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Wayne State University Libraries Digital Collections Platform: A New Home for Research on Detroit

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Wayne State University Libraries Digital Collections Platform

The Library as Infrastructure for DH



Network Detroit, 2014



Andy Matthews

@commadelimited



Following

Has anyone ever done a comparison of terms used in [@xkcd](#) comics to rise in Google searches for those terms? "Lunar regolith" for example?

 Reply  Retweet  Favorite  More

10:11 AM - 19 Sep 2014

Digital Humanities needs

- something to examine/operate on
- something to interface with
- somewhere to output

(Digital) Libraries are great potential providers for

- material to examine/operate on
- APIs + other data streams to interface with
- Platforms to host and provide access to output

as well as

- scholar practitioners to collaborate with

WSU Digital Collections (WSUDOR)

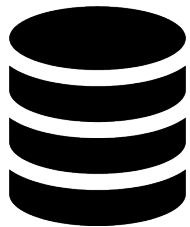
beginning to see the potential for Detroit-focused scholarship/partnerships brought about by:

- existence of relevant materials
- creation of configurable software/platforms
- expertise of developer librarians

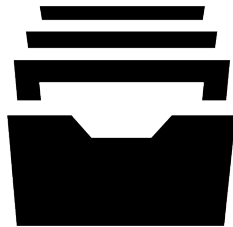
What we're about to talk about

- Development of WSUDOR
- Case studies
