

The 2010 CiSAP Colloquium on Digital Library Research: Doctoral Student Forum
15th November, 2010

Usage log analysis of articles in six Japanese institutional repositories: Which region do users access articles from?

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Table of contents

- Background
- Data & Methods
- Results
- Conclusion

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- Results
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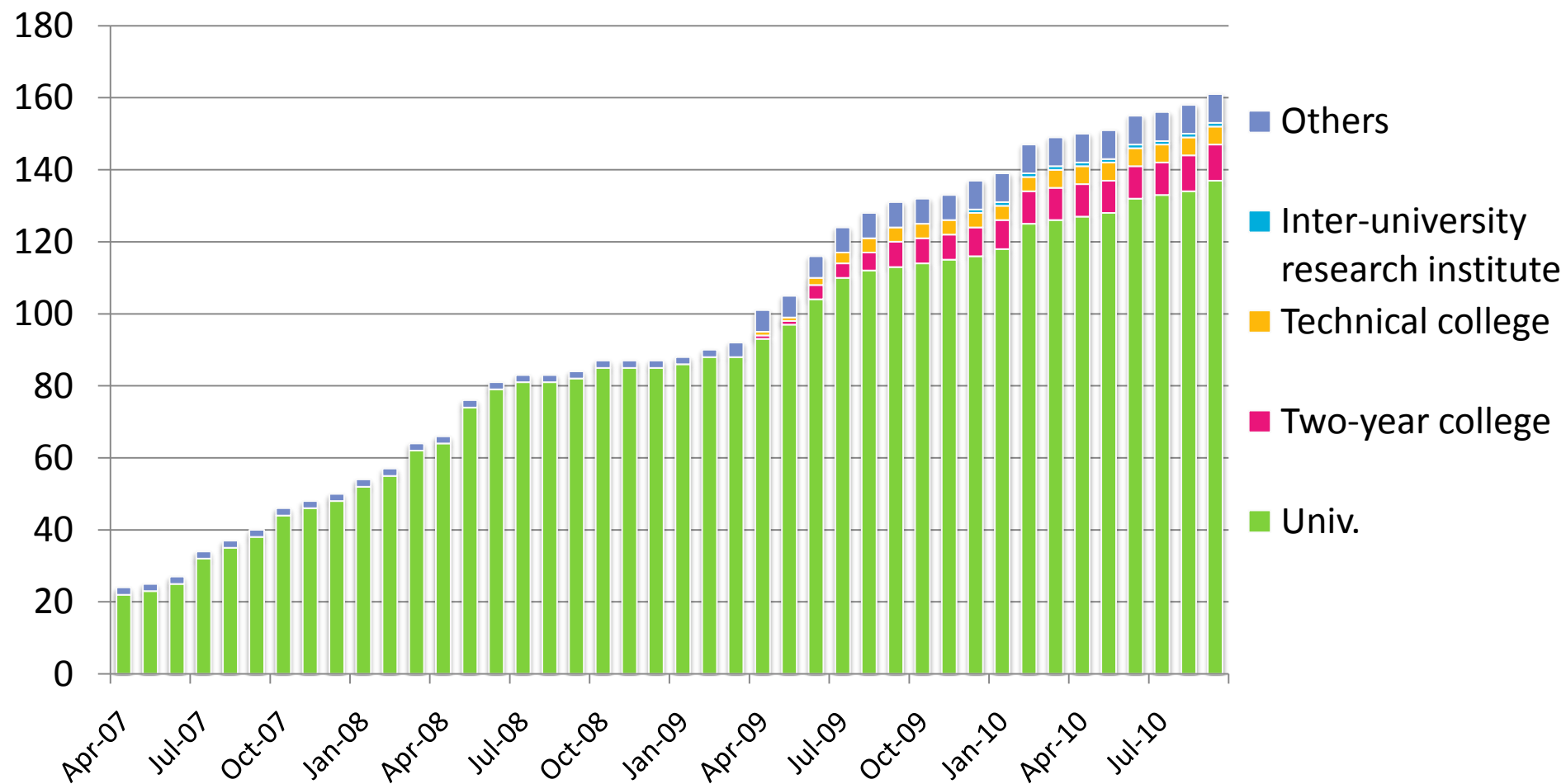
Objective

- To explore the current state of international dissemination of articles deposited in Japanese Institutional Repositories (IRs)

What is an institutional repository?

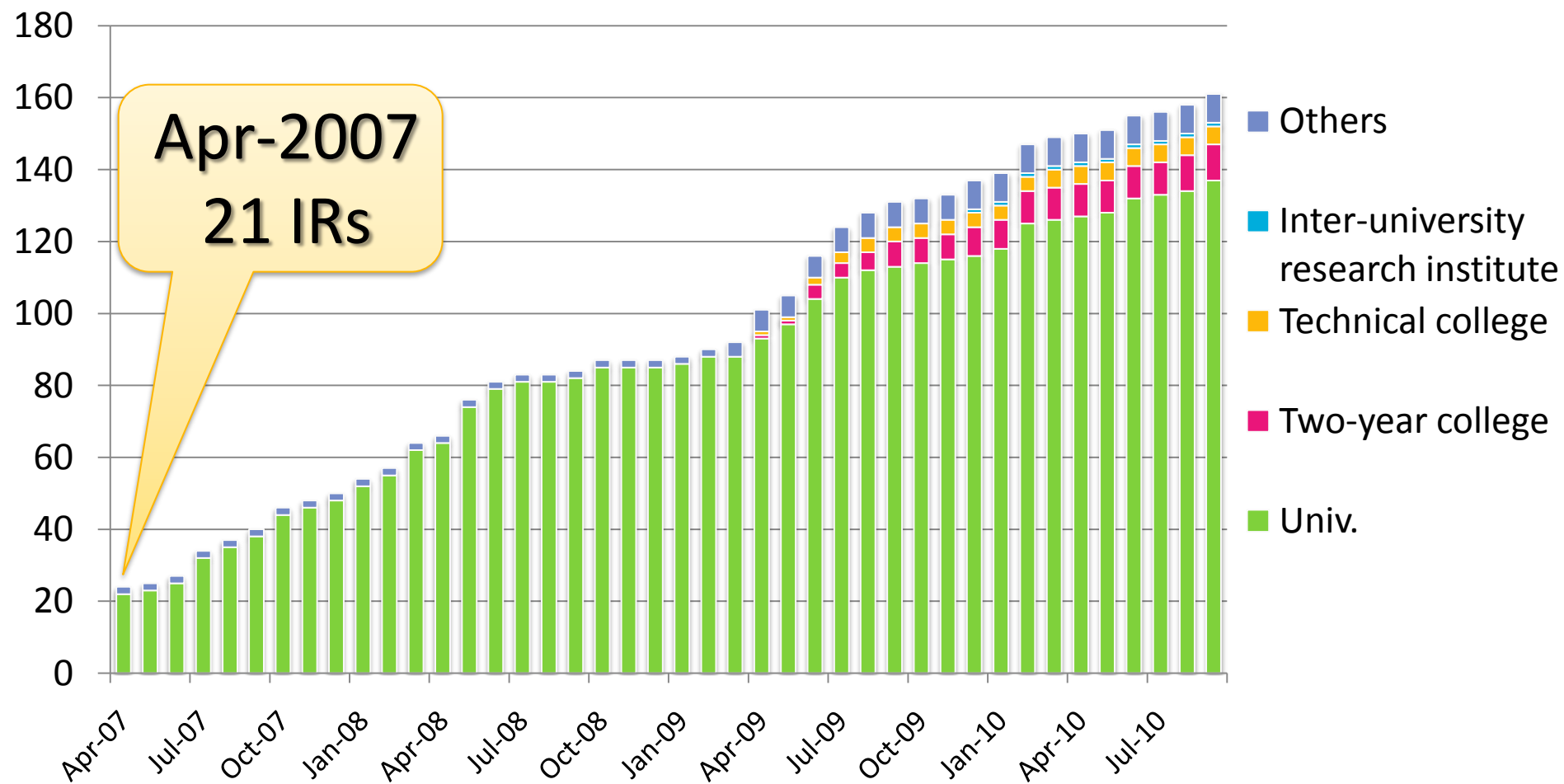
- An institutional repository is an online system and services for collecting, managing and disseminating the outputs of a research institution.
- There are 1,447 institutional repositories in the world.

