

junii2 and AIRway

- an application profile for scholarly works and its application for link resolvers

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What is junii2?

junii2 is a DC application profile for scholarly works designed as OpenURL-compliant schema. It has been developed for interoperability for Institutional Repository (IR) by the National Institute of Informatics (NII) in Japan. Today, it has been widely adopted by more than 80 IRs in Japan.

A particular feature is its ability to describe with below elements:

- **textversion**: variant self-archived materials with a version description function (specifying whether it is an author's draft or the final published version or the others)
- **fullTextURL**: availability of the full text in the IR (non occurrence means no full text available in the IR)

serial number	element	note	minOccurs	maxOccurs	dumb-down to oai_dc
1	title		1	1	title
2	alternative	e.g.) translated title	0	unbounded	title
3	creator		0	unbounded	creator
4	subject		0	unbounded	subject
5	NIIsubject	controlled vocabulary (see: http://www.nii.ac.jp/metadata/manual/NII-category.pdf)	0	unbounded	subject
6	NDC	Nippon Decimal Classification (by the Committee of Classification, Japan Library Association)	0	unbounded	subject
7	N DLC	National Diet Library Classification (by National Diet Library, Japan)	0	unbounded	subject
8	B SH	Basic Subject Headings (by the Committee on Subject Headings, Japan Library Association)	0	unbounded	subject
9	N DLSH	National Diet Library Subject Headings (by National Diet Library, Japan)	0	unbounded	subject
10	MeSH		0	unbounded	subject
11	DDC		0	unbounded	subject
12	LCC		0	unbounded	subject
13	UDC		0	unbounded	subject
14	LCSH		0	unbounded	subject
15	description	e.g.) abstract, date of acquisition (for thesis), conference name, place, date (for presentation) ...	0	unbounded	description
16	publisher		0	unbounded	publisher
17	contributor		0	unbounded	contributor
18	date		0	unbounded	date
19	type		0	unbounded	type
20	NIItype	controlled vocabulary (see: http://www.nii.ac.jp/metadata/manual/NII-category.pdf) [Journal Article Thesis or Dissertation Departmental Bulletin Paper Conference Paper Presentation Book Technical Report Research Paper Article Preprint Learning Material Data or Dataset Software Others]	1	1	type
21	format		0	unbounded	format
22	identifier	identifier other than num. 23 or num. 24	0	unbounded	identifier
23	URI	the URL of the record of the resource	1	1	identifier
24	fullTextURL	the URL of the resource	0	unbounded	identifier
25	issn	ISSN of the journal in which the resource (article) appeared	0	unbounded	identifier (combined)
26	NCID	NACSIS-CAT ID of the journal in which the resource (article) appeared (*NACSIS-CAT: union catalog databases for academic libraries in Japan)	0	unbounded	
27	jtitle	the journal title in which the resource (article) appeared	0	1	
28	volume	volume of the journal in which the resource (article) appeared	0	1	
29	issue	Issue of the journal in which the resource (article) appeared	0	1	
30	spage	start page of the resource (article)	0	1	
31	epage	end page of the resource (article)	0	1	
32	dateofissued	date of issuance of the resource	0	1	
33	source		0	unbounded	source
34	language		0	unbounded	language
35	relation		0	unbounded	relation
36	pmid	PubMed ID of the bibliographic record of the resource	0	1	relation
37	doi	DOI of the resource given by the publisher when it was originally published	0	1	relation
38	isVersionOf		0	unbounded	relation
39	hasVersion		0	unbounded	relation
40	isReplacedBy		0	unbounded	relation
41	replaces		0	unbounded	relation
42	isRequiredBy		0	unbounded	relation
43	requires		0	unbounded	relation
44	isPartOf		0	unbounded	relation
45	hasPart		0	unbounded	relation
46	isReferencedBy		0	unbounded	relation
47	references		0	unbounded	relation
48	isFormatOf		0	unbounded	relation
49	hasFormat		0	unbounded	relation
50	coverage		0	unbounded	coverage
51	spatial		0	unbounded	coverage
52	NIIspatial	controlled vocabulary (see: http://www.nii.ac.jp/metadata/manual/NII-category.pdf)	0	unbounded	coverage
53	temporal		0	unbounded	coverage
54	NIItemporal	controlled vocabulary (see: http://www.nii.ac.jp/metadata/manual/NII-category.pdf)	0	unbounded	coverage
55	rights		0	unbounded	rights
56	textversion	[author publisher none] (author: author's draft / publisher: final published version / none: the others)	0	1	

Blue: required, Yellow: required (if applicable), White: optional

For details, please visit: <http://ju.nii.ac.jp/oai/junii2.xsd> (partly written in Japanese)

What is AIRway?

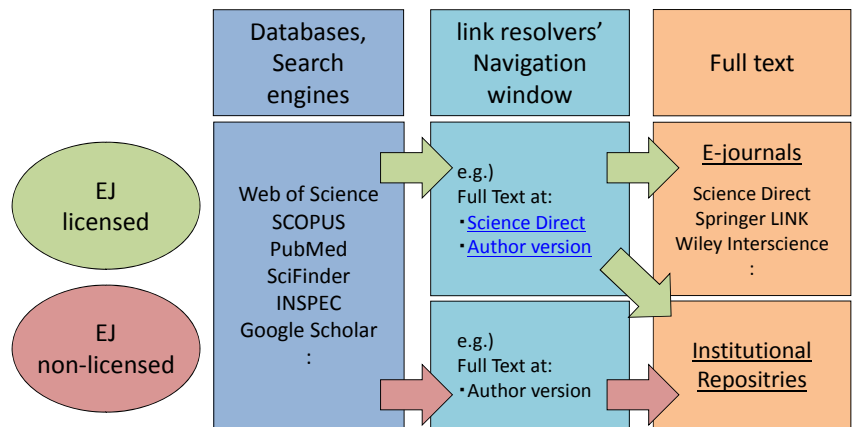


AIRway (Access path to Institutional Resources via link resolvers) is a Research and Development project which aims to achieve the navigation to open access documents collected in Institutional Repositories (IRs) or electronic archives like IRs.

