

Developing a Retention Schedule for Digital Assets at The University of Texas at Austin

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ABSTRACT

The University of Texas at Austin has recently taken progressive measures toward improving the management of the approximately 2.5 million digital assets housed on university servers through the appointment of a University Digital Asset Manager, purchase of the digital asset management system Portfolio, and pending revisions to the University Records Retention Schedule (UTRRS) to incorporate digital assets more explicitly into the overall university records management policies. My project consisted of an in-depth assessment of the digital asset management practices of three of UT Austin's colleges, schools, and units (CSUs) to assist in the development of an appropriate retention schedule and disposition plan for UT Austin's digital assets. I interviewed representatives from each CSU about their digital asset management activities, as well as key information professionals within the university including the University Digital Asset Manager, the University Records Manager, and the University Digital Archivist. Additionally, I also conducted a detailed disk drive analysis of the digital assets on each CSU server. This information was synthesized into a report that assessed how the proposed changes to the UTRRS would impact university digital assets and offered suggestions for changes to the retention and disposition of digital assets at UT Austin.

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Introduction

Goals of the Project

This project aimed to provide recommendations for the retention and disposition of digital assets at The University of Texas at Austin. Prior to this project, UT Austin had no formal disposition plan in place for the approximately 2.5 million digital assets housed on university servers. The designation of a University Digital Asset Manager, purchase of the digital asset management system (DAMS) *Portfolio*, and pending changes to include digital assets more explicitly in The University of Texas at Austin Records Retention Schedule (UTRRS) necessitated a more detailed examination of the digital asset management practices of individual colleges, schools, and units (CSUs) at the university.

This project consisted of a detailed assessment of the digital asset management practices of three CSUs at UT Austin. These three CSUs included the Office of Admissions, the College of Liberal Arts (COLA), and the University Marketing and Creative Services Department (UMCS). The three CSUs were selected because they were the only CSUs to have fully implemented the new DAMS, *Portfolio*, at the beginning of this project and were actively involved with and aware of the management of their digital assets. Coincidentally, the three CSUs assessed in this report also demonstrate diverse examples of use, needs, and familiarity with regards to digital assets, records management, and *Portfolio*.

The proposed recommendations for the retention and disposition of university digital assets were formulated through interviews with key stakeholders, including representatives from each CSU, the University Records Manager, the University Digital Asset Manager, and the University Digital Archivist, a detailed disk analysis of the digital assets of each CSU, an overview of the technical functionalities of *Portfolio*, a review of pertinent literature regarding digital asset management, and an assessment of the current and proposed codes concerning digital assets in the UTRRS.

Organization of the Report

Recognizing that UT Austin takes a traditionally functional (rather than departmental) approach to the development of retention schedules, and that an in-depth analysis of the digital asset management practices of individual CSUs is necessary to determine the appropriateness of a functional schedule, the digital asset management needs and practices of individual CSUs are identified and appropriate recommendations regarding the retention and disposition of university digital assets in general are provided. This report is organized as follows:

- [Section 1.](#) An overview of records and digital asset management at UT Austin
- [Section 2.](#) A description of existing and proposed UTRRS codes pertaining to digital assets
- [Section 3.](#) Identification of relevant stakeholders
- [Section 4.](#) Identification of recordkeeping requirements pertinent to digital assets
- [Section 5.](#) An overview of *Portfolio*'s capabilities and functionalities
- [Section 6.](#) A breakdown of each CSUs digital asset management practices

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Section 1. University Records Management

Records and information management (RIM) attempts to manage information throughout the information life cycle, from creation, to use, and through eventual disposition or permanent transfer to an archives. ARMA International defines records management as, “the efficient and systematic control of the creation, receipt, maintenance, use, and disposition of records, including processes for capturing and maintaining evidence of and information about business activities and transactions in the form of records.”¹

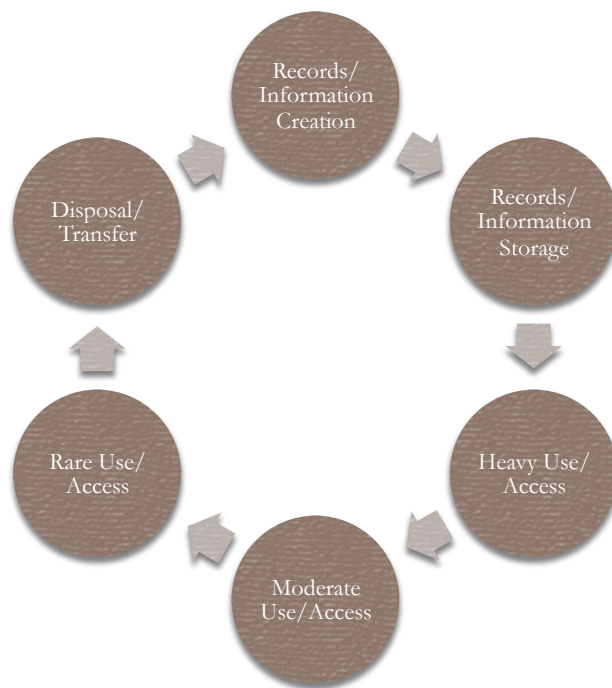


Figure 1 - Information Life Cycle

Records are valuable for the evidence they provide of an organization’s activities and transactions. As Stephens (2010) notes however, “One principal characteristic of organizational information is that, at some point, it declines in value until it is not needed by anyone for any purpose.”² One of the key components of records management therefore, is records retention. Records retention is defined as, “that component of a RIM program that provides policies and procedures specifying the length of time that an organization’s records must be retained.”³ The records retention program or schedule in an organization allows for the systematic destruction of records that are no longer deemed useful or

¹ (ARMA International, 2013)

² (Stephens, p. 33, 2010)

³ Ibid.

valuable, as well as the retention of records that are considered to possess value beyond the need or activity for which they were originally created.

Overview of UT Austin Records Management

As stated in the Handbook of Business Procedures for UT Austin, the university is “required to comply with state and federal mandates to establish an active and ongoing records management program.”⁴ As a public university, UT Austin is required by law to create certain records, retain those records for various lengths of time, ensure that records are responsibly managed, and safely dispose of records at the end of their specified retention period. In accordance with state and federal mandates, UT Austin declares that, “no official university record (paper, microform, electronic, or any other media) may be destroyed without following university disposition procedures, developed to comply with *Texas Government Code, Title 4, Subtitle D, Chapter 441.180-441.205, Subchapter L. Preservation and Management of State Records and Other Historical Resources* and *Texas Administrative Code, Title 13, Part I, Chapter 6. State Records.*”⁵

The university defines a record as, “communication created, received, or used in the course of university business.”⁶ It should be noted that this current definition of a record fails to clearly include university digital assets. To more explicitly incorporate other forms of university records it is suggested that the university revise the definition of a record to include “information created, received, maintained, or used by the university in accordance with its mission, operations, and activities.” While this definition is broad, it guards against unintentional exclusion of obscure forms of records that do not clearly qualify as “communication” and better reflects the kinds of records the university is both required by law to retain as well as the records the university is interested in retaining for the evidence they provide of the development of the university.

Overview of UT Austin Digital Asset Management

While digital asset management is still relatively new at UT Austin, there is a high demand and need for it among CSUs at the university, as evidenced by the recent instantiation of a University Digital Asset Manager and revision of the UTRRS to more explicitly incorporate digital assets into the retention schedule. Although each CSU is responsible for managing their own digital assets, the University Digital Asset Manager is available to assist any and all CSUs in the proper retention, organization, and disposition of their digital assets.

Currently this position is housed within the University Communications Department. As UMCS notes, “University Marketing and Creative Services has chosen guidelines for the DAMS based on best practices and department needs established by the Digital Asset Manager and development users. These guidelines will assure the creation of robust records and instructions for management, uploading assets,

⁴ (University of Texas at Austin, 2012)

⁵ Ibid.

⁶ Ibid.

developing metadata, and image retrieval. The cataloging and management process of the department's assets is a collaborative process, as all users will be implementing it into their daily workflow."⁷

Benefits of Digital Asset Management

Digital asset management, as well as records management in general, benefits organizations both directly and indirectly. Because the foremost impetus for responsible and accurate recordkeeping is often based on legal mandates, a well-developed records management program and properly implemented retention schedule immediately benefits organizations by ensuring compliance with laws and regulations regarding the creation and retention of records and information, thus minimizing litigations risks. Additionally, records retention schedules ensure that sensitive records or information are promptly and safely disposed of as soon as they are no longer needed or required to be kept, further avoiding subjugation to unnecessary litigation through requests for information.

In addition to ensuring legal compliance and minimizing litigation risk, digital asset management also helps control the growth of records and in turn, reduces storage costs. As Stephens notes, "Various RIM studies indicate that growth rates for paper records typically range between 5 and 10 percent each year, while the growth of electronic records generally falls between 20 and 60 percent each year and sometimes even higher."⁸ As the creation of digital assets becomes more prominent and effortless, files will continue to be generated at exponential rates. This trend is already apparent in the disk analyses of the individual CSU servers discussed later in this report. While an additional study is needed to ascertain the actual cost of storage for university digital assets, it can be safely assumed that the active management of digital assets can help control the proliferation of digital assets and reduce storage costs by eliminating unnecessary files.

Responsibilities and Duties of the University Digital Asset Manager

With regards to the DAMS, some of the general responsibilities and duties of the University Digital Asset Manager include⁹:

- Oversees entire DAMS as custodian
- Responsible for the supervision and assistance for cataloging and developing metadata
- Acts as liaison between CSUs and the centralized DAMS at UMCS
- Develops appraisal and retention schedule for digital assets
- Troubleshoots as necessary with IT staff
- Perform searches for users
- Maintains rights

⁷ (University Marketing and Creative Services, 2013)

⁸ (Stephens, 2010)

⁹ (University Marketing and Creative Services, 2013)

Section 2. University Records Retention Schedule

According to UT Austin Records Management Services¹⁰:

The University of Texas at Austin Records Retention Schedule (UTRRS) is certified by the Texas State Library and Archives Commission and adopted as an administrative rule of the university as a means of:

- Listing minimum retention and preservation requirements for all records created in the course of university business.
- Authorizing the destruction of university records in accordance with procedures developed to comply with state and federal regulations.

Table 1 outlines each field used in the UTRRS as described by UT Austin Records Management Services¹¹.

Table 1 - UTRRS Fields

State Item	State item numbers (e.g., 2.1.002 Master Files) are assigned to the state of Texas Records Retention Schedule (RRS) by the State and Local Records Management Division of the Texas State Library and Archives Commission. When a UT Code corresponds with a State Item, the State Item number appears in the State Item column.
UT Code	The UT Code is an alphanumeric code (e.g. AALL025, REG329) assigned by The University of Texas at Austin records management officer (RMO). The UT Code is composed of a UT Code prefix and a set of three numbers to identify the record series.
Record Series Title	A description of the type of records for which retention requirements are being set. A broad or general title is chosen to include records with similar functions that have the same retention requirements.
Retention Period	The length of time a record must be retained before destruction or archival preservation. This may be expressed as years, months (MO), or as a retention code plus a number of years (e.g., FE+3). Note: All numbers used with retention periods are expressed in years unless otherwise indicated. The most common retention periods are listed here: <ul style="list-style-type: none"> • AC = After Closed (event), e.g., termination of employment, graduation, publication of report • AV = Administratively Valuable • CE = Calendar Year-End (Dec. 31) • FE = Fiscal Year-End (Aug. 31) • LA = Life of Asset • PM = Permanent • US = Until Superseded
Archival	Records that have historical value may have archival requirements listed in the UTRRS regarding review and transfer to university archives. Record series marked with archival review codes "I" or "O" in the top half of the Archival/Vital column must be transferred or evaluated for archival preservation, and Records Management Services (RMS) must be contacted to begin the appropriate process. <ul style="list-style-type: none"> • I – <i>Transfer</i> The records must be transferred to the university archives when the records are no longer needed in the department and the retention period has been met. • O – <i>Review</i> The university archivist must review records before disposal. Some or all of the records in a record series may be selected for transfer to the archives in lieu of destruction once the retention period has been met or the record is no longer used by the department.
Vital	Vital records are those that are designated with an X in the lower half of the Archival/Vital column of the UTRRS. Vital records are essential to resume operations and recreate the

¹⁰ (University of Texas at Austin, 2012)

¹¹ Ibid.

Comments	<p>legal and financial status of the university in the event of an emergency or disaster. Most university records designated as vital are managed in university enterprise systems and not at the department level. A department must identify any vital record series it manages in its records inventory. Vital records are not necessarily permanent records. Records that have vital designation may be disposed when all retention requirements have been met.</p> <p>The Comments column contains information about the record series that may be critical in making determinations about classifying records. This column cites applicable federal or state laws or regulations and contains other information about retention requirements. The column also contains notes about additional requirements.</p>
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Relevant Codes in the Existing UTRRS

There are currently two codes in the existing UTRRS that directly pertain to university digital assets: UT Austin records series *AALL133. Publication Development Files—Background Materials, Drafts* and records series *AALL134. Brochures and Promotional Materials*. Records that fall into either series must be kept as long as the originating department deems them administratively valuable. These records require review by a university archivist prior to disposition in order to determine the historical value of the records and potential transfer to the university archives for permanent retention. Figure 2 shows the current codes in the UTRRS that pertain to digital assets.

Figure 2 - UTRRS Codes¹²

University of Texas at Austin Records Retention Schedule					
State Item	UT Code	Record Series Title	Retention Period	Archival Vital	Comments
1.3.002	AALL133	Publication Development Files--Background Materials, Drafts	AV	<u>0</u>	
1.3.002	AALL134	Brochures and Promotional Materials	AV	<u>0</u>	

Archival Review Codes
 1 - Transfer to University Archives
 0 - Review by University Archivist

Recertified June 2011
 Amended 6.8.2012, 10.9.2012

Retention Codes--All retention code numbers refer to years unless noted otherwise

AC - After Closed: Retention for the record is contingent on an event, function, or activity. If AC is used in the retention code, it will be defined in the comments field

AV- As long as Administratively Valuable: The immediate purpose for which the record was created has been fulfilled

CE - Calendar Year End: calculate from December 31 FE - Fiscal Year End: calculate from August 31

LA - Life of Asset: The record is retained until the disposal of the asset.

PM -Permanent: A record that possesses enduring legal, fiscal, or administrative value and must be preserved permanently by the University.

US - Until Superseded.

Additional Proposed Codes for the UTRRS

At the outset of this project I was informed by the University Records Manager that the university was in the process of revising the UTRRS and that some of the proposed revisions would incorporate digital assets more explicitly into the university’s records management policies. Table 2 outlines the proposed codes for the upcoming version of the UTRRS that pertain to digital assets as provided by the University Records Manager.

