

Electronic Resources Database

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Executive Summary

Academic libraries provide support to their parent institutions by providing the information necessary for staff, faculty, and students to learn, teach, and do research. Towards that end, one of the academic library's most crucial functions is to ensure continual access to the most current information possible. While print materials are still important assets in any academic library, electronic resources such as commercial database subscriptions are becoming increasingly vital components of collegiate library collections.

Electronic resources, or e-resources, offer many benefits over traditional print resources. Continuous updating of electronic resources ensures currency of information. Unlike print resources, e-resources are also simultaneously available to multiple users, and electronic resource contracts often allow for user access from off-campus locations. In this sense, e-resources truly permit round-the-clock patron access to library collections, and help fulfill the library's mission to provide continual access to current, authoritative information.

E-resources management is not a simple matter, however. In traditional collections management, librarians decide to purchase an item, receive the printed material, catalog it and enter it into circulation for the use of the library's patrons. Contrast this situation with that of acquiring electronic resources. E-resources present a much more complicated situation than traditional print resources, and include many more details to track, ranging from licensing and access restrictions to changing title coverage to subscription term dates to consortial agreements.

For these reasons, I have created a database to help academic libraries track all the complicated details associated with efficient management of electronic resources. This database will collocate information that is currently housed in many different places and in many different formats, which makes record-keeping and business decisions difficult. Use of the database will streamline operations and greatly simplify decisions related to collections and budgeting. Thanks to report-generating capabilities, e-resources database will enable comparisons that are now difficult to impossible to make.

This database comprises five major parts:

- E-resource - tracks the details associated with electronic resources in the library's collection
- Vendor - tracks information on the vendors that provide e-resources to the library
- Order - houses data related to purchasing & acquisition of e-resources
- Consortium - contains information related to the library's consortial agreements
- License - tracks details of the license agreements and contracts entered into by the library with e-resource providers

It is hoped that use of this database will help support purchasing, information services, and collection development. Once the database is populated with holdings information, demands in terms of data entry, maintenance, and backup are expected to be fairly minimal. The database will also add value by providing helpful features such as a license renewal alarm, signalling responsible parties via e-mail when access to a resource is about to expire and thus ensuring enduring access to the library's collection.

In conclusion, this electronic resource database is designed to both simplify the tracking of administrative related to e-resource management and enable better decision making. The use of a database for this information uniquely permits generation of reports and allows for simple comparisons of resources not currently possible. It is also expected to ultimately lighten the burden on staff by streamlining record-keeping processes and helping time management through the use of expiry alarms. This database supports the business goals of the library by leading to better-informed decision making in the areas of collection development and budgeting, ultimately translating into improved service for the library's patrons.

Management Overview

Business problem & solution

In creating this database, I am trying to simplify decision-making about electronic resources in academic libraries by making the information more readily accessible. This information is complex in that there are many details to track for each asset, ranging from holdings to access restrictions to consortium agreements. Without a database, most of the information about e-sericals holdings exists on paper contracts, electronic licenses, in spreadsheets, and in the heads of a few key staff members. This makes business decisions related to proper budgeting, expiration dates, and evaluation of consortium usefulness difficult. In addition, a database would allow for easier comparison of electronic products, potentially helping eliminate redundancy of resources and ultimately proving more cost-effective. The database would also be able to quickly demonstrate which vendors are most and least used, promoting increased negotiation power.

Project scope

This database will support academic library processes such as purchasing, information services, and collection development. Various additional functions such as tie-ins to existing cataloging and purchasing databases were considered. These may well prove to be worthy developments in the future, but were deemed outside the scope of the project at this time.

Assumptions & constraints

One major assumption made was that the e-resources database could be designed in such a way as to capture the nuances of information currently housed in other types of documents, from paper agreements to spreadsheets. One of the major obstacles encountered was knowing when to stop! While I wanted the database to have enough functionality to be useful to a library, I also had to limit the scope of the project enough to be manageable. I am consoling myself with the thought that the database is an evolving project, and some innovations can be implemented in the future. This approach also allows for incorporation of user feedback over the lifetime of the project.

Database model

Please see Appendix A for the ERD of the electronic resources database. The SQL used to generate the tables and populate with data is shown in Appendix B.

Business rules

1. Staff should begin e-resource contract renewal negotiations at least a month before expiry date (unless discontinuing) to avoid access lapses. This affects entities such as eRStartDate, eREndDate, licStartDate, licEndDate, eRLicNegotiator, eRActiveStatus, orderCost vendStatus, and orderRenewalRemind.
2. Various staff members may be involved in negotiating licenses for e-resources.
Entities affected: eRLicNegotiator, vendID, licScan, licNotes, eRStartDate,

eREndDate, licStartDate, licEndDate.

3. Multiple funding sources may be used to pay for e-resources. Entities affected: all entities from Order table.
4. Database packages may contain 1 or more e-journal titles. Entities affected: eRTitle, eRID, licID, licName, vendID.
5. E-journal titles may appear in more than one database package. Entities affected: as for #4.
6. Packages may have various means of access control (IP, password, etc.) or no access control. Entities affected: licAccessRestr, licMaxUsers, licNotes, erID, erTitle.
7. Package contracts may limit the number of simultaneous users. Entities affected: licMaxUsers, licNotes, licAccessRestr, erID, erTitle.
8. Some e-resources may not be available for inter-library loan requests per terms of the contract. Entities affected: as #s 6, 7.
9. E-resource packages may be acquired either by the library directly or via a consortium agreement. Entities affected: all entities from Consortium & Order tables, eRLicNegotiator.

Input forms

Please see Appendix C for screen shots of the five input forms.

Output reports

Please see Appendix D for screen shots of five output reports.

Support requirements

Database backup/recovery

The electronic resources librarian will work with the college's DBA to determine the best schedule for database backup. It is recommended that backups be performed monthly, at minimum, with additional backups whenever significant changes are made to the data. Since the database is not expected to be subject to too much 'traffic' or daily changes, and is not generally expected to have multiple simultaneous users, a full cold backup would likely be an appropriate choice under the circumstances. The DBA will provide recovery efforts as necessary.

Backup file retention

Retaining backup files for a period of five years should be sufficient. This is enough time to provide for historical comparisons as desired, while not generating too much data to reasonably store.

Data audit control & fraud detection

The e-resource database will be a low-profile resource and is not expected to be a target of fraud. External threats are likely nearly nonexistent, as off-campus access will not be permitted. Internal threats that arise could be addressed by comparing the current database with backup files and logging changes.

Data security & privacy

There is no particularly sensitive information stored in the e-resources database, and no privacy concerns with the data housed in the system. As such, merely restricting access to certain employees and permitting use only on-campus and with authorization should be sufficient to address most concerns. Detection control could be employed should issues of tampering and/or intrusion arise.

Supporting Documentation

Data dictionary

Please see Appendix E for the e-resources database data dictionary.

System catalog

Please see Appendix F for the system catalog.

