Next Generation Repositories
Que faire pour une meilleure interopérabilité

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#nextgenrepositories
@COAR_EV
The current scholarly communication system is broken
Not Sustainable, Equitable or Innovative
COAR’s Vision

A global knowledge commons based on a network of open access repositories
But... repository systems are using old technologies developed over 15 years ago that do not support the functionalities we need.
Next Generation Repositories

» Major strategic priority for COAR
» Working Group launched in April 2016
» Recommendations delivered in November 2017
» Now in the implementation phase

**Aim:** to identify functionalities and architectures for the next generation repositories within the context of scholarly communication
The aim of this activity is to develop a global network of repositories that allows frictionless access to open content and encourages the creation of cross-repository added-value services.
Guiding Principles

- Distribution of control
- Inclusiveness and diversity
- Public good
- Intelligent openness and accessibility
- Sustainability
- Interoperability
Two Critical Elements of the NGR Vision

Common Behaviours of Repositories (Interoperability)

Value Added Services on top of resources in repositories
Key Design Assumptions

• Focus on the resources themselves, not just associated metadata
• Pragmatism
• Evolution, not revolution
• Convention over configuration
• Engage with users where they are
“...making the **resource**, rather than the repository, the **focus** of services and infrastructure.”
Characteristics of Next Gen Repositories

- Manages and provides access to a wide diversity of resources
- Resource centric
- Networked
- Machine-friendly
- Active
Current repositories

**Services we can develop with repositories today**

Persistence layer

Persistence layer

Metadata

Interoperability

Next generation repositories

**Services we can develop with the next generation repositories**

Conceptual layer

Usage interactions and metrics

Comments

Peer-reviews

Messages

Global sign-on

Metadata

Content

Links between resources

Notifications

Interoperability

Persistence layer

Image by Petr Knoth, NGR Working Group
Importance of interoperability

Lack of interoperability in the scholarly communication system is a major barrier to innovation.
User stories

- Data mining
- Discovering metadata that describe a scholarly resource
- Discovering the identifier of a scholarly resource
- Discovering usage rights
- Resource syncing and notification
- Recognizing the user
- Commenting & annotating
- Providing a social notification feed
- Recommender systems for repositories
- Preservation
- Peer-review
- Comparing usage

11 Behaviours and Technical Recommendations

1. Exposing Identifiers
2. Declaring Licenses at the Resource Level
3. Discovery Through Navigation
4. Interacting with Resources (Annotation, Commentary, and Review)
5. Resource Transfer
6. Batch Discovery
7. Collecting and Exposing Activities
8. Identification of Users
9. Authentication of Users
10. Exposing Standardized Usage Metrics
11. Preserving Resources
Supporting technologies

• Notification protocols
• ResourceSync
• Signposting
• ETag
• HTTP Signatures
• IPFS
• ORCID
• OpenID Connect
• Activity Streams 2.0
• SUSHI
• SWORD

• Sitemaps
• Social Network Identities
• Web Annotation Model & Protocol
• WebID
• WebID/TLS
• WebSub
• Webmention
• IIIF
• COUNTER
• Creative Commons Licenses
## User stories and priority areas

### Discovery and exposing resources
- **Batch**
- **Navigation**
- **Notification**

- Data mining
- Discovering metadata that describe a scholarly resource
- Discovering the identifier of a scholarly resource
- Discovering usage rights
- Resource syncing and notification

### Research workflows and lifecycle
- **Annotation**
- **Commenting**
- **Social interaction**

- Recognizing the user
- Commenting & annotating
- Providing a social notification feed
- Recommender systems for repositories
- Preservation

### Research evaluation
- **Peer review**
- **Metrics**

- Peer-review
- Comparing usage
Three vertical discovery mechanisms

» Batch – Transferring bulk data

» Navigation – Helping robots to find resources in repositories by means of navigation

» Notification – Enabling robots to subscribe to changes in repositories
Visualize technologies and behaviour
Priority technologies: Signposting & ResourceSync
Signposting - http://signposting.org/

» Signposting is an approach to make the scholarly web more friendly to machines exposing relations as Typed Links in HTTP Link headers, fully aligned with hypermedia (REST, HATEOAS) lines of thinking regarding web interoperability.

