Advantages and disadvantages of current reference and digital objects linking models in scientific information space

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Introduction

- Growth of electronic information resources

- Almost 50% percent of online resources not directly accessible

- Global instruments for the direct access to information resources necessary

Deconstruction of information resources

- 1990s - deconstruction of larger information chunks into smaller information objects

- Development of a learned article as a mechanism for the systematic publication of fragments of scientific knowledge (Ziman)

- Scientists: integrators of fragmented knowledge

Requirements (Lynch)

- Referencing
- Linking
- Archiving

- Global interlinked virtual library (Harnad)

Early information systems
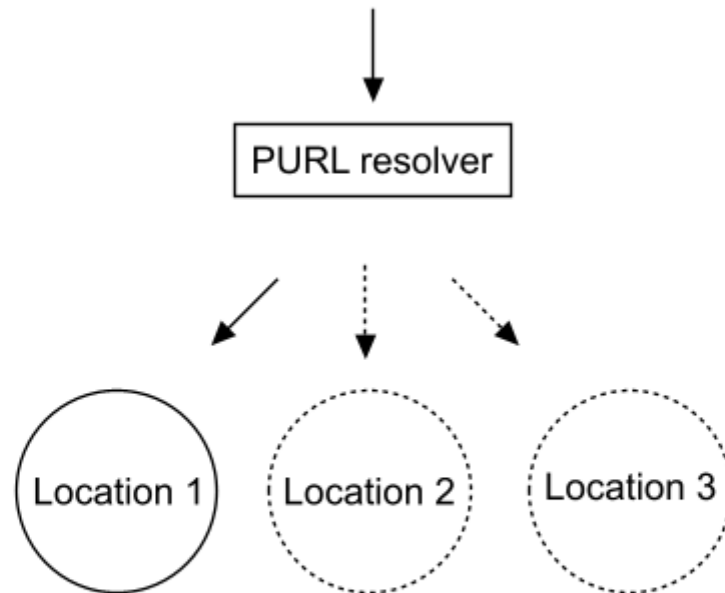
- Static links pre-computed and built into a linking database
- Links to **local** or **locally** licensed content bases + information about library holdings

- Advantage:
  - Access the full text of the cited work by searching the database
- Disadvantage:
  - Alteration in database was a tedious job

PURLs

- Special kind of URL
- Points to an address (URL) resolver server/service
- Resolver service stores the information where PURL points to
- Appropriate copy problem
- Changes: users are redirected to a new URL
- PURL offers an URL which is permanent

http://www.i.need.it.urgently.doc.org/new/brandnew/direct/wanteddocument.pdf

PURL resolver

Location 1   Location 2   Location 3

http:/mypurl.org/new/wanteddocument.pdf
http:/mypurl2.org/new/wanteddocument.pdf
http:/mypurl3.org/new/wanteddocument.pdf

The OpenURL

- Context-sensitive linking among resources based on the metadata embedded in OpenURLs
- Encoding parts of citations as an URL
- Transporting metadata about information object
- Two parts of OpenURL:
  - BASEURL
  - QUERY