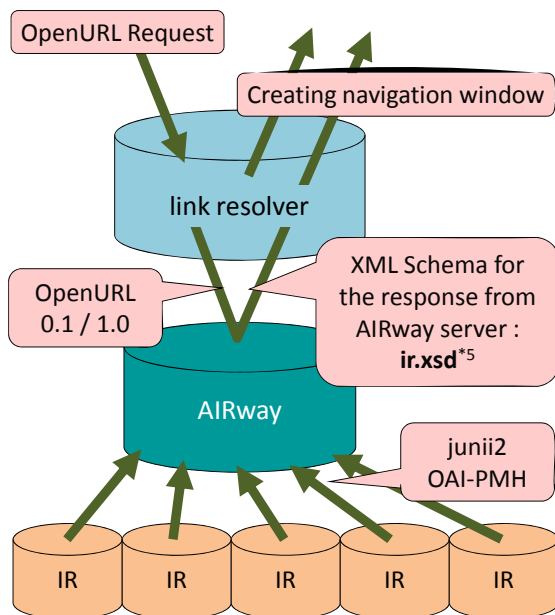
Around 600 IRs in the world are registered with Registry of Open Access Repositories (ROAR)*4 as of 19 September 2008. In those IRs, over 3 million

scholarly works are self-archived and opened to the public. To find these resources, people search the IRs directly or use general web search engines such as Google, as well as with OAI-PMH-based search engines such as OAIster. In contrast, people can access scholarly works on the electronic journals which they subscribe from search results of some of the academic database via a link resolver. For example, someone search Web of Science, then he/she find icons of a link resolver linking to an electronic journal in the search results.

Link resolvers like SFX link databases with the articles in electronic journals. They refer to CrossRef to find full-text link. If there is a knowledgebase like CrossRef for IRs, link resolvers can link databases with IRs. That's AIRway.



How AIRway works?



AIRway is an internet server and harvests metadata from IRs. It works as a back-end knowledgebase for existing link resolvers rather than a new service system for end users.

Concretely speaking: a link resolver sends an OpenURL request to the AIRway server before creating its navigation window. AIRway analyzes the request, and search its database as follows:

1. if the element **doi** is present, search with the DOI
2. if the element **pmid** is present, search with the PubMed ID.
3. if the three elements, **issn**, **volume** and **spage** are available, search with them with AND operation
4. if the three elements, **jtitle**, **volume** and **spage** are available, search with them with AND operation
5. if the elements **title** is available, search with the resource title

If a record matched, AIRway confirms the record whether the full text is available or not. If it is, then AIRway provides the record to the link resolver. If it isn't, or no record matched, AIRway responds "no record matched". In any case, AIRway sends back its answer as XML format.

To implement this method, the record is required that it is written in a form in which the bibliographic information can be separated automatically. junii2 has advantage on this regard (see: elements no. 25-32), so AIRway Project use this profile. We also use oai_dc profile, but AIRway can resolve only records which has DOI in its metadata.

Partners

● Project Partners

- Hokkaido University, JAPAN
- Chiba University, JAPAN
- Tsukuba University, JAPAN
- Nagoya University, JAPAN
- Kyushu University, JAPAN
- National Institute of Informatics, JAPAN

● Link resolvers

- 1CATE (OCLC New Jersey) (including SwetsWise Linker, etc. that use 1CATE as the internal engine)
- SFX (Ex libris) (required some customization)

● Institutional Repositories

- Barrel (Otaru University of Commerce, JAPAN)
- HUSCAP (Hokkaido University, JAPAN)
- Tulips-R (University of Tsukuba, JAPAN)
- CURATOR (Chiba University, JAPAN)
- Muroran-IT Academic Resources Archive (Muroran Institute of Technology, JAPAN)
- NAGOYA Repository (Nagoya University, JAPAN)
- KURA (Kanazawa University, JAPAN)
- MIUSE (Mie University, JAPAN)
- Kyoto University Research Information Repository (Kyoto University, JAPAN)

● HIR (Hiroshima University, JAPAN)

- YUNOCA (Yamaguchi University, JAPAN)
- University of Miyazaki Repository (Miyazaki University, JAPAN)
- QIR (Kyushu University, JAPAN)
- Cranfield CERES (Cranfield University, UK)

Reference

1. AIRway project
<http://airway.lib.hokudai.ac.jp>
2. Shigeki Sugita, Kunie Horikoshi, Masako Suzuki, Shin Kataoka, E. S. Hellman, Keiji Suzuki. Linking Service to Open Access Repositories. *D-Lib Magazine*, Vol.13 No.3/4, March/April, 2007
<http://dx.doi.org/10.1045/march2007-sugita>
3. National Institute of Informatics
<http://www.nii.ac.jp/index.shtml.en>
4. Registry of Open Access Repositories
<http://roar.eprints.org>
5. XML Schema for the response from AIRway server : ir.xsd
<http://eprints.lib.hokudai.ac.jp/ir.xsd>