MAST/VAO Portal Development

Tom Donaldson
Tony Rogers
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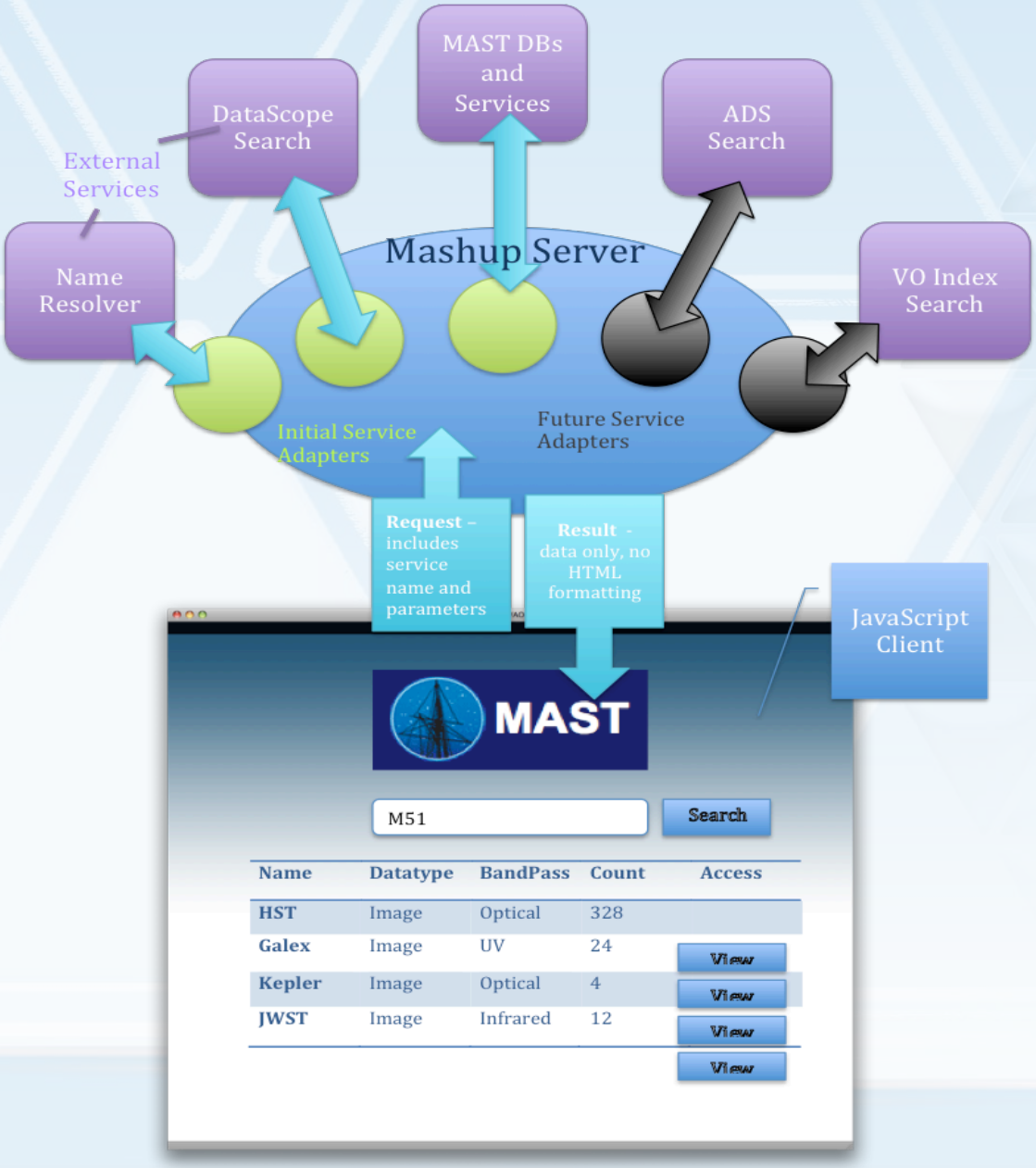
Project Goals

