Database Designs for Library Information Access

CEAL Statistics and NAECCO

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The purpose of the CEAL Statistics Database is two fold:

- First to store statistical data electronically
- Second to allow online data entry.
CEAL Statistics Database
(Introduction)

The format of the new database was designed
• For ease of data entry,
• For integrity of data storage, and
• For access to multiple years of digital information.
CEAL Statistics Database
(Introduction)

Beginning Nov. 2001 the CEAL database allowed each participating institution to enter its statistical data electronically for 2000/2001 statistics.

The CEAL database stores multiple years and the user can request data according to year, multiple year, institution, and form topic.
CEAL Database Design

Constant Categories

• Institutional information form and the statistical survey forms (volume holdings, volume additions, funds, appropriations, personnel, etc.).

Variable Annual Data

• Statistical data for every participating institution in each category.
CEAL Database Design (Continued)

CEAL Annual Statistics Survey forms
1. Total Volume Holdings
2. Acquisition of East Asian Materials
3. Serial Subscriptions
4. Holdings of Other Materials
5. Total East Asian Collections and Unprocessed Materials
6. Fiscal Support
7. Personnel Support
8. Public Services
9. Electronic Resources.
CEAL Database Design (Continued)

- Each survey form is a separate table.
- Every table includes all participating CEAL institutions.
- CEAL institutions are used to link all the tables together for each statistical year.
MicroSoft Access 2000
• Is a relational database. All data is placed in tables and related by common fields.
• It has table, form, and query functions, with reports for output.
• The data is stored in tables by fields.
• Forms are designed to collect data for the tables.
• Queries are designed to list options, sort data, and display output reports according to user choice from the data stored in tables.
CEAL Database Tables

• The design of each CEAL database table is based on a statistics survey form category.
• Each survey form has its own table.
• The institution/year field in each table identifies each institution/year data. Multiple years of the same survey category are stored in one table.
CEAL Database Design (Continued)

- The CEAL Database has 14 tables.
- The *institution/year* field, as the combination of library number and year of collection, is the field that connects all the different tables.
- The CEAL annual statistics survey form data is placed in 9 statistical tables.
- Institutional data is placed in the Participating_Library table.
- Reference and administrative tables include LibraryRegion, LibraryType, Entry_Status, and Open_Close tables.
<table>
<thead>
<tr>
<th>Table Name</th>
<th>Data Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic</td>
<td>Stores electronic data collection.</td>
</tr>
<tr>
<td>Entry_Status</td>
<td>Stores table completion status.</td>
</tr>
<tr>
<td>Fiscal_Support</td>
<td>Stores fiscal support data collection.</td>
</tr>
<tr>
<td>Monographic_Acquisitions</td>
<td>Stores monographic acquisitions data collection.</td>
</tr>
<tr>
<td>Open_Close</td>
<td>Stores online input and edit time frame.</td>
</tr>
<tr>
<td>Other_Materials_Holdings</td>
<td>Stores holdings of other material data collection.</td>
</tr>
<tr>
<td>Participating_Libraries</td>
<td>Stores participating libraries information.</td>
</tr>
<tr>
<td>Personnel_Support_FTE</td>
<td>Stores personnel support data collection.</td>
</tr>
<tr>
<td>Public_Services</td>
<td>Stores public services data collection.</td>
</tr>
<tr>
<td>refLibraryRegion</td>
<td>Assigns an index number for geographic region.</td>
</tr>
<tr>
<td>refLibraryType</td>
<td>Assigns an index number for library type.</td>
</tr>
<tr>
<td>Serials_Subscriptions</td>
<td>Stores serials subscription and non-purchased serials data collection.</td>
</tr>
<tr>
<td>Unprocessed_Backlog_Materials</td>
<td>Stores unprocessed backlog materials data collection.</td>
</tr>
<tr>
<td>Volume_Holdings</td>
<td>Stores total volume holdings data collection.</td>
</tr>
<tr>
<td>Library Region</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td></td>
</tr>
<tr>
<td>New England</td>
<td></td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td></td>
</tr>
<tr>
<td>East North Central</td>
<td></td>
</tr>
<tr>
<td>West North Central</td>
<td></td>
</tr>
<tr>
<td>South Atlantic</td>
<td></td>
</tr>
<tr>
<td>East South Central</td>
<td></td>
</tr>
<tr>
<td>West South Central</td>
<td></td>
</tr>
<tr>
<td>Mountain</td>
<td></td>
</tr>
<tr>
<td>Pacific</td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td></td>
</tr>
<tr>
<td>Library Type</td>
<td></td>
</tr>
<tr>
<td>----------------------------------</td>
<td></td>
</tr>
<tr>
<td>Canadian University</td>
<td></td>
</tr>
<tr>
<td>U.S. Non-University</td>
<td></td>
</tr>
<tr>
<td>Private U.S. University</td>
<td></td>
</tr>
<tr>
<td>Public U.S. University</td>
<td></td>
</tr>
<tr>
<td>Canadian Non-University</td>
<td></td>
</tr>
</tbody>
</table>
CEAL Administrative Tables