The number of IRs in Japan



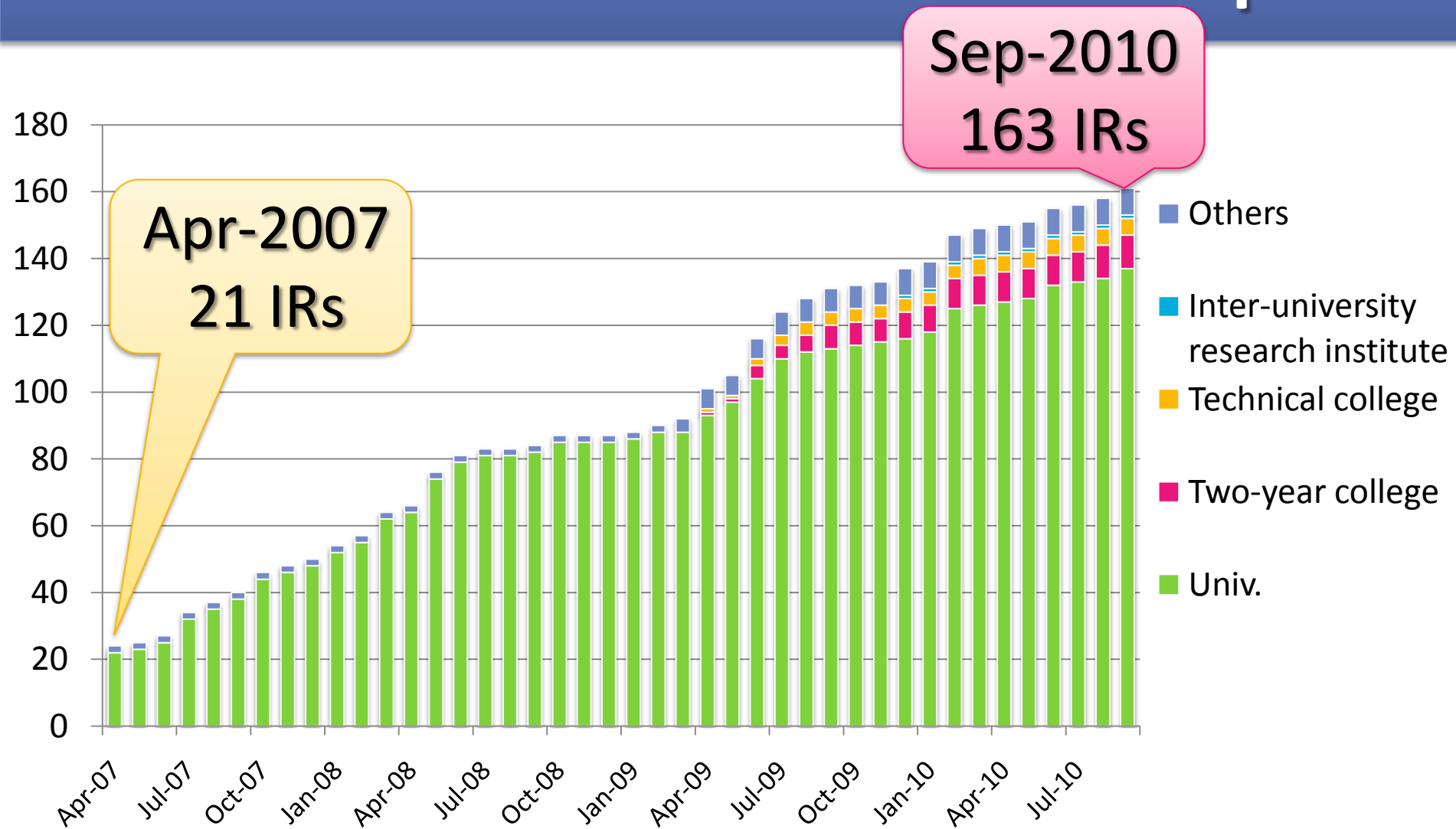
Source Data :NII Institutional Repositories DataBase Content Analysis
http://irdb.nii.ac.jp/analysis/index_e.php (Retrieved 25 October 2010)

