AXAEM Overview

August 31, 2017

Abstract: *AXAEM, or APPX-based Archives Enterprise Manager, is an open source application created by the State of Utah to manage the workflow of the State Archives. It automates both archival and records management processes, describing records of all types, records creators and other entities, functions, training opportunities available for records officers, patron requests, volunteers, projects, and microfilm and digitization work orders. It also facilitates the accessioning of physical records, and can manage holdings and space allocation, or integrate with third-party software for that purpose. It can ingest and extract metadata from electronic records and run many tools useful in the format validation and transformation process. It also integrates with Gmail and the Google calendar API, supporting the batch downloading of email from that source per labels/folders applied, as well as sending email from a Gmail account or posting an event to the calendar. The database is integrated with the Solr search engine for ease of public access, which offers faceted searching based upon AXAEM metadata and downloading of ingested electronic records. AXAEM also supports the creation of record indexes that are web-searchable (such as by a person's name or relevant date). Other website integration includes the ability to print retention schedules or submit new ones, as well as provide online tests for the certification of records officers. The application has one required software dependency, which is the APPX utility (proprietary and fully vendor-supported). AXAEM's GPL open-source license has an exception for this utility. Other software dependencies used in the electronic records process are optional, generally open-source, and have their own licensing requirements. In Utah, the box inventory system integrated with AXAEM is another proprietary product: Versatile from Zasio. All software dependencies are the responsibility of the user.*

Automating the Archives

The Utah State Archives' local system is written with software called APPX, a proprietary Rapid Application Development tool, and the resulting application has been named APPX-based Archives Enterprise Manager (AXAEM, pronounced like "axiom"). This software allows us to develop applications that reflect our business needs, and change and expand as we see fit. The features used in AXAEM are directly related to APPX Software's capabilities, and they change and grow as we implement upgrades. The software is easy to change and adapt as user needs change. AXAEM code has been made open-source by the State of Utah.

Our local system was designed many years ago by a group of archivists, who sat in many meetings discussing archival theory and how it applied to archives practices, records management, and automated systems. They came up with the original foundational principles and table structures the system was built upon, and that core is still in place, although it has been expanded upon greatly.

One foundational principle is that records have a lifecycle. They are created and used actively by an entity, stored for a while off-site, and then destroyed or transferred to an archives for permanent access. Once in an archives, other things happen to those records. The process is a continuum, but with many procedural branches. Since the Utah State Archives and Records Service functions as both a records management and archival institution, our local system is smart to do so as well. To that end, AXAEM begins with a simple core idea that gets added upon:

- Records first obtain retention schedules, and are given basic descriptive data. These descriptions can be very broad (big-bucket) or fairly narrow and precise.
- They also have classifications, or access restrictions reflecting state law.
- And they have an approval process that they must go through, and those meetings where approval is granted have to be managed.
- Then other important things start to emerge, all of which get saved to the system. For instance, records are sometimes microfilmed. The film contains certain data ranges, belongs to specific record series, and may later be digitized.
- The records, if permanent, are arranged and described at the box, file, and reel level.
- Electronic records can also be described at the individual object level, or in groups such as at different levels within a folder tree.
- Records have finding aids created, and may also be indexed.
- They have relationships to other records, which must be recorded.
- They may have a history of being produced by another agency before being managed by their current one, which also needs to be recorded.
- Those agencies have their own history, functions, and prior names, and may be current or defunct.
- There are people at the agencies that we need to keep in contact with and train, and those training sessions need to be managed. And on, and on.

Each piece adds context and meaning to the information we are trying to preserve, understanding of the government process that existed at any moment in time, and greater efficiency to the administrative tasks of the Archives. Context, content, provenance, and original order are the cornerstones of archival management. Instead of starting the descriptive process over each time the records pass through another point in their lifecycle, the information is added continually to that single entry point. Then the data is presented to the public as a retention schedule, a catalog record, a finding aid, a searchable index, and the metadata for born-digital or scanned individual items.

In addition to recording information about records and their creators, AXAEM has automated many workflows for the Archives. This has served to streamline our work and given us the ability to adapt to changing recordkeeping requirements. Those workflows include the creation of digitization workorders, patron registration, project management, volunteer management, records officer training, direct interface with Gmail and Google Calendar, support of the EAC-CPF standard, and appraisal scoring linked to policies, to name a few.

This tutorial is intended to clarify what the features are, how they were intended to be used, and why they support best practices. It will also delineate the procedural steps for navigating through the software, adding data, and saving changes.

System Architecture

APPX has three components: the client, server, and database. The client is what's known as "thin client." One client version is written in Java and is installed on the desktop. Or you may use the HTML client and access it through a browser. A local connector is an optional plugin for the HTML client so that the client can perform certain actions on the desktop (handy for some electronic records functions). The client creates a communication link with the server and provides a runtime environment so that you can interact with the data using a graphical interface. You may download the Java client from APPX's website, www.appx.com. After the client is installed, you can access AXAEM from anywhere, as long as you have an Internet connection and login rights. If you are trying to access it outside the state firewall, there may be some restrictions.

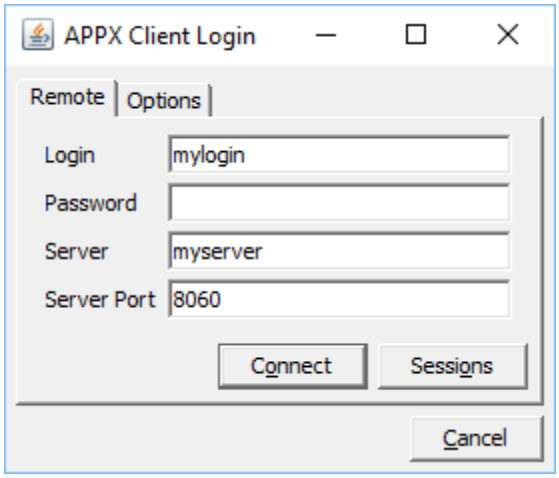
The APPX engine and the applications we've written for our business processes are stored on the server, not the client. In Utah, our main (production) applications run on a Linux server. The APPX utility also supports Windows as a native operating system option, and we have a copy on a local laptop. One instance of APPX or AXAEM can also talk to another instance of APPX/AXAEM, if the need arises.

The database we use is Oracle, but other options are available (SQL Server, MySQL, etc.), and we can connect to multiple data sources simultaneously. We also have data in APPX's native database, known an APPX/IO, to provide faster response to some tables. Oracle is located on a separate Linux server. The reason we use Oracle is so that data can be shared with another third-party system, which is used to manage records at our Records Center.

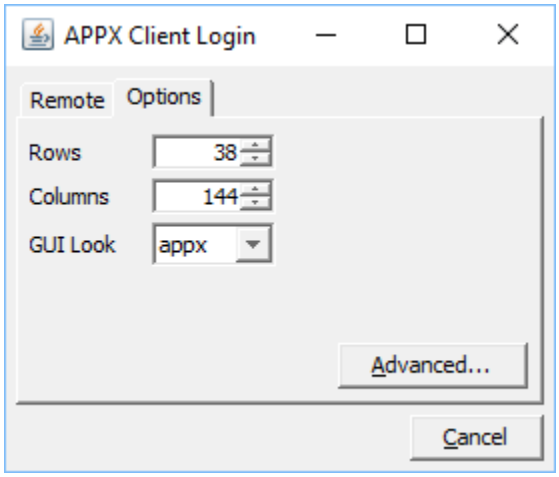
We have a web server connected to our application server. APPX supports web services, and REST/SOAP interfaces. Our customers can login to our website using a secure Utah Master Directory login and interact with many services where AXAEM provides the database backend. The Solr search engine is also fully integrated with AXAEM for both internal and website searching of content.

Login

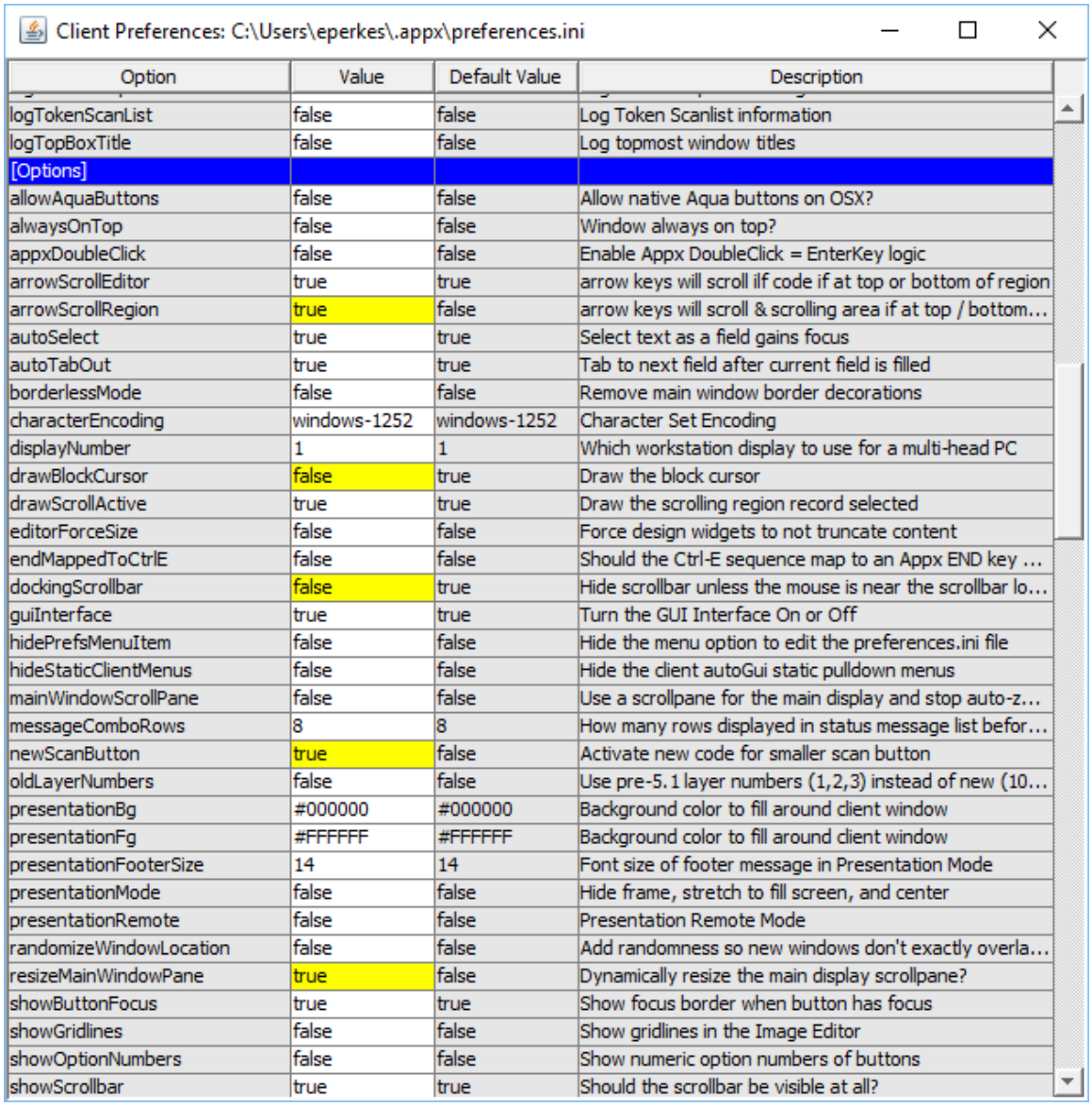
To login to APPX, use the login ID and password assigned to you by the APPX administrator. APPX will remember everything except the password the next time you try to get in:



Prior to logging in, you can set options by going to the Options tab.



This is where you set the screen rows and columns to be 38 x 144 instead of the default 21 x 80, or change the font size. The default screen size does need to be changed to use AXAEM. For additional options, click Advanced. Double click in the left-hand value fields to edit. After you make your change, when you click outside of the field, the background changes to yellow. When you are done making changes, exit by clicking the X on the upper right-hand of the window. Then click the Remote tab and log in as normal to save your changes.

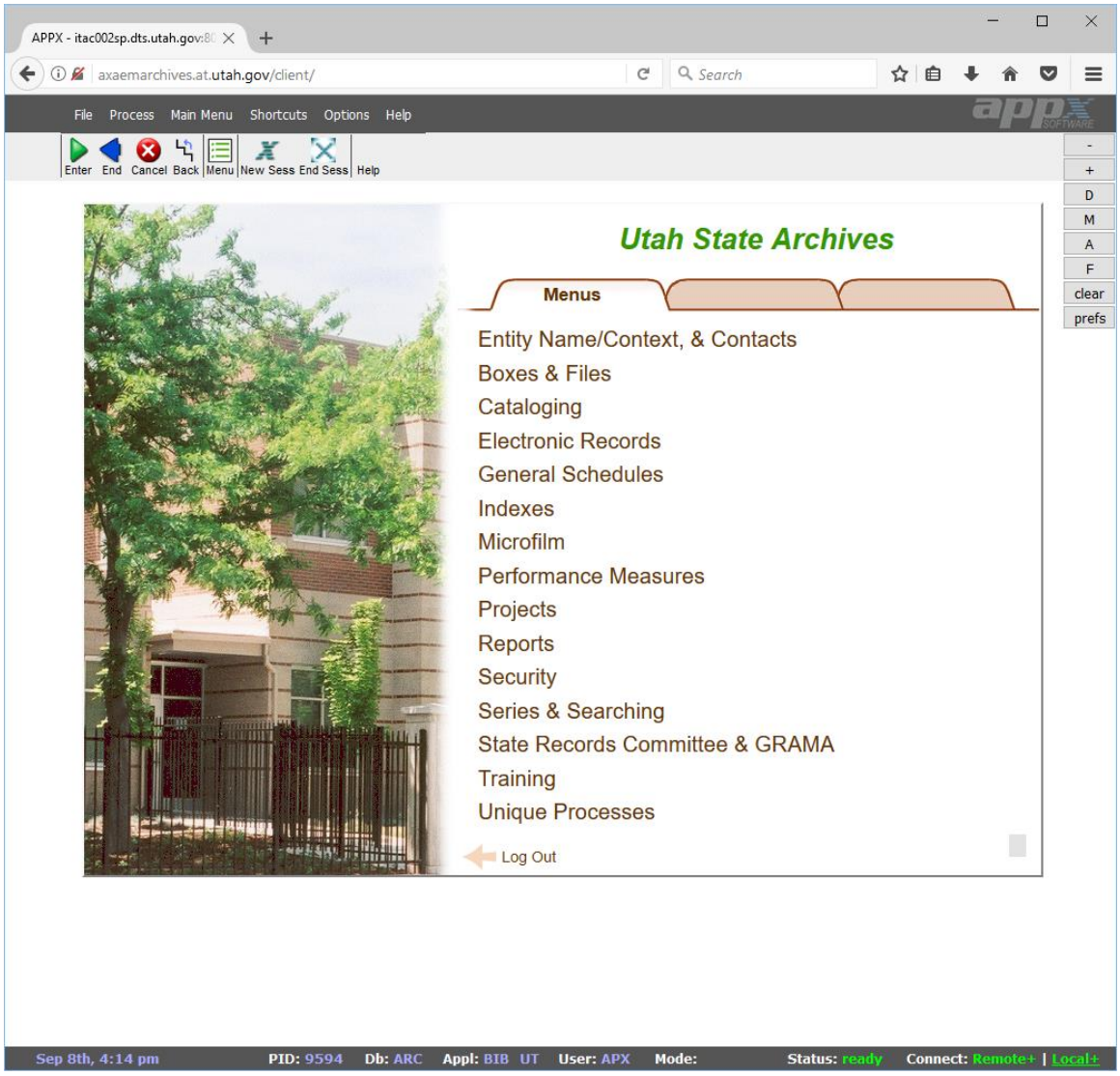


Option	Value	Default Value	Description
logTokenScanList	false	false	Log Token Scanlist information
logTopBoxTitle	false	false	Log topmost window titles
[Options]			
allowAquaButtons	false	false	Allow native Aqua buttons on OSX?
alwaysOnTop	false	false	Window always on top?
appxDoubleClick	false	false	Enable Appx DoubleClick = EnterKey logic
arrowScrollEditor	true	true	arrow keys will scroll ilf code if at top or bottom of region
arrowScrollRegion	true	false	arrow keys will scroll & scrolling area if at top / bottom...
autoSelect	true	true	Select text as a field gains focus
autoTabOut	true	true	Tab to next field after current field is filled
borderlessMode	false	false	Remove main window border decorations
characterEncoding	windows-1252	windows-1252	Character Set Encoding
displayNumber	1	1	Which workstation display to use for a multi-head PC
drawBlockCursor	false	true	Draw the block cursor
drawScrollActive	true	true	Draw the scrolling region record selected
editorForceSize	false	false	Force design widgets to not truncate content
endMappedToCtrlE	false	false	Should the Ctrl-E sequence map to an Appx END key ...
dockingScrollbar	false	true	Hide scrollbar unless the mouse is near the scrollbar lo...
guiInterface	true	true	Turn the GUI Interface On or Off
hidePrefsMenuItem	false	false	Hide the menu option to edit the preferences.ini file
hideStaticClientMenus	false	false	Hide the client autoGui static pulldown menus
mainWindowScrollPane	false	false	Use a scrollpane for the main display and stop auto-z...
messageComboRows	8	8	How many rows displayed in status message list befor...
newScanButton	true	false	Activate new code for smaller scan button
oldLayerNumbers	false	false	Use pre-5.1 layer numbers (1,2,3) instead of new (10...
presentationBg	#000000	#000000	Background color to fill around client window
presentationFg	#FFFFFF	#FFFFFF	Background color to fill around client window
presentationFooterSize	14	14	Font size of footer message in Presentation Mode
presentationMode	false	false	Hide frame, stretch to fill screen, and center
presentationRemote	false	false	Presentation Remote Mode
randomizeWindowLocation	false	false	Add randomness so new windows don't exactly overla...
resizeMainWindowPane	true	false	Dynamically resize the main display scrollpane?
showButtonFocus	true	true	Show focus border when button has focus
showGridlines	false	false	Show gridlines in the Image Editor
showOptionNumbers	false	false	Show numeric option numbers of buttons
showScrollbar	true	true	Should the scrollbar be visible at all?

Main Menu

After you login, you will be presented with the Main Menu. If using the Java Client, it looks like this:

If using the HTML client in a browser, it looks like this:



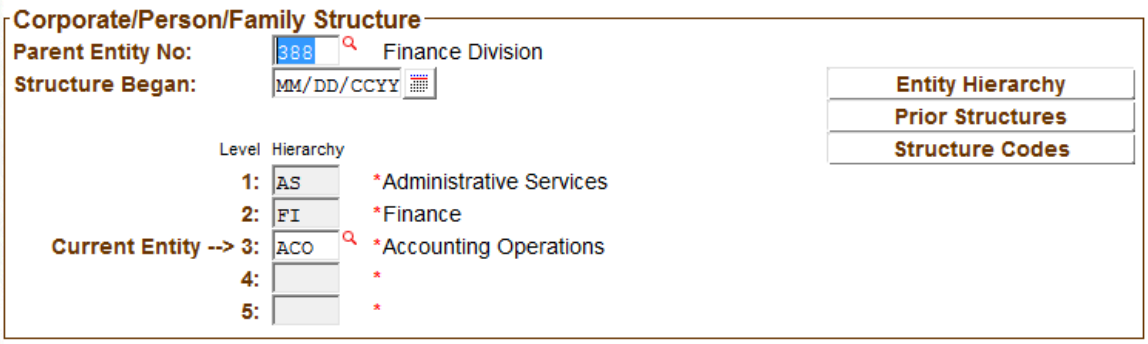
Some menu items are going to be used far more than others. Typically, you will spend most of your time in Series & Searching; Entity Name/Context & Contacts; and perhaps Training or Microfilm—not necessarily in that order.

Entities and Contacts

The Entities & Contacts Menu is used to record information about state and local government agencies in Utah, and the people we interact with in those agencies. It also records all of the context of record creation, as defined by the Encoded Archival Context (EAC-CPF) standard, and the functions of record creators. AXAEM calls these units "entities." An entity may technically be a corporate name, person, or family. In Utah, we only work with governmental entities, also known as agencies, so the descriptions below will refer to entities as agencies, although we will expand our entities to include persons such as governors and family relationships to a first spouse (who also creates government records). An "agency" is a unit of government that operates relatively independently. It may be part of a larger department or have smaller divisions under it. Program units are not considered separate agencies, but they can be recorded in the database when they exist. Programs are usually small workgroups, but are unique in that they may span several agencies, such as federal grant programs. The way the line is drawn between something being an agency versus a program is its size and purpose, the level of independence, an official name, the existence of a director, and a separate budget from other agency units. If it has all those things, it's an agency.

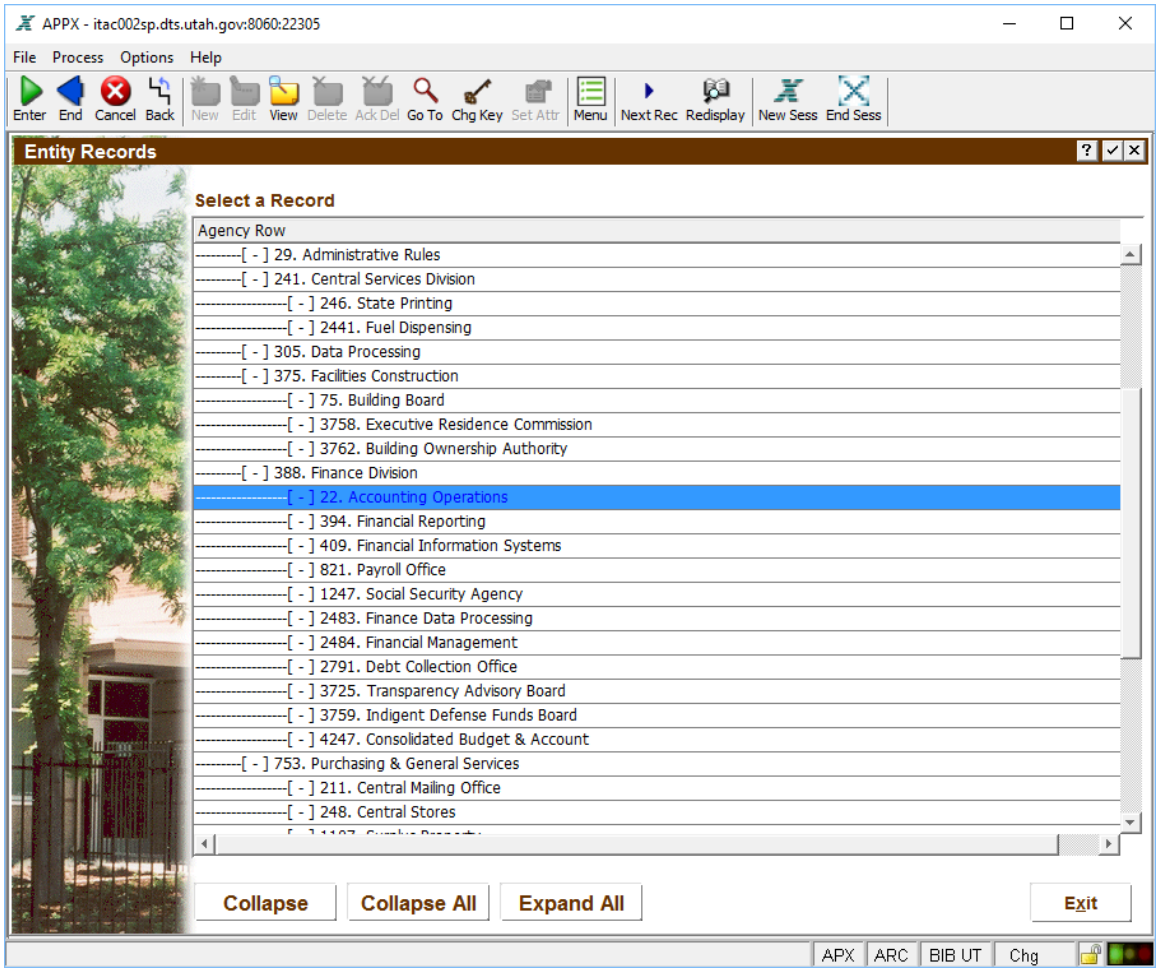
Recording agency information provides provenance and context to the records that are created by those agencies. It also acts as an authority file, so that agency names only need to be established once but can be used multiple times by different processes.

Every agency is given a number, called the agency key. This is a sequence number that grows as each agency is added to the system. The agency key is independent of all other numbers. Agencies also have another unique key called hierarchy codes. These 4-character codes, when used as a set, are equivalent to the agency key.



In this example, the hierarchy code set is AS FI ACO, for the Accounting Operations section of the Division of Finance. Its agency key is 22. The agency key of the division above it (Finance) is 388. What the codes do is provide a linking relationship between agencies, so that all agencies belonging to the same department use the department's code

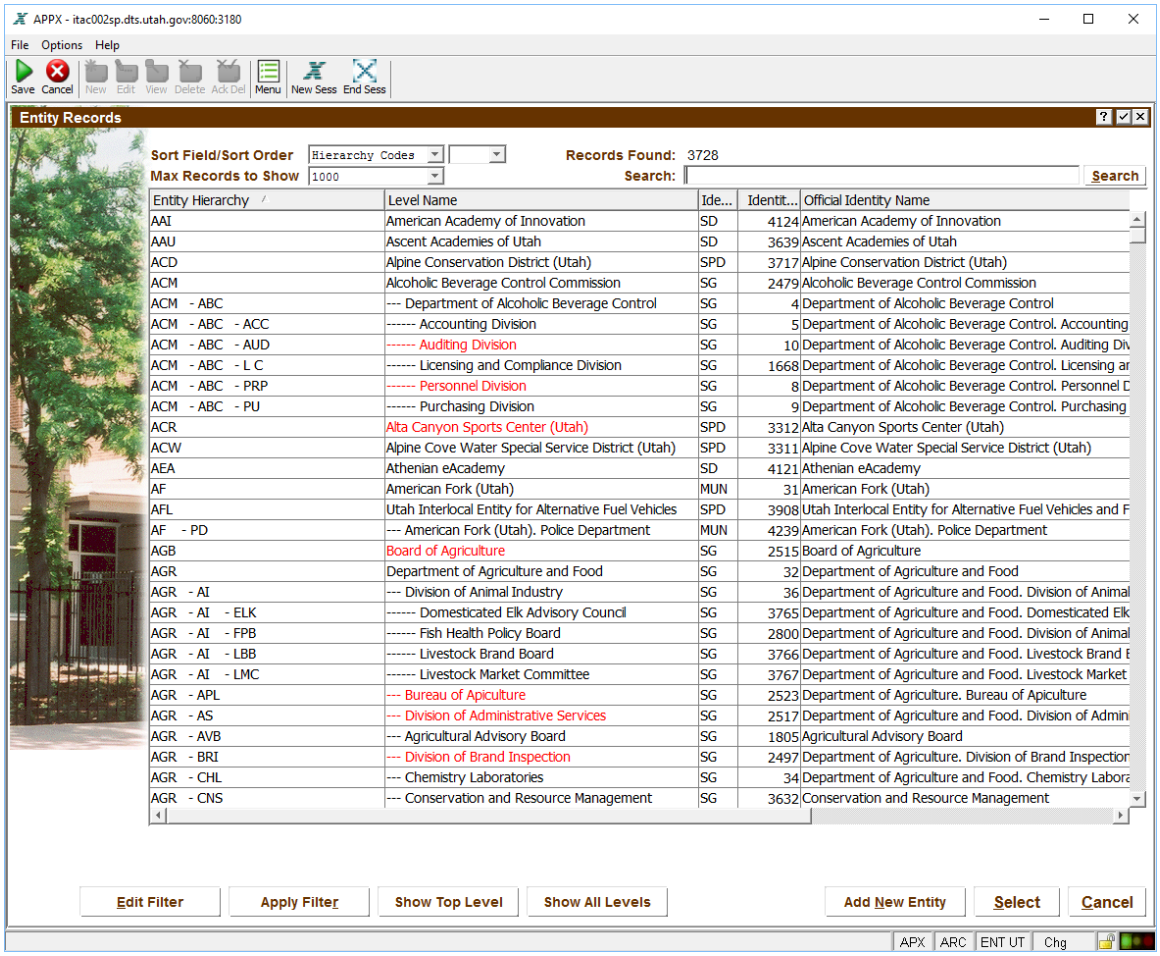
as part of its set. Codes can be reused between agencies if the function is similar, but the whole set together must be unique from entity to entity. Here's a view of the hierarchy in context:



When running reports, if you use the entity key in the query, only data associated with that key will print. If you use the hierarchy codes, data associated with that entity and all of its children will print.

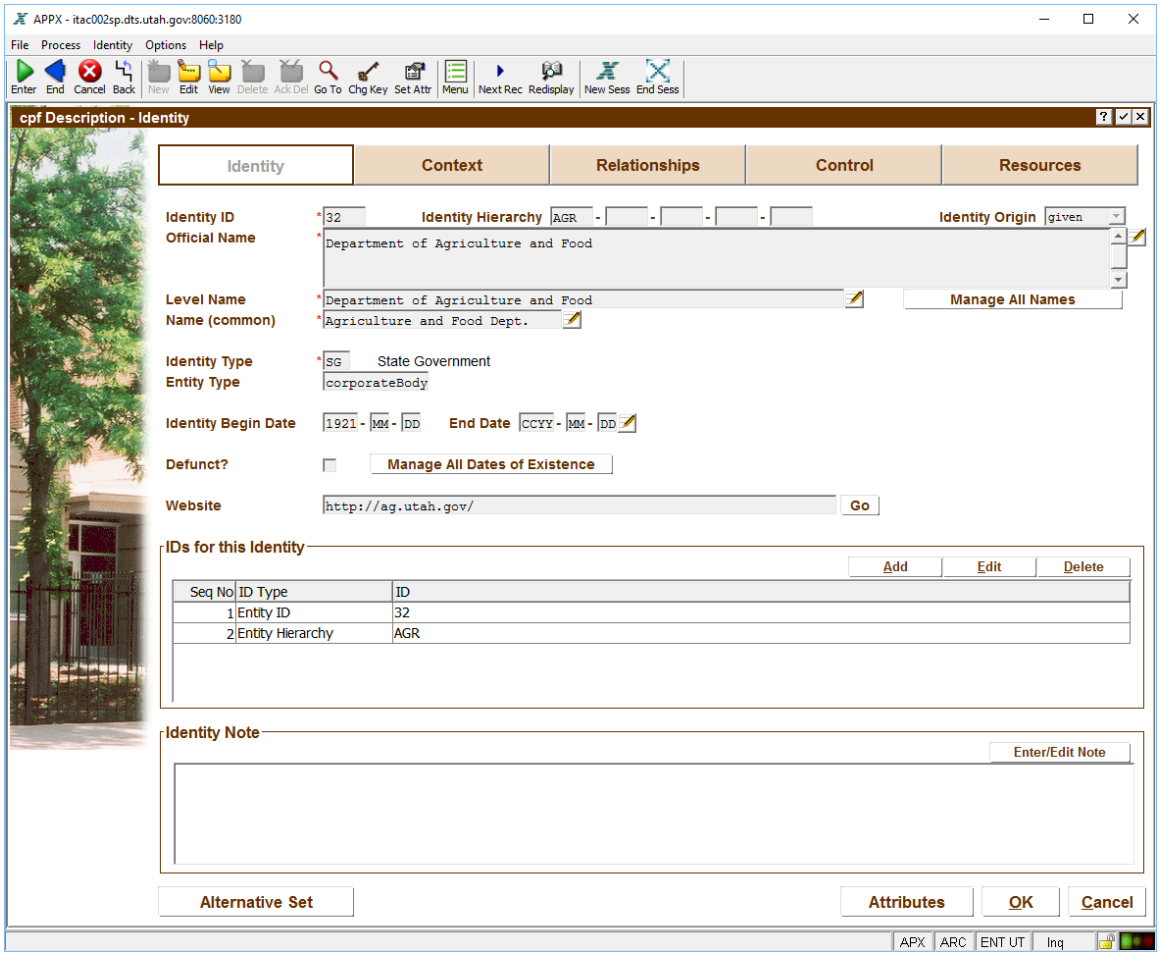
Click Exit to go back to the Entities & Contacts Menu, then Click Entity Input:

To look at an agency record, click Entity Input or Entity Input (Filtered), which will bring up a list with a Solr search back-end that you can filter.



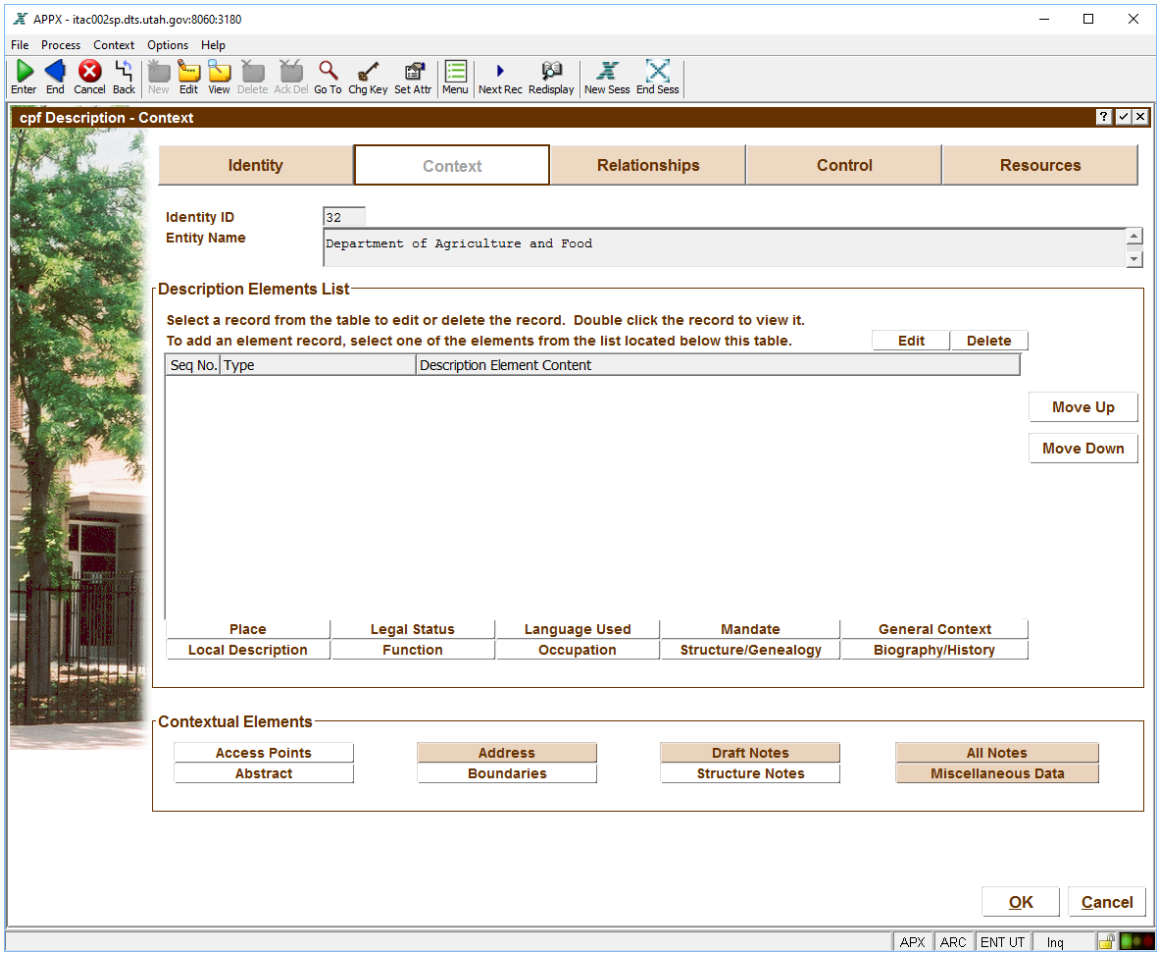
Entity names in red mean they are defunct. You may sort the list by column, or filter by some category and further refine your search by keyword.

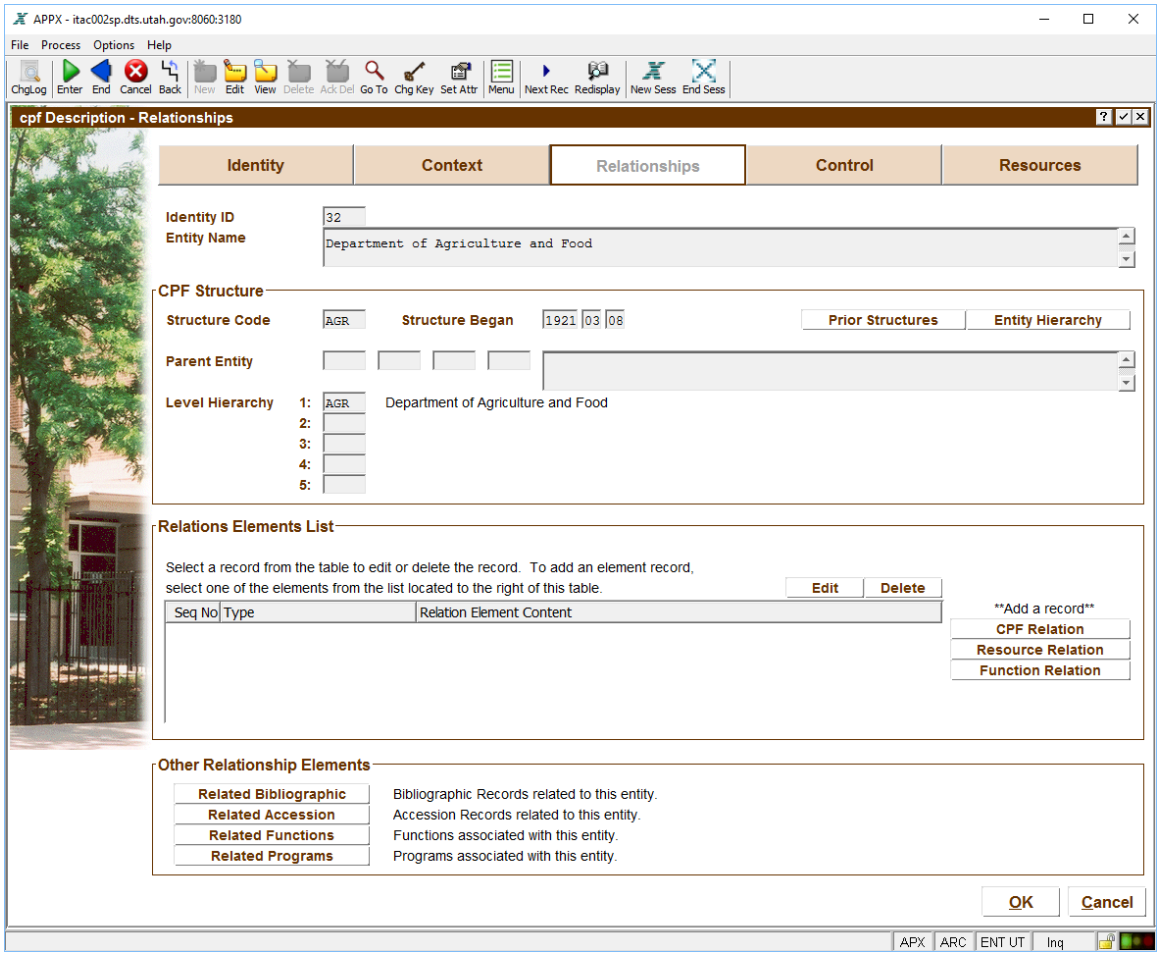
Choose a row, then click Select or press Enter to bring up a record:

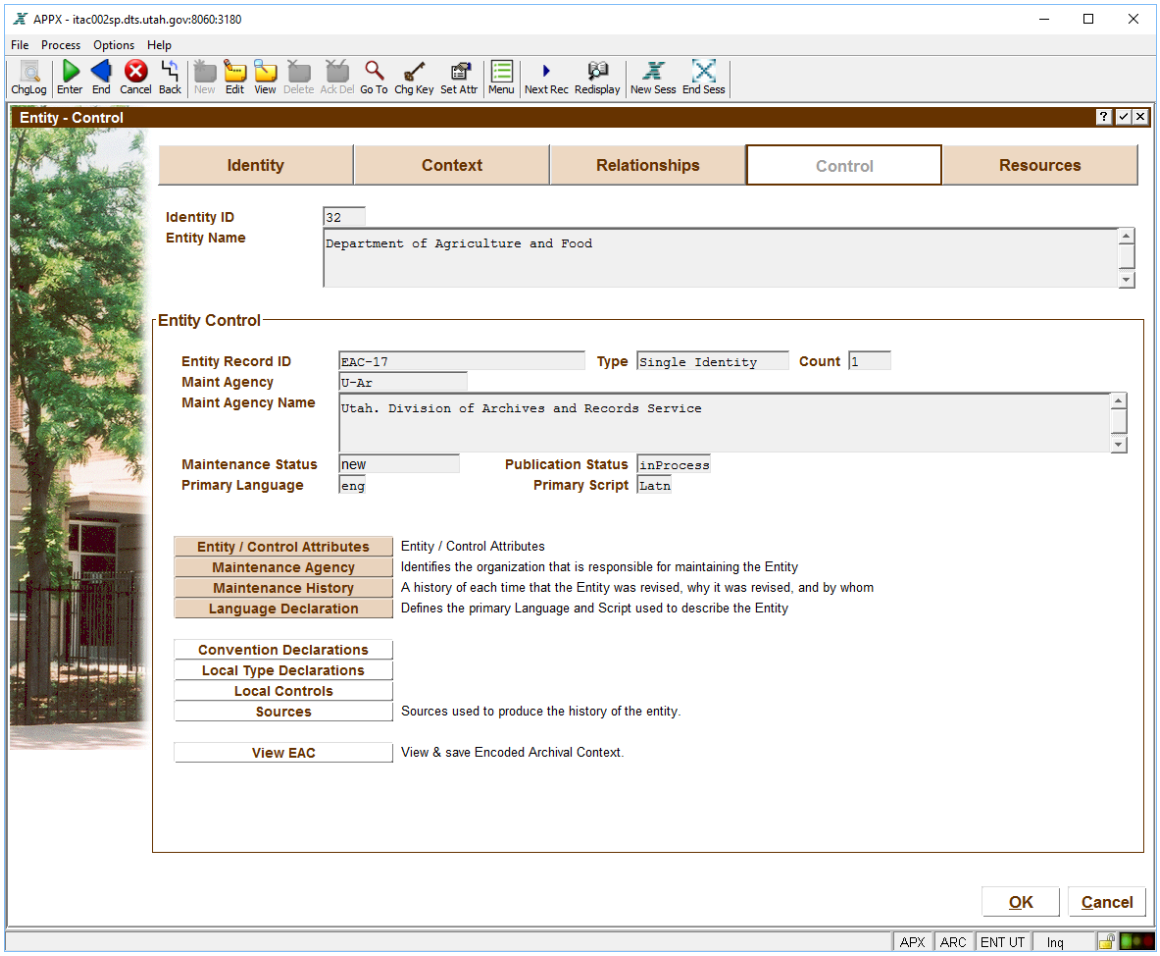


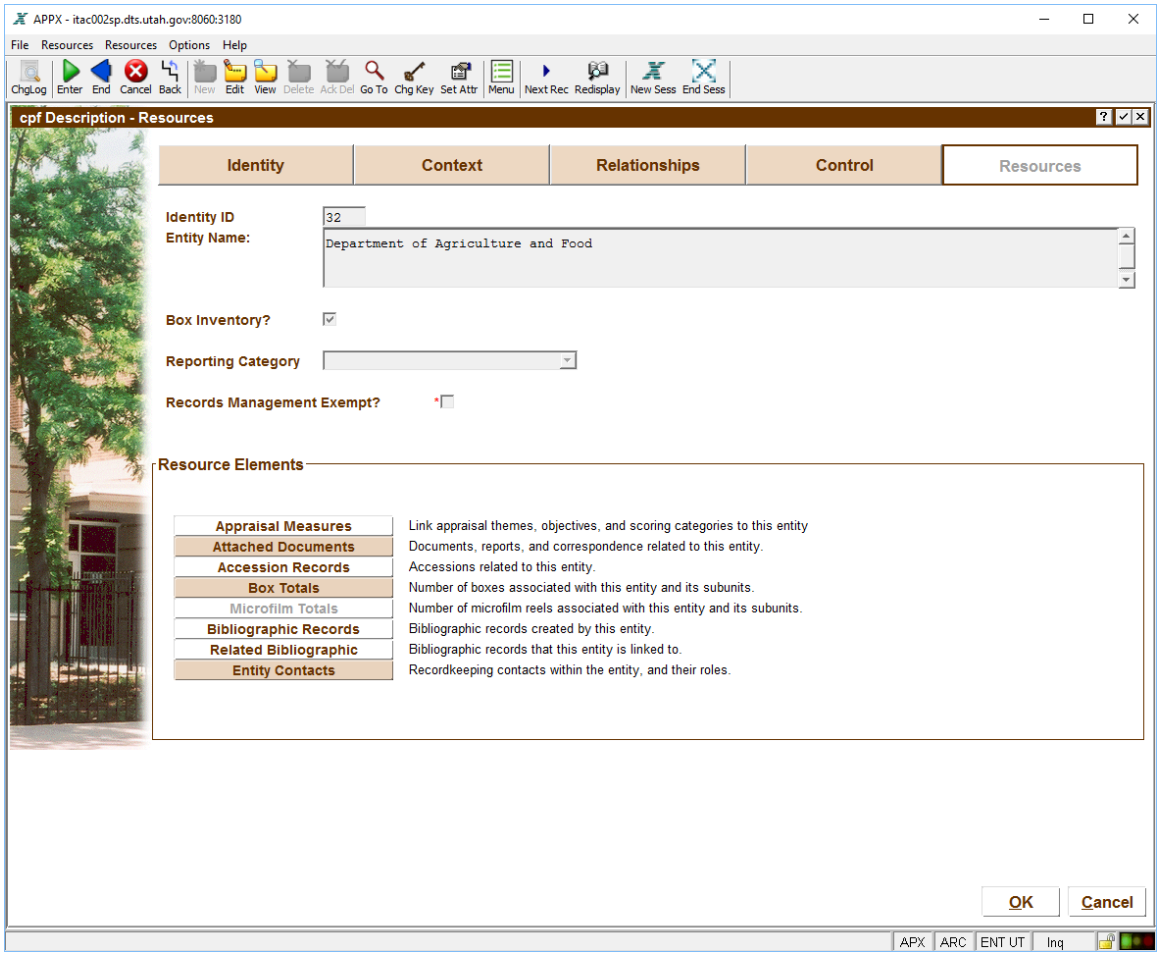
Agencies have official names. The way that these names are recorded in the database reflects standard library cataloging rules. If you would like to know why an agency is named the way it is, see *Anglo-American Cataloging Rules II* (AACR2) or its replacement, *Resource Description and Access* (RDA), and *Describing ARCHIVES: a Content Standard* (DACS). Generally, the names are closely tied to what the agency calls itself, as recorded in its own literature, but the form is standardized to an extent. Official names have been known to change over the years, and we keep track of each change, called the prior name. Records created and then closed during the years of a prior name will display the prior name in the system as the creating entity instead of its current one. That's how we keep track of all the different governor's records, even though the governor as an agency has kept the same agency key (446) throughout the years.