- Unify web access to MAST data and services
  - Data Discovery and Exploration
  - Visualization
  - Download and analysis
  - Mission-specific features
- Share infrastructure between MAST and VAO Portals
  - Efficient use of limited resources
  - Seamless access to VAO data and services
- Extensible and flexible architecture
  - Allow growth to Mobile, Desktop and Script access
  - Allow for the evolution of client and server technologies
  - Allow utilization of existing services

Architecture Overview



Architecture (Mashup Server)

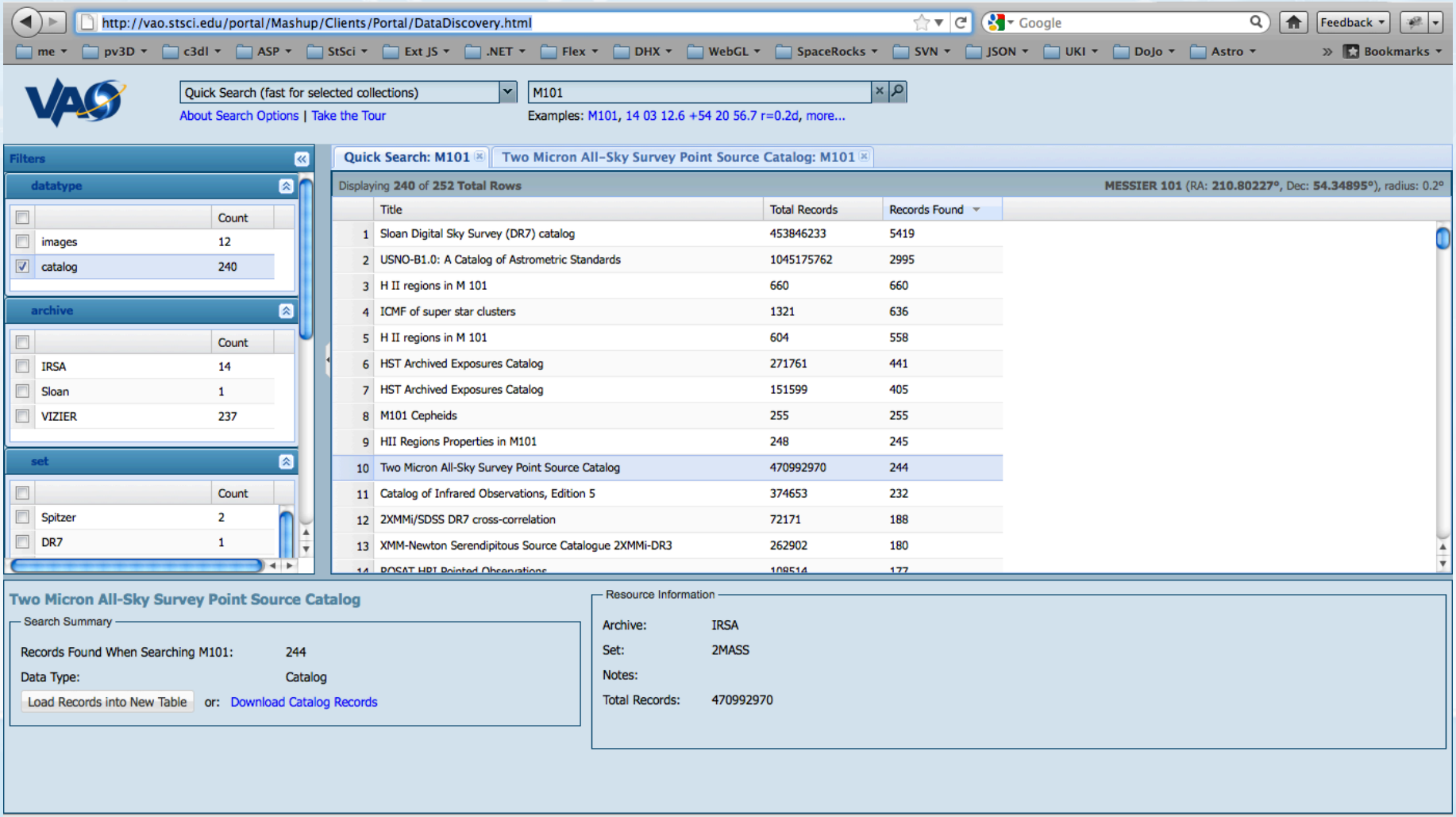
- Unifies access to variety of data resources
  - MAST databases

