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Wayne State University's Digital Collections Infrastructure

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Wayne State University's Digital Collections Infrastructure

Digital Preservation 2014, DC

Graham Hukill, Wayne State University

**First things first,
the elephant in
the room...**



**DOST THOU REINVENT
THY
WHEEL!?**

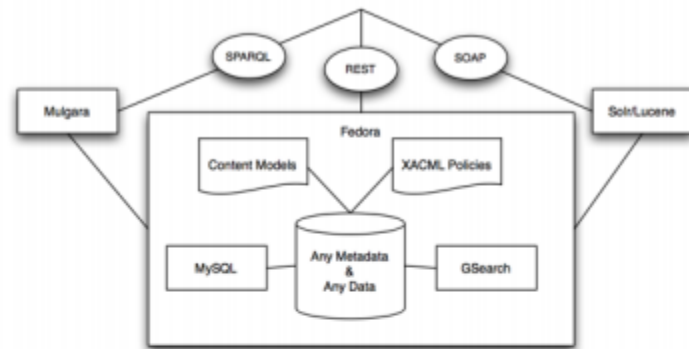
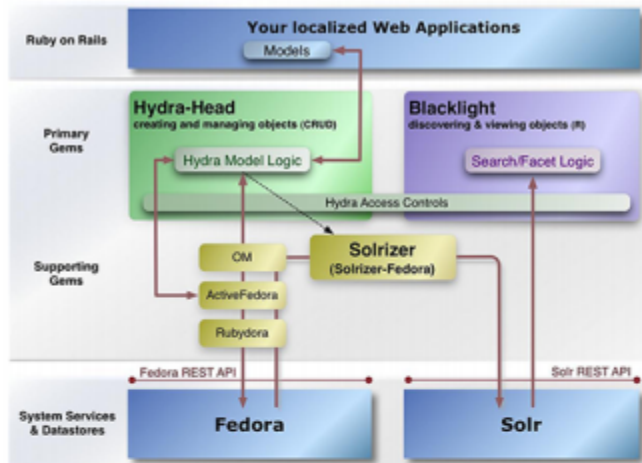




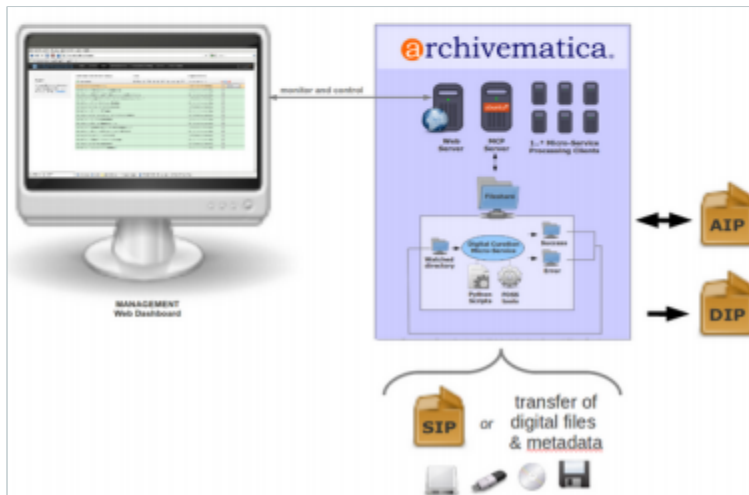
We didn't know
Ruby.