Agencies also have date spans, histories, functions, and other notes. All of these details are part of the history record. The tabs across the top take you to other screens for this record, containing additional descriptive information according to the EAC-CPF standard (see http://eac.staatsbibliothek-berlin.de/). The shading on the buttons indicates that data exists in that category.


APPX - itac002sp.dts.utah.gov:8060:3180
File Process Context Options Help
Enter End Cancel Back New Edit View Delete Ack Del Go To Chg Key Set Attr Menu Next Rec Redisplay New Sess End Sess
cpf Description - Context
Identity
Context
Relationships
Control
Resources
Identity ID
32
Entity Name
Department of Agriculture and Food
Description Elements List
Select a record from the table to edit or delete the record. Double click the record to view it.
To add an element record, select one of the elements from the list located below this table.
Edit
Delete
Seq No.
Type
Description Element Content
Move Up
Move Down
Place
Legal Status
Language Used
Mandate
General Context
Local Description
Function
Occupation
Structure/Genealogy
Biography/History
Contextual Elements
Access Points
Abstract
Address
Boundaries
Draft Notes
Structure Notes
All Notes
Miscellaneous Data
OK
Cancel
APX
ARC
ENT UT
Inq


APPX - itac002sp.dts.utah.gov:8060:3180
File Process Options Help
ChgLog Enter End Cancel Back New Edit View Delete AckDel Go To Chg Key Set Attr Menu Next Rec Redisplay New Sess End Sess
cpf Description - Relationships
Identity
Context
Relationships
Control
Resources
Identity ID
32
Entity Name
Department of Agriculture and Food
CPF Structure
Structure Code
AGR
Structure Began
1921 03 08
Prior Structures
Entity Hierarchy
Parent Entity
Level Hierarchy
1: AGR Department of Agriculture and Food
2:
3:
4:
5:
Relations Elements List
Select a record from the table to edit or delete the record. To add an element record,
select one of the elements from the list located to the right of this table.
Edit
Delete
Seq No
Type
Relation Element Content
Add a record
CPF Relation
Resource Relation
Function Relation
Other Relationship Elements
Related Bibliographic
Bibliographic Records related to this entity.
Related Accession
Accession Records related to this entity.
Related Functions
Functions associated with this entity.
Related Programs
Programs associated with this entity.
OK
Cancel
APX
ARC
ENT UT
Inq

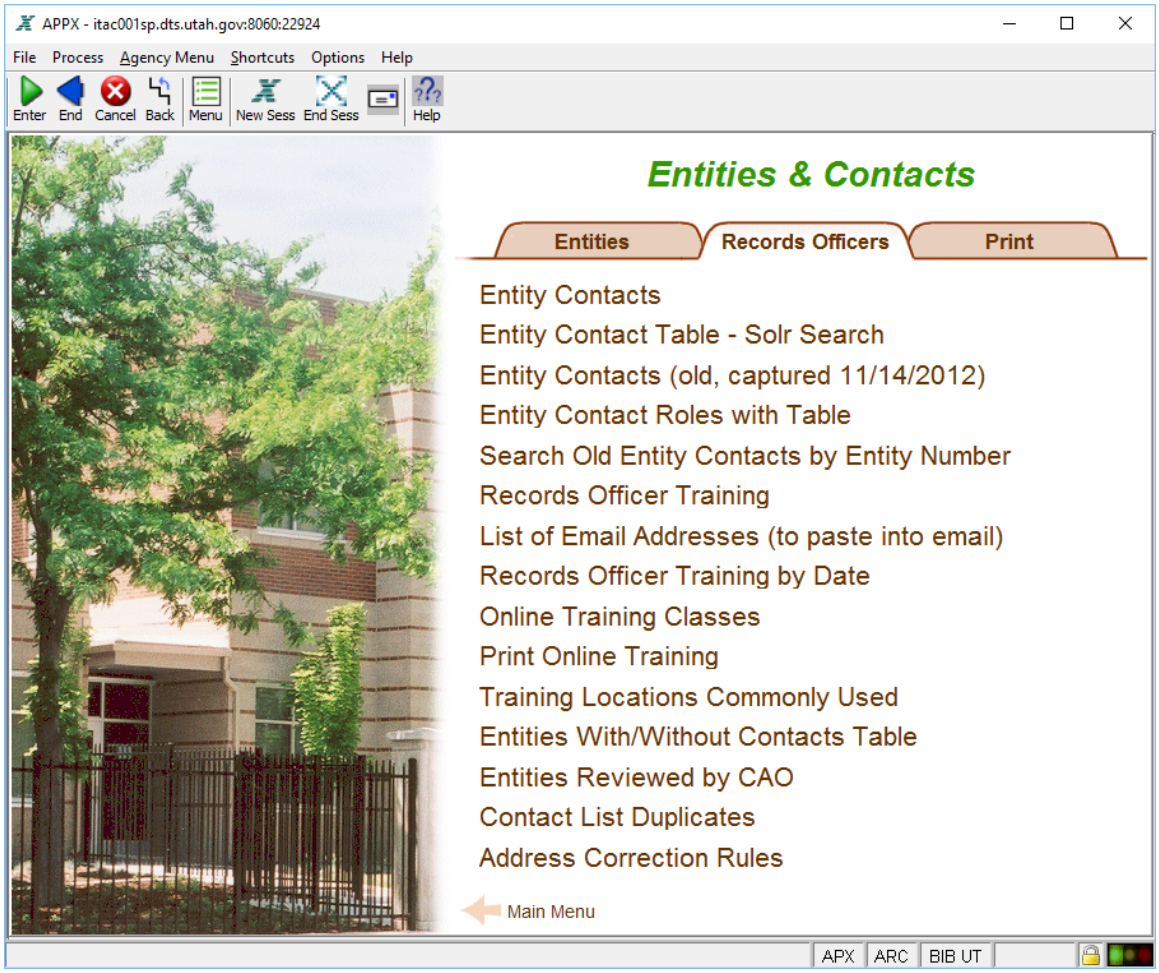

APPX - itac002sp.dts.utah.gov:8060:3180
File Process Options Help
ChgLog Enter End Cancel Back New Edit View Delete AckDel Go To Chg Key Set Attr Menu Next Rec Redisplay New Sess End Sess
Entity - Control
Identity
Context
Relationships
Control
Resources
Identity ID
32
Entity Name
Department of Agriculture and Food
Entity Control
Entity Record ID
EAC-17
Type
Single Identity
Count
1
Maint Agency
U-Ar
Maint Agency Name
Utah. Division of Archives and Records Service
Maintenance Status
new
Publication Status
inProcess
Primary Language
eng
Primary Script
Latn
Entity / Control Attributes
Entity / Control Attributes
Maintenance Agency
Identifies the organization that is responsible for maintaining the Entity
Maintenance History
A history of each time that the Entity was revised, why it was revised, and by whom
Language Declaration
Defines the primary Language and Script used to describe the Entity
Convention Declarations
Local Type Declarations
Local Controls
Sources
Sources used to produce the history of the entity.
View EAC
View & save Encoded Archival Context.
OK
Cancel
APX
ARC
ENT UT
Inq



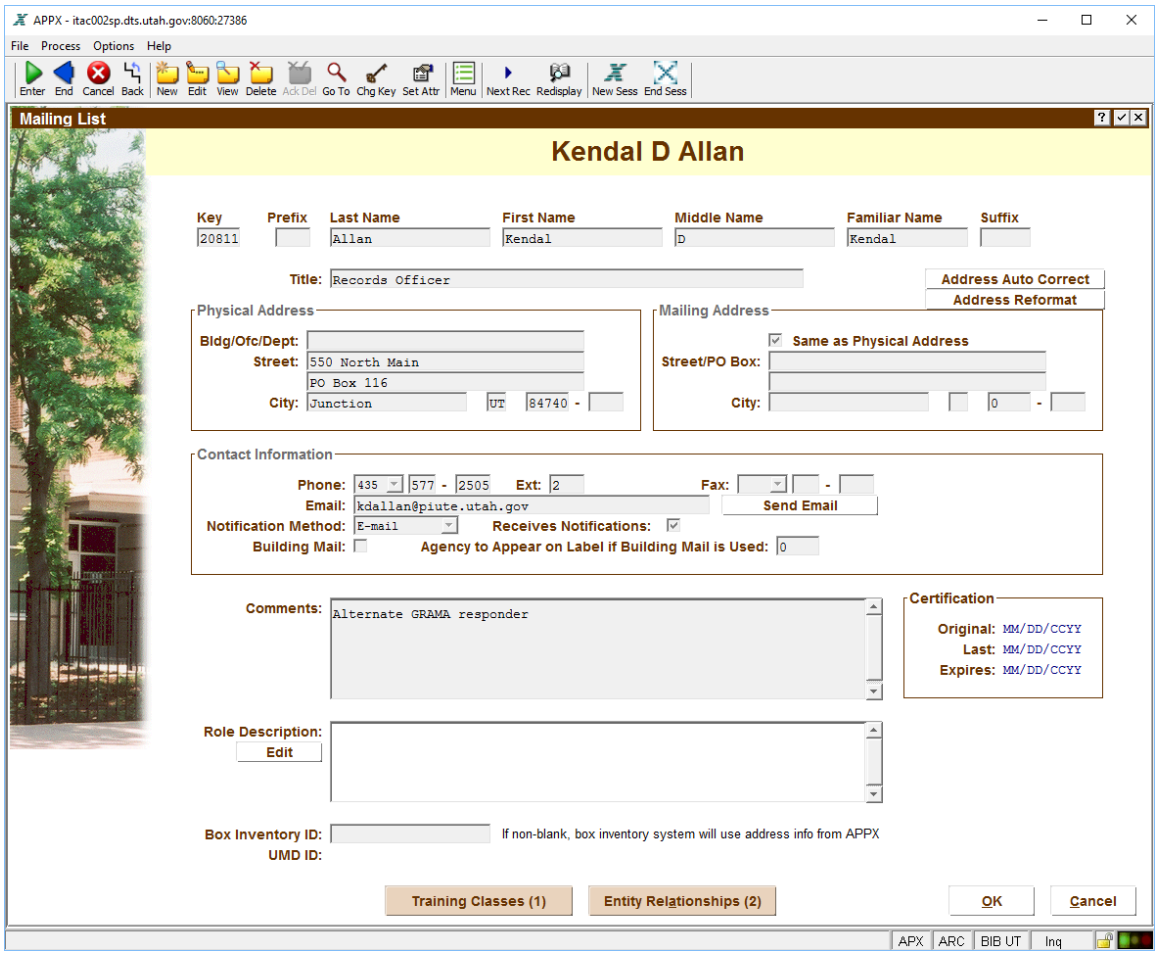
Click Exit or press F8 to go back to the Entities & Contacts Menu.

To view the people we interact with at the agencies, click the Records Officers tab.

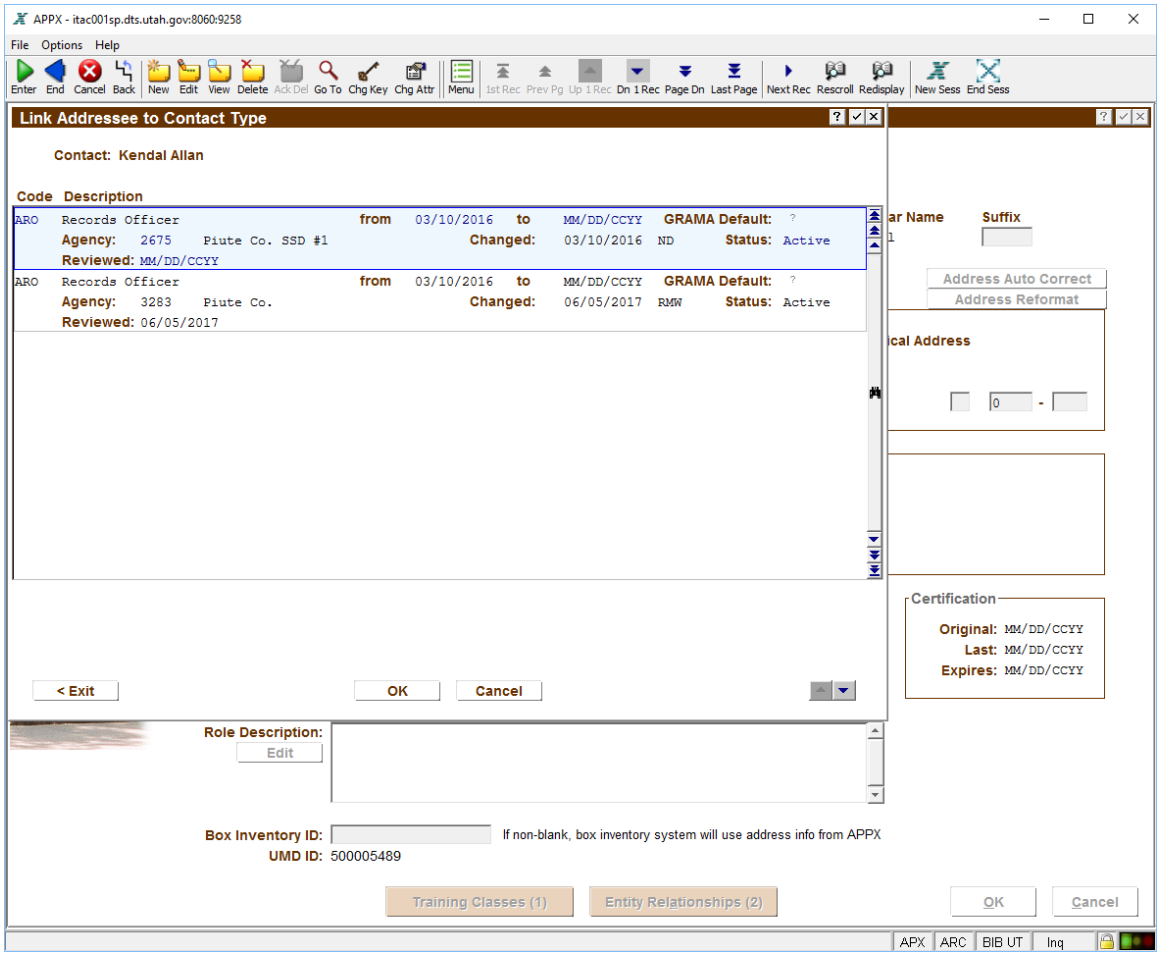
Records officers and their contact information (address, phone, email, etc.) are recorded in the database and tied to the agencies they represent as well as the roles they fill. Some people wear more than one hat, so contact types are given codes, such as ARO for Agency Records Officer, or CAO for Chief Administrative Officer. You may add as many entries as the person has hats.



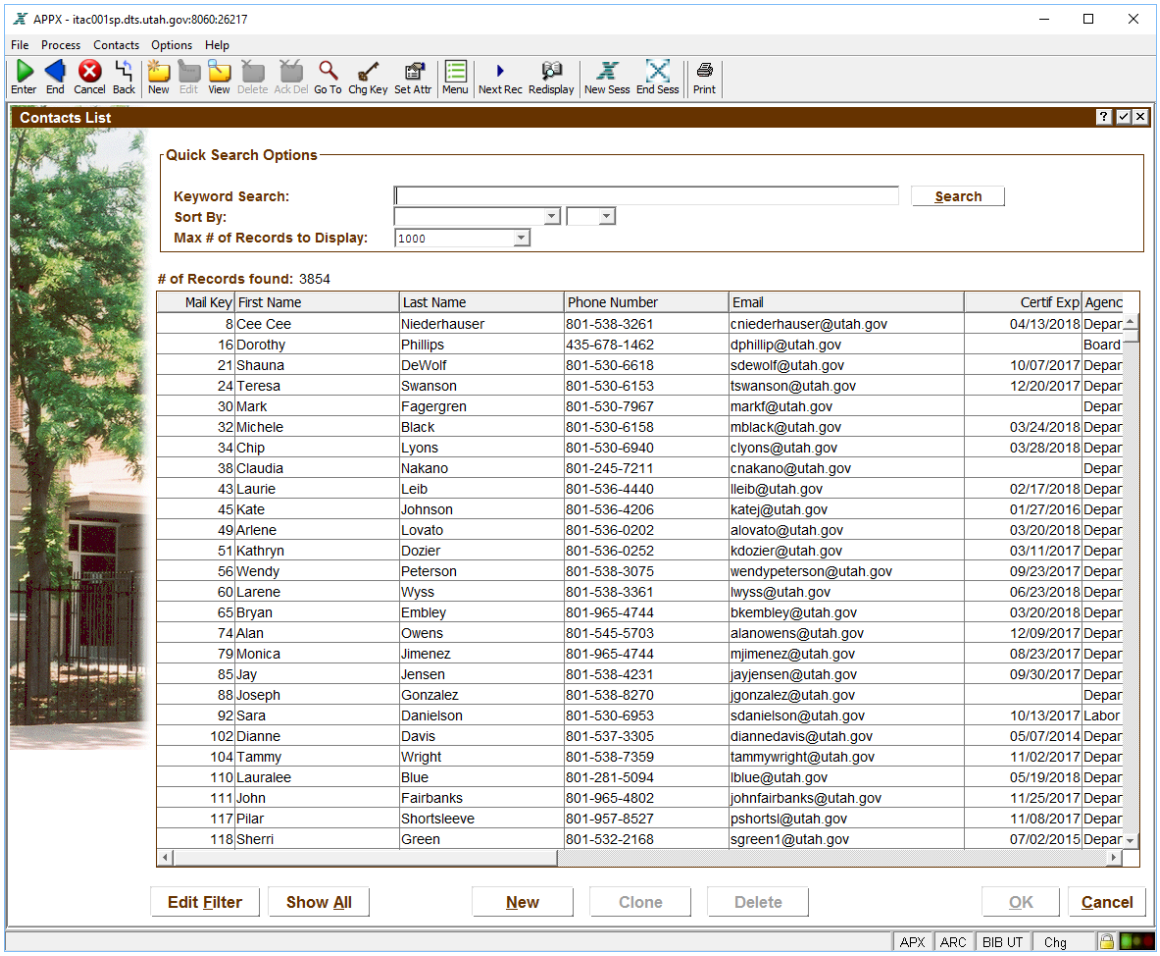
Click Entity Contacts, then press Enter to bring up the first record:



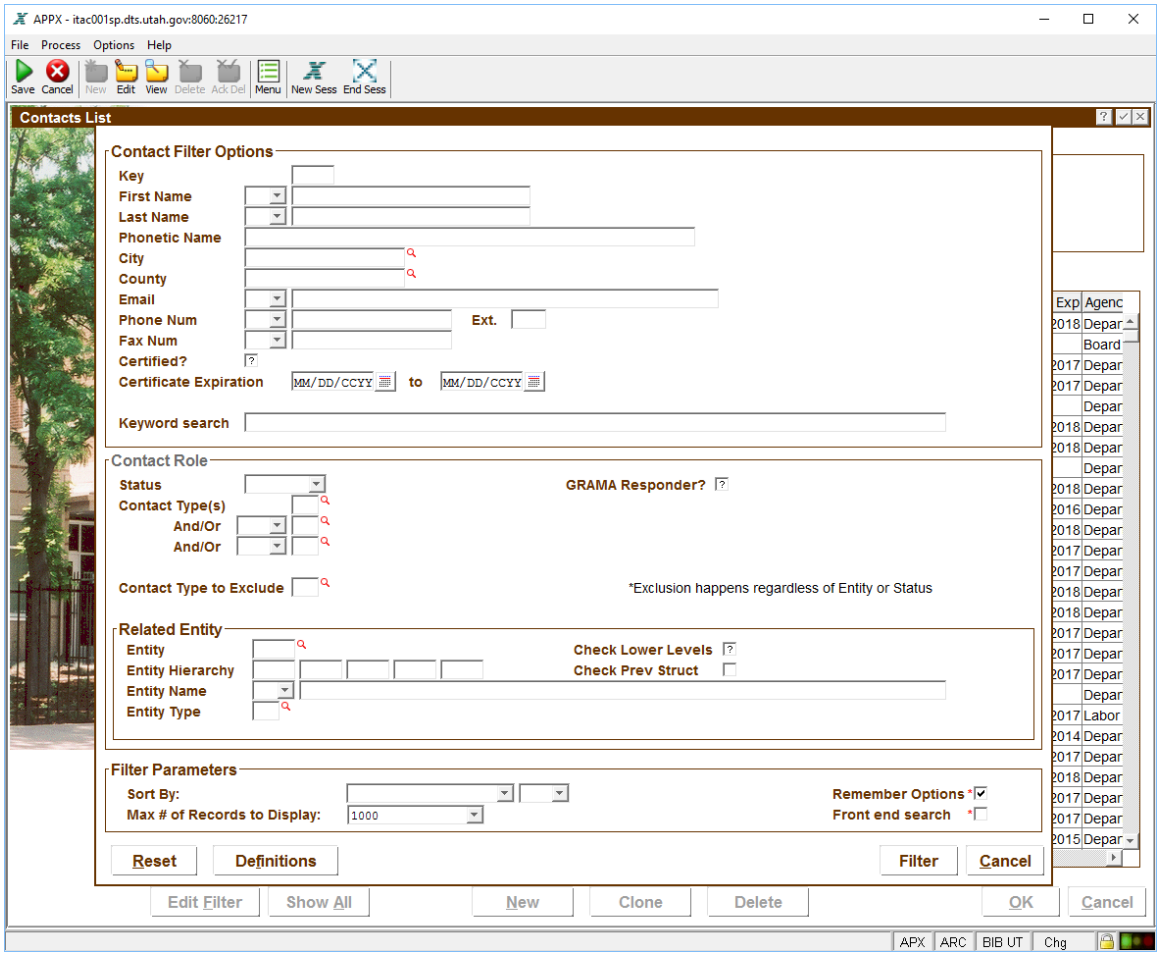
Click Entity Relationships to see this person's role(s):



Click Cancel twice to return to the menu. Another way to access agency contacts is to do a search. Click Entity Contact Table – Solr Search.



Here you may do a keyword search and sort hits by column, or create new entries, even ones based upon previous entries (e.g. Clone), which is nice when people leave but their roles stay the same for the new person. Since certification test records are tied to individuals, we don't just type over the name of the person when someone changes. We always add a new record. The old record is then updated to indicate that the person is now a former records officer. After a certain date span, such as a year, the system will automatically delete that name from the database, helping us keep the list clean. Click Edit Filter for advanced search options:



Note that names may be search phonetically or within context of a given agency.

Exit to Main Menu.

Bibliographic Records

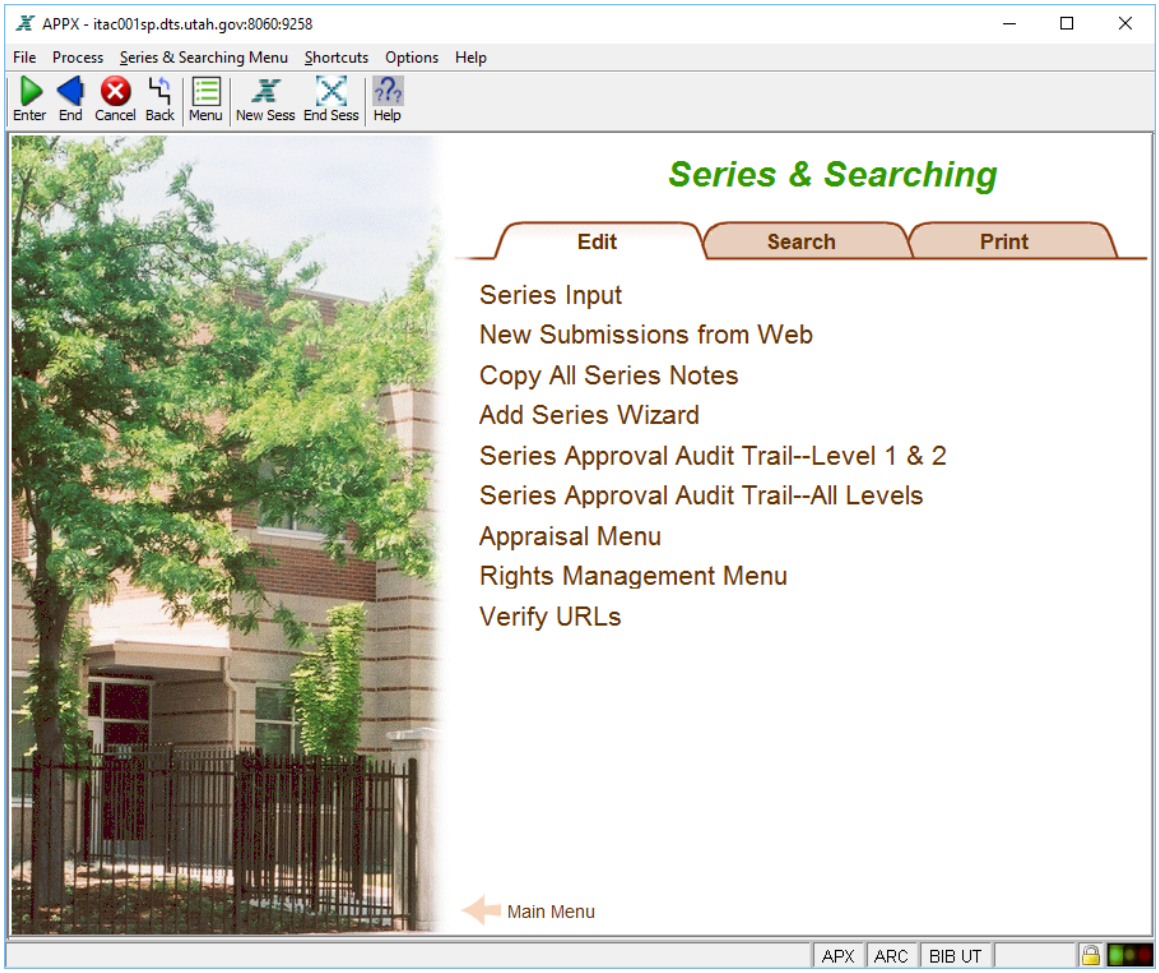
The Series & Searching Menu is the heart of AXAEM. All other functions revolve around data contained here. Record series by definition are groups of records housed together that are created for a single purpose, and share a common retention and arrangement. This definition comes into play when trying to determine series boundaries. AXAEM uses the term “series” since that is the bibliographic level used at the Utah State Archives. The database table name used, however, is BIBLGRPC, for Bibliographic file. Any record at any bibliographic level can be entered here, and relationships between collections, series, sub-series, and items are stored within the bibliographic file.

When determining series boundaries, some archivists like to lump records together into one series and others prefer to split them into several. The former is more convenient, but the latter is more precise. AXAEM was designed to be flexible in this regard (series can

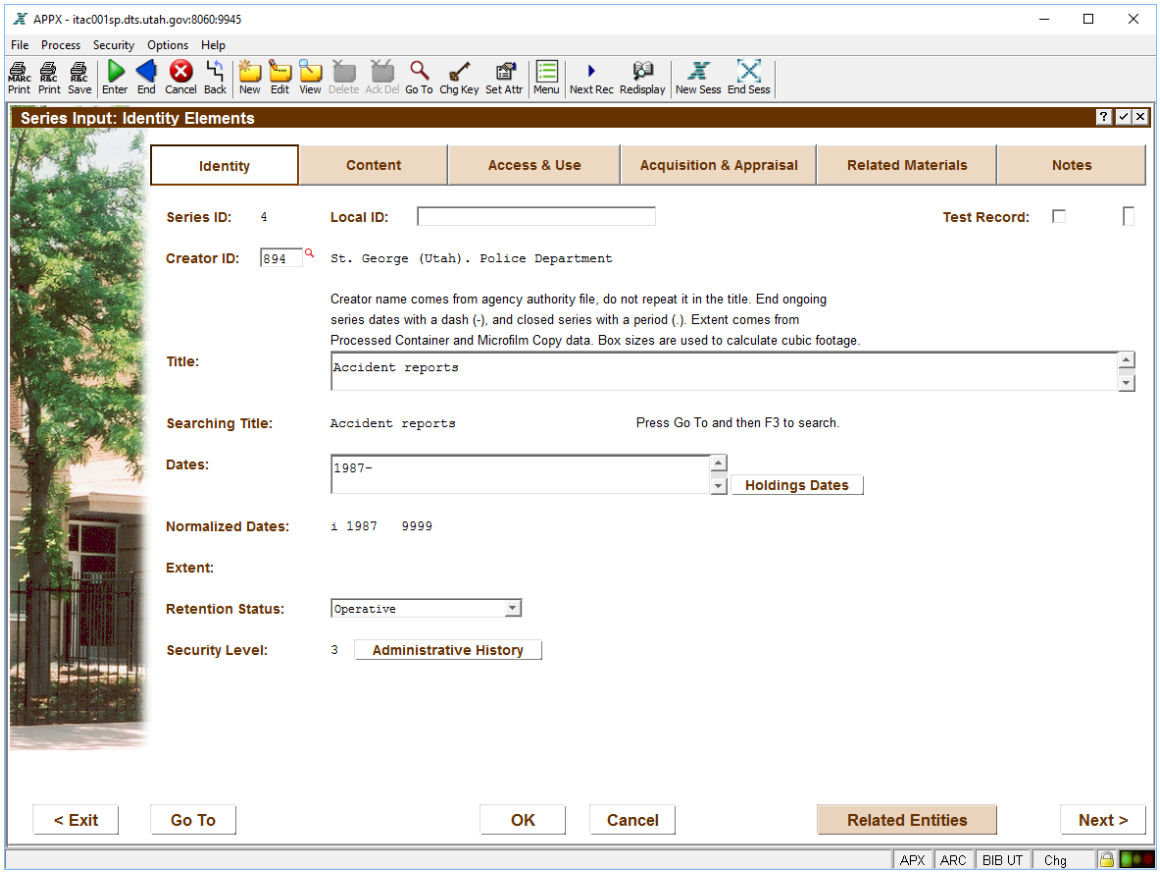
be merged, or you can describe records at a record-group level, or use general schedules for broad swaths of record types), but it supports descriptive precision especially well. Instead of combining the records together, it allows the creation of relationship links to other series through the Related Materials file (MARC code 544) so that the full context of these records can be recorded. This allows for records whose purpose, title, or arrangement have morphed over the years to be described separately and yet still be linked together. Records created by separate offices should always be a separate series, and linked to their correct agency through the agency key (the agency authority file), not the series title.

Sometimes the decision to split a series or not is a little bit fuzzy. We do have a field for "prior arrangement," MARC code 351, which can either be used to expand the understanding of one series (and the filing habits of a rotating door of secretaries) or be used as a clue that maybe the series is different enough in purpose now that it should be divided in two. Sometimes the rules are quite clear. For instance, cataloging rules state that a change in title (MARC code 245) must be followed by a new catalog entry (meaning you have to create a new series). So series boundary decisions are affected by professional standards as well as a certain amount of intuition. In the end, these rules help keep and maintain a clean system with good consistent data entry.

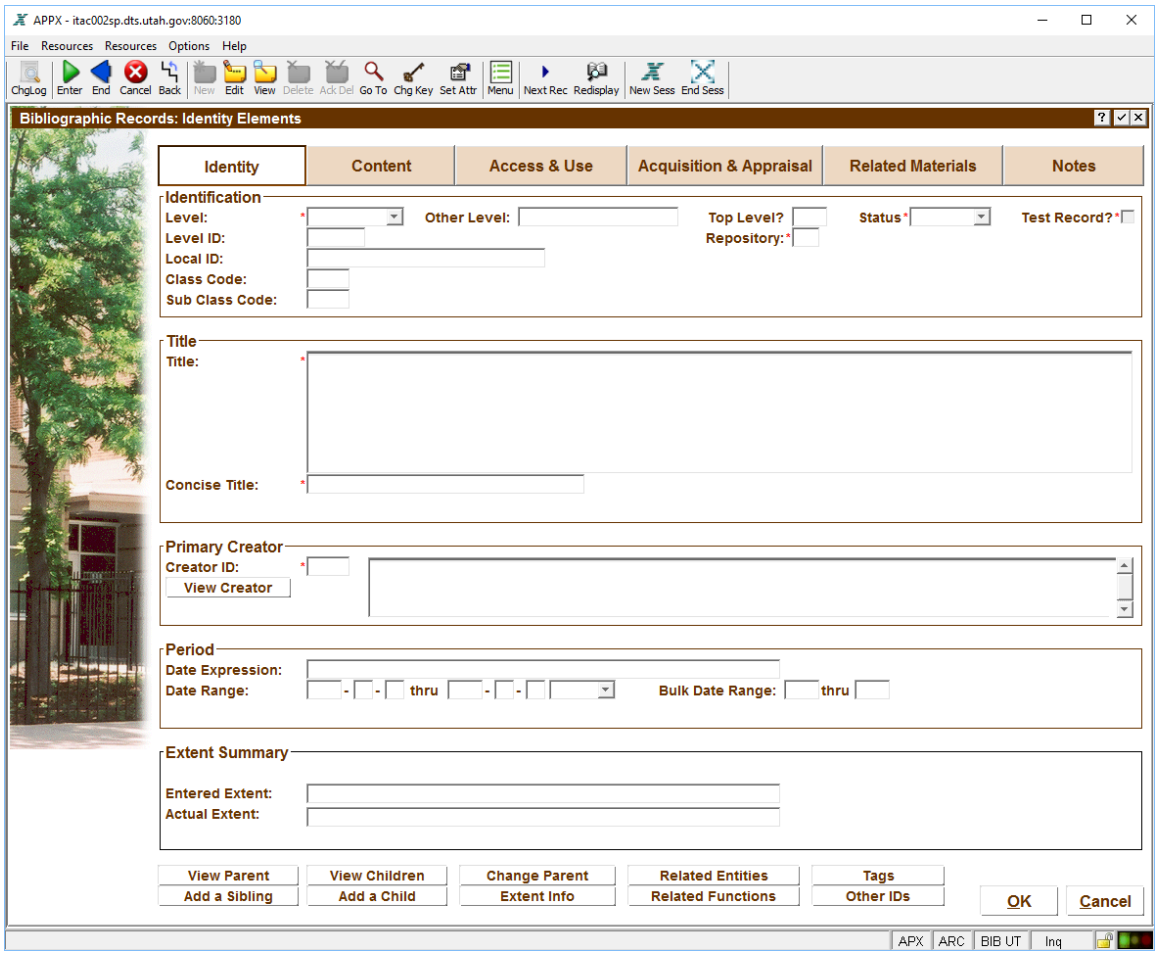
Click on the Series & Searching menu, then click Series Input:



Click Enter to bring up a record:



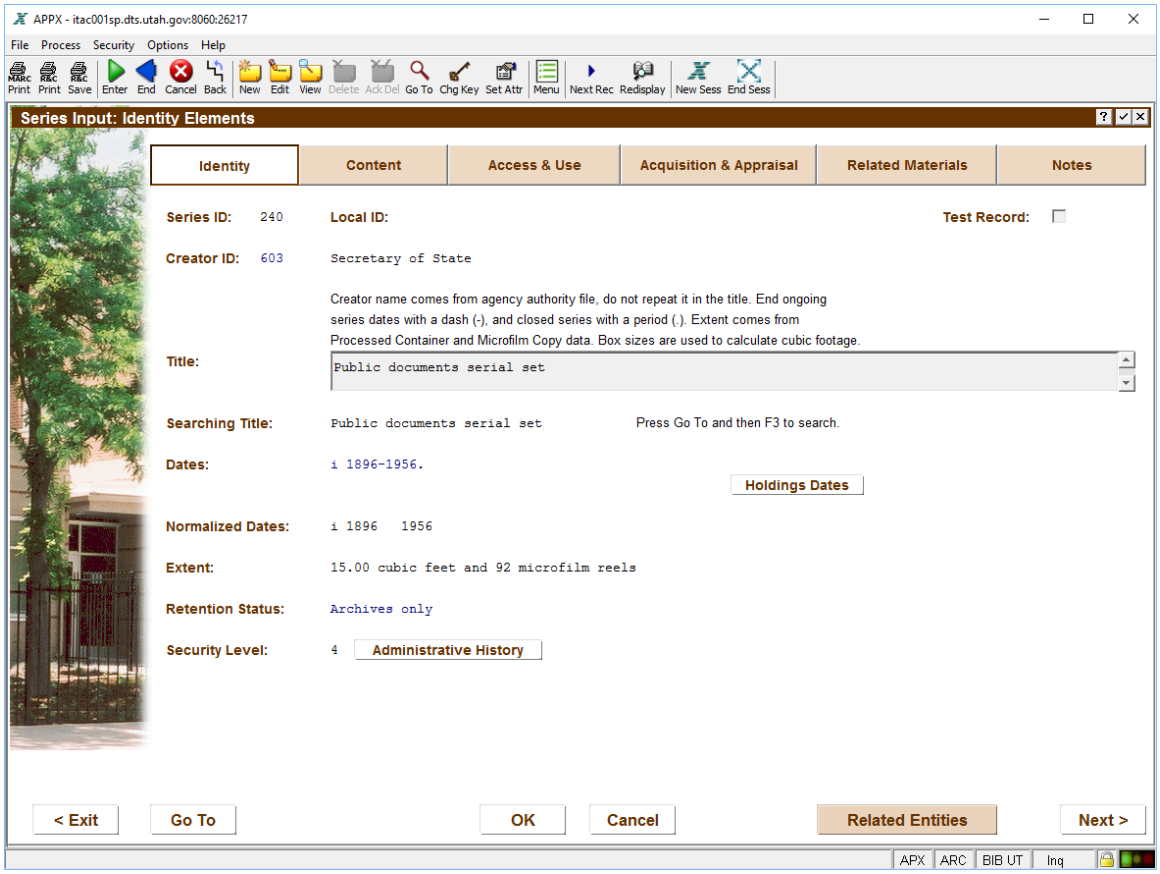
Utah has a customized version of this screen that just works with series. The bibliographic screen using the standard AXAEM interface supports hierarchical bibliographic records:



All of the buttons and options on the Bibliographic Input screen are designed to reflect DACS rules, so that standard can be used as a primer for knowing what kind of data to enter into the various fields in AXAEM. Record series have a creator (an agency), a title, date span, arrangement, description, retention, appraisal, and physical extent at a minimum. Other data may also be recorded. Record series are cataloged as a unit, similar to a book in a library. Each field is automatically mapped to its corresponding MARC code. The way you word the data in these fields matters. Cataloging rules are very precise when it comes to things like capitalization.

