

## Access log analysis of university repository

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# ACCESS LOG ANALYSIS OF UNIVERSITY REPOSITORY

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# Outline

- 
1. **Introduction**
  2. IR (Institutional Repository)
  3. QIR: Kyu(Q)shu University IR
  4. Research topics
  5. Conclusion

# 1. Introduction

- Scholarly papers should be accessible by anybody.
  - Because, they should be sharable by all human beings.
- Recently,
  - EJ (Electric Journal) becomes popular.
  - EJ is a closed service.
  - EJ subscription price becomes very high.
- To against EJ,
  - Open Access movement was arising.
- IR (Institutional Repository)
  - Provide open access to institutional research output by self-archiving it.

# Problems of Institutional Repository

- Problems
  - No quality assurance of original papers
  - Difficult to increase papers
- Reasons
  - Based on self-uploading by volunteers
  - No incentive for researcher (Just overhead work)
- Solutions for IR problems
  - Automatic collection of published paper metadata
  - Prompt uploading with few work (easy uploading)
  - *Show effectiveness of IR*

} System  
} Developing

# Objectives

- Analyze access log of university repository
  - To find new quality assurance method
  - To develop feedback system for researcher
  - To create something good search or recommendation system
  - To evaluate effectiveness of IR

# Outline

1. Introduction

➔ 2. IR (Institutional Repository)

3. QIR: Kyu(Q)shu University IR

4. Research topics

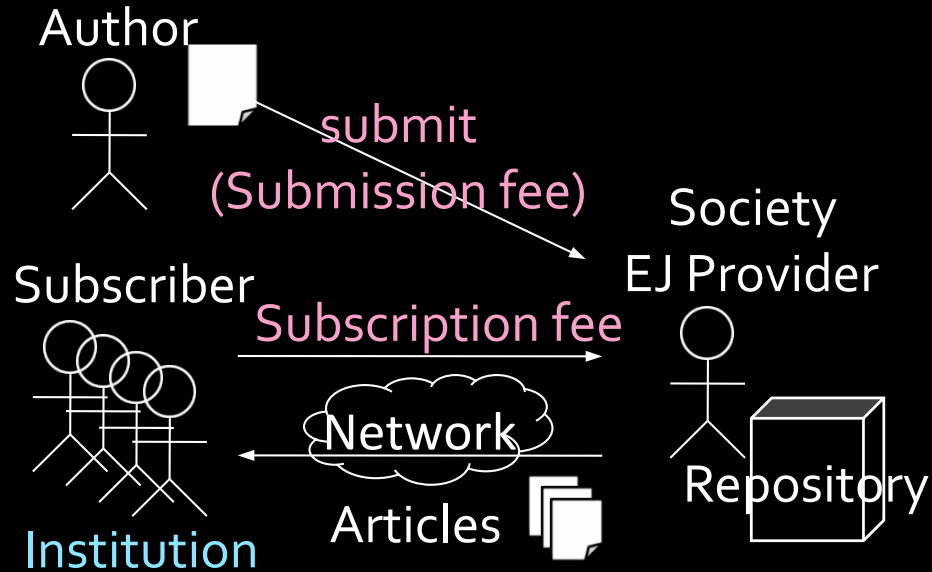
5. Conclusion

## 2. IR (Institutional Repository)

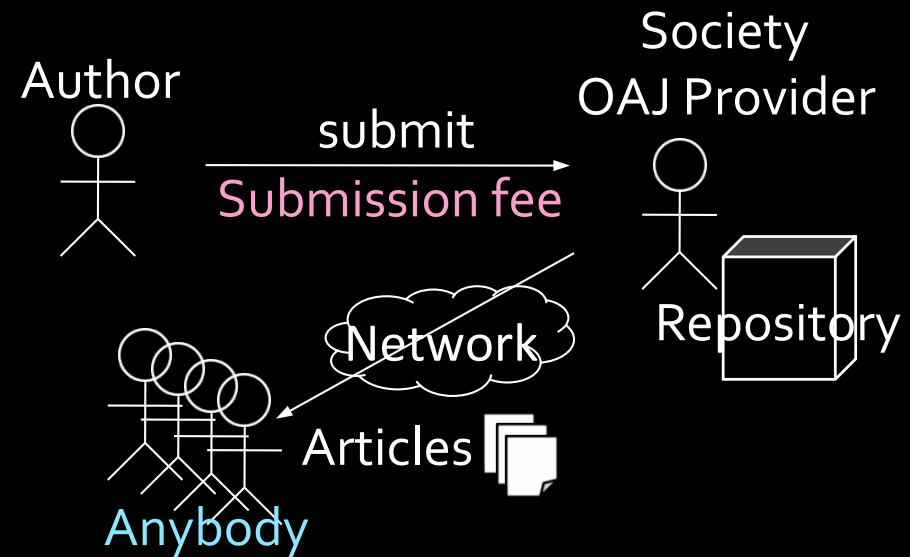
- Open Access movement
  - Open access journal
  - Self archiving
- Institutional Repository
  - Provide open access to institutional research output by self-archiving it
- Why University Library operates IR system?
  - Showcase of Institution
  - Social contribution
  - To against EJ



