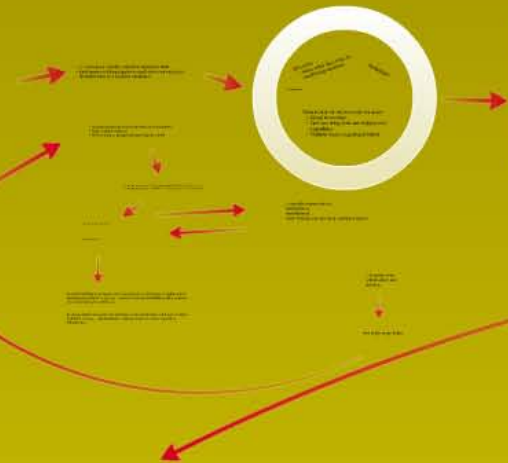


BUILDING THE HYDRA TOGETHER

Enhancing Repository Provision through Multi-Institution Collaboration



hydra



University of York

Hydra provides a new built upon which we can build our own digital content, instead of being constrained by a web 2.0 standard used by third party organisations.

Hydra provides a data model designed to be used by others, enabling the need to standardise individual models on each institution.

Hydra continues to provide address the online use, and have used to address local needs, and allowing them to focus on their needs, as well as the underlying infrastructure.

The projects enabled by the government do well allow them to further contribute to the open source world of science.

Hydra is inspired by a community of users that can provide mutual support in both development and use of the repository software that emerge.

We have gone to separate but have worked together

We have sought alignment of the Hydra at our journey

- Help for local strategies

We now have a good insight of the Hydra

- Many have used it for their own journey

Are the participants on

- And continue our working in each together



The next 12 months

Following with better software of the software

Worked for personally in 2017

12 monthly meeting

Other presentations at OR

Hydra 2487 (case studies and developer practice) - Friday, 30/09pm, Room 202

Hydra Framework: Open Source Collaboration in Action - Friday, 4/10pm, Room 202

Hydra website - <http://www.hydra.org>

Hydra wiki - http://wiki.hydra.org/wiki/Main_Page

Hydra GitHub - <https://github.com/questforhydra>

Philosophy and governance

- Encouraged by institution through Hydra team self-organised framework
- Addressed wider range of digital content practices
- Encouraged responsibility through self-organisation

Technical framework

- Open model
- Technical stack



Hydra Network

University of York
University of Virginia
National Archives
Duke University
University of North Dakota
Department of Energy
Birkbeck and Birkbeck of York

Legal security

- Copyright agreement
- User licensing (Creative Commons)

Open Access

- Access to content
- Policy enabling
- Public data modelling

Open Science

- Openly accessible to all
- open 11 models
- Open science research process
- Open science results of effort
- Open Science Commons
- Open science

Open Data

- Open data licence
- Open data measurement
- Open data support
- Open data research

BUILDING THE HYDRA TOGETHER

**Enhancing Repository Provision through
Multi-Institution Collaboration**

A piece of aged, yellowish parchment with a textured, wrinkled surface. The parchment is rectangular and has a slightly irregular shape. The text is written in a black, gothic-style font. The parchment is set against a white background, which is itself on a yellow-green gradient background.

The Quest for
the Hydrá


www.txt2pic.com

A stylized red Hydra logo consisting of three dragon heads and a long, curved tail. The word "hydra" is written in a dark grey, lowercase, sans-serif font, with the red Hydra logo elements overlapping the letters.

hydra

- Isolated institutions alone in the repository wilderness
- Hull, Virginia, Stanford
- Each looking to manage and share digital content



- 
- They met in the town of Fedora (now twinned with DSpace across the river)
 - Brought together by the Grand Vizier, Thorny Staples, then of Fedora Commons

Identified a common aim

A reusable framework for
multipurpose,
multifunction,
multi-institutional repository-enabled solutions.

Identified a common aim

and principles



No single institution can resource the development of a full range of digital content management solutions on its own, ...yet each needs the flexibility to tailor solutions to local demands and workflows.