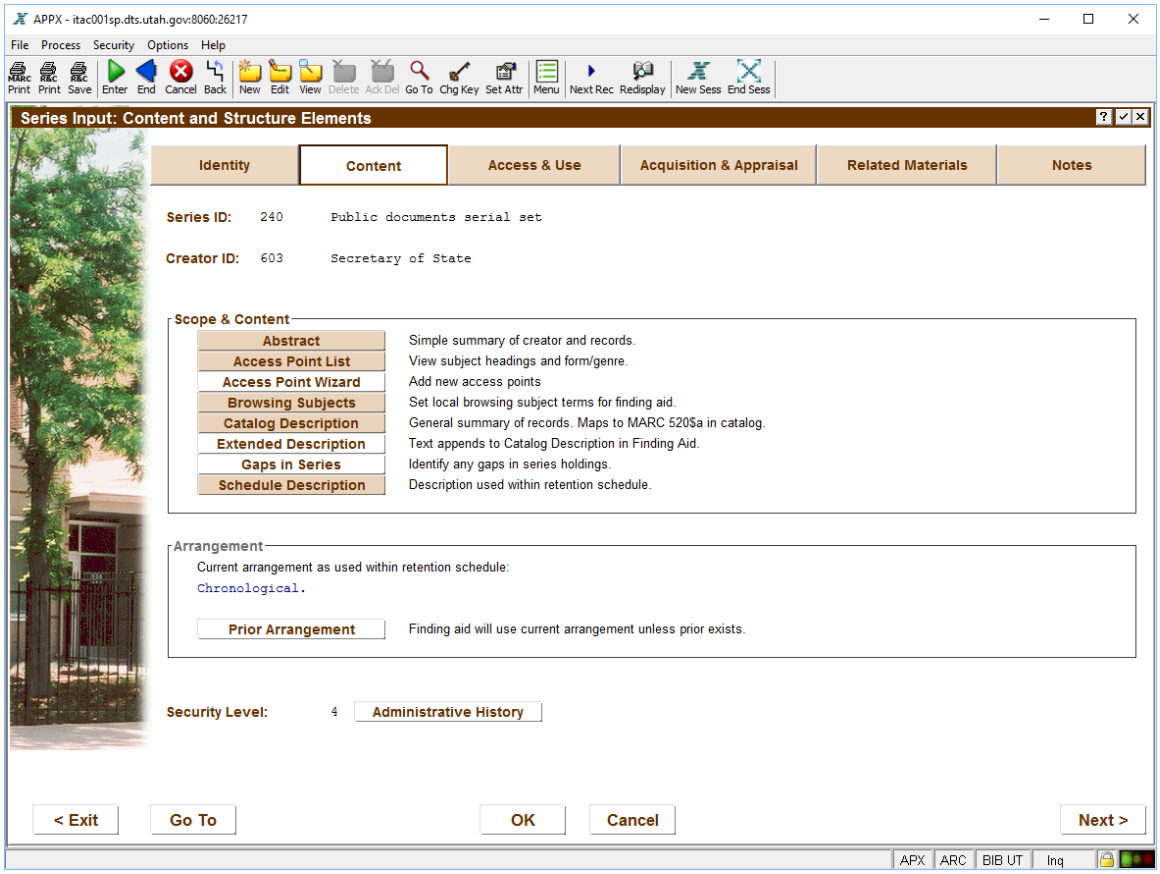
Record series have an identifier. For each bibliographic level, a unique number is assigned. Bibliographic records may also use a local identifier, which is an alphanumeric field for recording call numbers or other collection identifiers. These “series numbers” make our local system work. Almost every process in the system references back to the bibliographic record. Changes made to the bibliographic record are independent of any change to agency hierarchy or original creator, which comes in very handy when series are moved about from agency to agency

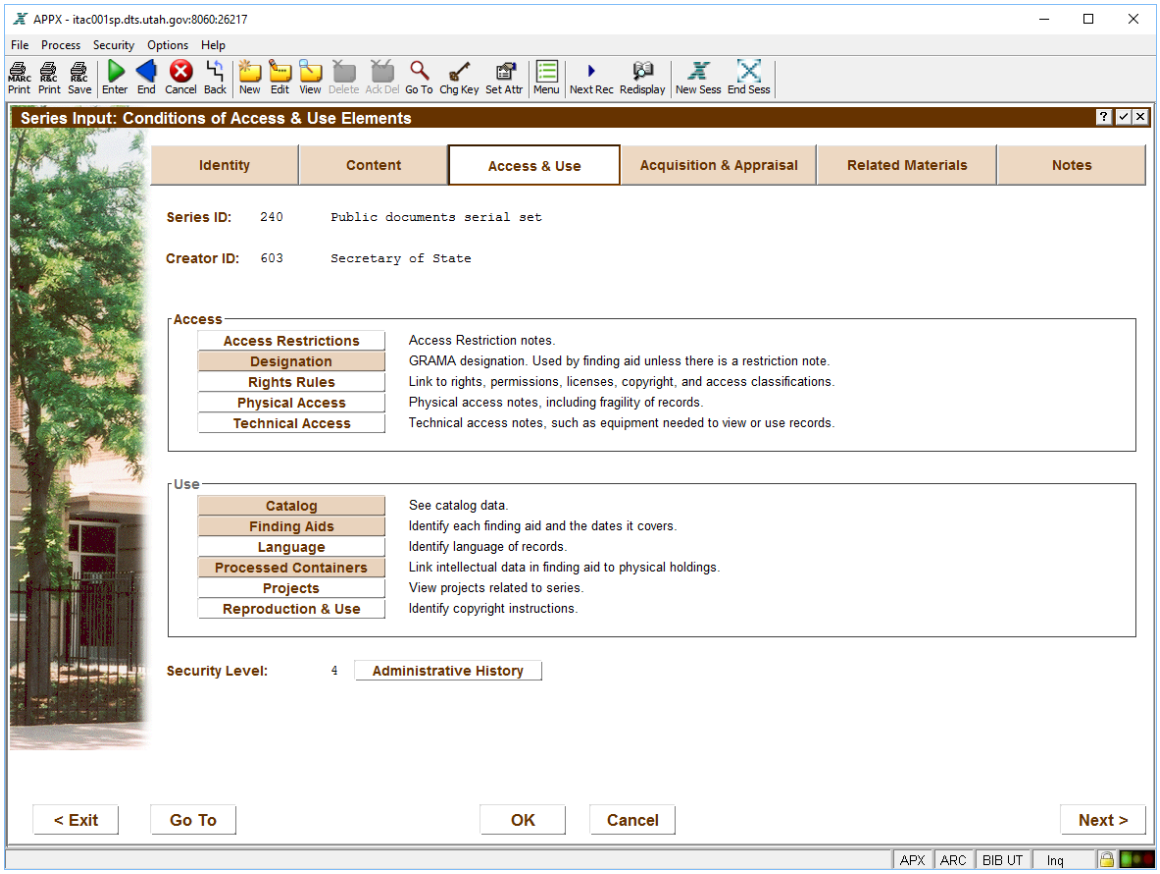
Here’s another example of a series:



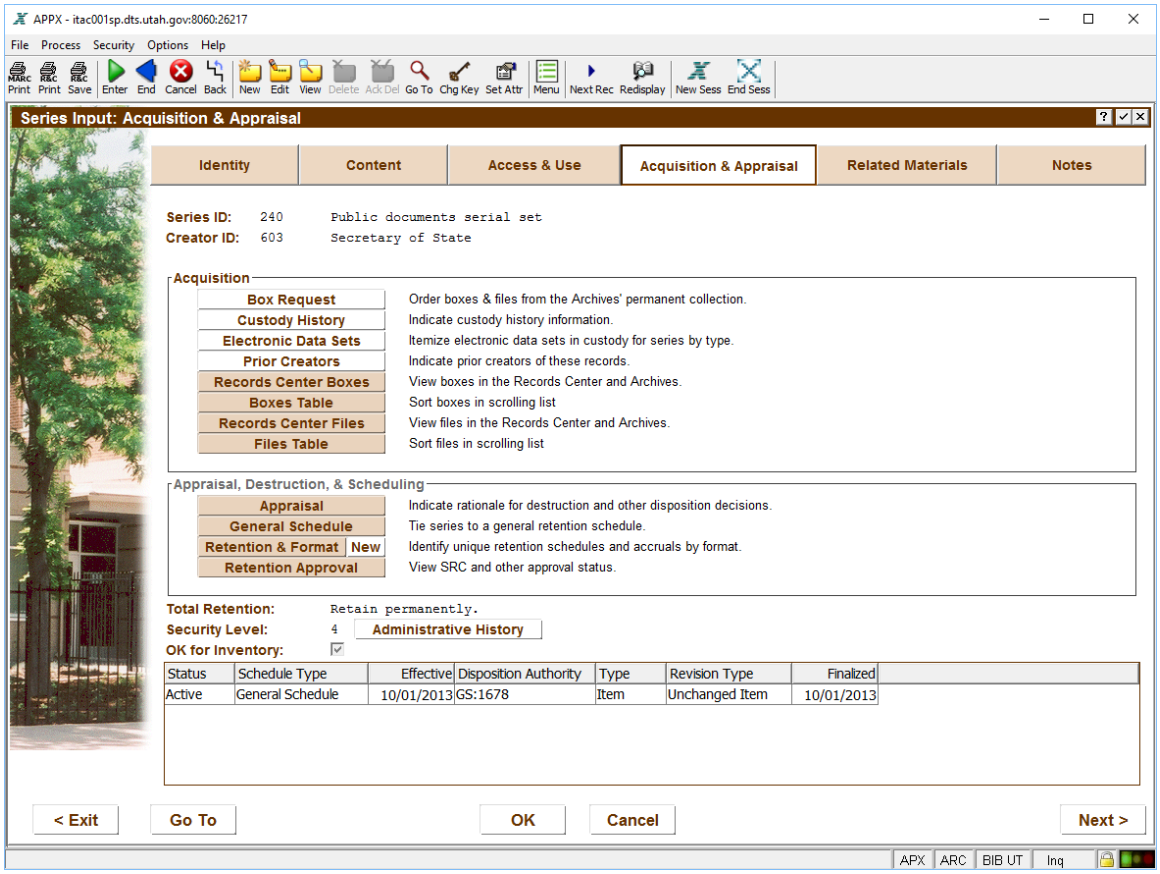
In this example, note that these records were created years ago and are no longer being created. The agency that created them no longer exists. We have the records on microfilm and hard copy.

Clicking on the different tabs at the top of this screen shows what kind of data is available for this series:


APPX - itac001sp.dts.utah.gov:8060:26217
File Process Security Options Help
Print Print Save Enter End Cancel Back New Edit View Delete Ack Del Go To Chg Key Set Attr Menu Next Rec Redisplay New Sess End Sess
Series Input: Content and Structure Elements
Identity
Content
Access & Use
Acquisition & Appraisal
Related Materials
Notes
Series ID: 240 Public documents serial set
Creator ID: 603 Secretary of State
Scope & Content
Abstract
Simple summary of creator and records.
Access Point List
View subject headings and form/genre.
Access Point Wizard
Add new access points
Browsing Subjects
Set local browsing subject terms for finding aid.
Catalog Description
General summary of records. Maps to MARC 520$a in catalog.
Extended Description
Text appends to Catalog Description in Finding Aid.
Gaps in Series
Identify any gaps in series holdings.
Schedule Description
Description used within retention schedule.
Arrangement
Current arrangement as used within retention schedule:
Chronological.
Prior Arrangement
Finding aid will use current arrangement unless prior exists.
Security Level: 4
Administrative History
< Exit
Go To
OK
Cancel
Next >
APX ARC BIB UT Inq



Note that in the Processed Containers option, this is where you can identify rows of containers that are to be published as part of the finding aid. You may also export an EAD-encoded finding aid from this location. For a full description of how the processed containers function works, see system documentation titled How to Process Containers. If using the standard AXAEM bibliographic module, the parent/child bibliographic levels can be used to produce the finding aid instead of using Processed Containers.



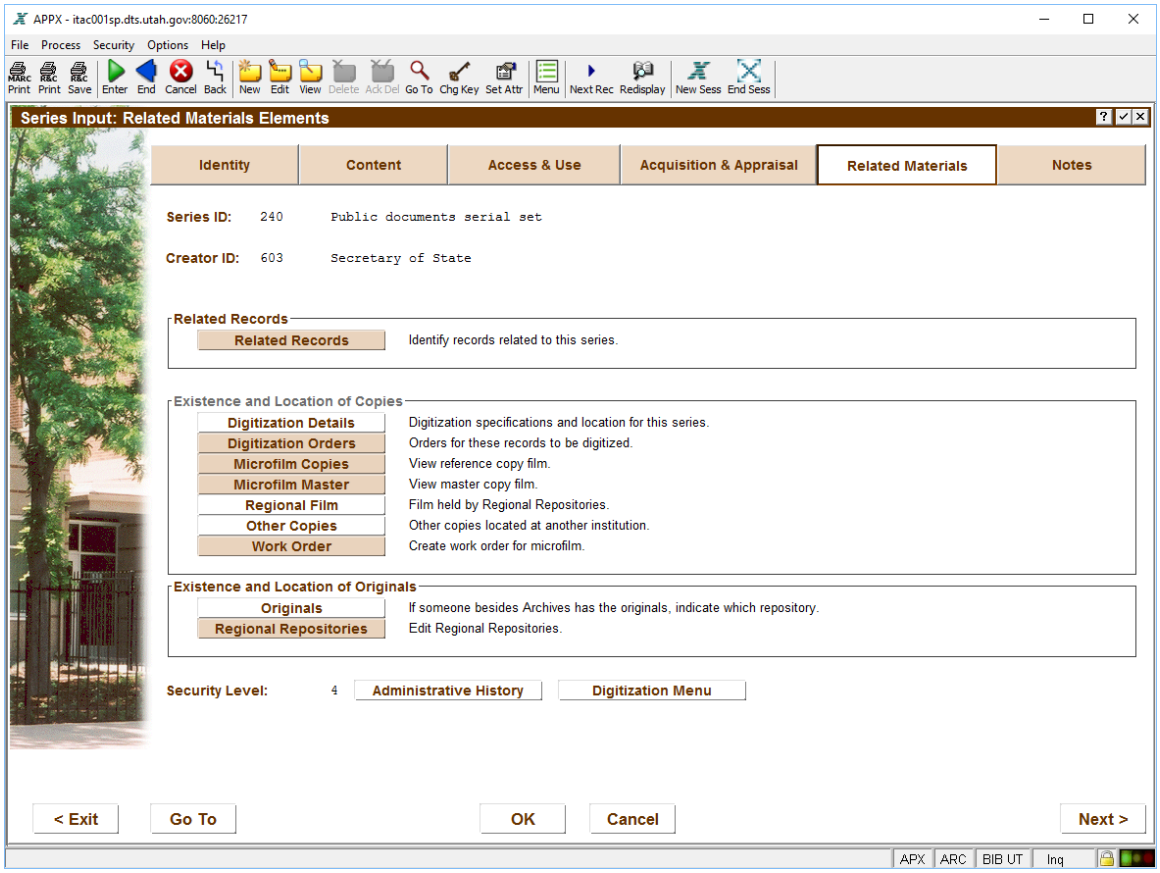
Retention can be recorded at the series level or the format level within a series, in case different formats have different retention lengths. Or a series can be linked to a general retention schedule which has previously been approved, making the series inherit that retention information. In Utah, we are now following a set of retention rules that follows a new philosophy—that of copy type, meaning:

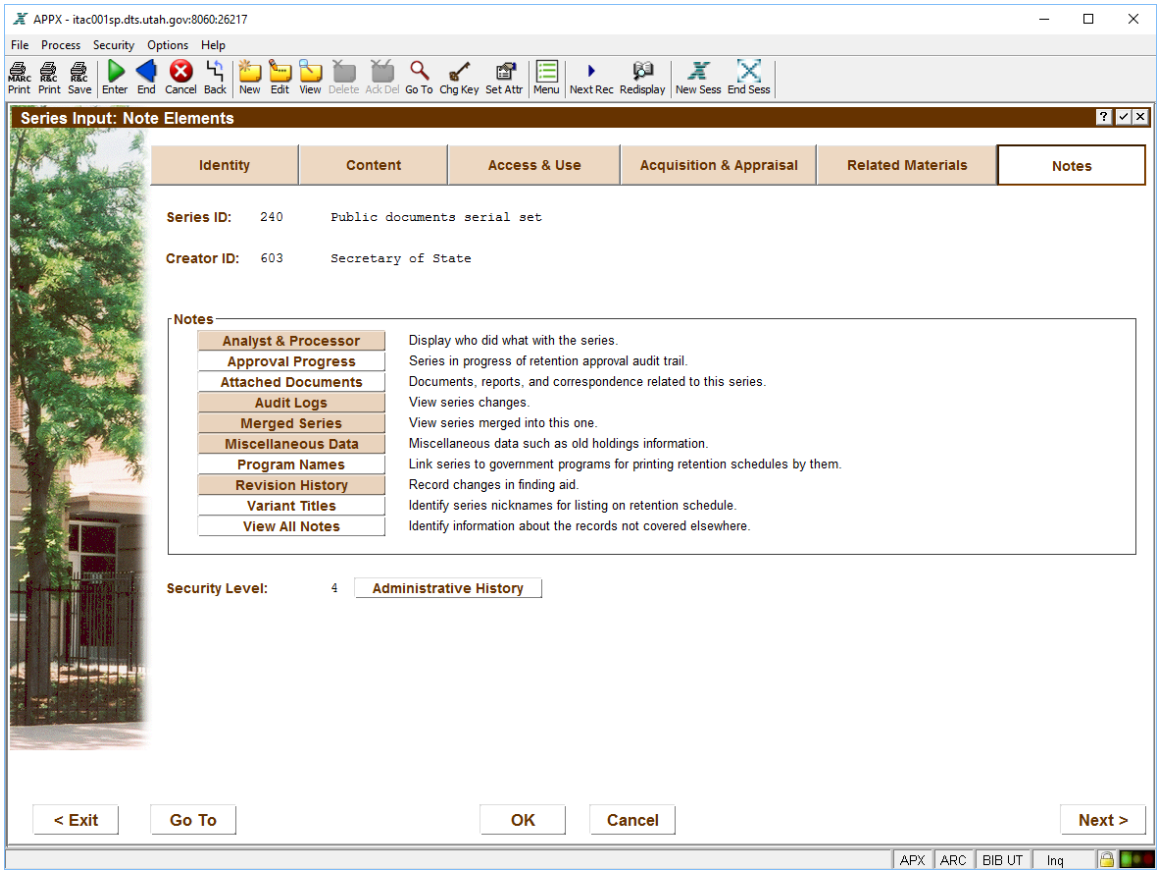
- record copy
- preservation copy
- security copy
- access copy

These copies can be of any physical format, but the copy type determines the retention rules. A record copy is kept for the full retention length, whatever that is. A preservation copy is always kept permanently and exists separately from the record copy. A security copy is a duplicate of a record that is not permanent, and its retention may be less than that of the record copy. An access copy has a retention that may be equal to or less than the record copy.

Retention is calculated off of an event date. An event date could be the date of creation or some other event (e.g. after case is closed). Events use a controlled vocabulary so they can be applied broadly to many series. Disposition has one of three values: destroy, transfer to Archives, or may transfer to Archives. The last two distinguish themselves based upon whether or not the creating entity wants to take full responsibility for the

preservation of the records or not. Records transferred to the Archives or Records Center will include copy type as part of their metadata, so they can be linked to the appropriate retention schedule for that copy type.

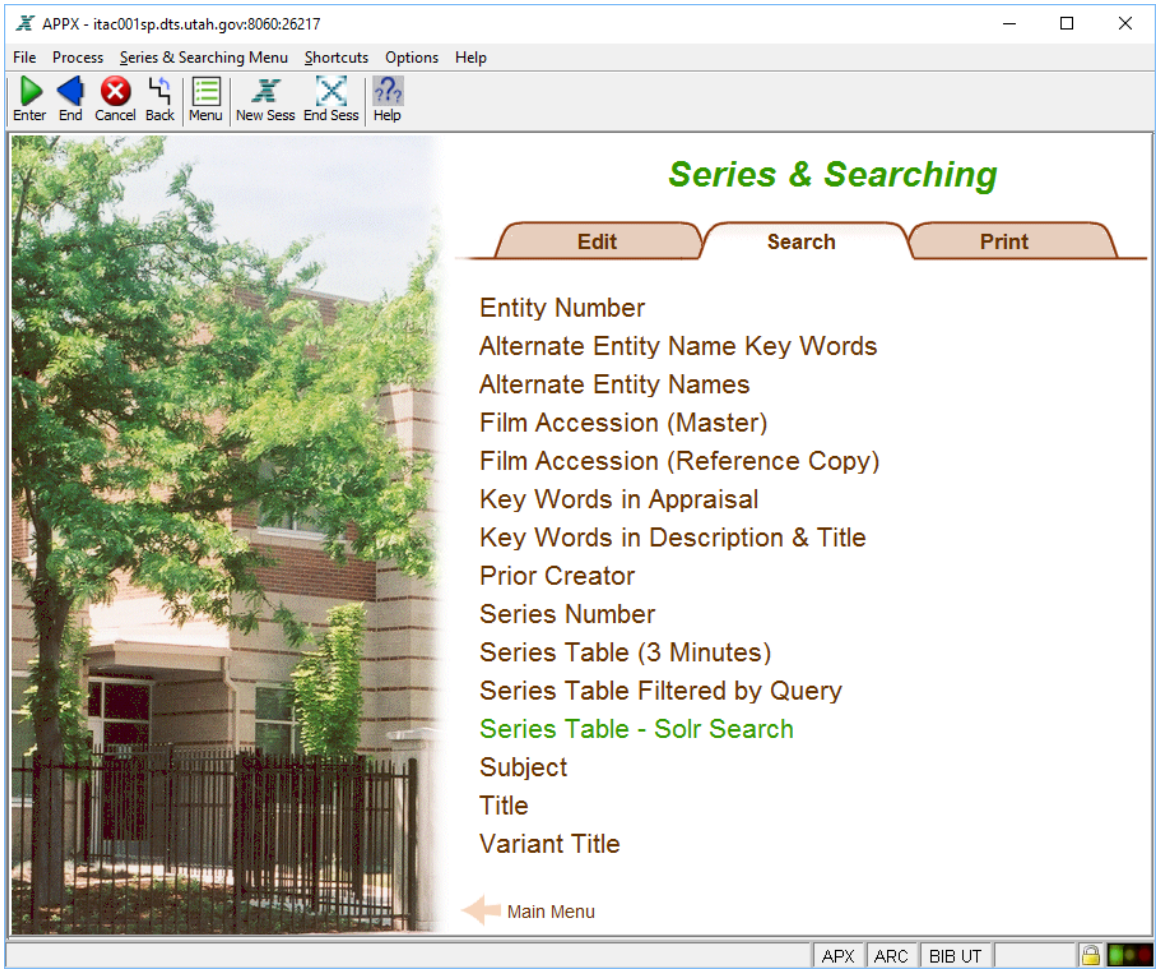


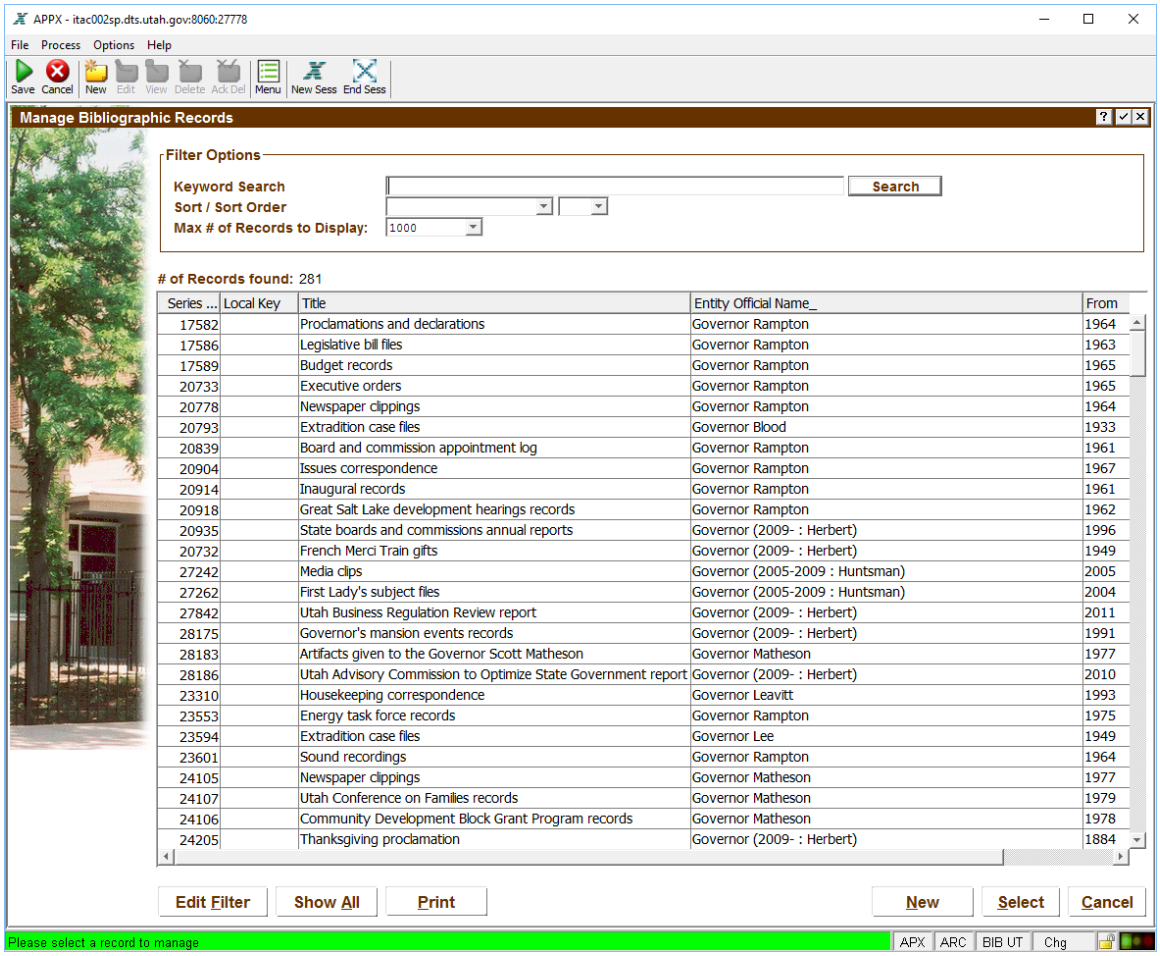


Click Exit or press F8 to go back to the Series & Searching Menu.

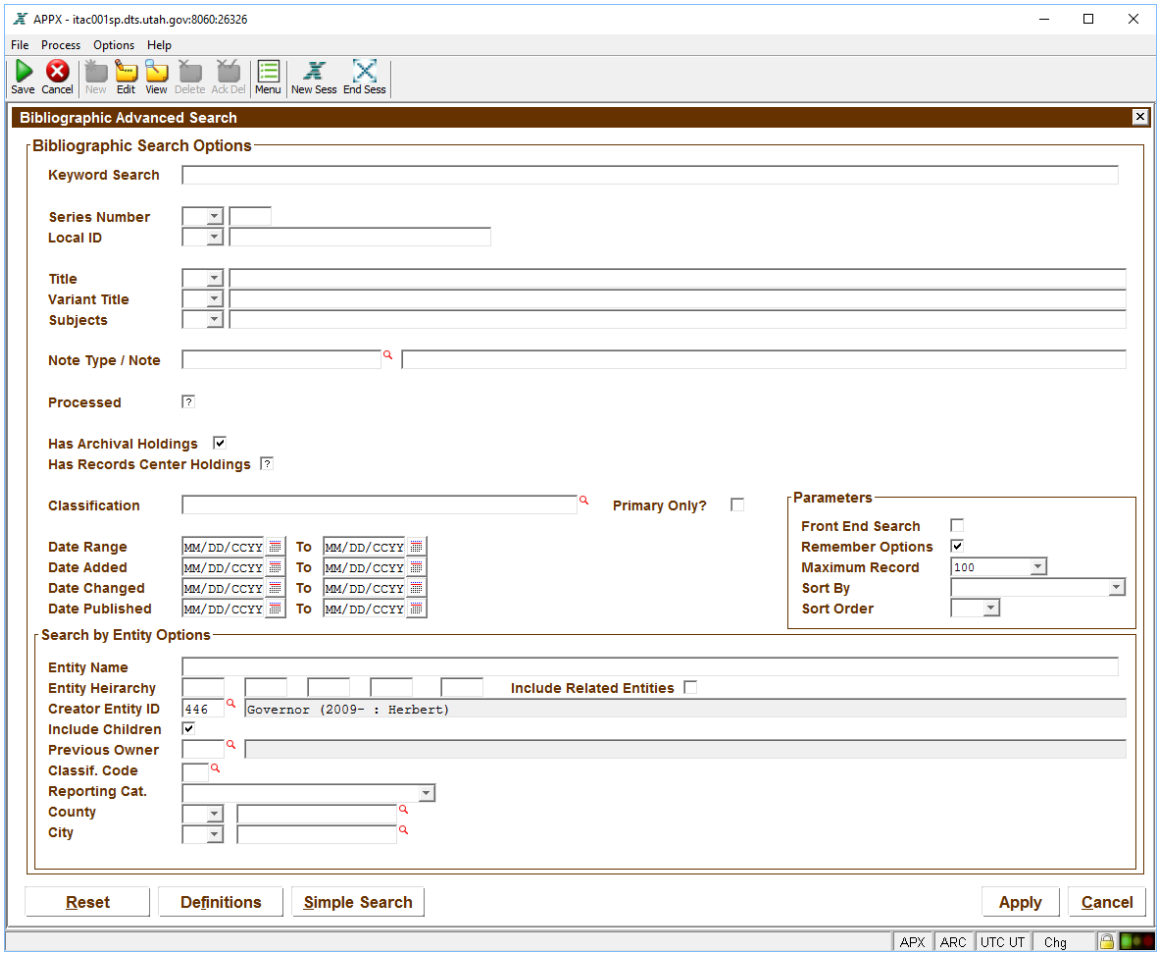
You may also search for series by the other fields, such as agency name or title. To do that, go to the Search tab. Here you may search by the field of your choice. Note that some of these fields, such as title, are case sensitive. If you use the Solr search, nothing is case sensitive. Your search results will be a scrolling list of hits. Choose one and it will take you into Bibliographic Input. Exiting back out will take you to the scrolling list again where you may choose another series to view.

Click Series Table – Solr Search:


APPX - itac001sp.dts.utah.gov:8060:26217
File Process Series & Searching Menu Shortcuts Options Help
Enter End Cancel Back Menu New Sess End Sess Help
Series & Searching
Edit
Search
Print
Entity Number
Alternate Entity Name Key Words
Alternate Entity Names
Film Accession (Master)
Film Accession (Reference Copy)
Key Words in Appraisal
Key Words in Description & Title
Prior Creator
Series Number
Series Table (3 Minutes)
Series Table Filtered by Query
Series Table - Solr Search
Subject
Title
Variant Title
Main Menu
APX ARC BIB UT

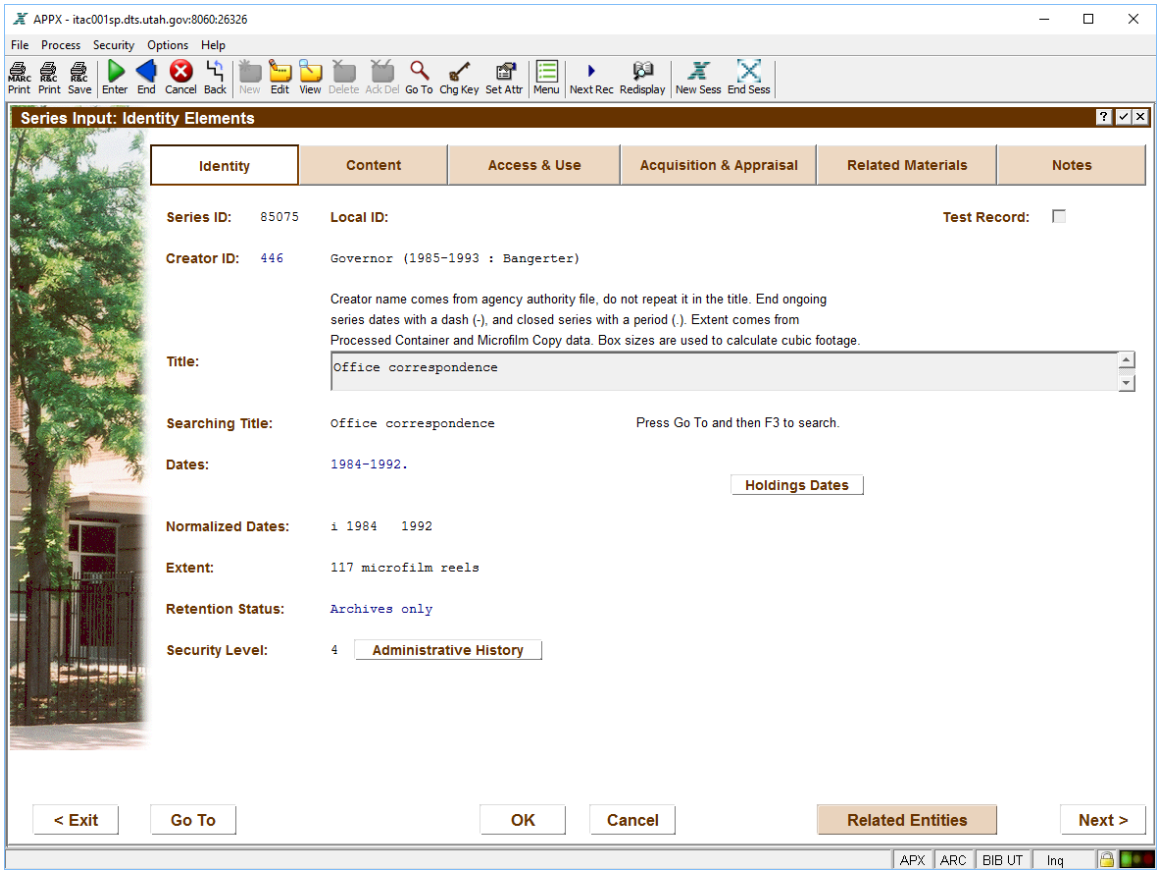


Type a keyword or click Edit Filter to do a more advanced search:



In this example, a department and all of its child agencies have been selected, so any further keyword searching would just search that set of records.

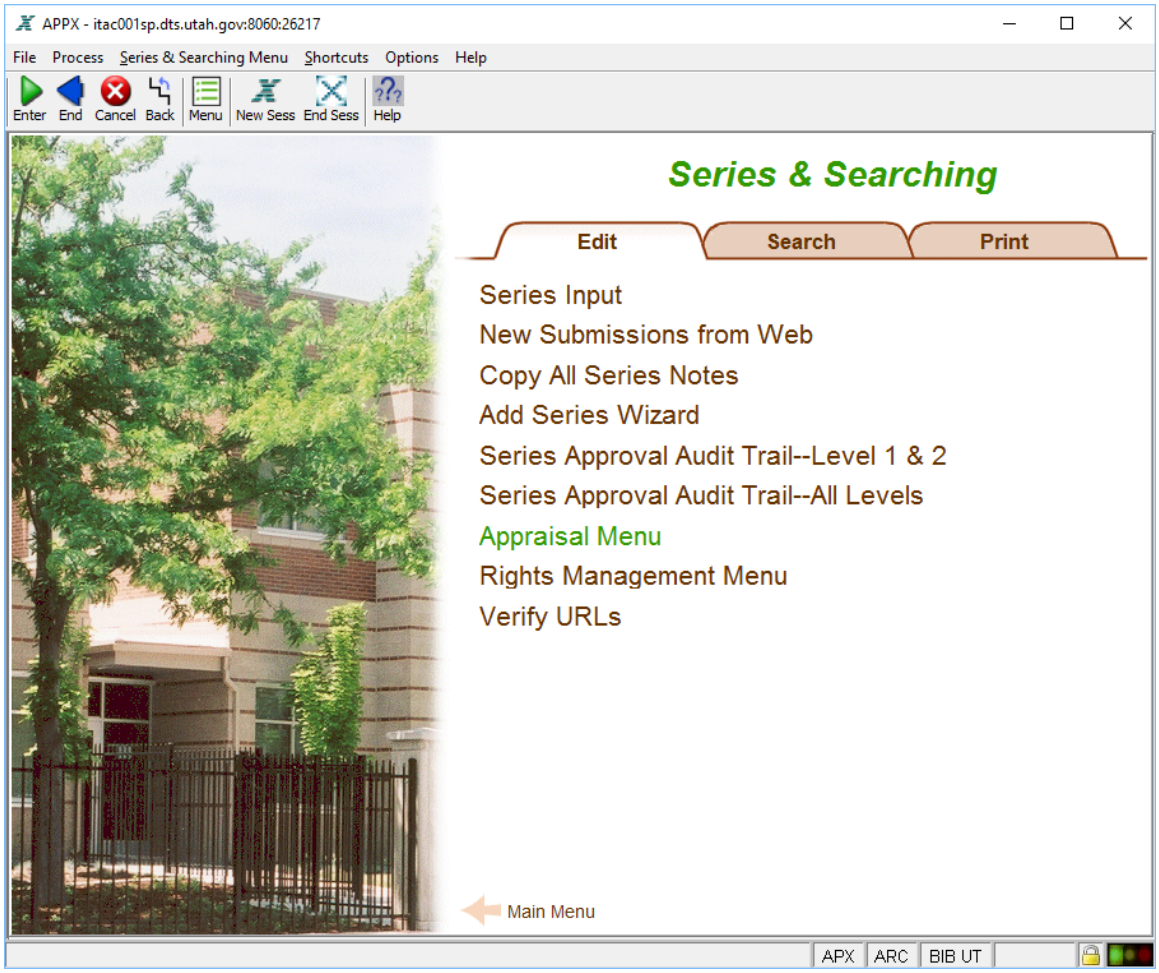
To view a series, choose one from the list, then click Select (or double-click a row) to go into Bibliographic Input:

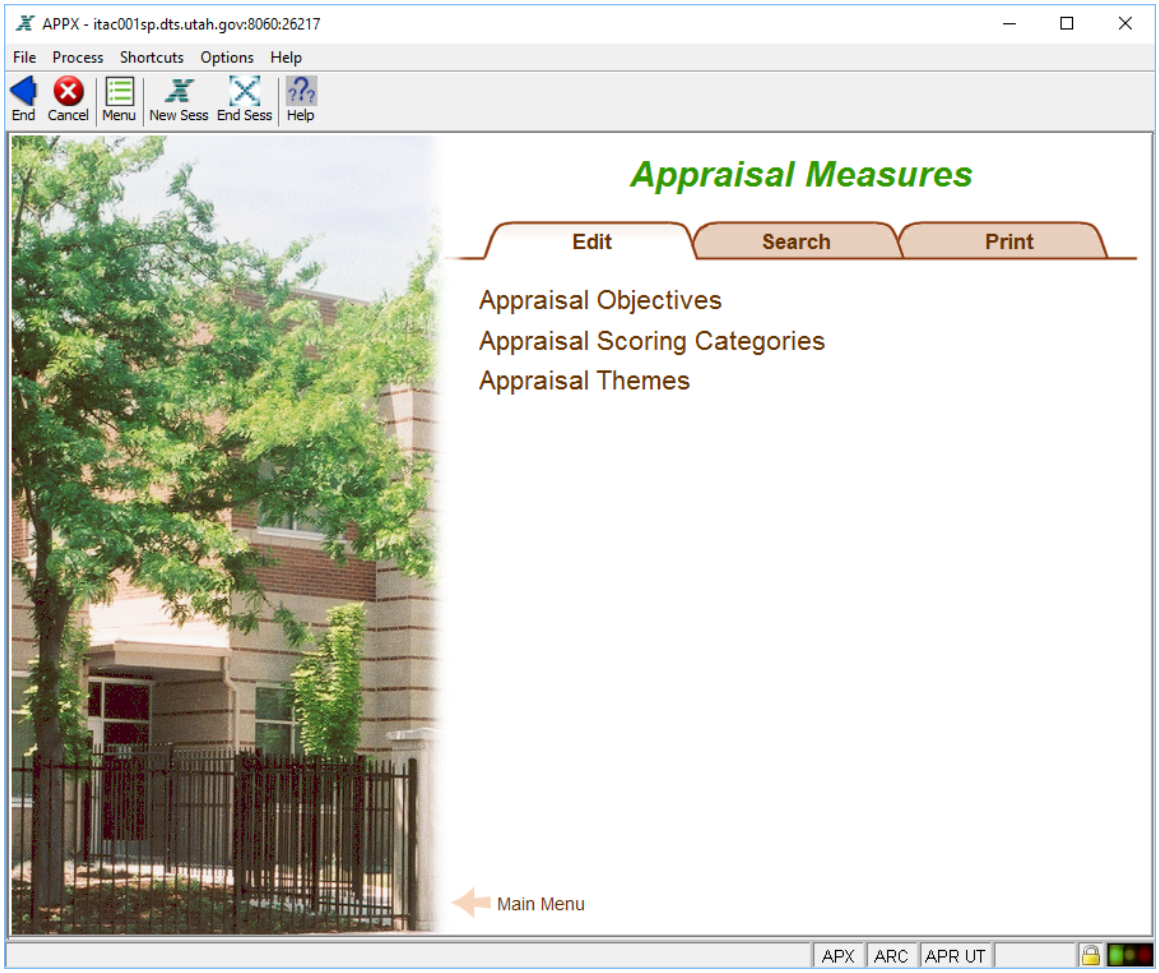


Exit back to Series & Searching menu.

Appraisal

Click Appraisal Menu:


APPX - itac001sp.dts.utah.gov:8060:26217
File Process Series & Searching Menu Shortcuts Options Help
Enter End Cancel Back Menu New Sess End Sess Help
Series & Searching
Edit
Search
Print
Series Input
New Submissions from Web
Copy All Series Notes
Add Series Wizard
Series Approval Audit Trail--Level 1 & 2
Series Approval Audit Trail--All Levels
Appraisal Menu
Rights Management Menu
Verify URLs
Main Menu
APX ARC BIB UT



The Appraisal Menu allows an institution to identify their appraisal policies and calculate the relative value of a set of records or an entity, based upon how closely those items fall within the appraisal policy. A final score can be calculated, where the higher the number, the greater the value. An appraisal objective is a goal within the appraisal policy:

- Documents the rights of citizens
- Supports local history research
- Documents government accountability
- Supports family history research

An appraisal theme is a subject-based area of collection interest:

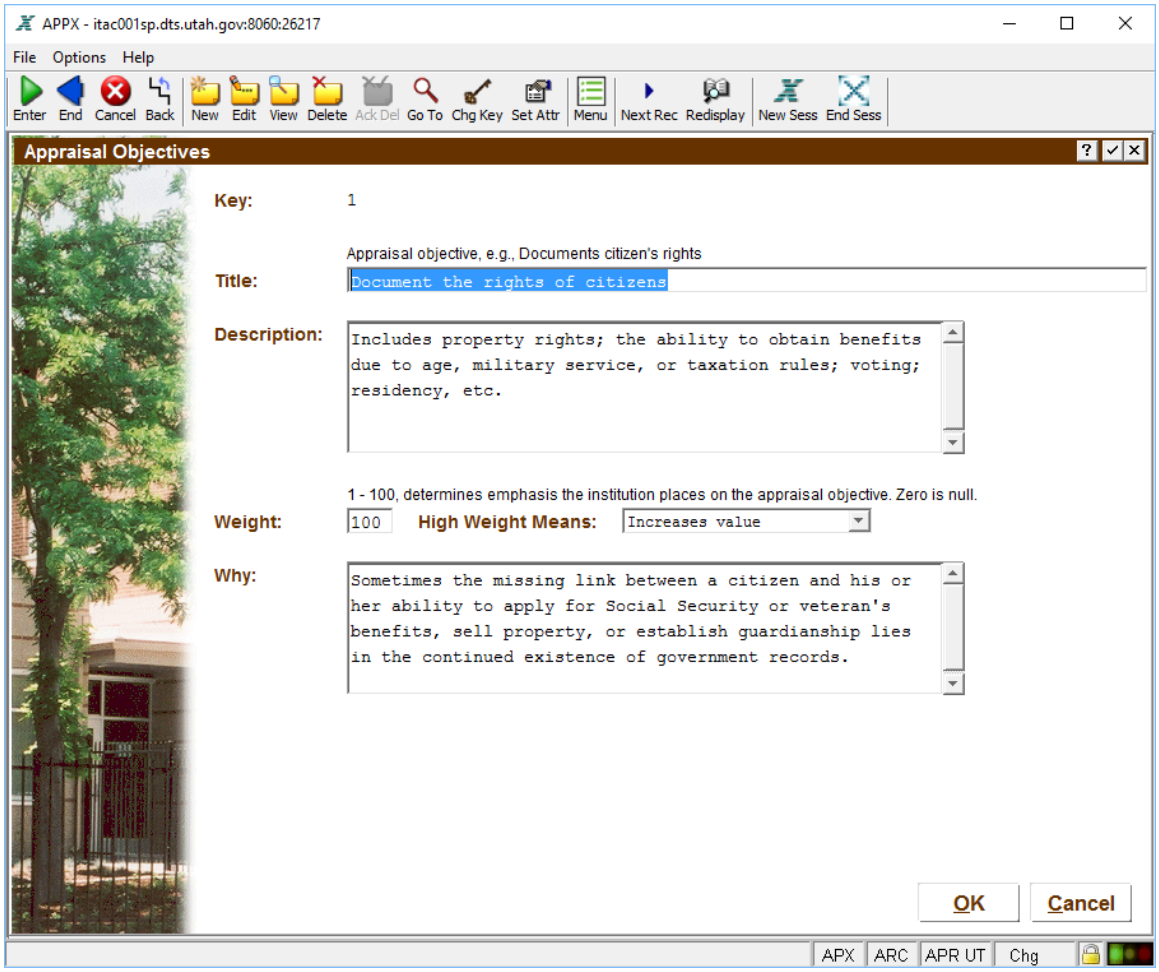
- Laws and legislation
- Territorial government
- Citizenship

Scoring categories are elements that may have a positive or negative impact on the final appraisal score, and could serve as warning signs that perhaps another set of records is a better representation of the information to be preserved. They are two-tiered:

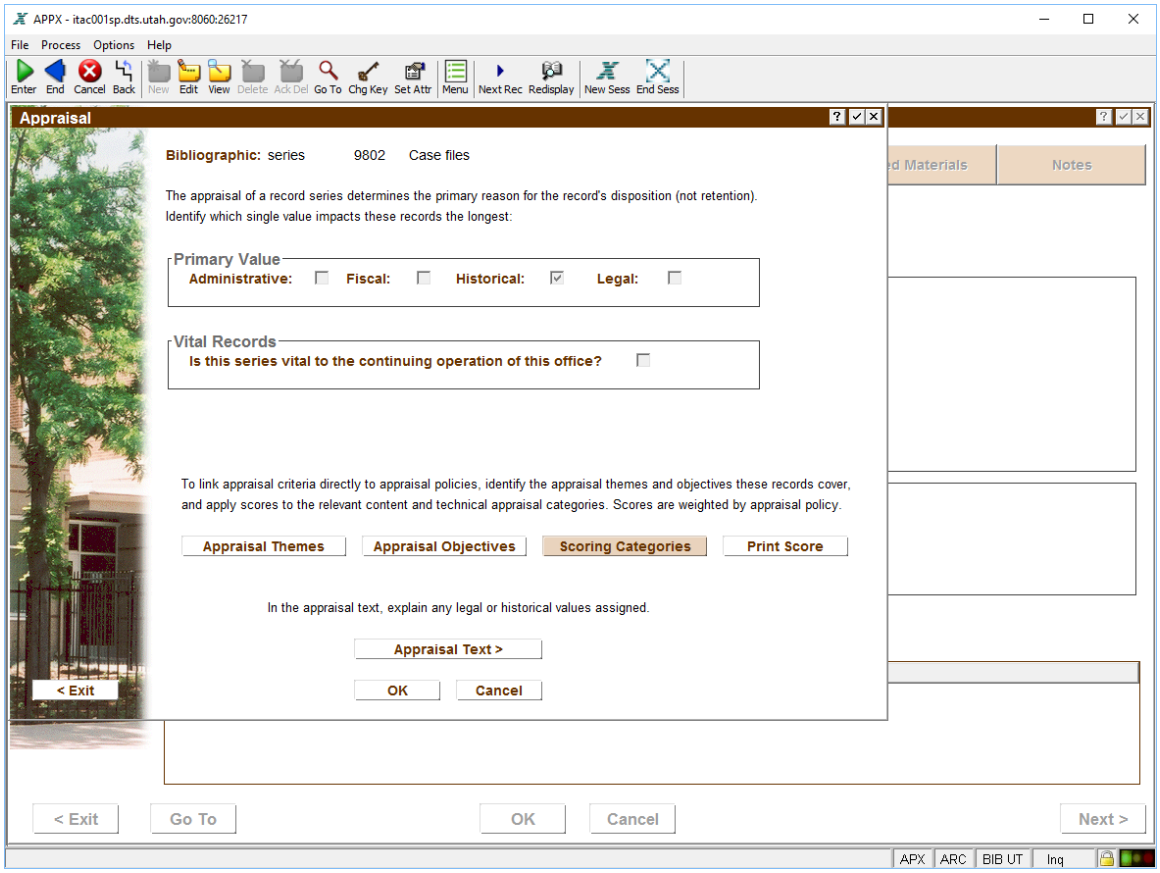
- Uniqueness
    - Information not duplicated elsewhere

    - Some information overlaps content in other records
    - Overlaps content in other repositories
    - Contains no unique information
- Geographic area
- Cost to acquire
- Cost to preserve
- Volume
- Completeness
- Software dependencies
- Hardware dependencies
- Intrinsic value
- Format
- Time period coverage
- Reference frequency
- Position in hierarchy

A weight can be applied to a given scoring category to make it influence the final score more than other attributes.



