IFLA LRM: the way forward

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Library catalogue

• Librarian’s tool

• User’s tool
  • point of entrance to the library collection
  • finding relevant materials
  • getting an overview of the collection
What is different now?

• Libraries are facing competition for the first time
• Library catalogues are not perceived as intuitive – compared to other tools and services
• Users actively avoid using the catalogue even when they want to borrow a book
• „Everything is on the Web“
• Users expect simple tools which do not require specific training
Are libraries aware of the changes?

• Not completely
  • Libraries are not questioning (enough) their tools
  • They are relying on tradition
• But there are discussions and developments:
  • New models
  • Awareness of new tools and services (e.g. Semantic Web)
  • Assuming new roles or performing them in a new way (e-learning, data curation)
Changes in OPAC interfaces

• Replica of card catalogue
• Web OPAC
• Faceted OPAC
• Catalogue 2.0
Traditional OPAC
New generation catalogue
Why the need for change?

• New user needs, expectations and demands
• Library metadata is not (should not be) isolated
• Libraries should expose and fully utilise the quality of their metadata
What is wrong with current catalogues?

• Long displays of similar records
• No meaningful clustering
• No (or not enough) relationships
• Zero hits
• Authority data not exposed
• Exploration not supported
• New systems are needed
• We need thorough understanding of the bibliographic universe
• Conceptual models as the necessary foundation
Functional Requirements for Bibliographic Records

- Approved by IFLA in 1997
- Published in 1998
- Conceptual model of the ‘bibliographic universe’
The “FRBR family”

• FRBR: the original framework
  • All entities, focus on Group 1 (WEMI)
• FRAD: Functional Requirements for Authority Data
  • Focus on Group 2
  • Accepted in 2009, published in 2010
• FRSAD: Functional Requirements for Subject Authority Data
  • Focus on ‘aboutness’
  • Accepted in 2010, published in 2011
Why FRBR?

• Not a replica of a card catalogue
• Bibliographic universe presented as a network - relationships
• Supports exploration
• Is intuitive (as proven in user studies)
FRBR Consolidation - Why and How


- 3 distinct models
  - Different levels of specificity
  - Different focus
  - Different modelling decisions

Consolidation Editorial Group, 2013-
Creating IFLA-Library Reference Model (IFLA LRM)
Approved in August 2018
Goals of LRM

- High-level conceptual model
- Expressed in entity-relationship framework
- Consistent view of bibliographic universe
- Work informed by
  - Research with users
  - FRBRoo and CIDOC CRM
  - Experiences implementing FRBR, FRAD, FRSAD
  - Semantic Web and Linked Data context
Modelling Decisions

- Model the data needed to fulfill (end-)user tasks, not library operations
- Entity-relationship modelling language (entities, relationships, attributes)
- High-level conceptual model
- Framework that enables consistent expansions in implementations
- Only high-level attributes and relationships
User functions/tasks (interpretation)

- **FIND**: reduce the set of resources to a manageable size, using attributes and relationships
- **IDENTIFY**: understand exactly the nature of the resource described by metadata
- **SELECT**: among the relevant resources choose the ones which are suitable
- **OBTAIN**: get access to the resource
- **EXPLORE**: browse the collection to get acquainted with it and/or locate interesting resources
Entities (from FRBR group 1)

Work

- The intellectual or artistic content of a distinct creation

Expression

- A distinct combination of signs conveying intellectual or artistic content

Manifestation

- A set of all carriers that are assumed to share the same characteristics as to intellectual or artistic content and aspects of physical form. That set is defined by both the overall content and the production plan for its carrier or carriers

Item

- An object carrying signs intended to convey intellectual or artistic content
Entities (FRBR group 2)

Agent
An entity capable of deliberate actions, of being granted rights, and of being held accountable for its actions

**Collective Agent**
A gathering or organization of persons bearing a particular name and capable of acting as a unit

Person
An individual human being
Entities Res and Nomen

From FRSAD, but Thema is replaced with Res to avoid implicit restriction to the subject relationship

• **Res**: Any entity in the universe of discourse (=superclass of all)
• **Nomen**: An association between an entity and a designation that refers to it
New entities

Place
A given extent of space

Time-span
A temporal extent having a beginning, an end and a duration
Attributes

Data describing instances of entities

- Only most important or representative attributes
- NOT an exhaustive listing of possible attributes
- Implementations can expand by adding the attributes that are needed
Core WEMI relationships

- WORK
  - is realized through
  - realizes
- EXPRESSION
  - is embodied in
  - embodies
- MANIFESTATION
  - is exemplified by
  - exemplifies
- ITEM
Agent relationships
Agent relationships to WEMI
Work-to-work relationships

- WORK has part (is part of) WORK
- WORK precedes (succeeds) WORK
- WORK accompanies / complements (is accompanied / complemented by) WORK
- WORK is inspiration for (is inspired by) WORK
- WORK is a transformation of (was transformed into) WORK
Overview

RES
WORK
EXPRESSION
MANIFESTATION
ITEM
AGENT
PLACE
TIME-SPAN
NOMEN
PERSON
COLLECTIVE
AGENT
is subject of
is realized through
is embodied in
is exemplified by
isA
was assigned by
is associated with
is transformation of
has part
has part
has part
has part
has part
has part
has part
has part
isA
isA
isA
precedes
accompanies
was derived into
is inspiration for
is reproduction
has alternate
owns
modified
is member of
has reproduction
has reproduction
has reproduction
precedes
has part
has part
has part
has part
has part
has part
has part
The future of bibliographic information systems

• Two prototypes developed to study possible approaches to presentation of results
• Used for user studies

Both with Tanja Merčun and Trond Aalberg
PROTOTYPE FrbrVis

4 hierarchical scenarios

- indented hierarchy
- radial
- treemap
- sunburst
• FRBRVis (http://dijon.idi.ntnu.no/exist/rest/db/frbrvis/index.html)
BIBSURF

- Testing levels of display (WEM) and ranking

- BIBSURF (http://dijon.idi.ntnu.no/bIBSURF/)
The future of LRM

• Verification in different environments
• Refinements and extensions for different contexts:
  • Material types
  • User groups
• Implementations
Thank you

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