The number of IRs in Japan



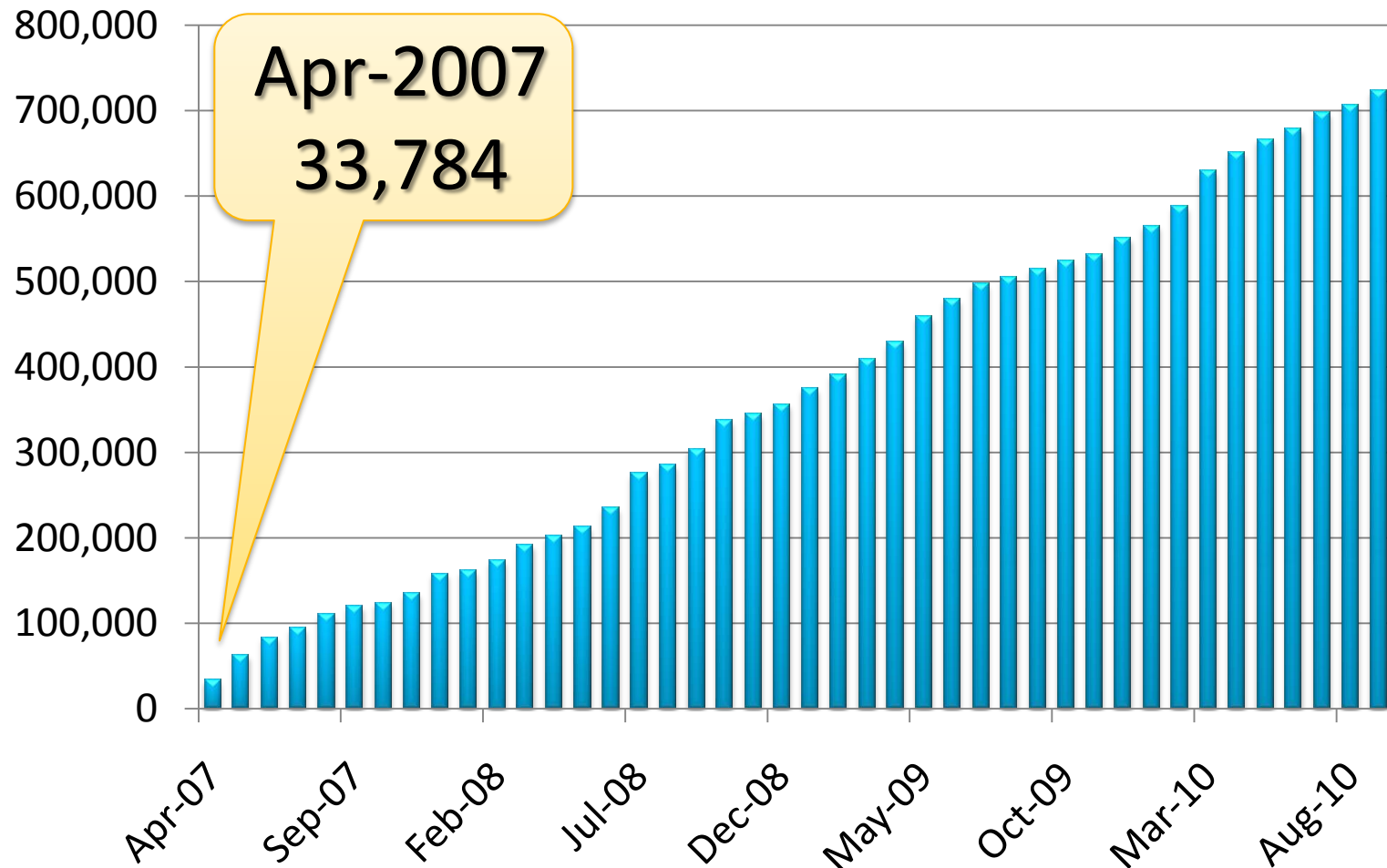
Source Data :NII Institutional Repositories DataBase Content Analysis
http://irdb.nii.ac.jp/analysis/index_e.php (Retrieved 25 October 2010)

The number of IRs in Japan



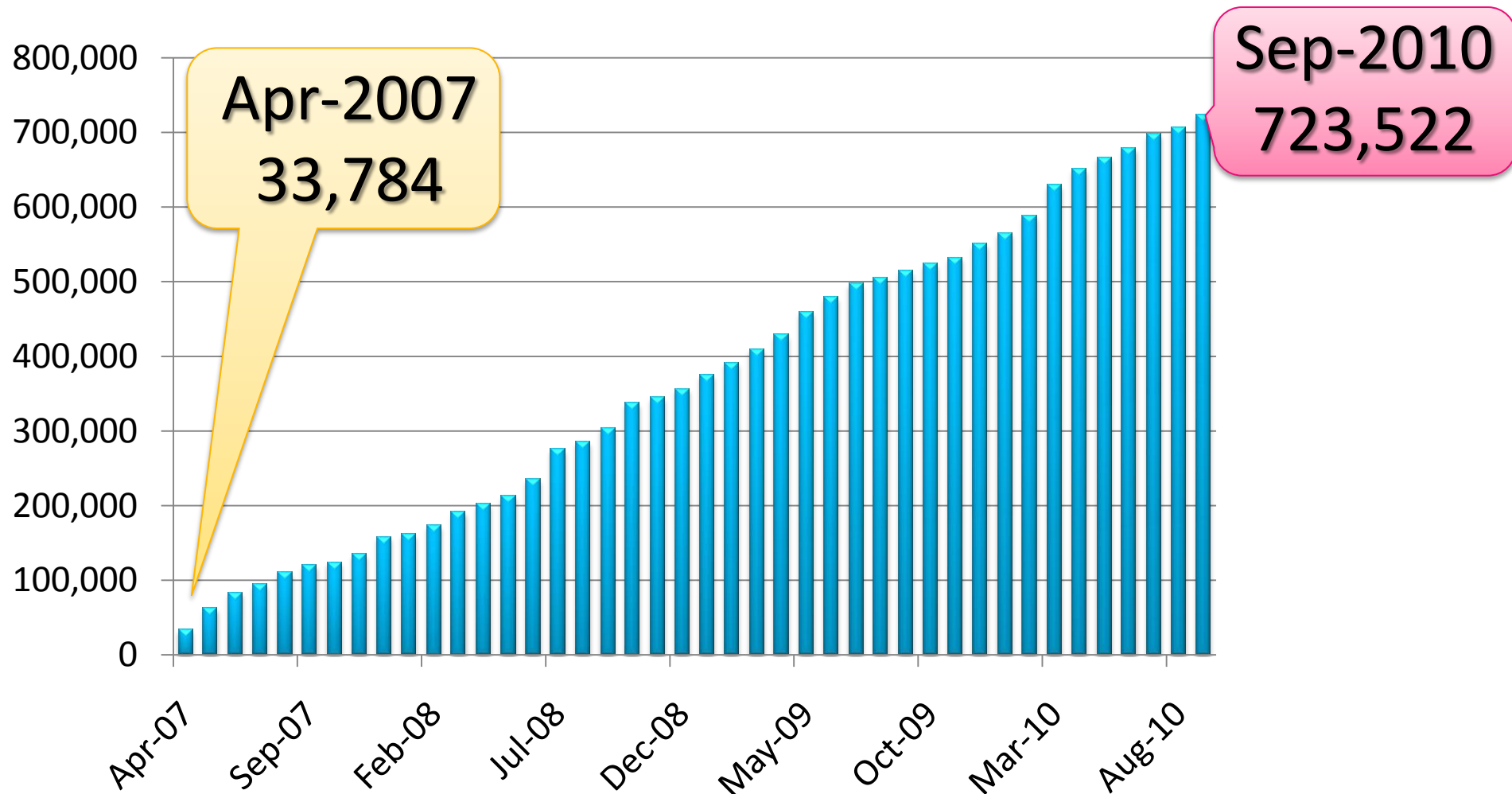
Source Data :NII Institutional Repositories DataBase Content Analysis
http://irdb.nii.ac.jp/analysis/index_e.php (Retrieved 25 October 2010)

