

# Client based interface and proxy server for content re-use framework based on OAI-PMH

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**Background.** In the last decades digital repositories have been widely developed in certain disciplines and institutions. For example RePEC and arXiv.org established their presence in their discipline. Almost all institutions have their institutional repositories for disseminations of their achievements.

However, there still remains problem to share contents of digital repositories with websites of their departments or websites of researchers. Every repository contents should be shared by every users. Client based interfaces are necessary to share the contents systematically and easily. This direction was reported in OR2012 by the author. In the presentation the author enhanced the idea by placing proxy server for OAI-PMH requests.

**JSON-based interface.** Though there exist several problems to handle XML response in client side because JavaScript prohibits cross-domain access, if the repository responds in JSON format for a request of OAI-PMH, everything works well. The code below is an example. One can process the JSON object by client side JavaScript code. Thus all records retrieved in ListRecords with set parameter are directly processed by JavaScript. Detail of metadata mapping oai\_dc to JSON will be described in the poster. More generally, once we have a proxy server that translate oai\_dc XML responses into JSON format, this idea can be widely applicable. This idea is shown in next section.

```
<script type="text/javascript"
src="http://sparc1.math.sci.hokudai.ac.jp/dmljp/cgi/oai2json?
verb=ListRecords&metadataPrefix=oai_dc&set=7375626A656374733D6D73633264:303
12D7878"></script>
```

**Proxy server for OAI-PMH.** Though there are several cache and aggregation server system for full records of digital repositories via OAI-PMH, no system is there that caches individual record on demand. Because it takes too much loads for repositories to aggregate via OAI-PMH, a solution is to cache each records once requested. To realize the concept, it is necessary to implement a system that aggregates not only full records but single records requested from clients.

**Discussion.** Applications of the framework are considered more and more. The one is to provide with access statistics, referrer information and searched words of each records of repository retrieved from httpd logfiles by JSON format. Once such a framework widely implemented, digital repository contents will be shared widely. An use-case for subject based portal website will be shown in the poster.