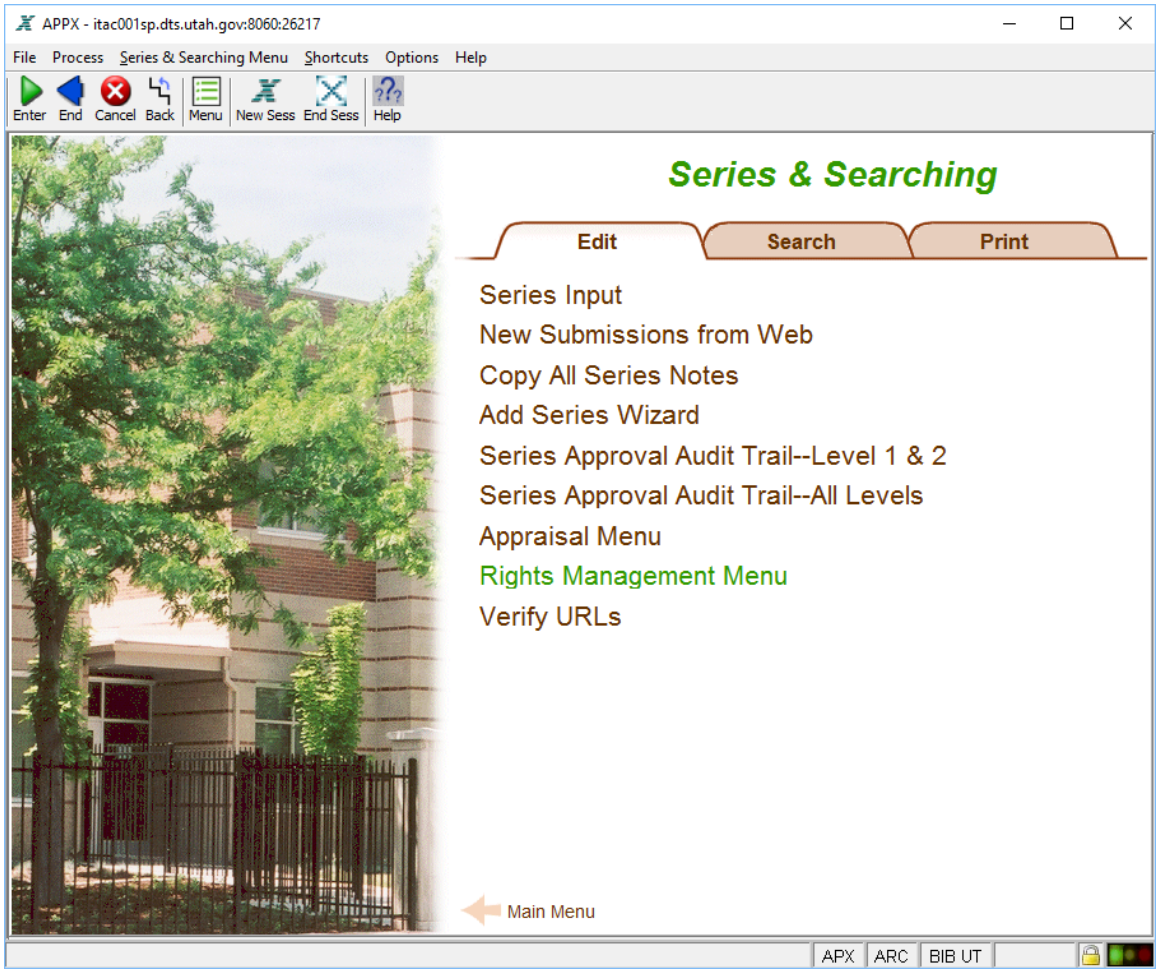
Appraisal elements are applied to records within the Series Input appraisal screen:

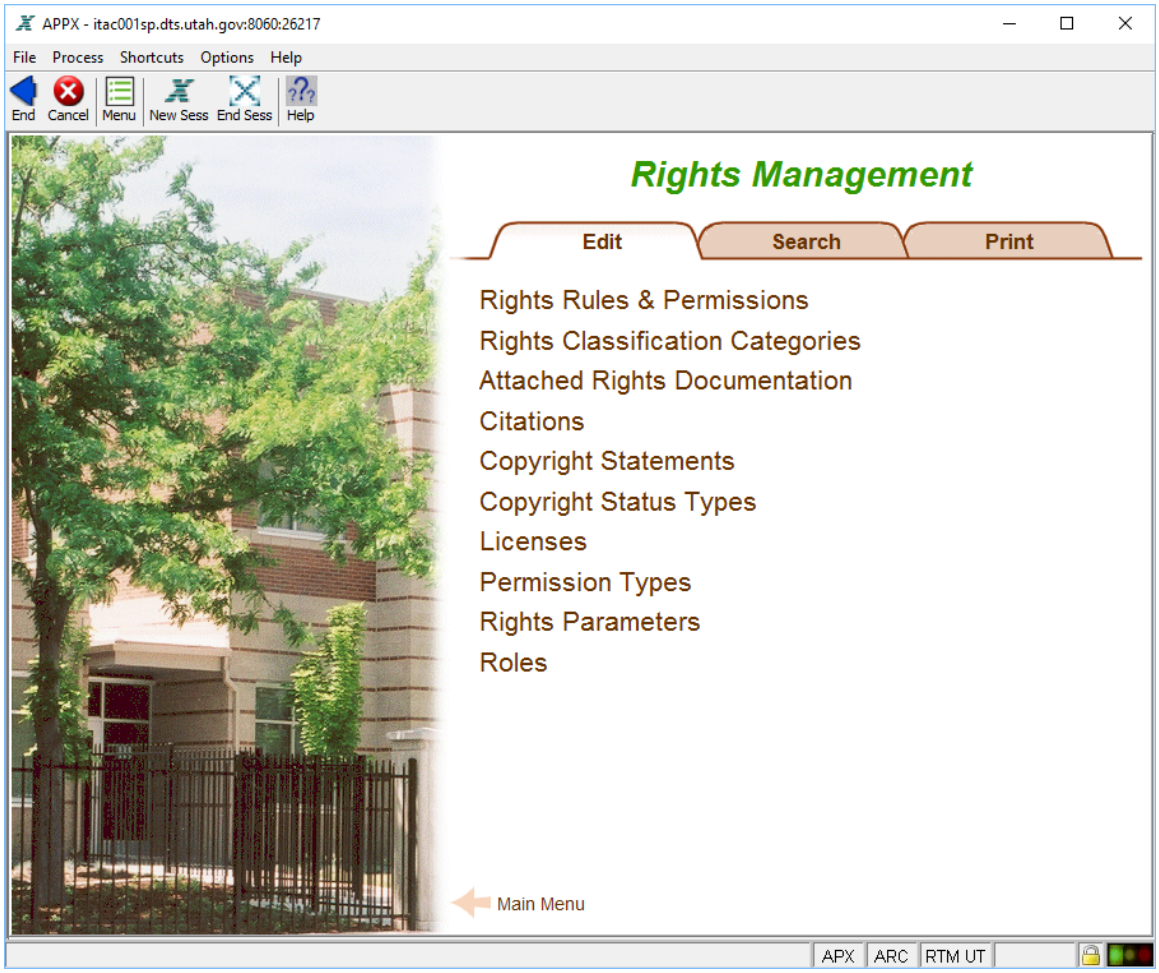


Exit back to the Series & Searching menu.

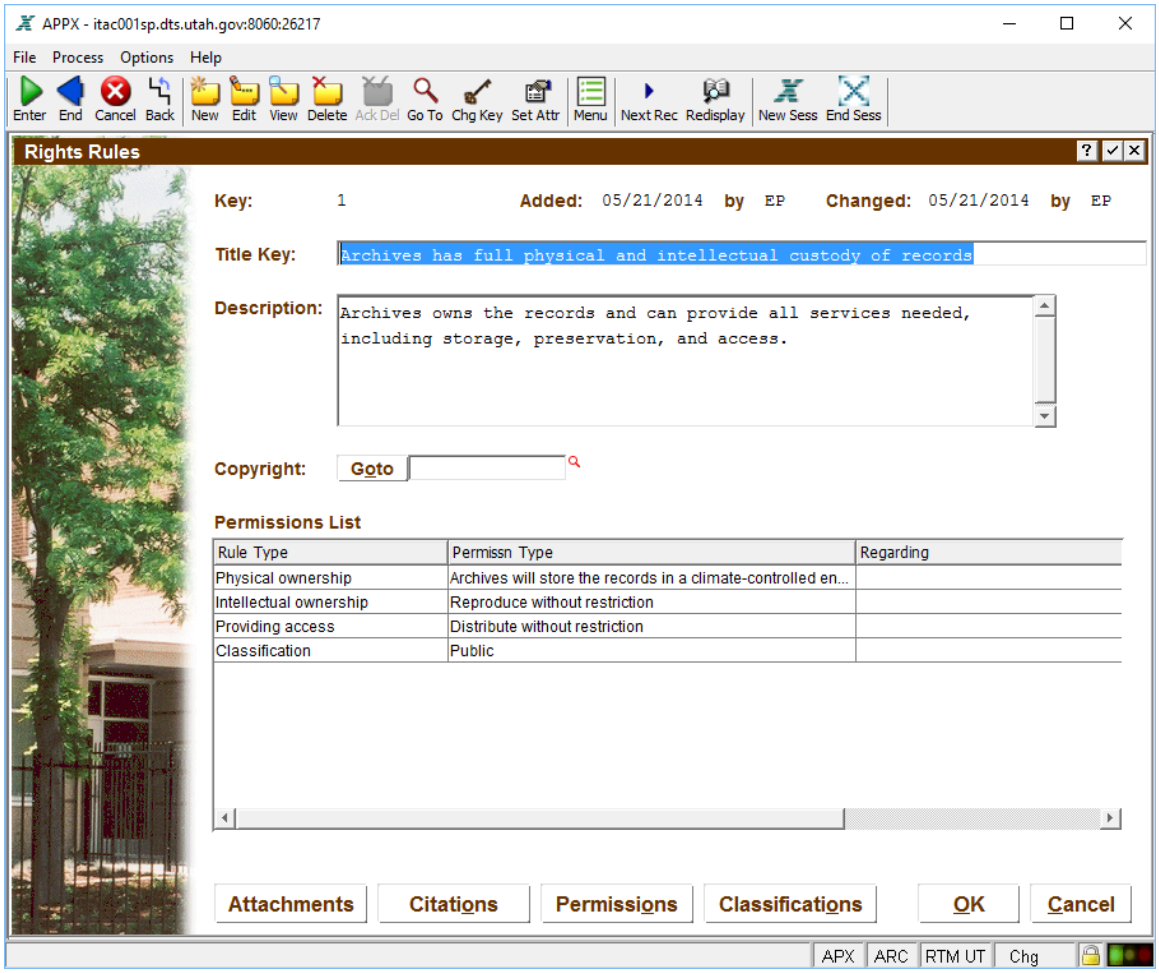
Rights Management

Click on the Rights Management menu:


APPX - itac001sp.dts.utah.gov:8060:26217
File Process Series & Searching Menu Shortcuts Options Help
Enter End Cancel Back Menu New Sess End Sess Help
Series & Searching
Edit
Search
Print
Series Input
New Submissions from Web
Copy All Series Notes
Add Series Wizard
Series Approval Audit Trail--Level 1 & 2
Series Approval Audit Trail--All Levels
Appraisal Menu
Rights Management Menu
Verify URLs
Main Menu
APX ARC BIB UT



A Rights Rule is a set of permissions, bundled together, to describe what is or isn't allowed for a set of records. Permissions may originate from laws or licenses. All of these elements are recorded and can be applied to any record.



Exit to Main Menu

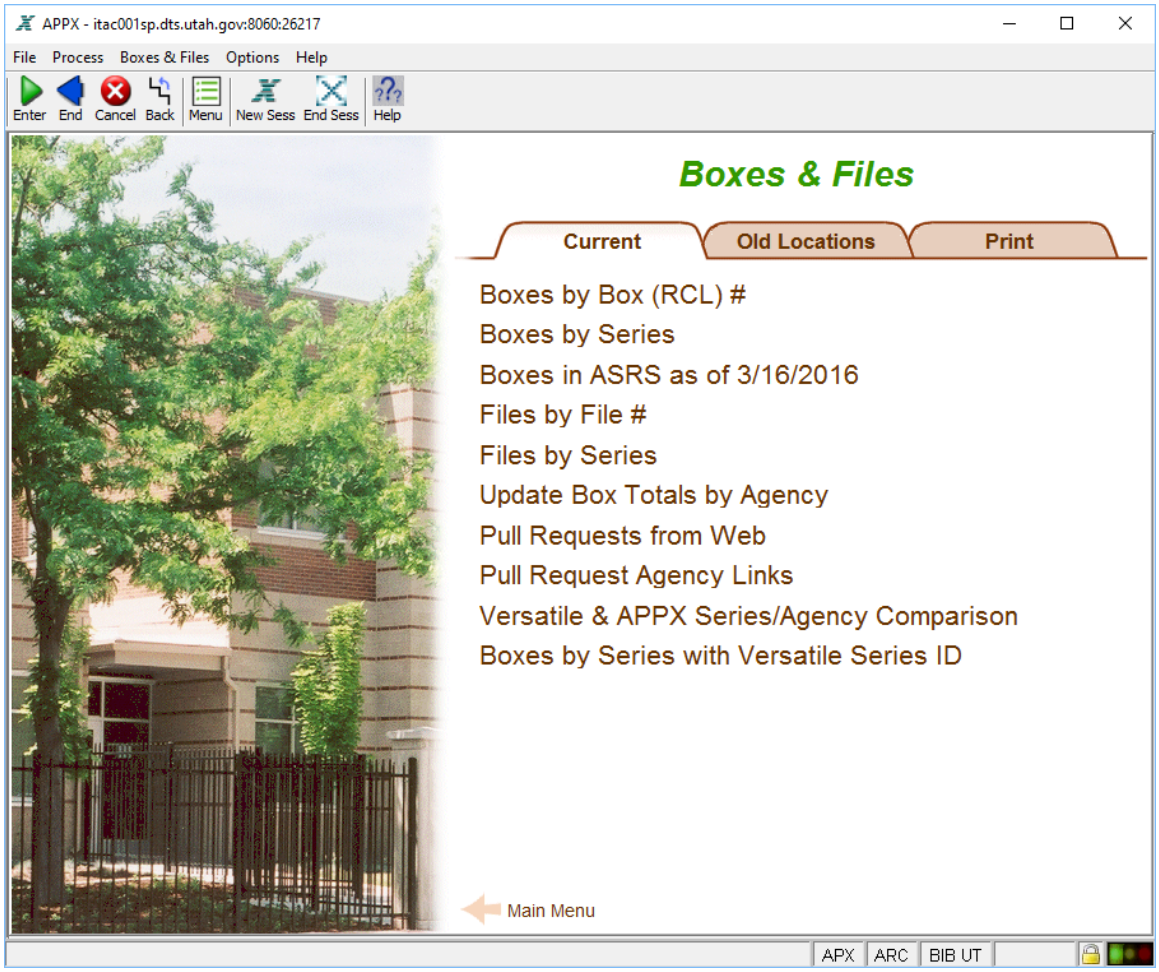
Boxes & Files

The Boxes & Files menu is used to view the physical holdings of the Archives or anything in our Records Center. This data is created in the box inventory system used by the Records Center, which in Utah is a third-party system called Versatile. Records from Versatile are not edited through AXAEM, but they are easily viewed here.

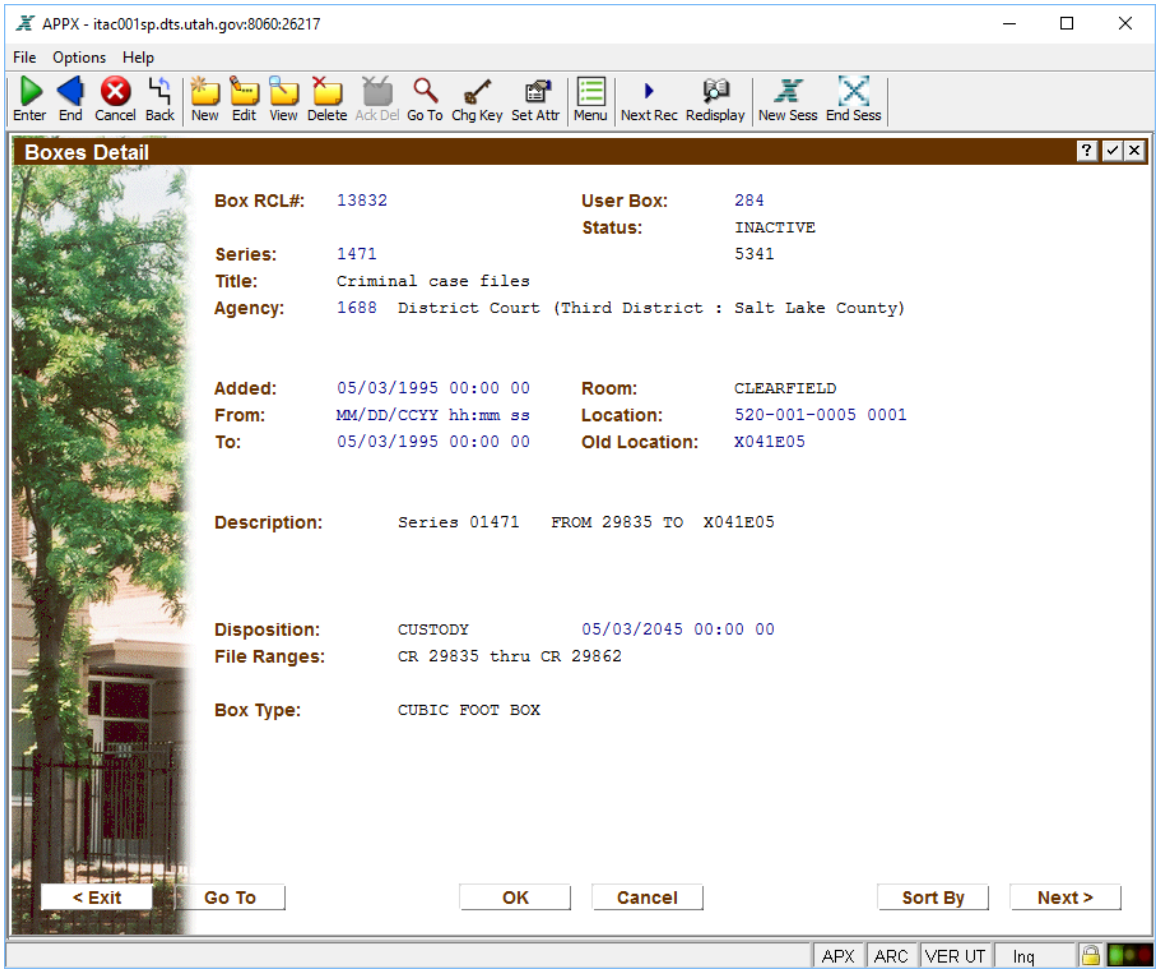
AXAEM has its own internal box inventory system that was added for open-source users of the software who did not have their own box inventory system already in place. This native system will be discussed below at the end of this section.

The box and file numbers are generated by Versatile. In turn, Versatile uses AXAEM series numbers to identify sets of records, so the two systems work together. You may search for items by either number. Boxes and files display even if the item in question has been destroyed.

Box records include user box numbers, physical shelf location, date spans of contents, and file spans of contents. The description usually just duplicates this information, but may provide more context on occasion. File records contain similar data. Note that file descriptions (when the file is a piece of microfilm) contain the film accession number (discussed further below).

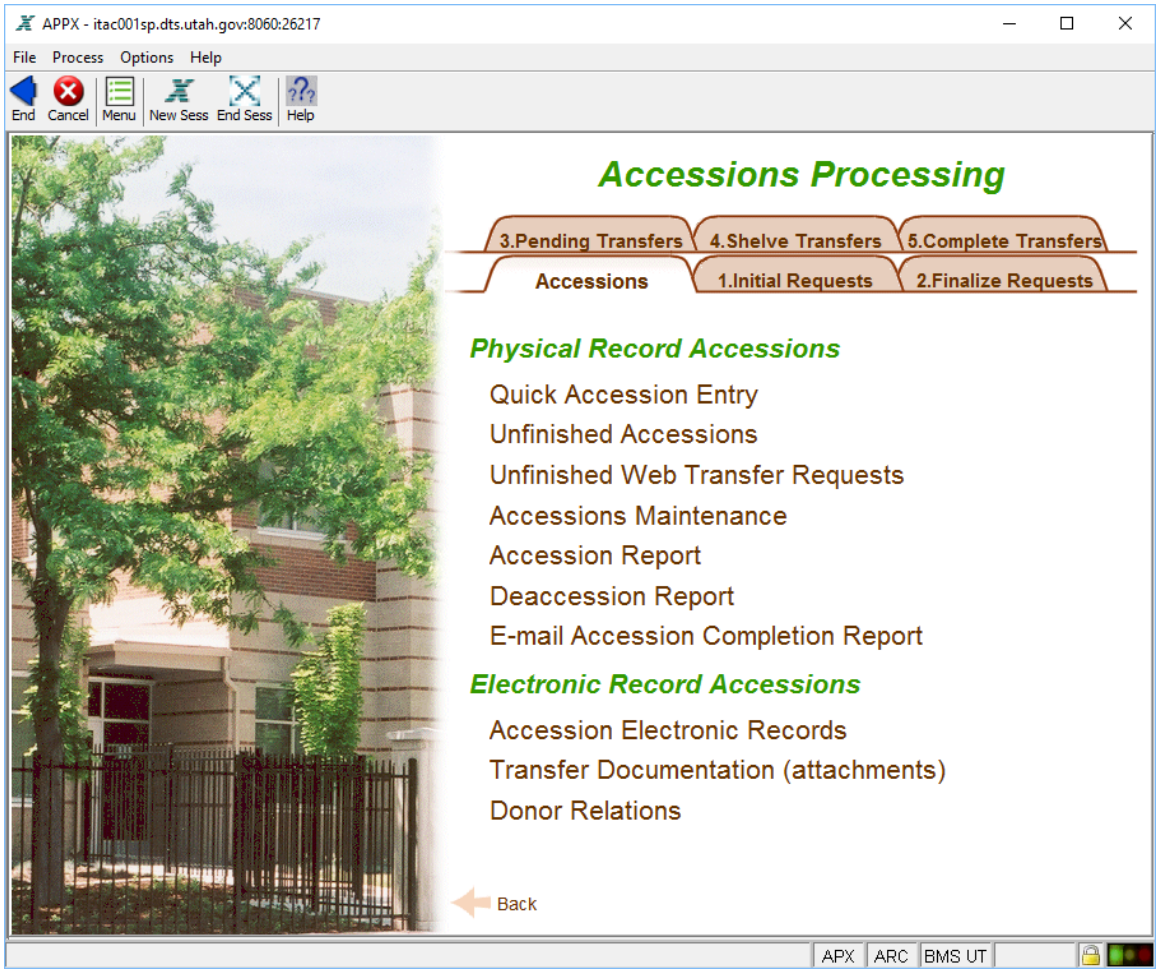


Here's an example of a box detail record:

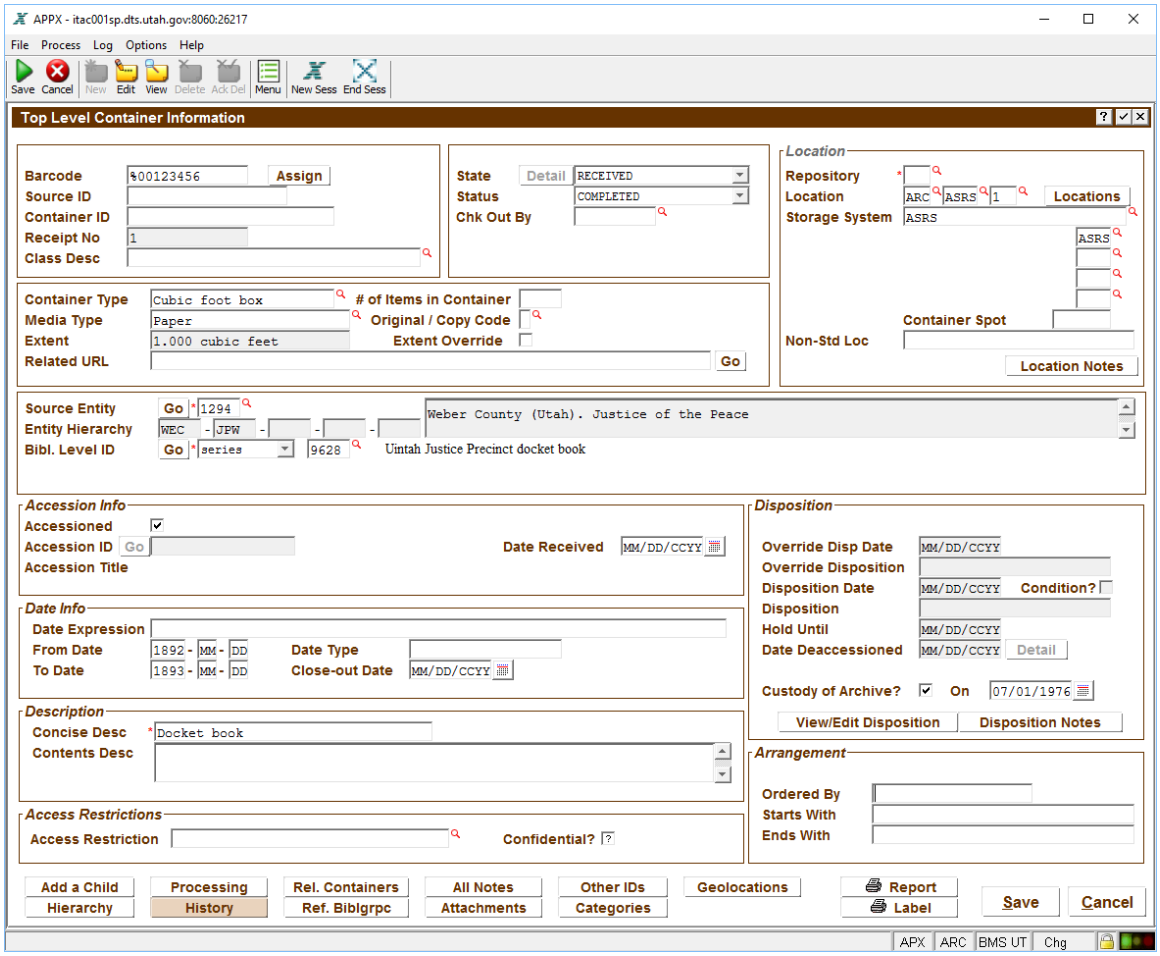


Exit to Main Menu

AXAEM's native box inventory system is used to record the accessioning and transfer of records as well as box locations and disposition tracking.

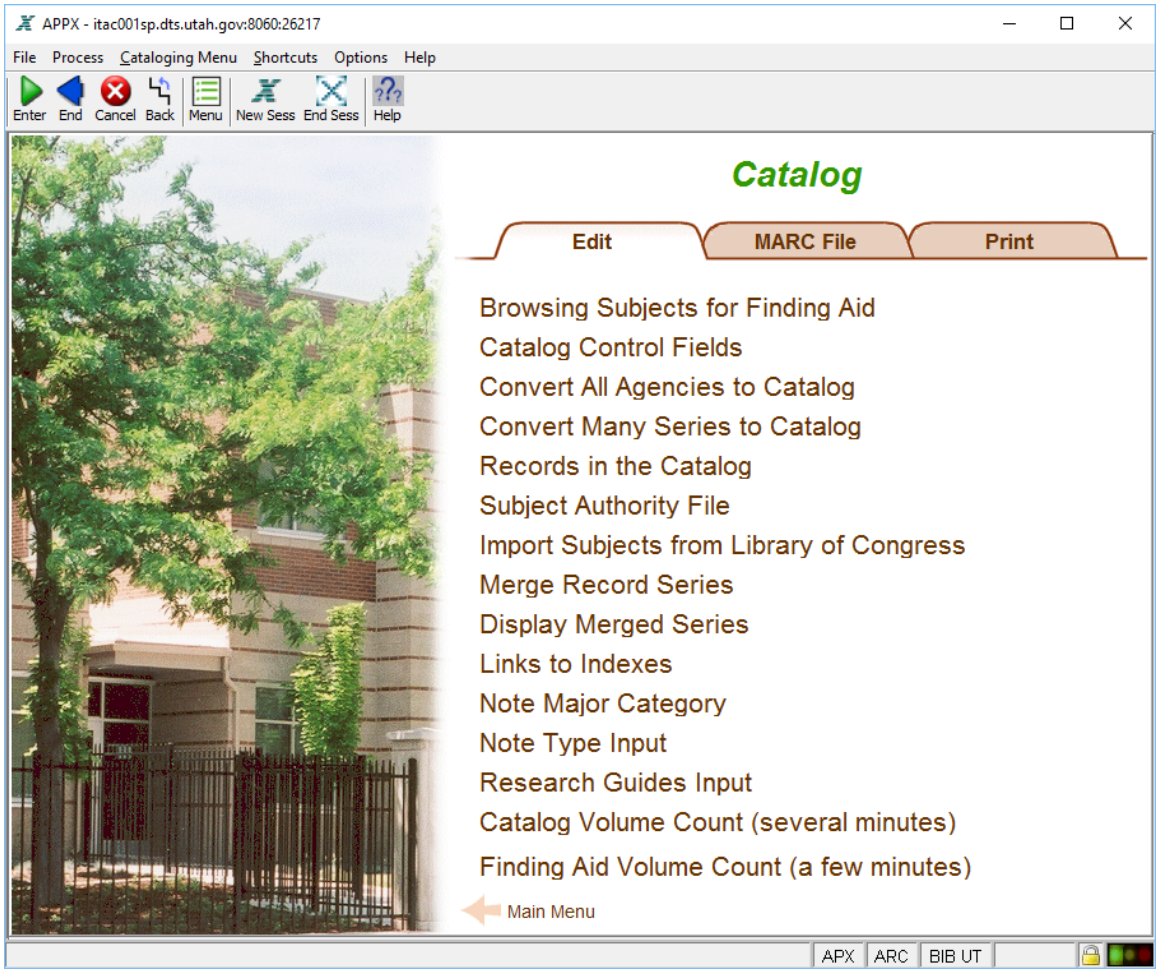


Containers are identified individually, and also in context of other containers, since one container can hold other containers and items.



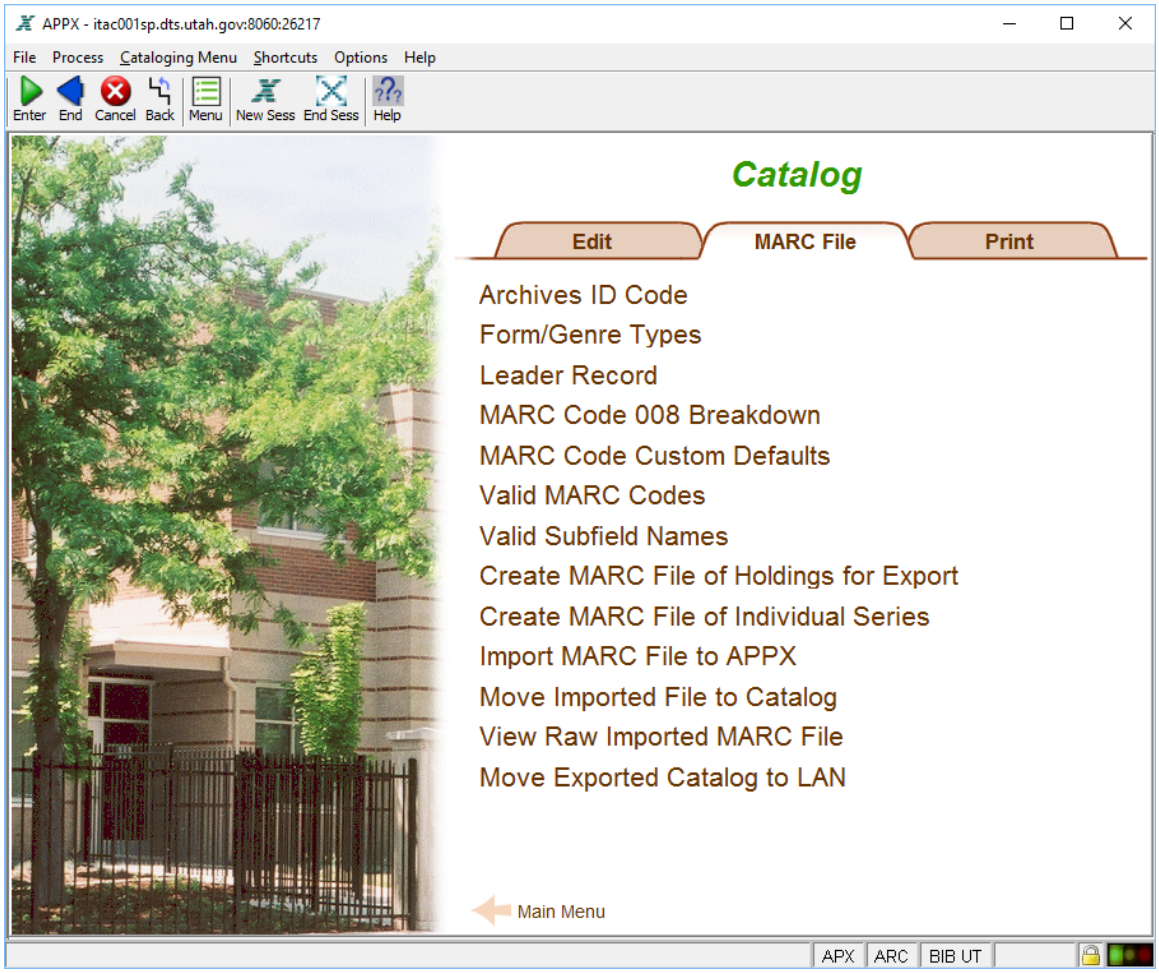
Cataloging

The Cataloging Menu manages all cataloging functions, including how the exportable catalog file and online catalog are generated, and the paths used for specific URLs within the catalog record (such as a link to an index).



The primary role of the Cataloging Menu is to produce a catalog record that can be output to a MARC 21 catalog, or the Solr search engine, and manage features related to cataloging efforts. All record series recorded in AXAEM are automatically assigned MARC cataloging codes. All the user has to do is run a process called Convert to Catalog, which can be done as a batch (converting many series at once), or individually while within a series. Record series that go through the State Records Committee (SRC) approval process have this task done automatically. Records changed after SRC approval need to use the Convert to Catalog function. After records have been converted, the MARC record can be exported from AXAEM, imported into any MARC-compatible library cataloging software, and changes that were made in the series will be visible to the public.

To export catalog records, click the MARC File tab:



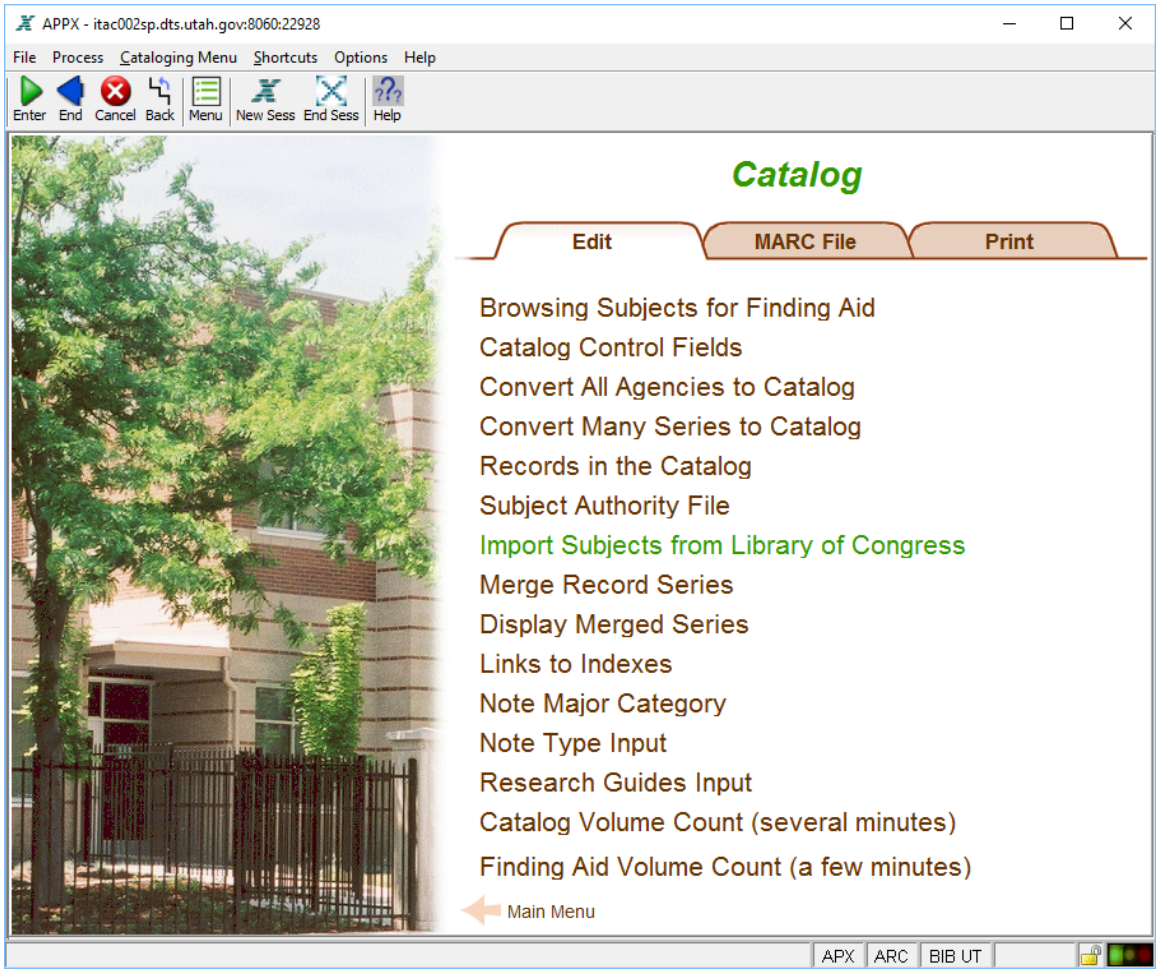
The menu options called Create MARC File use various queries to export the data. In Utah, records are either exported as a whole batch file based on whether or not we have holdings in our custody, or individually one series at a time as needed. The resulting CATALOG.txt file will automatically land either as a file on your desktop or on the Archives' LAN server, depending on system settings. This menu also provides input processes to keep AXAEM's knowledge of valid MARC values current.

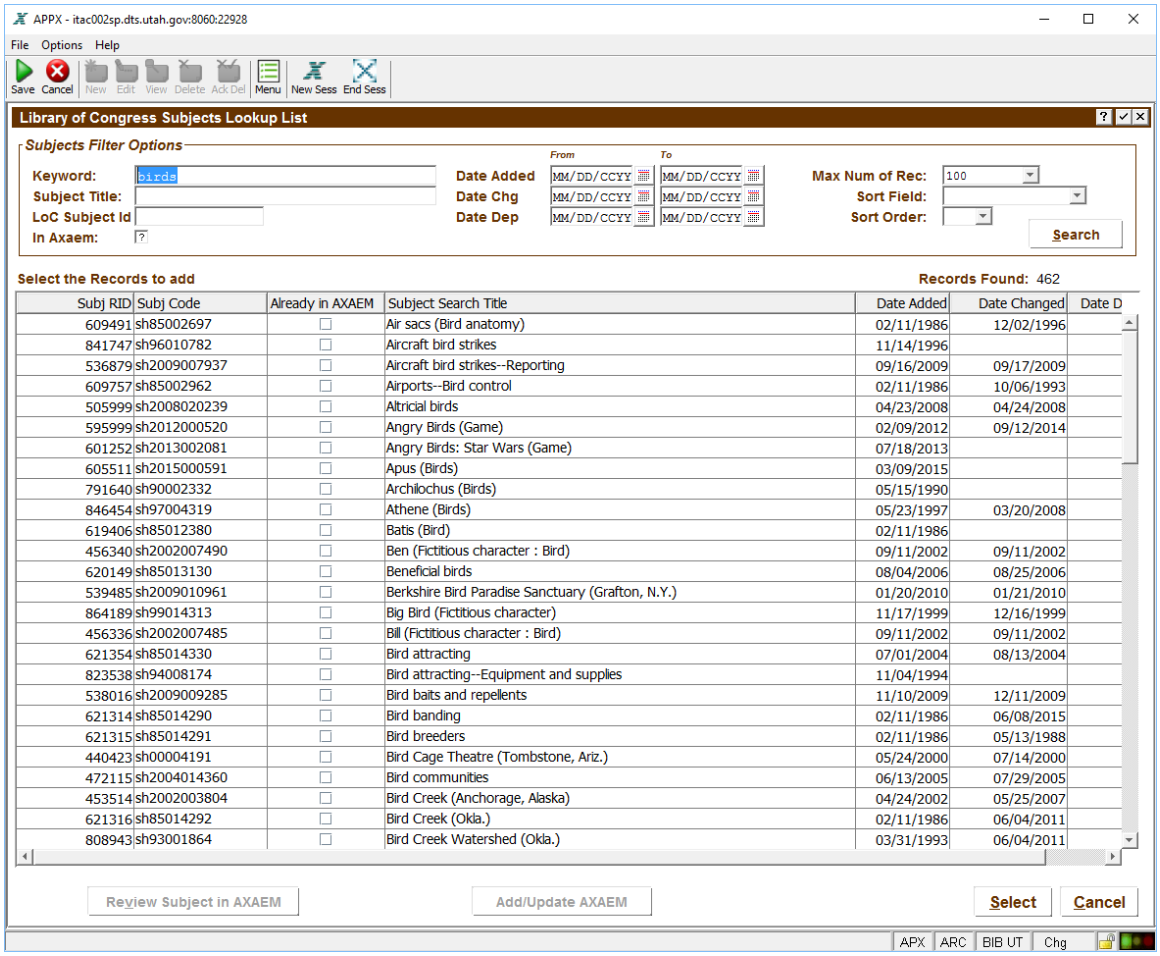
Click back to the Edit tab in the Catalog Menu.

An important function of this menu is the subject authority file, which keeps track of all subject headings and their MARC codes. These subjects are then used to create access points in series. Subjects are not valid unless they follow the pattern of the Library of Congress subject headings, so our subject authority file is a subset of the Library of Congress's authority file. If we need to use a subject heading that isn't in our authority file, we add it, following the Library of Congress's entry. To access the Library of Congress headings, we import the latest set periodically, and then pick from that set. The philosophy behind a subject authority file (as opposed to keyword searching) is to standardize search terms so that a single search can pull up as many related records as

possible. Keyword searching does not handle synonyms very well, and Google doesn't always have access to a catalog database.