¹² (University of Texas at Austin Records Management Services, 2012)

Table 2 - Proposed Codes for UTRRS

Series ID	Records Series Title	Description	Retention Period	Disposition Action
Series 1 – ADMINISTRATIVE RECORDS				
1.1	Unit/Institution/Organization History Records	This series provides a record of the historical development of the institution; units within the institution; and organizations associated with the institution, such as honor societies, fraternities and sororities, and student/faculty/staff clubs. This series may include but is not limited to: newspaper clippings; photographs; published and unpublished historical sketches; publications; statistics; ephemera; and related documentation and correspondence.	PM	I – Transfer to University Archives
1.2	Photographs	This series provides photographic documentation of institution activities, events, students, faculty, and staff with significant relevance to either the institution's or individual unit's function and/or mission. It may be used for student recruitment and orientation, fund-raising, publicity, publications, research, or teaching. This series includes fully identified photographs imprint, negative, slide formats, and digital photographs.	PM	I – Transfer to University Archives
1.3	Biographical Records	This series contains biographical data for institutional faculty and staff. The records are used for public information releases and reference by the institutional staff to provide responses to inquiries. This series may include but is not limited to: biographical sketches developed by the office of employment, the individuals concerned, or other sources; vitae; photographs; personal history data sheets; newspaper clippings; retirement notices; funeral programs; and obituaries.	AC+3. AC = after separation from institution	O-University Archivist Review Required
1.4	Special Event Records	This series documents the efforts of a college or unit to provide informative sessions, short-courses, workshops, training programs, excursions, and celebratory events for members of the institution and the communities it serves. This series may include but is not limited to: materials on planning and arrangements; reports; promotional and publicity materials; press releases and news clippings; photographs; presentation materials and handouts; schedules of speakers and activities; registration and attendance lists; participant evaluations; and related documentation and	AC+7. AC=End of event.	

correspondence.				
Series 9 – CAMPUS LIFE				
9.1	Student Organization Administrative Records	This series documents the history, development, and policies of campus student organizations. Records may include but are not limited to: constitutions and bylaws; publications (websites, newsletters, fliers, brochures, posters, and other publications); annual review forms; annual reports; meeting minutes and supporting documentation; committee, subcommittee, and task-force records; Student Senate bill and resolution files; budgets; handbooks; officer and member rosters; scrapbooks; photographs; press releases; clippings; and related documentation and correspondence that documents programs, activities, and events.	PM	I – Transfer to University Archives
9.2	Photographs and Films	This series includes photographs and films taken during games, tournaments, and practice sessions. Individual athletes and action shots are included.	PM	I – Transfer to University Archives

Section 3. Identification of Stakeholders

Stakeholders are individuals or groups who may be affected or perceive themselves to be affected by decisions or actions regarding recordkeeping activities. Stakeholders may therefore be immediate internal individuals or groups who directly generate and/or use the records in question, or external individuals or groups who have an interest in ensuring that the organization is creating and maintaining accurate and appropriate records as evidence of its activities.

Internal Stakeholders

With regards to digital asset management, some of the immediate internal stakeholders include individual CSU employees who are responsible for organizing, managing, and using the digital assets that are created by their CSU. Equally significant internal stakeholders with an interest in appropriate management of digital assets include the photographers and graphic designers who are responsible for creating or generating the digital content used by the CSUs and housed on university servers.

Other internal stakeholders include the university as an institutional whole. While digital assets have not yet explicitly been identified as university records, two records series do exist that capture some of these assets and revisions are in progress to incorporate all digital assets more explicitly. Members of the university community including faculty, staff, and students are also non-immediate, internal stakeholders with a significant interest in seeing that digital assets are properly managed.

External Stakeholders

Because UT Austin is a major public university, the Texas State Library and Archives Commission (TSLAC) is an external stakeholder with a significant interest in ensuring that the university is creating and managing their records in accordance with federal and state mandates and regulations.

In addition to TSLAC, the local community as a whole may be considered a non-immediate external stakeholder. UT Austin is a significant part of the local community and residents have an interest in the appropriate management of the records it creates as evidence of this relationship.

Section 4. Identification of Recordkeeping Requirements

Section 4 articulates recordkeeping requirements by collecting information from sources pertinent to UT Austin’s digital asset management practices and identifying the requirements for recordkeeping that are indicated or implied in these sources. Recordkeeping requirements are “requirements arising from regulatory sources, business needs and community expectations.”¹³ Sources for these requirements may include regulatory sources such as legislation or government policy, business needs such as records necessary for day-to-day operations, as well as expressed or implied expectations from other members of the community, such as colleagues, faculty, or alumni. Identifying recordkeeping requirements is necessary in order to assess whether current recordkeeping practices are adequate or effective and to determine what changes must be made to the current recordkeeping system to ensure recordkeeping practices are congruent with recordkeeping needs.

For each of the following sources identified, a source number is applied for reference within this report, the authority from which the source originates is indicated and the name of the requirement source as well as the most recent date of publication is identified. A description of the type of requirement source is provided along with citations from the original source that pertain to recordkeeping and digital asset management practices. Where available, a URL link for the source is also provided.

A. Legal Requirements

Source #	A.1		
Originating Authority	Source Name	Date	Source Type
United States Government – Department of Education	Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99)	01/2009	Federal Law
Citation(s)	§99.10 (a) Except as limited under § 99.12, a parent or eligible student must be given the opportunity to inspect and review the student's education records. §99.30 (a) The parent or eligible student shall provide a signed and dated written consent before an educational agency or institution discloses personally identifiable information from the student's education records, except as provided in § 99.31.		

¹³ (National Archives of Australia, 2003)

Source URL	http://www2.ed.gov/policy/gen/guid/fpco/pdf/ferparegs.pdf
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Source #	A.2		
Originating Authority	Source Name	Date	Source Type
Texas State Legislature	Texas Government Code, Title 4, Subtitle D, Chapter 441. Libraries and Archives	09/2009	State Law
Citation(s)	<p>Sec. 441.183. RECORDS MANAGEMENT PROGRAMS IN STATE AGENCIES. The agency head of each state agency shall:</p> <p>(1) establish and maintain a records management program on a continuing and active basis;</p> <p>(2) create and maintain records containing adequate and proper documentation of the organization, functions, policies, decisions, procedures, and essential transactions of the agency designed to furnish information to protect the financial and legal rights of the state and any person affected by the activities of the agency;</p> <p>(3) make certain that all records of the agency are passed to the agency head's successor in the position of agency head;</p> <p>(4) identify and take adequate steps to protect confidential and vital state records;</p> <p>(9) "State agency" means:</p> <p>(B) any university system and its components and any institution of higher education as defined by Section 61.003, Education Code, except a public junior college, not governed by a university system board;</p> <p>(11) "State record" means any written, photographic, machine-readable, or other recorded information created or received by or on behalf of a state agency or an elected state official that documents activities in the conduct of state business or use of public resources. The term includes any recorded information created or received by a Texas government official in the conduct of official business, including officials from periods in which Texas was a province, colony, republic, or state. The term does not include:</p> <p>(A) library or museum material made or acquired and maintained solely for reference or exhibition purposes;</p> <p>(B) an extra copy of recorded information maintained only for reference; or</p> <p>(C) a stock of publications or blank forms.</p>		
Source URL	http://www.statutes.legis.state.tx.us/Docs/GV/htm/GV.441.htm - L		

Source #	A.3		
Originating Authority	Source Name	Date	Source Type
United States of America	U.S. Copyright Law, Title 17, Chapter 1	12/2011	Federal Law
Citation(s)	<p>§102 · Subject matter of copyright: In general</p> <p>(a) Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. Works of authorship include the following categories:</p> <p>(1) literary works; (2) musical works, including any accompanying words; (3) dramatic works, including any accompanying music; (4) pantomimes and choreographic works; (5) pictorial, graphic, and sculptural works; (6) motion pictures and other audiovisual works; (7) sound recordings; and (8) architectural works.</p>		

	A “work made for hire” is— (1) a work prepared by an employee within the scope of his or her employment; or (2) a work specially ordered or commissioned for use as a contribution to a collective work, as a part of a motion picture or other audiovisual work, as a translation, as a supplementary work, as a compilation, as an instructional text, as a test, as answer material for a test, or as an atlas, if the parties expressly agree in a written instrument signed by them that the work shall be considered a work made for hire. For the purpose of the foregoing sentence, a “supplementary work” is a work prepared for publication as a secondary adjunct to a work by another author for the purpose of introducing, concluding, illustrating, explaining, revising, commenting upon, or assisting in the use of the other work, such as forewords, afterwords, pictorial illustrations, maps, charts, tables, editorial notes, musical arrangements, answer material for tests, bibliographies, appendixes, and indexes, and an “instructional text” is a literary, pictorial, or graphic work prepared for publication and with the purpose of use in systematic instructional activities.
Source URL	http://www.copyright.gov/title17/92chap1.pdf

Source #	A.4		
Originating Authority	Source Name	Date	Source Type
State and Common Law	UT System Registered and Protected Trademarks	10/2012	State Law
Citation(s)	<p>UT SYSTEM REGISTERED AND PROTECTED TRADEMARKS*</p> <p>The University of Texas at Austin™, The University of Texas®, University of Texas®, Texas®, Longhorns®, UT™, seal design, tower design, Hook em Horns®, Bevo®, Lady Longhorns®, interlocking UT, block T, Longhorn Silhouette, running mascot caricature, longhorn caricature, Helmet logo, Texas w/ longhorn design, Hook em hand sign, Hook em™, Get Hooked™, Horns™</p> <p>* All other names, symbols, initials, or graphic designs which refer to The University of Texas System or any of its component institutions are protected by U.S. and state common law.</p>		
Source URL	http://www.utexas.edu/trademarks/marks.html		

B. Business Requirements

Source #	B.1		
Originating Authority	Source Name	Date	Source Type
UMCS	DAM duties and responsibilities	10/2012	Community Expectations
Citation(s)	<p>Digital Asset Manager:</p> <ul style="list-style-type: none"> • Oversees entire DAMS as custodian • Responsible for the supervision and assistance for cataloging and developing metadata • Acts as liaison between CSUs and the centralized DAMS at UM&CS • Develops appraisal and retention schedule for digital assets • Troubleshoots as necessary with IT staff • Perform searches for users • Maintains rights 		
Source URL	https://wikis.utexas.edu/display/UMCSDAMS/DAMS+Roles+and+Responsibilities		

Source #	B.2		
Originating Authority	Source Name	Date	Source Type
CSUs	Recurring publications	N/A	Community Expectations
Citation(s)	Many CSUs have recurring events or publications that produce digital assets on a regular basis. Because CSUs will likely produce digital assets in connection with these events again, it is necessary to retain records of past publications and events as evidence of prior activities.		

Source #	B.3		
Originating Authority	Source Name	Date	Source Type
CSUs	Requests for Images	N/A	Community Expectations
Citation(s)	Many CSUs receive requests for their images, either from individuals within their department or from individuals in other CSUs who wish to use the digital assets they created. It is necessary for CSUs to retain and appropriately manage their digital assets in order to fulfill these requests.		

C. Regulatory Requirements

Source #	C.1		
Originating Authority	Source Name	Date	Source Type
UT Austin	Handbook of Business Procedures, Part 20. Records Management	10/2012	Official Publication
Citation(s)	<p>The University of Texas at Austin is required to comply with state and federal mandates to establish an active and ongoing records management program. A record is any recorded communication created, received, or used in the course of university business. No official university record (paper, microform, electronic, or any other media) may be destroyed without following university disposition procedures, developed to comply with Texas Government Code, Title 4, Subtitle D, Chapter 441.180-441.205, Subchapter L. Preservation and Management of State Records and Other Historical Resources and Texas Administrative Code, Title 13, Part 1, Chapter 6. State Records.</p> <p>Departments have a shared responsibility with RMS to systematically control the records of the university from their creation to their final disposition, whether that is destruction of the record or transfer of the record to archives.</p> <p>Note: The university is required to document the destruction or transfer to archives of all official records in the university disposition log, which is maintained by RMS.</p>		
Source URL	http://www.utexas.edu/business/accounting/hbp/20_records/records1.html		

Section 5. Portfolio Digital Asset Management System

Portfolio is a program developed by Extensis for managing digital assets. Extensis advertises the Portfolio server as a system that, “helps you centralize all your documents, photos, and audio and video files to provide a single location for your organization’s important files and related information.”¹⁴

As UMCS notes, “Prior to the DAMS, the department members searched for and retrieved assets via shared folders on the server. Thus, users relied on scanning folder names, file names, and embedded metadata (if any) through keyword searches.”¹⁵ Needless to say, such a workflow is extremely inefficient and results in duplicated or wasted efforts and content.

Today, “The Digital Asset Management System (DAMS), or Portfolio, provides an accessible database to the University Marketing and Creative Services staff and CSUs for image retrieval, curation, and long-term preservation. The DAMS enhances productivity and maintains brand identity for the university as more digital assets are generated.”¹⁶

Description of Portfolio Functionalities and Capabilities

Portfolio provides two main modes of access for different types of users. Administrators are able to manage the setup and accessibility of Portfolio through the Server Admin web application. In the Server Admin application, administrators can create catalogs and user accounts, and manage each user’s access.

Management of digital assets is done by users through the Portfolio Web and Desktop Clients. Using one of these applications, users are able to, “add and organize assets in catalogs, apply metadata, perform searches and download assets in a variety of formats for use in their workflow.”¹⁷ At the time this project was conducted, UT Austin was utilizing the Portfolio Server Desktop Client Version 10.2.0. Figure 3 shows version details for the Portfolio Server Desktop Client.

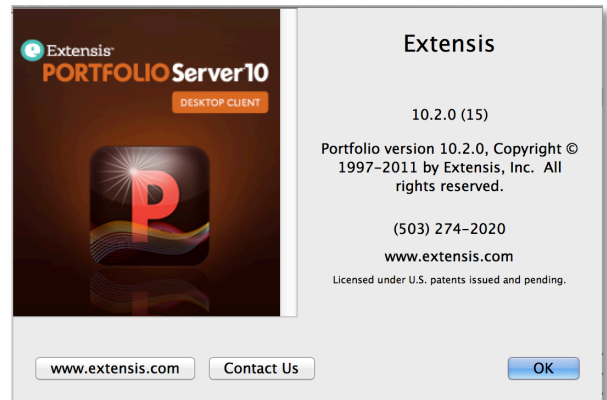


Figure 3 – Portfolio Server Version Details

Outline of Dublin Core Metadata Fields

According to the Dublin Core Metadata Initiative, “The Dublin Core Metadata Element Set is a vocabulary of fifteen properties for use in resource description.”¹⁸ In addition to the 15 core DCMI

¹⁴ (Extensis, 2012)

¹⁵ (University Marketing and Creative Services, 2013)

¹⁶ Ibid.

¹⁷ (Extensis, 2012)

¹⁸ (Dublin Core Metadata Initiative, 2012)

metadata elements, UT Austin also utilizes four additional DCMI approved metadata fields for a total of 19 qualified Dublin Core fields. Table 3 outlines each of these fields.