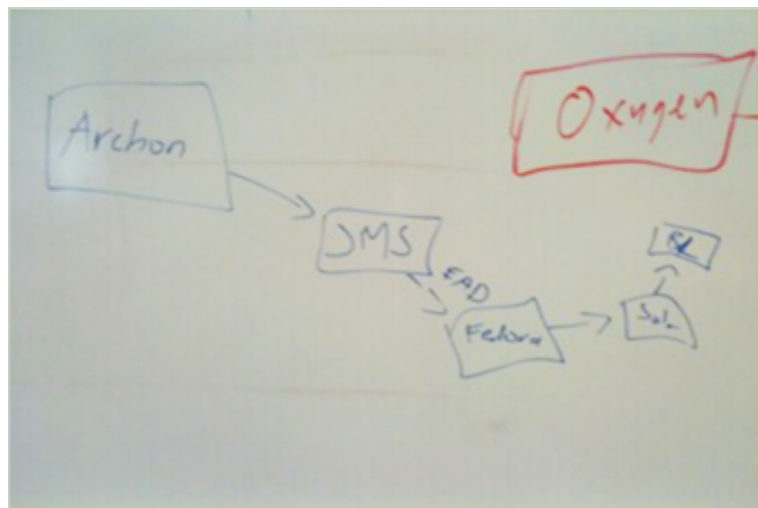
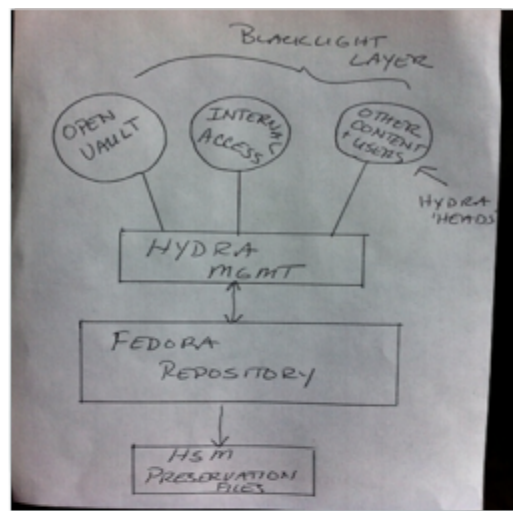
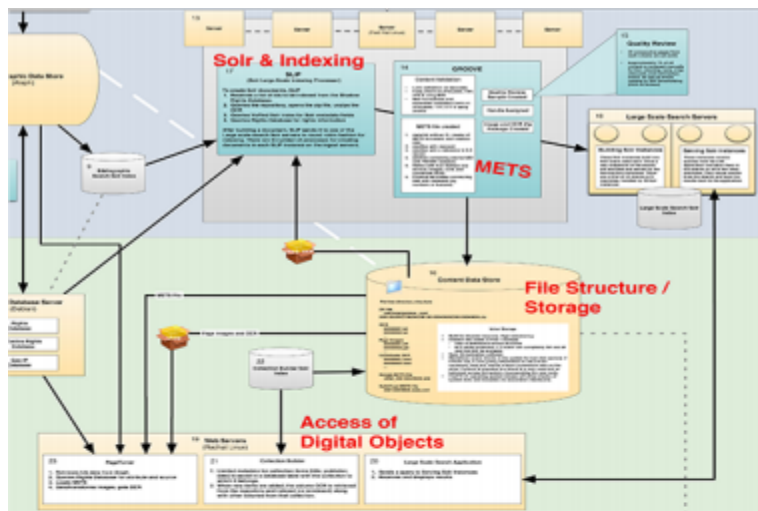


We didn't want
to use Drupal.



