  - Input SEDs could be from the 'Redshift-maker' service
- **Compute intensive**
- Provide access to (AVO) helper apps
  - Aladin
  - Specview
  - VOSpec

# Documentation

- User documentation set
  - Per end-to-end science service
  - Per component (e.g. Workflow)
  - Worked examples
- For internal use
  - Benchmark tests: based on the 'worked' examples
- ... of course, sys admin level docs as well

# Testbed System

- Current system is POOR: running 20 files on zhumulumga with sextractor and return to myspace takes 2-3 hours!
- Each science service spec'd for 10-20 concurrent users
  - Expect 100+ users by end 2005
- Testbed should involve many AG sites
  - Compute resource
  - Storage resource
  - S/W components
    - Science apps are now a significant number
- Response of 'testbed' must be GOOD to the user
- **AG INVESTMENT REQUIRED URGENTLY**
  - Testbed h/w seeds the emerging AG Facility

# Timescales

- Significant usage required by Oct 2005
- Key steps on the way
  - Apr NAM 2005
  - Apr AG Sci/Tech workshop (soon to be advertised)
  - Jun ESO meeting
- Science services need to work SOON

# New/ Revised Features

- Client Workflow Builder
  - The portal based one is slow
- Client MySpace browser
  - Bulk operations, especially 'delete \*.txt' type operations
- Improved Registry browser
- Query Builder
  - One step query execution for simple queries

# Lets go do it ...

- ... and then look forward to 2006 onwards!