Enhanced discovery and reuse of open access contents through author identifiers: A case study in Japan

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**Purpose of the project**

The purpose of this project is to introduce the **author identification function** of open access contents into Japan’s repository network.

**Abstract of the project**

**Researcher Numbers of Grants-in-Aid for Scientific Research** is added to **KURA** (Kanazawa University Repository for Academic Resources) as author identifiers. The numbers are recorded in **KAKEN** (the database of Grants-in-Aid for Scientific Research) operated by **NII** (National Institute of Informatics) and is harvested in the National Harvester **JAIRO** (Japanese Institutional Repositories Online) operated by NII. Reference and identification function for authors and contents are introduced between **RNR** (Researcher Name Resolve=Researcher Authority Database) and **JAIRO** with the numbers as keys. We plan to develop it to the community of **DRF** (Digital Repository Federation) using it as a model.

**Performance of the project**

**Phase 1**

**Implementation experiment for an author identification model**

- (1) Authority function (default function of DSpace 1.6 and after) is customized. The numbers are added to whole contents of KURA from KAKEN and harvested in JAIRO from KURA.
- (2) Data of researchers (including the numbers) is uploaded to RNR in the xml format from performance database in Kanazawa University.
- (3) JAIRO and RNR link each other by the numbers. Author pages are generated on KURA.

**Phase 2**

**Development of an author identification model to multiple universities**

Hokkaido University, Shizuoka University, Nara Women's University, Osaka City University, Kansai Gakuin University and Nagasaki University introduce the same model in cooperation with Kanazawa University. This phase will be a demonstrating experiment on a community-scale. University of Tokyo will share information with us for further implementation.

**Phase 3**

**Organization of the community**

- (1) Adoption of author identifier except **Researcher Numbers of Grants-in-Aid for Scientific Research**. Not all researchers are assigned the numbers. In order to develop the community, local numbers other than the numbers should be available in IRs as the author identifiers.
- (2) Development to IR platforms except DSpace
  Some unique IR platforms such as BioNips, e-Repository and WEKO are available in Japan. In NII, WEKO is adopted for cloud type repository. Author identifier should be able to be input as one of metadata in these platforms as well.
- (3) Through the practice of (1) and (2), IR Community to adopt author identifier is expected to be developed.

Fortunately, the DRF community exists in Japan and the information is smoothly exchanged among the IR managers. So the problems of this project will be solved by this community.

**Research abstract community in Japan**

- The number of universities -- National 121 / Total 278
- The number of universities with doctoral course -- National 135 / Total 278
- The number of Nobel winners (Except one American researcher. All are from National Univ.) -- National 8 / Total 9
- The number of institutional repositories -- National 121 / Total 121

**From number to identification**

Researcher Numbers of Grants-in-Aid for Scientific Research

**Researcher Numbers of Grants-in-Aid for Scientific Research** is added to **KURA** (Kanazawa University Repository for Academic Resources). As a result, author’s numbers are added to whole contents of KURA from KAKEN and harvested in JAIRO from KURA. Researchers can download the numbers from the numbers in KAKEN and harvest them in JAIRO. The number of the numbers is 1,398,223. It ranks 4th in the world. (Thomson Reuters, Web of Knowledge "Essential Science Indicators" 2001-2011.)

KURA (Kanazawa University Repository for Academic Resources)


KURA is an institutional repository in Kanazawa University. Currently, KURA includes 190 thousand contents. KURA cooperates with an achievement database in Kanazawa University. When updating the achievement database, the researchers can send (self-archive) full text to KURA with SWORD protocol. The reference function of authority data was implemented by DSpace 1.6. Therefore, the reference function downloads the numbers in KAKEN and harvests them in JAIRO.

RNR (Researcher Name Resolve)

- http://rnr.nii.ac.jp/ (Japanese only)

RNR is the database to identify researchers and is operated by NII. Currently, RNR includes 90,000 researchers based on the data of KAKEN.

KAKEN (Database of Grants-in-Aid for Scientific Research)


KAKEN is the database of grant money for science and research and is operated by NII. It records abstracts of researches performed with scientific research fund issued by JSPS. 190,000 researchers’ achievements are recorded in the database. The numbers are assigned to the researchers as lifetime IDs.

JAIRO (Japanese Institutional Repositories Online)

- http://jairo.nii.ac.jp/

JAIRO is the service provider managed by NII. It adopted the "junii2" as a protocol.

**Harvest by OAI-PMH (junii2)**

JUNII2 is the metadata standard for institutional repositories in Japan. All Japanese IRs adopt JUNII2 along with oai_dc. Interoperability of contents in Japanese IRs is being possible through JUNII2 and national harvester JAIRO.

**Grant-in-Aid for Scientific Research Researchers Community in Japan**

The number of papers and citation count

Funders in Japan

- Ministry of Health, Labour and Welfare
  http://www.mhlw.go.jp/jpen/english/

Ministry of Health, Labour and Welfare provides research fund to proceed with government policy in a science-based manner. More than 1500 researchers are funded with 536 million dollars of research funding. Forty percent of the total amount is for national universities. (1$=90yen).

- JSPS (Japan Society for the Promotion of the Science)
  http://www.jsp.go.jp/english/

JSPS is an incorporated administrative agency which is established by MEXT (Ministry of Education, Culture, Sports, Science and Technology) to provide academic research fund. JSPS and MEXT are funding for researcher training, international exchange promotion for academic issues and other academic promotion. KAKEN is a database for the accomplishment reports of research fund by JSPS. The database releases approximately 180,000 researchers with Researcher Numbers of Grants-in-Aid for Scientific Research. This is the nation’s largest research abstract database.

- JST (Japan Science and Technology Agency)
  http://www.jst.go.jp/en/

JST is an incorporated administrative agency which supports R&D for science technology aiming at promoting Japan’s science technology. JST strategically funds research by top-down method, which is intended for realizing objectives of national policy. The total amount of fund in 2010 is $582 million (1$=90yen).

**Stakeholder (User)**

- University
- **JSPS**
- Ministry of Health, Labour and Welfare

**Stakeholder (Funder)**

- JSPS

Sponsored by

- Tracking of funded and employed researchers’ achievements is available.
- Evaluating the cost performance of the fund.