- **Entry_Status Table**: Shows each year’s participating libraries, with information on Library, year, and which form is filled out (check marked yes or no).

- **Open_Close Table**: Controls the online access forms open and closing date for each year.
CEAL Database Queries

- The CEAL queries were designed to gain easy access to necessary data and create desired reports.
- Each of the 9 category queries pull data from the 9 statistical tables.
- Each of the statistical category queries is related to a corresponding statistical table (what), the Participating_Libraries (which) table, and the Entry_Status table (when).
CEAL Database Design (Continued)

CEAL Database Queries (cont.)

- All queries are ascending sorted by library names
- All query criteria are **Year** and **EntryStatus** labeled.
- Some of the queries have **automatic calculation** totals, which eliminates the need for externally calculated numbers in the tables. This helps guarantee data **integrity**.
CEAL Database Design (Continued)

CEAL Database Reports

• The CEAL reports are also based on statistical categories. In each category report, the data is drawn from its corresponding category query.

• The table number and page number on each report are hard coded by use of Access page function and addition abilities.
CEAL Database Design  (Continued)

ASP Web Access

• ASP (Active Server Page) is the program used for web access to the database.

• The designated ASP pages are linked to each MS Access table to control data entry from the web.

• One set ASP *form* pages work as tools to put/store online input data into the proper CEAL statistical tables.

• Another set of ASP *view* pages pull out and display data according to online queries.
Setwindow.asp, viewtablecompletion.asp, and fixentriesform.asp are only available to KU administrator.
CEAL Statistics Database
http://www2.lib.ku.edu/ceal

• Online Query
  http://www2.lib.ukans.edu/ceal/viewform.asp
  View CEAL Statistics Data
  This page contains library statistics data already entered. Select a combination of form, institution(s), and year(s) for display of data.

• Online Input Forms
  http://www2.lib.ukans.edu/ceal/verify.asp/
<table>
<thead>
<tr>
<th>Form</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monographic Acquisitions Form</td>
<td>Incomplete</td>
</tr>
<tr>
<td>Total Volume Holdings Form</td>
<td>Incomplete</td>
</tr>
<tr>
<td>Serials Subscriptions and Non Purchased Serials Form (Titles)</td>
<td>Incomplete</td>
</tr>
<tr>
<td>Holdings of Other Materials Form</td>
<td>Incomplete</td>
</tr>
<tr>
<td>Unprocessed Backlog Materials Form (volumes or pieces)</td>
<td>Incomplete</td>
</tr>
<tr>
<td>Fiscal Support Form</td>
<td>Incomplete</td>
</tr>
<tr>
<td>Personnel Support Form</td>
<td>Incomplete</td>
</tr>
<tr>
<td>Public Services Form</td>
<td>Incomplete</td>
</tr>
<tr>
<td>Electronic Resources Form</td>
<td>Incomplete</td>
</tr>
</tbody>
</table>

CEAL Online Input Forms

http://www2.lib.ukans.edu/ceal/verify.asp
Conclusions on the CEAL Statistics Database

- CEAL Database provides easy access to yearly CEAL statistical data.
- Provides a value added service to CEAL community.
- Ensures long-term success for CEAL Annual Statistics.
Conclusions on the CEAL Statistics Database (Continued)

Easy Access

• Summarizes library operation, collection development and public services of CEAL participating libraries.