No single system can provide the full range of repository-based solutions for a given institution's needs, ...yet sustainable solutions require a common repository infrastructure

A baseline from
which others can
develop



One body, many heads

A stylized red Hydra logo consisting of three dragon heads with long, flowing tails, set against a yellow background. The word "hydra" is written in a dark grey, lowercase, sans-serif font, with the red Hydra logo elements overlapping the letters.

hydra



The Quest for
the Hydrá

www.txt2pic.com

- A 3-year quest, initially, started in September 2008
- Each partner working together towards their own view(s) of the Hydra built on a common foundation

Provisions

- None, other than what we could bring ourselves

MediaShelf

Except spudnuts and curry

Make it easy for others to join the quest

- Safety in numbers
- Each can bring their own insights and capabilities
- Multiple routes to getting involved

Doing the quest because we want to

- starting with community

Provisions

- None, other than what we could bring ourselves

peanuts and curry

Except spudnuts and curry

Doing the quest because we want to

- starting with community

MediaShelf

Make it easy for others to join the quest

- Safety in numbers
- Each can bring their own insights and capabilities
- Multiple routes to getting involved



Our journey has passed by other repository environments

- Some strong, some not so stable
- Many using up lots of resource


Seeking clarity from a pooled, common approach

Not the first to make this journey

Pools of Solomon © The Fitzwilliam Museum.



Not the first to make this journey



Our journey has passed by other repository environments

- Some strong, some not so stable
- Many using up lots of resource



Seeking clarity from a
pooled, common approach



Our journey has passed by other repository environments

- Some strong, some not so stable
- Many using up lots of resource

Seeking clarity from a pooled, common approach

Not the first to make this journey

Pools of Solomon © The Fitzwilliam Museum.



Three tools crafted to guide our way

Philosophy and governance
Technical framework
Project infrastructure

Philosophy and governance

- Ease repository interaction through Hydra head with relevant functionality
- Address a wide range of digital content use cases
- Ensure sustainability through wide adoption

Initial quest started from town of
Fedora

... but outcomes could inform
quests from other starting points

University of Hull

MediaShelf

University of Virginia

Hydra Steering

Stanford University

DuraSpace

Hydra Partners

University of Hull

MediaShelf

University of Virginia

Hydra Steering

Stanford University

DuraSpace

University of
Notre Dame

Northwestern
University

Rock and Roll
Hall of Fame

Hydra Partners are individuals, institutions, corporations or other groups that have committed to contributing to the Hydra community; they not only use the Hydra technical framework, but also add to it in at least one of many ways: code, analysis, design, support, funding, or other resources. Hydra Partners collectively advance the project and the community for the benefit of all participants.

Hydra Adopters:

- Indiana University
- Glasgow Caledonian University
- UIUC

Hydra Design

- * Define Functional Objectives & supporting, high-level technical objectives
- * (Shape and) Fund work
- * Define conceptual models
- * Define Data Models & Content Models, providing samples
- * Provide Sample Data
- * Share design patterns & Management techniques
- * UI Design & Spec
- * End-user Documentation
- * End-user Training
- * Maintain consistency of User Experience
- * Quality Assurance

Hydra Developer

- * Define Technical Architecture
- * Coordinate development of common functionality
- * Implement Data & Content Models
- * Define & Enforce Development Practices
- * Code Development
- * Integration & Release
- * Developer & Deployment Documentation
- * Developer & Sys Admin Training



Legal partnership

- Consortium agreement
- Code licensing (Apache)

Technical framework

- Data model
- Technical stack

Keep it simple



- Model for common metadata
- Model for generic simple content
- Model for static images
- Model for JPEG2000 images