Lessons Learned

5 lessons learned (plus one extra) in the course of creating this database include:

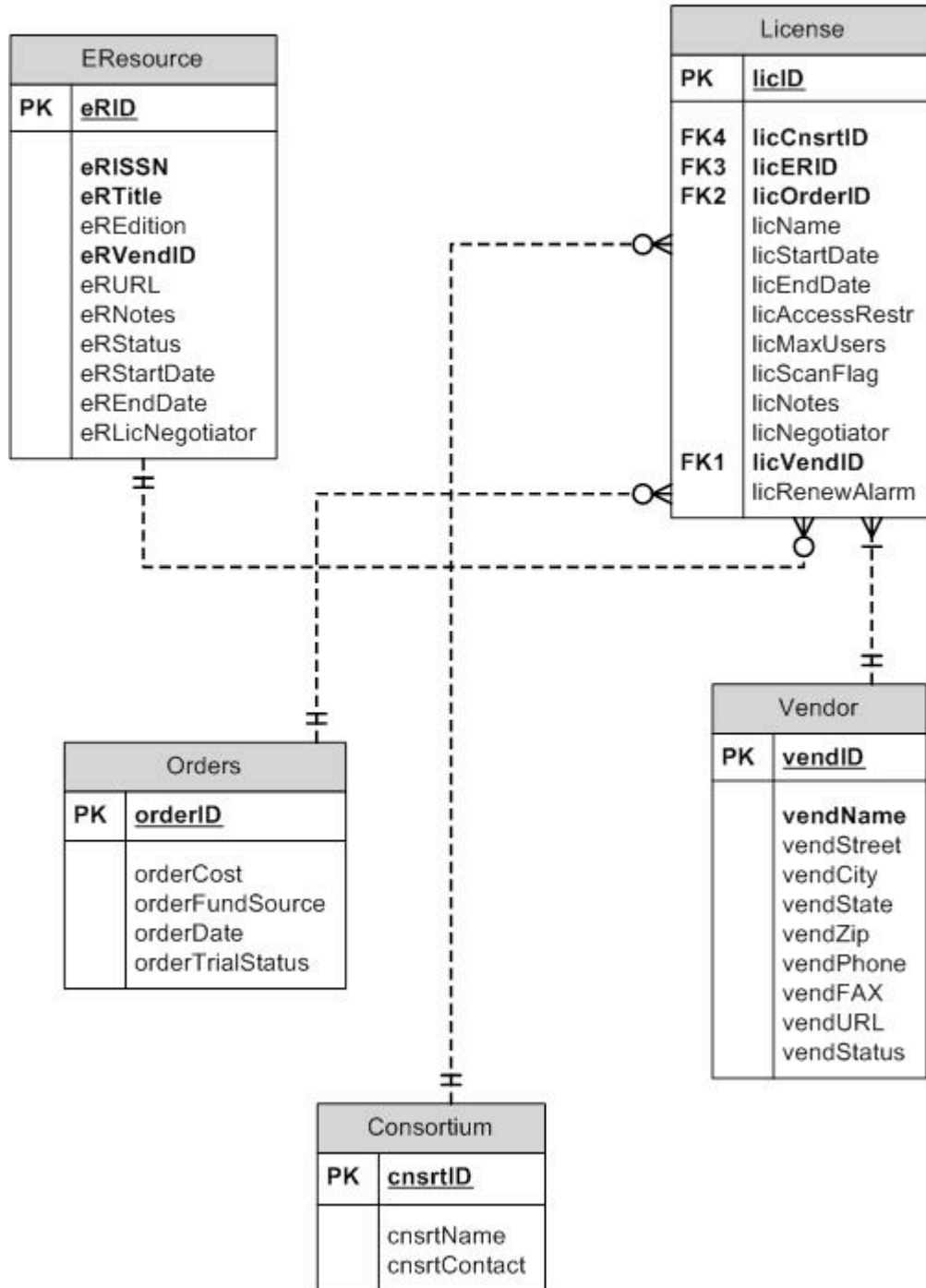
1. The importance of thoroughly understanding the system that is being designed for. I have a good sense for what is required for tracking details associated with e-resources, yet I was surprised how often I was not sure of the importance of certain data elements, the timeline of usefulness of the data to the staff, etc.

2. Along those lines - I also the importance of soliciting ongoing input from stakeholders at various levels, ranging from administration to IT to daily users of the system.
3. I gained appreciation for the usefulness of researching how others have solved similar problems. I learned a lot by scanning the specifics of some existing e-resources databases as indicated in the references at the end of this document. This was helpful both in terms of helping me decide what to include in the database, and giving ideas for what directions the database could take in the future.
4. Along **those** lines, designing systems with flexibility and an eye towards possible future directions, such as considerations for further integration with other databases.
5. The importance of keeping a critical mindset throughout the project and being prepared to revise designs as necessary if they stray from the original ideas and business problems the system was intended to address.
6. Working on this project helped confirm my experiences with the SQL Labs this semester: the tasks that seem very complex often go quickly, and the mundane problems can take ages to solve. It's amazing how much time can be spent searching for an extra digit hidden in a data field!

This project relates beautifully to the material covered in class this semester, including as it does the application of everything from business rules to writing SQL to considerations of database design and security. It was the perfect project to cap off a semester's worth of material, and I learned a lot from the experience.

Appendix A: ERD

E-Resources Database ERD



Appendix B: SQL for creating tables, inserting data, & generating queries

--This SQL script creates and propagates the five TABLEs needed to create the E-Resources Database

--Create Orders table

```
CREATE TABLE Orders (  
    orderID          VARCHAR (6) PRIMARY KEY,  
    orderCost        SMALLMONEY,  
    orderFundSource  VARCHAR (100),  
    orderDate        DATETIME,  
    orderTrialStat   VARCHAR (1));
```

--Create Vendor table

```
CREATE TABLE Vendor (  
    vendID           VARCHAR (3) PRIMARY KEY,  
    vendName         VARCHAR (100),  
    vendStreet       VARCHAR (50),  
    vendCity         VARCHAR (30),  
    vendState        VARCHAR (2),  
    vendZip          VARCHAR (10),  
    vendPhone        VARCHAR (30),  
    vendFAX          VARCHAR (30),  
    vendURL          VARCHAR (255),  
    vendStatus       VARCHAR (1));
```

--Create Consortium table

```
CREATE TABLE Consortium (  
    consrtID         VARCHAR (4) PRIMARY KEY,  
    consrtName       VARCHAR (100),  
    consrtContact    VARCHAR (255));
```

--Create EResource table

```
CREATE TABLE EResource (  
    eRID             VARCHAR (10) PRIMARY KEY,  
    eRISSN           VARCHAR (10),  
    eRTitle          VARCHAR (255),  
    eREdition        VARCHAR (10),  
    eRVendID         VARCHAR (3),  
    eRURL            VARCHAR (255),  
    eRNotes          VARCHAR (255),  
    eRStatus         VARCHAR (1),  
    eRStartDate      DATETIME,  
    eREndDate        DATETIME,  
    FOREIGN KEY (eRVendID) REFERENCES Vendor (vendID));
```

