Portland Common Data Model (PCDM):
Creating and Sharing Complex Digital Objects

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Agenda

Purpose and History
Technical Details
Current Work
Future
Q & A
Why a common data model?

- Common language and concepts for:
  - simple to complex object structure
  - rights assertions and access control
  - technical metadata
- Allows for shared objects and coding efforts rather than reinventing for every instance
- Aggregates many minds, projects, and products around difficult concepts
- RDF approach allows for extensibility for the future and local customization
PCDM History

- Hydra implements basic RDF 4/2012
- UCSD complex object data modeling work published 10/2012
- Oregon RDF work - linked open data and vocabularies registry 2013
- Stanford RDF meeting 10/2013
- Hydra Connect 2014
- Use cases on Github - open process 2014 - (more than developers)
- Portland meeting 11/2014
- Portland Code4Lib PCDM Meeting 2/2015
  - concepts like “works,” “resource,” FRBR removed from the model
  - embraced it as an abstract object model not bibliographic
PCDM - More history

- Whiteboard modeling exercises 2015
- OR 2015
  - Open solicitation of input
  - Refined ordering - still in progress but a working approach exists
- Still evolving

- "Portland" - where we met
- "Common Data Model"
  - Because it's not just Hydra
    - Islandora, Europeana have same data needs
  - History of the naming
    - Avoiding baggage
    - Neutral model
Technical Details - Karen

**Things**
- Collection
- Object
- File

**Relationships**
- Has Member
- Has File
- Aggregates
- Has Related File

[https://github.com/duraspace/pcdm/](https://github.com/duraspace/pcdm/)
PCDM Domain Model

- **pcdm:Collection**
  - pcdm:hasMember (m:m)
  - ore:aggregates (m:m)

- **pcdm:Object**
  - pcdm:hasFile (0:m)
  - pcdm:hasMember (m:m)
  - ore:aggregates (m:m)

- **pcdm:File**
  - Access (A)
  - Bitstream (B)
  - Descriptive (D)
  - Technical (T)
Acerca del chocolate.

Federico Guerra a Inca.
What Can go Where?

...and what can we say about different types of things

Access
Bitstream
Descriptive
Technical
Access Control - pcdm:Collection, pcdm:Object, and pcdm:File

Group A can VIEW
Acerca del chocolate : Manuscript on chocolate

Catholic Church--Mexico--History--18th century
Cocoa--Therapeutic use--Early works to 1800

ca. 1730

Mandeville Special Collections Library, University of California, San Diego, La Jolla, 92093-0175

https://libraries.ucsd.edu/ark:/20775/bb3482101x
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Inscripción

Libro Plate
Acerca del chocolate

More with Objects!
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18th Century Catholic Church Medicinal Texts

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The Catholic Church in California

Catholic Church Health & Hygiene Texts

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Holograph Manuscripts
Archival Disk Image example

https://wiki.duraspace.org/display/FF/PCDM+Mappings+-+Reference+Diagrams+for+Comment
Sufia

CurationConcerns

Hydra::Works

Hydra::PCDM

AF

PCDM in Hydra
Work with Fedora in a way that feels like Ruby on Rails
Build models based on PCDM objects and relationships
PCDM in Hydra

- Work Objects
- FileSet Objects
- Group FileSets to create Works

This also allows for shared code around::
- Characterization (JHOVE, DROID, etc.)
- Make Derivatives
- Virus Checking
- Text Extraction
Acerca del chocolate

“Page 1”
- Custom Models
- Routing for CRUD
- File Auditing / Versioning
- Single-Use links
- Upload File Sets
- Access Controls
- Leases and Embargoes
- Proxy Deposit
- User Dashboard & Profiles
- Featured Works & Researchers
- Contact Form
- Activity Streams
- Upload via Cloud Providers
PCDM in Islandora

https://github.com/duraspace/pcdm/wiki/Diagrams#islandora
The Future of PCDM

- Within Hydra, Islandora, and Fedora communities
- Interoperability across other communities
- Governance, engagement, and maintenance
The future of PCDM: Within Hydra/Islandora/Fedora communities

- Hydra in a Box
- Use and development of PCDM recommendations & extensions
  - Rights metadata
  - Technical metadata
    - File format genre ontology
    - File use vocabulary
The future of PCDM: Interoperability across communities

- Alignment with/mappings to additional community models
  - International Image Interoperability Framework
  - Europeana Data Model
  - DPLA Metadata Application Profile
  - RightsStatements.org

- Expansion into W3C standards development processes
  - Linked Data Platform
  - WebAccessControl
The future of PCDM: Engagement, governance, and maintenance

- Community engagement beyond the Hydra, Islandora, and Fedora 4 communities
- Determining best venues for sustained community engagement
- Vocabulary management infrastructure
- Identifying the best long-term home for PCDM
How to learn more and get involved

- Visit the PCDM Wiki: [https://github.com/duraspace/pcdm/wiki](https://github.com/duraspace/pcdm/wiki)
- Join the PCDM Google Group: [https://groups.google.com/d/forum/pcdm](https://groups.google.com/d/forum/pcdm)
- Participate in working groups:
  - Hydra Metadata Interest Group
  - Islandora Metadata Interest Group

Questions for attendees

- Where should we go next?
- What do your communities need?
- How can we get you more involved?
- What won’t work for you?
Thank you!

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