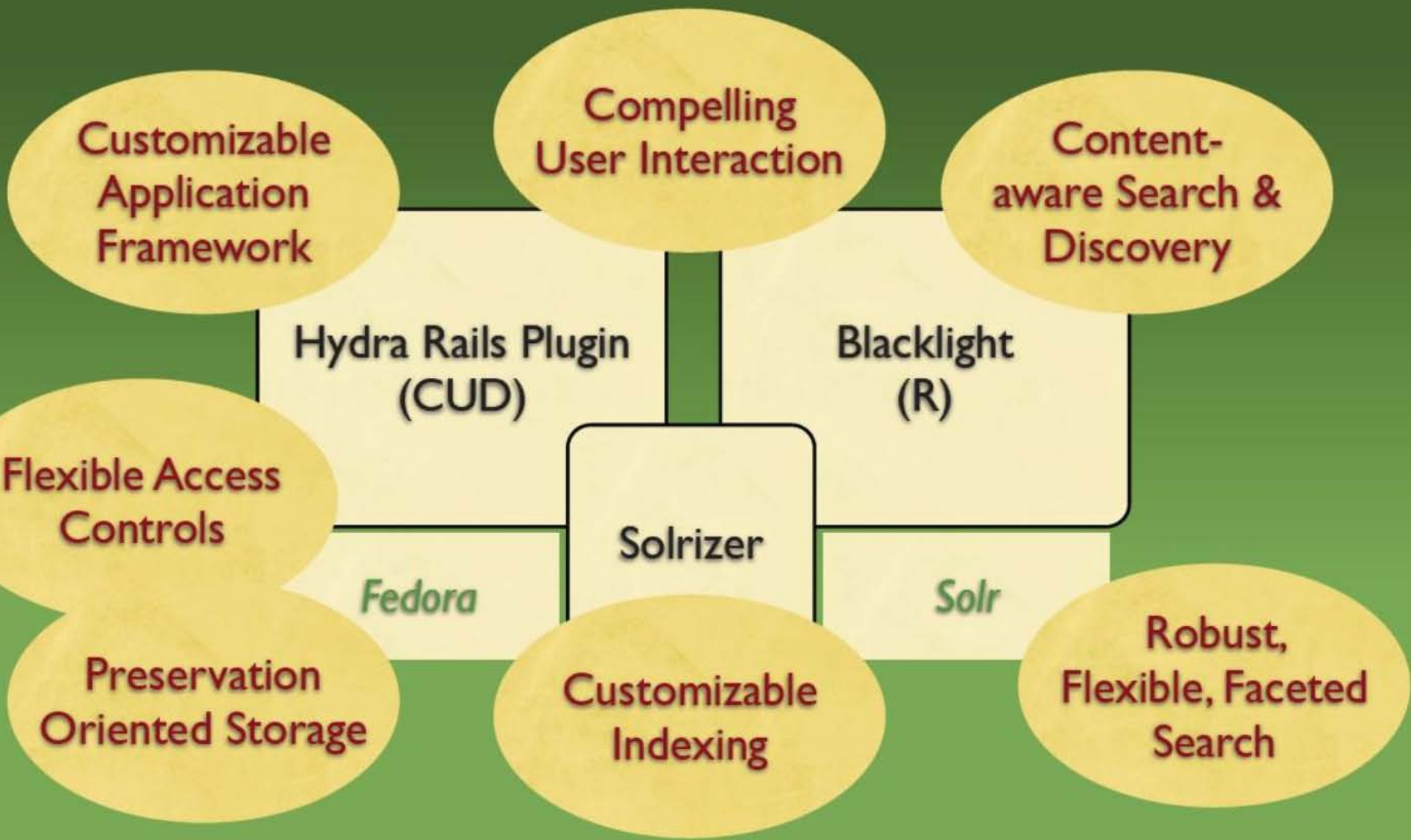
- Model for common metadata
- Model for generic simple content
- Model for static images
- Model for JPEG2000 images



- Model for parents
- Model for sets

Don't call it a
content model!