The number of articles deposited in IRs in Japan



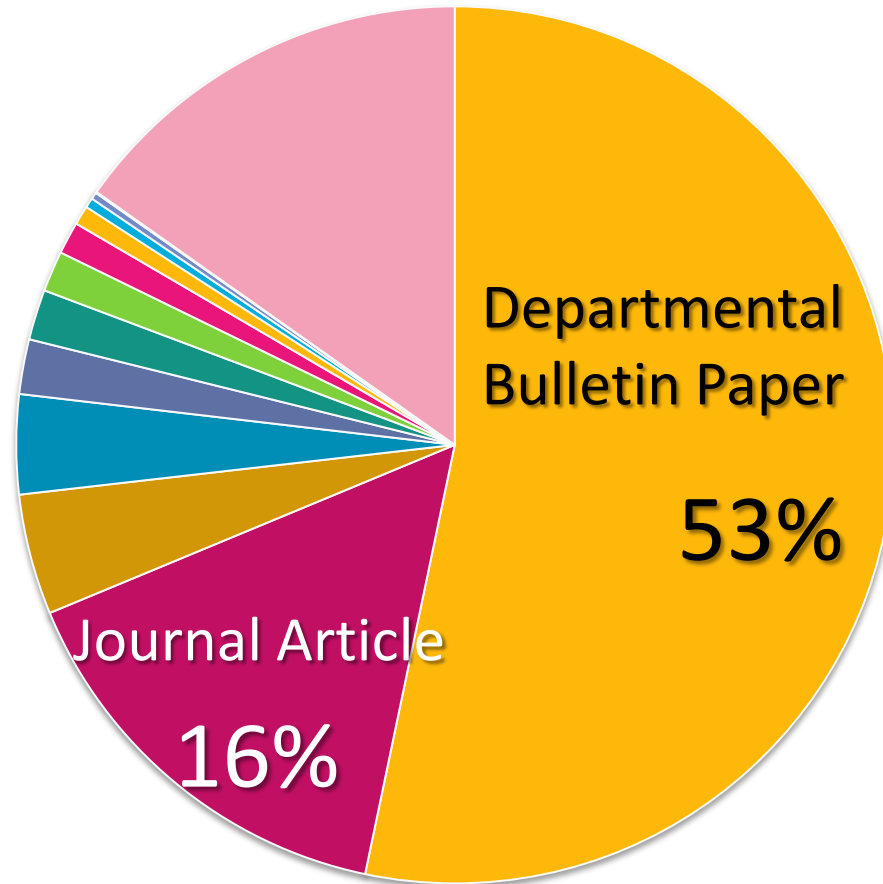
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The number of articles deposited in IRs in Japan

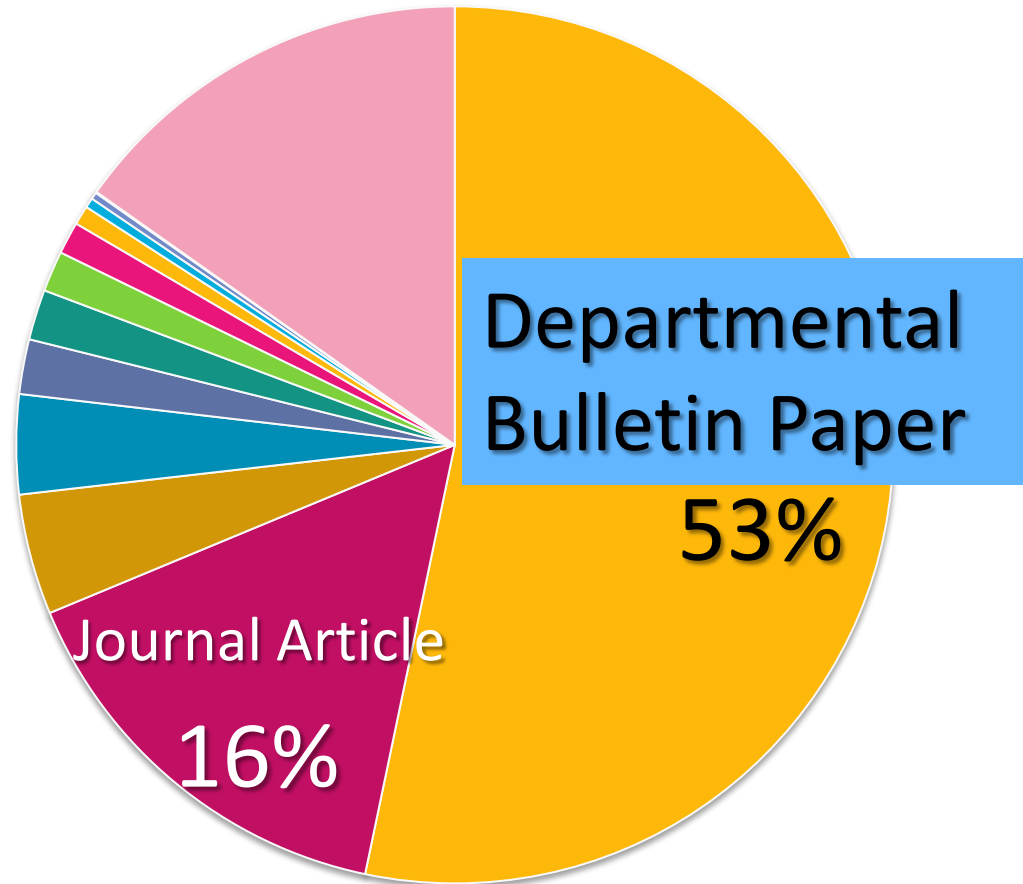


Source Data :NII Institutional Repositories DataBase Content Analysis
http://irdb.nii.ac.jp/analysis/index_e.php (Retrieved 25 October 2010)

