Applications Working Group – Closing Remarks

Virtual IVOA Interoperability Meeting, April 2022
Tom Donaldson and Adrian Damian (chairs)

1 session

1 hackathon

1 splinter discussion

Thanks to the presenters for very interesting content and to everyone for participating!

See the program page for notes, slides and recordings.

Apps Session

Getting COOSYS ready for 2025 – Markus Demleitner

- Recognizes the increasing importance of communicating proper motion with positions
- Fallback approach if VODML annotations not successful in timely manner
- Discussion about where best to invest effort and not wanting to end up with multiple specs

MOC lib Rust and its derivatives– François-Xavier Pineau

- Rust implementation supporting MOCs is feature-rich and highly performant
- Python, JavaScript and CLI can all utilize those features and performance!

Supporting Prototype Implementations in PyVO– Omar Laurino

- Decorators directly address the question of how to keep non-standard implementation distinct
  - Users opt in to uses non-standard features.
- Well-received. Likely be merged and released soon.

Splinter Meeting on JSON

Well-attended session in gathertown earlier today

Frossie outlined the case for JSON and updating our tech in general

Discussion outlined advantages to both standing pat and moving forward.

- At some level, keeping up with (or not getting too far behind) current tech is inevitable.
- But how to preserve interoperability and limit upgrade costs while that happens?

Ongoing discussion

- Links to notes and slides on the Applications program page
- Interesting threads on Slack today (#mtg-virtual-2022 and #applications)
- Future: Slack, mail lists, Interop
  - ***Obviously a multigroup effort involving at least Apps, DAL, GWS***

Hackathon

~2.5 hour block of sessions on Wednesday

General Impressions

- The informal collaboration was useful and kind of fun
- Gathertown worked well
  - Thanks to Escape/ObAs for providing it and Hendrik Heinl for setting it up
  - Handled the small to medium sized discussions
  - Ability to easily switch among shared screens was very helpful
- Duration was a little short to really spin up on a project
- Would be interesting to try another, incorporating feedback from this one

Hack summaries…

How to get a DatalinkResults instance for a local Datalink Table

```
from astropy.io import votable
import pyvo


dl = pyvo.dal.adhoc.DatalinkResults(votable.parse("zw.xml"))
print(list(dl.bysemantics("#this")))
```

```
# Sample data from:
curl -o zw.xml "http://dc.zah.uni-heidelberg.de/gaia/q2/tsdl/dlmeta?ID=199286482883072"
```

Participants: Alberto Micol (question), Markus Demleitner (answer),…

Define pyvo API for accessing VODML information in DAL results

Overview of the existing code

- dove deep in the code presented by LM in DM2
- turned out that it could provide many components for a future PyVO implementation
- some issues with the automatic detection of quantities e.g. how to make sure I got the desired one

Discussions

- Check the AstroPy classes that could be issued from the mapping readout
- Candidates:
  - For sure: AstroCoord, Time
  - Candidate: Fluxes Magnitude
  - to be investigated

Spectral Quantity

- How specialising Quantity (Generic measure), should we have to do it?
- Refine the one2one mapping with Meas/Coord

Home work and roadmap

- Taking some real cases of VOTable processing
- Figure out (with pseudo code) how to do the same with a mapping based stuff
- This exercise should outcome a relevant mapping-based API specification
- Next steps
  - Finding script samples
  - Collaborate on the API definition

Participants: Laurent Michel, et al.

Collecting notebooks using PyVO/astroquery

A very productive discussion between the PyVO maintainers and notebook/downstream library authors.

We converged towards the following approach:

- It's not realistic monitoring the downstream software. For PyVO we will instead focus on increasing coverage and having a more robust CI to detect regression errors first (PRs as part of this hack-a-thon)
- We will document in the PyVO documentation for the downstream users how to test against our dev version.
- Suggestion for notebook authors to have them registered in VO like other resources.