--Create license table

```
CREATE TABLE License (  
    licID            VARCHAR (7) PRIMARY KEY,  
    licCnsrtID       VARCHAR (4),  
    licERID          VARCHAR (10),
```

```

licOrderID          VARCHAR (6),
licName              VARCHAR (255),
licStartDate         DATETIME,
licEndDate           DATETIME,
licAccessRestr       VARCHAR (255),
licMaxUsers          VARCHAR (50),
licScanFlag          VARCHAR (1),
licNotes             VARCHAR (255),
licNegotiator        VARCHAR (50),
licVendID            VARCHAR (3),
licRenewAlarm        DATETIME,
                    FOREIGN KEY (licCnsrtID) REFERENCES Consortium (cnsrtID),
                    FOREIGN KEY (licERID) REFERENCES EResource (eRID),
                    FOREIGN KEY (licOrderID) REFERENCES Orders (orderID),
                    FOREIGN KEY (licVendID) REFERENCES Vendor (vendID));

--End of CREATE TABLEs

--Inserting sample data into each of the 5 E-Resources database tables

--Insert 5 rows of data into Orders table

INSERT INTO Orders VALUES
(002001, 40000, 49088-477, '08-29-03', 'N');
INSERT INTO Orders VALUES
(029021, 12560, 48009-477, '03-31-05', 'N');
INSERT INTO Orders VALUES
(102021, 5600, 48009-477, '10-08-02', 'N');
INSERT INTO Orders VALUES
(256789, 100000, 49088-477, '10-09-03', 'N');
INSERT INTO Orders VALUES
(926021, 0, 10000-478, '02-29-08', 'Y');

--Insert 5 rows of data into Vendor table

INSERT INTO Vendor VALUES
(100, 'Elsevier', '33 Main St.', 'Bethesda', 'MD', '24892',
'3238824892', '3238824892', 'www.elsevier.com', 'A');
INSERT INTO Vendor VALUES
(022, 'Springer', '654 Central', 'Boston', 'MA', '02142', '6173347822',
'6173347882', 'www.springerpubs.com', 'A');
INSERT INTO Vendor VALUES
(250, 'Kluwer', 'P.O. Box 2287', 'Baltimore', 'MD', '23849',
'3234472283', '3234472280', 'www.kluweresources.com', 'A');
INSERT INTO Vendor VALUES
(535, 'Freds Startup Pubs', '873 Pontius NW', 'Seattle', 'WA', '77828',
'2222900922', '2222900922', 'www.fredsstartup.com', 'N');
INSERT INTO Vendor VALUES
(051, 'Sirsi-Dynix', '4000 Mogul Rd.', 'Los Angeles', 'CA', '90210',
'8884482893', '8884444467', 'www.sirsi.com', 'A');

--Insert 5 rows of data into Consortium table

INSERT INTO Consortium VALUES
(1001, 'Northeast Libraries', 'Polly Herzog');
INSERT INTO Consortium VALUES
(1012, 'Greater Boston', 'Fred Imus');

```

```

INSERT INTO Consortium VALUES
    (2222, 'Budget Busters', 'Irene Kozlowsky');
INSERT INTO Consortium VALUES
    (5678, 'Cheaper Stuff', 'Andre Tate');
INSERT INTO Consortium VALUES
    (9990, 'Seven Sisters', 'Rich Hall');

--Insert 5 rows of data into EResource table

INSERT INTO EResource VALUES
    (1000000000, 3332827289, 'ScienceDirect Package', '3rd ed.', 100,
    'www.sciencedirect.com', 'Usage heavy on-campus', 'A', '08-22-01', '08-21-
    09');
INSERT INTO EResource VALUES
    (1223382987, 3482734827, 'Web of Knowledge', '11th ed.', 100,
    'www.webofknowledge.com', 'Expensive but worth it - only access to critical
    resources for faculty', 'A', '10-08-07', '10-08-10');
INSERT INTO EResource VALUES
    (2290805018, 0501806148, 'Medline', '2nd ed.', 051,
    'www.medline.nih.gov', 'Evaluate for effectiveness vs. (free) PubMed before
    renewal', 'A', '10-18-04', '10-18-08');
INSERT INTO EResource VALUES
    (0501822908, 0614805018, 'Science for Grins', '1st ed.', 535,
    'www.scigrins.com', 'n/a', 'I', '01-01-99', '01-01-04');
INSERT INTO EResource VALUES
    (6855626269, 0614806238, 'Science for Educators', '2nd ed.', 250,
    'www.kluwer.com/edsci', 'Vital for support of bio teaching labs; talk to
    instructors before renewal', 'A', '04-29-07', '04-28-10');

--Insert 5 rows of data into License table

INSERT INTO License VALUES
    (1000892, 1012, 1000000000, 002001, 'ScienceDirect', '08-22-01', '08-
    21-09', 'None', 'No Max', 'Y', 'Try another consortium at next renewal?',
    'Brownington', 100, '07-21-09');
INSERT INTO License VALUES
    (1000882, 1012, 1223382987, 256789, 'Web of Knowledge', '10-08-07', '10-
    08-10', 'None', '50 users', 'Y', 'n/a', 'Imus', 100, '09-08-10');
INSERT INTO License VALUES
    (1000229, 1001, 2290805018, 029021, 'Medline', '10-18-04', '10-18-08',
    'No ILL allowed', '20 simultaneous users', 'N', 'n/a', 'Herzog', 051, '09-18-
    08');
INSERT INTO License VALUES
    (1000501, 2222, 0501822908, 102021, 'Science for Grins', '01-01-99',
    '01-01-04', 'None', 'No Max', 'N', 'n/a', 'n/a', 535, '01-01-30');
INSERT INTO License VALUES
    (1005018, 9990, 6855626269, 926021, 'Science for Educators', '04-29-
    07', '04-28-10', 'None', 'No Max', 'N', 'n/a', 'Hall', 250, '03-28-10');

--Checking insertion of data:

SELECT * FROM Orders;
SELECT * FROM Vendor;
SELECT * FROM Consortium;
SELECT * FROM EResource;
SELECT * FROM License;

```

-- Reports

--Writing a report to list E-Resource titles & access end dates in order of earliest to latest expiration date

```
SELECT eRTitle, eREndDate FROM EResource
      ORDER BY eREndDate;
```

--Writing a report to list the 3 most expensive e-resource titles, in descending order of cost

```
SELECT TOP 3 WITH TIES orderCost, eRTitle
      FROM Orders, EResource, License
      WHERE licOrderID = orderID AND licERID = eRID
      ORDER BY orderCost DESC;
```

--Writing a report to list names & contacts of all consortiums in alphabetical order by consortium name

```
SELECT cnsrtName, cnsrtContact
      FROM Consortium
      ORDER BY cnsrtName;
```