- Atomistic v. compound modelling
- Fedora c-modelling
- Hydra Ruby modelling



- Code available via GitHub
- Active contributor/Hydra developer community
- Reference implementation based on Ruby on Rails

Ohloh analysis

Ohloh analysis

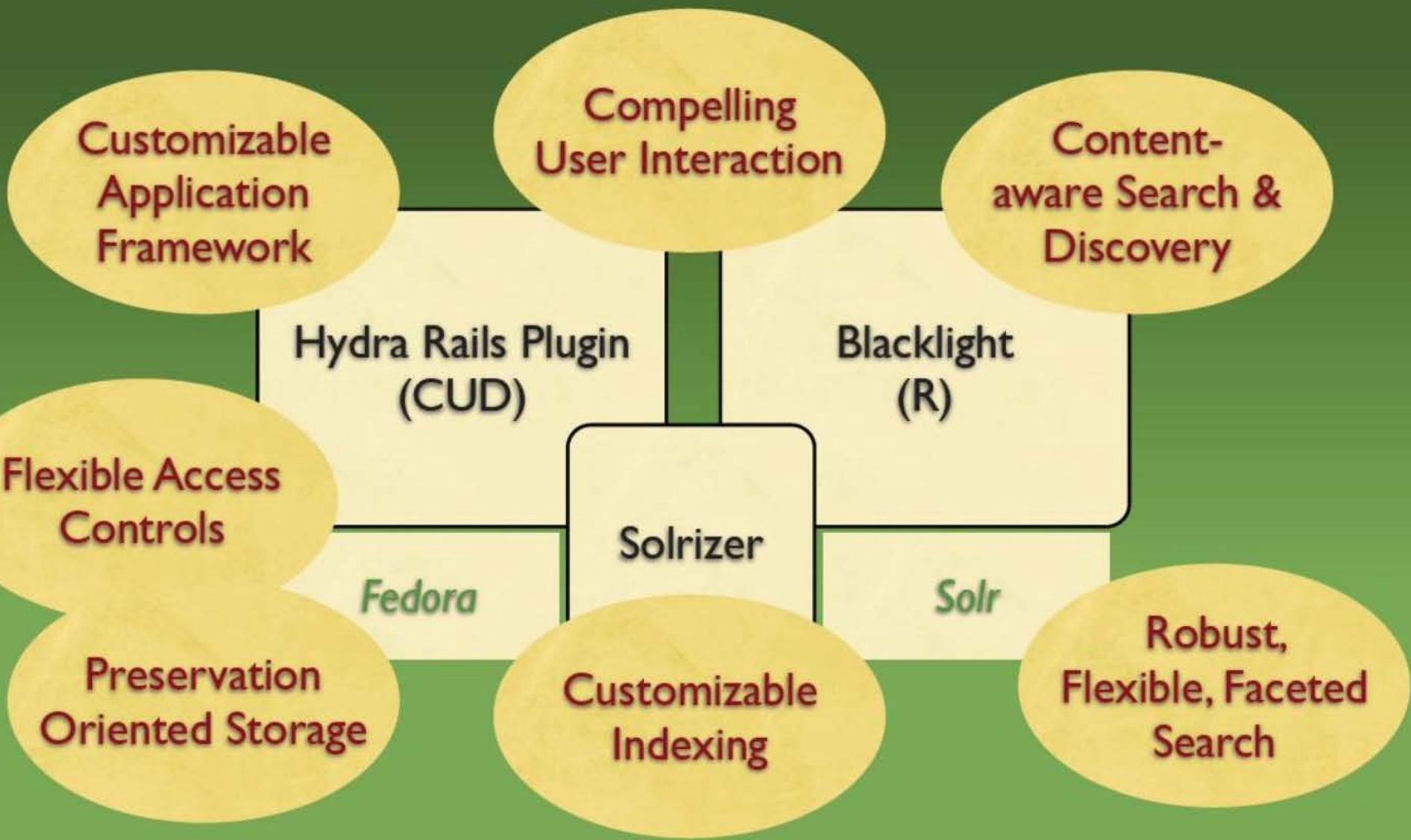
- 25 regular contributors in past 12 months
- Contributions amount to over \$7.5 million worth of effort
- Top 2% of current open source teams

- Code available via GitHub
- Active contributor/Hydra developer community
- Reference implementation based on Ruby on Rails

Why Ruby?

Why Ruby?