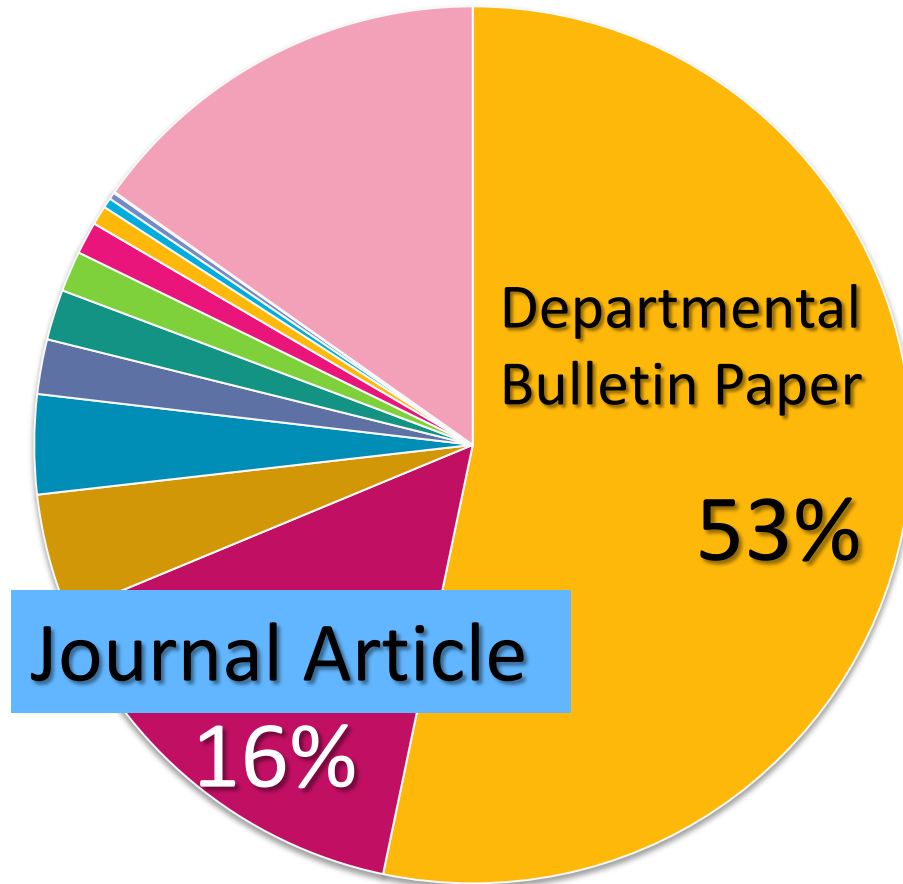
Content types of articles deposited in IRs in Japan



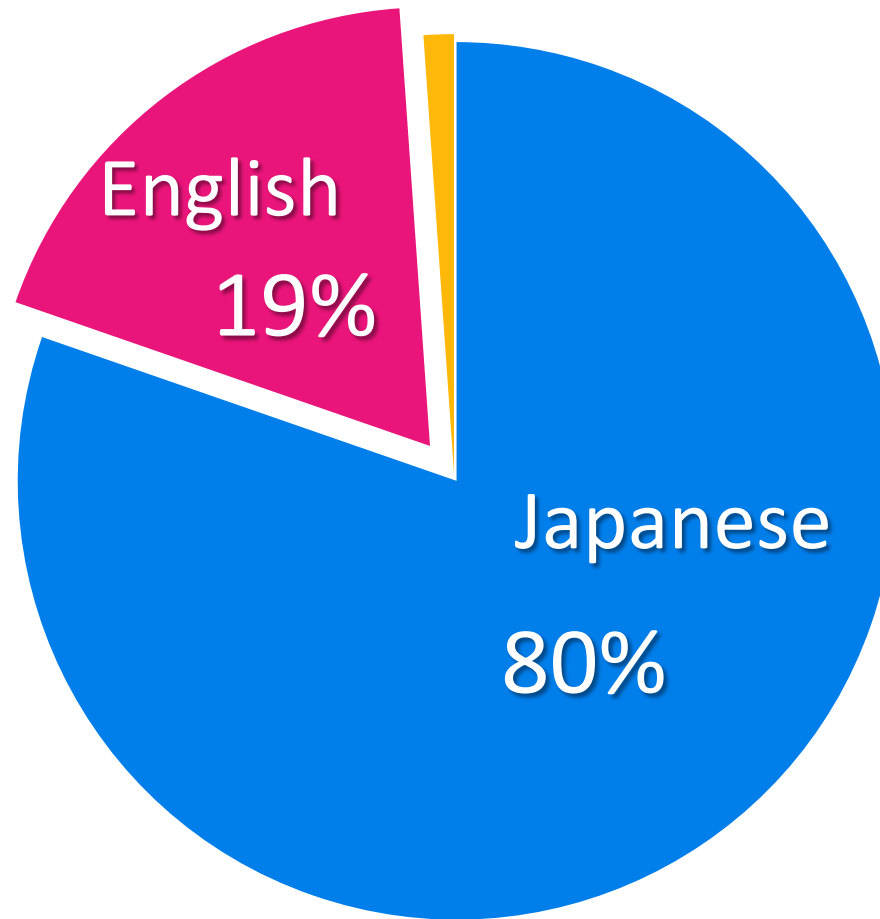
Content types of articles deposited in IRs in Japan



Content types of articles deposited in IRs in Japan



Language distribution of articles



IR and “world-wide electronic distribution” of articles

➤ The report released by Science Council of the MEXT in Japan (2009)

“(research findings by Japanese) will distribute globally through Institutional Repositories”

http://www.mext.go.jp/b_menu/shingi/gijyutu/gijyutu4/gaiyou/1283490.htm

(Retrieved 25 October 2010)

- Despite this...
 - It has not been explored whether articles deposited in IRs are used globally.

Early studies

- Robinson (2009)
 - Usage analysis of Hong Kong Institute of Education's Repository
 - It was used from Hong Kong, Mainland China, US, Taiwan, Australia etc.

Early studies

- Sato et al. (2009)
 - Four Japanese IR's analysis
 - Articles written in English were used mainly by non-Japanese users.

In this study...

- Six Japanese IRs' usage logs were analyzed
- To identify
 - from which country or region users accessed articles
 - what their access paths were
- The significance of IRs in international scholarly communication will be discussed.