--Writing a report to auto-generate a license renewal alarm one month prior to license expiry date

```
SELECT licEndDate FROM License;
SELECT DATEADD (month, -1, licEndDate) 'license renewal date'
      FROM License;
```

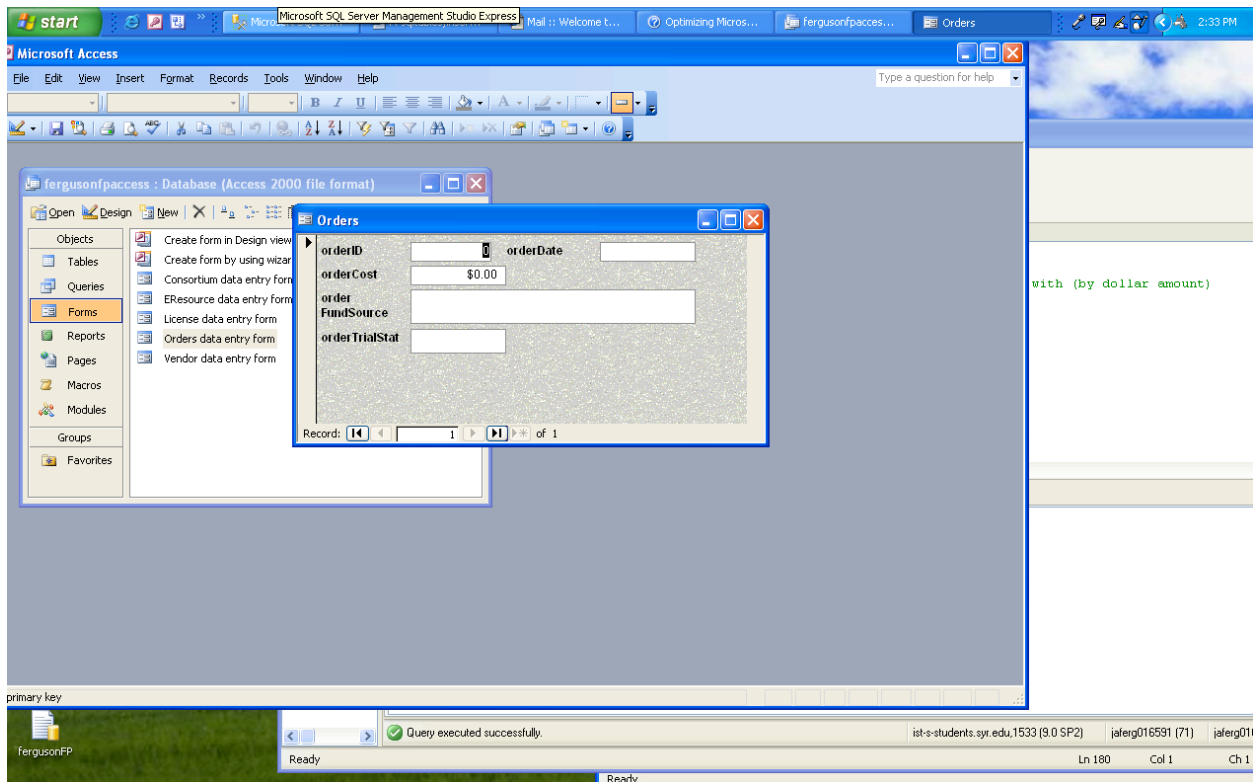
--Writing a report to determine which active vendors we do the least business with (by dollar amount)

```
SELECT TOP 2 orderCost, vendName FROM Orders, Vendor, License
      WHERE vendStatus = 'A' AND licOrderID = orderID AND licVendID = vendID
      ORDER BY orderCost ASC, vendName;
```

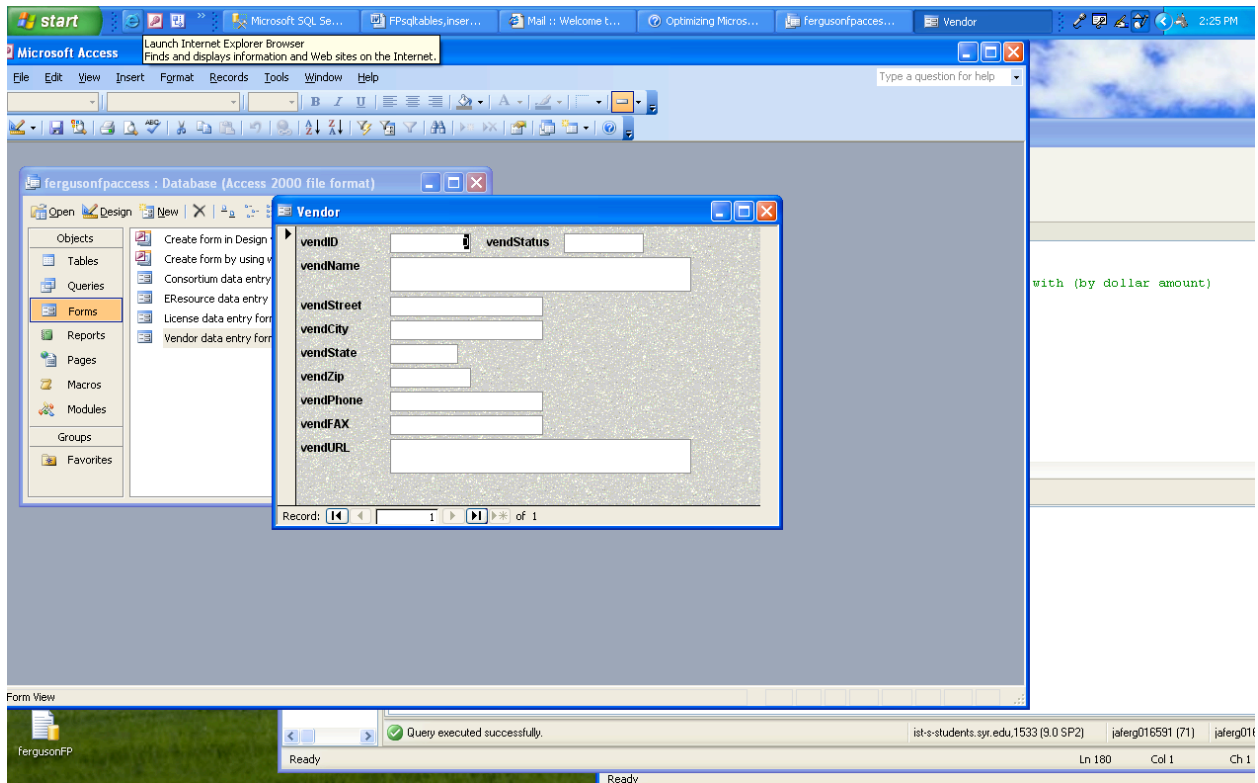
Appendix C: Screen shots of input forms

The following five input forms are all used for data entry of data into the five tables of the e-resources database.