- Rapid application
- Testable environment
- MVC model supports well-structured approach



or in progress



IASIS International Registry (Hydra lead)



News Share Address website (Hydra lead)



University of Virginia page content (Hydra lead)



Newsroom image cropping (Hydra lead)



Stanford Everyday Thesaurus: Materials (EEM) (Hydra lead)



Stanford ETD (Hydra lead)



Stanford SALI (Hydra lead)

Filter by
Selector

Glen Worthey (19) [remove]

Status

Purchase

Paid (10)

Free (9)

Fund

LATAM (6)

DATAFILE2 (2)

MIDEAST (1)

RUEEUR (1)

Copyright

Requires request (11)

Public access OK (7)

Stanford access OK (1)

Language

Creator (organization)

Creator (person)

< Previous Next >

Sort by relevance

1 2

Show 10 per page

Title	Created	Submitted	Selector	Copyright	Status
История советских органов государственной безопасности	24-Jun-2010	24-Jun-2010	Glen Worthey	Public access OK	Submitted
FIRST CENSUS RESULTS BY MUNICIPALITIES AND SETTLEMENTS OF THE REPUBLIC OF SERBIA	24-Jun-2010	24-Jun-2010	Glen Worthey	Public access OK	Submitted
ITHAKA'S 2006 STUDIES OF KEY STAKEHOLDERS IN THE DIGITAL TRANSFORMATION IN HIGHER EDUCATION	24-Jun-2010	24-Jun-2010	Glen Worthey	Requires request	Submitted
FACULTY SURVEY 2009	24-Jun-2010	24-Jun-2010	Glen Worthey	Public access OK	Submitted
اب و بقره ام لعل	29-Jun-2010	29-Jun-2010	Glen Worthey	Requires request	Submitted
Први резултати пописа по општинама и насељима	29-Jun-2010		Glen Worthey	Requires request	Created
Convención de las Naciones Unidas contra el Crimen Organizado Transnacional y sus Protocolos	29-Jun-2010	29-Jun-2010	Glen Worthey	Public access OK	Submitted
Convención de las Naciones Unidas contra la Delincuencia Organizada Transnacional	29-Jun-2010	29-Jun-2010	Glen Worthey	Public access OK	Submitted
El Aleph	29-Jun-2010	29-Jun-2010	Glen Worthey	Requires request	Submitted

Stanford Everyday Electronic Materials (EEMs) Hydra head

Logout

Search for student, advisor, title, department

[Start over](#) | [Back to search results](#)

Actions

Submitted 2/23/2009 3:20pm

Rejected 2/24/2009 12:39pm
Margin spacing is incorrect. Please reformat so margins are 1" on all sides, then resubmit.
- John R. Doe

Resubmitted 2/26/2009 2:55pm

Next step

- [Reject](#) (return to student to resubmit)
- [Comment](#) (no change in status)
- [Verify](#) (sign off and send to library for final processing)

Your comment here...

#3 of 18 results for Degree: PhD, Status: Submitted

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Name: [Dhester, Geoffrey O.](#)
Degree: PhD
Major: School of Earth Sciences: Interdisciplinary Program in Environment and Resources (PER)
Advisor: [Loague, Keith](#)
Dissertation Title: Sustainability in small-scale fisheries: An analysis of ecosystem impacts, fishing behavior, and spatial management using participatory research methods

Thesis or Dissertation (PDF)

Dhester-Sustainability-in-small-scale-fisheries.pdf	1,060K	2/26/2009 2:51 pm
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Supplemental files

cover.jpg	High-res version of cover image	125K	2/26/2009 2:52 pm
video.avi	Video of interviews	2,325K	2/26/2009 2:52 pm
data.xls	Data for survey appendix B	325K	2/26/2009 2:52 pm
illustration.jpg	Full-size illustration from page 75	600K	2/26/2009 2:52 pm

Abstract

Anthropogenic impacts to ocean ecosystems have been well documented throughout the globe, highlighting commercial fishing as a primary threat to marine life populations and habitats. Small-scale commercial fishing operations provide more than half of the world's seafood, employ over 90% of all fishermen, and take place along a vast proportion of the world's coastline. Their local, decentralized nature poses unique challenges for research, data collection, and management, particularly in developing nations. As a result, a focus on large, industrial fisheries has discounted the potential impacts of small-scale fisheries, leading to an assumption that they are generally more sustainable. My research on two remote fishing cooperatives in Baja California Sur, Mexico asks to what extent these small-scale fisheries are sustainable, and in cases where significant ecological impacts do occur, I offer and compare several distinct conservation approaches. While engaging fishermen to participate directly in the data collection, I begin by conducting a series of studies that examine how small-scale fisheries interact with marine ecosystems. I quantitatively assess potential ecological effects including bycatch of non-target species and damage to seafloor habitats resulting from several common fishing practices and find that the type and magnitude of