Table 3 - Dublin Core Metadata Fields¹⁹

Dublin Core Metadata Field	Definition	Restrictions	Example(s)
DESCRIPTIVE METADATA			
01_dc.Identifier:FileName	An unambiguous reference to the resource within a given context. For the department's purposes, this field refers to the file name given by the creator including the file extension. The name should be unique within the DAMS. Controlled vocabulary requires that images be organized into year and then numbered sequentially.	Mandatory	<ul style="list-style-type: none"> • 2012_00001.jpg • 2010_03921.psd
02_dc.Identifier:Legacy	Refers to the original filename if it had been changed during migration.	None	<ul style="list-style-type: none"> • Tower, flowers, south.jpg
03_dc.Title	A name given to the resource. Actual formal title of the content or a contrived, brief descriptive phrase.	Mandatory	<ul style="list-style-type: none"> • President Powers speaking at Commencement • Crowd at Explore UT
04_dc.Description	An account of the resource. Descriptive text about the content of digital object that describes the scope or content more comprehensively than the title.	Mandatory	<ul style="list-style-type: none"> • President Powers giving the introductory speech at Commencement 2011 in central campus. • Group of children at the Chemistry Department with test tubes at Explore UT
05_dc.Coverage:Location	The spatial or temporal topic of the resource, the spatial applicability of the resource, or the jurisdiction under which the resource is relevant. City, state, and country (if outside of the US) where the object or intellectual content was created.	If there are multiple locations the places should be separated by a semicolon.	<ul style="list-style-type: none"> • The University of Texas at Austin • Austin, TX • Washington D.C.
06_dc.Coverage:date	Date when the original object was created. Standardized as: MM/DD/YYYY . If date is unknown, mark as undated . If a date can be guessed, include circa.	None	<ul style="list-style-type: none"> • 3/09/2012 • 07/07/1992 • circa 1982 • undated
07_dc.Creator	An entity primarily responsible for making the resource. Name of the original creator (individual, group, organization, or otherwise) who is responsible for the creation of the	Mandatory	<ul style="list-style-type: none"> • Miller, Marsha (photographer) • Haagensen, Sasha (freelance)

¹⁹ (University Marketing and Creative Services, 2013)

	original object. Should be written as last name, first name, middle name (if commonly used) or full organization's name. It is acceptable to indicate the creator's role in parentheses after the creator's name.		<ul style="list-style-type: none"> photographer) Yorkshire, Alastair (designer)
08_dc.Contributor	An entity responsible for making contributions to the resource. Name of individual, group, organization, or otherwise who has made contributions to the physical or intellectual content of the original object. Should be written as last name, first name, middle name (if commonly used) or full organization's name, as well as role (designer, editor, etc.).	None	<ul style="list-style-type: none"> Freelance Studio Name Name of Design Company
09_dc.Source:Project	A related resource from which the described resource is derived. Project or job assignment from which the original object is a part--- based on the convention and name authority used for identifiers; usually an [originating] event name.	Include year to distinguish similar projects.	<ul style="list-style-type: none"> Commencement 2011 Ransom Edition 2012 McCombs School of Business Annual Report 2004
10_dc.Rights	Information about rights held in and over the resource. Link to a copyright notice or general information on who holds the intellectual property rights for the item, even if the collection is open for research. This field also includes release information.	None	<ul style="list-style-type: none"> The University of Texas at Austin This material may be subject to U.S. Copyright Law... Name of Design Company
11_dc.Source:Location	A related resource from which the described resource is derived. In Portfolio, this field is used to denote the department/CSU name, server name, and/or folder structure for the physical object where the object is stored.	None	<ul style="list-style-type: none"> Server name, year Department (if not UMCS), server name, year
12_dc.Subject:Keywords	The topic of the resource. List of keywords that accurately describe the image. Pre-defined drop down list includes general keywords only, but users should include their own descriptive terms.	Uncontrolled.	<ul style="list-style-type: none"> Architecture Faculty Black and White
15_dc.Type	The nature or genre of the resource. Classification or categorization of original object. Use Dublin Core type vocabulary.	Pre-defined drop down list.	<ul style="list-style-type: none"> Image Text MovingImage Sound
TECHNICAL METADATA			
13_dc.Format:Container	The file format of the digital object.	Pre-defined drop down list.	<ul style="list-style-type: none"> TIFF Image JPEG Image
14_dc.Format:Alignment	Field indicating whether the image is horizontal or vertical.	Pre-defined drop down list.	<ul style="list-style-type: none"> Horizontal Vertical
18_dc.Format:AudioSamplingFrequency	The number of times per second the amplitude of the audio wave is measured (sampled), measured in	For audio only.	<ul style="list-style-type: none"> 44.1 kHz 96 kHz

	1000s of times per second, or kilohertz (kHz).		
19_dc.Format:Duration	The length of time taken by the item rounded to the nearest minute.	Video and audio only	<ul style="list-style-type: none"> • 11 minutes • 1 hour, 35 minutes
ADMINISTRATIVE METADATA			
16_dc.Description:DigSpecsModelName	The model number of the device used to create the original object.	Photograph/Video only. Automated.	<ul style="list-style-type: none"> • Nikon 385 • Canon 350
17_dc.Description:LastUsed	A listing of publications and date where the image was used.	None	<ul style="list-style-type: none"> • Know Events – Arts and Humanities – Alumni – 02/22/2012 • Students Hooked on Texas – Spring Into Giving – 04/2012

Overview of Current DAMS Use

There are currently three CSUs actively utilizing Portfolio to manage their digital assets, with several more CSUs in the process of integrating it into their workflows. Each CSU possesses its own catalog for their digital assets (with the exception of UMCS which possesses multiple catalogs for images, videos, and private files) and has folders organized according to their unique business needs and preferences. With the exception of UMCS, all of the organizational schemas for individual CSUs were co-developed by representatives from each CSU in conjunction with a former graduate student at the School of Information.

Portfolio currently provides access to approximately 200,000 files, across 6 servers, for a total of approximately 950 GB of data. Some of the oldest files managed on Portfolio are approximately eleven years old, however there are a few images that are digital reproductions or duplicates of older photographs. The most prominent file formats are JPEG which is a lossy compression format, TIFF which is a lossless format, and NEF and CR2 formats which are the raw TIFF-based file formats for Nikon and Canon digital cameras.

Authorized individuals must contact the University Digital Asset Manager in order to obtain access to the catalogs and files managed on Portfolio. Although Portfolio provides the ability to search for images or files across catalogs, most representatives from each CSU who actively use Portfolio indicated in interviews that they have rarely, if ever, used Portfolio for this purpose. Most CSUs primarily use Portfolio to manage digital assets across small teams of designers and photographers within their own CSU.

Strengths of the DAMS

As a digital asset management system, Portfolio provides many benefits to users. In meeting with representatives from each CSU who actively use Portfolio, the ability to quickly find and organize digital assets was the most heavily cited strength of the DAMS. As previously stated, most CSUs use Portfolio to manage their own assets and while Portfolio has the ability to search for and find assets across multiple catalogs and servers, most users do not currently use it for this purpose.

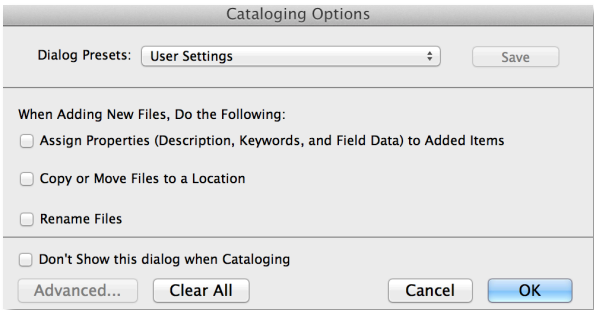


Figure 4 – Portfolio Cataloging Options

Being able to find and locate digital assets on Portfolio is heavily dependent on the presence of appropriate metadata for each item that is cataloged. Another strength of Portfolio is the ability to automate the creation of metadata and uniform file names based on established naming conventions when adding new files to a catalog. Figure 4 shows the options offered by Portfolio when cataloging new items.

Portfolio also allows users to customize their views and workspace to meet their own needs. Users can customize icons in the toolbar so that the options that they have a frequent or immediate need for are readily accessible (see Figure 5). Users can also customize the way assets are displayed by Portfolio, in either a thumbnail, list, or item view, and can select which metadata fields to show immediate information for in each view (see Figure 6). Within the regular Desktop Client interface, users can sort assets according to a specific attribute such as file type or creation date.

Figure 6 – Portfolio Metadata Field Display Options

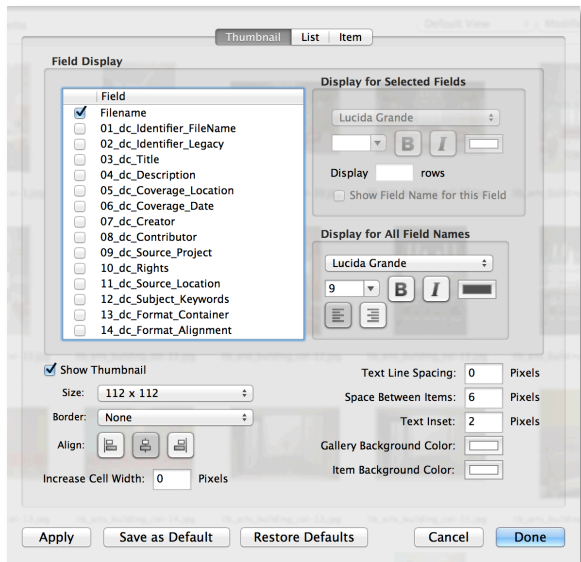


Figure 5 – Portfolio Toolbar Options



Other strengths cited by Extensis²⁰, include the ability to:

- Quickly convert all digital media from one centralized location.
- Improve efficiency by helping users quickly find what they need, on their own.
- Get the most out of past projects by reusing and re-purposing existing assets.
- Reduce costs by eliminating the need to recreate “lost” assets.
- Track usage rights to avoid fees associated with incorrect usage, license violations, and other compliance issues.

Weaknesses of the DAMS

One immediately obvious weakness of Portfolio as a DAMS is the lack of a user-friendly interface. While some of the individuals charged with managing the creation and retention of digital assets within each CSU are relatively comfortable and proficient with various computer programs and database driven technology, a majority of individuals have only a cursory knowledge of these systems. In order for users to achieve the full benefit of a DAMS, it is necessary for the technological capabilities and functionalities of the system to be readily apparent and accessible. This weakness will hopefully be remedied as newer versions of Portfolio become available. In the meantime, administrators and users can work to counteract this weakness through appropriate and concise training, as well as customization of the toolbar as previously mentioned.

An additional weakness of the DAMS is that it lacks the support necessary to easily implement applied retention schedules for digital assets. Many digital recordkeeping systems include the ability to apply and implement retention schedules for records or groups of records. Portfolio does not currently support this capability and digital asset managers will have to reverse engineer or manipulate the existing functionalities in order to achieve this goal.

Portfolio also provides very little assistance in the way of analytics for digital assets. While this is understandable given that Portfolio is intended to function as a reflection or proxy for assets housed on a server, there are certain metrics that it is capable of gathering and/or displaying in various locations, such as the number of files or the frequency of keywords. The ability to extract or visualize these metrics to better analyze and manage the digital assets housed on a server would be extremely beneficial.

Section 6. CSUs on Portfolio

At the outset of this project there were three CSUs that had fully integrated Portfolio into their digital asset management activities: The College of Liberal Arts (COLA), The Office of Admissions, and University Marketing and Creative Services (UMCS). Because these three CSUs were very aware of and active in the management of their digital assets, they were used as the focus of this project.

²⁰ (Extensis, 2013)

In meeting with key representatives from each CSU it was very apparent that each of the CSUs have very different needs in terms of creation, use, and retention of their digital assets. Section 6 is broken down into sub-sections for each CSU. Each sub-section contains a description of each CSU, an overview of their use of Portfolio, including a file scope, their chosen organizational schema, as well as the general strengths and weaknesses of their digital asset management practices.

It should be noted that results from a detailed disk analysis of the digital assets on each CSU server are used as a source of information for the file scope of each CSU. These results are meant to provide additional insight into the digital asset management practices of each CSU and are by no means definitive or conclusive. While most files possess accurate metadata, some files may be lacking information or possess misinformation. Additionally, the modification dates of the files are employed as an indicator of use. While use does not necessarily entail modification, modification does imply some sort of use and is therefore applied as an indicator of use.

University Marketing and Creative Services

During the course of this project University Marketing and Creative Services (UMCS) was “reorganized to serve as a central point for university communication services.”²¹ Creative Services asserts its mission is “to provide a cost effective, easy and efficient way for you and your staff to create communications that are compelling, engaging and aligned with the university’s brand.”²²

In pursuit of this mission with relation to digital assets, UMCS engages in the hiring of designers and photographers and provides “art direction and design consulting for print design, Web design and photography for advancement materials, branding, identity and logo development, viewbooks and brochures, direct mail, invitations, magazines, newsletters, media campaigns and more.”²³ While outside vendors are sometimes hired for projects, the University Photographer is the most frequent creator of digital assets for UMCS and the university. Every few years, UMCS also conducts a large, general campus photo-shoot but has not done so since 2010.

UMCS on Portfolio

As the department that houses the University Communications Digital Asset Manager, UMCS was the first CSU to integrate Portfolio into their digital asset management practices and uses it the most extensively of all the CSUs assessed in this report. The University Digital Asset Manager is the most active user of Portfolio. Additional users include individual Art Directors who work with other CSUs and the central administration to generate digital assets, as well as the Director of Creative Services.

The majority of the digital assets that UMCS uses Portfolio to manage are photographs, usually taken by the University photographer for specific marketing, publicity, and promotional needs. While many

²¹ (UT Austin Creative Services, 2013)

²² Ibid.

²³ Ibid.

images are created with specific projects in mind, UMCS also collects photographs that document recurring special events at the university such as Explore UT.

In addition to an Images catalog, UMCS also has separate catalogs for Audio, Video, and Private files on Portfolio. The Images catalog contains the most files and is assessed in detail in the following section.

File Scope & Organizational Schema

The UMCS Images catalog has approximately 154,741 files for a total of approximately 813.3 GB of data. According to Portfolio, there are roughly 179,950 keywords used in the UMCS Images catalog.

Folders on the UMCS server are organized chronologically by year starting with 2008 and going through 2013. Figure 8 shows the current folder structure of the UMCS Images catalog. Each folder contains sub-folders with descriptive titles according to the originating event, project, or subject, such as “Sue Leander Going Away Party” or “Thanks Day 2012”.

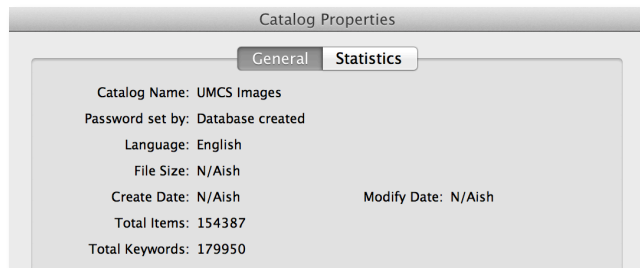


Figure 7 – UMCS Images Catalog Properties

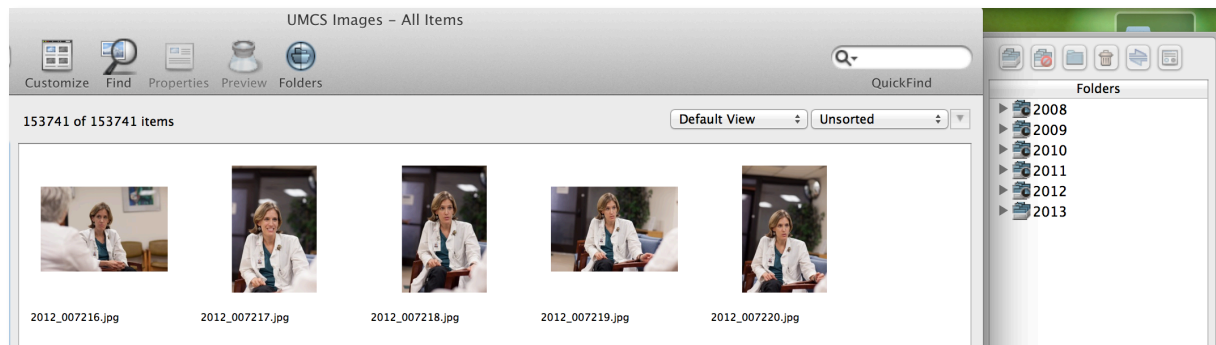


Figure 8 – UMCS Images Catalog Folder Structure

There are also established naming conventions for individual files. Each file is named with the year, followed by an underscore, then a six-digit number automatically assigned to each file as it is ingested, and ending with the file extension according to the file type.

The bulk of the files in the UMCS Images catalog (138,431 files or 89.5 %) are contained in the 2008, 2009, and 2010 folders, and more specifically, in the *Photos 2008_CSM*, *Photos 2009_CSM*, and *Photos 2010_CSM* sub-folders. These sub-folders primarily contain numerous headshots of various individuals associated with the university and there are an overwhelming number of duplicate images, partially due to the retention of the raw original and a jpg copy. Following is a summary of the disk analysis results

of each folder. Screenshots of the disk analysis results with additional information can also be found in [Appendix A](#).