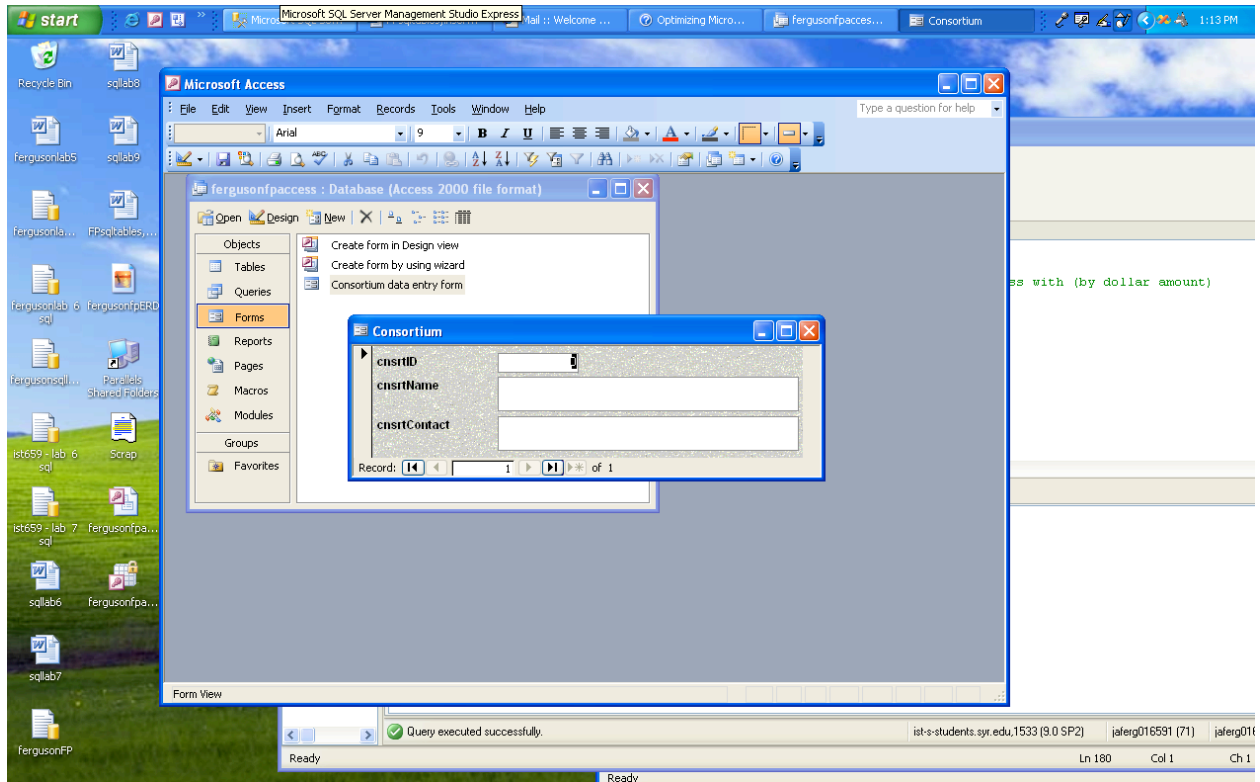
- Input form 1: Orders data entry form



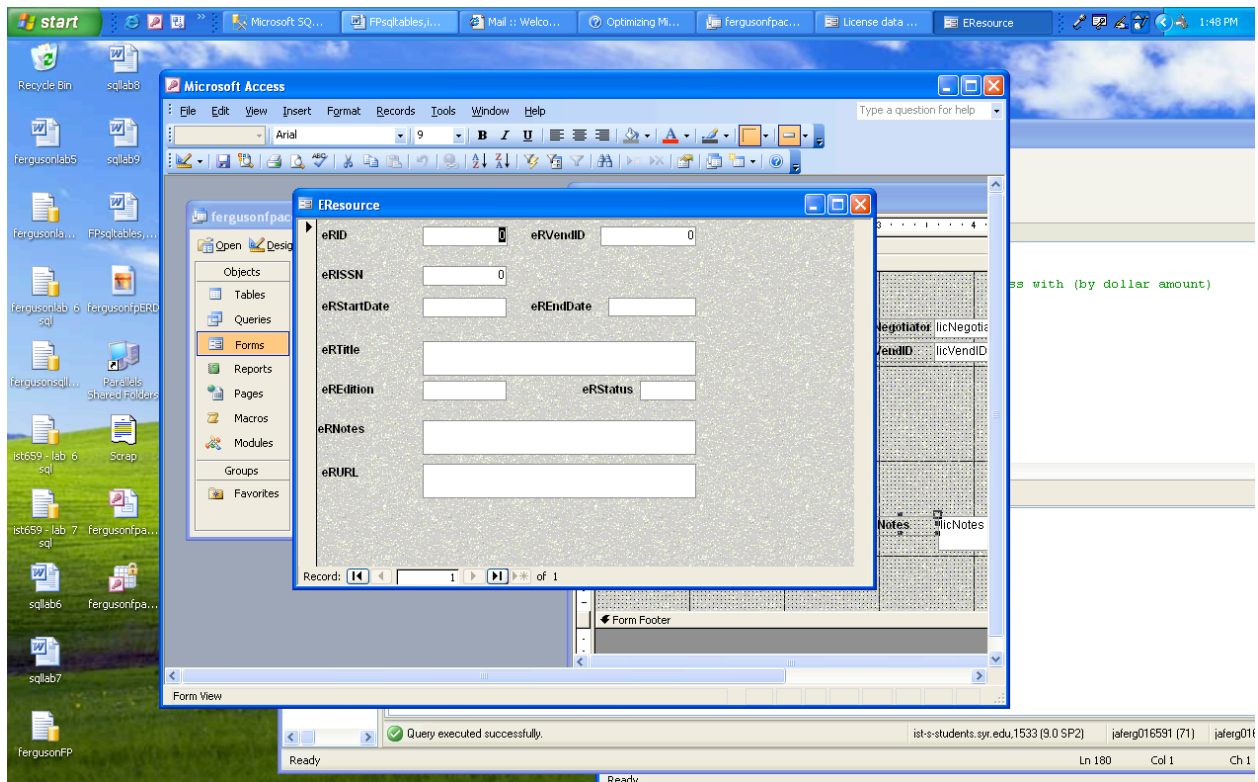
- Input form 2: Vendor data entry form



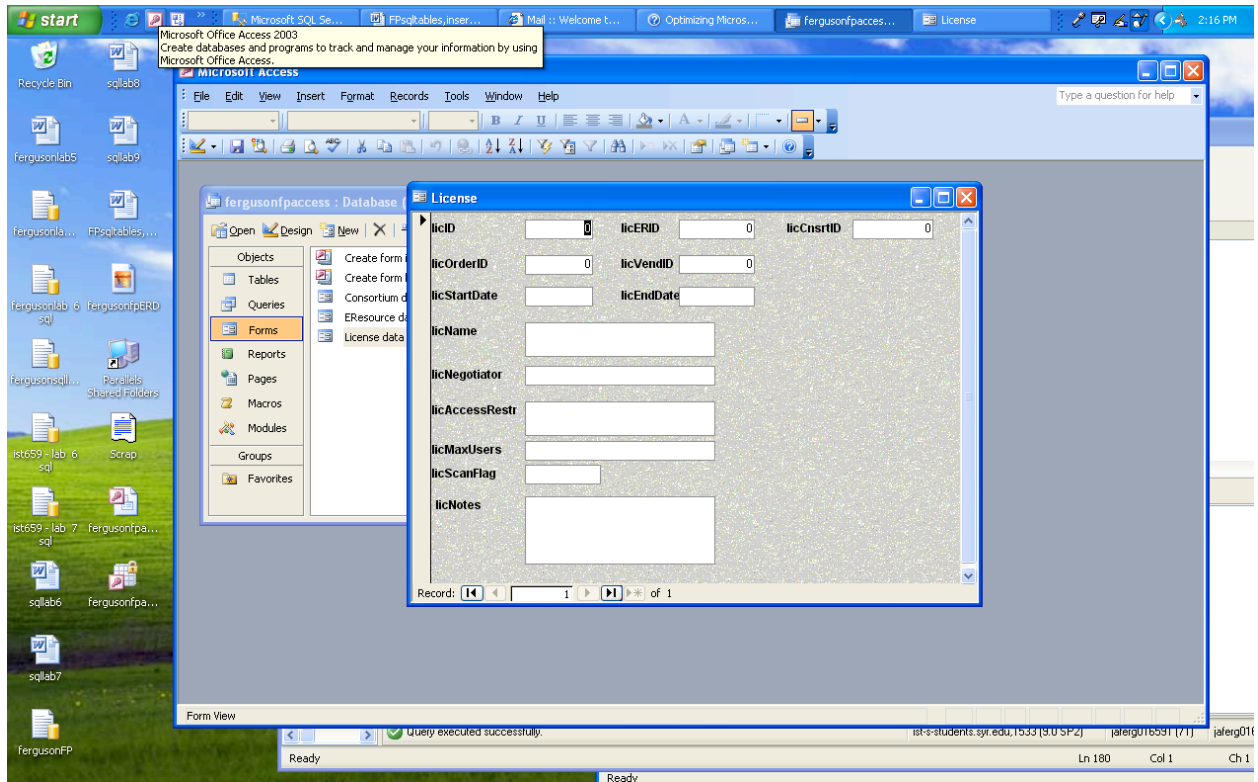
- Input form 3: Consortium data entry form



- Input form 4: Eresource data entry form



- Input form 5: License data entry form



Appendix D: Screen shots of 5 reports

1. Report 1 lists E-Resources by title and access end date, ordered from earliest to latest expiry. This is helpful for planning acquisitions.

The screenshot displays the Microsoft SQL Server Management Studio Express interface. The query editor shows the following SQL code:

```
FROM License;  
  
--Writing a report to list E-Resource titles & access end dates in order of earliest to latest expiration date  
  
SELECT eRTitle, eREndDate FROM EResource  
ORDER BY eREndDate;
```

The Results pane shows the following data:

	eRTitle	eREndDate
1	Science for Grims	2004-01-01 00:00:00.000
2	Medline	2008-10-18 00:00:00.000
3	ScienceDirect Package	2009-08-21 00:00:00.000
4	Science for Educators	2010-04-28 00:00:00.000
5	Web of Knowledge	2010-10-08 00:00:00.000

The status bar at the bottom indicates: Query executed successfully. ist-s-students.syr.edu.1533 (9.0 SP2) jaferg016591 (71) jaferg016591 00:00:00 5 rows

2. Report 2 lists the three most expensive e-resource titles in descending order of cost. This is helpful for comparing collections and budgeting accordingly.