Table of contents

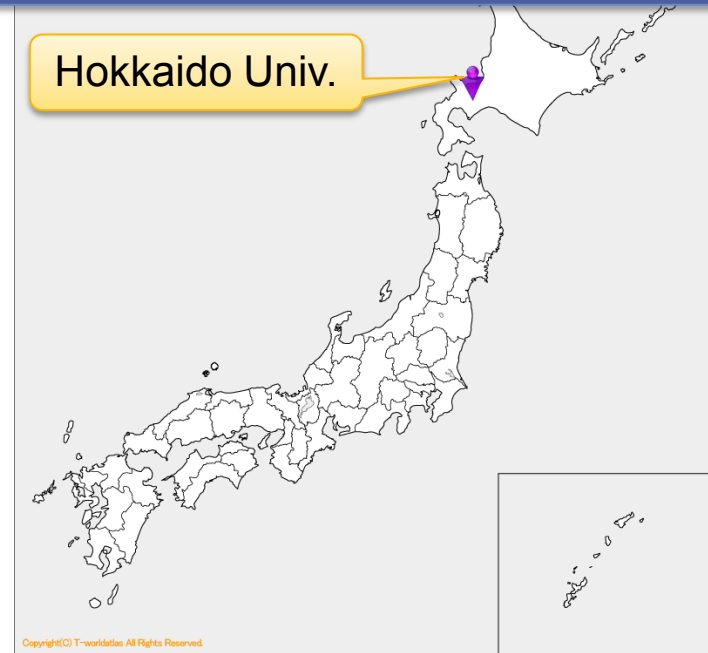
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Data

- Object repositories:
 - HUSCAP
 - KURENAI
 - QIR
 - Tulips-R
 - ARRIDE
 - CRFukui

HUSCAP

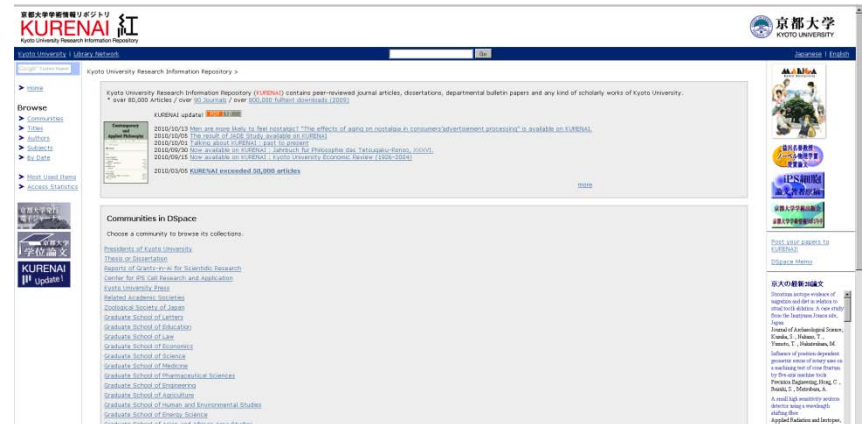
- Hokkaido University
 - 11,610 Undergraduates
 - 3,470 Graduates
 - 2,038 faculties
- HUSCAP: Hokkaido University Collection of Scholarly and Academic Papers
 - Since 2005
 - 29,992 articles (Dec 2009)
 - <http://eprints.lib.hokudai.ac.jp/>



A screenshot of the HUSCAP website. The header includes the HUSCAP logo and the text "Hokkaido University Collection of Scholarly and Academic Papers". Below the header is a navigation menu with links like "Home", "About the Collection", "Browse Collections", "Scholarly Journals", "Theses", "Conference Papers", "Events", and "Tax downloads". The main content area displays a list of recent submissions with details such as the journal name, volume, issue, and year. On the right side, there is a sidebar with a "Post your papers to HUSCAP" button, a "HUSCAP レビュー" section, and a "RSS Feeds" section. The footer contains logos for JAIRO, SCIRUS, and NDLTD.

KURENAI

- Kyoto University
 - 13,225 Undergraduates
 - 9,319 Graduates
 - 2,865 faculties
- KURENAI: Kyoto University Research Information Repository
 - Since 2006
 - 47,625 articles (Dec 2009)
 - <http://repository.kulib.kyoto-u.ac.jp/dspace/>



QIR

- Kyushu University
 - 11,752 Undergraduates
 - 7,013 Graduates
 - 2,216 faculties
- QIR: Kyushu University Institutional Repository
 - Since 2006
 - 12,166 articles (Dec 2009)
 - <https://qir.kyushu-u.ac.jp/dspace/>



A screenshot of the Kyushu University Institutional Repository (QIR) website. The page features a search bar with a Google logo, a list of articles under "QIR News", and a sidebar with navigation links. The main content area includes a search box and a list of articles with their titles and dates. The website is in Japanese and includes the Kyushu University logo in the top right corner.

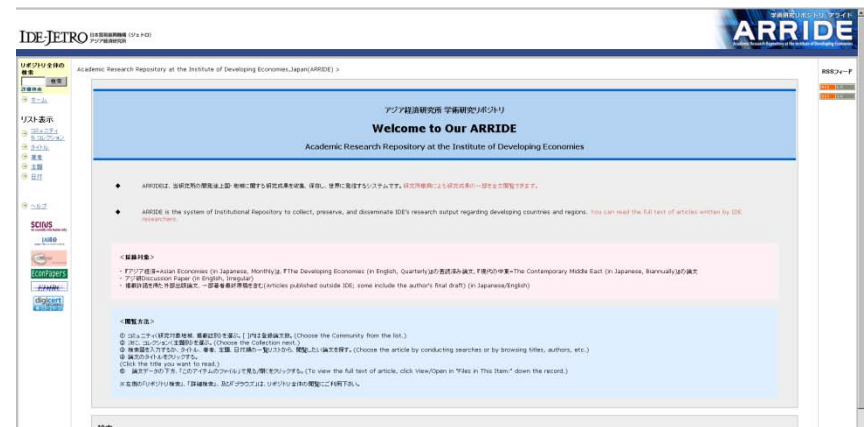
Tulips-R

- University of Tsukuba
 - 10,051 Undergraduates
 - 6,777 Graduates
 - 1,683 faculties
- Tulips-R: Tsukuba Repository
 - Since 2007
 - 8,919 articles (Dec 2009)
 - <http://www.tulips.tsukuba.ac.jp/dspace/>



ARRIDE

- Institute of Developing Economies, Japan External Trade Organization
 - 138 Researchers
- ARRIDE: Academic Research Repository at the Institute of Developing Economies
 - Since 2006
 - 688 articles (Dec 2009)
 - <http://ir.ide.go.jp/dspace/>