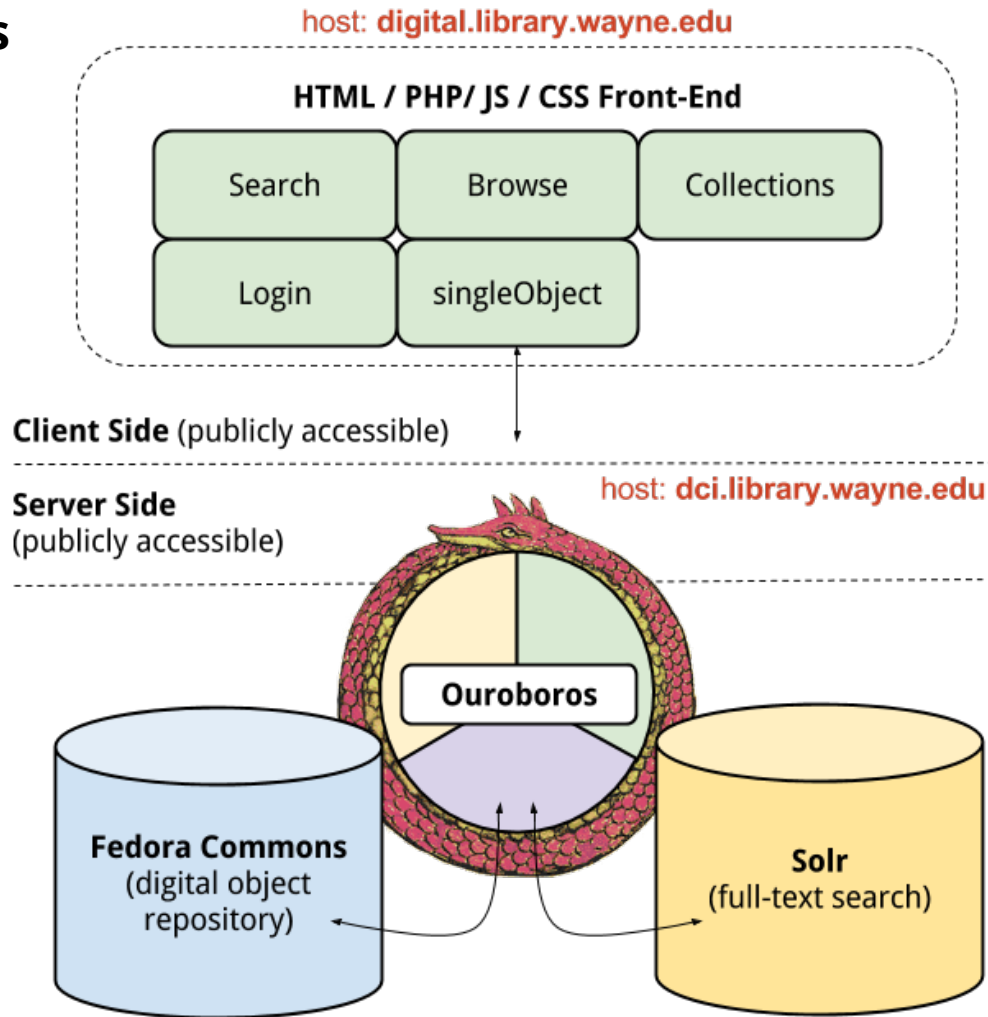
“No one expects the Spanish Inquisition!”