2008

The *2008* folder of the UMCS Images catalog is organized into 17 sub-folders containing 45,277 files for a total of 156.4 GB of data. Figure 9 shows the current sub-folder structure of the *2008* folder. The bulk of these photographs (142.8 GB) are in the *Photos 2008_CSM* sub-folder. The oldest files have a modification date of 1998 (eTribute image selection) to 2005 (School of Music Gift). Approximately 61.6% (or 30,960 files) are 1 MB to 4 MB in size. 89.1% (or 44,751 files) have a modification date that is between three and five years old. Less than 1% of files have a modification date that is less than three years old. 10.6% (or 5,355 files) have a modification date that is over six years old. The majority of files (80.7% or 40,535 files) are jpg file type. Additional details from the disk analysis results of the *2008* folder can be found in [Appendix A, Section 2008](#).

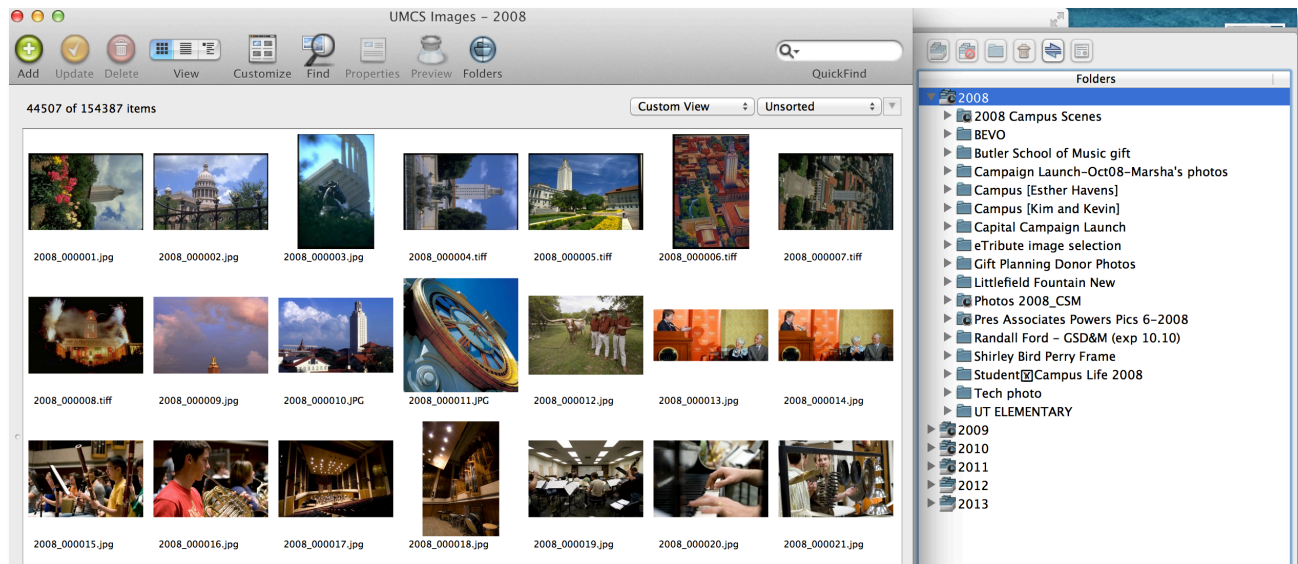


Figure 9 – UMCS 2008 Folder Structure

2009

The *2009* folder of the UMCS Images catalog is organized into 18 sub-folders containing 44,361 files. Figure 10 shows the current sub-folder structure of the *2009* folder. At 296.3 GB of data, the *2009* folder is the largest folder in either the UMCS Images catalog as well as Portfolio in general. The bulk of these files (260.1 GB) are in the *Photos 2009_CSM* sub-folder. Most of the files (47,011 files) have a modification date that is three to five years old, with a few files (143 files) having a modification date that is over six years old. Most of the files are jpg (28,488 files) or nef (14,657 files) file types. Additional details from the disk analysis results of the *2009* folder can be found in [Appendix A, Section 2009](#).

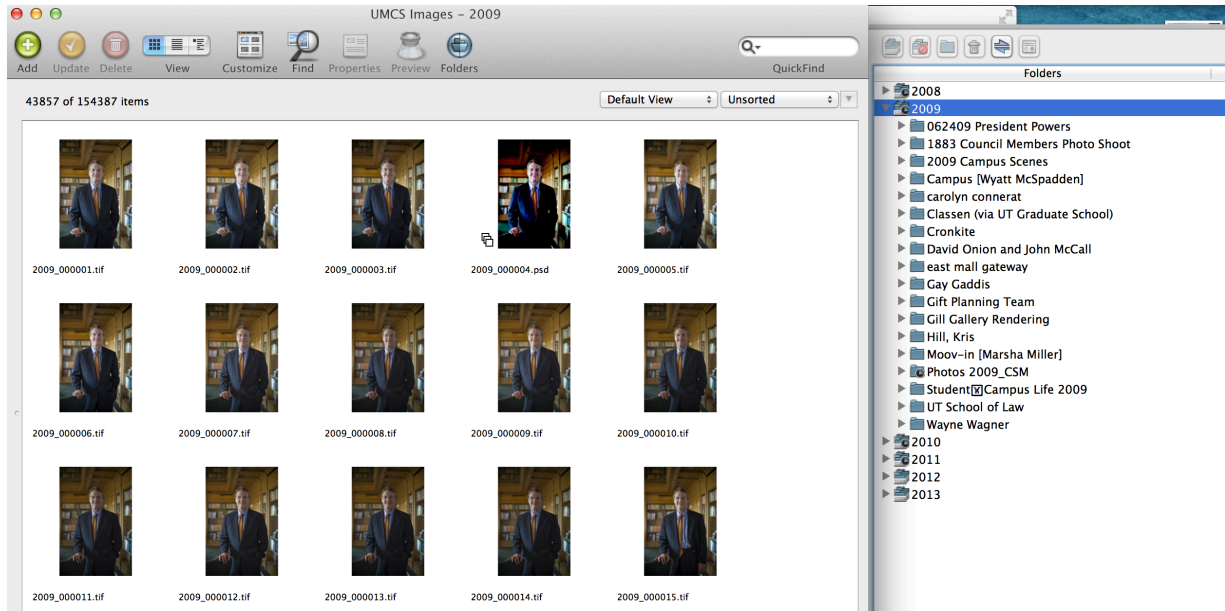


Figure 10 – UMCS 2009 Folder Structure

2010

The *2010* folder of the UMCS Images catalog contains the most files of any folder on either the UMCS Images catalog or Portfolio in general. The *2010* folder is organized into 19 sub-folders containing 48,793 files for a total of 266.4 GB of data. Figure 11 shows the current sub-folder structure of the *2010* folder. The majority of these files (251.1 GB) are in the *Photos 2010_CSM* sub-folder. 40% of the files (or 21,882 files) fall between 4 MB and 16 MB in size. Most of the files (34,229 files or 63.8%) have a modification date that is between two and three years old, suggesting that most of the files have not been modified since their creation. However, 25.7% or 13,782 files were modified in the last 91-180 days. The majority of the files (31,790 files or 59.3%) are jpg files. Additional details from the disk analysis results of the *2010* folder can be found in [Appendix A, Section 2010](#).

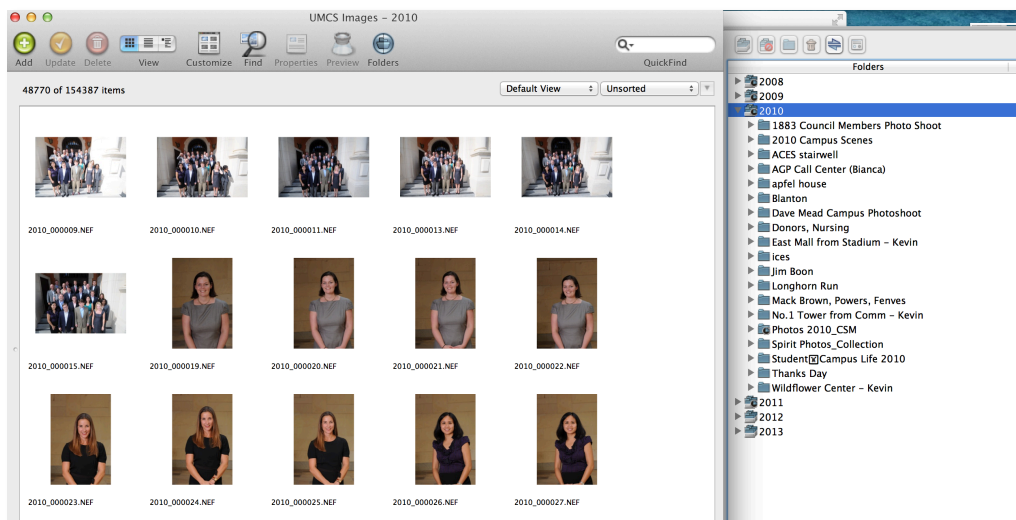


Figure 11 – UMCS 2010 Folder Structure

2011

The 2011 folder of the UMCS Images catalog is organized into 29 sub-folders containing 3,696 files for a total of 18.7 GB of data. Figure 12 shows the current sub-folder structure of the 2011 folder. It should be noted that there is a significant difference in the number of files as well as sub-folders compared to the previous three years. The organization of files is fairly evenly distributed among the sub-folders and while some duplicates are still present, there are substantially fewer than previous years. The largest sub-folders are *Thanksgiving 2011* (13.4% or 447 files) and *Spring Into Giving* (12.7% or 712 files). Most of the files fall between 256 KB to 1 MB (46.3% or 1,738 files) or 4 MB to 16 MB (39.3% or 1,477 files) in size. 78% of the files have been modified in the last year and only 3.9% or 145 files haven't been modified in two to three years. The majority of the files (86.9% or 3,264 files) are jpg files. Additional details from the disk analysis results of the 2011 folder can be found in [Appendix A, Section 2011](#).

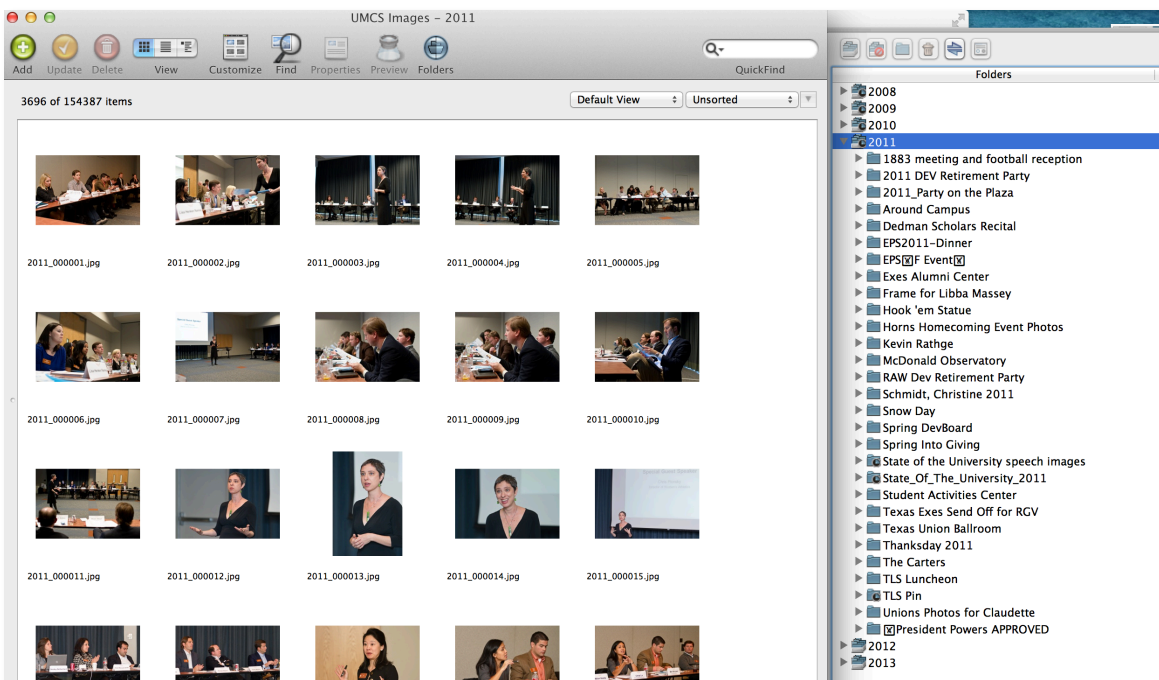


Figure 12 – UMCS 2011 Folder Structure

2012

The 2012 folder of the UMCS Images catalog is organized into 26 sub-folders containing 12,110 files for a total of 75.5 GB of data. Figure 13 shows the current sub-folder structure of the 2012 folder. The bulk of the files (79.8% or 6,625 files) are raw images in the *UT Scenes from Marsha Miller 2012* sub-folder, taking up approximately 60.2 GB of data storage. Most files (4,374 files or 37.8%) are between 1 MB to 4 MB in size and most files (8,030 files or 69.3%) have been modified in the last 180 days. Like the other folders, the majority of the files in the 2012 folder are jpg files (71% or 8,228 files). Additional details from the disk analysis results of the 2012 folder can be found in [Appendix A, Section 2012](#).

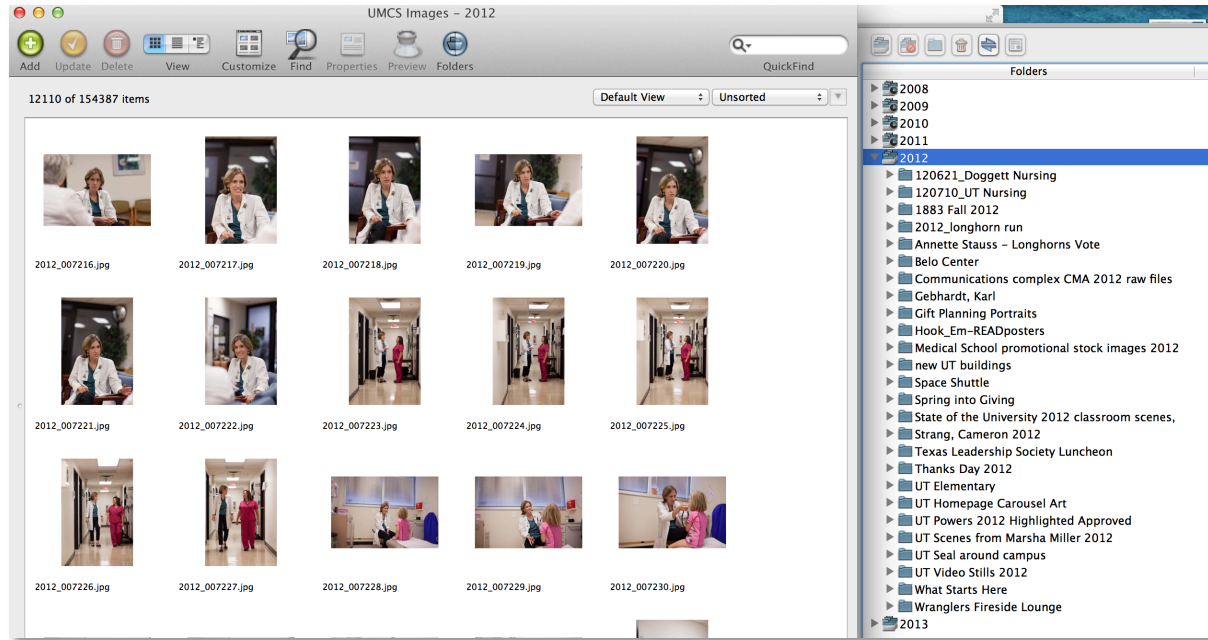


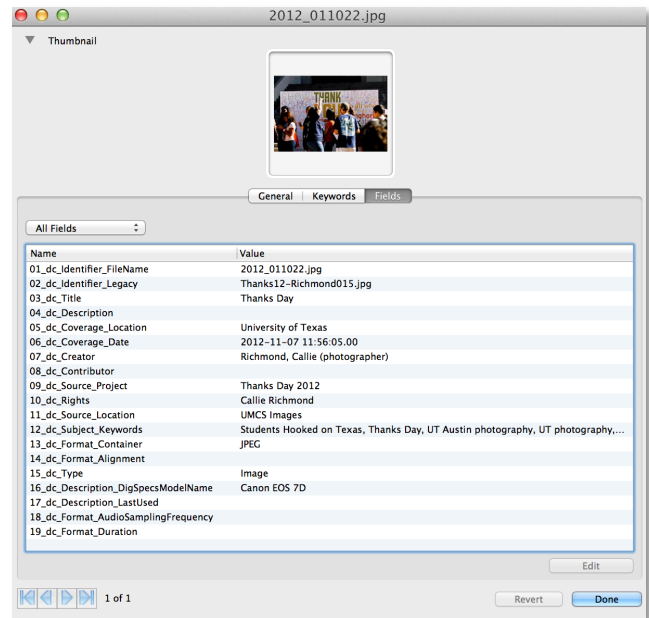
Figure 13 – UMCS 2012 Folder Structure

Strengths & Weaknesses

One of the key strengths of the UMCS digital asset management practices is the substantial amount of metadata that each asset possesses. As a best practice, the University Digital Asset Manager suggests that digital assets on Portfolio have six minimum metadata fields filled in. These fields include:

- dc.Identifier:FileName
- dc.Title
- dc.Creator
- dc.Format:Container
- dc.Source:Location
- dc.Subject:Keywords

Figure 14 – UMCS Images Metadata Fields



Descriptions of these fields can be found in Section 5, Table 3. Figure 14 shows an example of the metadata typically assigned to items in the UMCS catalog. Almost every appropriate metadata field has been used to describe the asset and the information that has been applied is of sound quality.