CRFukui

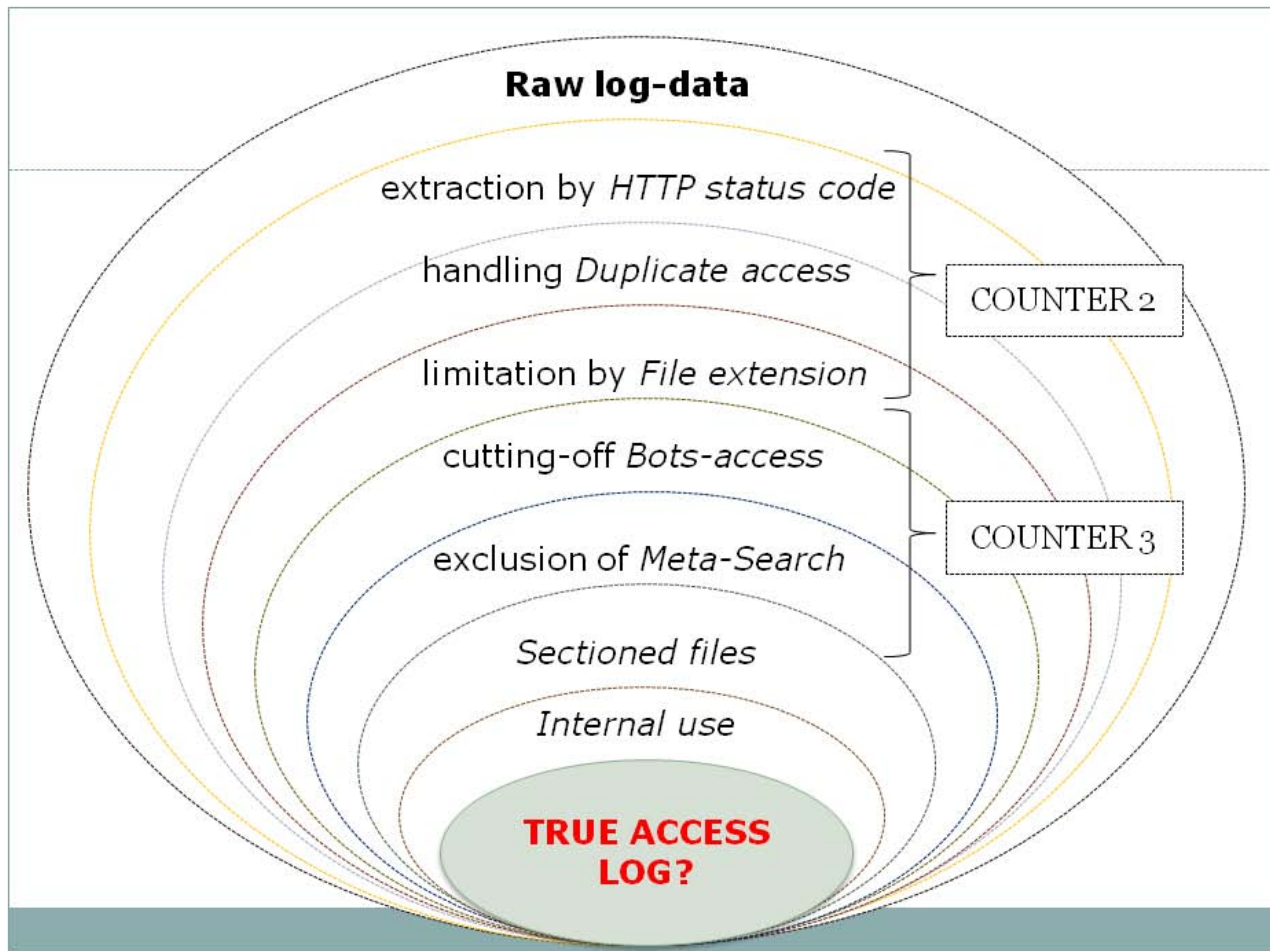
- CRFukui: Community Repository of Fukui
 - CRFukui is a shared repository with universities, two-year colleges, technical colleges, a prefectural library and a prefectural archive in Fukui Prefecture
 - 10 member institutes
 - Since 2009
 - 2,171 articles (Dec 2009)
 - <http://crf.flib.u-fukui.ac.jp/>



Methods

- Research period:
 - From January to December 2009 (one year)
- User's geographical information was determined from IP address using *GeoLite country*.
- The metadata records of the object articles were harvested using OAI-PMH.

Log filtering procedure



Yoshinori Sato(2008).

Table of contents

- ~~• Background~~
- ~~• Data & Methods~~
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(1) Countries and regions

User's source access countries for all repositories

ARRIDE	CRF	HUSCAP	KURENAI	QIR	Tulips-R	Total
Japan	Japan	Japan	Japan	Japan	Japan	Japan
U.S	U.S	U.S	China	U.S	U.S	U.S
China	India	China	U.S	China	China	China
India	China	India	India	India	India	India
U.K	Ukraine	Germany	U.K	Germany	Korea	Germany
Indonesia	U.K	U.K	Germany	U.K	U.K	U.K
France	Germany	Taiwan	Indonesia	Korea	Taiwan	France
Malaysia	Iran	Korea	France	France	Germany	Korea
Thailand	Saudi Arabia	France	Korea	Iran	France	Taiwan
Philippines	Canada	Canada	Taiwan	Taiwan	Iran	Indonesia

User's source access countries for all repositories

ARRIDE	CRF	HUSCAP	KURENAI	QIR	Tulips-R	Total
<u>Japan</u>	<u>Japan</u>	<u>Japan</u>	<u>Japan</u>	<u>Japan</u>	<u>Japan</u>	<u>Japan</u>
U.S	U.S	U.S	China	U.S	U.S	U.S
China	India	China	U.S	China	China	China
India	China	India	India	India	India	India
U.K	Ukraine	Germany	U.K	Germany	Korea	Germany
Indonesia	U.K	U.K	Germany	U.K	U.K	U.K
France	Germany	Taiwan	Indonesia	Korea	Taiwan	France
Malaysia	Iran	Korea	France	France	Germany	Korea
Thailand	Saudi Arabia	France	Korea	Iran	France	Taiwan
Philippines	Canada	Canada	Taiwan	Taiwan	Iran	Indonesia

User's source access countries for all repositories

ARRIDE	CRF	HUSCAP	KURENAI	QIR	Tulips-R	Total
Japan	Japan	Japan	Japan	Japan	Japan	Japan
<u>U.S</u>	<u>U.S</u>	<u>U.S</u>	<u>China</u>	<u>U.S</u>	<u>U.S</u>	<u>U.S</u>
<u>China</u>	<u>India</u>	<u>China</u>	<u>U.S</u>	<u>China</u>	<u>China</u>	<u>China</u>
<u>India</u>	<u>China</u>	<u>India</u>	<u>India</u>	<u>India</u>	<u>India</u>	<u>India</u>
U.K	Ukraine	Germany	U.K	Germany	Korea	Germany
Indonesia	U.K	U.K	Germany	U.K	U.K	U.K
France	Germany	Taiwan	Indonesia	Korea	Taiwan	France
Malaysia	Iran	Korea	France	France	Germany	Korea
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User's source access countries for all repositories