- Future applications

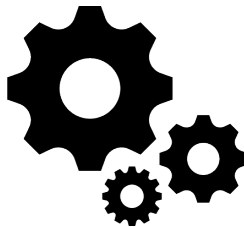
Original Infrastructure Requirements



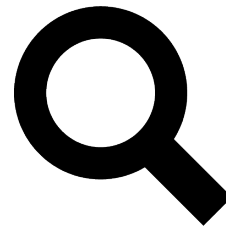
Store Digital
Objects



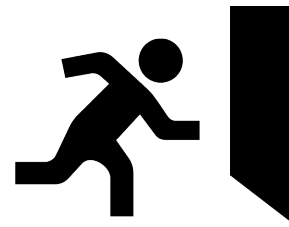
Preservation



Integrate



Search & Discovery

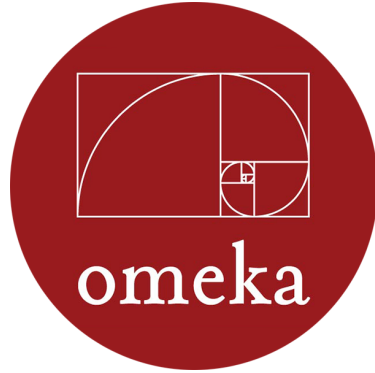


Access

Popular Digital Collection Platforms



CONTENTdm



Omeka

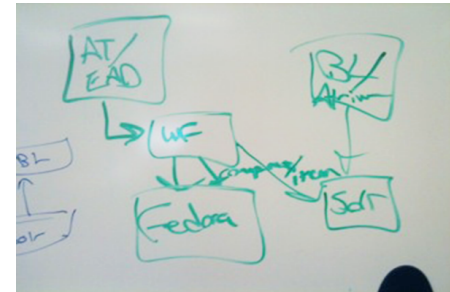
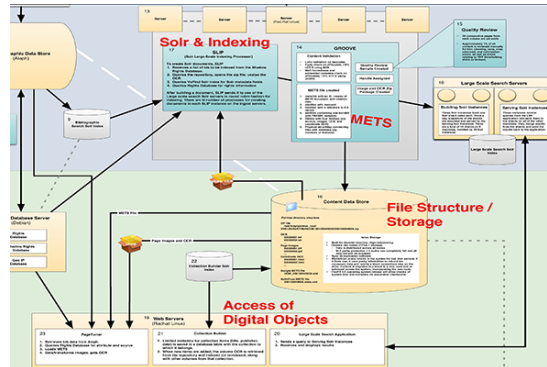
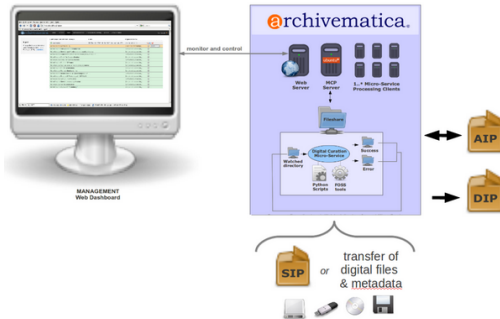
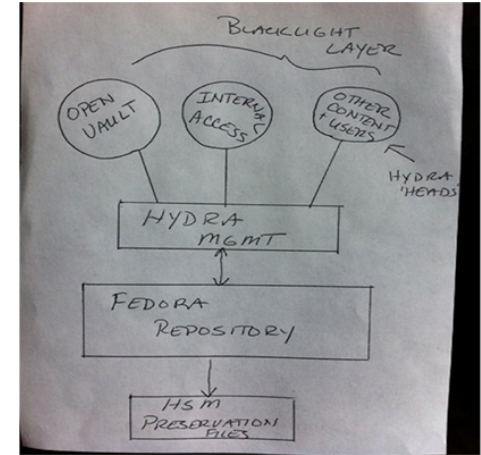
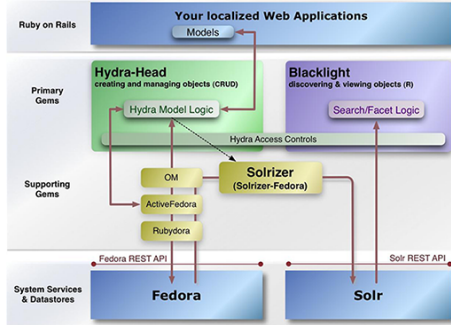


Islandora








Hydra

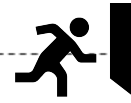
Component Research



Decided on

Desired Functionality	Solution
 Store Digital Objects	* Fedora Commons
 Preservation	* Fedora Commons
 Integrate	Python API / Middleware
 Search and Discovery	Solr
 Access	HTML, PHP, CSS, JavaScript

host: **digital.library.wayne.edu**



HTML / PHP / JS / CSS Front-End

Search

Browse

Collections

Login

singleObject

Client Side (publicly accessible)

Server Side
(publicly accessible)

host: **dci.library.wayne.edu**



Ouroboros

Fedora Commons
(digital object repository)

Solr
(full-text search)





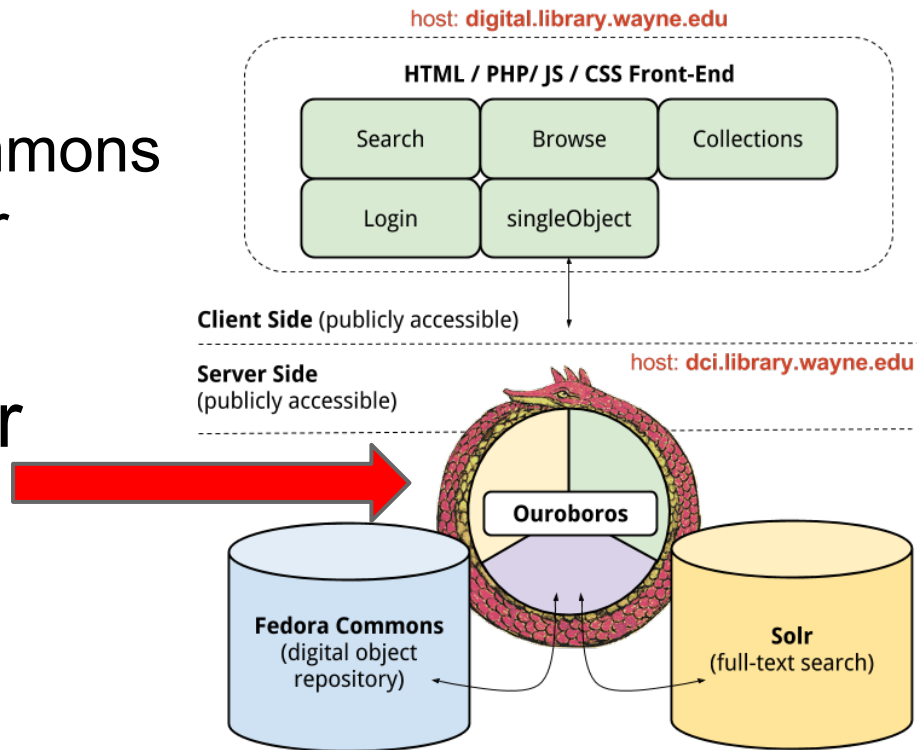
- Stores/Preserves our digital content.
- Customized, doesn't use frameworks such as Hydra or Islandora



