Status update on interoperability of VO and GIS

M. Minin (1), A. P. Rossi (1), C. Marmo (2)

(1) Jacobs University Bremen, Germany
(2) GEOPS, Université Paris-Sud, France
We have:

- Created tools to facilitate table creation and data import on DaCHS:
  - epn-tap-2.0 mixin, created in collaboration with Baptiste Cecconi and Markus Demleitner: [https://github.com/epn-vespa/DaCHS-for-VESPA](https://github.com/epn-vespa/DaCHS-for-VESPA)
  - q.rd creator wizard (to be included on [http://docs.g-vo.org/DaCHS/](http://docs.g-vo.org/DaCHS/) in the future), currently available at: [http://epn1.epn-vespa.jacobs-university.de:8080/qrdcreator/](http://epn1.epn-vespa.jacobs-university.de:8080/qrdcreator/)
- Set up DaCHS server at [http://epn1.epn-vespa.jacobs-university.de](http://epn1.epn-vespa.jacobs-university.de)
  - IVOA registered (can be found with TOPCAT)
- Loaded data tables
  - mars_craters; usgs_wms; crism
- Created QGIS Plugins
  - Recieve VO tables via SAMP and create polygons from s_region
  - Plot granule image preview on QGIS canvas
  - Send polygons to Aladin
q.rd creator wizard
Data tables on our server:

- **mars_craters**
  - List from Mars Crater Catalog by Stuart Robbins
    http://dx.doi.org/10.1016/j.icarus.2013.03.019

- **usgs_wms**
  - List of Astrogeology maps obtained from
    https://astrogeology.usgs.gov

- **crism**
  - CRISM coverages available through PlanetServer
    http://access.planetserver.eu/
Preview for granules in `usgs_wms` data table
CRISM data access

Lightweight, javascript-based subgranule access to CRISM

Sending CRISM spectra to CASSIS via SAMP
QGIS Plugins

- **Plugin “VESPA”**
  Recieve VO tables via SAMP and create polygons from s_region

- **Plugin “GAVOLimage”**
  Plot granule image preview on QGIS canvas

- **Plugin “polyToAladin”**
  Sending polygons to Aladin
  - Ongoing collaboration with Aladin development team
  - JavaScript interface was made for testing purposes
    http://epn1.epn-vespa.jacobs-university.de:8080/webPoly
Sending polygons to QGIS and displaying previews for CRISM.
Sending polygons from QGIS to Aladin
Challenges and Future

- Displaying HiPS in QGIS
- Providing more data on our server
- Updating q.rd creator.
- Integrating new updates with epntap2 mixin on GAVO DaCHS debug repository.
- Introducing Simple Image Access protocol support into QGIS.
References

- http://docs.g-vo.org/DaCHS/ref.html#mixins