Stanford ETD Hydra head

artificial intelligence SEARCH

[Start Over](#) Your Search: artificial + intelligence
 Limited to: (no limits selected)

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Edward A. Feigenbaum Papers

Series Accession 1986-052 > 3 >
 33 (7 Documents)

- [Artificial Intelligence 1973](#)
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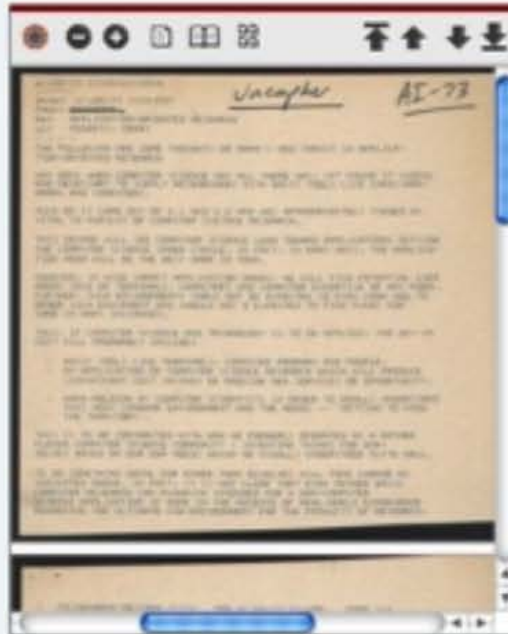
▼ Series
[Accession 1986-052 \(8,882\)](#)

▼ Box
 3 (304)

▼ Folder
 33 (145)

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Artificial Intelligence 1973



Title: Artificial Intelligence 1973
 Type: Paper Document
 Access: private

Series: Accession 1986-052
 Subseries: Correspondence
 Box: 3
 Folder: 33
 ID: druid:yz604wq6818

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Stanford SALT Hydra head

Hydrangea (Hydra Demo App) Search Results

http://shirley.library.northwestern.edu:3000/catalog?per_page=100&display_type=grid&f[object_type_facet][]=Multiresima

Hydrangea (Hydra Demo App) Sea... +

hydrangea

Log Out [archivist1]

Add an article

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Type

Article (19)

Multiresimage (19)[remove]

Person

Organization

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Search

Type Multiresimage

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19 documents

Head of an old man., Head of an old man.

changeme:102

changeme:103

changeme:87

Done

Northwestern image cropping Hydra head

LIBRA

Type of Work

Article (17)

Article Preprint (1)

Department

Department of English (9)

University of Virginia Library (5)

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Find current theses and dissertations from departments and schools around Grounds.

Datasets (Coming Soon)

Datasets from many disciplines are increasingly ubiquitous in higher education. Find data in a variety of formats.

University of Virginia
open access Hydra head

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Hydrangea (Hydra Demo App) - Mozilla Firefox

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http://currency.library.nd.edu/exhibits/RBSC-CURRENCY:200?class=browse_facet_select&f[collection_0_did_0_unittitle_0_imprint_0]=git_stash_single_file

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Rare Books & Special Collections

Hesburgh Libraries of Notre Dame

American Colonial Currency Collection

[Login](#)

Search Complete Exhibit

Publisher

- Continental Currency
- Pennsylvania
- Connecticut

Print Date

- June 1, 1780
- October 11, 1777
- March 1, 1780
- July 1, 1780
- June 19, 1776
- June 1, 1773
- June 1, 1775
- June 7, 1776
- October 10, 1771
- January 2, 1775
- July 1, 1775
- May 10, 1775
- December 1, 1724
- July 10, 1733
- May 10, 1770
- Connecticut Currency December 1, 1724
- Connecticut Currency July 10, 1733
- Connecticut Currency May 10, 1770