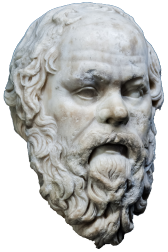




Digital Collections Infrastructure Overview

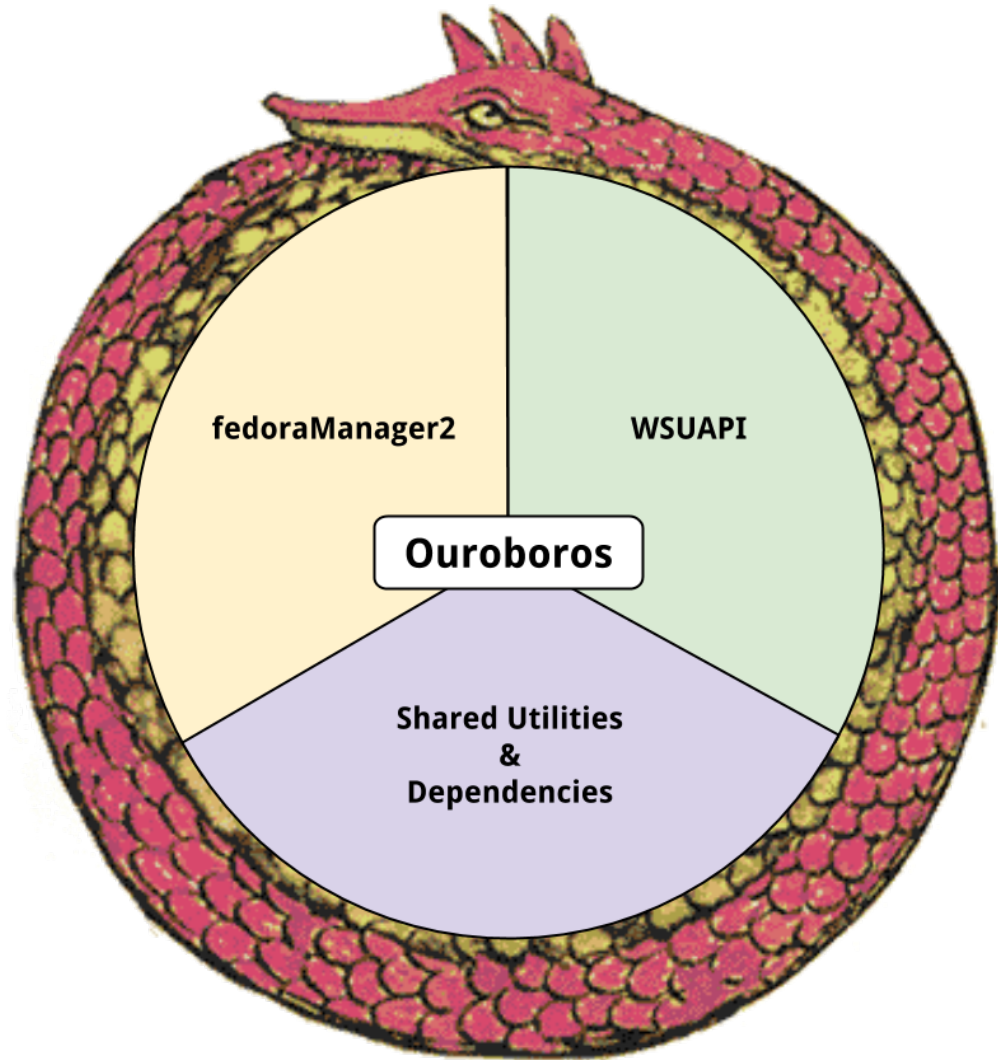


Ouroboros Overview



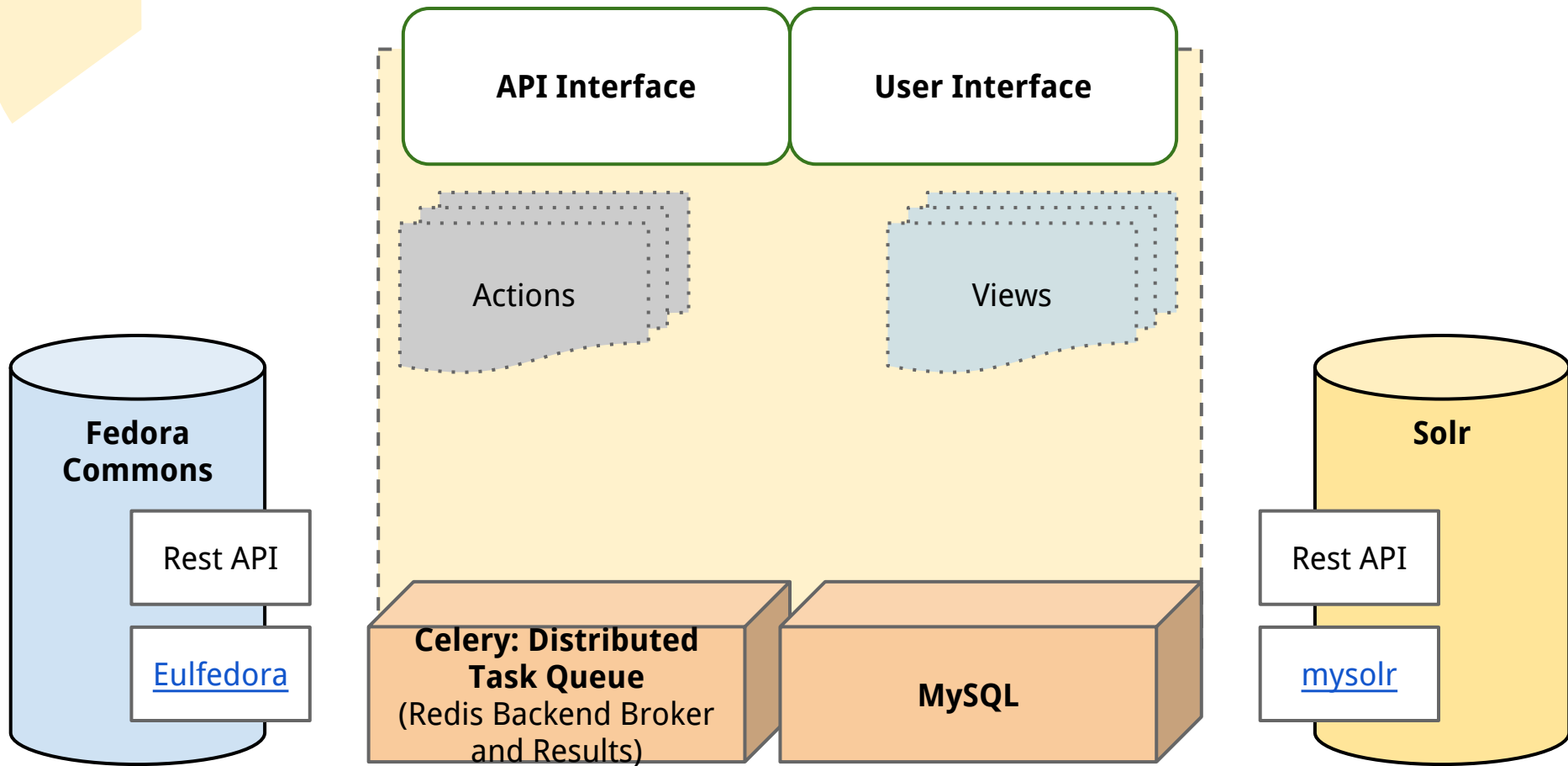
Philosophy:

