An Archive in the VOSphere
Experimenting with VOVIEW and SAMP

Data Providers mind User Experience

A.Micol/ESO, 2011-10-20, Pune
VOVIEW

ESO Archive: still using the WDB (1994) query engine which allows html, ascii, and (2006) votable output

How to improve user experience on result page?

VOVIEW greatly improves the user experience:

• Client-side moving, hiding, selecting, sorting columns
• Client-side pagination
• Client-side filtering (via XSLT)

VOVIEW: proved very easy to integrate with WDB
VOVIEW (2)

• Typical VOVIEW criticisms:
  – Entire votable downloaded first
  – Not good to support millions of records
  – Better to paginate on the server side

• Answers:
  – Browsing archival data (not catalogs) is a different thing.
  – Nobody wants to browse/visualise/sort/etc. 100,000+ product records (no scientific analysis involved)
  – Browsing up to ~10-20,000 records seems reasonable
  – Archive requirement is to handle max 50,000 records
  – VOVIEW handles up to 50/100,000 records very efficiently
SAMP

• Extremely easy to plug in and use
  – once you have the VOTable required by voview

• Astronomers benefit interoperability:
  – Improved visualisation, interactivity
    • E.g., display of footprints onto all-sky surveys (Aladin), overlay other catalogs, etc.
  – Selection of data products in VO apps (TOPCAT, Aladin, VOPlot, etc) result into records marked for data retrieval in the VOVIEW web browser.
A nice archive paradigm

• Clear and clean separation on what the archive developers should do, and what they shouldn't

• **Archive focuses on providing** the necessary metadata in the usual way (browsers)
  – Votable: observation metadata, preview images, footprints

• **High level functionalities are left to SAMP-aware tools**
  – Table manipulation (voview), visualisation, overlay, inspection, cross-matching, etc. (topcat, aladin, voplot, etc).

• **Astronomers can choose** the tools they like the most

• **Improved user experience**
A little experiment

I used:
• JSAMP (M.Taylor) with web profile activated
• Some javascript (T.Boch) for SAMP callback functions
• VOVIEVE (D.Hinshaw)
• VOVIEVE installation, smart hints, help, discussions (F.Stoehr)
• JQuery to visualise/mark for retrieval records in VOVIEVE
• In no time, I was up and running (thanks to all).
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Sub-optimal user experience

- Astronomers have to launch JSAMP
  - Should I use WebSampConnector instead?
- Same UI action in different apps results into different SAMP messages:
  - confusing to astronomers
  - complex for archive developers

<table>
<thead>
<tr>
<th>User action</th>
<th>TOPCAT</th>
<th>ALADIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse hovering</td>
<td>None</td>
<td>Table.highlight.row</td>
</tr>
<tr>
<td>Click</td>
<td>Table.highlight.row</td>
<td>Table.select.rowList</td>
</tr>
<tr>
<td>Drag-a-box, create-a-subset</td>
<td>Table.select.rowList</td>
<td>Table.select.rowList</td>
</tr>
</tbody>
</table>
Conclusions

VOVIEW
• There is definitely room for VOVIEW in the VO world
• Easy to integrate with custom archive solutions
• Improved archive user experience
• Suggestion: integration with SAMP would be quite useful
• Plea: please do not drop VOVIEW development!

SAMP
It would seem useful if:
• All VO apps by default activate a web-profile hub
• Same UI actions in different apps send same messages