• It identifies strengths of collections and also gaps where information needs are not being met.
Conclusions on the CEAL Statistics Database (Continued)

Value Added Service

• The CEAL Statistics Database should be recognized as a value added service for relevant data collection, administrative peer comparison of annual budget and collection development, and for scholarly research of historical trends.
Conclusions on the CEAL Statistics Database (Continued)

Long-Term Success for CEAL Annual Statistics

• The CEAL Statistic Database provides ease of data entry, ease of search, and general user satisfaction, along with data integrity and comprehensiveness of content in all the database functions, in order to deliver long-term success for CEAL annual statistics.
North America and Europe Chinese Collections Database (NAECCO)

The North America and Europe Chinese Collection Database

• A new project sponsored by the 2000-2001 Publication Committee of the Chinese-American Librarians Association (CALA) under the supervision of CALA immediate past President Margaret Yu-lan Chou (2000-2001).
NAECCO

The NAECCO Database is a tool designed to help users locate information on
• Chinese studies programs and
• Chinese language collections
• At institutions of higher learning in North America and Europe.
NAECCO Database
http://www2.lib.ku.edu/naecco/

• Each organizational program and each library will be given a user ID and password which will allow you to input necessary information.

• Once the information is submitted, the result can be displayed online through database searches.
NAECCO

Publication Committee, 2000-2001
Chinese-American Librarians Association

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Web Based System Usability: Special Challenges

- A highly diverse user population, which cannot be easily predicted or measured.
- A highly diverse set of end-user computer configurations, including hardware, systems software, browsers, and a wide range in connectivity speed and performance.
Web Based System Usability: Special Challenges (Continued)

• A distinction must be made between site design and the capability of the browser used to access the site content.
• The Web site administrator must have support from the hosting institution for server hardware and software maintenance.
• The Web site administrator must have support from database software and Web software corporations.
Electronic Access to Library Materials

Virtual Library Service

• Must be an open-access source of electronic data with comprehensive coverage of contents.

• Must have a digital format that enables the sharing of quantitative and qualitative scholarly research data.
Virtual Library Service

• Must provide easy access through a reliable portal with a comprehensive search mechanism for users to obtain virtual documents and statistical data via the Internet.

• Electronic access reduces the physical limitations of traditional libraries.
Examples of Online Library Data

Statistics:
ARL Statistics and Measurement Program
http://www.arl.org/stats/arlstat/index.html

• The ARL statistics represent the oldest continuing library statistical series in North America, and serve as a comprehensive resource on trends in academic and research libraries. The website statistics provide users with an opportunity to conduct analyses and create data sets of academic research library statistics to address local needs.
Examples of Online Library Data
(Continued)

Statistics

• Academic Library Statistics (ACRL)
  http://www.ala.org/acrl/statshp.html
  Provides recent statistical summaries for academic libraries in the areas of collections, expenditures, personnel, enrollment, etc.
Examples of Online Library Data
(Continued)

Statistics
• Academic Library Peer Comparison Tool
  http://www.nces.ed.gov/surveys/libraries/academicpeer/

The Academic Library Peer Comparison Tool allows the user to get information on a particular library, or to customize a peer group by selecting the key variables that are used to define it. The user can then view customized reports of the comparison between the library of interest and its peers, on a variety of variables as selected by the user.
Examples of Online Library Data
(Continued)

Library Directory

• Public Library Locator
  
  http://nces.ed.gov/surveys/libraries/liblocator/library.asp

  Provides Identifying Information; Organizational Characteristics; Paid Full-Time Equivalent (FTE) Staff; Operating Income; Operating Expenditures and Capital Outlay Expenditures; Size of Library Collections; Services; Electronic Measures.
Examples of Online Library Data
(Continued)

Data Research Collection Data

• Data on the Net

http://odwin.ucsd.edu/idata/

Lists "850 Internet sites of numeric Social Science statistical data, data catalogs, data libraries, social science gateways, addresses and more." -- Title page
Examples of Online Library Data
(Continued)

Membership Directory

- OCLC Membership Directory Database (coming soon)

http://www2.lib.ku.edu/eastasia/OCLCmembership
Questions?

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