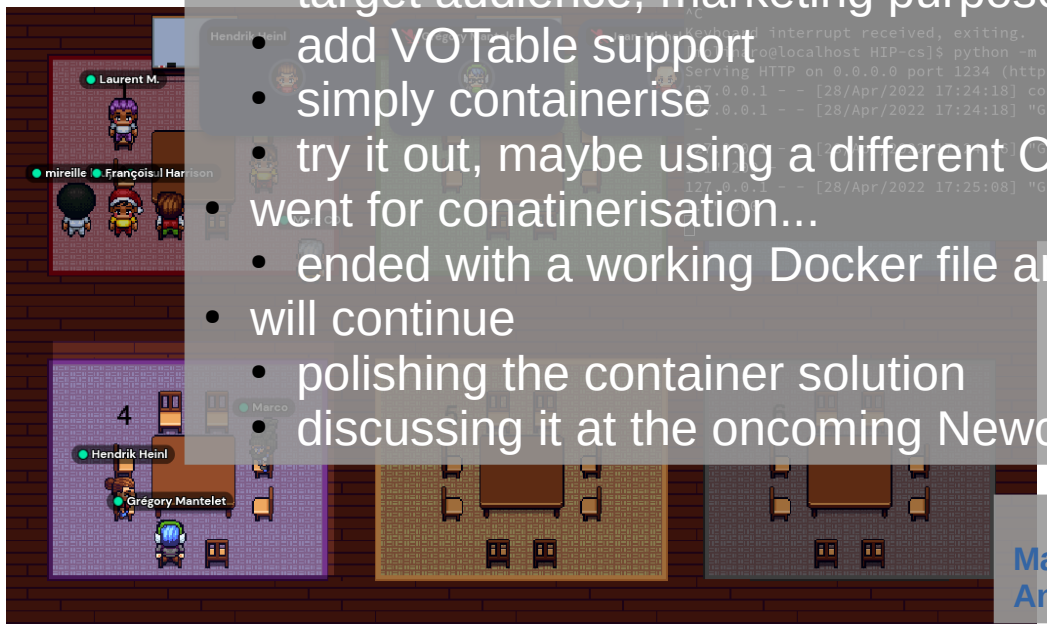
Participants: Brigitta Sipőcz, et al.

Simple Cone Search server bundle

Implement a small package to provide a ConeSearch service.
To be re-used by newcomers, to test initial steps of curation and deployment.

Starting out of SCSC: Simple Cone Search Creator (T. Boch, python).
Ported by H. Heinl and T. Boch to python 3 before the hack-a-thon.

- discussed goals & ideas
  - target audience, marketing purpose
  - add VOTable support
  - simply containerise
  - try it out, maybe using a different CSV table
- went for conatinerisation...
  - ended with a working Docker file and a better knowledge of tool configuration
- will continue
  - polishing the container solution
  - discussing it at the oncoming Newcomers Feedback meeting



Participants

Marco Molinaro, Grégory Mantelet, Hendrik Heinl, Jean-Charles Meunier, Anne Raugh, Theresa Dower, Markus Demleitner, Renaud Savalle, ...

Many Ways to Participate in Apps Working Group

Share application news, ideas, problems

- E-mail: apps@ivoa.net (subscribe here)
- Slack channels:
  - IVOA#applications (subscribe here)
  - astropy#pyvo (subscribe here)

Open development: File issues, comment, submit pull requests

- VOTable standard
- PyVO

Thanks and goodbye!

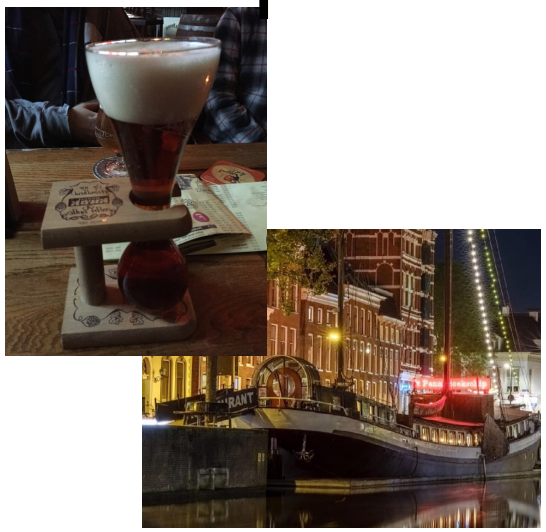
Thanks to everyone for the productive and fun meetings.

Special thanks to vice-chairs Raffaele D'Abrusco and Adrian Damian!

College Park

Paris

Groningen



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