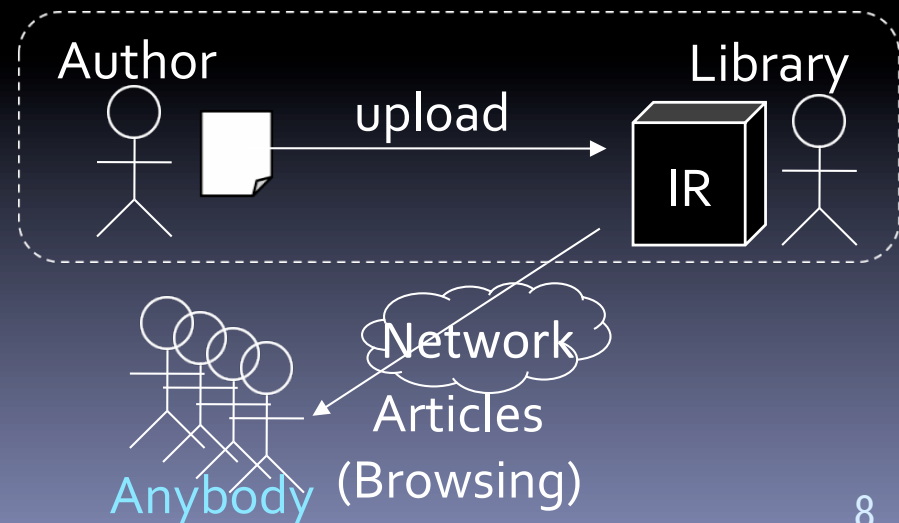
# E-Journal



# Open Access Journal



# Institutional Repository



# Outline

1. Introduction
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# 3. QIR: Kyu(Q)Shu University Repository

QIR

DHJS

Researcher DB

The screenshot shows the QIR website interface. The main content area displays the following information:

- Item title: A Model of Publication of Scholarly Papers on Institutional Repositories
- Author: Baba, Kensuke / Ito, Eisuke / Yoshimatsu, Naomi / Hoshiko, Nami / Murakami, Kazuaki
- Author name in Japanese: ババ, ケンスケ / イトウ, エイスケ / ヨシマツ, ナオミ / ホシコ, ナミ / ムラカミ, カズアキ
- Author information (別表記): 馬場, 謙介 / 伊東, 栄典 / 吉松, 直美 / 星子, 奈美 / 村上, 和彰
- Author information: Kyushu University Library / Research Institute for IT, Kyushu University / Graduate school of ISEE, Kyushu University

ファイル	記述	サイズ	フォーマット
<a href="#">DRFIC09-QU-lib-poster.pdf</a>		603Kb	Adobe PDF
<a href="#">drfic2009-QU-lib.pdf</a>		23Kb	Adobe PDF

The screenshot shows the DHJS website interface. The main content area displays the following information:

- Researcher name: Eisuke Ito
- Position: Associate Professor
- Institution: Research Institute for Information Technology
- Last modified date: 2010.7.23

Below the researcher information, there is a list of academic activities and papers:

