Do It Yourself E-Resources Management: Basics of Information Architecture
NASIG Webinar Report
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The NASIG Continuing Education Committee host introduced Sarah Hartman-Caverly from Delaware County Community College as the presenter for this webinar. Sarah has experience creating and using a homegrown electronic resource management (ERM) system for the Tri-College Consortium when she worked at Bryn Mawr College. She also has taken some courses in human-computer interaction, but she is not a software development, database engineer, or information architect.

Why a Homegrown Solution?

First, Hartman-Caverly explained the rationale for creating a homegrown solution. One common theme for librarians who manage e-resources is how to organize the many disparate tasks involved, particularly when the work is distributed among several people. Storing digitized paper files and managing resources within a coherent system is challenging. While a commercial ERM system may resolve some of these issues, there is often no budget to purchase library tools or insufficient staff to support an open-access product. Then, the only choice would be to build a solution in-house.

Hartman-Caverly explained that an important concept to understand is the difference between a flat file database and a relational file database. An example of a flat file is the traditional integrated library system (ILS) where all of the data resides in one table and has limited interoperability. Commercial ERM systems are an example of a relational structure where the tables share the same data and each piece of data is stored only once.

Database Design Tools

Hartman-Caverly introduced the webinar by sharing three principles of good systems design:

- Minimize user effort
- Minimize user error
- Maximize user output

When you maximize user output, the result is happy users!

Then, Hartman-Caverly reviewed the characteristics of some of the tools that you might use to develop your system:

- Use case analysis
  - What do users need to accomplish?
  - Develop a step by step narrative describing user interactions with the system
  - User perspective in each use case should be based on a user goal
  - Techniques for use case analysis
    - Role playing
    - Focus groups
    - Interviews
    - Workshops
Note that use case analysis is an event driven model that can reveal most functional requirements (including exceptions and priorities).

- Card sorting
  - How do users expect data to be stored and structured?
  - Create cards based on entities (person, place, event or things) and attributes (information about entities)
  - Each card represents a piece of information you want to track
  - Users sort cards into categories that make sense to them
  - 30-100 items is ideal for card sorting and will result in broad trends
  - Techniques:
    - Randomize cards
    - Moderate participants but don’t lead them
    - Mechanism to record results

Card sorting is a user-centered technique that is quick, inexpensive, and inclusive.

- Data Analysis
  - What data does the system needs to store?
  - With relational databases, use an Entity Relationship Diagram (ERD)
  - An ERD shows types of information in the system, and how they are organized and related to each other
  - Specify the relationships between entities (high level business rules or logic)
  - Look for the presence of unique identifiers

In data analysis, the emphasis is still on the user’s perspective.

- Tables and Relationships
  - How will that data be stored (structured)?
  - Avoid duplicate or redundant data storage (input and correct once!)
  - Tables can share information
  - Entities become tables
  - Attributes become fields
  - A unique identifier for every instance of an entity (assigned or system generated) is needed

Examples

Hartman-Caverly solicited help from the participants to create a list of tools to develop an ERM system.

- Use case analyses for e-resources management
  - Managing due dates
  - Alerts
  - Managing usage statistics
  - Tracking access problems
  - Platform changes (URLs, access still available, etc.)

- Card sort
  - Document analysis to identify entities
  - Free online tool at http://www.optimalworkshop.com/optimalsort.htm (limited participants and cards)

- Entities
  - Vendors, license types (negotiated/click-on), ILL terms, and contact information

- Tables and Relationships
  - Customer service contact—vendor (name or Tax ID #) is the parent entity and person’s name would be the child entity.
  - Vendor (parent) and subscription (child)
  - Package name or ID (parent) and specific e-resource (child)

Creating Forms in MS Access

Hartman-Caverly noted that forms can integrate information from multiple tables to generate a cleaner view on a single screen. This makes the system more user-friendly. She advised webinar participants to:

- Establish tables, table relationships and queries first
- Use Forms wizard in the Create Toolbar Ribbon or use the Query table function in Excel
- Create two backup copies (one is the true back up while the other is your sandbox/test region)
Hartman-Caverly presented a lot of material in the time allotted for this webinar, and therefore, was only able to scratch the surface on some of the topics. She provided a list of references and resources that participants (and now other NASIG members) can refer to in their quest to develop an effective and efficient homegrown ERM system.

References and Resources


Also Microsoft Office support sections on Access (http://office.microsoft.com).