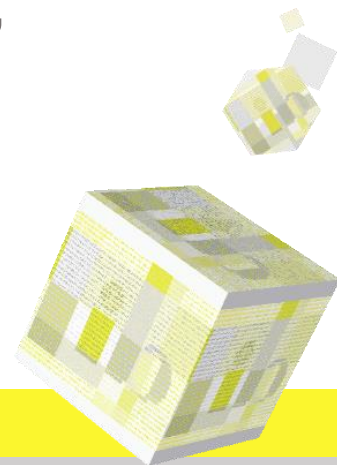


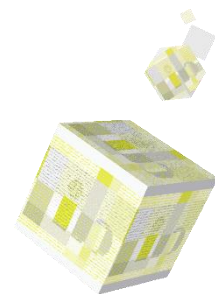
A Study on MARC21 Transformation for Linked Data

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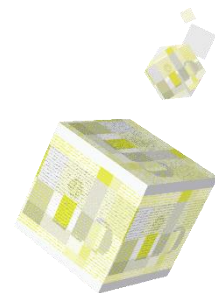


Introduction



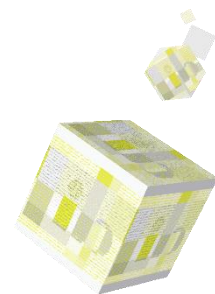
- As a matter of fact, libraries have encountered the hybrid requirements for MARC and LD at the same time.
- It is of interest to know what changes have made to MARC and their applications in practice in accordance with the aforementioned hybrid requirements for inclusion of LD.

Literature Review



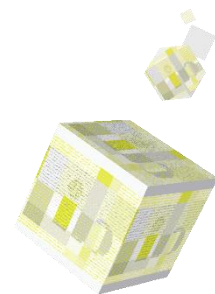
- Totally 18 MARC documents (14 proposals and four discussion papers; 15 documents are listed in Table 1-3) published since the term LD was coined in 2006 were selected to investigate the revisions of MARC for LD implemented applications, including subfields \$0, \$1, \$2, \$4, \$e, \$i, and tag 758.
- Furthermore, in this study, we checked against two online documents (MARC21 Format for Bibliographic Data (MFBD) and MARC21 Format for Authority Data (MFAD) to collate related MARC subfields and tags for LD applications as shown in Appendices 1 and 2.

Methods

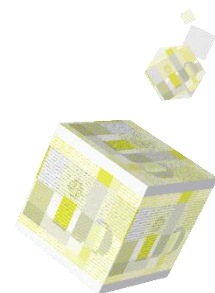


- First, MFBD and MFAD were selected as target subjects to examine how MARC implements related LD subfields and tags in practice.
- Then RDF triplification was performed for MARC (refer to Figure 1a).
- Third, vocabularies defined by BIBFRAME and RDA ontology were used as the predicate of RDF during transforming MARC into LD. Eight use cases derived from two MFBD records and instances of MARC documents were employed to investigate how to extend MARC into LD in detail.
- Lastly, each use case has been provided with a summarized table to illustrate the distinction between original MARC and RDFized MARC instance with vocabularies of selected bibliographic ontology in accordance with RDF's triple statement and their RDF graphs respectively.

Results

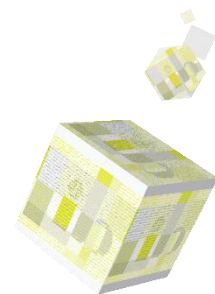


- Totally, eight use cases were employed to illustrate how \$0, \$1, \$2, \$4, \$e, \$i and tag 758 are used to extend MARC into LD with instances.
- The eight use cases include the following relationships: authorship, work's uniform title, publisher, content/media/carrier, translator, subject, instance/manifestation, and organization and individual person.
- Please refer to eight summarized tables (Table 5-12).



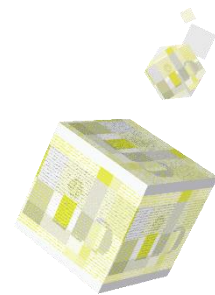
- In terms of LD linkage, MARC can be enriched through by internal enrichment to aggregate external LD resources.
- In terms of information exchange, MARC21 is not only a format for information interchange and sharing, but also an exchange format for sharing MARC-based LD information between library automated systems.
- In terms of application of ontology, MARC21 has become a data container of bibliographic ontology (such as BIBFRAME and RDA ontology), and is also a carrier to reify bibliographic ontology into practice.
- It will be worth knowing whether the opposite RDF' triplification approach and syntax (refer to Figure 1b) is a workable approach for MARC in the future.
- According to examination of eight use cases in this study, the 'bibliographic entity' of subfield a of tag 245 in MFBD has stood for various entities including work and instance in BIBFRAME, or work, expression and manifestation in RDA ontology.

Conclusion



- MARC is not only an international format for sharing bibliographic information, but also a container for exchanging MARC-based LD information in libraries.
- It would be interesting to know whether RDF-based MARC subfields and tags will be applied to other ontologies in addition to BIBFRAME and RDA ontology.

InSight



The End