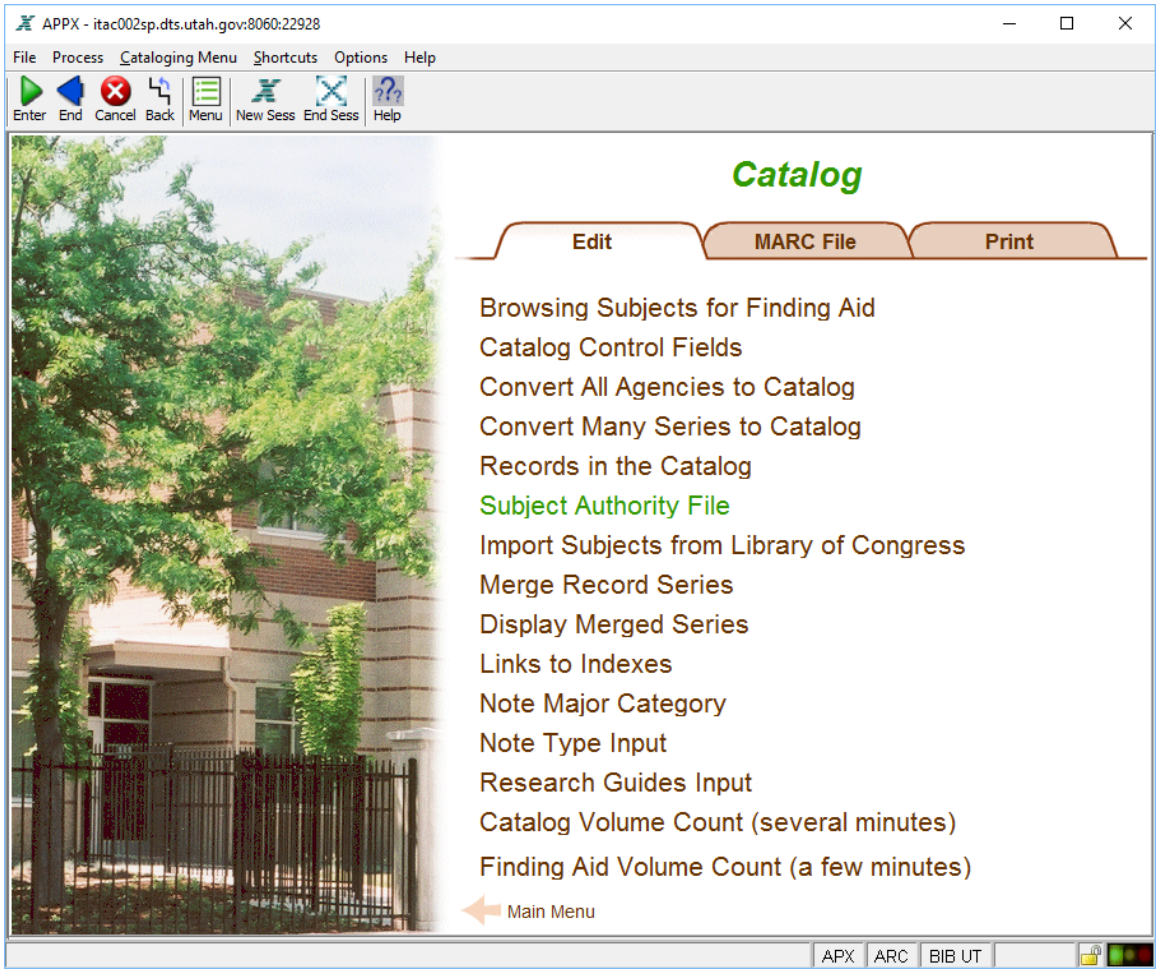
Click Import Subjects from Library of Congress:



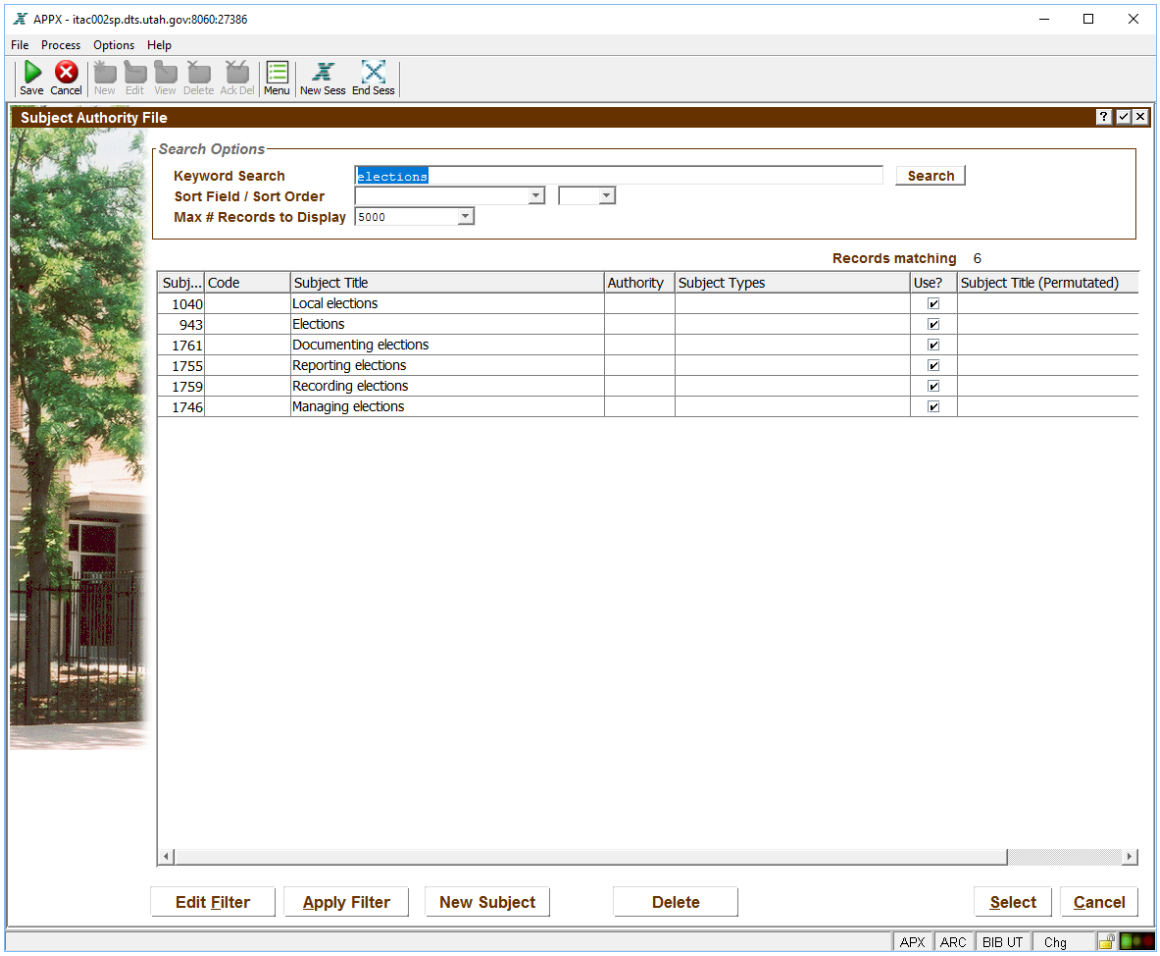


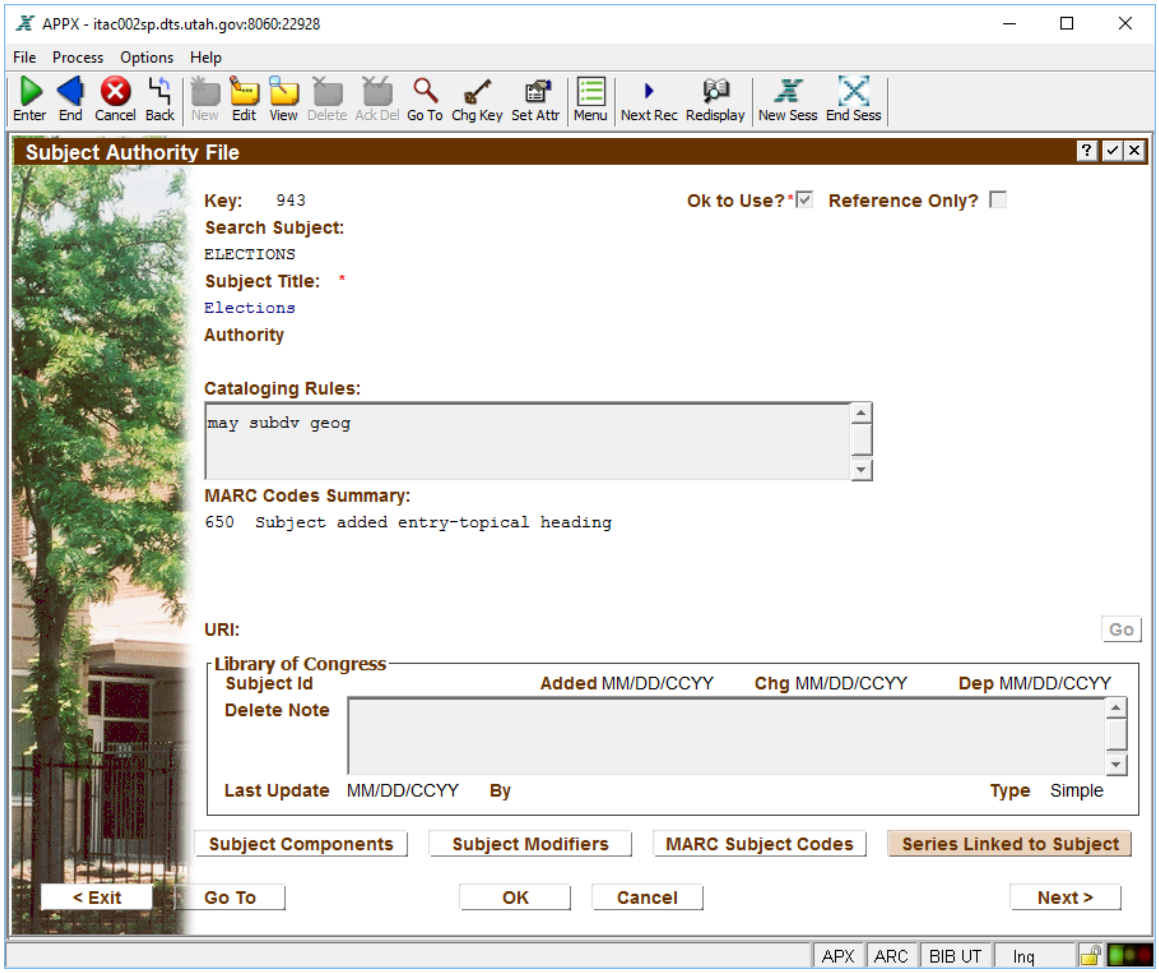
A keyword search can limit the hits to the subjects of interest. Click a row and then click Add/Update AXAEM to import that term into the Subject Authority File. If the Library of Congress (LC) changes the text of that term, it will automatically update the Subject Authority File and all linked series that use that term the next time a new LC version is imported.

Exit back to the Menu. Go to Subjects Authority File.



Find Elections and press Enter:

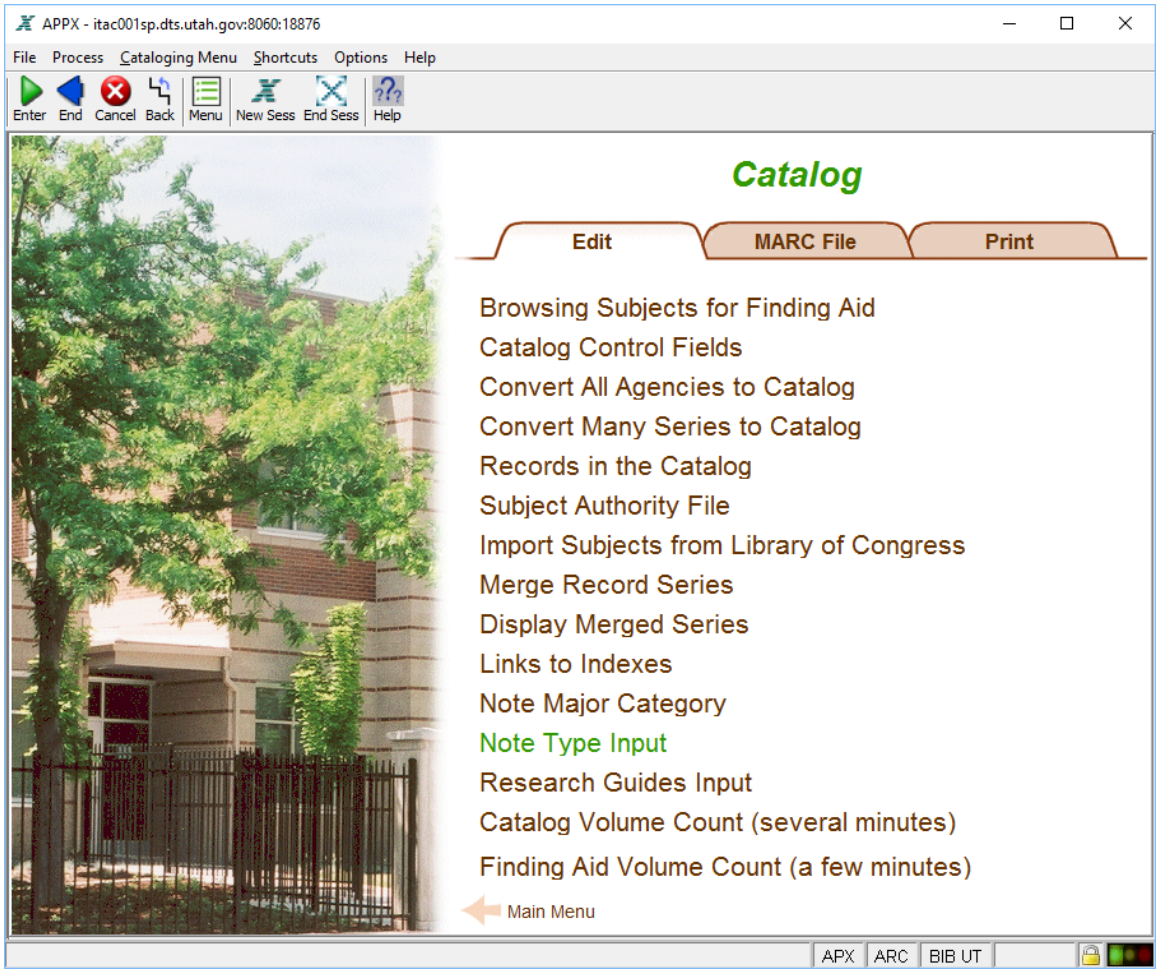

APPX - itac002sp.dts.utah.gov:8060:27386
File Process Options Help
Save Cancel New Edit View Delete Ack Del Menu New Sess End Sess
Subject Authority File
Search Options
Keyword Search
elections
Search
Sort Field / Sort Order
Max # Records to Display
5000
Records matching 6
Subj... Code Subject Title Authority Subject Types Use? Subject Title (Permutated)
1040 Local elections
943 Elections
1761 Documenting elections
1755 Reporting elections
1759 Recording elections
1746 Managing elections
Edit Filter
Apply Filter
New Subject
Delete
Select
Cancel
APX ARC BIB UT Chg



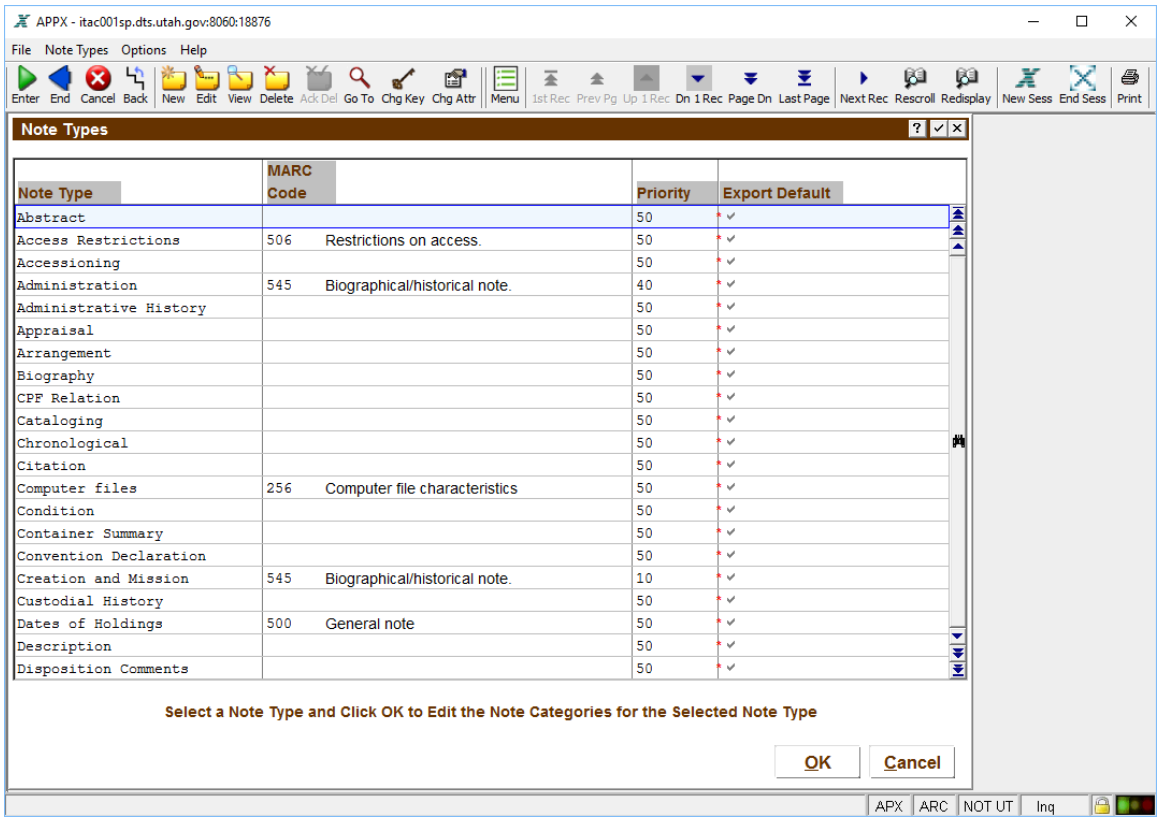
This subject term can be used as part of a full access point when added to a series, e.g. Elections—Utah.

Exit back to Catalog Menu.

Another important option in the Catalog Menu is the management of note types. There are several different major note categories: those tied to agencies, series, general schedules, electronic records, functions, and accessions. The note types under each of these categories are user controlled. Click Note Type Input:

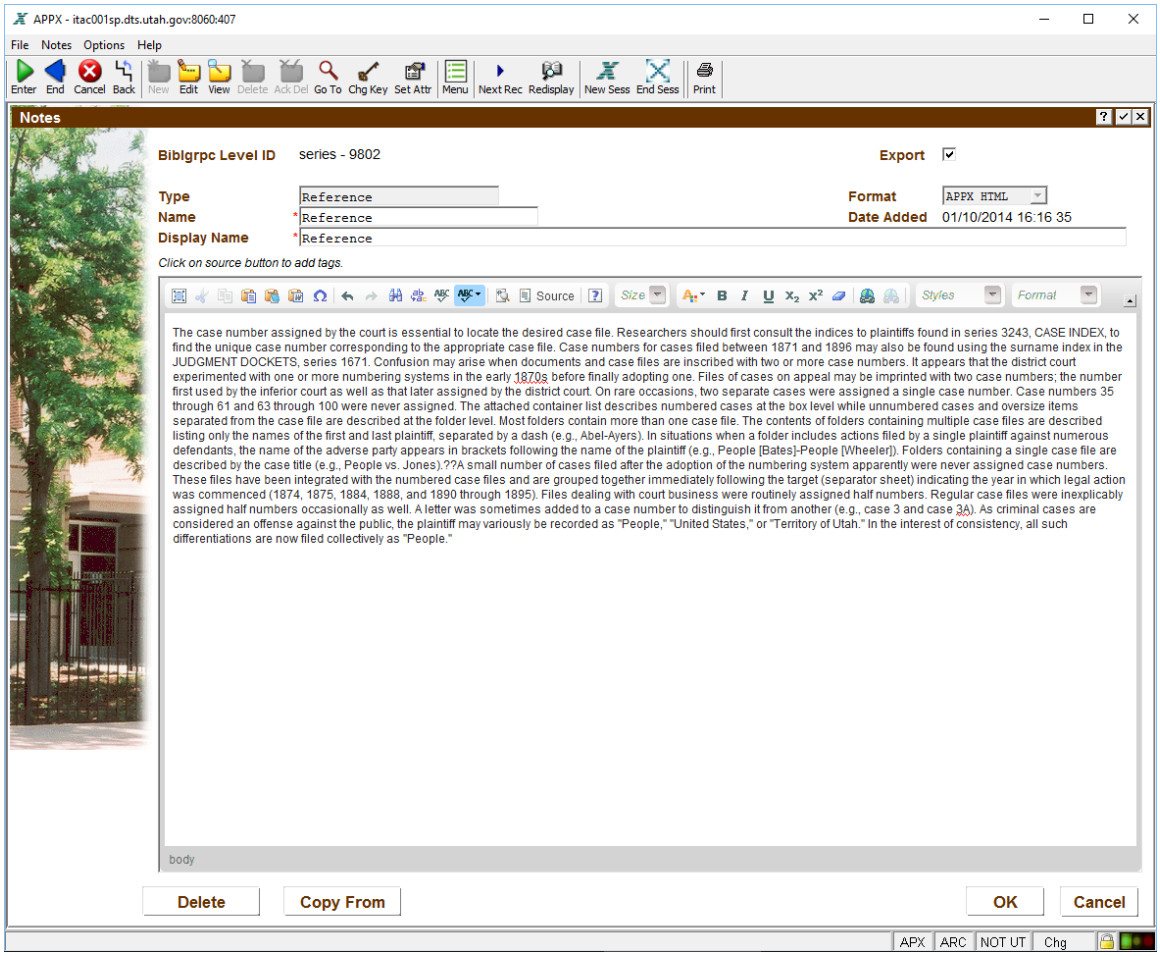


You may add any type of note type to any major category you wish, which will then show up as a place to add that type of note in Bibliographic Input:



The name of the note is listed, followed by the MARC code, followed by a priority ranking, in case the notes need to be output in a particular order in the MARC record while sharing the same MARC code.

When editing notes, generally the note interface is an HTML editor that will apply bold and italic fonts as needed, or you can create bulleted or chronological lists. These attributes will be automatically converted to XML when exporting to EAD, or stripped out when exporting to MARC. Reports printed as a PDF document will display the attributes as you designed them.



Exit to Main Menu

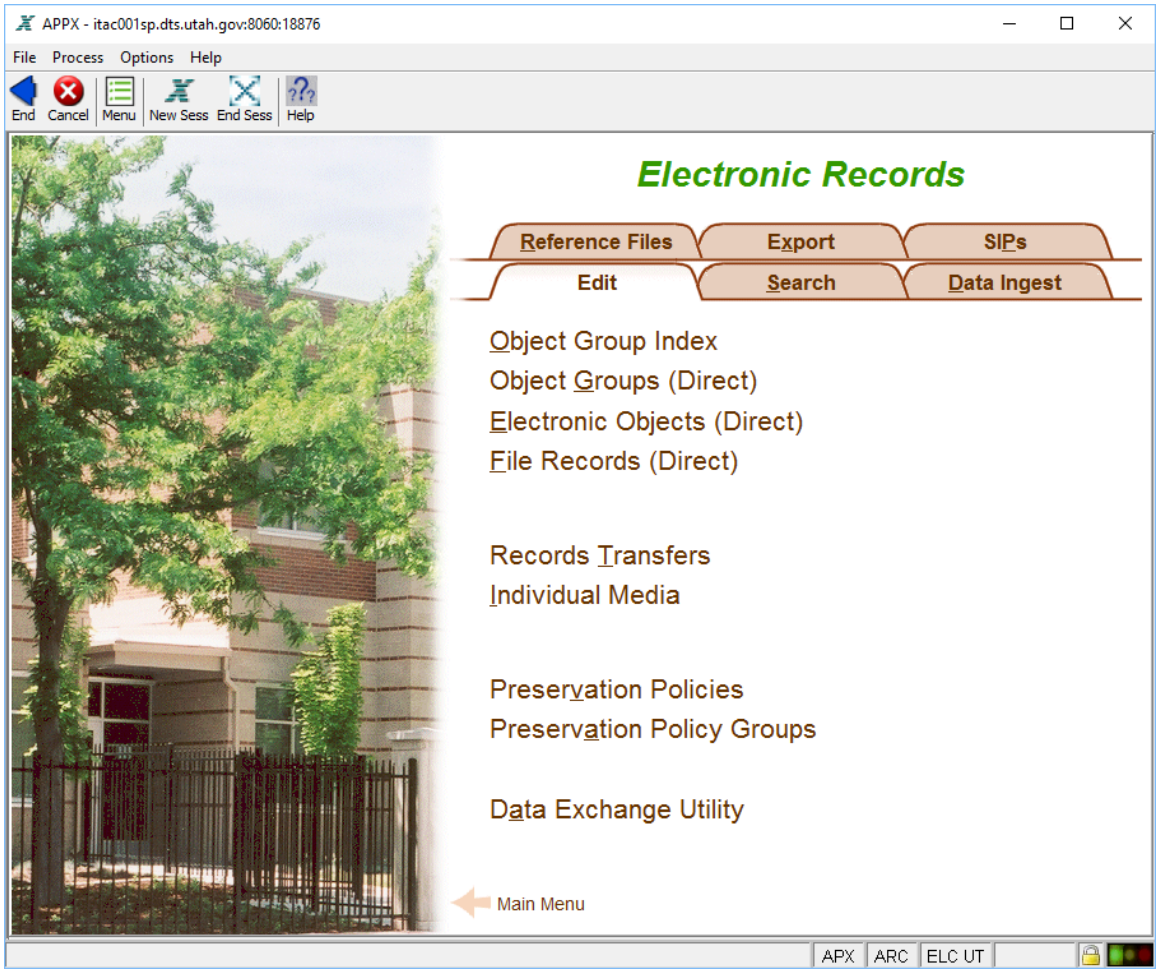
Electronic Records

A significant amount of effort has been made to make AXAEM compatible with the many technical requirements for preserving electronic records. Electronic records can be ingested and stored in a location connected to the AXAEM server, or the records may be sent to hosted locations or stored offline with only the metadata recorded in AXAEM. The system separates SIPs from AIPs as two different ingest processes. Users may choose to record SIP information in the database but not actually ingest the records until they are ready as AIPs, or ingest both SIP and AIP.

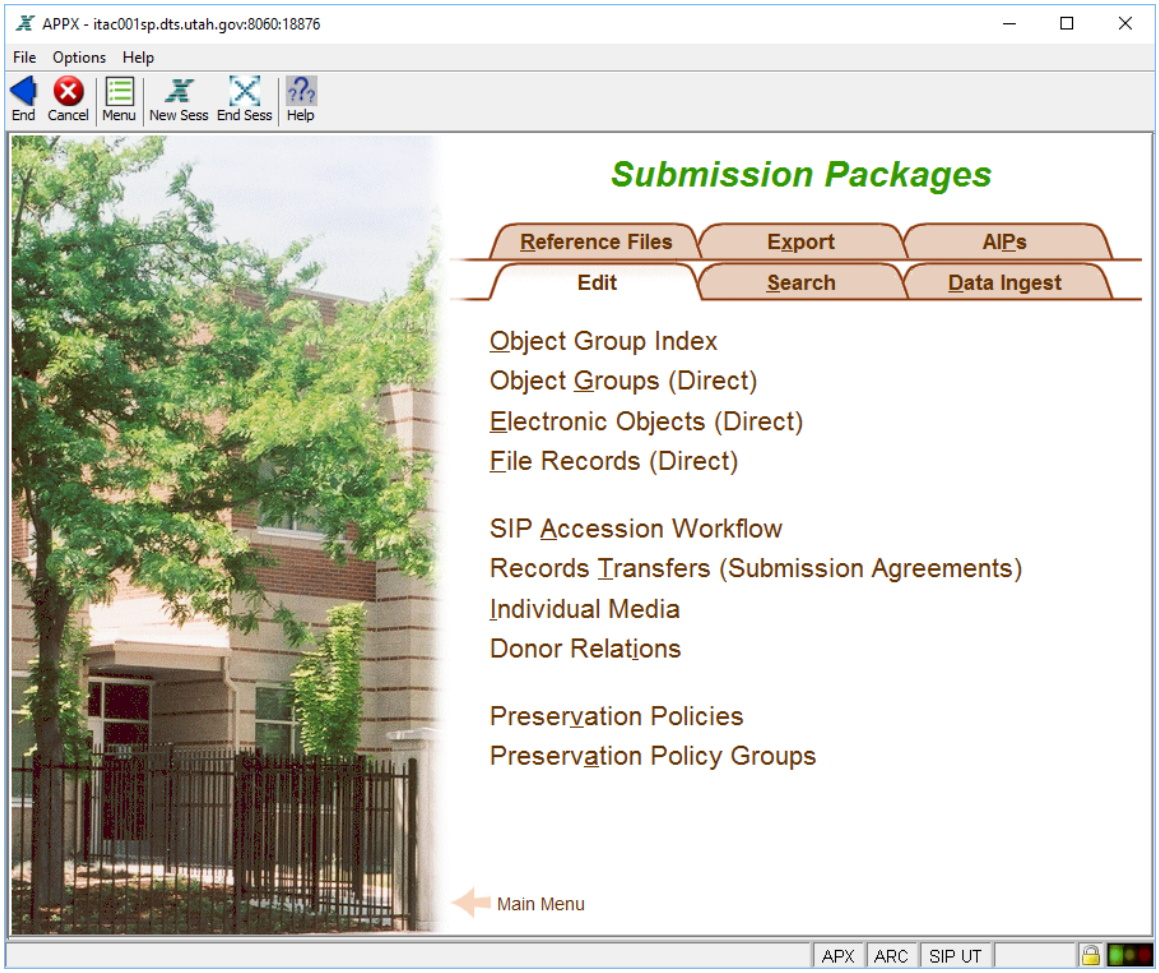
Folder structures are identified as one or more Object Groups. Each object group may be described as a unit and have its own metadata. Sets of files within a folder may also be identified together as a sub-group. Individual electronic records identify single intellectual items, even if those items are comprised of multiple physical files. An electronic record could have multiple representations, one or more of which could be the DIP. Some tools have been integrated to automatically do format transformations and add additional representations. The primary ones in use at the moment are ImageMagick for

images, ffmpeg for video, and a document converter that will take text files of various formats and convert them to PDF.

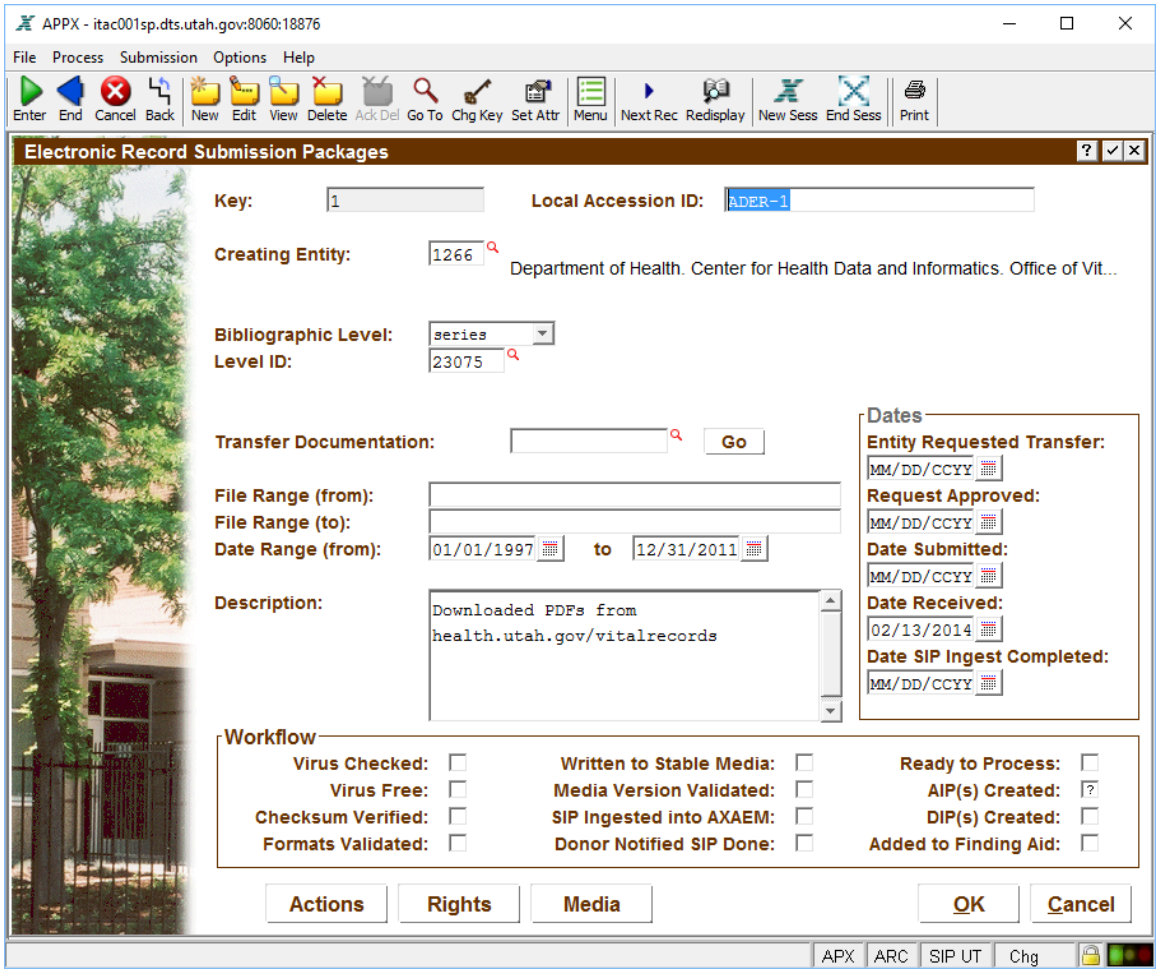
Electronic records and their metadata may be made accessible to the public through the Solr search engine. Access restrictions may also be applied. Electronic records inherit the access classifications of their record series. If that classification indicates that some but not all of the records are public, then individual electronic records must be classified at the item level. Unless an electronic record is declared public, the metadata and a link to download the record is not made available to the search engine.



The SIP menu is similar, and provides a way to identify new accessions:



Here's the SIP Accession Workflow screen, which is a simple way to identify an accession prior to ingest, plus keep track of what has been done for a set of records and what still needs doing, in the event that multiple people work on the SIP, or the process gets interrupted for a space of time:



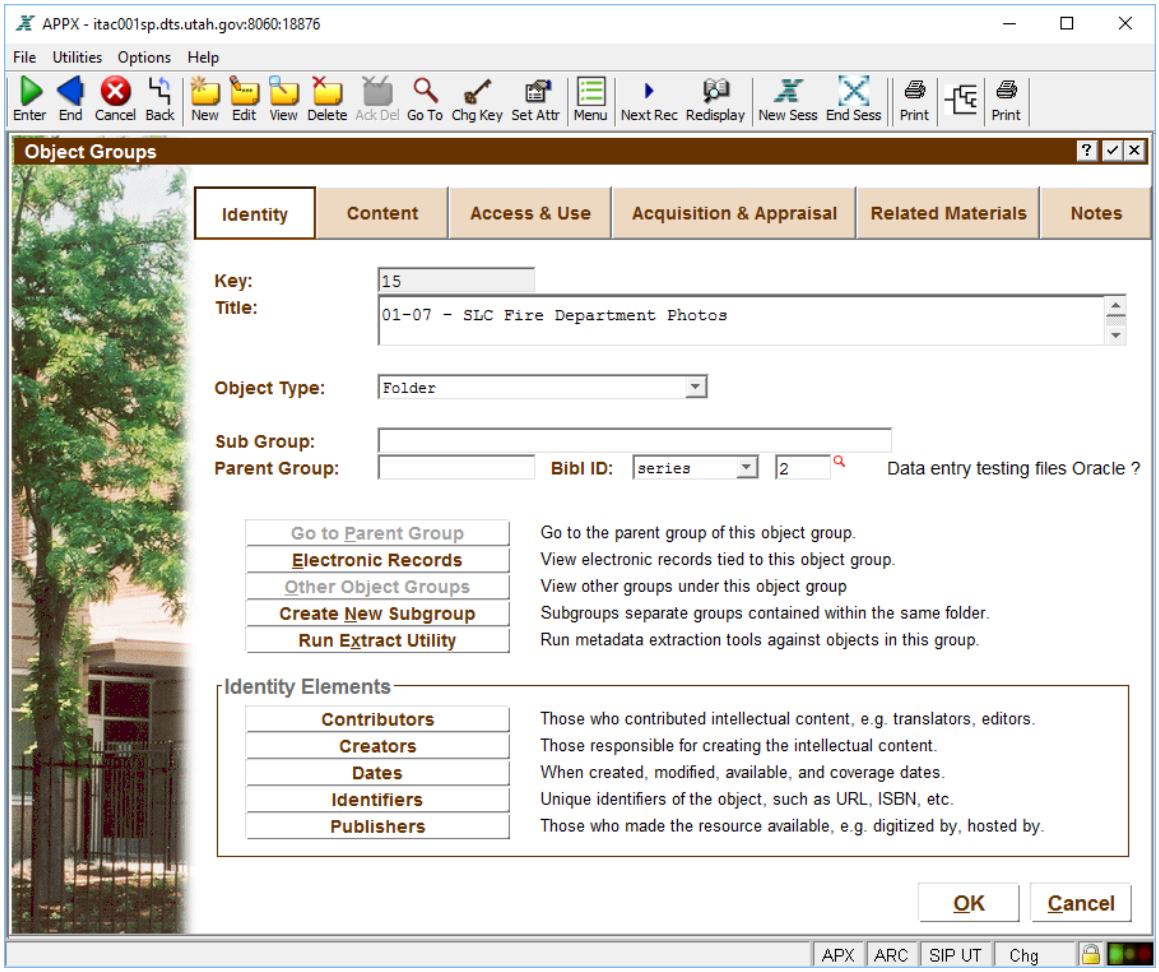
When ingesting electronic records, AXAEM offers several metadata extractors and file validators to run as part of the ingest process:

- Droid
- Jhove2
- FITS
- MediaInfo
- FFmpeg
- FGDC data extraction (for geospatial records)
- AXAEM's own email parser

Information obtained by these tools are then recorded in AXAEM fields as well as attached to the record as the original XML document that the tools produced.

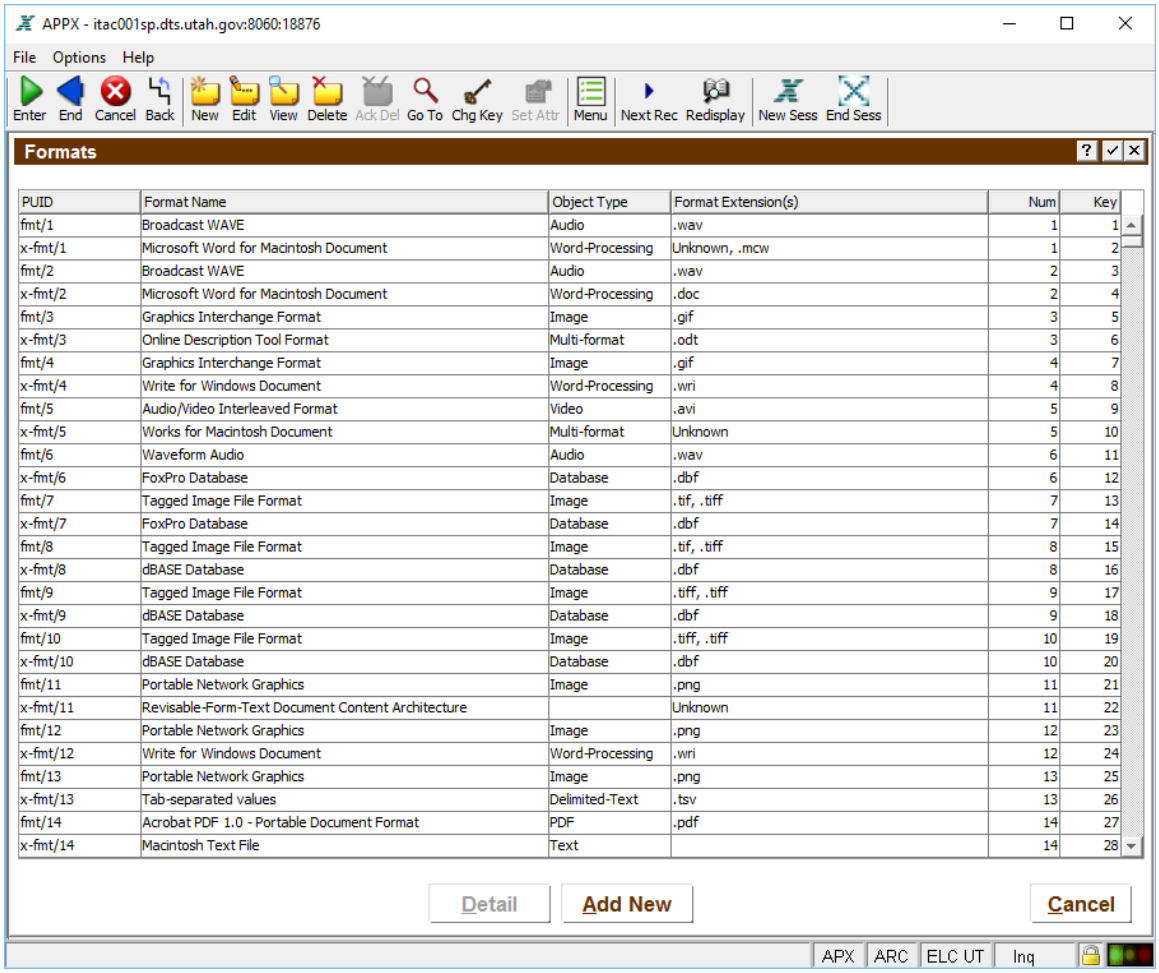
The ingest process also allows the user to run a virus check, validate a BagIt bag, determine the disposition of container files such as .zip, and generate a checksum in MD5 and SHA-256. After ingest, a checksum audit can be run at any interval chosen by the user. The audit will produce a log and a report that will display discrepancies.

After the records have been ingested, you may edit the metadata to enhance searchability. Metadata categories attempt to first follow DACS, then Dublin Core, then more specific metadata needed by certain types of records.

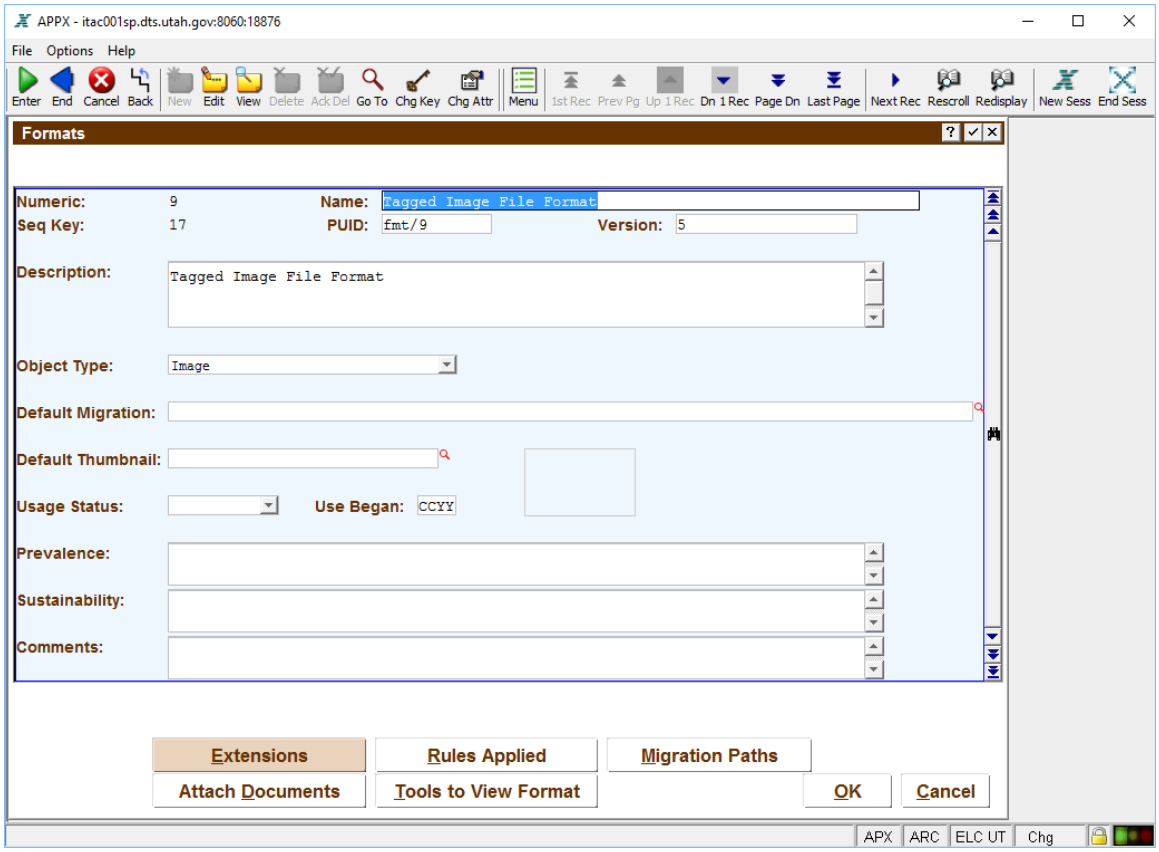


The Electronic Records menu provides you with functions to be able to manage formats and migration rules, preservation policies and actions taken, identification of media types and individual instances of media, transfer paperwork (part of the submission agreement that started with the retention schedule), and export metadata for other workflow processes.