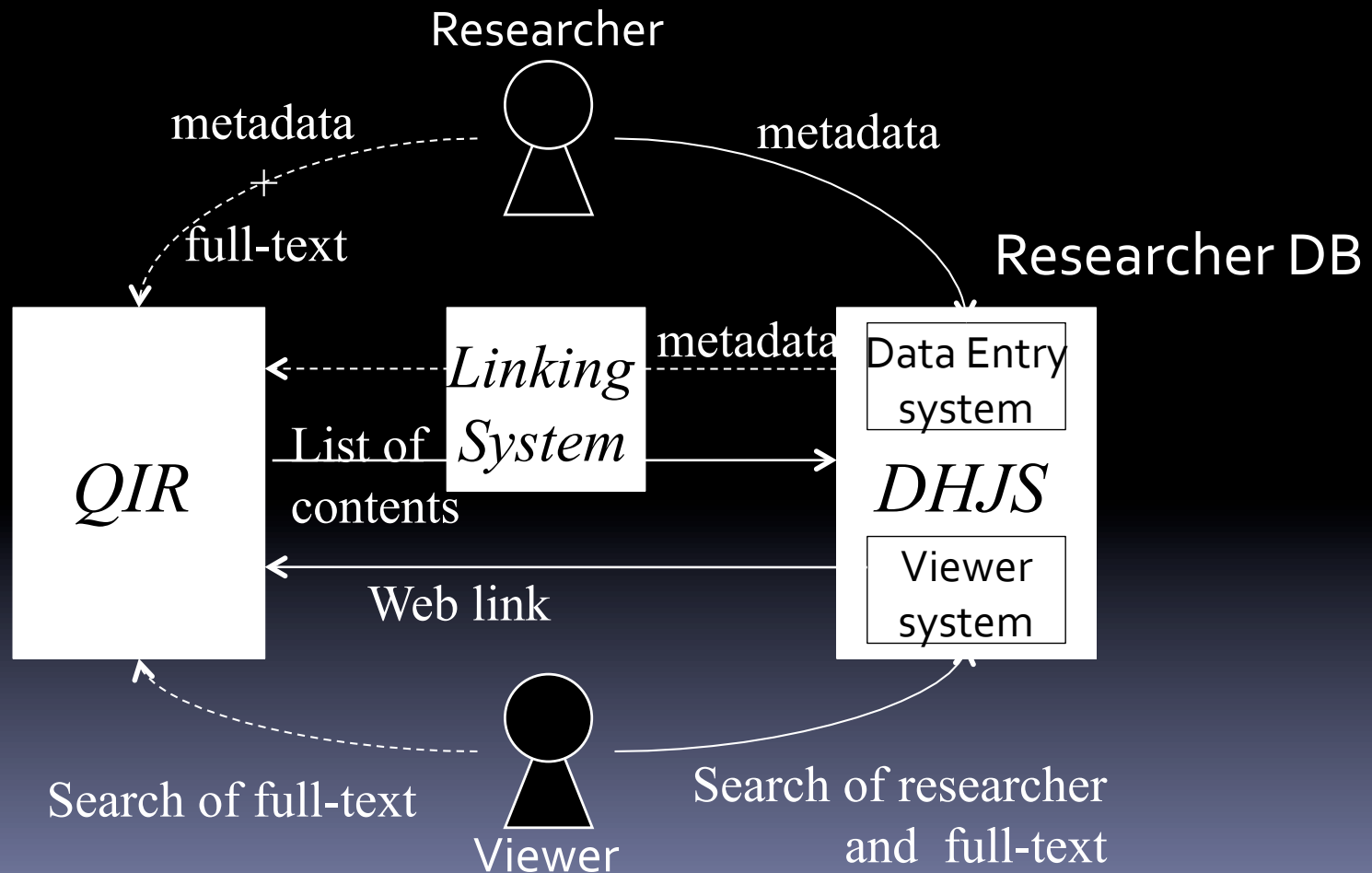
- Academic Activities
- Papers

The screenshot shows a list of papers by Eisuke Ito. The list includes the following titles:

1. Movie annotation analysis for sympathy based ranking.
2. A study of attribute control on IdP in national federation.
3. Masanori Nakakuni, Eisuke Ito, Yoshiaki Kasahara, Sozo Inoue, Hiroshi Dozono, Construction and Use Examples of Private Electronic Notary Service in Educational Institutions, *WSEAS TRANSACTIONS ON ADVANCES in ENGINEERING EDUCATION*, ISSN: 1790-1979, 2008.10.
4. Masanori Nakakuni, Eisuke Ito, Yoshiaki Kasahara and Hiroshi Dozono, Private Electronic Notary Service in Universities and Its Utilization in Education, *EDUTE'08 (The 4th WSEAS/IASME International Conference on EDUCATIONAL TECHNOLOGIES)*, 2008.08.
5. Discovery of Related Items from Word of Mouth.
6. A study of similar item discovery from medial literature.
7. A study of PKI based inter-domain ID-federation.
8. Information discovery based on Social Bookmarks.
9. Eisuke Ito, Yoshiaki Kasahara, Megumi Nogita and Takahiko Suzuki, Institutional authentication platform for trustful inter/intra-institutional ubiquitous services, *Proc. of the 2nd International Conference of Ubiquitous Information Technology*, pp.103-108, 2007.12.