Given an instance of Fedora Commons and Apache Solr, and a front-end interface capable of communicating with an HTTP / JSON API, the goal of this middleware is to be capable of ingesting objects, managing their preservation, and providing access, with minimal configuration to the applications it glues together. It does this by imposing descriptive and structural conventions for objects, and chaining disparate tasks together in a way that effectively unites these content-agnostic systems.



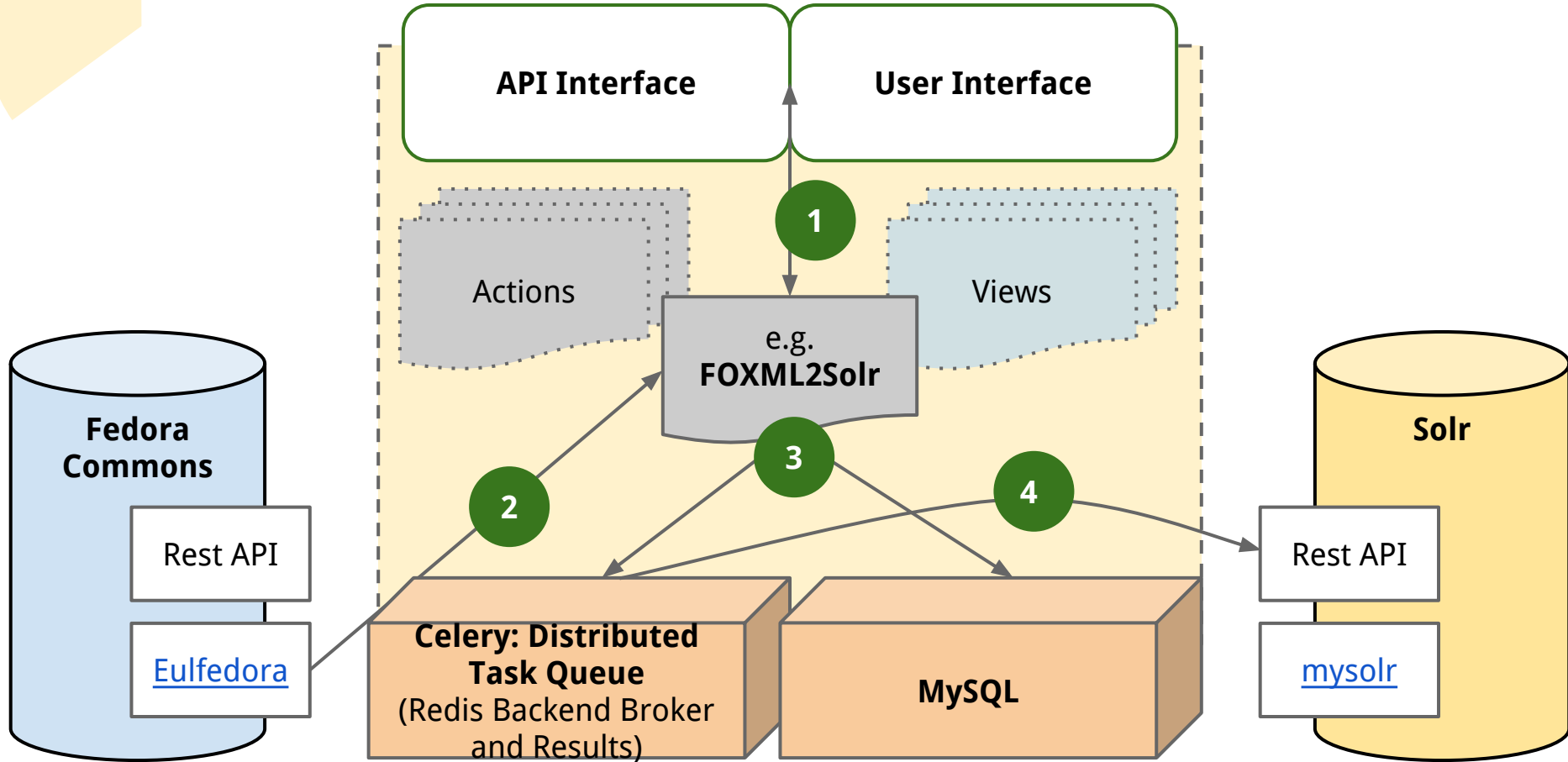
fedoraManager2 Detail

fedoraManager2 Flask App



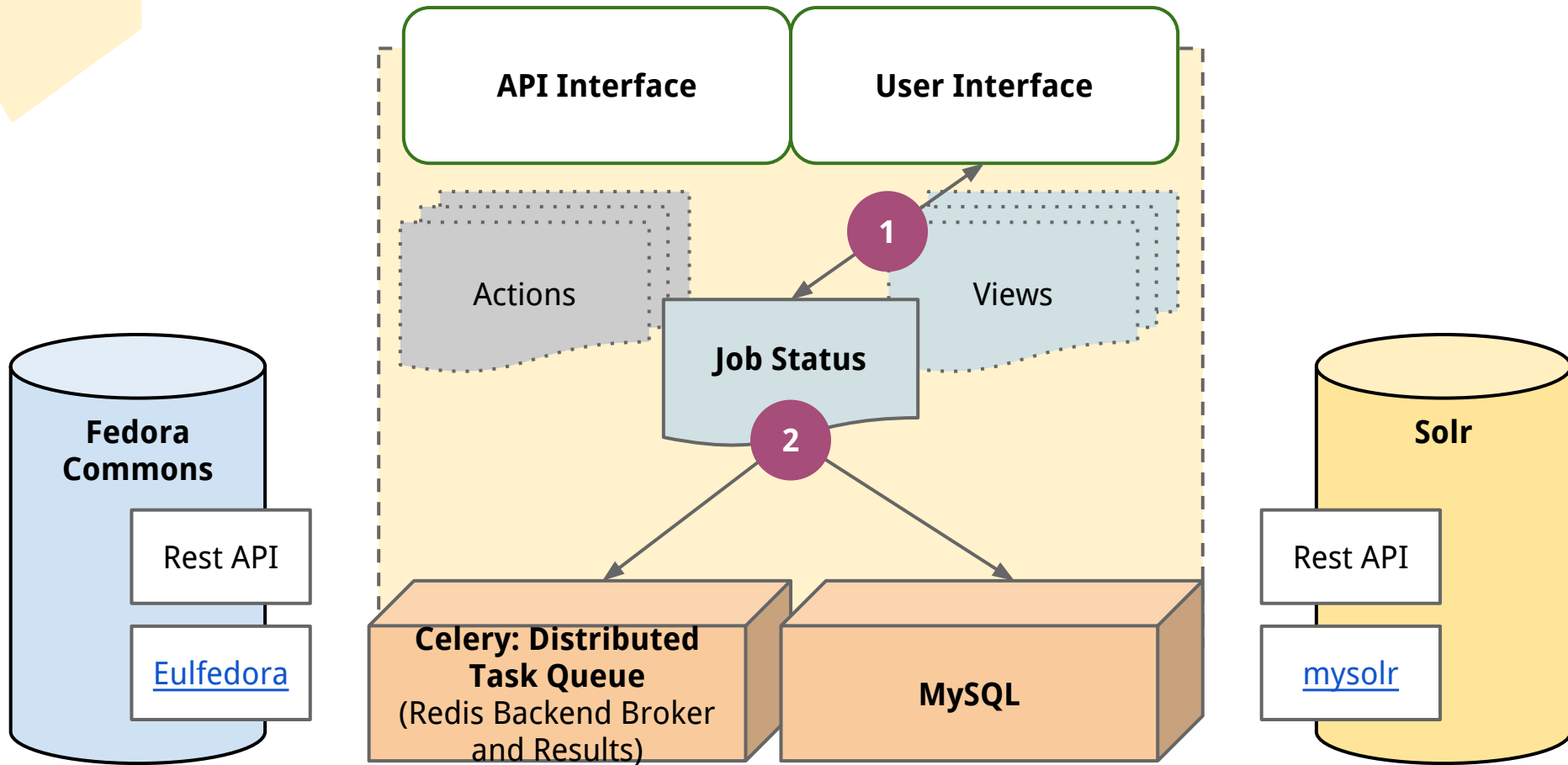
Indexing Fedora Objects in Solr

fedoraManager2 Flask App



Checking Job Status

fedoraManager2 Flask App



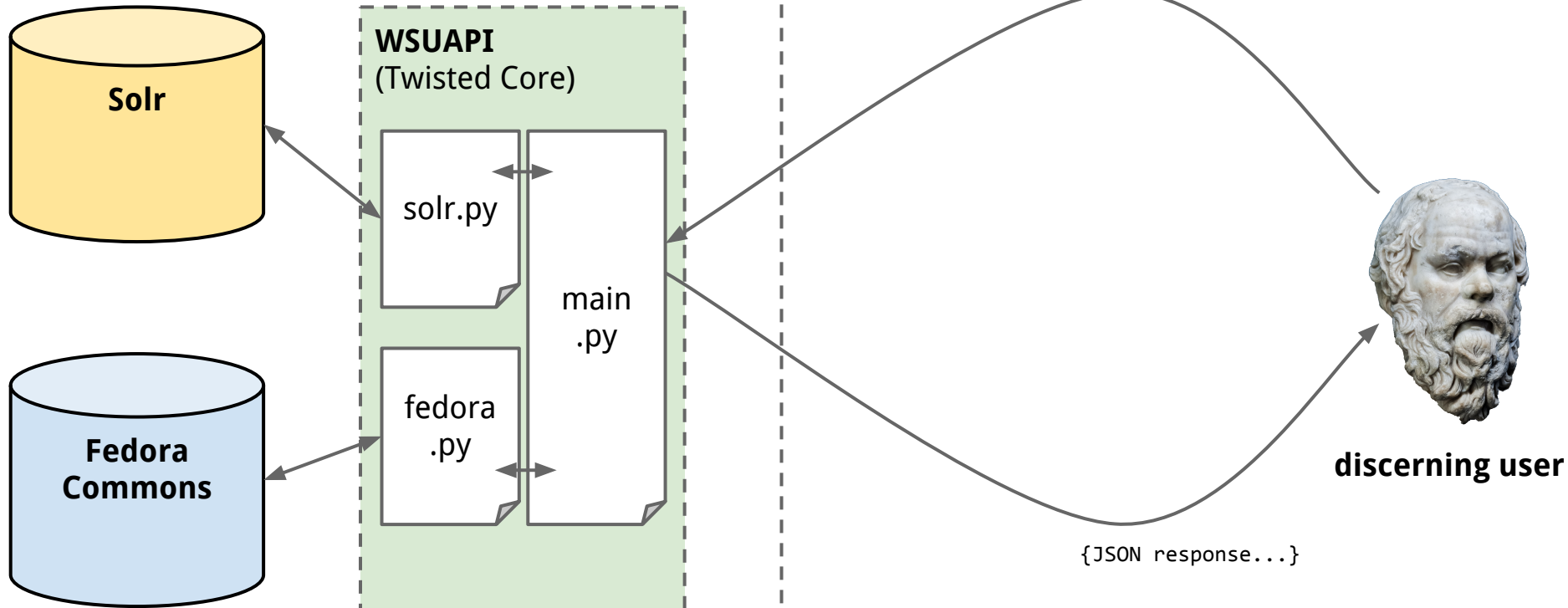
fedoraManager2

current tasks

Task / Action	Description
FOXML2Solr (bulk)	Indexes metadata, and full-text, from objects in Fedora into Solr
DCfromMODS	Derive Dublin Core (DC) from MODS datastream (MODS is authoritative for us)
addDS (bulk)	Add Datastream - Upload or paste content, choose mimetype, etc.
batchIngest	Upload MODS, choose / edit XSL transformation, save uploads to redo