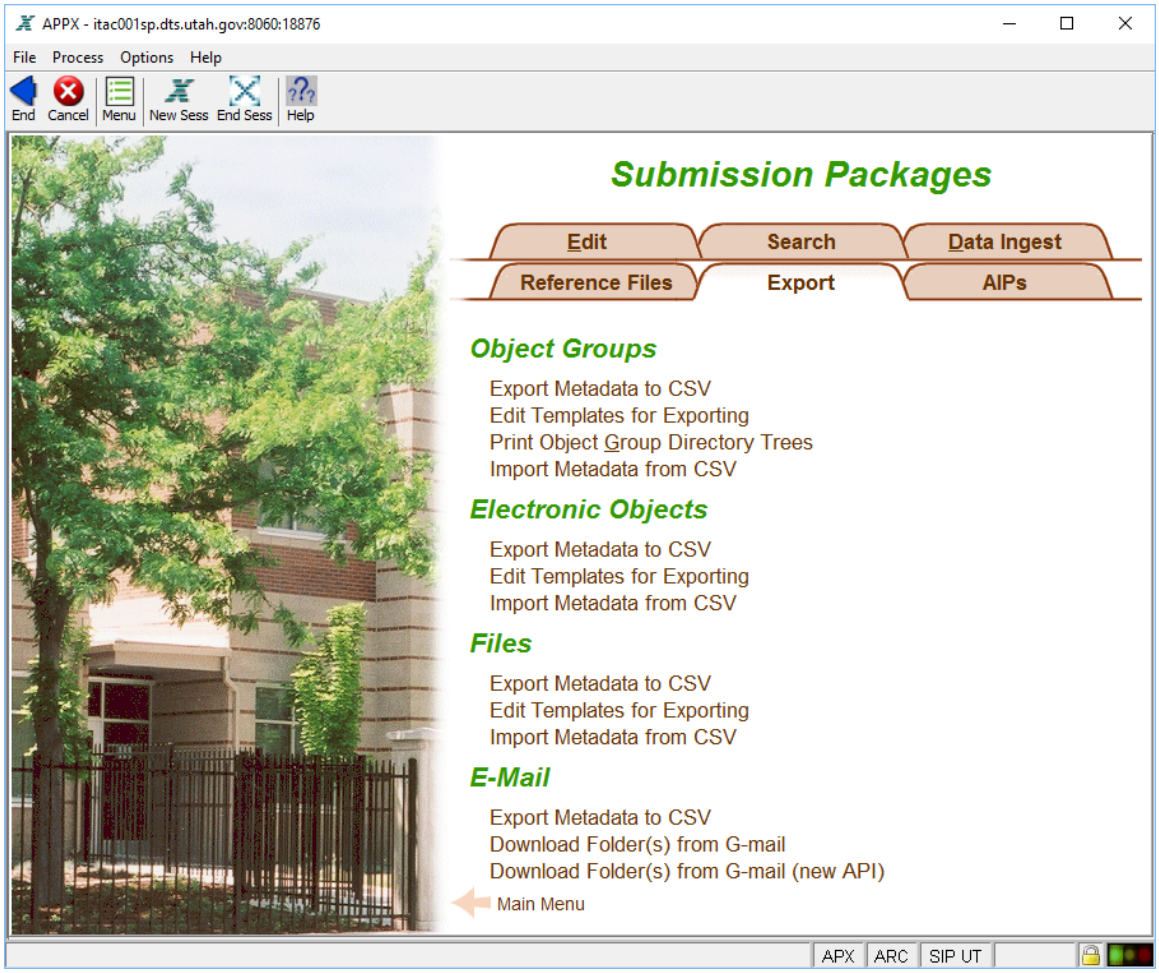
Here is part of format identification:



It leads to more detail:



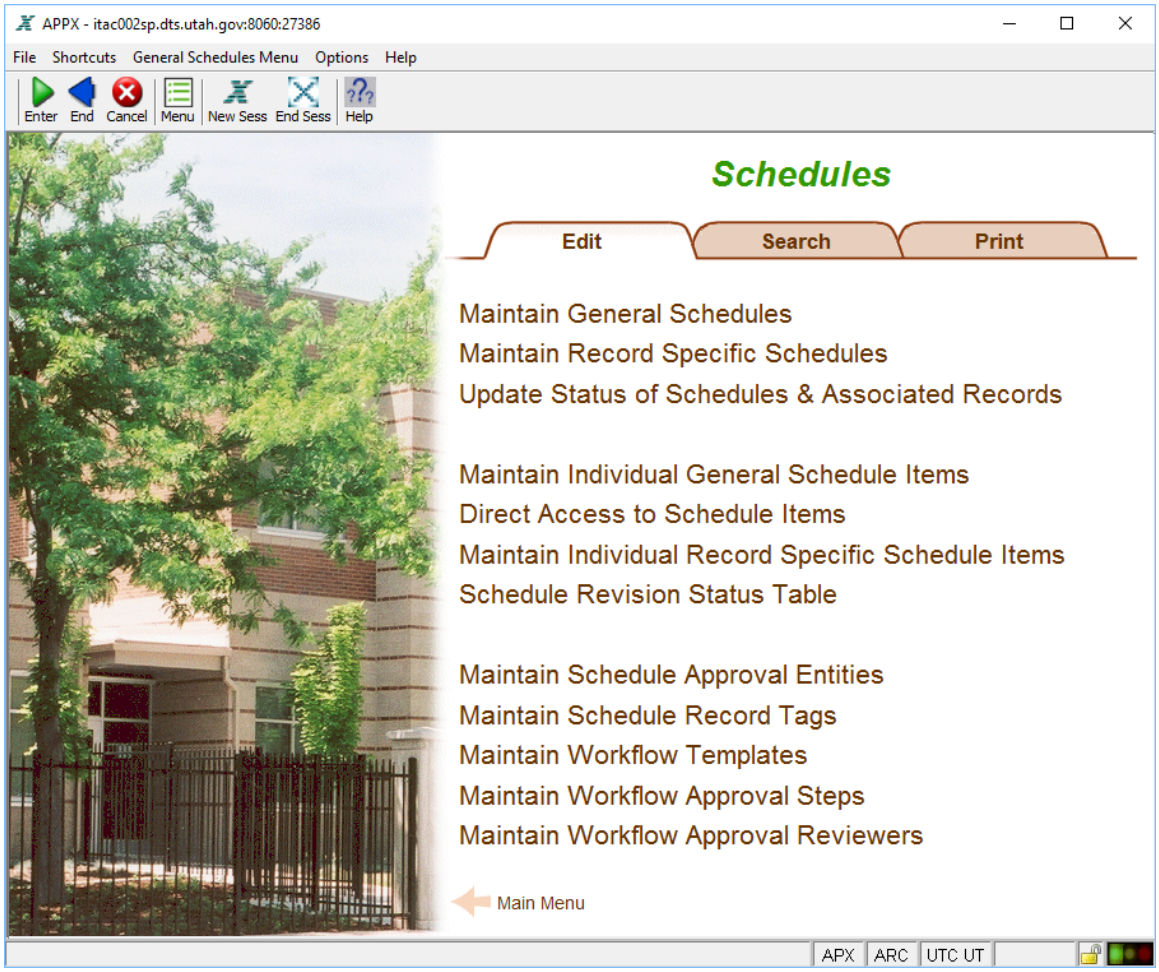
Below is the menu for exporting metadata from from the database. Note that the last option allows you to connect to any Gmail account and download its contents as .eml files. They will download to your local desktop or file server, and be named sequentially as they appear under their labels. The download retains the original data structure used in Gmail by the account holder:



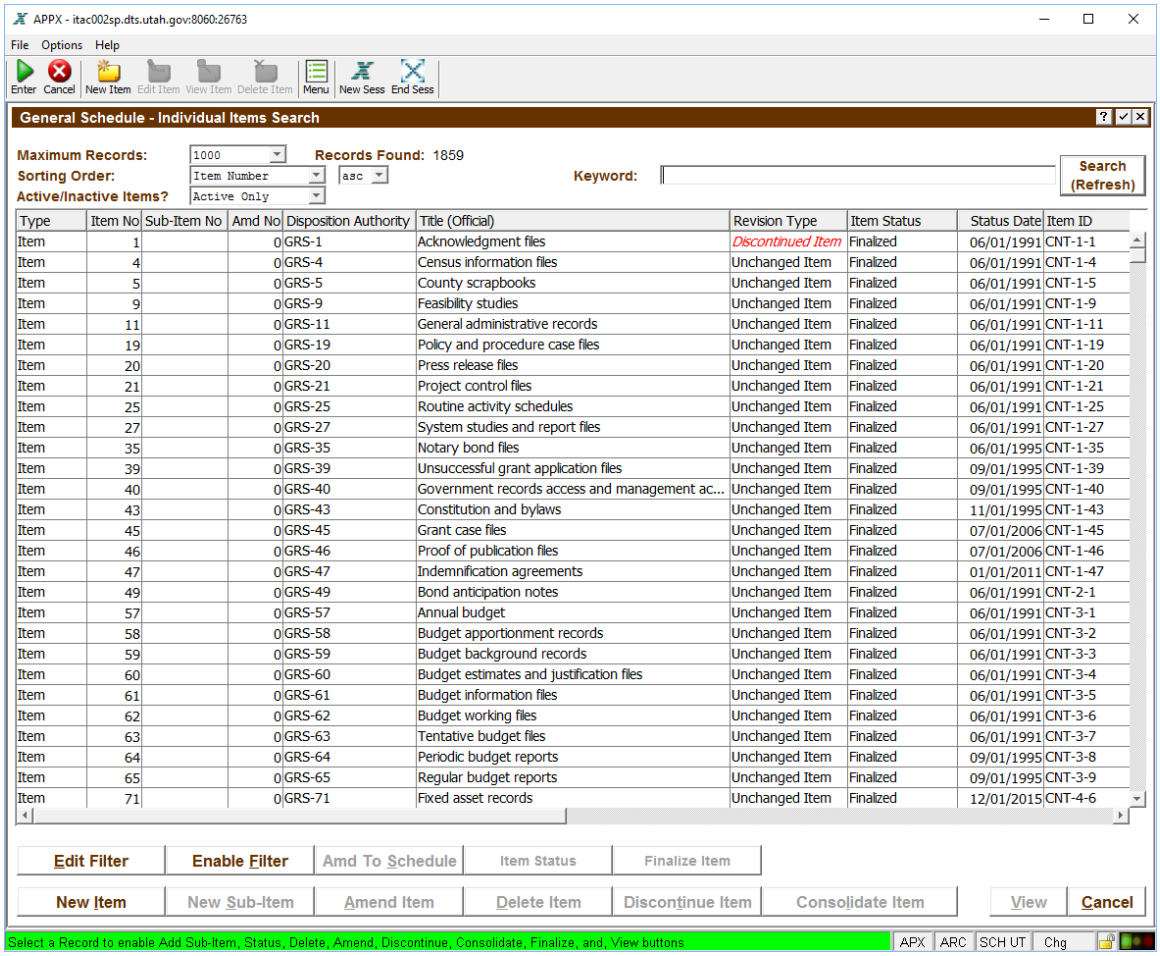
General Schedules

The General Schedules Menu is used to manage retention schedules that are applicable to many agencies. Sometimes these schedules are used for only one department if it has many identical regional offices. General schedules group records by subject: administrative records, financial records, and human resource records, so that each item relating to the subject is contained within a "schedule." Or we could choose to not group them into categories, but let each item remain independent of a general schedule, and instead provide descriptive tags that would let users group records on the fly while searching, so that one item could be tied to more than one category. Utah is now using the latter option. Creating general schedules saves us time because once an item is approved, agencies can use it without needing to go through us further. They do need to interact with us if they want to house their records at the Records Center or do microfilming, however. In that case, a series is created in AXAEM but it uses the descriptive information from the general schedule item, again saving us time.

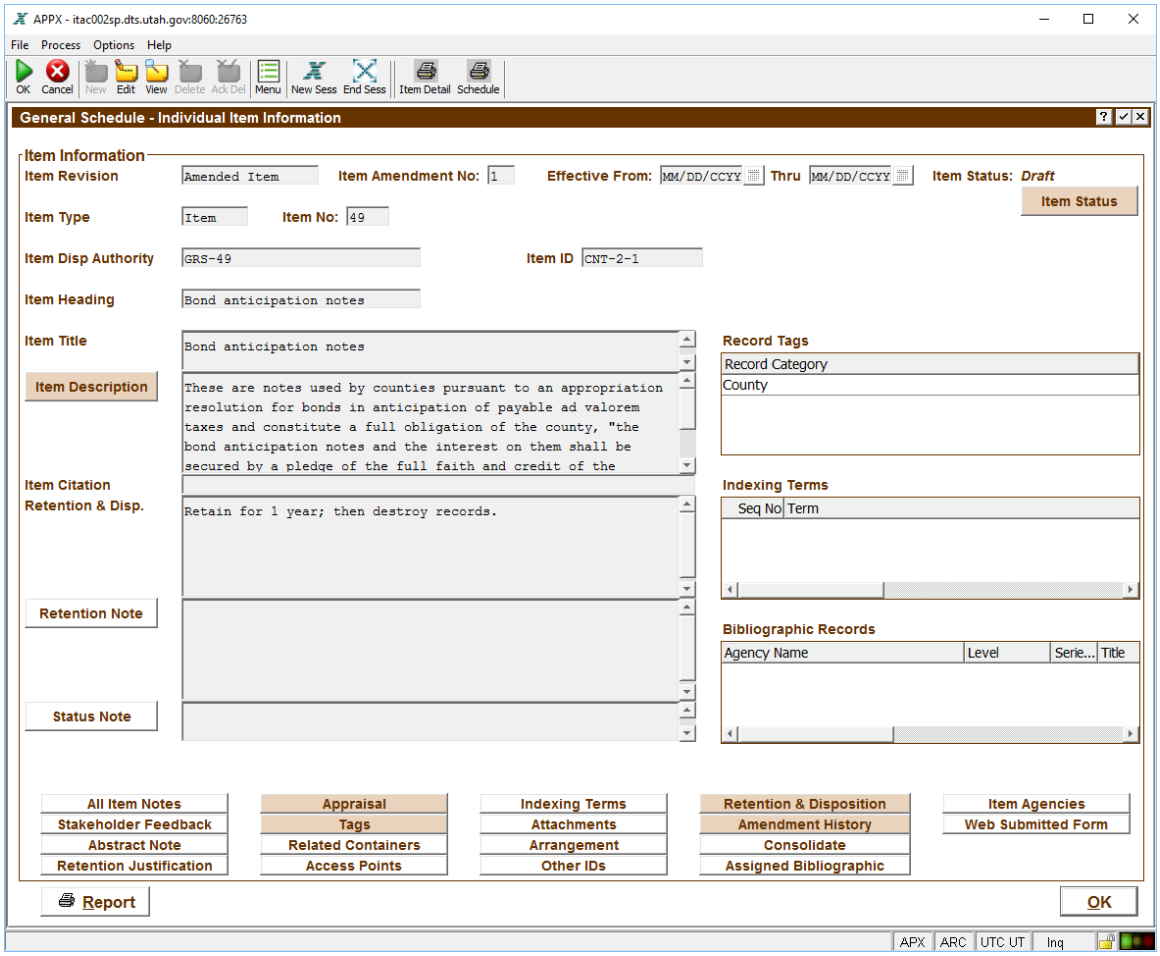
Our use of general schedules has changed over time. Independent items can now be owned by one or more entities, if the general schedule item is unique enough to be entity-based. Each item can be approved independently, amended, discontinued, or consolidated with one or more other items. Items can also have sub-items. Each version is stored for reference.



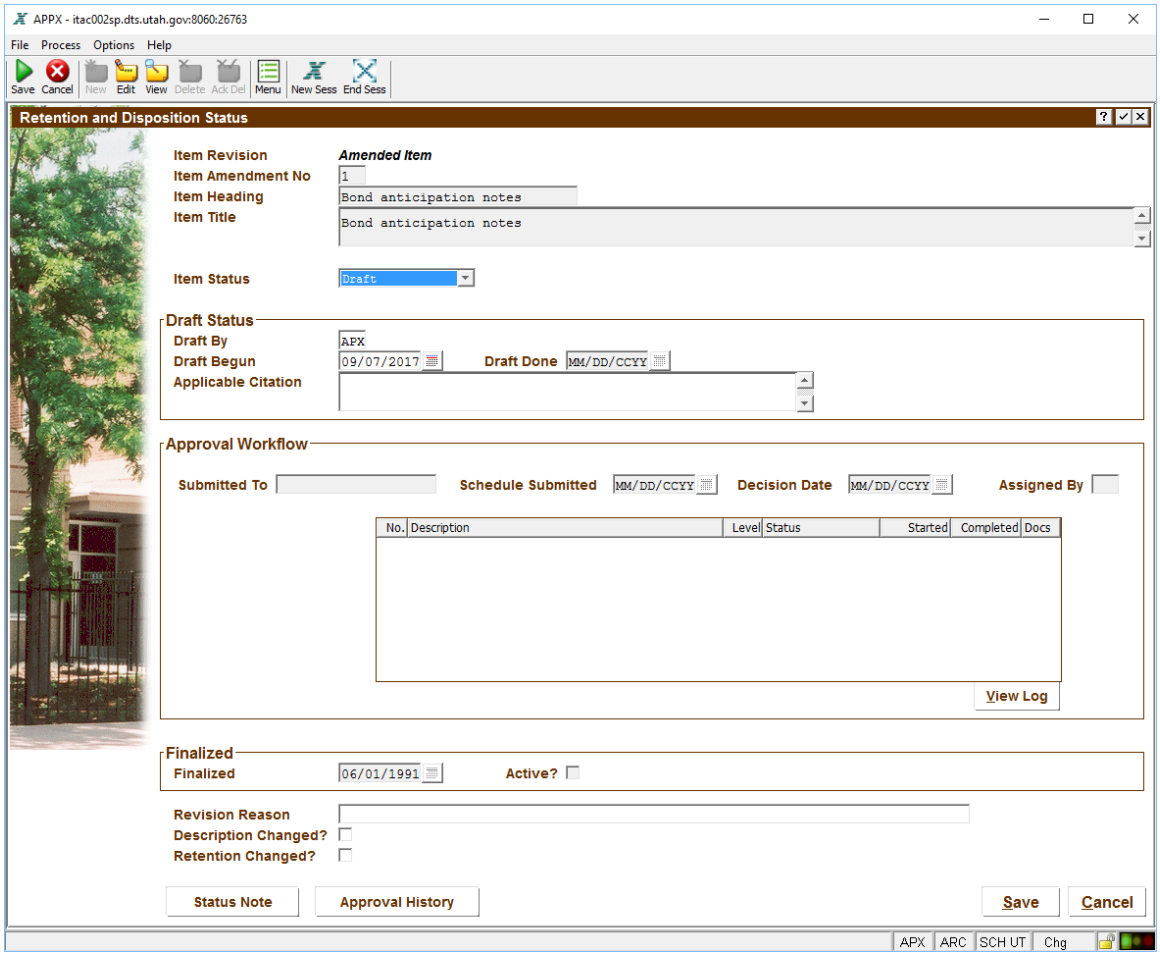
Click on Maintain Individual General Schedule Items:



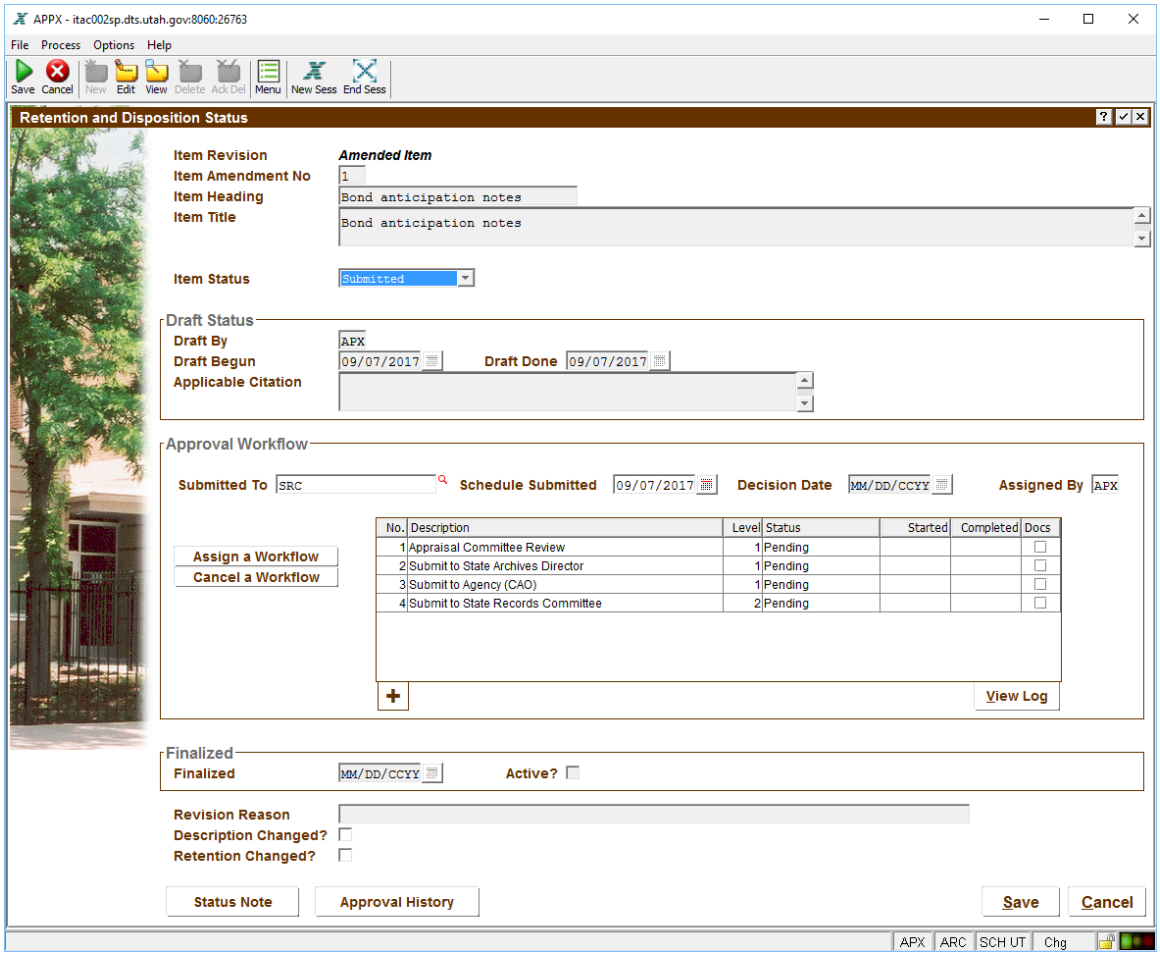
Click on an item, and then click Amend Item:



When amending an item, a copy is made and given an amendment number. Metadata can then be edited. To send the amended item through the approval process, click Item Status:



The item status by default starts as a draft. Change the value to Ready to Submit and click Save. Go back into Item Status, and change the status to Submitted. The Approval Workflow can then be set:

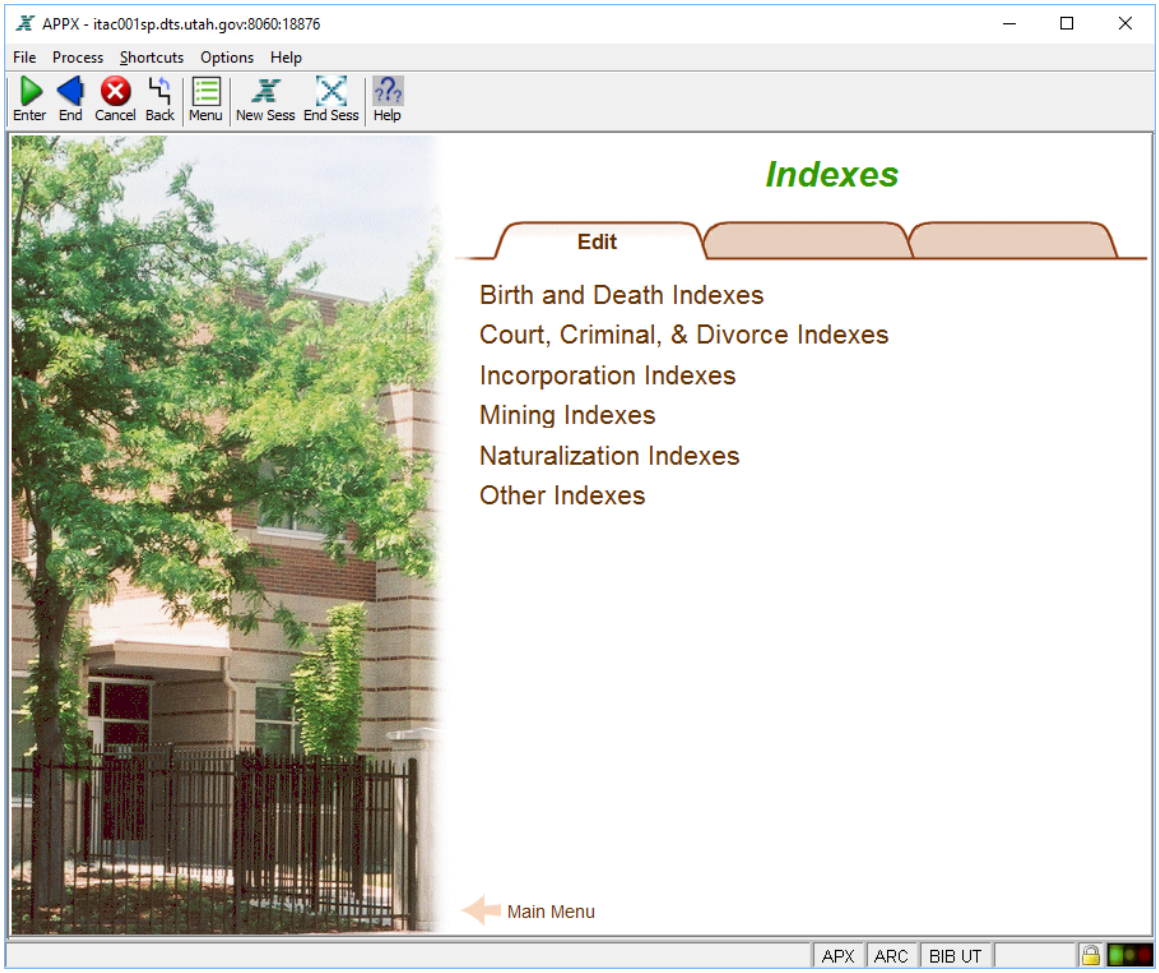


In the above example, this item must traverse through four approval levels before it is finalized. Workflow rules can be created through processes on the General Schedule menu.

Exit to Main Menu.

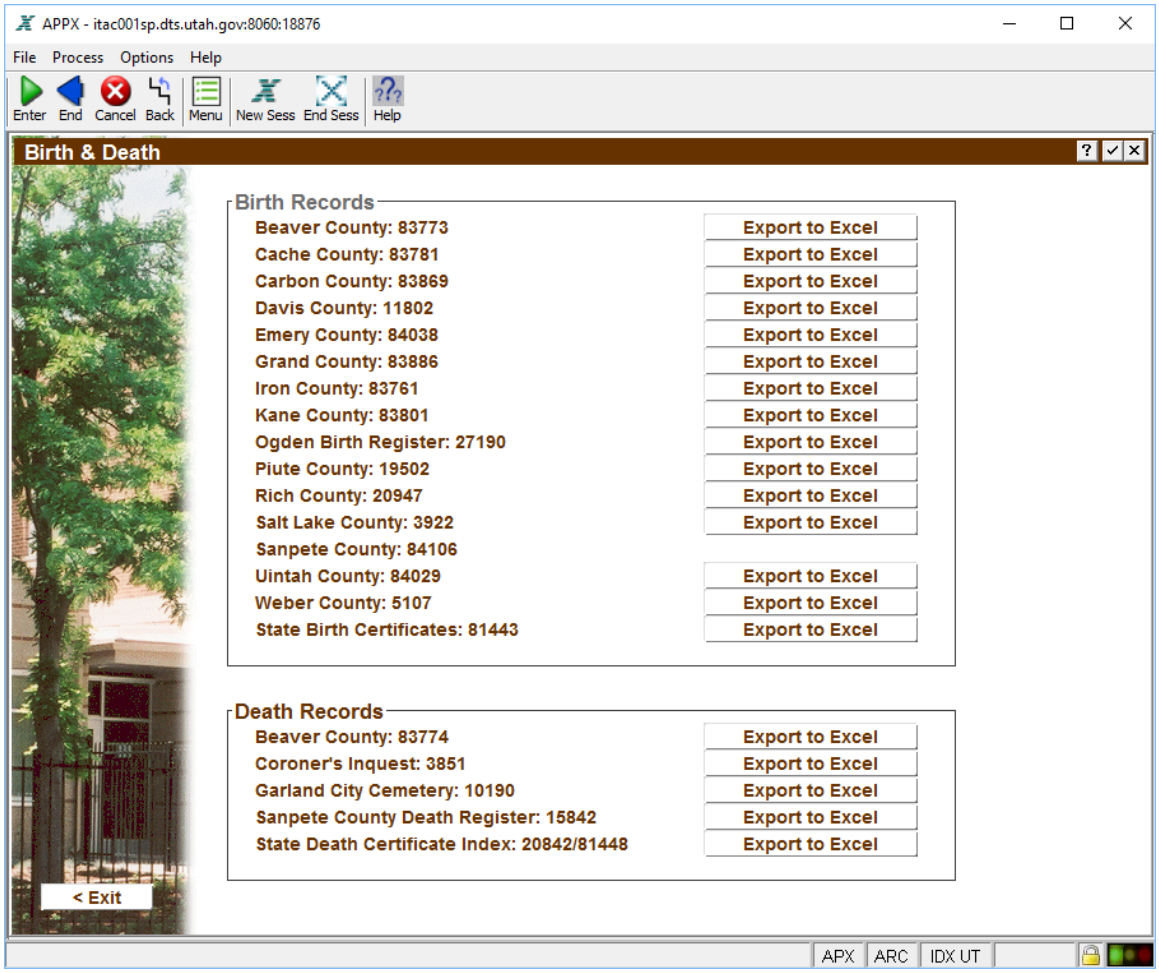
Indexes

The Indexes Menu provides direct access to series indexes, which index everything from birth records to mining claims. Indexes have been created by staff, volunteers, or the originating agency to make individual records more visible to the general public. Usually the items of interest are names of people or corporations. Series that are indexed are searchable through our website by these fields.

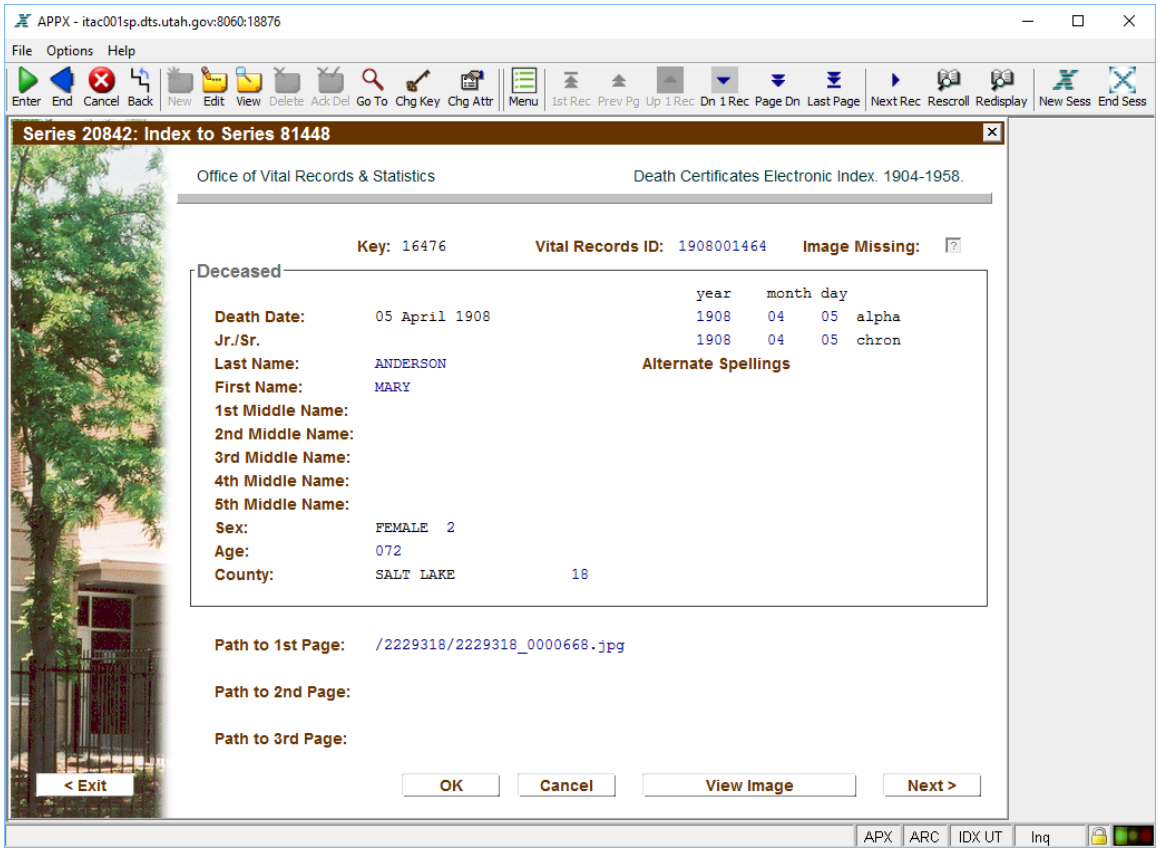


The menu lists indexes first by general category, and then by agency and title. The website will search all indexes simultaneously. Going to individual indexes here will search just that particular index. Or you may edit index entries through these screens.

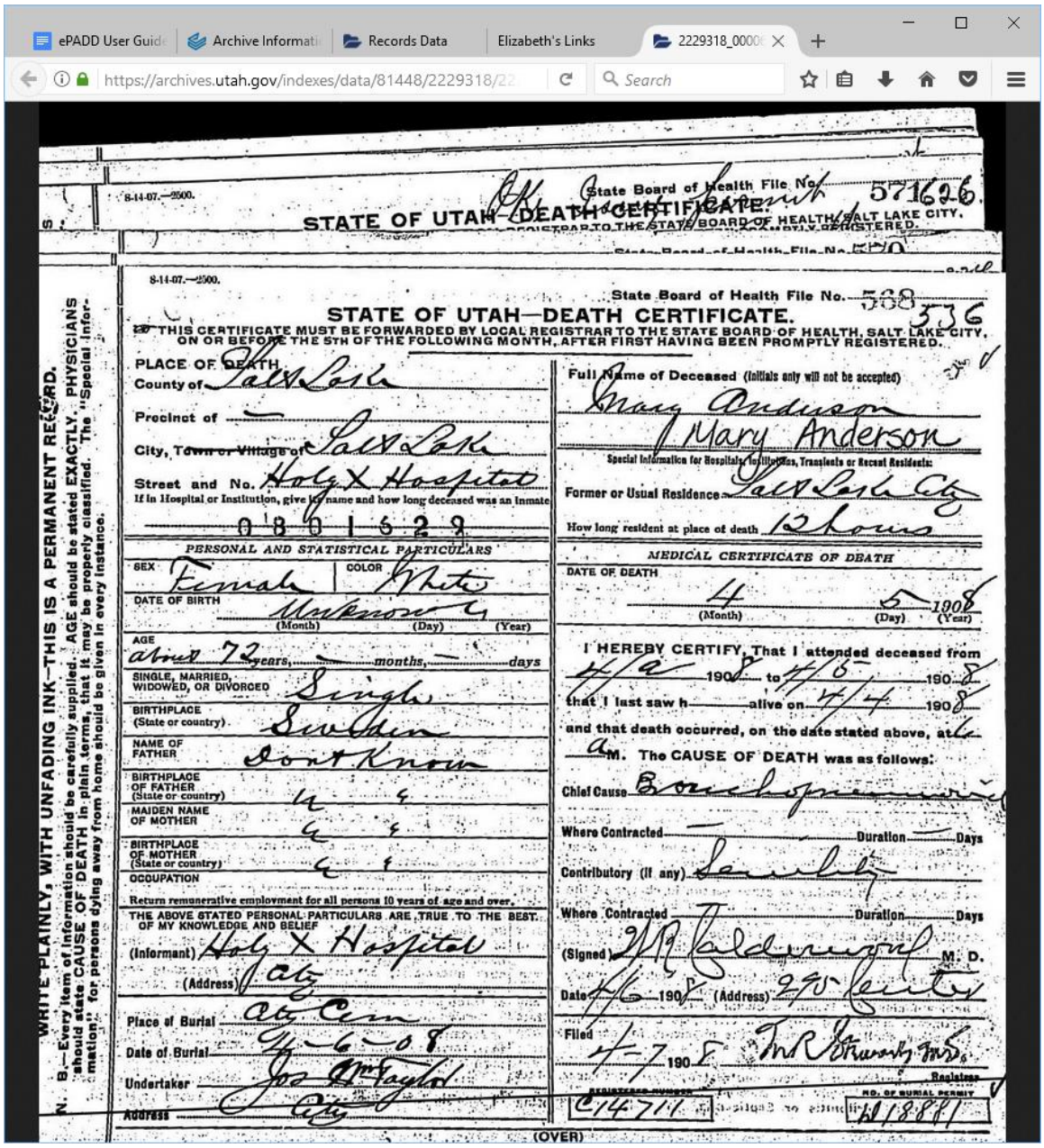
Data from individual indexes can be exported to an Excel spreadsheet to be used as metadata for digital collections, or to share with requesting entities:



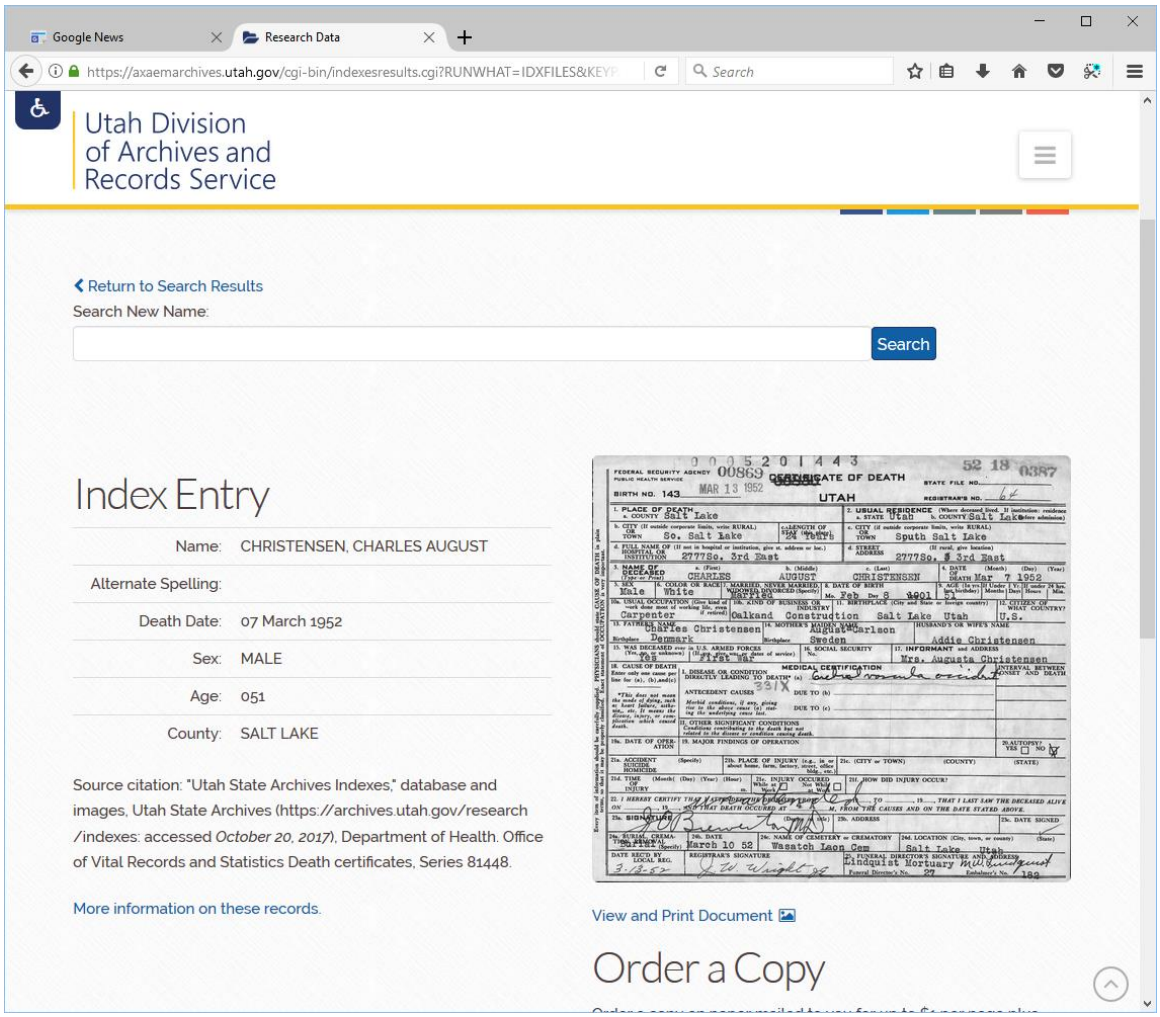
Click the State Death Certificate Index (at the bottom of the list above) to view a record and its image:



Click View Image to see the linked death certificate:

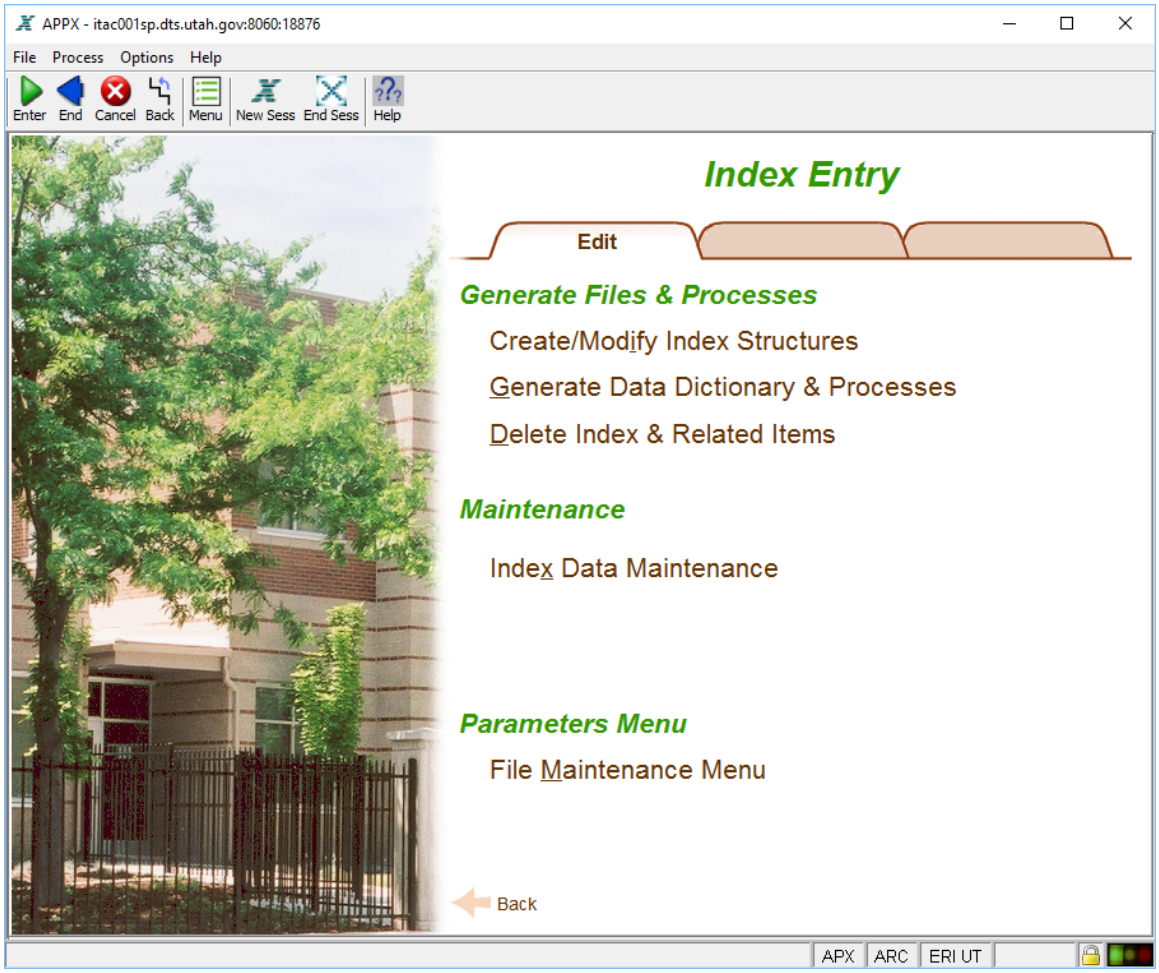


To access these records from the Archives' website, navigate to the search page at https://archives.utah.gov/research/indexes/index.html, and type a name. Click on the hits to view the record:

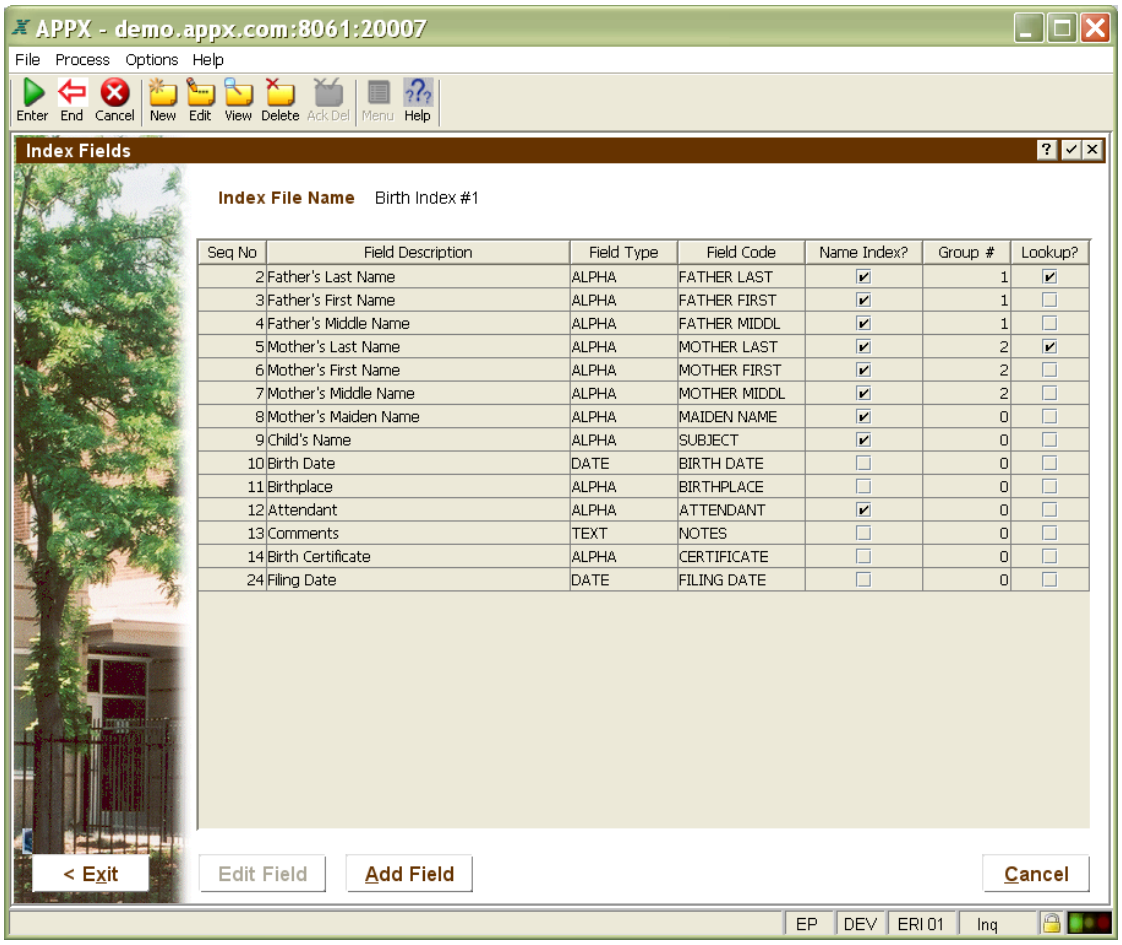


Close browser, then exit to Main Menu

To add new indexes, an interface has been created which will automatically add new tables and code behind the scenes, giving users direct control over what becomes searchable online without requiring additional programming.