Exhibit Title: American Colonial Currency Collection

Publisher: Connecticut

Complete Sources

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144 documents found

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1 2 3 4 5 6 7 8

Displaying items **81 - 100 of 144** Show per page

81. [CT_1780_07_01_40s.front](#)



Title: Front View


Name: CT_1780_07_01_40s.front

Date: July 1, 1780

Publisher: Connecticut

Parent Collection: Guide to the American Colonial Currency Collection

82. [Forty Shillings](#)



Title: Forty Shillings

ID: 496

Find: main Previous Next Highlight all Match case Phrase not found

Done

Hydrangea (Hydra De... rjohns14@LIB-1224:~/... emacs@LIB-1224.libra... Annie *Unsaved Document 1... [git_dir] solrconfig.xml...

Notre Dame Atrium exhibition Hydra head



Search

Limit your search

Resource type

- Thesis or dissertation (323)
- Presentation (4)
- Journal article (1)

Subject

Name

Language

Welcome to the Hull Hydra site!

This site is under active development and should not be used yet as a reliable repository. Hull's current repository, eDocs, is available to University users through the university portal or to the public through https://edocs.hull.ac.uk.

You have no search selected. Create a search by adding a search term in the box above and/or by using the filters at the left of the screen.

Popular searches

ETD collections



University policies



Domesday dataset



About Hydra

The Hydra project is developing a new repository for digital materials at the University of Hull. This will eventually replace the eDocs system that has been in use for some time. The new repository can hold and manage any type of digital material, and is being developed in response to the growth in the amount of digital material that is generated through the research, education and administrative activities within the University. The repository is particularly well suited for materials that can be shared (openly or on a restricted basis) and/or where the material needs to be preserved for the medium to long-term. Materials currently being managed through the eDocs repository include images, project reports, undergraduate dissertations, teaching materials, datasets, collections of past exam papers and doctoral theses.

The repository is being developed by Library & Learning Innovation and ICTD at the University working in close co-operation with other members of the academic community.

Hull Institutional Repository Hydra head

15 heads either done or in progress

Video repository and head set
up in 4-6 weeks at Notre
Dame from scratch

Philosophy and governance
Technical framework
Project infrastructure

Hydra provides a core basis upon which others can build (travel?), assured that they are developing in a way that others find useful in their own environments.

Hydra provides a data model that can be used by others, avoiding the need to establish individual models on each occasion.

Hydra continues to provide software that others can, and have, used to address local needs, and allowing them to focus on these needs as a priority over the underlying infrastructure.

The partners are guided by the governance that will allow them to further contribute at the appropriate level or area of interest.

Hydra is informed by a community of users that can provide mutual support in both development and use of the repository solutions that emerge.

We have gone far
because we have travelled together

We have caught glimpses of the

We have gone far
because we have travelled together

We have caught glimpses of the
Hydra on our journey

- Many have been mirages

We have gone far
because we have travelled together

We have caught glimpses of the
Hydra on our journey

- Many have been mirages

We now have a good sight of the Hydra

- Many have seen it in their own way

We have gone far
because we have travelled together

We have caught glimpses of the
Hydra on our journey

- Many have been mirages

We now have a good sight of the Hydra

- Many have seen it in their own way

But the quest goes on

- And Partners are continuing to work together

The next 12 months

The next 12 months

Follow-up with known adopters of the software

Formalise partnership model

Quarterly meetings

The next 12 months

Follow-up with known adopters of the software

Formalise partnership model

Quarterly meetings

Promote developer infrastructure

Roll out new heads into production

Other presentations at OR

Hydra 24x7 (case studies and developer practice) -

Friday, 3:30pm, Room 202

Hydra Framework: Open Source Collaboration in Action -

Friday, 4:45pm, Room 202

Thank you

The Quest for
the Hydrá

hydra

to be continued...

Hydra website -

<http://projecthydra.org>

Hydra wiki -

<https://wiki.duraspace.org/display/hydra/>

Hydra GitHub -

<https://github.com/projecthydra/>