API Interoperability Efforts

Kelly Lockhart and the ADS Team

ADS Users Group Meeting, 15-16 Nov. 2021

API User Focus Group

- Discussion with heavy API users in winter 2021
- Wish list:
  - Better integration of API with UI
  - More and better documentation, including for concatenated actions
  - If creating a new API client/library, desire to not duplicate efforts (with e.g. the Python ADS library, astroquery, etc.)

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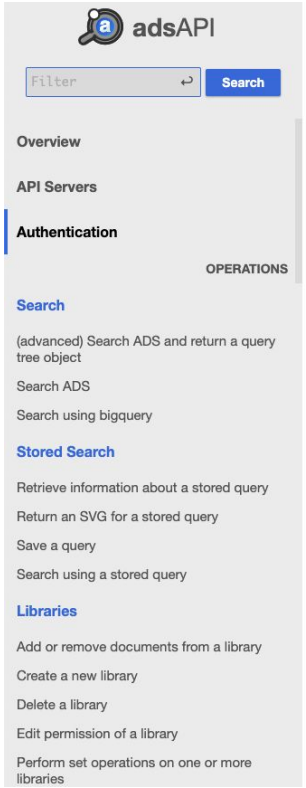
Documenting our entire API with OpenAPI

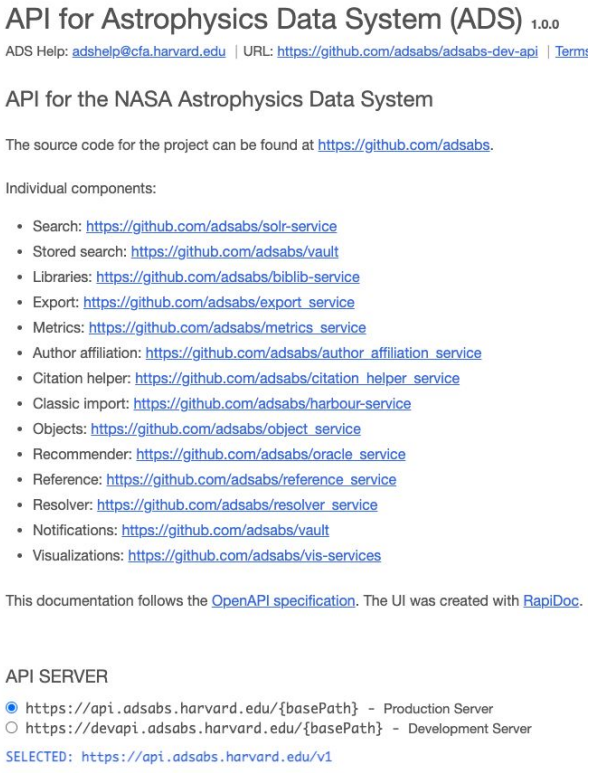
- OpenAPI: Language-agnostic, widely adopted industry standard for documenting APIs in a machine-readable (YAML or JSON) way
- Documented all of our API endpoints (70+ user-facing and 80+ with pipeline and internal scopes)

```yaml
openapi: 3.0.3
info:
  title: Full API for Astrophysics Data System (ADS)
  description: >
    Internal + user-facing API endpoints
  termsOfService: https://ui.adsabs.harvard.edu/help/terms/
  contact:
    name: ADS Help
    url: https://github.com/adsabs/adsabs-dev-api
    email: adshelp@cfa.harvard.edu
  version: 1.0.0
servers:
  - url: https://api.adsabs.harvard.edu/{basePath}
    description: Production Server
    variables:
      basePath:
        default: v1
        enum:
          - v1
  - url: https://devapi.adsabs.harvard.edu/{basePath}
    description: Development Server
    variables:
      basePath:
        default: v1
        enum:
          - v1
tags:
  - name: adsws
  - name: author affiliation
  - name: libraries
  - name: citation helper
  - name: export (tagged formats)
```

OpenAPI-Powered Documentation

- Used our OpenAPI spec with a documentation generation tool, RapiDoc, to create new, complete API documentation
- New documentation example





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Example Jupyter notebooks

- Two new notebooks specifically for concatenated actions
  - Searching + adding to/maintaining a library
  - Searching + exporting
- On the horizon: searching + metrics notebook