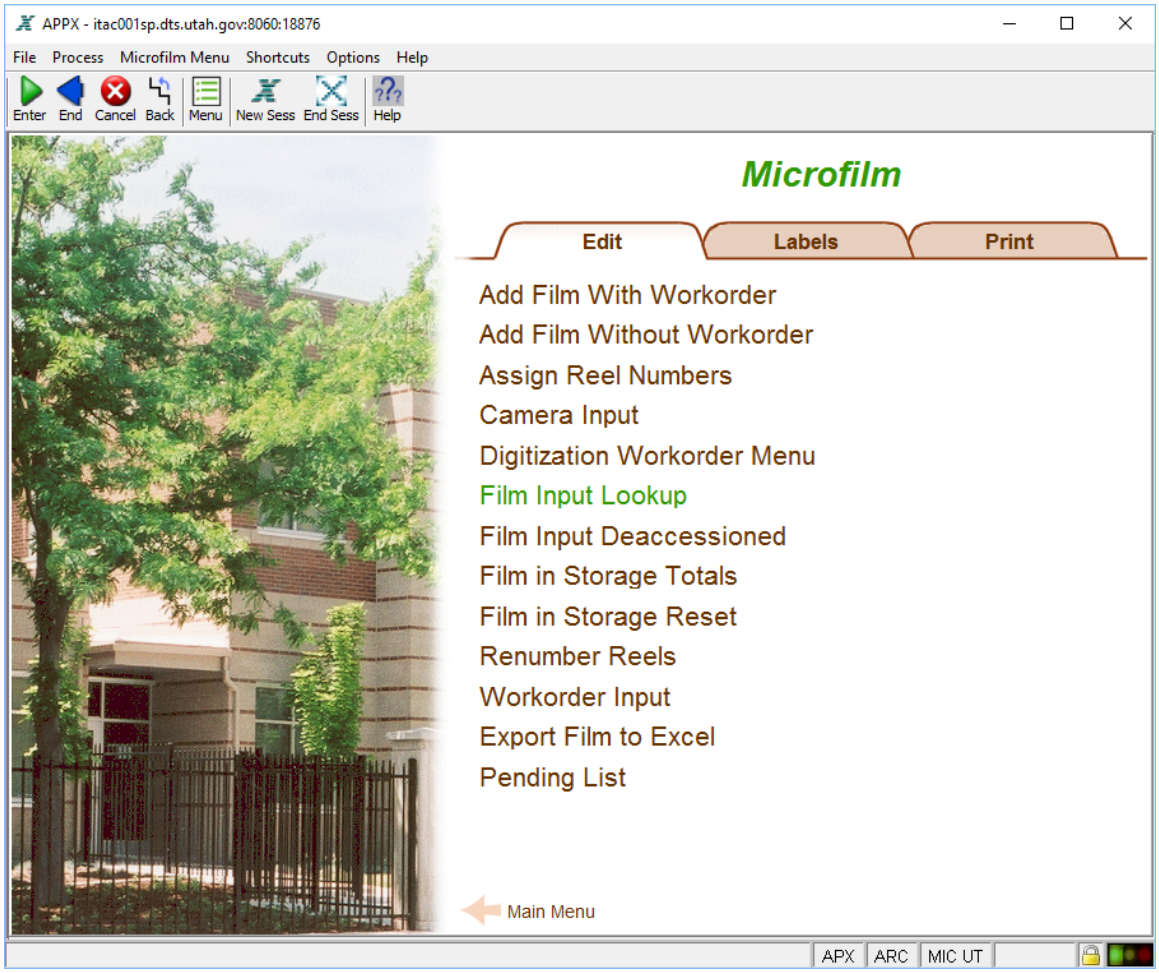


New indexes can be added, and fields of various types can be assigned to the index, and grouped for searching purposes. Personal names, for instance, should be searchable as a name group (last, first, and middle names) as well as individually (just last name).

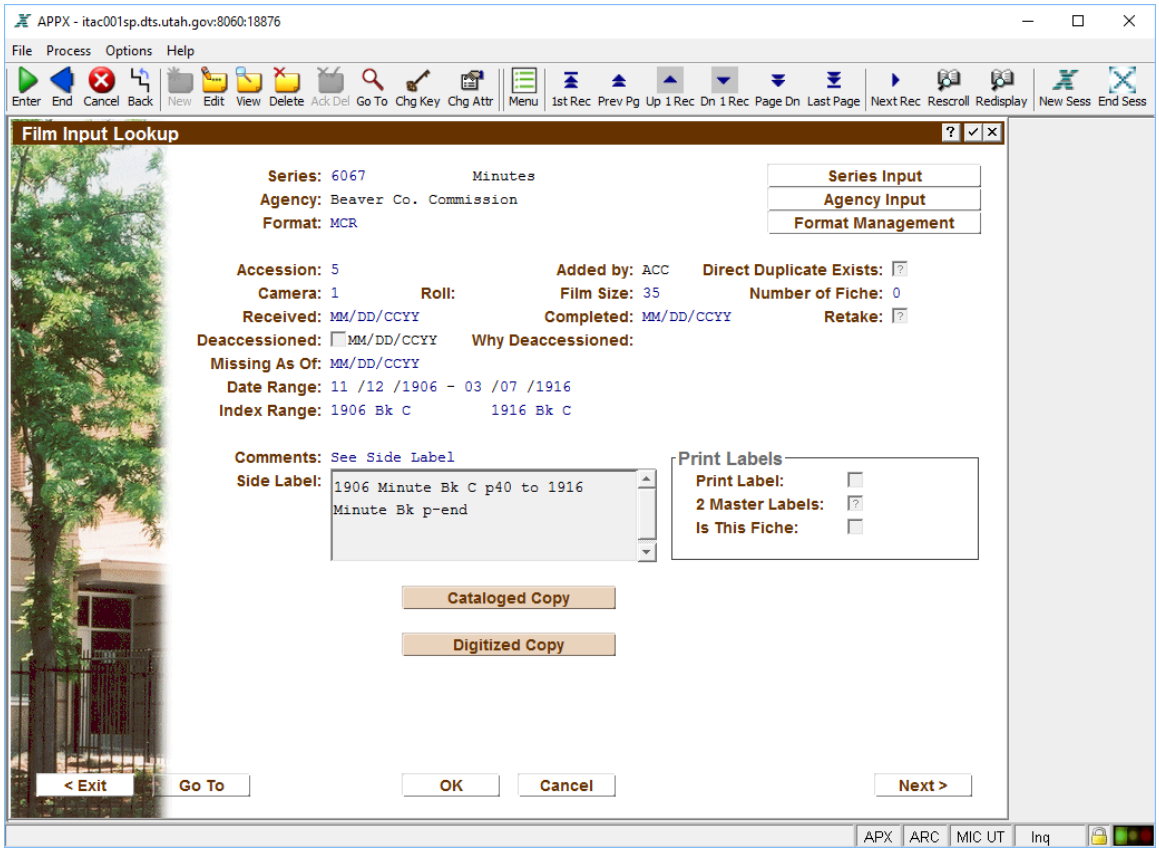


Microfilm

The Microfilm Menu is used to accession and track microfilm. Records may be filmed at the Archives, in the agency, or elsewhere, but the film is always processed (developed) by us. Usually the master copy is also retained by us. Agencies may request duplicate copies of film, also known as the diazo copy. Another diazo copy may be made for research use, as needed, or agencies may request that film be digitized and provided on an electronic medium. As each film comes in for processing, it gets added to the system. At that time it is tied to a series, and the date spans and content ranges are recorded. Each piece of film receives an accession number, which is automatically-generated and reflects the sequence count number of all the film processed by the Archives (so the number keeps going up, regardless of series or other demarcations). The unique key for film, however, consists of three parts: the series number, the format type (usually MCR or FCH for microfilm and microfiche, respectively), and the accession number. This is necessary to differentiate logical control from physical control. The intellectual separation of records is subject to change, but film can't always be snipped.

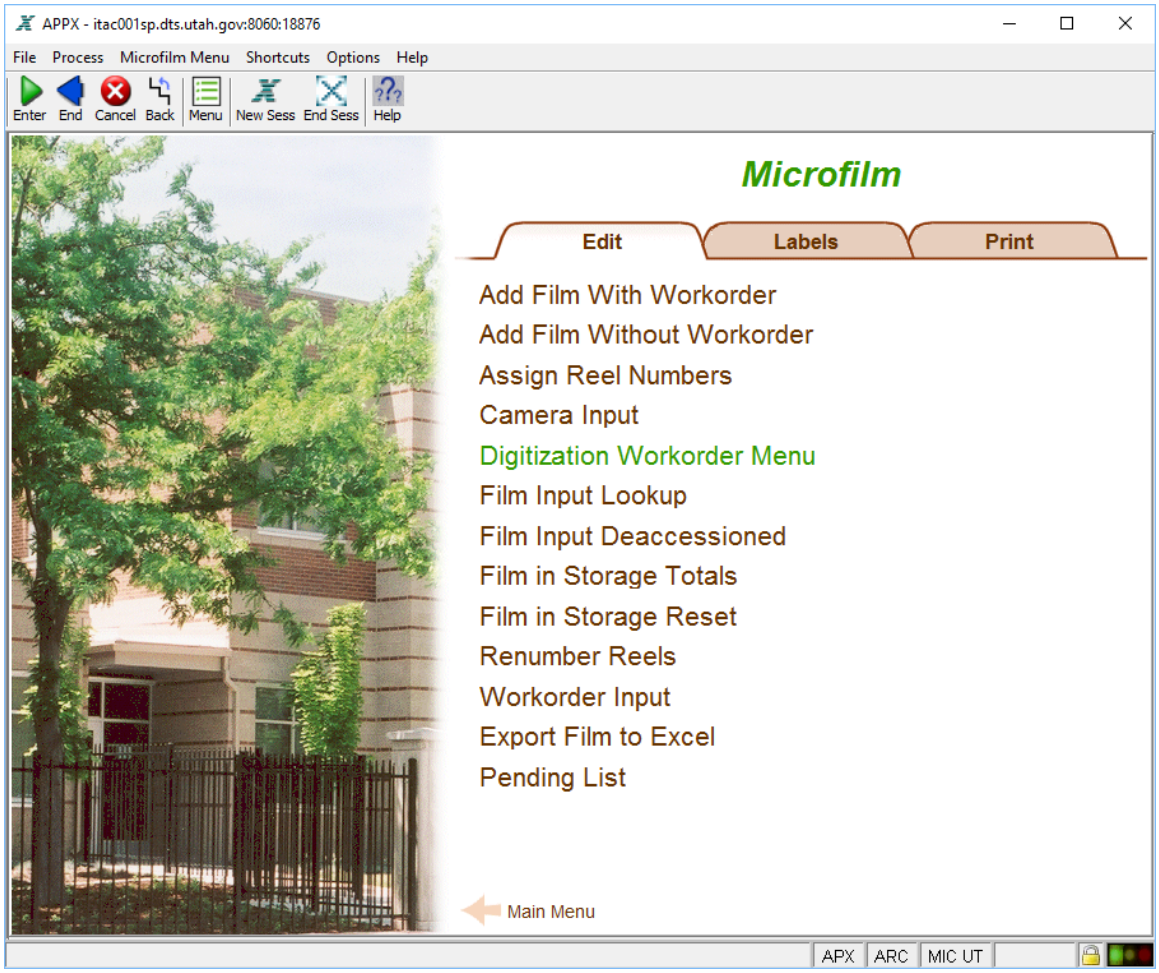


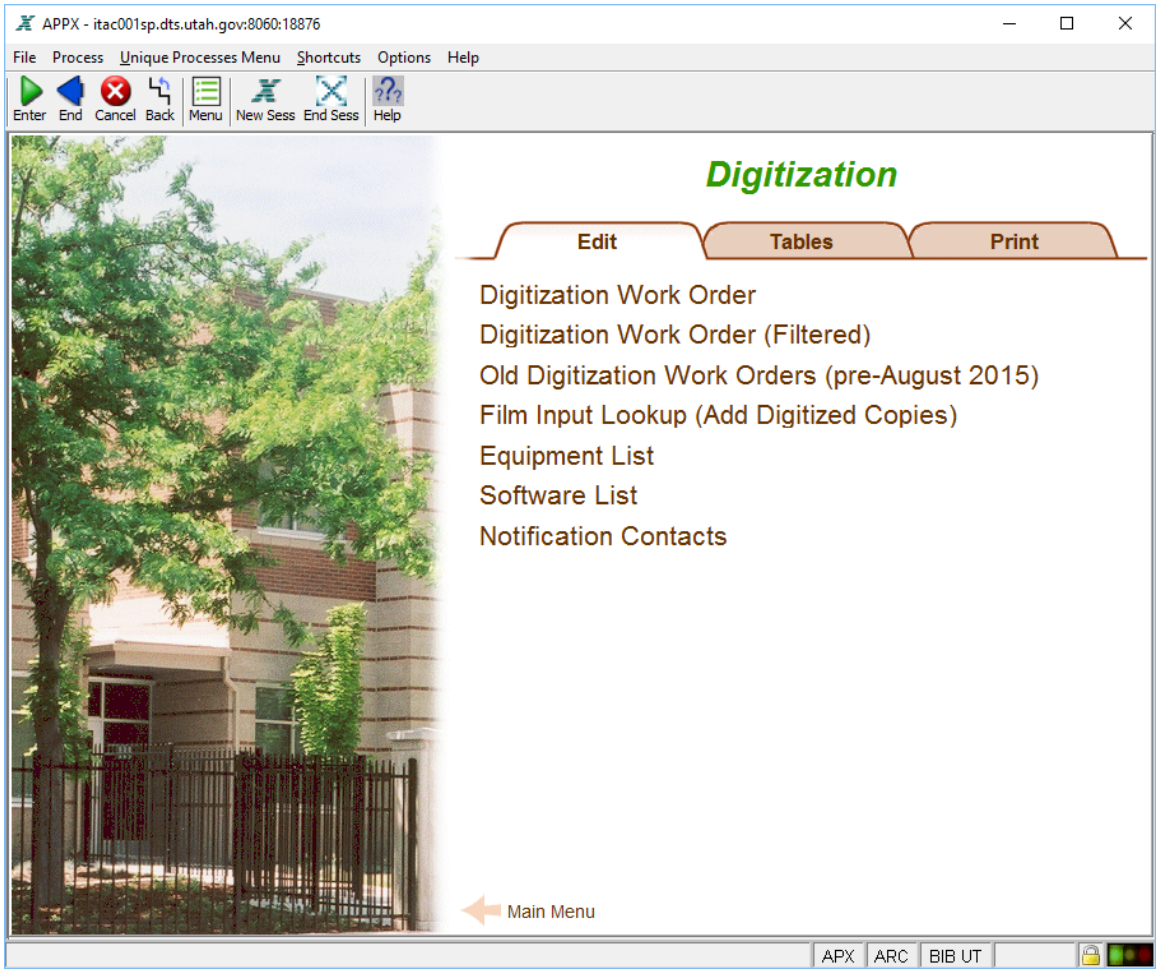
Click on Film Input Lookup and press Enter to view a microfilm record:



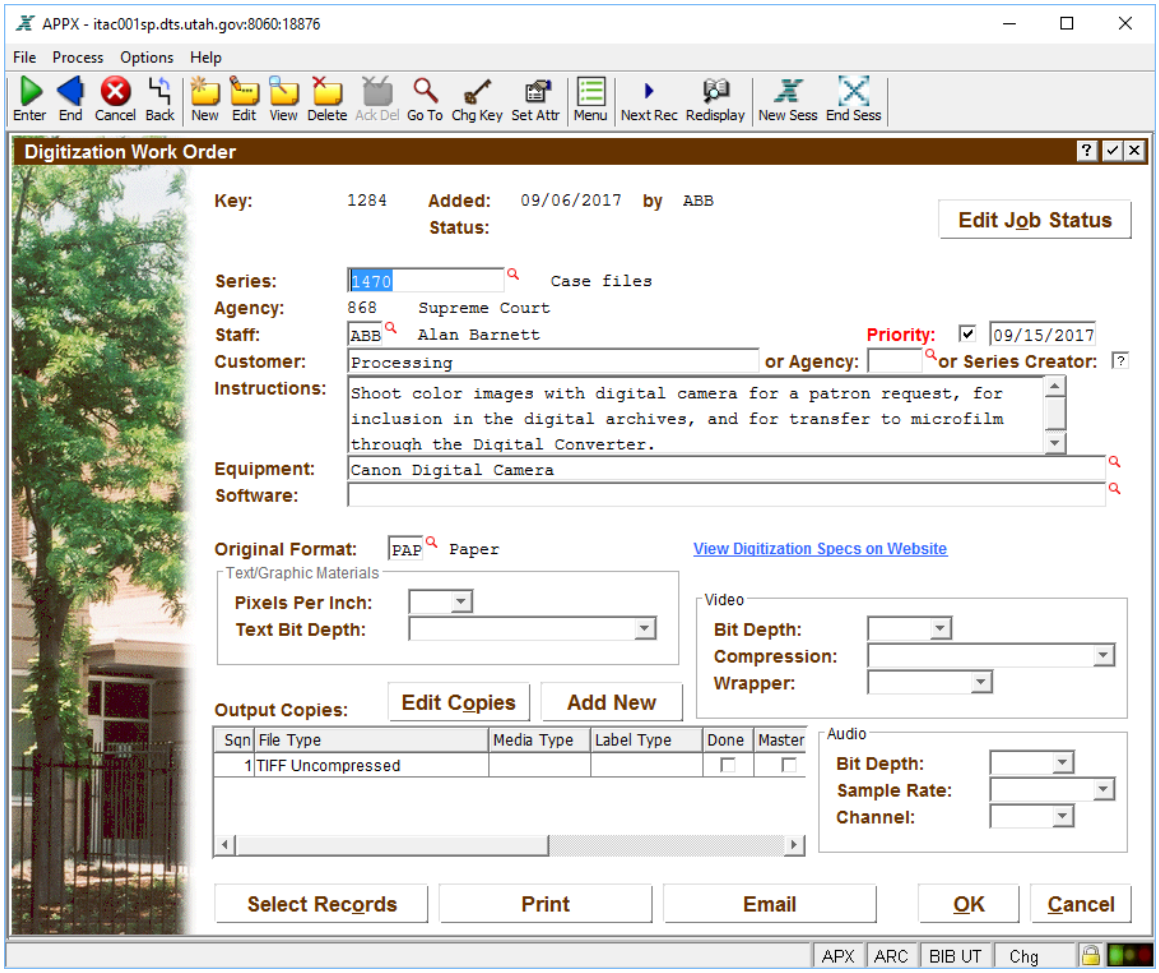
Exit back to the Microfilm menu.

We also record digitization processes, which often (but not always) come from film being digitized. Click on Digitization Workorder Menu:


APPX - itac001sp.dts.utah.gov:8060:18876
File Process Microfilm Menu Shortcuts Options Help
Enter End Cancel Back Menu New Sess End Sess Help
Microfilm
Edit
Labels
Print
Add Film With Workorder
Add Film Without Workorder
Assign Reel Numbers
Camera Input
Digitization Workorder Menu
Film Input Lookup
Film Input Deaccessioned
Film in Storage Totals
Film in Storage Reset
Renumber Reels
Workorder Input
Export Film to Excel
Pending List
Main Menu
APX ARC MIC UT



To view work orders, click on Digitization Work Order:

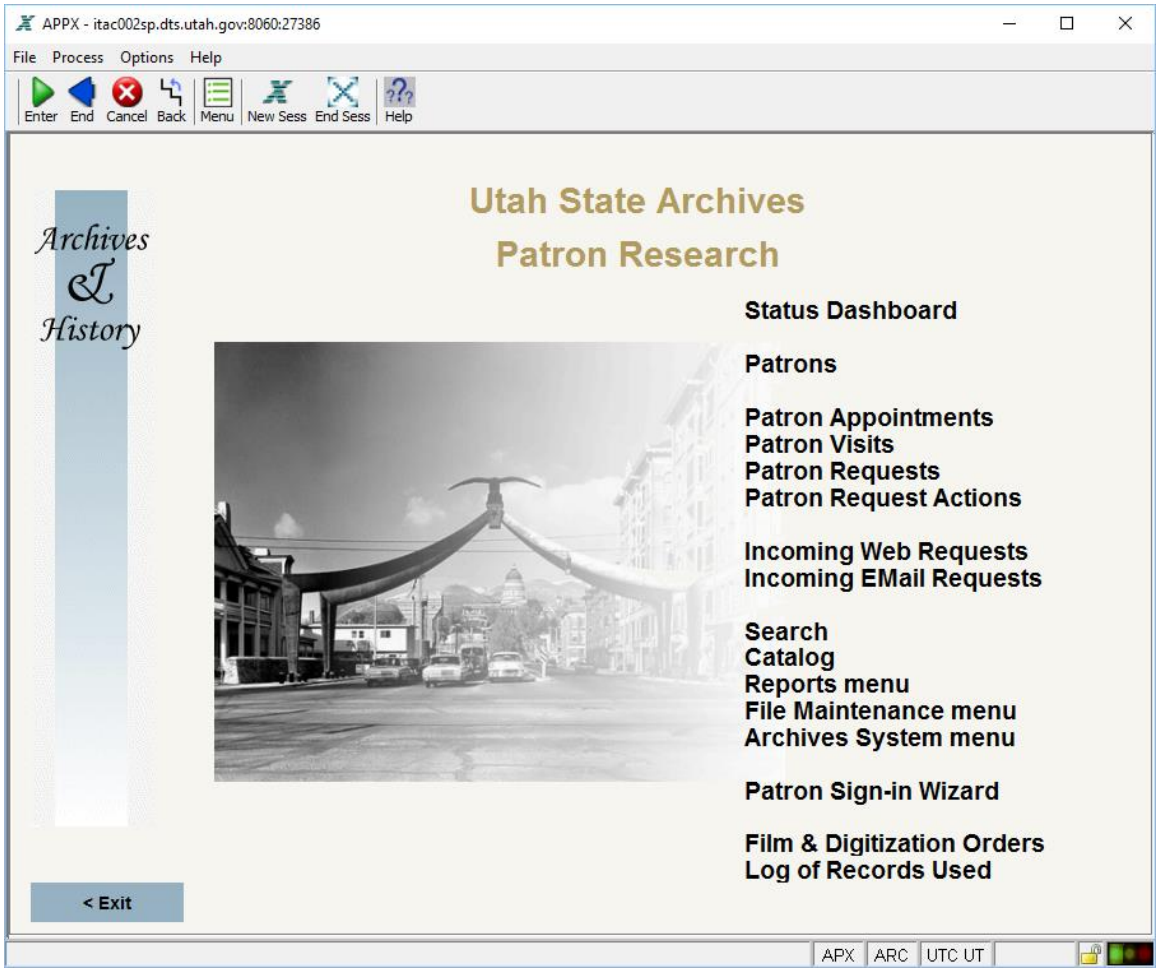


This order will identify what is needed and by whom, the technical specifications, and type of output. The metadata identified here will be carried through to digitized collections posted online.

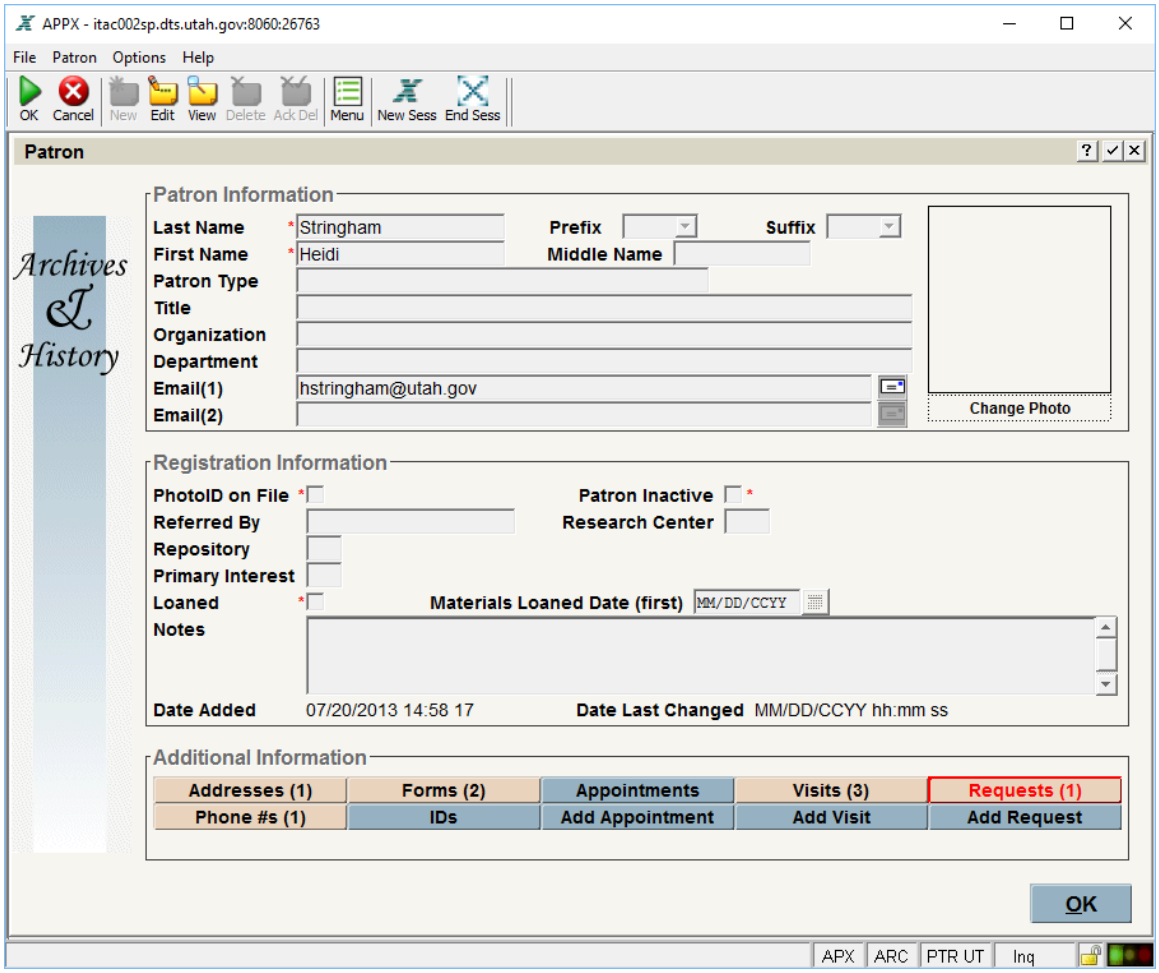
Exit to Main Menu

Patron Registration

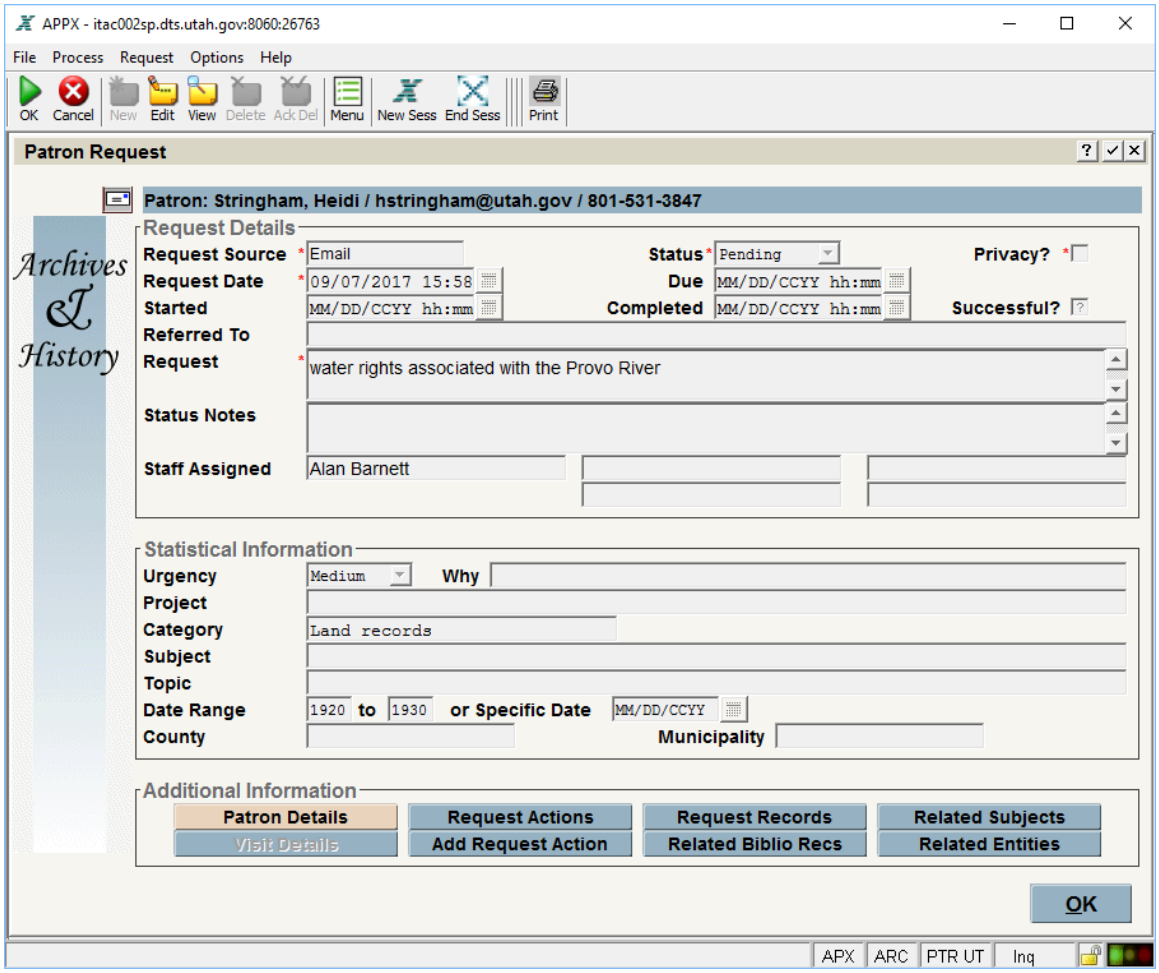
The Patron Registration menu is used to identify patrons, their research questions, and the actions that staff members have taken (or need to take) regarding those questions. Specific records used (by box barcode number) may also be recorded. Due to security restrictions placed upon access to patron information, this menu is only available to Research Room staff, as their login will take them directly to it. The design theme is different because two different divisions of government share Research Room services in Utah:



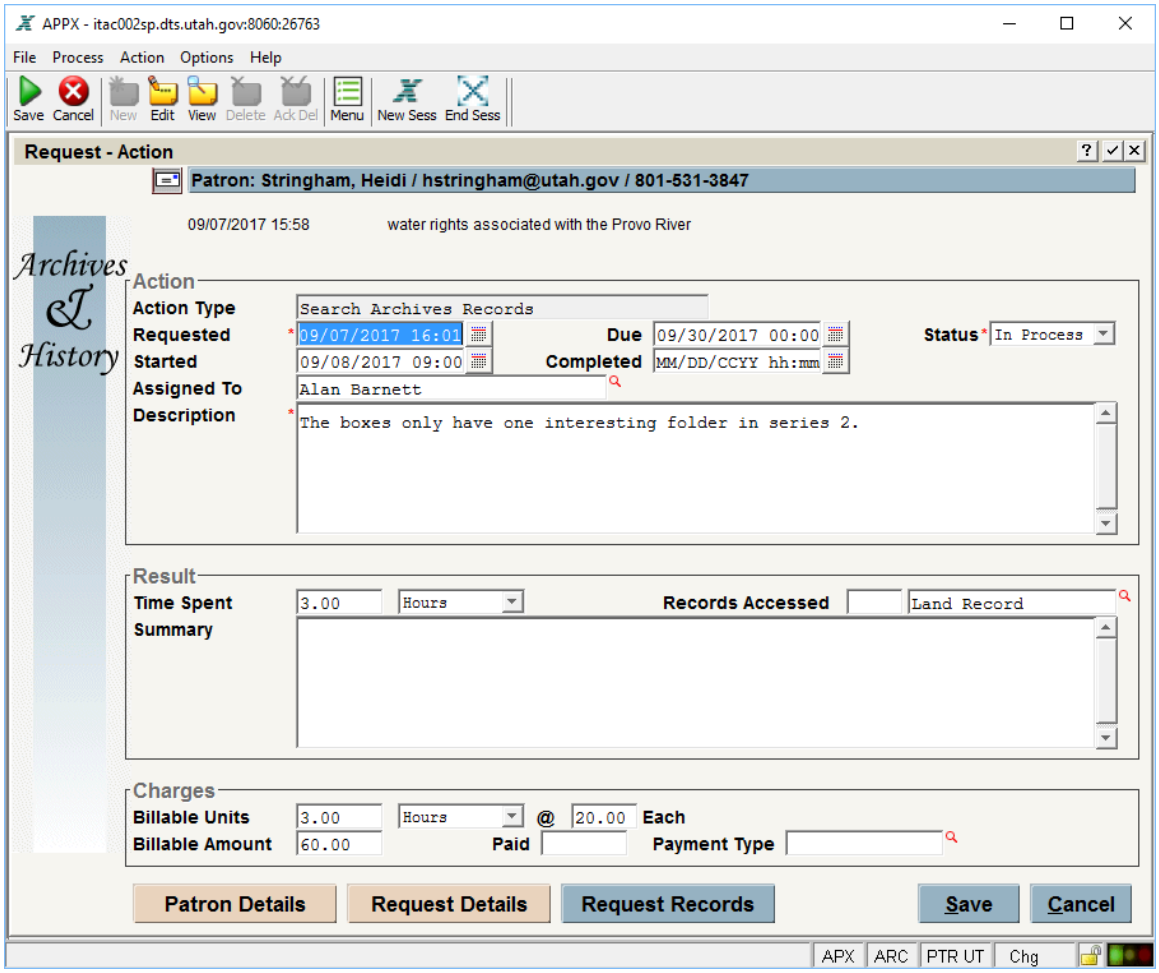
Patrons and their requests are recorded here regardless of the method of contact (walk-in, email, phone, etc). Visitors sign in and agree to terms and conditions. Requests document all the actions taken by staff in response to the request.



This identifies the contact information of the patron. Click on the Requests button (bottom right):

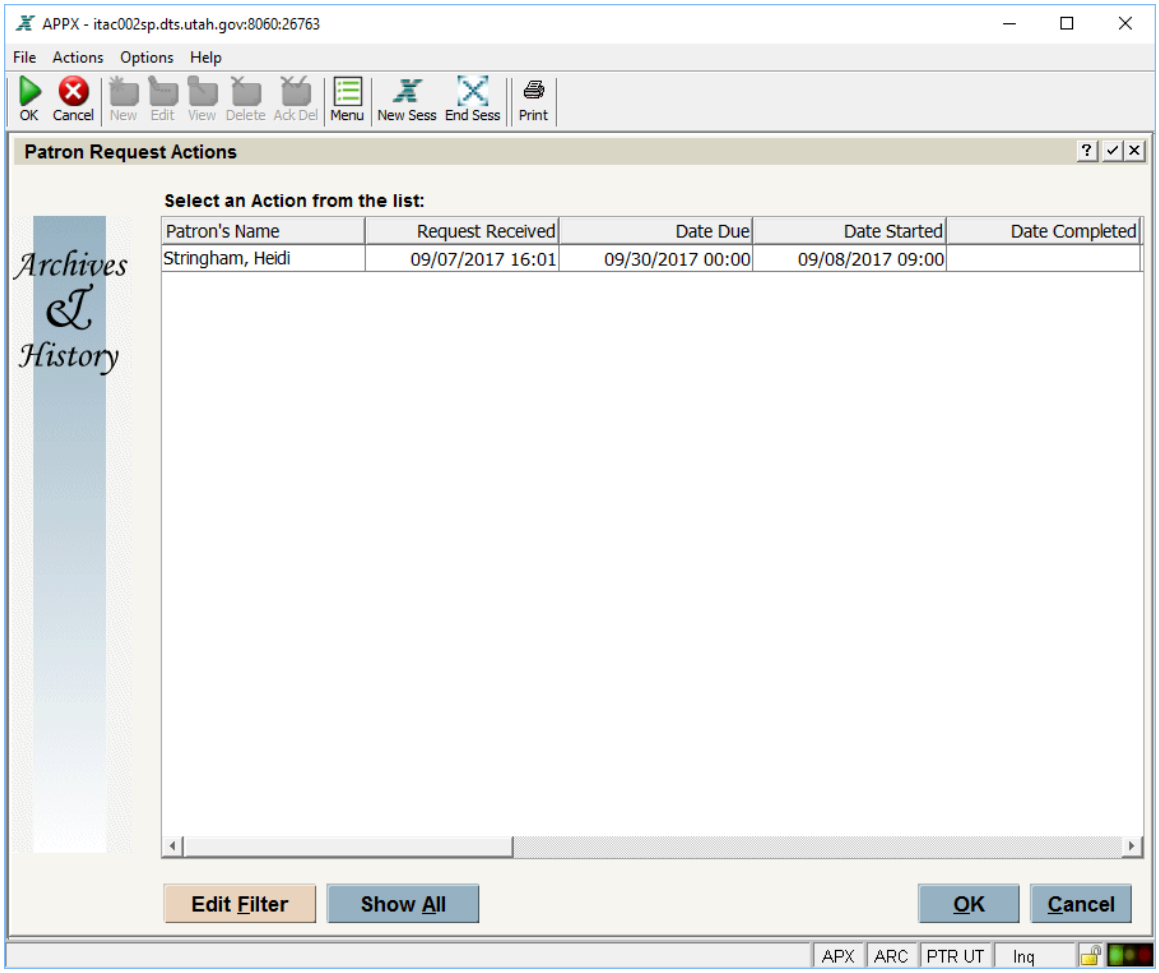


Each question the patron asks should be recorded. Data being recorded is designed to assist in gathering specific types of statistics. Values in the drop-down menus may be changed to reflect institution needs. Click the Request Actions button:



Each action that a staff member takes in regard to the research question is recorded. Different action types offer different fields on screen appropriate for the purpose. These actions communicate to others on staff the status of the question and what needs doing next.

Exit back to the Patron Registration main menu (called Utah History Research Center). Click the Pending List option:

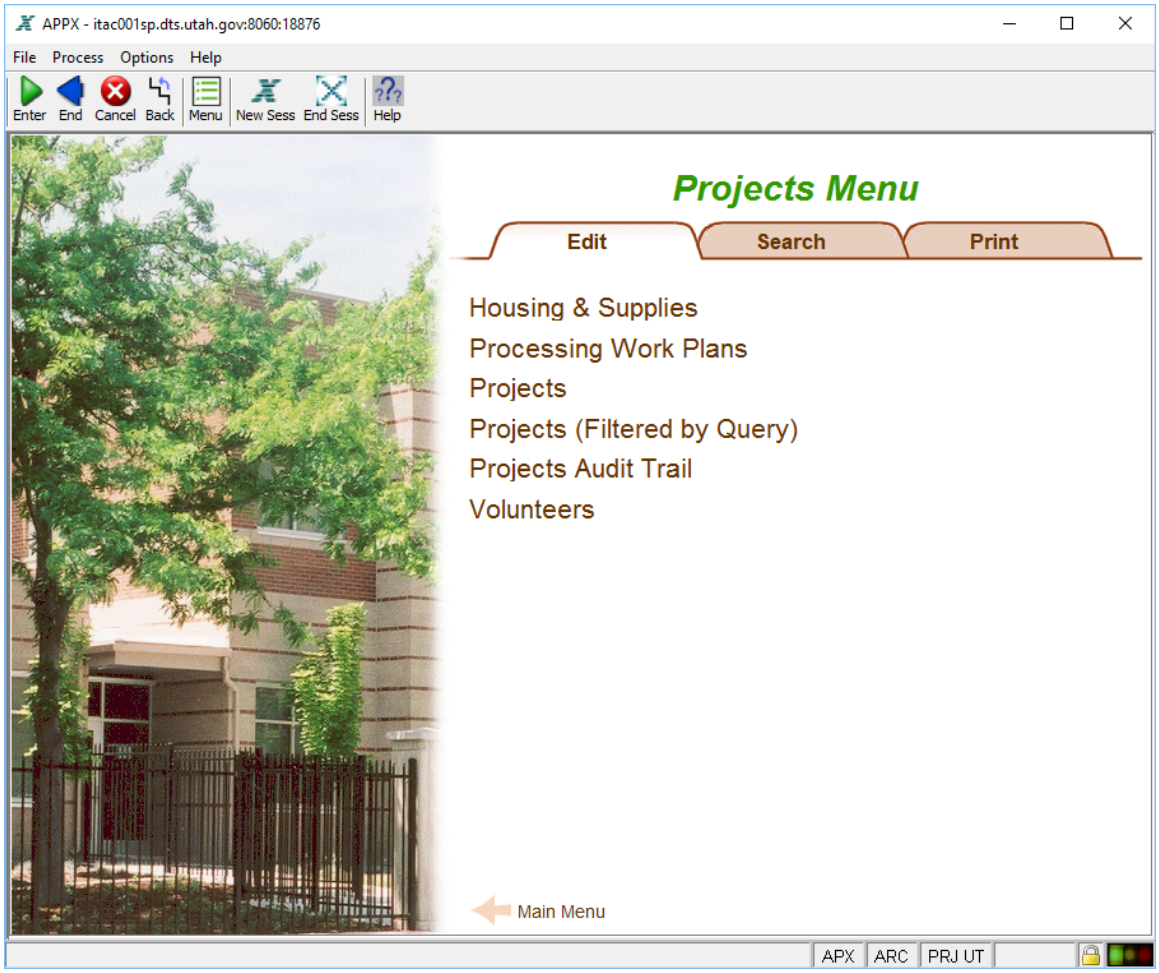


This screen identifies active questions. When a question is closed, it drops off this list.