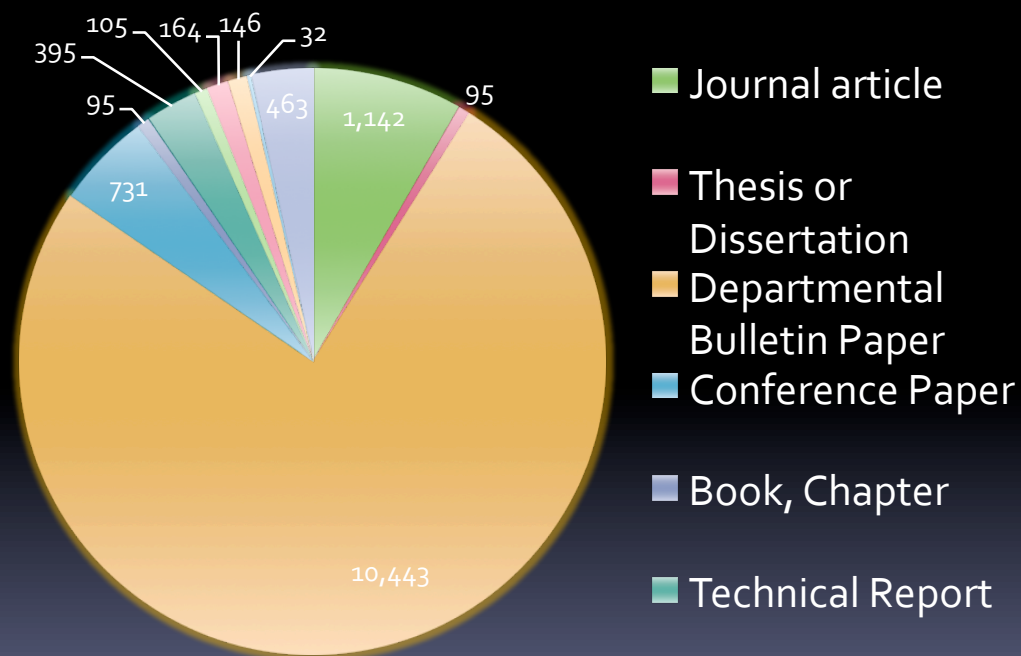
DSpace based IR system  
by Kyushu Univ. Library  
Since April 2006.

# The outline of QIR, DHJS, and the linking system



# Contents

- 13,948 contents (Mar. 31, 2010)



Type	contents	%
Journal article	1,142	8.27%
Thesis or Dissertation	95	0.69%
<b>Departmental Bulletin Paper</b>	<b>10,443</b>	<b>75.61%</b>
Conference Paper	731	5.29%
Book, Chapter	95	0.69%
Technical Report	395	2.86%
Research Paper	105	0.76%
Article	164	1.19%
Preprint	146	1.06%
Learning Material	32	0.23%
Others	463	3.35%
Total	13,811	100.00%

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## 4. Access log analysis of QIR

- Logs
  - QIR Log (Apache style)
  - DSpace's stat data
  - Google Analytics
  - Log of Researcher activity DB
  - Log of Link Database (between QIR and Researcher DB)

## 4.1 Quality assurance method

- Quality assurance of Published papers
    - Peer review for brand-new paper
    - Journal Impact factor, or Number of citation
  - Many original papers on IR
    - University bulletins
  - How to estimate quality of original paper?
    - Number of page view
    - Number of visited unique users
    - Author's point
- } Access log analysis