The screenshot shows the Microsoft SQL Server Management Studio Express interface. The main window displays a SQL query in a text editor. The query is as follows:

```
--Writing a report to list the 3 most expensive e-resource titles, in descending order of cost  
  
SELECT TOP 3 WITH TIES orderCost, eRTitle  
FROM Orders, EResource, License  
WHERE licOrderID = orderID AND licERID = eRID  
ORDER BY orderCost DESC;
```

Below the query editor, the Results pane shows the output of the query. The results are displayed in a table with two columns: orderCost and eRTitle. The data is as follows:

orderCost	eRTitle
100000.00	Web of Knowledge
40000.00	ScienceDirect Package
12560.00	Medline

The status bar at the bottom of the window indicates that the query was executed successfully. The status bar also shows the server name (ist-s-students.syr.edu.1533 (9.0 SP2)), the user name (jaferg016591), the session ID (71), the execution time (00:00:00), and the number of rows returned (3 rows).

- Report 3 lists consortium information by name and contact. This conveniently collocates information currently held in several different places.

The screenshot shows the Microsoft SQL Server Management Studio Express interface. The query editor contains the following SQL code:

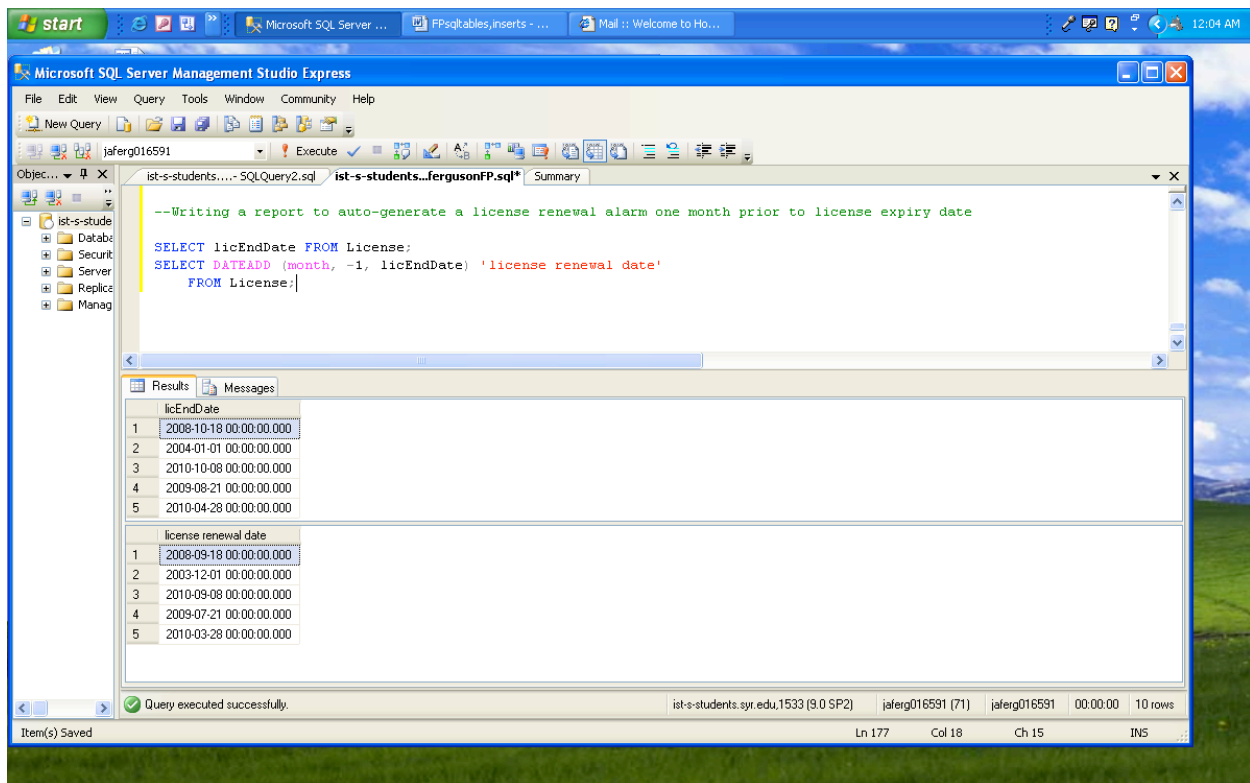
```
--Writing a report to list names & contacts of all consortiums in alphabetical order by consortium name  
SELECT cnstName, cnstContact  
FROM Consortium  
ORDER BY cnstName;
```