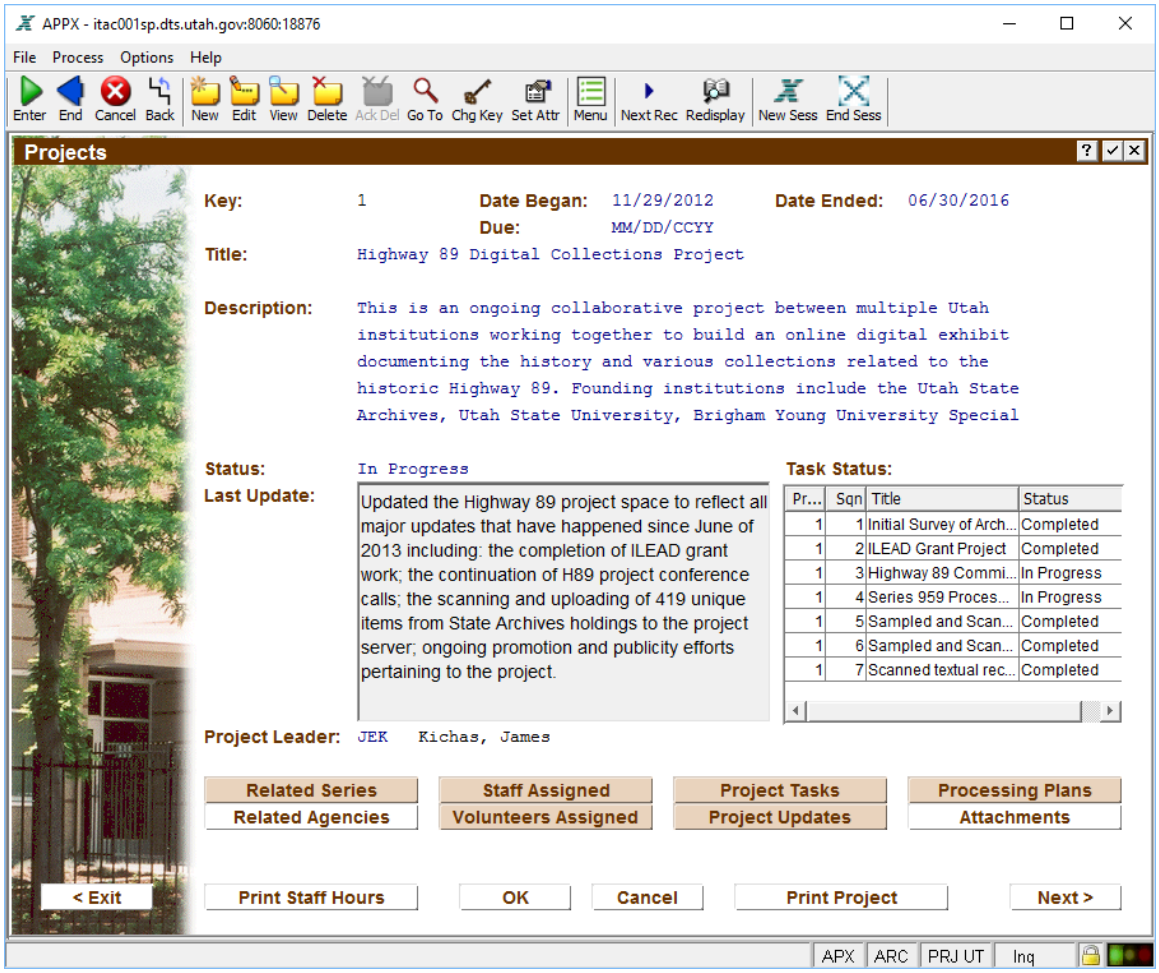
Other options in the Patron Registration system duplicate processes in the other areas of AXAEM, but are designed specifically to display data needed by Research Center staff, rather than provide a function for data entry.

Project Management

Projects are tasks that generally take some time to accomplish and usually involve more than one staff member. Projects have people assigned to them and tasks assigned to them with individual completion dates. If a project is related to specific bibliographic records, then links are created in the project and available from within Bibliographic Input so you can drill down from a series and see who is working on what. In a collaborative environment, it's helpful to know who is working on a given set of records, especially if different projects overlap, or to know where someone left off if there is staff turnover.



The first option on the menu, Housing and Supplies, provides a way to identify supplies that will need to be ordered to support specific projects. Processing Work Plans identify why a set of records is ready to be processed and itemizes how the processor plans to move forward. These plans are then approved by the processing supervisor, and can then be attached to a specific project.

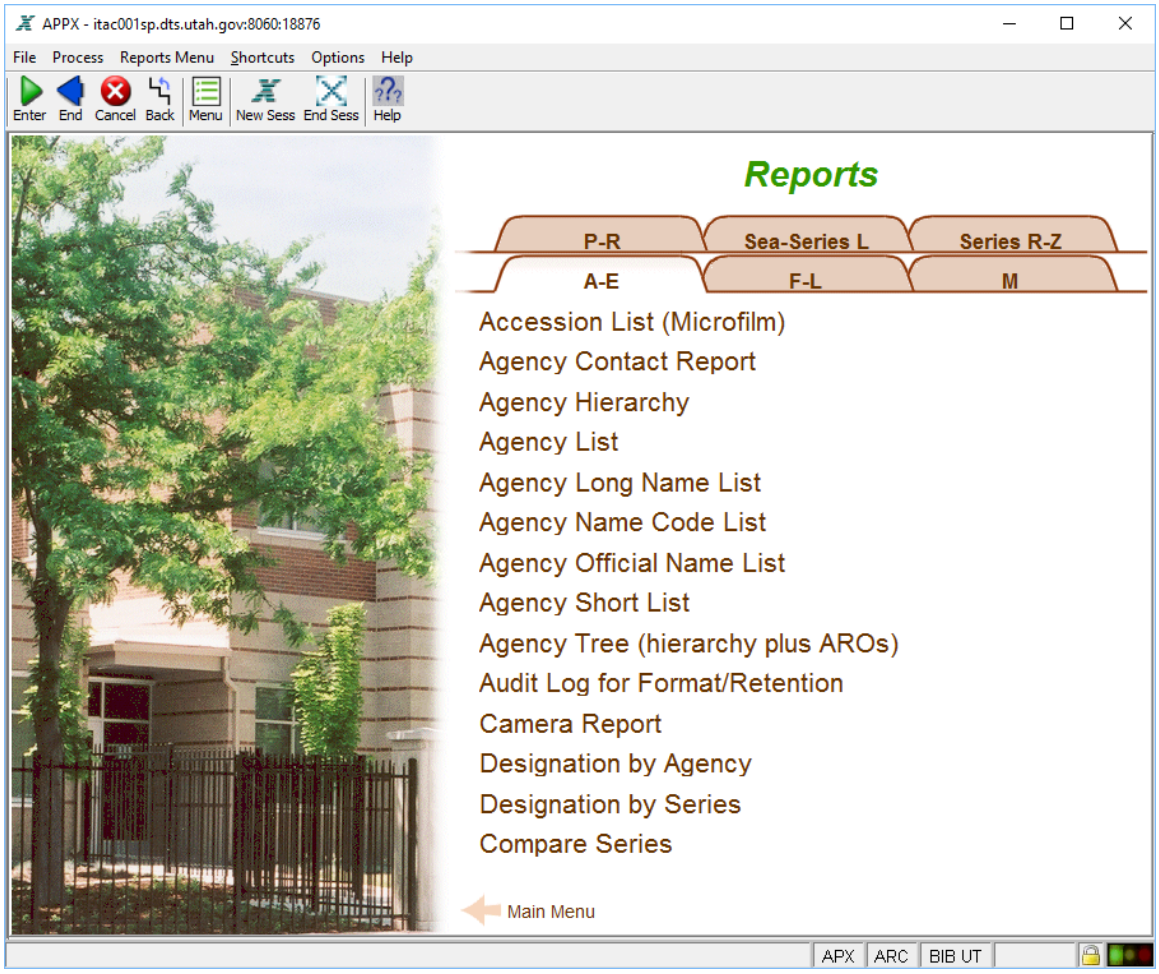


Projects are added here so they can be linked to series, and be accessed when on the Bibliographic Input screen. Each task can be assigned to people and have its status updated as it is completed. Email notifications have not been implemented, however, so functionality is limited. If desired, the description field could hold a URL to an online project management system (many are free, e.g. Trello), that will have more full-blown project management features, while still recording in AXAEM the fact that there is a project associated with a given series.

Volunteers are also tracked with their names, contact information, interests, hours available, and photo. This helps staff understand who might be available to work on a project so that assignments can be made. Volunteer hours may also be tracked per volunteer or by project, and reports add up those hours to provide annual totals.

Reports

The Reports Menu lists all reports that have been created. Many of these reports have been around for a long time. New reports can always be created or old ones updated. They may be printed as simple text files, or you can transform them into PDF reports. Some reports have been specifically designed for PDF use, especially the Retention and Classification Report. Reports designed with PDF in mind can have more graphical qualities than simple text reports. A PDF report is a little more flexible with its printing as well. You can choose which or how many pages to print. Data may also be exported as tab or comma delimited, although this option must be pre-programmed and is not something that can be set at runtime with an existing text report.



These reports are generally also available under the Print tab of the other menus.

Exit to Main Menu

State Records Committee & GRAMA

The State Records Committee & GRAMA Menu manages the State Records Committee (SRC) approval process for retention schedules, and also records its decisions in appeal hearings for records requests.

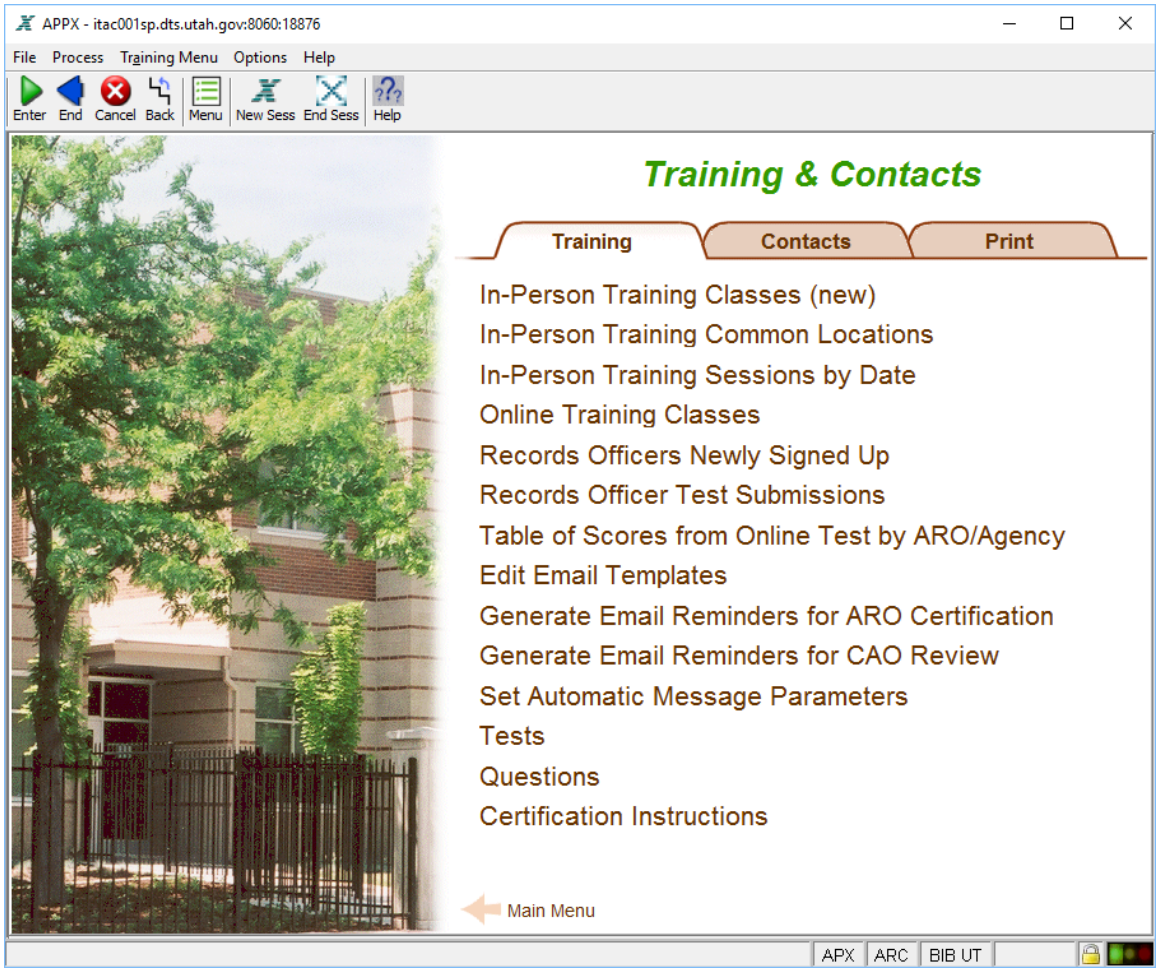
State Records Committee meetings are usually held monthly, at which retention schedules are approved and access appeal hearings are heard. The timelines associated with these meetings are tight and controlled by statute, so the system helps the process run more smoothly. Meeting dates are usually set a year in advance.

When series are submitted to the SRC, they are associated with a meeting date. Prior to the meeting, all the series are sent to the respective SRC members for review. Retention schedules are also made available automatically from our website for public review and comment. If a meeting is canceled, the attached retention schedules are automatically tied to the next meeting. After the meeting, those series which have been approved are printed, signed by the Executive Secretary, and updated with an approval date. If anything was not approved, it can be amended and sent back through the approval process, or finalized as not approved.

Exit to Main Menu

Training

Utah has a legislative mandate to train our records officers, both in-person and online, and publish the contact information and certification dates of those records officers. AXAEM manages both sets of training.



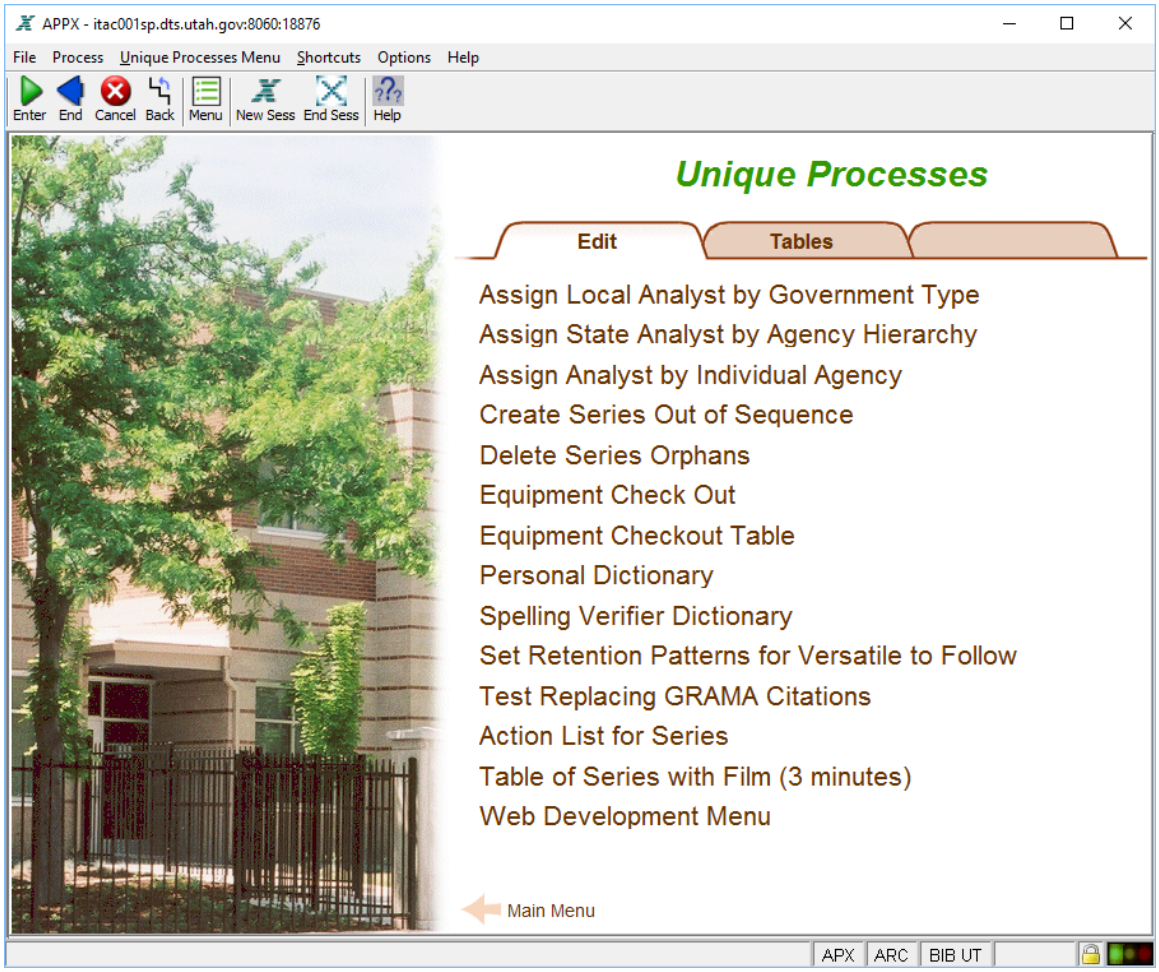
In-person training sessions added in AXAEM will display on the registration form automatically on our website. When a class is full or canceled, the form will also auto-update that information. You may connect a training session to the Google Calendar, in which case the person registering will receive an automatic confirmation and the event will be added to their calendar.

For online training, AXAEM records the test questions and answers that you design, and also keeps track of how well individual records officers did when they took the test. If they passed the test, the database records when certification expires. The interface offers a way to automatically send messages to records officers and chief administrative

officers, reminding them when they are due to recertify. The system will also post online a report with records officer contact information by agency.

Unique Processes

The Unique Processes Menu is for miscellaneous menu items that don't really fit anywhere else. This is where records analysts are assigned to agencies, where you can add words to your personal dictionary (to support spell-check), or go to fix retention problems in case Bibliographic Input stops you with an error. Most people will spend little time here. The Web Development Menu does provide some processes used when repurposing AXAEM data for the website; however, most integration between AXAEM and the website is automatic and does not need to be manually edited.



Exit to Main Menu

Navigation

Navigation through AXAEM menus and processes follows standard rules and patterns, some of which are unique to the APPX environment, but all should be consistently applied from one place to another in the system.

Modes

APPX offers four modes of operation: Add, Delete, Inquire, and Change. Each process you work in has a default mode, which APPX will stay in until you change it to something else. Usually the default mode is either Inquire or Change. You can tell what mode you are in by looking at the status bar at the bottom of the Window:

Add Mode allows you to add new records. To access this mode, click on the Add button in the toolbar or press F9 on the keyboard. The Add button looks like this:

Delete Mode allows you to delete records. In some parts of the system Delete Mode is disabled, and you need to use other procedures to make mistakes go away. To access Delete Mode, click the Delete button on the toolbar or press F10 on the keyboard. The Delete button looks like this:

Before a deletion is recorded, the system will ask you to acknowledge the delete request. Click the Acknowledge Delete button or press Ctrl-F10 on the keyboard. The Acknowledge Delete button looks like this:

Inquire Mode allows you to view a record but not edit it. This is the safest mode to be in when exploring the system or looking something up. To access Inquire Mode, click on the Inquire button on the toolbar or press F11 on the keyboard. The Inquire button looks like this:

Change Mode allows you to edit a record and save the change. To access Change Mode, click on the Change button on the toolbar or press F12 on the keyboard. The Change button looks like this:

Other Navigation Options

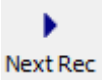
Enter is the same as clicking the Enter key on the keyboard, or the OK button onscreen. It submits your changes to the database and may advance you to the next record or take you into key entry (see below). Sometimes it just displays a lookup value first, and you need to hit Enter twice to save. The button looks like this on the toolbar:

End is the same as clicking F8 on the keyboard, or the Exit button on many screens. It will end the current process you are on. If you are running a report, it may only end the job step you are on, not the whole report. Reports should be ended through use of the Cancel button rather than End. Note that the End button on your keyboard is an entirely different function and will not produce these results.

Cancel, also known as Ctrl-F8, will take you out of your current process without saving changes, and usually will take you farther out than End will. Note that if you hit Enter first to save, and then Cancel, your changes will still be saved.

The **Previous Activity** (aka Back) button, also known as F4, will step you back just a single step, such as the previous screen in a Wizard for data entry. It does not take you back to a previous record, or behave like a browser's Back button.

The **Next Record** button, also known as F5, will advance you to the next record without saving the current record, or making you drill down through automatic processes that may be associated with the current record.



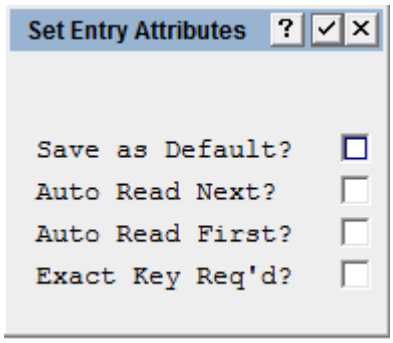
The **Menu** button will return you to the Main Menu so that you may choose other options. Note that the system will remember where you were when you clicked that button, so if you click End afterwards, it will return you there.

The **Go To** button is the same as hitting one of the Mode buttons to bring up a key entry screen (see below). You may pick another key value to navigate to, or combine a Go To with a Change Key option, which will change the field that the sort order is following.

The **Change Key**, or sort order, button, also known as F3, is used during Key Entry mode to let the user choose which field to sort/search by. If not in Key Entry when this is clicked, then the field that your cursor is occupying will become a dynamic key, meaning you can search for a specific value within it without it being a real database key. If the number of records in the table is large, it might take a minute for this field to index.

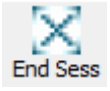
The Set Attributes button allows you to change the behavior of the application as you are interacting with it, such as making it navigate to the next record when hitting Enter instead of taking you back to Key Entry mode (i.e. choose Auto Read Next for that behavior).

It brings up this screen, and will stay as long as your session is active:



The **New Session** button will launch a new AXAEM session without requiring you to re-enter your password, so you can have multiple sessions running side-by-side if you like.

The **End Session** button will close that window. Make sure you save or cancel changes before clicking this.



Key Entry

Input processes are often designed one of two ways: 1) you go into a process and the first record in that process automatically pops up, or 2) you go into a process and it asks you which record you want first. In the first instance, it's expecting you to want to scroll through all the records starting with the first one. In the second instance, it expects that you know exactly where you want to go and you just want the quickest way to get there.

No matter which behavior the system is displaying, you can cause it to do the other one. If it is displaying the first record, and you want to go to record number 1005, you tell AXAEM to go into Key Entry (a blank screen), which means you click or press one of the mode buttons described above. If you choose the same mode that you are already in, it will immediately bring up the blank Key Entry screen. This is exactly the same thing that the Go To button does for you. If you choose a different mode (i.e. you move from Inquire Mode to Change Mode), you will need to click it twice. The first click will change the mode, and the second will give you the blank screen.

Once you have a blank screen, type the record key that you want and click OK or press Enter and it will go there. Do not click the Scan button:

The Scan function (available on the keyboard as F2) is for looking up values for a field when you are not sure what the correct value might be. If you already know which record you want, clicking Scan will only add a couple of unnecessary steps to getting you there.

If you are at a blank screen and just want to bring up the first record, just click OK or press Enter without first entering a record key.

Some screens start with a table widget, with search and filtering options. These are the most flexible, and you can browse, sort, or search before picking a record.

When "Go To" Won't Work

If you go into a process from a menu, the Go To button should always work. There are a couple of cases where the Go To button is not available. If you are in Bibliographic Input, in a series, and then click the Agency button to see contact information, the Go To button on Agency Input has been disabled because it's limited to viewing just the agency that the series was tied to. The agency key is being constrained to the specific series number. This same phenomenon is true when you are searching for a series by a field other than the series number. You can't use the Go To button on the Bibliographic Input screen in that case, but you can navigate by going back to the scrolling list of records where you first entered your search criteria and use the Go To button there.

Sorting and Scrolling through Records

All processes sort in a default order that the application designer has chosen, such as by series number, but you can cause the records to be sorted in the order that you prefer instead. You may sort the records by a different key, or by a field that isn't a key. To choose a different key, while in Key Entry (a blank screen), use the Select function (F3) (aka Change Key button) to choose the one you want. A little menu will come up showing you all the keys available. Double-click a key from the list, and type the record key where you want to start. Click OK or press Enter to go there.

To sort by a field that isn't a key, first go into a record, place the cursor on the field that you want to sort, press Select (F3) and then press or click the mode you are in, such as Change (F12). Type the starting point where you want the index to begin, and click OK or press Enter. APPX will warn you that you are about to create a dynamic index. That's ok, just continue and let it sort the records. If the file is large, this will take a few minutes.

Once you find the starting point you want and are in your record of choice, you may scroll down by using Next Record (F5), or Page Down. Using Next Record takes you to the records one by one. Using Page Down will display a page-full of records at a time. Scrolling records can take up a single line, a whole screen, or something in-between. Clicking OK or Enter works when scrolling, too, provided there is no automatic subfile

the system is designed to access from a main record. Scrolling lists allow you to move forwards or backwards (using Page Up), back to the point where you started. It won't go above where you started. Selecting the Previous Activity function (F4), will take you back to the previous step you were doing.

End of the Road

If you are scrolling through a set of records, and keeping hitting OK, Enter, or Next Record (F5), eventually you will come to the end of the table, where there are no more records (table rows). APPX will then display this in the status bar at the bottom of your window:

You may come across this message even if you weren't trying to scroll to the next record, just updating the current one (see below).

Saving Changes

To edit an existing field in AXAEM, you must first be in a record, in Change Mode, and have security rights to allow editing. Type your change into the field as necessary, then click OK or press Enter to begin the save process. APPX will respond in one of four ways. It will

1) advance to the next record (if there is one) and save your change;
2) display the green bar with the No More Records message, meaning there's no next record to advance to, thus saving your change;
3) display lookup values onscreen related to your change, essentially asking, "Is this what you meant?" If this is the case, your change is not saved yet. You must click OK or press Enter again, and watch it advance to the next record. Then the change is saved.
4) display some error or warning message first that needs to be dealt with. Errors must be corrected but warnings can be ignored. To save the change, click OK or press Enter again.

Exiting or Canceling a Process

Every input process has a button called "Exit." This works similar to a "back" button on a browser, but it actually means End—to end the current process. Clicking Exit will take you out, but won't necessarily take you back to the prior screen. It may take you all the way out to a menu. The system is designed so that often it will just take you back to the prior screen, however. The End/Exit function can be accessed by clicking the Exit button or through the keyboard by pressing F8.

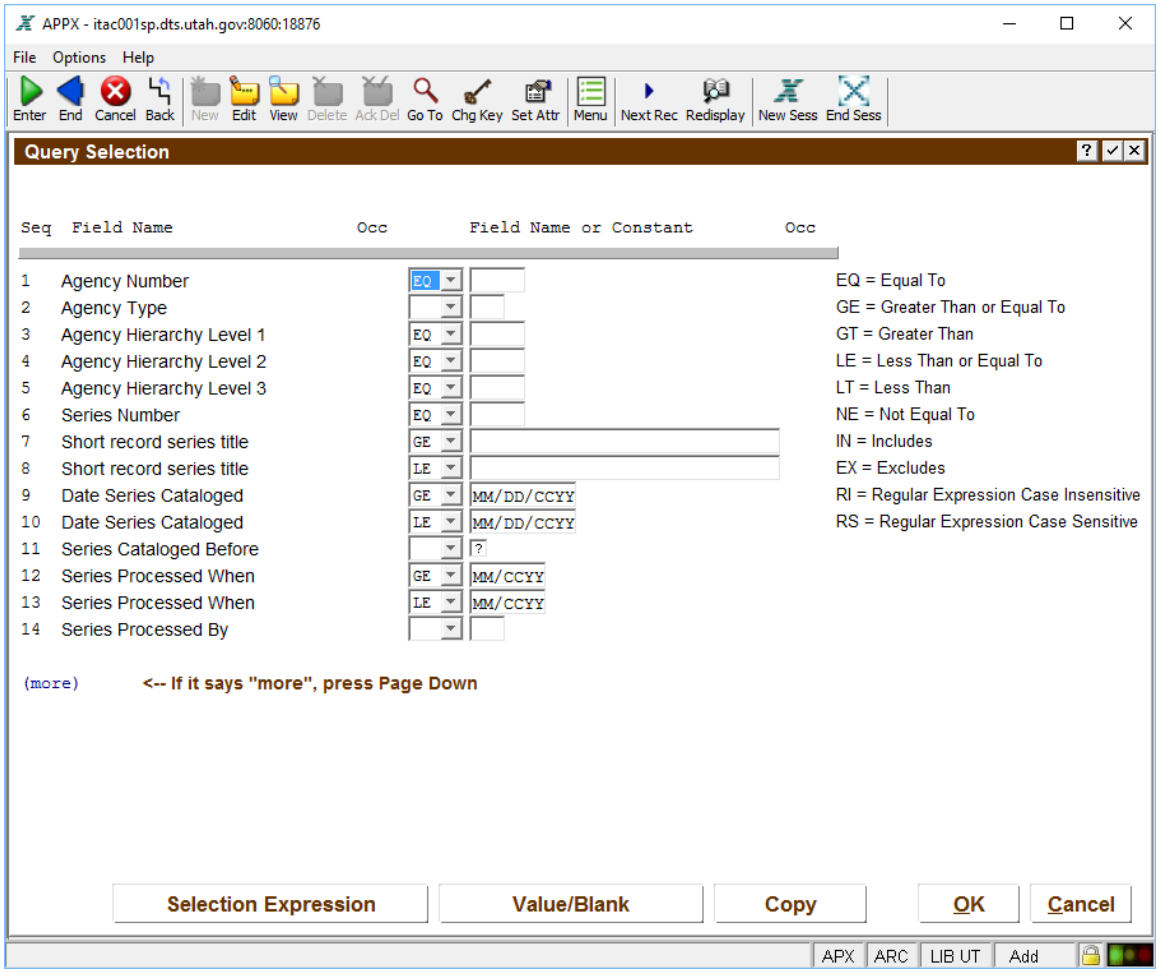
The Cancel button is used to get out of a process and not save your changes. This is especially useful if you accidentally wipe out something complicated like a series description or decide not to proceed with what you were doing. You may issue a cancel command by clicking the Cancel button or by pressing Ctrl-F8. If you've already saved the change, however, using Cancel won't reverse that. Instead, it will just exit you out of the process.

Printing

To print data from APPX, you first run a report. Reports have been pre-designed to reflect the most common needs in the system. Reports generally have three components: the query, the print disposition screen, and the data output. Depending on the report, sometimes the query will display first, and sometimes the print disposition screen will display first. Since the data output is the result of your query, it always comes last.

Queries

A query is like a question that you are asking the database. You want to know everything it has that fits certain search criteria. Your criteria limit the response to particular records. If you don't specify anything in the query, the database will return all records, which could take a long time to run and kill a few trees if you print it, so be careful. A query usually looks something like this, but it will be different from report to report:



Sometimes fields are listed twice in the query to allow you to specify range spans, i.e., “greater than or equal to 1” through “less than or equal to 20,” meaning records 1-20. All the fields have an understood “and” between them. If you want to use Boolean logic (and, or, not), click the Selection Logic button. In the text field provided, you can say “1 or 9,” meaning that the first and ninth fields from the query screen will behave as if they have an “or” value between them instead of “and.”

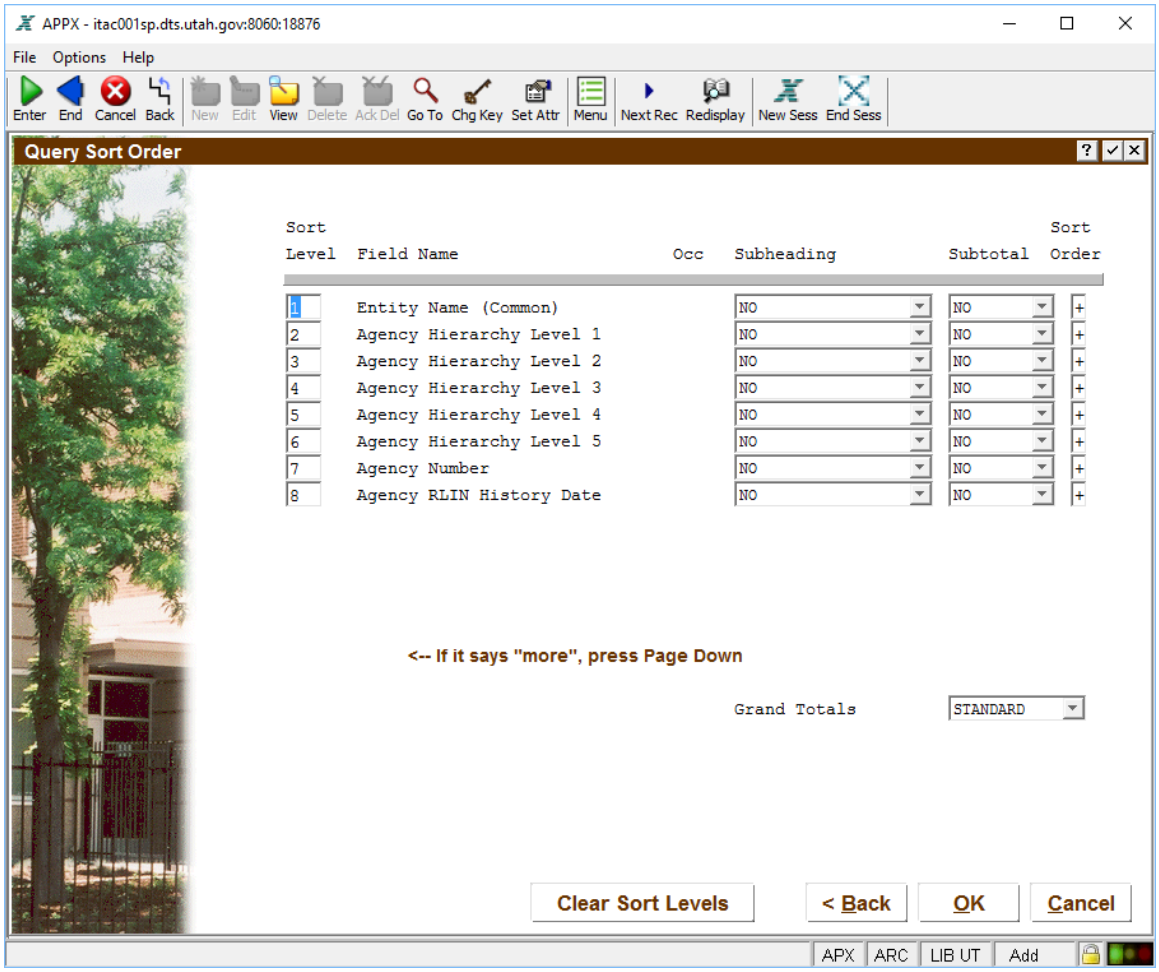
To test for null values (when a field contains no data), put your cursor on the field value (under the “field name or constant” column), and click Make Value = “Blank.” If you need another instance of a field to do a range search, but one hasn’t been provided, place your cursor on the field that you want to duplicate and click Copy Field.

When you are done, click OK or press Enter to move to the next step. Note that on queries, clicking Exit will not take you out of the report. If you want to stop the report job, click Cancel.

Sometimes reports are designed to have a special query process, usually one that looks and behaves a lot like an input process. This input/query process lets you add records to a memory file, and then the contents of the memory file are used to print the report.

Sometimes these processes are also used to ask you questions that will limit your query or change the look of the report even though there's no field value to specify. Answer all questions and tell the system which records you want, click OK to save the change, and then click Exit or press F8, to proceed to the next step.

Queries sometimes have sort order screens attached to them. They show up after you have entered your initial criteria. The sort order screen will list the fields you can sort by. Often there is a default order, but you can change that. Click Clear Sort Order, enter the order level number by the field name in the order you want them, then click OK or press Enter to proceed to the next step. You can ignore the subheading, subtotal, and + fields.



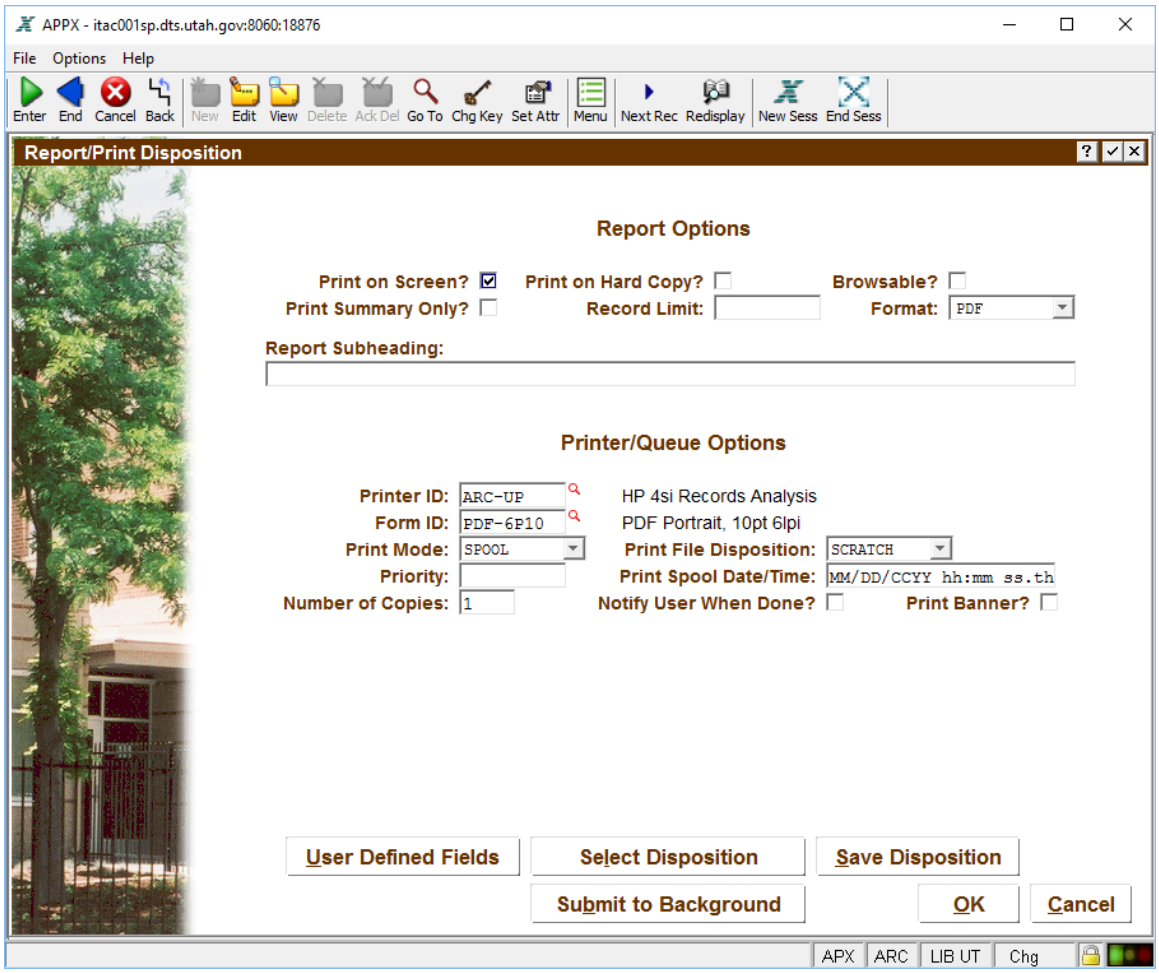
Print Disposition

The print disposition screen gives you the option of printing your results onscreen or on paper. You can also choose which printer to send it to, and if you want it to be a PDF report or not. To make it a PDF report, you will need to change some of the defaults. On the Format field, go to the dropdown list and choose PDF. Then on the Form ID field choose one of these forms set up for PDF reports:

- PDF-6P10

- PDF-6P12
- PDF-60L165

The first two print portrait style. The PDF-6P10 has slightly smaller font size than PDF-6P12. The form PDF-60L165 is for printing landscape style and the font size is very small. Other form sizes are also available.

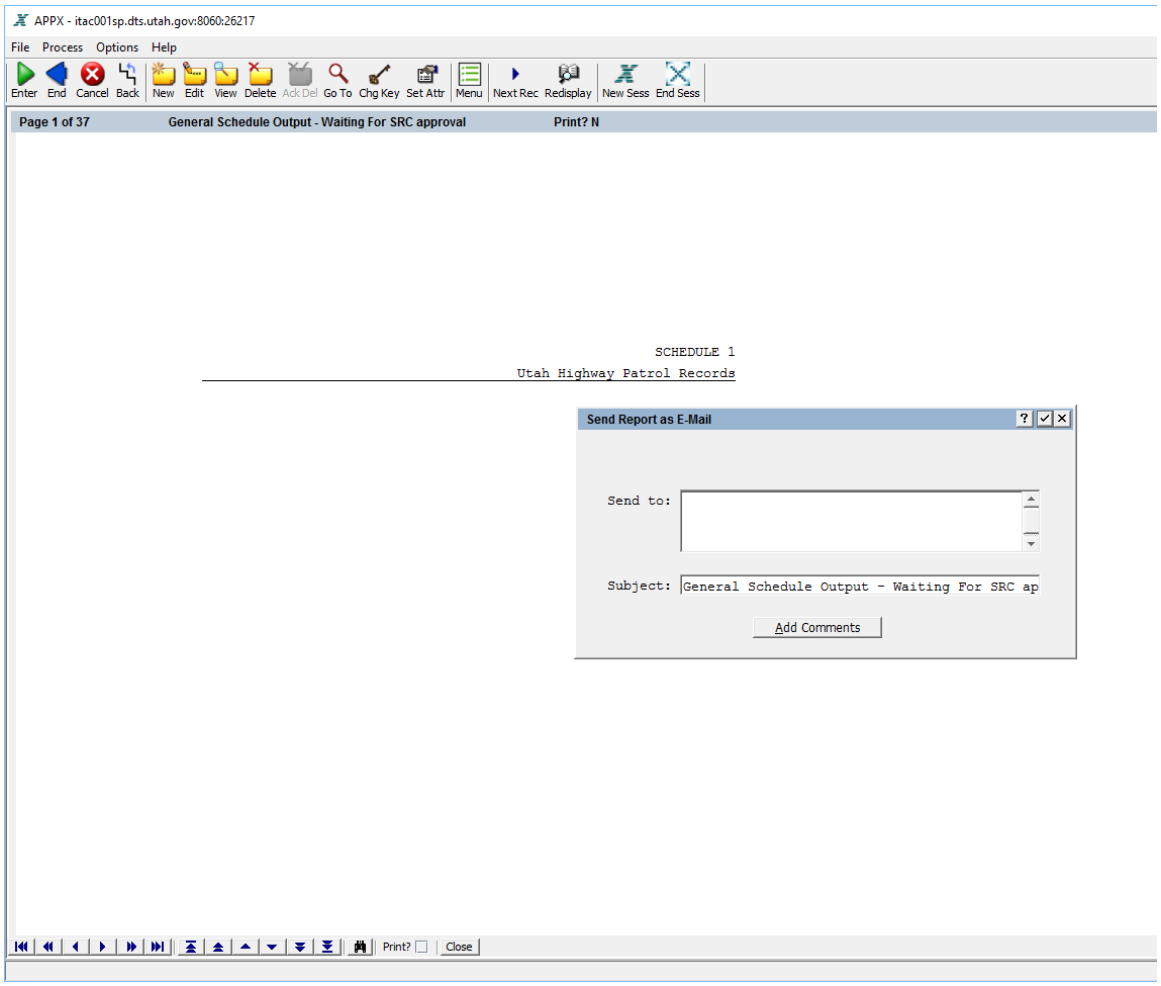


Other options on this screen you typically won't use. Click OK to run the report or Exit or Cancel to stop the report job.

When the report comes up on screen as a text file, it will give you the option to search the results (note the button with the binoculars at the bottom), tell you how many pages there are (upper left-hand corner) and give you the option to change your mind about printing them (checkbox at bottom of screen). If you decide to go ahead, click Close or press F8.

Alternately, you can email this report to yourself or someone else by clicking Option 7. The option key is the same one that has the ~ (tilde) and ` (backtick). Press that key once and then the number 7, and a field will pop up allowing you to enter an email address. Type the address and press Enter to save the change, and then exit the report. Be aware

that the email is being sent from the APPX server, not your local email account. Someone you send it to may reply to that server address and you will never know it. The email option is most useful when you want a text copy of the data to manipulate, so you send it to yourself. Or you can send it to yourself, then forward it (using your local email account) on to someone else—with an explanation of how to understand the report.



PDF reports behave a little differently. After the query and print disposition processes have finished, APPX sends the PDF file to your PC. It will then open in Adobe Acrobat. At that point, you can print it or save it to a location on the LAN. Don't save it to the local temporary location on your hard drive where it came in. That will go away.