- Indexer
- Holds metadata
- Search engine

Middleware (Ouroboros)

- Connects:
 - Solr to Fedora Commons
 - Our front-end to our back-end
- An object manager



API

Got a browser handy? Try this link: <http://goo.gl/I4yl57>

And then this one: <http://goo.gl/bN9Ajf>

Congrats! You just used our API.



DIGITAL COLLECTIONS

Login

Sign Up

Hello World.

Login with your AccessID/Username and Password. If you don't have an AccessID or Username, please sign up!

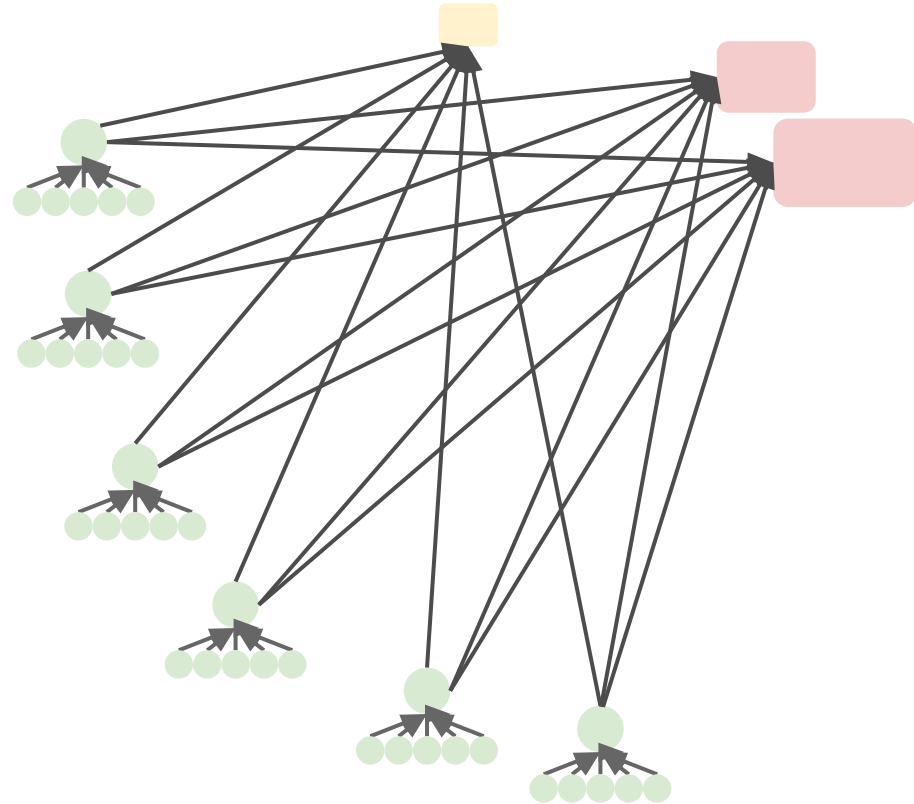
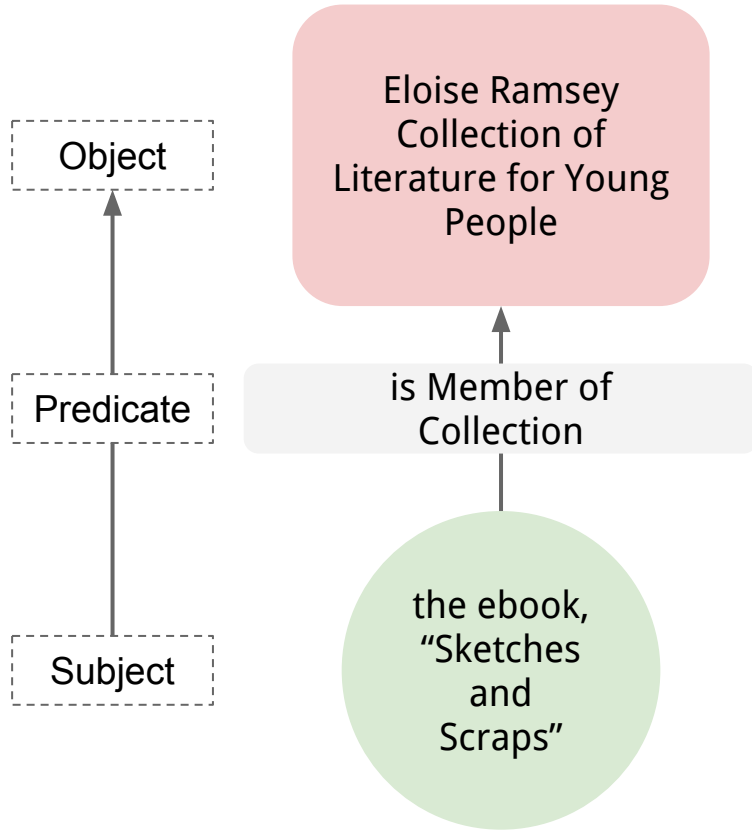
LOGIN