The enforcement of these minimum standards is critical not only to Portfolio’s functionalities but to the success of UMCS’s chosen organizational schema. Because the highest level of organization is done on a chronological basis, individuals who are looking for an image but lack specific details about when

or for what project it was created would find it very difficult to locate the file without the minimum metadata in place.

Another strength of UMCS’s digital asset management practices is the use of standardized naming conventions for files. Standardized naming conventions prevent invalid or problematic characters from being used when naming files and also establish a structure for interpreting the identity of the file.

The UMCS organizational schema can also be regarded as a strength. It is readily apparent where and how new assets should be organized. The chronological organization of the UMCS digital assets also makes it easy to identify which assets are ready for disposition when the time is appropriate. For individuals who are unfamiliar with UMCS’s activities and past projects however, the organizational schema may also be a weakness, especially if key metadata is missing or lacking.

Another weakness of the UMCS digital asset management practices are the overwhelming number of duplicate and near duplicate files and images on the UMCS server, specifically the raw image duplicates in the 2008, 2009, and 2010 folders. Figure 15 shows an example of these duplicates and near duplicate images. Despite substantial metadata and Portfolio’s ability to leverage this information, duplicates and near duplicates put additional strain on resources by taking up unnecessary storage space and creating additional work for cataloging the files.

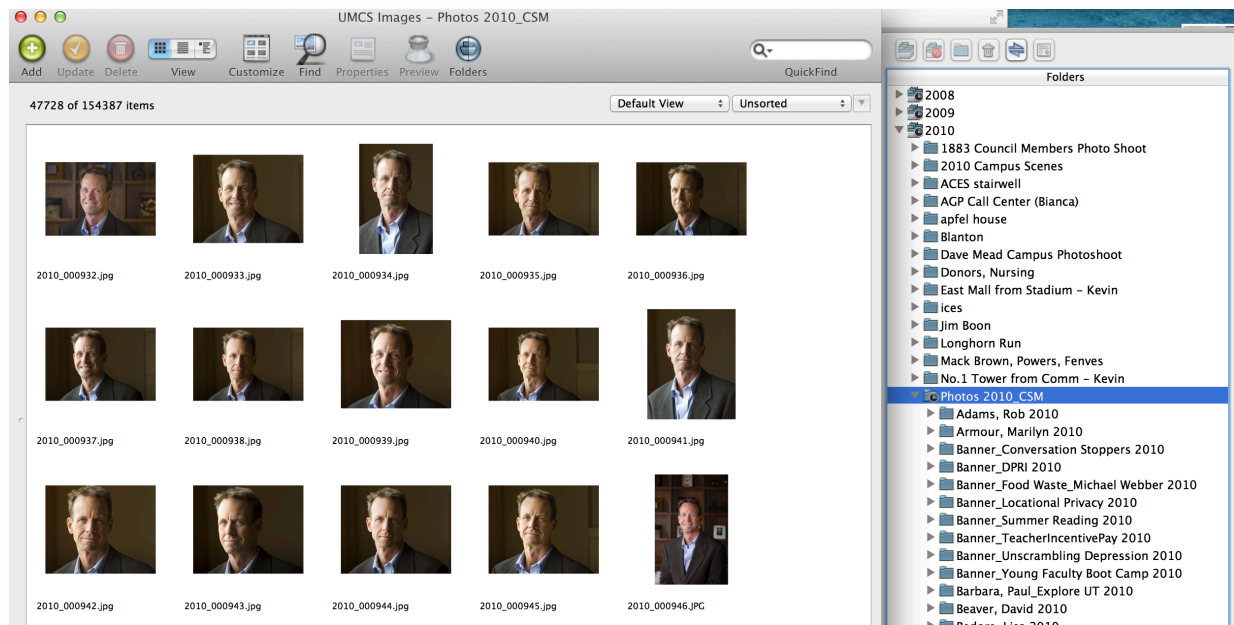


Figure 15 – UMCS Images Duplicates

The College of Liberal Arts

The College of Liberal Arts (COLA) is one of the largest colleges at UT Austin. As COLA notes, “We offer more than 45 majors through 21 academic departments and two-dozen centers and institutes.

And we're committed to the idea that understanding history, society and culture helps students better understand - and, ultimately, thrive in - the world beyond campus.”²⁴ The Office of Public Affairs within COLA is the department primarily responsible for coordinating and promoting COLAs image and activities to the public.

COLA on Portfolio

Compared to the other two CSUs, COLAs use of Portfolio is relatively mild. According to the Portfolio catalog properties, the COLA Images catalog was created in November of 2012.

COLA manages approximately 2,852 digital assets through Portfolio for a total of approximately 8.1 GB of data stored on the COLA server. According to Portfolio, the COLA Images catalog has approximately 4,375 keywords associated with their assets. The original organizational schema for the folder structure on the server was developed in 2012 by a former graduate student at the School of Information in conjunction with the Assistant Director of the Office of Public Affairs at COLA.

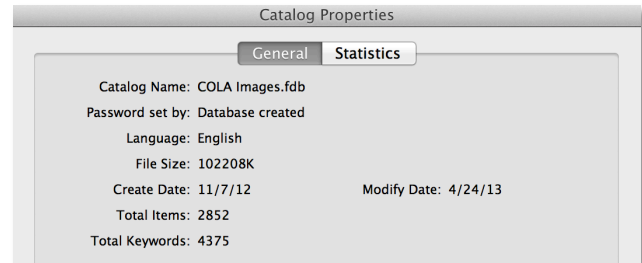


Figure 16 – COLA Images Catalog Properties

While the Assistant Director was the individual most heavily involved in the development of the organizational schema for COLAs digital assets, the Senior Graphic Designer for COLA is the individual who uses the DAMS most frequently. COLA is interested in having many people within their department actively accessing and using Portfolio to manage COLAs growing collection of digital assets. There are currently four individuals within the Office of Public Affairs at COLA who are actively creating, using, and managing digital assets on Portfolio.

The most frequent activity for which COLA creates digital assets and uses the DAMS is for their magazine, *Life & Letters*, which they publish biannually in the Spring and Fall to share developments in faculty research and accomplishments of COLA alumni and students. Approximately 45% of the digital assets that are currently managed in the COLA Images Catalog were created in connection with their *Life & Letters* publication, with the oldest images originating from publications in 2002.

In meeting with the Assistant Director of the Office of Public of Affairs and the Senior Graphic Designer for COLA, they indicated that a ten-year retention period for their digital assets seemed appropriate for their needs and practices. However, in looking at the disk analysis results of digital assets on the COLA server discussed in the following section, it would seem that a ten-year retention period would be unnecessary or excessive.

²⁴ (College of Liberal Arts, 2013)

File Scope & Organizational Schema

COLAs digital assets are organized into eight folders arranged according to category. Within these folders, assets are organized into sub-folders either by category or by year. Figure 17 shows the current organizational structure of folders and sub-folders on the COLA server.

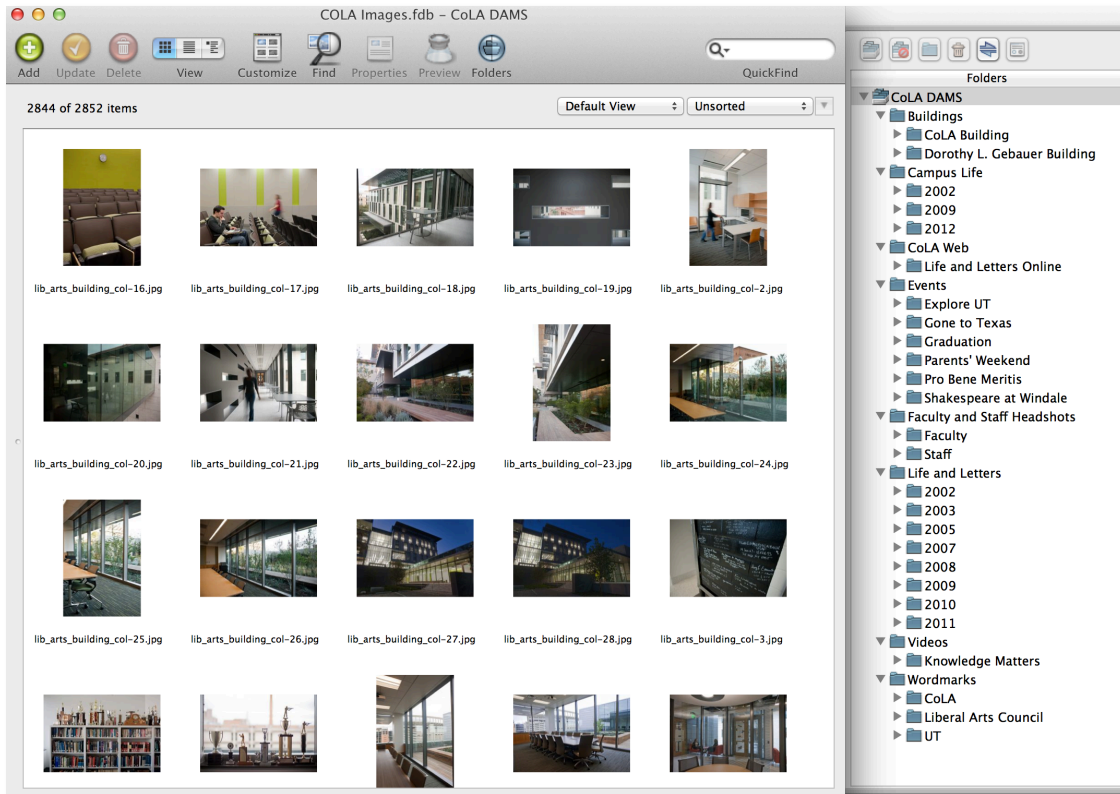


Figure 17 - COLA Images Catalog - Folders & Sub-folders

The bulk of COLAs assets are housed in the *Life and Letters* folder (45.2% or 2,485 files) and the *Events* folder (38.5% or 1,640 files). Figure 18 shows the relative sizes of the folders on the COLA server. The majority of COLAs assets (30.2% or 1,742 files) are relatively small, falling between 4 KB to 16 KB in size.

According to the disk analysis results, 100% of COLAs digital assets have been modified in the last 90 days. While this may be true, it seems unlikely that COLA has used every single one of the thousands of digital assets they possess in the last three months and might instead be a side-effect of the process of organizing and preparing COLAs files for Portfolio. Only 11 files had been modified in the month preceding the disk analysis of COLAs digital assets. The majority of COLAs digital assets (86.4% or 4,986 files) are jpg files. Additional details from the disk analysis results of COLAs digital assets can be found in [Appendix B](#).

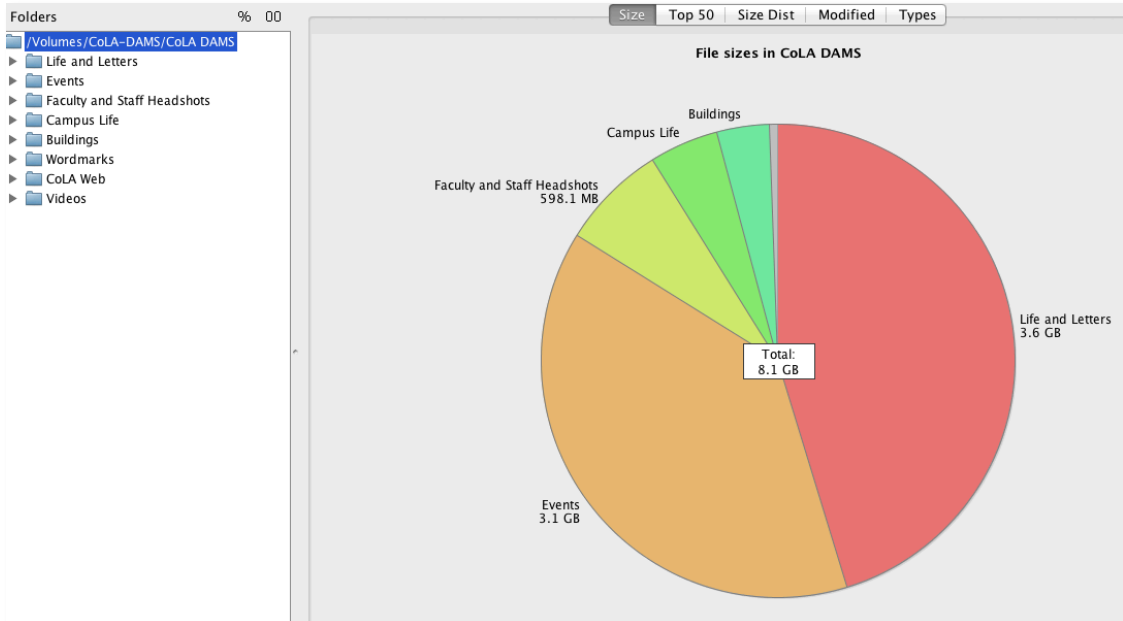


Figure 18 – COLA Folder Sizes

Strengths & Weaknesses

One of the strengths of COLAs digital asset management practices is their chosen organizational schema. Because COLA primarily creates digital assets in connection with their *Life & Letters* publication, a subject-based organizational schema with chronological sub-folders is very efficient and effective for their needs and activities.

One of the weaknesses of COLAs digital asset management practices is the lack of metadata assigned to files in the COLA Images catalog. Figure 19 shows an example of the metadata associated with an image in the *Graduation* sub-folder of the *Events* folder. Only two of the metadata fields are used to describe the asset and of those two fields, only the *Coverage_Date* field provides helpful information. Because COLA has opted for a subject-based organizational schema with chronological or categorical sub-folders, it is imperative that sufficient metadata accompany each asset in order to make it discoverable and useful to current and future users of COLAs assets. It is suggested that COLA adhere to the six metadata field minimum requirements as suggested by the University Digital Asset Manager for all their assets.