The Results pane displays the following data:

	cnstName	cnstContact
1	Budget Busters	Irene Kozlowsky
2	Cheaper Stuff	Andre Tate
3	Greater Boston	Fred Imus
4	Northeast Libraries	Polly Herzog
5	Seven Sisters	Rich Hall

The status bar at the bottom indicates: Query executed successfully. ist-s-students.syr.edu,1533 (9.0 SP2) jaferg016591 (71) jaferg016591 00:00:00 5 rows

- Report 4 auto-generates a license renewal alarm one month prior to license expiry. This helps ensure timely renewal decisions and unbroken access to e-resources.



5. Report 5 determines which active vendors we utilize least, by dollar amount. This information can be helpful leverage at license/resource negotiation time.

The screenshot displays the Microsoft SQL Server Management Studio Express interface. The main window shows a SQL query being executed. The query is as follows:

```
FROM License;  
  
--Writing a report to determine which active vendors we do the least business with (by dollar amount)  
  
SELECT TOP 2 orderCost, vendName FROM Orders, Vendor, License  
WHERE vendStatus = 'A' AND licOrderID = orderID AND licVendID = vendID  
ORDER BY orderCost ASC, vendName;
```

The Results pane below the query shows the following data:

orderCost	vendName
0.00	Kluwer
12560.00	Sirsi-Dynix

The status bar at the bottom indicates "Query executed successfully." and shows the current position in the document: "Ln 184 Col 38 Ch 35 INS".

Appendix E: Data Dictionary

Table Name: Orders

Table Description: This table houses data on the orders associated with acquiring e-resources.

Table Attributes:

Name	Description	Type/Size	Format	Req'd	Domain	Default / Derived	Key	Referenced Table
orderID	ID # associated with an order	Varchar (6)	-	Y	000001-999999	999999	PK	-
orderCost	Cost of an e-resource	Smallmoney	-	N	-	-	-	-
orderFundSource	Source (account number) charged	Varchar (100)	-	N	-	-	-	-
orderDate	Date of order	Datetime	Mm/dd/yy	N	-	-	-	-
orderTrialStatus	Is order/e-resource in trial phase?	Varchar (1)	Y/N	N	-	-	-	-

Table Name: Consortium

Table Description: This table tracks contact information for consortiums that may be involved in e-resource negotiations.

Table Attributes:

Name	Description	Type/Size	Format	Req'd	Domain	Default/ Derived	Key	Referenced Table
CnsrtID	ID # assigned to consortium	Varchar (4)	-	Y	0001-9999	9999	PK	-
CnsrtName	Name of consortium	Varchar (100)	-	N	-	-	-	-
CnsrtContact	Contact person for consortium	Varchar (255)	Last name only	N	-	-	-	-

Table Name: Vendor

Table Description: This table contains basic info on the vendors who supply e-resources to the library.

Table Attributes:

Name	Description	Type/Size	Format	Red's	Domain	Default/ Derived	Key	Referenced Table
VendID	ID# associated with vendor	Varchar (3)	-	Y	001-999	999	PK	-
VendName	Name of vendor	Varchar (100)	-	Y	-	-	-	-
VendStreet	Vendor street address	Varchar (50)	-	N	-	-	-	-
VendCity	Vendor city	Varchar (30)	-	N	-	-	-	-
VendState	Vendor state	Varchar (2)	-	N	-	-	-	-
VendZip	Vendor ZIP code	Varchar (10)	-	N	-	-	-	-
VendPhone	Phone #	Varchar (30)	-	N	-	-	-	-
VendFax	FAX #	Varchar (30)	-	N	-	-	-	-
VendURL	URL for vendor site	Varchar (255)	-	N	-	-	-	-
VendStatus	Status of vendor	Varchar (1)	'A' = active 'I' = inactive	N	-	-	-	-

Table Name: EResource

Table Description: This table tracks information on the electronic resources managed by the library.

Table Attributes:

Name	Description	Type/Size	Format	Req'd	Domain	Default/Derived	Key	Referenced Table
eRID	ID # assigned to the e-resource	Varchar (10)	-	Y	0000000001-9999999999	9999999999	PK	
eRISSN	ISSN of the e-resource	Varchar (10)	-	Y	-	-	-	-
eRTitle	Title of e-resource	Varchar (255)	-	Y	-	-	-	-
eREdition	Edition of resource	Varchar (10)	-	N	-	-	-	-
eRVendID	ID # of Vendor of resource	Varchar (3)	-	Y	001-999	999	FK	Vendor
eRURL	URL of resource	Varchar (255)	-	N	-	-	-	-
eRNotes	Internal notes on resource	Varchar (255)	-	N	-	-	-	-
eRStatus	Active status of resource	VarChar (1)	'A' = active, 'I' = inactive	N	-	-	-	-
eRStartDate	Start date of resource availability	Datetime	Mm/dd/yy	N	-	-	-	-
eREndDate	Final date of resource availability	Datetime	Mm/dd/yy	N	-	-	-	-

Table Name: License**Table Description:** This table contains licensing information for the e-resources.**Table Attributes:**

