Digital libraries - creating information space excellence: is it already time for benchmarking?

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Introduction

- Development of digital libraries – not a flawless job

- Need for evaluation of information objects and services in digital libraries

- Lack of standard metrics across systems

- Incompatible digital resources

Benchmarks

- Standards, measures, controlling devices for <u>development</u> of products or services
  - necessary for creation of quality products and services
- Standards, measures for evalution of <u>existing</u> products or services
  - improvement in quality of existing products and services

Framework for the creation of evaluation tools for digital libraries

- Conceptual differences to the approach of development processes of resources and services:
  - in traditional and modern automated libraries

    in contrast to the development process of

  - digital resources and services in digital libraries

Modern libraries	Postmodern libraries
• Fixed, permanent, formatted text collections	• Fluid and transient multimedia resources
• Static library facilities with fixed stacks	• Free, flexible and virtual information space
• Uniform sources, citations, references	• Customized annotations/transient works
• Services provided to individual readers	• Tailored services to collaborative teams
• Standard reference services	• Personal consulting and analysis
• Professionally provided services	• Integrated service provision
• Locally owned permanent collections	• Holistic, integrated networked systems
• Centralized collections and services	• Distributed, decentralized global access
• Hierarchical organizational structures	• Participative and collegial relationships
• Discipline specialization	• Inter-, multi-, cross-disciplinary studies
• Generic user service offerings	• User-/use-specific relevant services
• Formal publication acquisition	• Integration of informal with formal

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DL Collections

- Collections - heart of libraries of all types
  - digital collections - core or hub of all activities in digital libraries
  - many projects in last 10 years, different approaches to collection development (use of benchmarks?)

- Tefko Saracevic:
  - too early in the development of digital collections to establish formal evaluation efforts
  - focus on details and distract attention from what can be actually measured as a part of the bigger picture in the process of development of digital libraries

DL Collections - continued

- Abby Smith:
  - too early for many libraries to have long-term considerations about digitization
  - no clear vision of purpose such projects will ultimately serve
  - period of experiments and building skills

- Consequence: difficult to expect that digital libraries will soon have standardized evaluation tools (metrics)
- Benchmarks for coll. develop. exist

DL Services

- New and more personalized services based on user profiles and precise user needs
  - (e.g. digitization on demand as a new service for material explicitly requested by users)

- Hybrid libraries:
  - offer both paper-based material as well as digital material with support of information technology
  - old and new services; old – constantly evaluated (ISO standards for lib. performance); new - ?

DL Services - evaluation

- Saracevic & Kantor: clarification of the value of library and information services:

  1. identification of attributes or dimensions of value; they should be organized in some rational structure

  2. development of procedures for appraising value according to each of these dimensions

  3. collecting and analysis of data following the dimensions and procedures identified in steps 1 and 2

DL Services evaluation – how to

Multi featured viewpoint on measurement of
electronic services:

1. Transaction-based measures:

    - counting of interactive sessions, downloads, hits,
      patrons, domain and host addresses, images, and files
      and recording them and measuring by sampling or by
      transaction logs

2. Time-based measures:

    - measuring service hours, session length/duration,
      system/server peak level

DL Services evaluation – how to

3. ## Cost-based measures:

    - reports about cost/expenditure for telecommunications/bandwidth, hardware equipment, staff, training, maintenance, site licenses

4. ## Use-based measures:

    - measuring user activities, anticipated demand, simultaneous users, group use, hits/patron, user satisfaction, local or remote/off-site use.

Benchmarks
(for collection development)

- Benchmarks:
  - standards, especially resolution standards, necessary to meet requirements for authenticity, long-term value of surrogate copies, and their usability

- Application:
  - digital masters
  - access files for daily use
  - thumbnails

Benchmarks - experiences

- Automated Internet service:

Input parameters:	Results:
Image Width = 9.2 cm Image Height = 13.5 cm Quality Index = 8 (high) Smallest Significant Character = 2 mm Bit Depth = 8-bit	Recommended Resolution = 153 dpi Approximate File Size = 0.421 Mb Horizontal Pixel Dimension = 805 Pixels Vertical Pixel Dimension = 548 Pixels

Benchmarks - experiences

- Ready made benchmarks (projects):

Image type	Printed text
Master	Scan Type: Bitonal Resolution: 600 DPI Format: Uncompressed TIFF
Access	Type: 8-bit grayscale/24-bit color Format: JPEG Compression: MediumSpatial Resolution: Resize to 1024 x 768 Pixels
Thumbnail	4-bit grayscale/8-bit color Format: GIF Spatial Resolution: Resize to 150-200 pixels across the long dimension 72 DPI

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Conclusion

- Diversity of digital collections:
  - problems for users who will try to use them
  - problems for information specialists who will want to evaluate them.

- Is it already time for benchmarking?
  - collection development, the answer is a definitive yes
    - prerequisite for services evaluation
  - services – many proposals; solid theoretical grounds but not yet

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