API as Connector

- Indexes our Institutional Repository.
- Leveraged beyond our Digital Collections
- [Link](#)




Fedora uses a flavor of RDF



Creating relationships

- **hierarchy is gone!**



Content Type(s):	WSUebook
Date:	1881
Collection:	Wayne State University eBooks Eloise Ramsey Collection of Literature for Young People
Subject:	Children's poetry Nonsense literature, American
Resource Type:	text
Publisher:	Estes & Lauriat
Source:	http://elibrary.wayne.edu/record=b1726086~S47
Components:	Sketchesa1881b48389304 Fullbook Sketchesa1881b48389304 HTML docs Sketchesa1881b48389304 Images Sketchesa1881b48389304 JP2 Sketchesa1881b48389304 Thumbs Sketchesa1881b48389304 altoXML docs
Full record:	Download MODS File

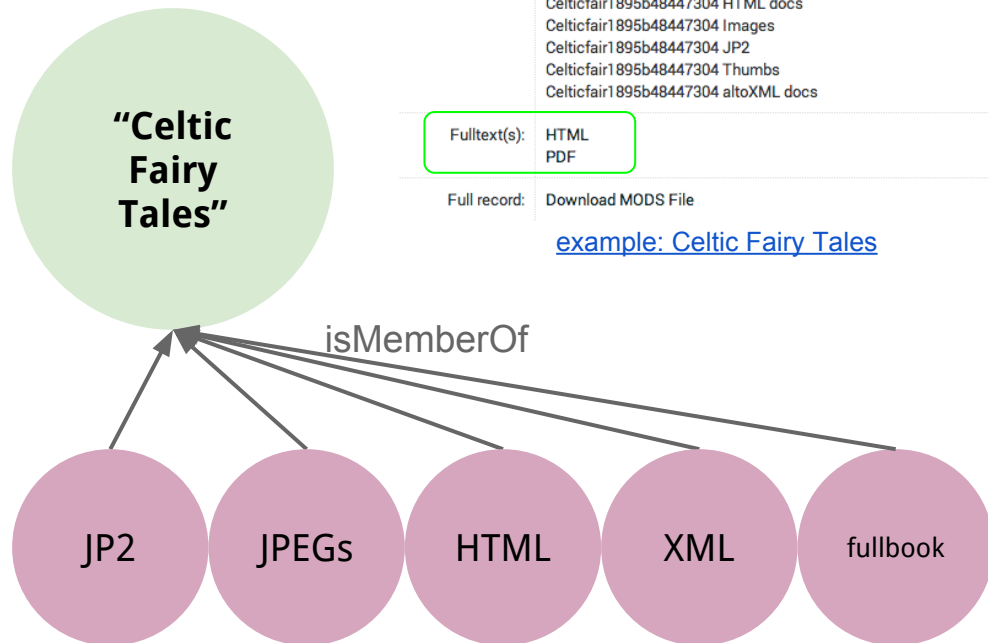
- new **kinds** of relationships
are easily added, without affecting pre-existing ones

Impact for DH

A digitized book has more than just images for each page...

- JPEG images
- JP2 images
- HTML
- XML with word locations on page
- fullbook text / HTML / PDF

These are then easily mined, analyzed, and pulled into other systems because of modular architecture on the back-end.



Content Type(s):	WSUebook
Date:	1895
Collection:	Wayne State University eBooks Eloise Ramsey Collection of Literature for Young People
Subject:	Fairy tales Folklore, Celtic
Resource Type:	text
Publisher:	D. Nutt
Source:	http://elibrary.wayne.edu/record=b2150533~S47--7121349
Components:	Celticfair1895b48447304 Fullbook Celticfair1895b48447304 HTML docs Celticfair1895b48447304 Images Celticfair1895b48447304 JP2 Celticfair1895b48447304 Thumbs Celticfair1895b48447304 altoXML docs
Fulltext(s):	HTML PDF
Full record:	Download MODS File

[example: Celtic Fairy Tales](#)

Case Studies

How can presenting collections in WSUDOR help with DH research?