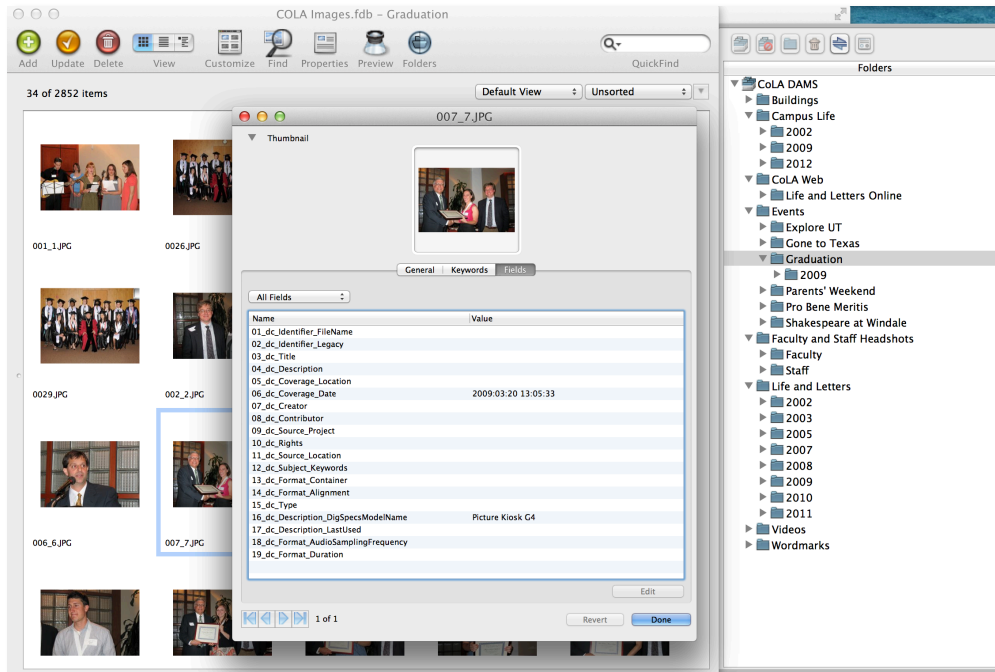


Figure 19 – COLA Images Metadata Fields

Another weakness of COLAs digital asset management practices is the lack of consistent file naming conventions. Figure 20 shows examples of file names for various images in the most recent sub-folder for *Life & Letters*. While some images have semi-descriptive titles such as *winner_w_dean.jpg*, others are seemingly random combinations of strings of numbers and letters such as *1181360381_bbp_110203_3*.

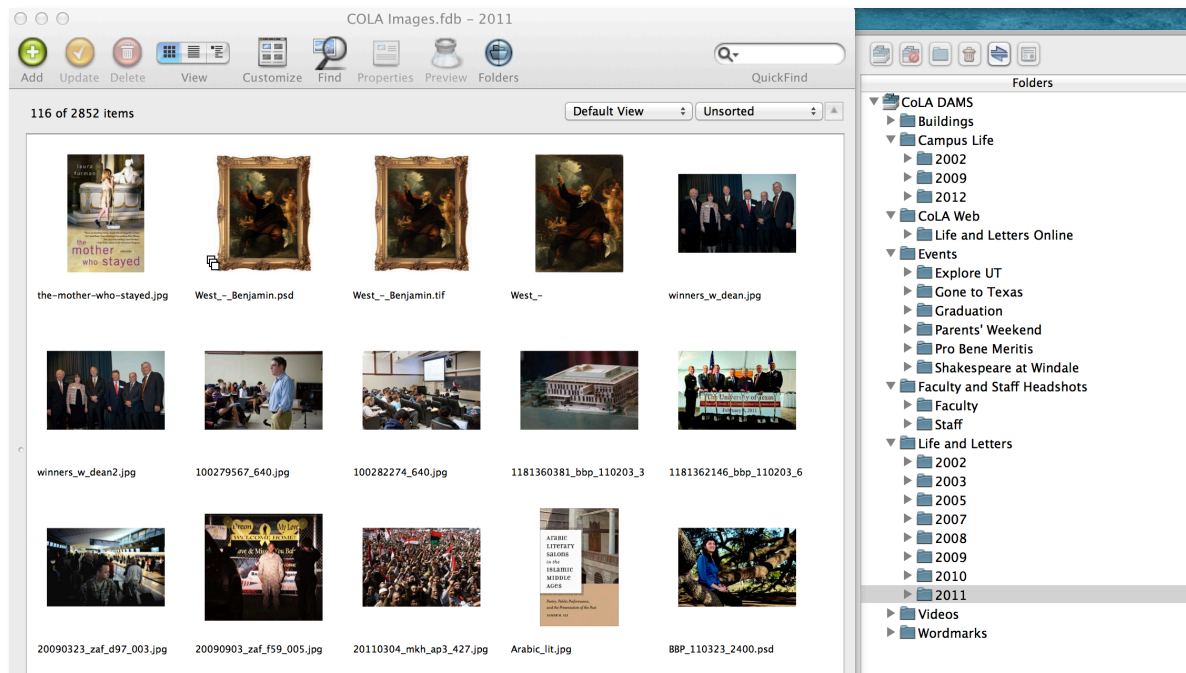


Figure 20 – COLA Images File Names

Furthermore, some file names contain characters that are best avoided when naming files for the potential problems they can cause for different operating systems and browsers in a web-based environment. As Extensis notes, “For complete network compatibility across Mac, Windows, and Unix, it is wise to use file names that are compatible with all platforms.”²⁵ Extensis suggests adhering to the following guidelines:

- Use file name extensions that are appropriate for the file type, even on Mac OS X.
- Avoid high-ascii characters when possible. Some systems don’t like them.
- Avoid the following characters in file names: ? [] / \ = + < > ; ; “
- Format dates in a simple manner. For example the date June 23, 2004 can be represented as 040623. This helps keep the files sorted in order in the Macintosh Finder, Windows Explorer and other file display systems.
- Strongly enforce all users to follow the naming convention.

It is suggested that COLA work to develop appropriate and consistent naming conventions for their assets and employ Portfolio’s file renaming feature when adding new items to the COLA Images catalog as necessary.

As with other CSUs, the COLA Images catalog contains a significant number of duplicates, particularly headshots in the *Life & Letters 2002-2008* folders and the *Events* folder. Figure 21 shows an example of duplicate and near duplicate images in the COLA Images catalog. Although there are a number of duplicate and near duplicate images, they are primarily from older publications or events and are not as extensive as other CSUs. Digital assets created more recently have very few duplicates and it is suggested that COLA develop a policy with regards to duplicate images to continue to support this.

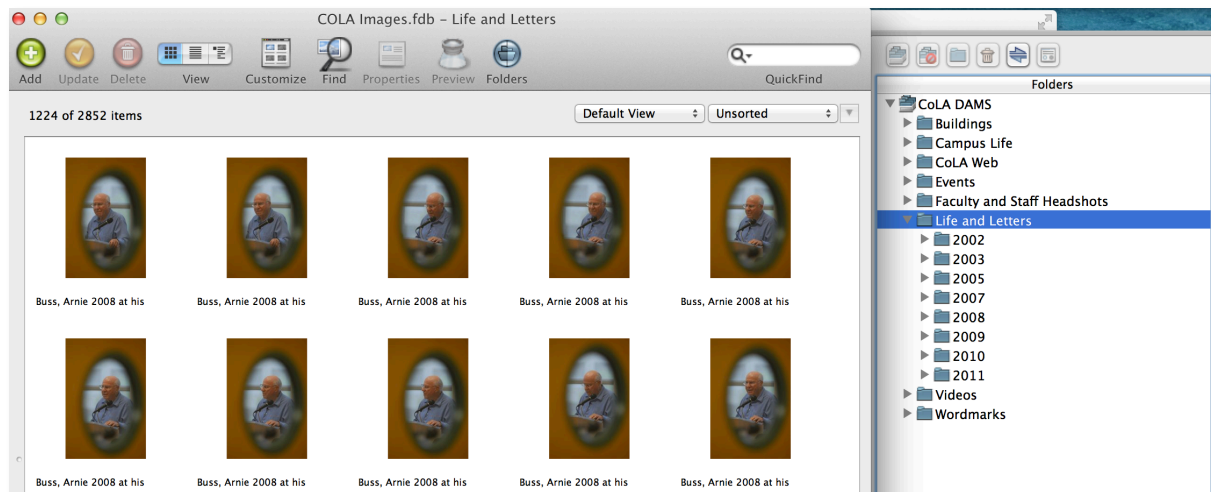


Figure 21 – COLA Images Duplicates

²⁵ (Extensis, 2012)

The Office of Admissions

The Office of Admissions asserts its primary functions and activities to be the recruiting and admittance of students to academic programs at UT Austin. The Office of Admissions states, “The office seeks to enroll students who have the potential to thrive in our community and who possess the qualities and attributes the university seeks to build an effective and dynamic learning community.”²⁶ In pursuit of this mission, the Office of Admissions aggressively promotes the university through of-the-moment publications that capture and communicate the academic and social atmosphere of UT Austin to potential students.

Office of Admissions on Portfolio

The Admissions Images catalog on Portfolio was created in November of 2012 and is primarily managed by the Senior Graphics Designer for the Office of Admissions. The Senior Graphics Designer was also responsible for the development of the organizational schema of the folders in conjunction with a former graduate student at the School of Information.

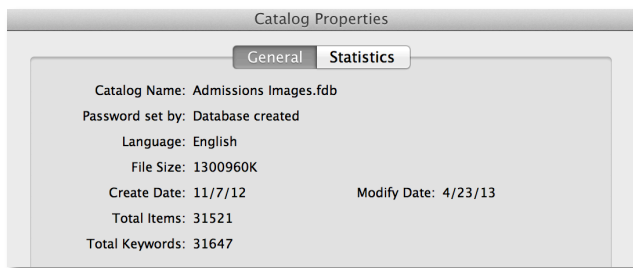


Figure 22 – Admissions Images Catalog Properties

The Office of Admissions primarily uses Portfolio to manage images but anticipates that they may increasingly use it to help manage videos in the future. The Office of Admissions

frequently engages in custom photo-shoots for their publications and indicated that their print projects occur on a higher frequency than web-based projects. Publication projects for the Office of Admissions generally follow a recurring yearly cycle, with new projects beginning in March and usually concluding in January.

Because the Office of Admissions attempts to promote the university by capturing the most recent images of university life, representatives from Admissions stated that they did not see a need to retain their digital assets beyond three years after their creation. Furthermore, they indicated that retaining their digital assets for longer than necessary could potentially harm their activities if an older image was mistakenly used, such as an out-of-date headshot of a key member of the university.

The Office of Admissions is also very aware of the implications of FERPA and Intellectual Property Law. They consulted with a university lawyer and were informed that if a student's face is recognizable in an image, the image qualifies as a state record and is subject to FERPA restrictions. As a result, the Office of Admissions actively ensures that they are not in violation of FERPA by blurring or distorting any images where students' faces are visible and retaining signed student release forms in-house.

²⁶ (Office of Admissions, 2013)

File Scope & Organizational Schema

The Office of Admissions manages approximately 31,250 digital assets through Portfolio for a total of 127.7 GB of data organized into 16 folders and arranged according to subject matter. According to the Portfolio catalog properties, the Admissions Images catalog currently has approximately 31,647 keywords associated with their various digital assets. Figure 23 shows the current folder structure of the Admissions Images catalog on Portfolio.

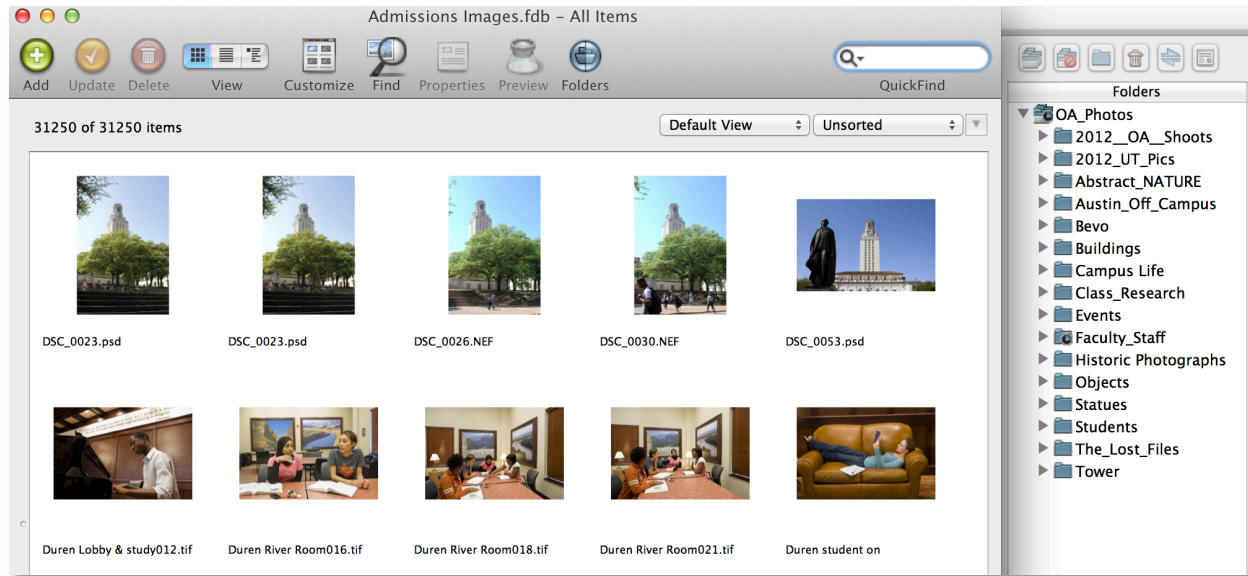


Figure 23 - Admissions Images Catalog Folder Structure

The majority of the digital assets in the Admissions Images catalog are located in the *Students* folder (44.7% or 16,157 files). Most of the files are between 1 MB to 4 MB in size (46.7% or 17,638 files). 41% or 15,503 of the Admissions digital assets were modified within the last 365 days. Most of the files are either jpg files (58.9 GB) or cr2 files (45.7 GB). Additional details from the Admissions disk analysis results can be found in [Appendix C](#).