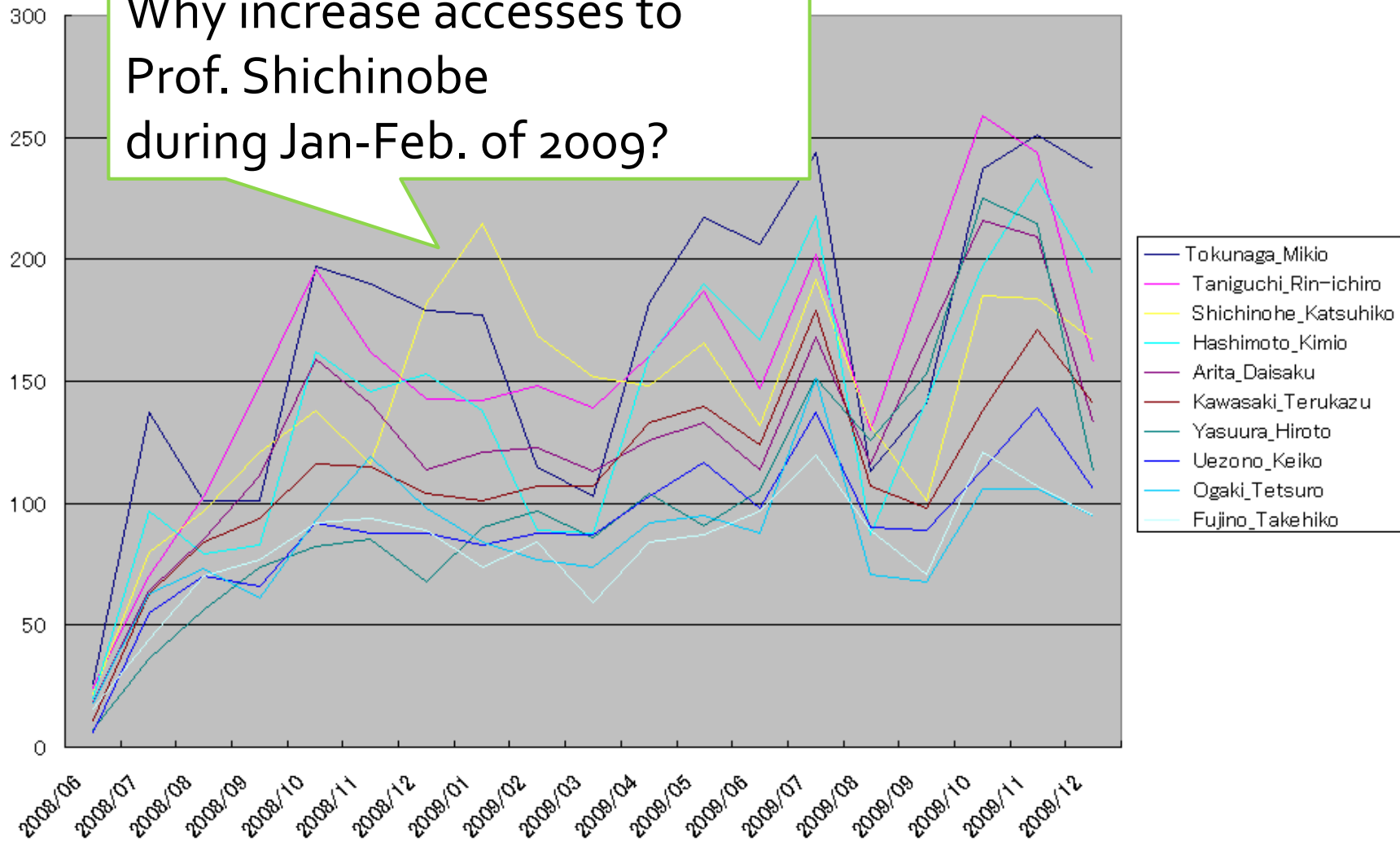


## 4.2 Feedback to researcher

- Present IR gives few incentive for researcher
  - No feedback from IR
  - Develop feedback system from IR
    - Monthly report of page view, download number
    - Nations of access
    - **Number of researcher's access**
      - Who has interest to your research
    - **Number of student's access**
      - Who want to belong your laboratory
    - Relation with access spike and news topic.
      - Ex. Volcano news → Spike of access to
- } Different access pattern, maybe.

# Access trend

Why increase accesses to Prof. Shichinobe during Jan-Feb. of 2009?