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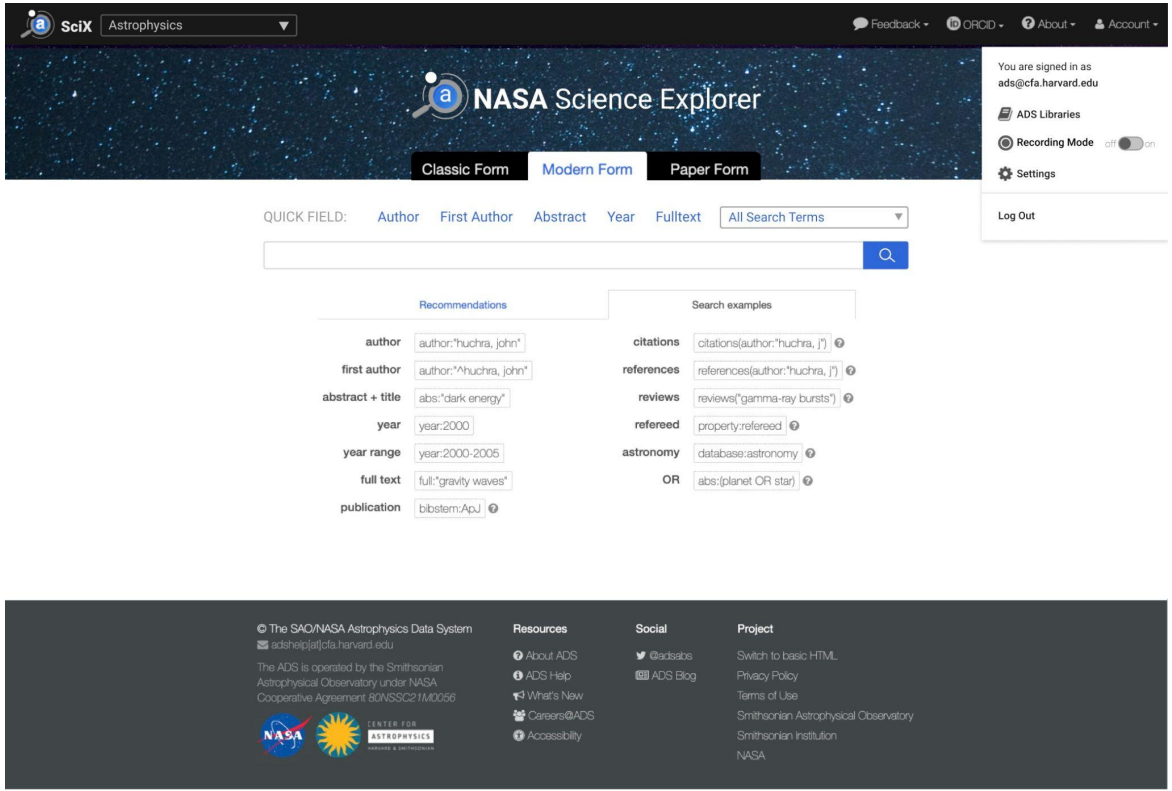
Future: Recording Mode



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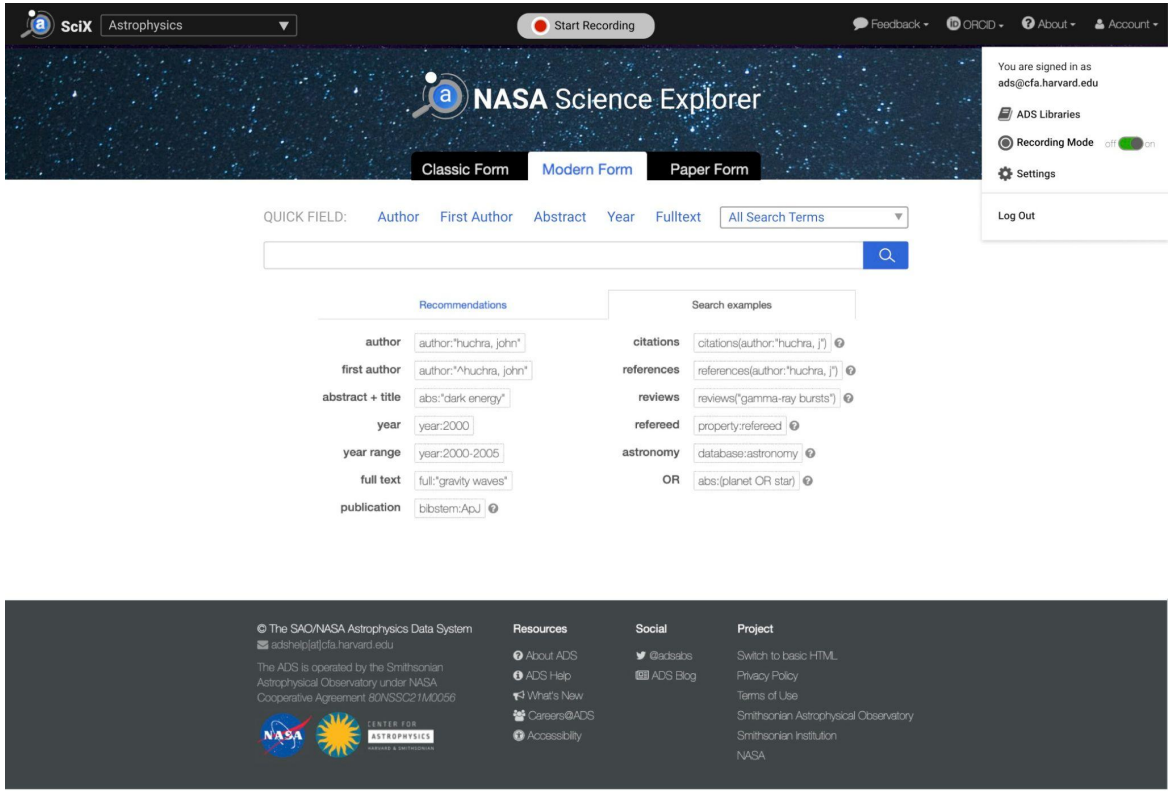