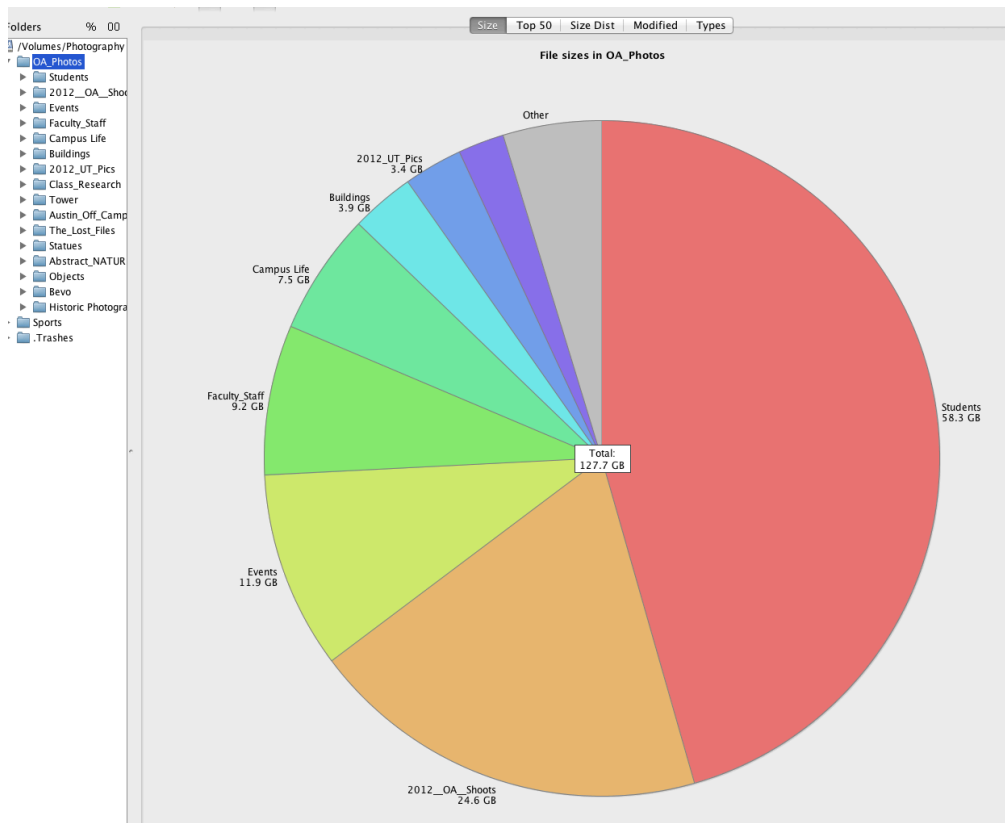


Figure 24 - Admissions Folder Sizes

Strengths & Weaknesses

As with other CSUs, given the primary purposes for which Admissions creates and uses digital assets, the organizational schema of the Admissions Images catalog is a significant strength. Because Admissions primarily creates and uses digital assets for recruiting and promotional purposes, organizing assets according to subject or category is much more effective and efficient than a chronological or event-based organizational schema. The subject-based organizational structure also allows outside or future users of Portfolio and/or the Admissions Images catalog to easily identify assets that are appropriate for their needs. Additionally, subject-based cataloging helps to counteract problems with insufficient metadata as Portfolio can use folder path names to automatically assign keywords.

One of the weaknesses of the Admissions digital asset management practices is the presence of duplicates or near duplicates, particularly headshots in the *Students* and *Faculty_Staff* folders. Figure 24 shows examples of duplicates and near duplicate photos in the Admissions Images catalog. As mentioned earlier, duplicate images can hinder productivity by making it difficult to identify a desired asset. Furthermore, because Admissions primarily creates images for promoting the university through web and print-based publications, many of their digital assets are already subject to retention requirements through existing codes in the UTRRS. As outlined in Section 4, Source A.2, state law only requires the university to retain one master copy of each record and may discard any additional convenience copies when they are no longer needed. The presence of a substantial number of duplicate

and near duplicates makes it difficult to determine which assets are subject to state law through the UTRRS and which assets may be safely discarded.

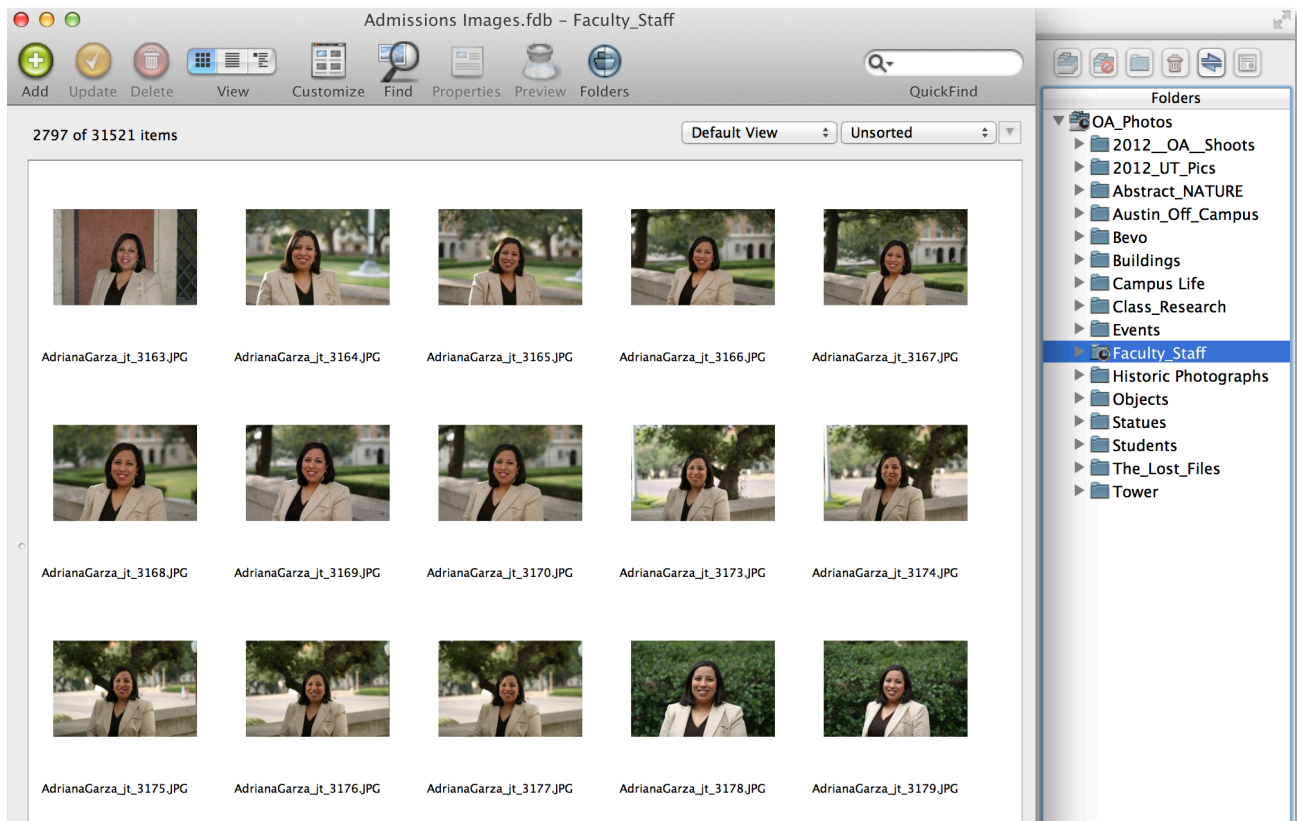


Figure 25 – Admissions Images Duplicates

Admissions also lacks consistent file naming conventions for their digital assets. Figure 25 shows examples of file names for photos in the Admissions Images catalog. Like COLA, while some images have somewhat descriptive file names such as *ACES_Ruben_Reyes.jpg*, other files are seemingly meaningless strings of numbers and letters such as *67900024.jpg*. It is suggested that Admissions develop appropriate and consistent naming conventions for their assets and employ Portfolio’s file renaming feature when adding new items to the Admissions Images catalog as necessary.

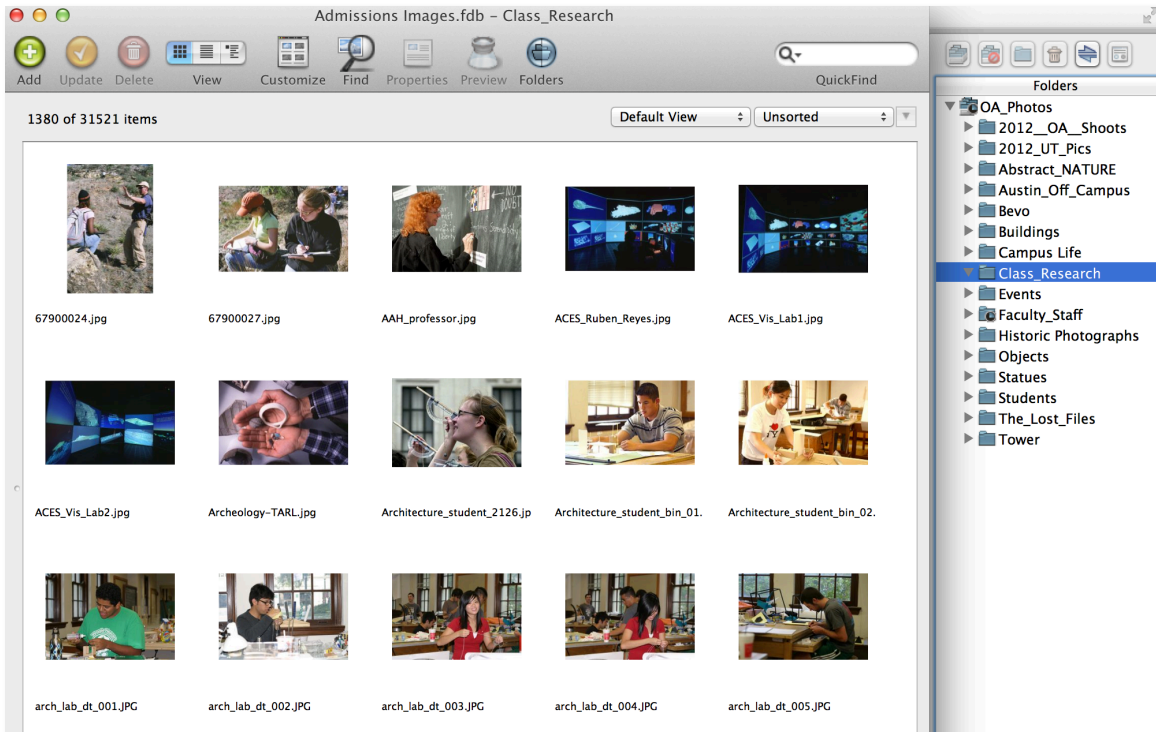


Figure 26 – Admissions Images File Names

While images in the Admissions catalog typically have some metadata associated with them, it is still not the required minimum that is recommended by the University Digital Asset Manager. Figure 26 shows an example of the metadata applied to a photo in the *Objects* folder of the Admissions Images catalog. Although five of the Dublin Core metadata fields have information, most of the metadata provided is minimally informative and none of the metadata would allow the asset to be identified in a search as a picture of the Gutenberg Bible.

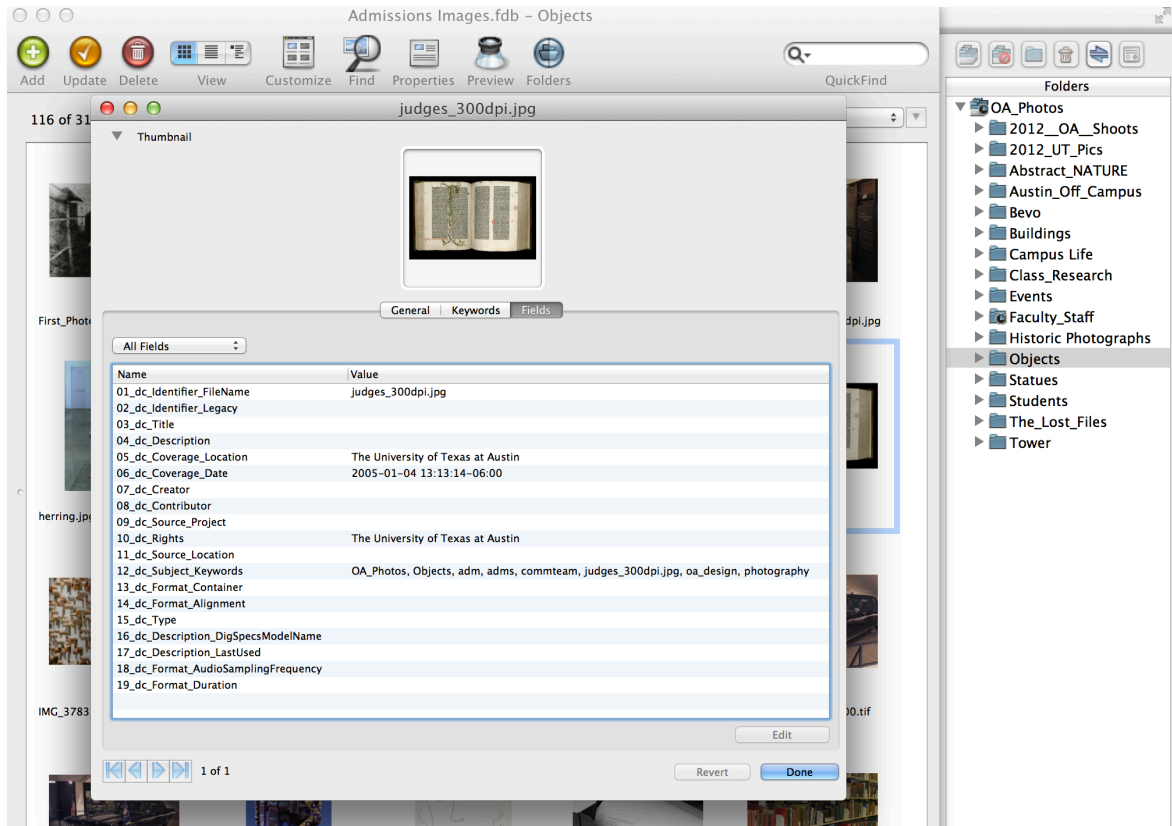


Figure 27 – Admissions Images Metadata

Section 7. Retention and Disposition of University Digital Assets

The following recommendations for the retention and disposition of digital assets at UT Austin were formulated through interviews with key stakeholders, including representatives from individual CSUs, the University Records Manager, the University Digital Asset Manager, and the University Digital Archivist, detailed disk analyses of the digital assets of each CSU, an overview of the technical functionalities of *Portfolio*, a review of pertinent literature regarding digital asset management, an assessment of the recordkeeping requirements and relevant stakeholders, and an evaluation of the current and proposed codes concerning digital assets in the UTRRS.

It should first be noted that there is a significant amount of overlap between the proposed series concerning digital assets. This is primarily due to the presence of an individual Photographs series (see Table 2, *Series 1.2*) within the Administrative Records series. *Series 1.2 – Photographs* essentially encompasses all photographic documentation of the institution including, “activities, events, students, faculty, and staff with significant relevance to either the institution’s or individual unit’s function and/or mission. It may be used for student recruitment and orientation, fundraising, publicity, publications, research, or teaching. The series includes fully identified photographs imprint, negative, slide formats, and digital photographs.” The proposed retention period for *Series 1.2* is PM (permanent) with transfer to the University Archives upon disposition. While it would be difficult to judge the level

of “relevance” to the institution or CSUs function and/or mission for each digital asset or groups of assets, this problem is seemingly inconsequential as virtually all digital assets are in some way covered through this series or a related series.

Other overlapping series include *Series 1.1 – Unit/Institution/Organization History Records* which includes photos and publications that provide a record of the development of UT Austin and *Series 1.4 – Special Events Records* which includes photographs and publicity materials that document a CSUs effort to host special informative or celebratory events. This overlap is problematic in that while the retention period for assets that are included in *Series 1.2* is permanent, assets that may also fall under *Series 1.4* are only required to be kept for seven years after the event has concluded.

In addition to these overlapping series, there is a second *Photographs and Films* series (*Series 9.2*) that pertains specifically to athletics and sporting events, a *Biographical Records* series (*Series 1.3*) which includes photos of institutional faculty and staff, and *Series 9.1* which includes photographs documenting the development of campus student organizations. Almost all the series concerning digital assets require transfer to the University Archives upon disposition, with the exception of *Series 1.3* and *1.4*, which require review by a University Archivist but are also incorporated into *Series 1.2* which is permanent.

In meeting with the University Digital Archivist it seemed that the University Archives is not currently prepared to comfortably handle the storage and maintenance of all the digital assets that the proposed codes would impact. This problem is exacerbated by the fact that many of the individuals charged with managing the digital assets of their CSU have limited knowledge of best practices with regards to organizational structure, file types, naming conventions, descriptive metadata, etc. The work involved with cataloging, describing, de-duplicating, renaming, and storing the approximately 2.5 million+ digital assets that the proposed revisions to the UTRRS would designate as permanent state records would be extensive and many of the files would be rendered useless until this process was completed.