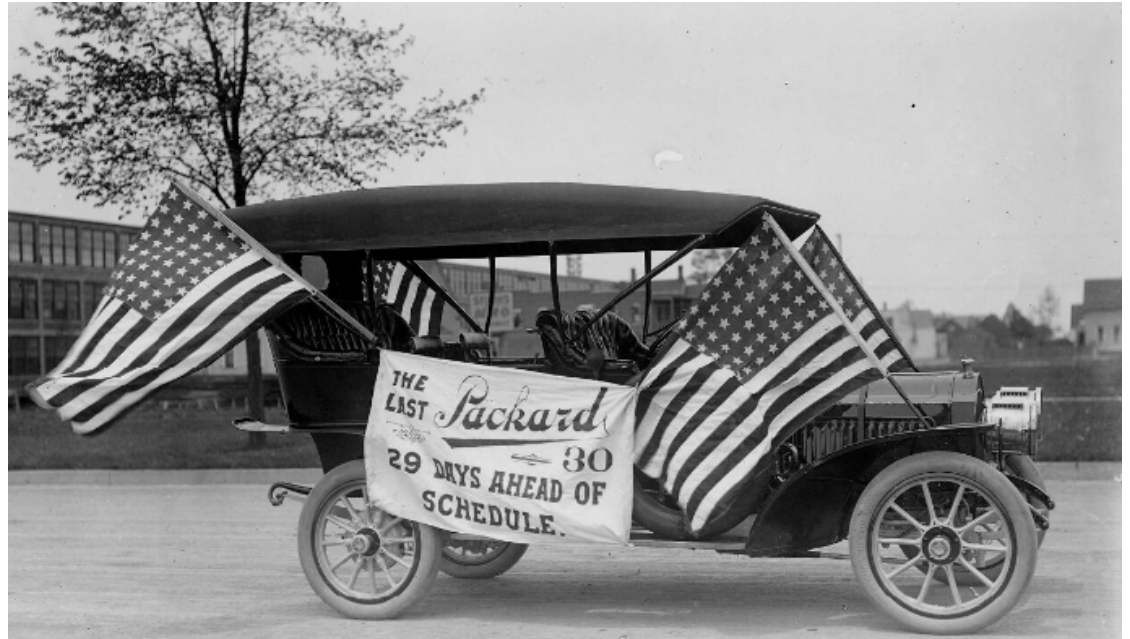
DETROIT FOCUS QUARTERLY

A Visual Arts Publication

- Partnership with Detroit Focus
- Issues are [full-text searchable](#)

Changing Face of the Auto Industry

- Partnership with Detroit Public Library and Made in Michigan
- [Old display](#)
- Allows for [faceting of metadata](#)



[\(1907 Packard 30 Model U Ahead of Schedule\)](#)

Michigan Opera Theatre Performance Images

- Ongoing relationship with the Michigan Opera Theatre.
- [Keyword searching](#)

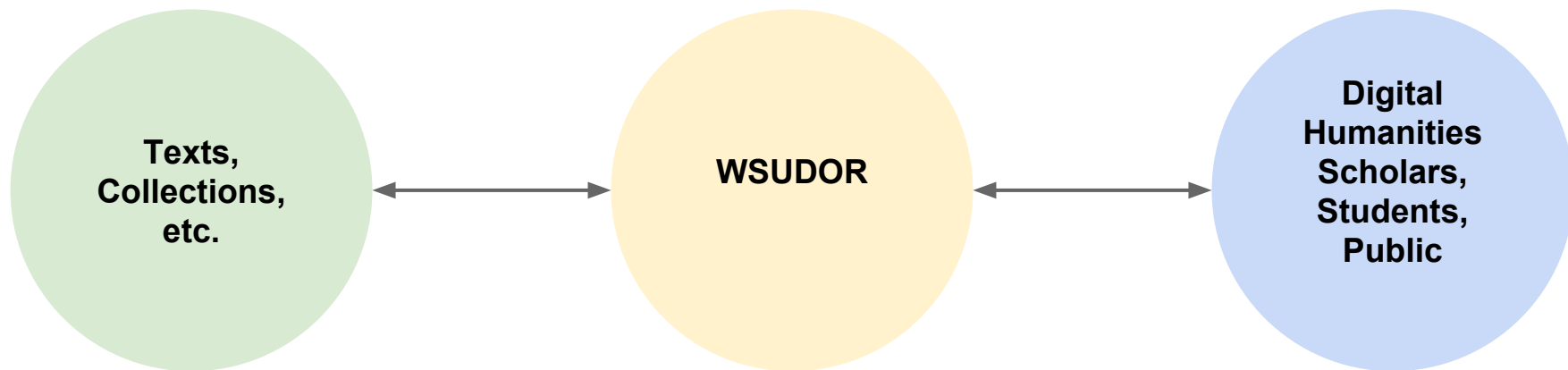


The Future: Interoperability

- Metadata normalization will make it easier to search and analyze across collections.