OpenURL - structure
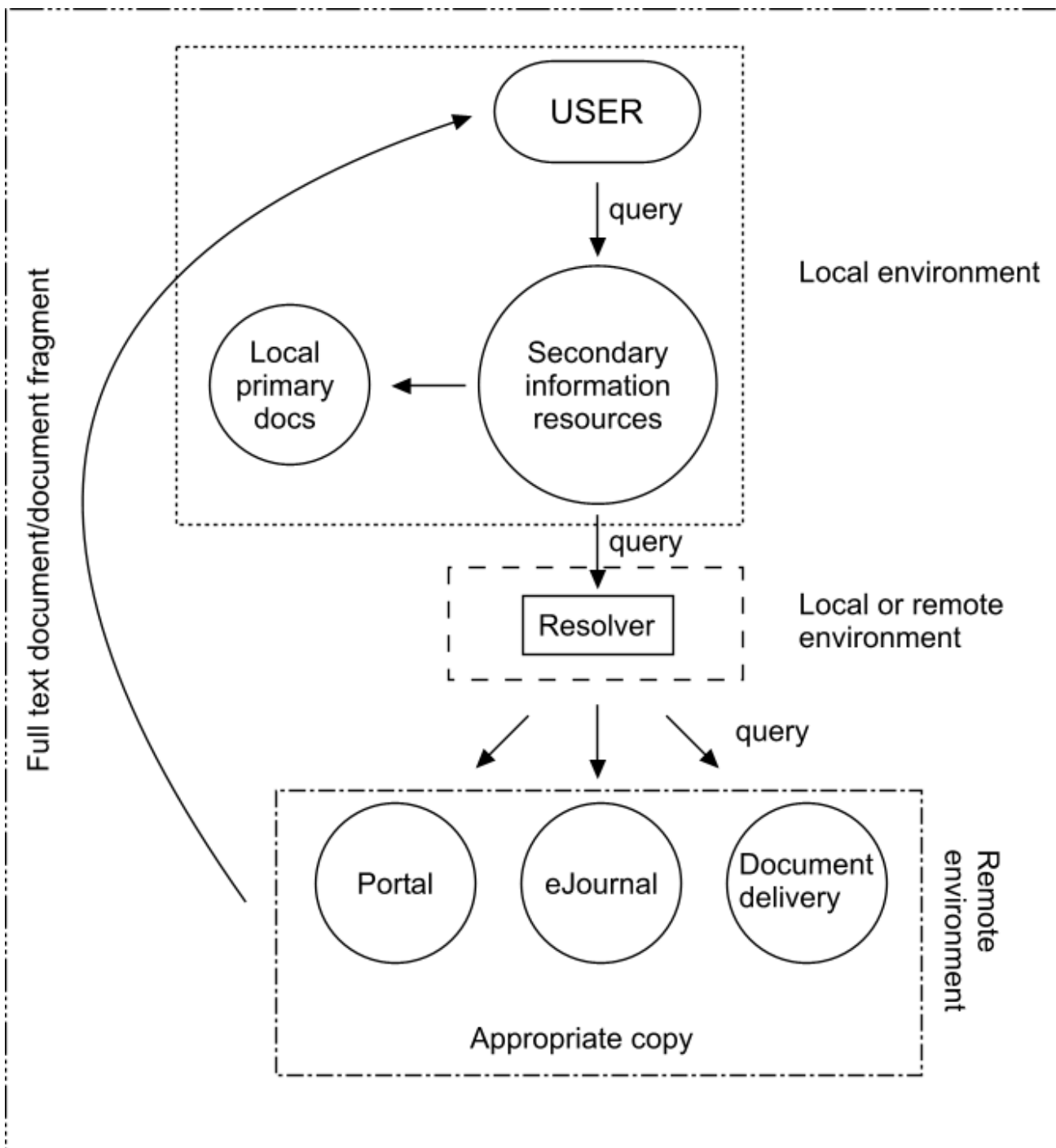
- BASEURL identifies the OpenURL resolver - provides context sensitive services for the OpenURL

- QUERY contains one or more DESCRIPTIONs.

- Each DESCRIPTION contains the metadata attributes and values that make up the citation for the resource

Example

- http://demo.exlibrisgroup.com:9003http://sfxserver.uni.edu/sfxmenu?genre=article&id=doi:10%2E1045%2Fapril2003lavoie&atitle=Trends%20in%20the%20Evolution%20of%20the%20Public%20Web&title=D-Lib%20Magazine&stitle=D-Lib%20Mag&issn=1082-9873&date=2003-04-15&volume=9&issue=4&aulast=O%27Neill&aufirst=Edwar

  &auinit=T%2E

USER

query

Local environment

Local primary docs ← Secondary information resources

query

Resolver

Local or remote environment

query

Portal   eJournal   Document delivery

Remote environment

Appropriate copy

Full text document/document fragment

User context

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Appropriate copy problem

- Appropriate copy – finding information + its location(s)

- Location information depending on user context (electronic res. subscriptions, doc. delivery system etc.)