ARRIDE	CRF	HUSCAP	KURENAI	QIR	Tulips-R	Total
Japan	Japan	Japan	Japan	Japan	Japan	Japan
U.S	U.S	U.S	China	U.S	U.S	U.S
China	India	China	U.S	China	China	China
India	China	India	India	India	India	India
<u>U.K</u>	Ukraine	<u>Germany</u>	<u>U.K</u>	<u>Germany</u>	<u>Korea</u>	<u>Germany</u>
<u>Indonesia</u>	<u>U.K</u>	<u>U.K</u>	<u>Germany</u>	<u>U.K</u>	<u>U.K</u>	<u>U.K</u>
<u>France</u>	<u>Germany</u>	<u>Taiwan</u>	<u>Indonesia</u>	<u>Korea</u>	<u>Taiwan</u>	<u>France</u>
<u>Malaysia</u>	Iran	<u>Korea</u>	<u>France</u>	<u>France</u>	<u>Germany</u>	<u>Korea</u>
<u>Thailand</u>	Saudi Arabia	<u>France</u>	<u>Korea</u>	Iran	<u>France</u>	<u>Taiwan</u>
<u>Philippines</u>	Canada	Canada	<u>Taiwan</u>	<u>Taiwan</u>	Iran	<u>Indonesia</u>

User's source access regions for all repositories (excluding Japan)

	ARRIDE	CRF	HUSCAP	KURENAI	QIR	Tulips-R	Total	
							Traffic	%
Asia (without Japan)	9,382	5,591	62,063	158,504	54,873	21,305	311,718	47.2%
Europe	3,818	3,175	40,815	66,012	28,422	8,583	150,825	22.8%
North America	3,282	3,550	30,586	58,720	21,968	10,054	128,160	19.4%
South America	356	540	5,950	7,651	3,324	770	18,591	2.8%
Africa	934	676	5,387	15,715	5,766	1,543	30,021	4.5%
Oceania	466	355	3,108	6,179	2,801	642	13,551	2.1%
Unknown	34	39	4,509	1,769	849	140	7,340	1.1%

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<u>North America</u>	<u>3,282</u>	<u>3,550</u>	<u>30,586</u>	<u>58,720</u>	<u>21,968</u>	<u>10,054</u>	<u>128,160</u>	<u>19.4%</u>
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(2) Access path

Non-Japanese users access path to IRs (Average)

	Direct access	Through metadata page	Through search-engines	Through other pages
ARRIDE	9.3	3.9	9.0	36.8
CRF	5.1	0.8	44.6	0.5
HUSCAP	1.1	1.6	5.5	0.2
KURENAI	1.8	1.6	8.8	0.3
QIR	3.4	1.6	22.7	0.4
Tulips-R	2.1	0.4	10.8	5.5

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Mainly
through RePEC
<http://repec.org/>

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<u>Tulips-R</u>	2.1	0.4	10.8	5.5

Mainly through Google

Access through search-engine

ウェブ 画像 動画 地図 ニュース ショッピング Gmail その他 ▼



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その他のタイトル: 拡張有限要素法の再定式化とその鋼構造物における疲労き裂進展解析への適用
著者: Shibanuma, Kazuki [NII 研究者リポジトリ](#)
著者名の別形: 柴沼, 一樹
キーワード: the extended finite element method
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blending elements
enrichment
partition of unity
PU
PUFEM
crack analysis
fatigue
crack propagation
発行日: 24-May-2010
出版者: Kyoto University
学位授与大学: Kyoto University (京都大学)
学位の種類: 新制・課程博士
取得分野: 博士(工学)
報告番号: 甲第15580号
学位記番号: 工博第3292号
学位授与年月日: 2010-05-24
請求記号: 新制/工/1497
整理番号: 28101
研究科・専攻: 京都大学大学院工学研究科社会基盤工学専攻
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出現コレクション: [博士\(工学\)](#)

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KURENAI	1.8	<u>1.6</u>	8.8	0.3
QIR	3.4	<u>1.6</u>	22.7	0.4
Tulips-R	2.1	<u>0.4</u>	10.8	5.5

(3) Discipline

The relationship between articles' fields and the number of access: HUSCAP

		Non-Japanese Total	Asia	Europe	North America
Arts & Humanities	Avg.	16.6	4.3	5.2	5.4
Social Sciences	Avg.	13.1	4.5	3.7	3.0
Science, Technology and Medicine	Avg.	8.2	3.2	2.1	1.7
Others	Avg.	14.7	4.2	4.1	3.6

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Others	Avg.	14.7	4.2	4.1	3.6

The relationship between articles' fields and the number of access: HUSCAP

		Non-Japanese Total	<u>Asia</u>	Europe	North America
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Social Sciences	Avg.	13.1	<u>4.5</u>	3.7	3.0
Science, Technology and Medicine	Avg.	8.2	3.2	2.1	1.7
Others	Avg.	14.7	4.2	4.1	3.6

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Social Sciences	Avg.	13.1	4.5	3.7	3.0
Science, Technology and Medicine	Avg.	8.2	<u>3.2</u>	<u>2.1</u>	<u>1.7</u>
Others	Avg.	14.7	4.2	4.1	3.6

The relationship between articles' fields and the number of access: KURENAI

		Non-Japanese Total	Asia	Europe	North America
Arts & Humanities	Avg.	41.0	24.4	7.9	5.7
Social Sciences	Avg.	35.1	7.8	9.6	7.6
Science, Technology and Medicine	Avg.	9.0	4.4	2.1	1.5
Others	Avg.	46.5	22.7	12.2	8.2

The relationship between articles' fields and the number of access: KURENAI

		Non-Japanese Total	Asia	<u>Europe</u>	<u>North America</u>
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Table of contents

- ~~• Background~~
- ~~• Data & Methods~~
- ~~• Results~~
- Conclusion

Conclusion

- Articles written in English were used globally, mainly by users from Asia, Europe and North America.
- The largest user group was from Asia.
- Users mainly found articles in IRs by using search-engines.
- Users from Asia tended to use STM articles more than others.

Conclusion

- Japanese IRs are contributing to international scholarly communication.

Future work

- Compare the result with other countries' repositories.
- Analyze how researchers and citizens read and utilize institutional repositories.
 - Relationships among articles' citations, usage in e-journal platform and deposition to IRs.
 - Motivation to use articles in IRs.
 - Link analysis of IRs.
- How IRs affect or change the scholarly communication.

Acknowledgements

- This research was partially supported by the MEXT, Grant-in-Aids for scientific research (c).
- Institutional Repositories Program, National Institute of Informatics, Japan
- Research Center for Knowledge Communities, University of Tsukuba
- All involved partner institutions
- Yoshinori Sato, Tohoku Gakuin University, Japan
- Hiroshi Itsumura, University of Tsukuba
- Minako Nishiura, University of Tsukuba

Thank you for
your attention!

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