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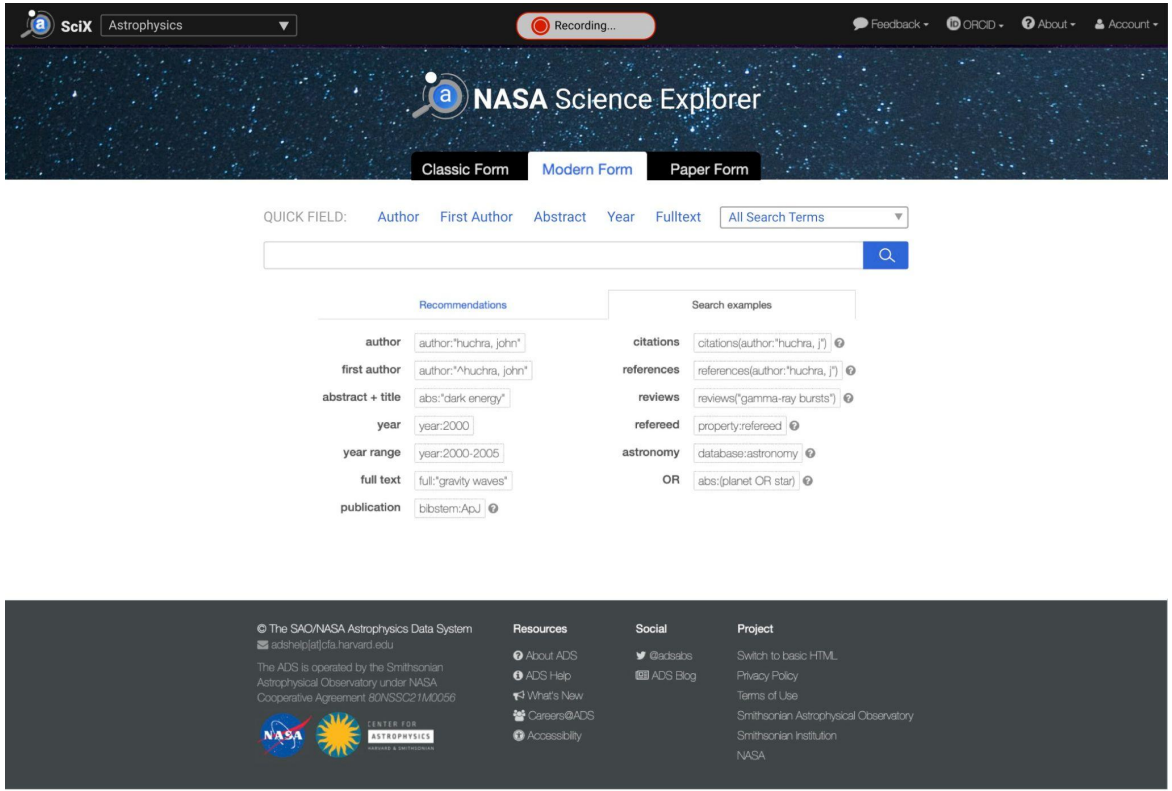

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