    HLA, GALEX, CAOM, HLSP
  - MAST and External VO services
    - Vo Inventory, DataScope, All Cone and SIAP services
  - Other web services
    - MAST Name Resolver
  - Uploaded Data Files
- All queries return only data, not html.
  - Clients decide how to use the data.
- Data available in multiple formats
  - JSON for client use.
  - Csv, xls and VO Table for user download
  - Formatted html, probably for printing
  - Soon: Server-side paging, sorting and filtering

Architecture (Web Client)

- Client GUI written entirely in JavaScript
  - Using Ext JS
  - Runs in all modern web browsers
  - No GUI components are generated by the server
    - GUI can be rearranged/rewritten without changing the server
- Results data stores can be local or proxied to server
- Results displayed in flexible data grids
  - Scrollable, even for thousands of data rows
  - Faceted filtering
  - Column manipulation
    - Sorting, hiding, reordering, resizing
  - Can include graphics such as image thumbnails
- Displayed results downloadable in multiple formats

Demo


http://vao.stsci.edu/portal/Mashup/Clients/Portal/DataDiscovery.html
Google
Feedback
me
pv3D
c3dl
ASP
StSci
Ext JS
.NET
Flex
DHX
WebGL
SpaceRocks
SVN
JSON
UKI
DoJo
Astro
Bookmarks
Quick Search (fast for selected collections)
M101
About Search Options | Take the Tour
Examples: M101, 14 03 12.6 +54 20 56.7 r=0.2d, more...
Filters
datatype
Count
images 12
catalog 240
archive
Count
IRSA 14
Sloan 1
VIZIER 237
set
Count
Spitzer 2
DR7 1
Quick Search: M101
Two Micron All-Sky Survey Point Source Catalog: M101
Displaying 240 of 252 Total Rows
MESSIER 101 (RA: 210.80227°, Dec: 54.34895°), radius: 0.2°
Title | Total Records | Records Found
1 Sloan Digital Sky Survey (DR7) catalog 453846233 5419
2 USNO-B1.0: A Catalog of Astrometric Standards 1045175762 2995
3 H II regions in M 101 660 660
4 ICMF of super star clusters 1321 636
5 H II regions in M 101 604 558
6 HST Archived Exposures Catalog 271761 441
7 HST Archived Exposures Catalog 151599 405
8 M101 Cepheids 255 255
9 HII Regions Properties in M101 248 245
10 Two Micron All-Sky Survey Point Source Catalog 470992970 244
11 Catalog of Infrared Observations, Edition 5 374653 232
12 2XMMi/SDSS DR7 cross-correlation 72171 188
13 XMM-Newton Serendipitous Source Catalogue 2XMMi-DR3 262902 180
Two Micron All-Sky Survey Point Source Catalog
Search Summary
Records Found When Searching M101: 244
Data Type: Catalog
Load Records into New Table or: Download Catalog Records
Resource Information
Archive: IRSA
Set: 2MASS
Notes:
Total Records: 470992970

Future Plans

- Searches based on observation metadata
- All-Sky image browser with overlay graphics
  - Observation footprints
  - Catalog objects
- Custom image cutouts
- Publication links and searches
- Server-side data storage and workspace
- Define conventions for intercomponent communication (SAMP inside the web page?)