editDSXML	UNC jquery.xmleditor - edit MODS in XML intelligent, javascript browser editor (saved changes derive Dublin Core datastream, then fire FOXML2Solr)
editRELS	View RDF relationships, add relationships, edit RELS-EXT datastream XML string
objectState	Batch edit object states
purgeObject	Purge objects if 1) objects have “Deleted” status, 2) two admins enter unique keys

WSUAPI Overview

Ourobros Server



WSUAPI Example

```
http://digital.library.wayne.  
edu/WSUAPI  
?functions[]=getObjectXML  
&functions[]=hasMemberOf  
&functions[]=isMemberOfCollection  
&functions[]=solrGetFedDoc  
&PID=wayne:CFAIEB01e710
```

Let's see it in action...

Documentation...

Small feats...

- Experience with, and knowledge of, Fedora Commons and Solr
- Involvement with Fedora / Solr community
- Object metadata normalized, structure represented in RDF relationships
- Complex objects available for first time
- Stable, secure, snappy [knock on wood]
- Highly extensible
- Front-end soft launch in May!

Next Steps...

- Wrap Ouroboros in a Python virtual environment
- Create and Enforce machine-readable content models
- Work with IT for increased system stability / performance
- Additional layer between front-end and Fedora content
- Explore adhering closer to OAIS model
- And of course...

DOCUMENTATION





Thanks to...

- Digital Preservation 2014 for the chance to speak about our digital collections work
- Wayne State University Colleagues - Cole Hudson, Joshua Neds-Fox, Amelia Mowry, Joseph Gajda, Negib Sherif, Axa Mei Liauw
- The greater Fedora community for answering questions
- Emory University's Python Fedora connector, [Eulfedora](#)
- University of North Carolina's XML editor, [jquery.xmleditor](#)

Images

- Elephant in Room (slide #2): <https://www.flickr.com/photos/statelibraryofnsw/8739115901/>
- Lightning Image (slide #3): <https://www.flickr.com/photos/martinwcox/14502696569>
- New Volvo (slide #7): <https://www.flickr.com/photos/kfisto/2980309518>
- Ouroboros Image (slide #8,9): <http://commons.wikimedia.org/wiki/File:Ouroboros.png>
- Socrates Image (slide #14): https://www.flickr.com/photos/jacqueline_poggi/8390153928
- Older Volvo (slide #18): <https://www.flickr.com/photos/dareppi/8353178685>
- Retired Volvo (slide #19): https://www.flickr.com/photos/happy_peanuts/7728575482