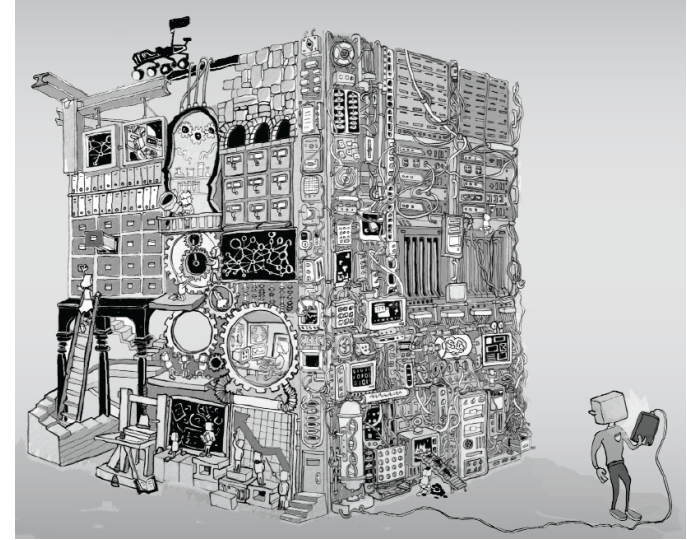
Future Applications

- WSUDOR as Infrastructure
- Textual Analysis
- Document Conversion / Corpus Creation
- Assemblage



WSUDOR as Infrastructure

1. Embeddedness
2. Transparency
3. Reach or scope
4. *Learned as part of membership*
5. *Links with conventions of practice*
6. Embodiment of standards
7. Built on an installed base
8. Becomes visible upon breakdown



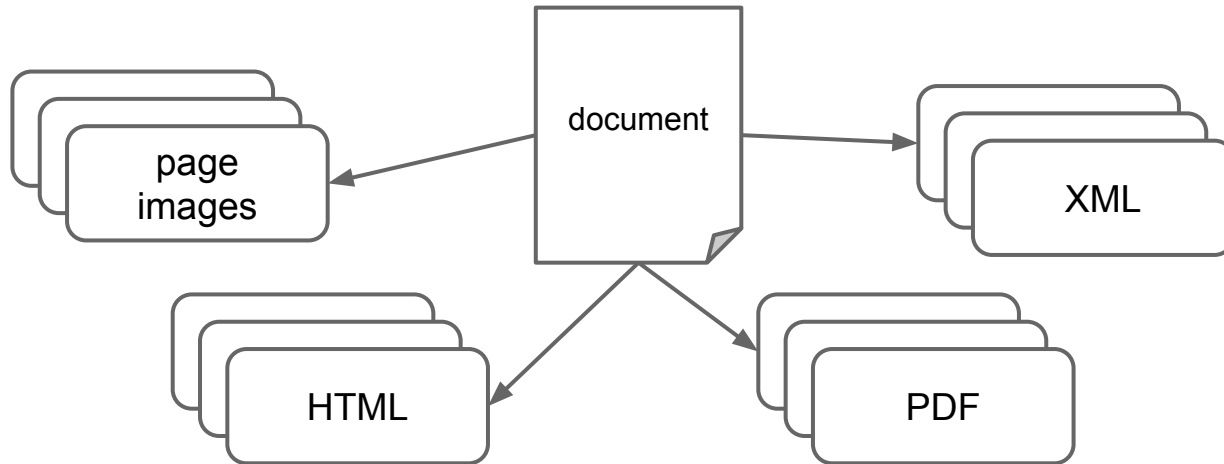
Borgman, Christine L., et al. "Knowledge Infrastructures: Intellectual Frameworks and Research Challenges." *Deep Blue* (2013).

Textual Analysis

- Return text analysis for corpora with Python [Natural Language Toolkit \(NLTK\)](#), as JSON response from API
 - [early example](#)
- Visual analysis for texts
 - [N-grams](#)
- Topic Modeling

On-Demand Document Conversion

- Interface for community to upload documents, have them OCR'ed and converted to a multitude of formats
- store these documents in WSUDOR for future use



Assemblage

- Take advantage of RDF or SOLR to quickly assemble corpora formally and informally for operation.
- “Merge the streams” - using OAI-PMH or API, export entire sets and incorporate into larger collections, a la DPLA or Trove

Questions for the audience. Questions from the audience.

Thanks!

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Cole Hudson, Graham Hukill

Wayne State University Libraries, 2014



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