Name	Description	Type/Size	Format	Req'd	Domain	Default/ Derived	Key	Referenced Table
LicID	ID# assigned to license	Varchar (7)	-	Y	0000001-9999999	9999999	PK	-
LicCnsrtID	Consortium ID#	Varchar (4)	-	Y	0001- 9999	9999	FK	Consortium
LicERID	E-resource ID#	Varchar (10)	-	Y	0000000001-9999999999	9999999999	FK	E-resource
LicOrderID	Order ID#	Varchar (6)	-	Y	000001-999999	999999	FK	Orders
LicName	Name of license	Varchar(255)	-	N	-	-	-	-
LicStartDate	Start date of license term	Datetime	Mm/dd/yy	N	-	-	-	-
LicEndDate	End date	Datetime	Mm/dd/yy	N	>Start date			
LicAccessRestr	Any access restrictions associated with license	Varchar (255)	-	N	-	-	-	-
LicMaxUsers	Maximum simultaneous users allowed w/ license	Varchar (255)	-	N	-	-	-	-
LicScanFlag	Is there a PDF/scan of license?	Varchar(1)	Y/N	N	-	-	-	-
LicNotes	Any internal notes	Varchar(255)	-	N	-	-	-	-
LicNegotiator	Last name of license negotiator	Varchar(50)	Last name only	N	-	-	-	-
LicVendID	Vendor ID#	Varchar(3)	-	Y	001-999	999	FK	Vendor
LicRenewalAlarm	Alarm to renew license (set for 1 month before expiry)	Datetime	Mm/dd/yy	N	1 month before end date	-	-	-

Appendix F: System catalog

Object name: Orders

Object type: Table

Description: This table houses data on the orders associated with acquiring e-resources.

Detailed description:

Information is sourced from the orders generated by library personnel when acquiring electronic resources.

One record per placed order.

Updated at least monthly or as needed.

Some information (e.g. order fund source) is determined by purchasing department.

Full access granted for e-resources librarian and collection development librarian; others as needed.

Retain order records for minimum 3 years. Information older than 3 years can likely be sourced from purchasing records if needed.

Related tables: vendor, eresource, license, consortium

Object name: Consortium

Object type: Table

Description: This table tracks contact information for consortiums that may be involved in e-resource negotiations.

Detailed description:

Information is sourced from directories, e-mail contacts/addresses, license agreements and contracts.

One record per consortium.

Updated as needed (this information is not expected to change very often).

Full access granted for e-resources librarian and collection development librarian; others as needed.

Retain consortium records for minimum 5 years.

Related tables: vendor, eresource, license, orders

Object name: Vendor

Object type: Table

Description: This table contains basic info on the vendors who supply e-resources to the library.

Detailed description:

Information is sourced from the vendors used by library personnel when acquiring electronic resources.

One record per supplier.

Updated on as-needed basis.

Full access granted for e-resources librarian and collection development librarian; others as needed.

Retain vendor records for minimum 3 years.

Vendor Status indicates whether a vendor is still operational.

Related tables: orders, eresource, license, consortium

Object name: EResource

Object type: Table

Description: This table tracks information on the electronic resources managed by the library.

Detailed description:

Information may be sourced from orders, licenses, contracts, vendors, and/or library staff.

One record per electronic resource.

Updated at least monthly or as needed, especially as e-resource URLs change.

eRISSN = international standard serial number of resource.

eRStatus indicates whether subscription is active or inactive.

Full access granted for all library staff; others as needed.

Retain eresource records for minimum 5 years.

Related tables: vendor, orders, license, consortium

Object name: License

Object type: Table

Description: This table contains detailed licensing information for the electronic resources managed by the library.

Detailed description:

Information may be sourced from license agreements, contracts, vendors, and/or library staff.

One record per license.

Updated at least monthly or as needed.

licScanFlag indicates whether an electronic copy of the license is on file.

LicRenewalAlarm notifies staff by email one month prior to license expiry, allowing time for negotiations.

Full access granted for e-resources librarian and collection development librarian; others as needed.

Retain license records for minimum 5 years.

Related tables: vendor, orders, eresource, consortium

Object name: Orders
Object type: Input form
Description: This form allows entry of order data associated with e-resource acquisition.

Detailed description:

Information is sourced from the orders generated by library personnel when acquiring electronic resources.

Information entered into the orders form is stored in the orders & license tables.

One record per placed order.

Frequency: as needed.

Object name: Consortium
Object type: Input form
Description: This form allows entry of contact data for consortiums that may be involved in e-resource negotiations.

Detailed description:

Information is sourced from directories, e-mail contacts/addresses, license agreements and contracts.

Information entered via the consortium form is stored in the consortium table.

One record per consortium.

Frequency: as needed.

Object: Vendor

Object type: Input form

Description: This form allows entry of basic info on vendors that supply e-resources to the library.

Detailed description:

Information is sourced from the vendors used by library personnel when acquiring electronic resources.

Information entered with this form is destined for the vendor, license, and eresource tables.

One record per supplier.

Frequency: as needed.

Object name: EResource

Object type: Input form

Description: This form allows entry and maintenance of information on the electronic resources managed by the library.

Detailed description:

Information may be sourced from orders, licenses, contracts, vendors, and/or library staff.

Information is destined for the eresource & license tables.

One record per electronic resource.

Updated at least monthly or as needed, especially as e-resource URLs change.

Object name: License
Object type: Input form
Description: This form allows entry of detailed licensing information for the electronic resources managed by the library.

Detailed description:

Information may be sourced from license agreements, contracts, vendors, and/or library staff.

Information is destined for the license table.

One record per license.

Updated at least monthly or as needed.

Object name: EresExpiryRpt
Object type: Report
Description: This report lists E-Resource titles and associated access end dates.

Detailed description:

Report lists E-Resource titles in order of earliest to latest expiration date.

Report draws upon data from the eresource table.

This report is generated as needed by library staff to help plan budget and acquisition decisions.

Object name: EresExpenseRpt

Object type: Report

Description: This report lists the three most expensive E-Resource titles held by the library.

Detailed description:

Report lists top 3 E-Resource titles in order of most to least expensive.

Report draws upon data from the eresource & orders tables.

This report is generated as needed by library staff to help plan budget and acquisition decisions.

Object name: CnsrtmRpt

Object type: Report

Description: This report lists consortium contact information.

Detailed description:

Report lists names & contacts for all consortiums, sorted in alphabetical order by consortium name.

Report draws upon data from the consortium table.

This report is generated as needed by library staff to update contact lists.

Object name: LicRenewAlarm

Object type: Report

Description: This report auto-generates a license renewal alarm.

Detailed description:

Report automatically emails staff members with a license renewal reminder.

Alarm is generated one month prior to license expiry to allow time for negotiations and/or collection decisions.

Report draws upon data from the license table.

This report is automatically generated to help library staff better budget time and ensure continued access to resources.

Object name: UnderusedVendorsRpt

Object type: Report

Description: This report lists the vendors we do the least business with.

Detailed description:

Report lists two active vendors the library does the least business with (as measured in total dollars spent).

Report draws upon data from the orders and vendors tables.

This report is generated as needed by library staff to help with budgeting decisions and provide leverage for vendor negotiations.

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