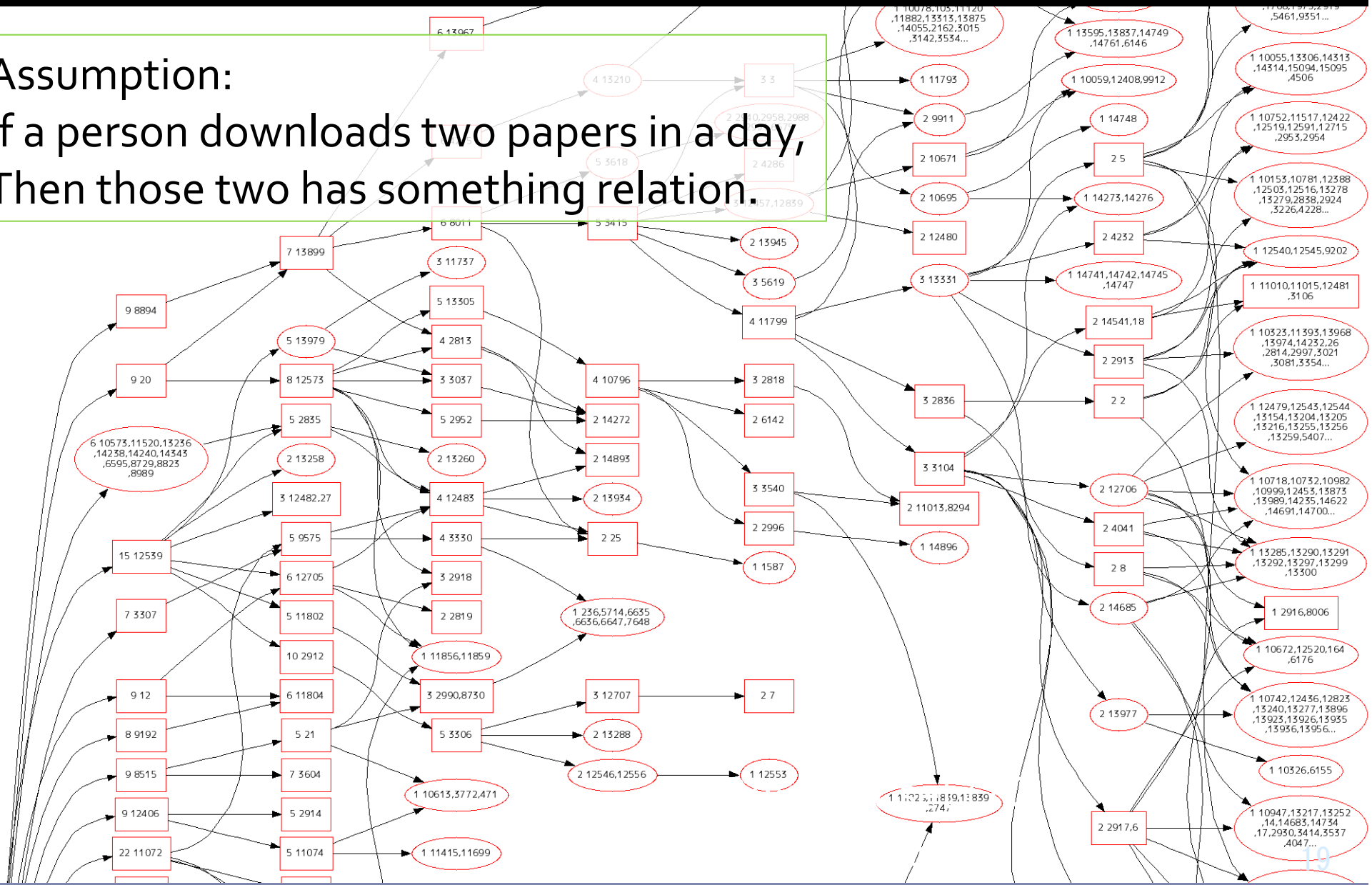


## 4.3 Recommendation system

- Paper recommendation
  - Like amazon.com
    - *Frequently download together*
    - *Users who download this paper also download*
  - Query Keyword
    - Collect **Query words** of search engine for a paper
    - If a user arrived a paper using search engine with **query words**,
    - Then recommend other frequently accessed paper via the similar **query words**

# Co-occurrence of access

Assumption:  
If a person downloads two papers in a day,  
Then those two has something relation.



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- ➔ 5. Conclusion

# 5. Conclusion

- IR may be important service for academic community.
- Access log analysis of university repository
  - To find new quality assurance method
  - To develop feedback system for researcher
  - To create something search or recommendation system
  - To evaluate effectiveness of IR
- Future works
  - To be continued

Thank you for your attention.