- Digital libraries: user profiles, context sensitive environment

OpenURL

- Advantages:
    - User context
    - Multiple document locations
   - Follows standard URL syntax
    - Accreditation for standard
- Disadvantages:
    - Not widely accepted
    - Still complex to implement (what if there is no resolver nearby?)
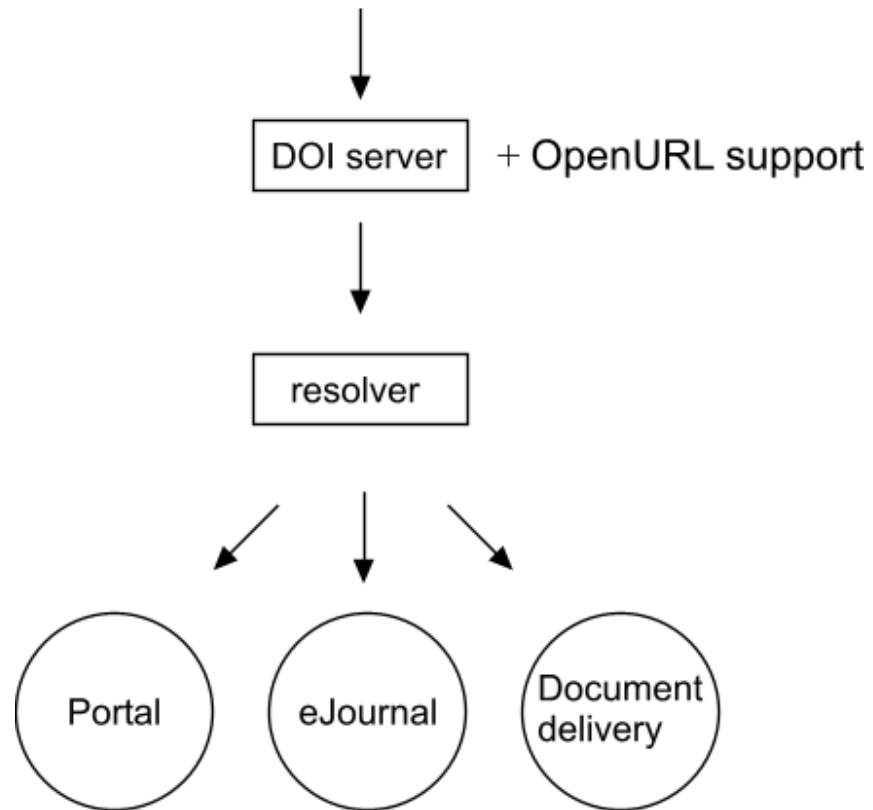   - Who should take care of the resolver? Libraries?

CrossRef

- CrossRef – based on DOI
  - DOI not yet common in citations on the Internet
  - DOI related to publishers, and not libraries
  - DOI server – centralized approach
  - Shorter than OpenURL
  - follows standard URL syntax
  - OpenURL can contain DOI as an attribute = CrossRef can be part of OpenURL enabled architecture
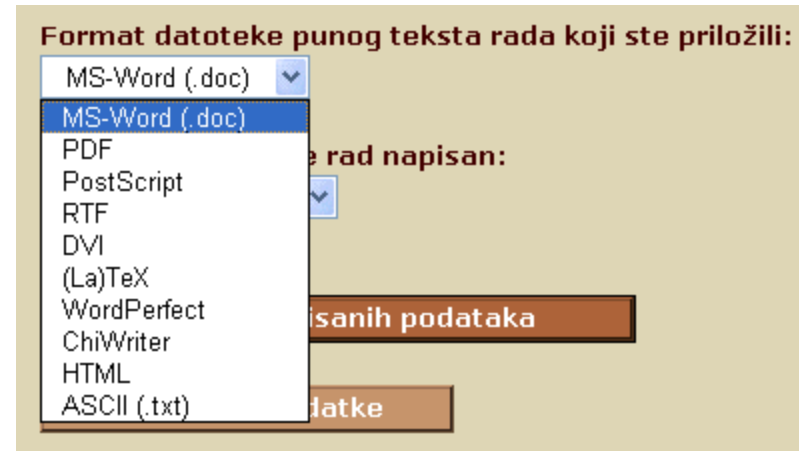
USER

Citation

query

DOI server

Publisher
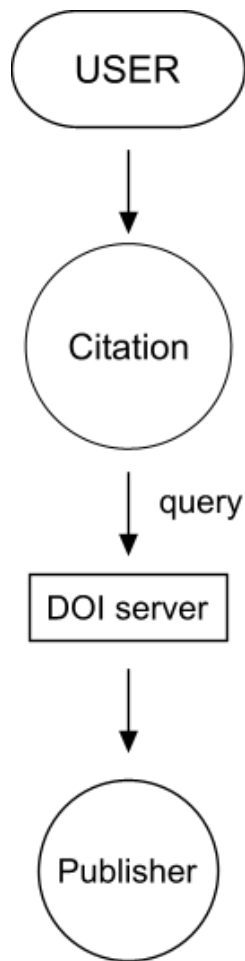
DOI: 11.1111/may2003-someauthor

DOI server + OpenURL support

resolver

Portal

eJournal

Document delivery

Croatia

- Croatian scientific bibliography
- Local copy of information object
- Voluntary upload of metadata and documents
- No place for URLs
- Good starting point for mechanisms like OpenURL or CrossRef

Format datoteke punog teksta rada koji ste priložili:

MS-Word (.doc)

MS-Word (.doc)
PDF
PostScript
RTF
DVI
(La)TeX
WordPerfect
ChiWriter
HTML
ASCII (.txt)

e rad napisan:

isanih podataka

datke

Conclusion

- OpenURL like systems – feasible
- Using the existing Internet standards
- Libraries still not acquainted with possible benefits
- Such mechanisms necessary because of the versatile technology on the Internet