» Signposting is now implemented in DSpace-CRIS and OJS. DSpace 7 plans to provide Signposting support.
Influência da garantia institucional sobre o risco de crédito

Nascimento, Marcos Aurélio (2009)
Publisher: Contabilidade, Gestão e Governança
Journal: Contabilidade, Gestão e Governança
Language: Portuguese
Types: Unknown
Subjects:

O presente artigo discute a análise do crédito ao consumidor sob os aspectos pessoais - caráter e capacidade - passando pelos demais "cs" do crédito - capital, condições e colateral - como complemento da análise. O olhar numa pesquisa de campo, buscando identificar fatores que justificam um tratamento diferenciado para consumidores que dispõem de garantias institucionais. Este tratamento diferenciado poderá ser materializado por taxas de juros menores ou linhas de crédito mais atraentes para o cliente de menor risco. Tornar-se-á uma pessoa sob a ótica do tomador de recursos que, invariavelmente, vai de encontro ao interesse das instituições financeiras. A política de crédito das instituições financeiras deve ser estabelecida de forma a recompensar, também, a garantia institucional na medição em que esta conceito serve para a redução do risco de crédito. Assinalando-se que há uma relação direta entre a linha de juros e risco de crédito, pode-se inferir que quanto menor o risco menor a taxa de juro, portanto, a recompensa esperada pelo menor risco é aplicação de uma taxa menor.
ResourceSync - http://www.openarchives.org/rs/toc

» Successor of the OAI-PMH protocol and much more...
» Faster, reliable and scalable
» Allows real-time notification (and recovering of missed messages)
» Drives resource synchronization: content and metadata are both managed
ResourceSync – core specification

» Based on the Sitemap protocol...

» essentially some XML files that list your resources (ResourceList)…but also machine «discoverable» from well known URLs...auto explicative in the supported functionalities (CapabilityList) and able to eventually deal with changes (ChangeList) and synchronization of large amount of data (Dumps)

» It is a framework: additional specifications add more features, for example the Change notification allows «push-based» synchronization

- Discoverable
- self-described
- Incremental

Efficient synchronization of large number of resources
Ongoing work and next steps

1. Implementation of technologies in repository platforms

2. Development of network or hub services

3. Ongoing monitoring of new technologies, standards and protocols
1. Implementation of technologies in repository platforms

• Already progress – several platforms are implementing NGR recommendations
  • OpenAIRE – Europe
  • National Institute of Informatics (NII) - Japan
  • US Next Generation Repositories Implementers Group
  • CARL Open Repositories Working Group - Canada

• Meeting of repository platforms at Open Repositories 2018 in Bozeman, Montana over the summer
2. Support the development of network or hub services

- 2 days of meeting of Repository Networks, May 14 & 15, 2018 in Hamburg, Germany to discuss NGR functionality and international alignment

- Pilot Projects 2nd half 2018 (Open Peer Review, Common Standards for Usage Statistics, Recommender Systems)
3. Monitoring of new technologies, standards and protocols

COAR Next Generation Repositories Editorial Group

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How to contribute?

Support the implementation of the identified behaviours and technologies in your community (DSpace, Eprints, Fedora, Dataverse, Samvera, etc., etc.)

Join the conversation on GitHub

https://github.com/coar-repositories/ngr

Read the report at

Call for Papers Open Repositories 2019

Call for Proposals

The 14th International Conference on Open Repositories, OR2019, will be held June 10-13th, 2019 in Hamburg, Germany. The organisers are pleased to invite you to contribute to the program. This year’s conference theme is:

All the user needs
COAR Annual Meeting 2019 in Lyon

COAR Annual Meeting & General Assembly

May 21-23, 2019

Lyon, France

The Confederation of Open Access Repositories (COAR) and the Center for Direct Scientific Communication (CCSD) are pleased to announce that the next COAR Annual Meeting will take place in Lyon, France.

More information will be available soon.
#nextgenrepositories

http://ngr.coar-repositories.org