Additionally, while there are digital assets that have long-term value and should be retained permanently, many have little-to-no long-term value, despite the evidence they provide of UT Austin’s activities and development. Images of cookies at a university fundraising event for example, possess very little permanent value.

Despite these problems, the digital assets of the university provide an undeniably rich source of evidence of and information about the development of the university. Given these factors the following recommendations are provided. Although there is significant overlap between series, it is suggested that all the proposed series be kept but that the retention and disposition of *Series 1.2 – Photographs* be changed to AC+7 (AC=End of event, activity, or project) with an Archival Code of O – *Review by University Archivist*. This retention period is based on an analysis of the modification dates of the digital assets of individual CSUs, as well as the desired retention periods expressed in interviews with representatives from individual CSUs who are heavily involved with the creation, use, and management of their digital assets.

While the Office of Admissions did not see a need to retain their assets beyond three years, COLA wished to retain their assets for a minimum of ten years. Although ten years would be acceptable for COLA given the relatively mild creation and use of digital assets, a ten year retention period would be excessive and a potential hindrance to the activities of CSUs who generate and use digital assets more extensively. Alternatively, while a three-year retention period is understandable for a CSU like Admissions, which has a very high turnover rate for digital assets, it would not be sufficient or appropriate for a majority of CSUs. Furthermore, a three-year retention period could negatively impact the university if CSUs chose to expend resources to recreate existing images rather than going through the process of obtaining them from the archives.

As Stephens notes, developing an appropriate retention period for assets that involve many departments or groups often involves identifying the minimum and maximum periods of time that would be considered acceptable and honing in on a median length of time.²⁷ In looking at modification dates for files in each of the yearly folders for UMCS' digital assets it is clear that while most files are not used after the event or project for which they were created, a fair number are used for purposes beyond which they were originally intended, making a three year retention period inappropriate. For example, 376 of the digital assets created by UMCS in 2009 have been modified in the last three years.

While very few digital assets on Portfolio are over ten years old to help assess the level of use and need for these assets for an extended period of time, a ten year retention period is also considered inappropriate given the number of assets that CSUs like UMCS would be projected to produce and manage in the coming years. As mentioned earlier, strong digital asset management practices and systems become increasingly ineffective in the face of an overwhelming amount of assets and information.

In consideration of these factors, it is suggested that digital assets be retained for 7 years after the conclusion of the event, activity, or project for which they were created. As an additional recommendation, the following "Photographs sub-series" are provided. These sub-series build on the proposed series in the UTRRS that pertain to digital assets but are customized for digital assets that are being created and used by CSUs at the university. These sub-series are intended to function as internal guidelines and are not intended to replace or supplement the proposed codes for the UTRRS. Table 4 outlines these four suggested sub-series and the UTRRS equivalent.

²⁷ (Stephens, 2010)

Table 4 - Suggested Sub-series for Digital Assets

Series Title	Series Description	UTRRS Equivalent	Suggested Retention	Disposition Action
Events	This series includes digital assets that document special events occurring at UT Austin or in connection with the university. These events include informative or educational sessions, meetings, workshops, or excursions, as well as celebratory or commemorative events. These events may be either planned or unplanned and recurring or singular in occurrence.	<i>1.4 - Special Event Records</i>	AC+7 AC=End of Event	O – University Archivist Review Required
Campus	This series includes digital assets that provide documentary evidence of the physical and social environment of the university, including university buildings, statues, landmarks, classrooms, museums, libraries, event facilities, and general campus grounds or university property, as well as student life within these settings or environments.	<i>1.1 – Unit/ Institution/ Organization History Records</i> <i>9 – Campus Life</i>	PM	I – Transfer to University Archives
People	This series includes digital assets that document individuals affiliated with the university including but not limited to students, faculty, staff, and other university employees. These materials may be used for public information releases or for internal reference by university staff or administration.	<i>1.3 – Biographical Records</i>	AC+3 AC=After Separation from the Institution	O – University Archivist Review Required
Publication & Promotional Materials	This series includes digital assets created and/or used for the purposes of promoting or representing the university to the public. These materials may be created and/or used for recruitment, orientation, fund-raising, publicity, publications, or education.	<i>1.2 – Photographs</i>	Current: PM Suggested: AC+7 AC=End of originating event or project	Current: I – Transfer to University Archives Suggested: O – University Archivist Review Required

Section 8. Conclusion

As previously stated, this project aimed to provide recommendations for the retention and disposition of digital assets at The University of Texas at Austin. Prior to this project, UT Austin had no formal disposition plan in place for university digital assets. The designation of a University Digital Asset Manager, purchase of the digital asset management system (DAMS) *Portfolio*, and pending changes to include digital assets more explicitly in The University of Texas at Austin Records Retention Schedule (UTRRS) necessitated a more detailed examination of the digital asset management practices of individual colleges, schools, and units (CSUs) at the university.

In examining the digital asset management practices of UMCS, COLA, and the Office of Admissions it was found that while the digital assets created and used by these CSUs provide a rich source of evidence about their activities, as well as the activities of the university overall, the permanent value of these materials is questionable. Furthermore, the university does not currently have the infrastructure necessary to support the appropriate management and permanent retention of all the assets that would be designated as state records by the revised codes to the UTRRS. It is recommended that the retention period for the proposed *Photographs* series which primarily pertains to digital assets be revised to AC+7, with AC=End of originating event, activity, or project, and that the assets be reviewed by a University Archivist prior to disposition to determine their permanent value.

It is also suggested that the University Digital Asset Manager develop a system for marking digital assets with their respective series titles and retention information to assist CSUs in managing their digital assets in accordance with university policy. In connection with this, it is also suggested that the University Digital Asset Manager develop a system for marking master copies of digital assets. As outlined in Section 4, Source A.2, state law only requires the university to retain one copy of an asset. The proliferation of duplicate digital assets on university servers can be quickly remedied once master copies are identified as any other copies of digital assets may be deleted at the CSUs discretion.

Although much more work is needed in the way of developing appropriate systems for managing university digital assets and training representatives of CSUs to manage these assets, the university has already made rapid advances in a short period of time. The university and other relevant parties are encouraged to continue to support this trend by consulting with the University Digital Asset Manager about digital asset management trends and weaknesses. Furthermore, if it is deemed appropriate, it is also recommended that the university work to counteract the negative side effects of the decentralized organizational structure of the institution by hosting a summer records and information management workshop. This workshop would bring together all individuals involved with university information throughout its lifecycle and facilitate communication, collaboration, and education about issues concerning the creation, use, maintenance, retention, and disposition of university records and information.

Appendix A – UMCS Disk Analysis Results

2008

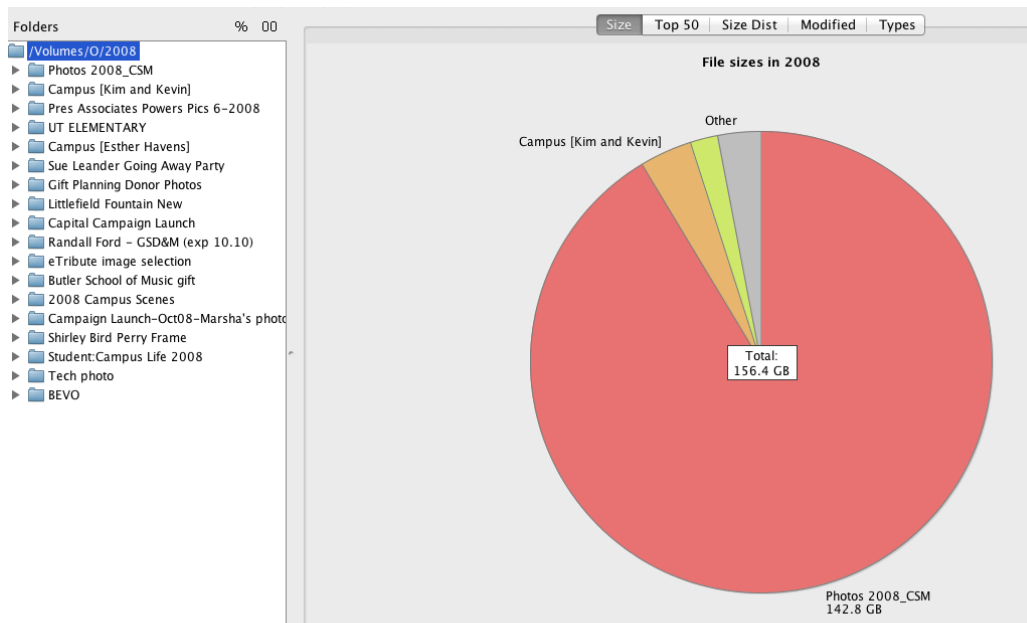


Figure A - 1 UMCS 2008 - File Sizes

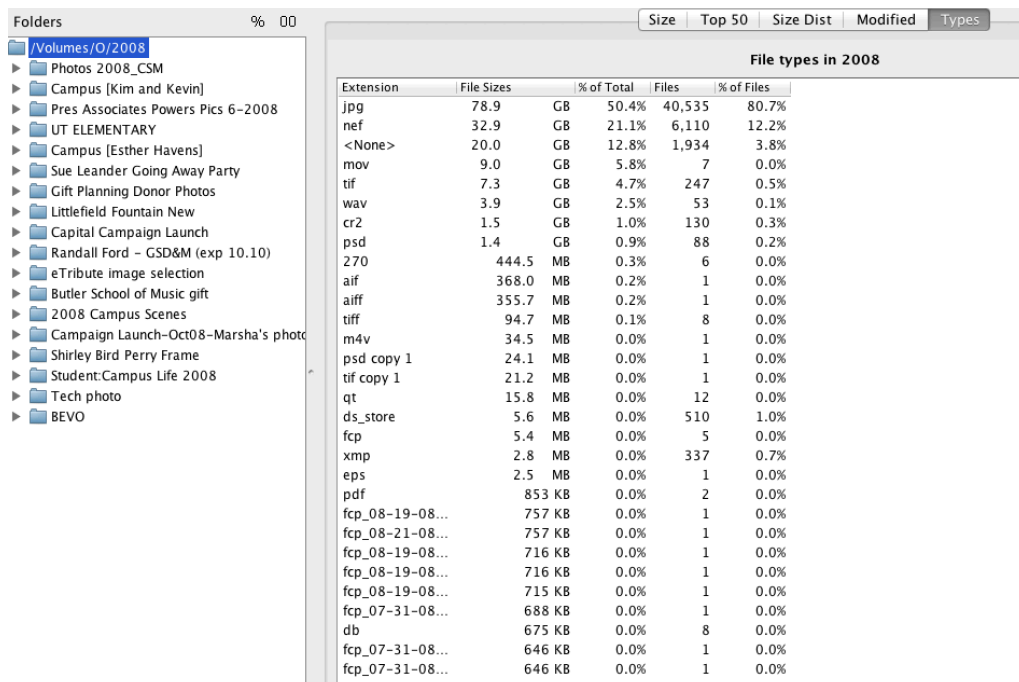


Figure A - 2 UMCS 2008 - File Types

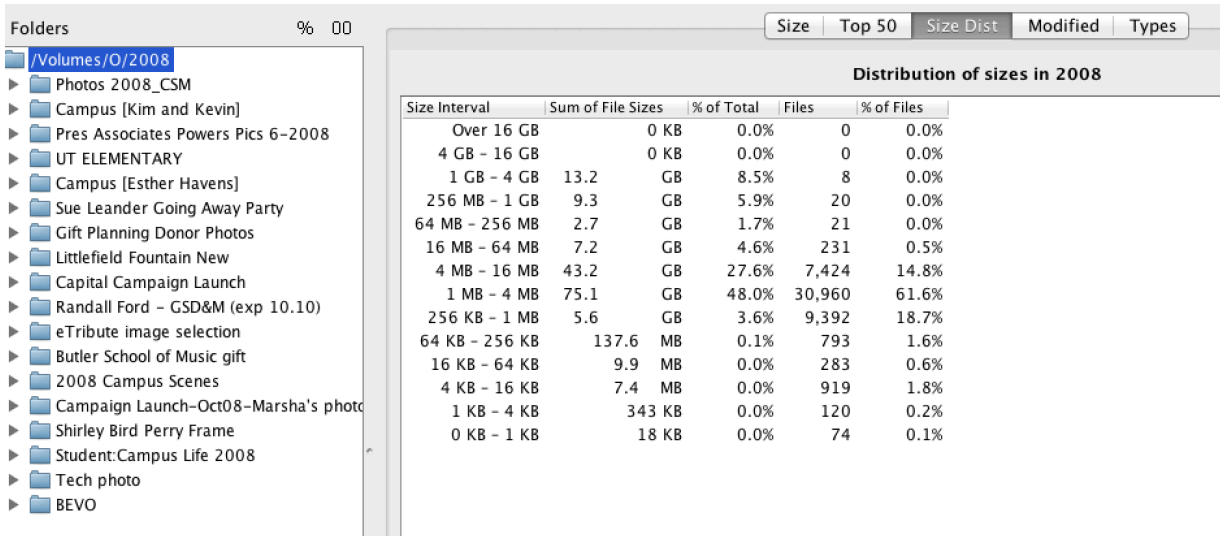


Figure A - 3 UMCS 2008 - Distribution of Sizes

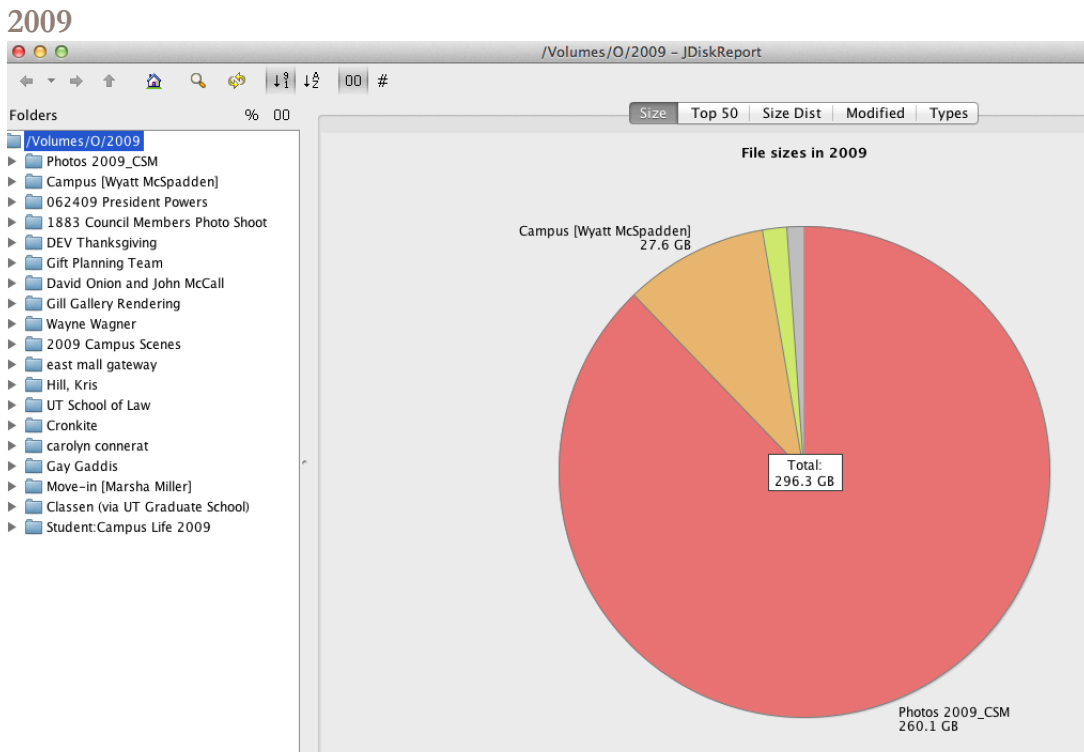


Figure A - 4 UMCS 2009 - File Sizes

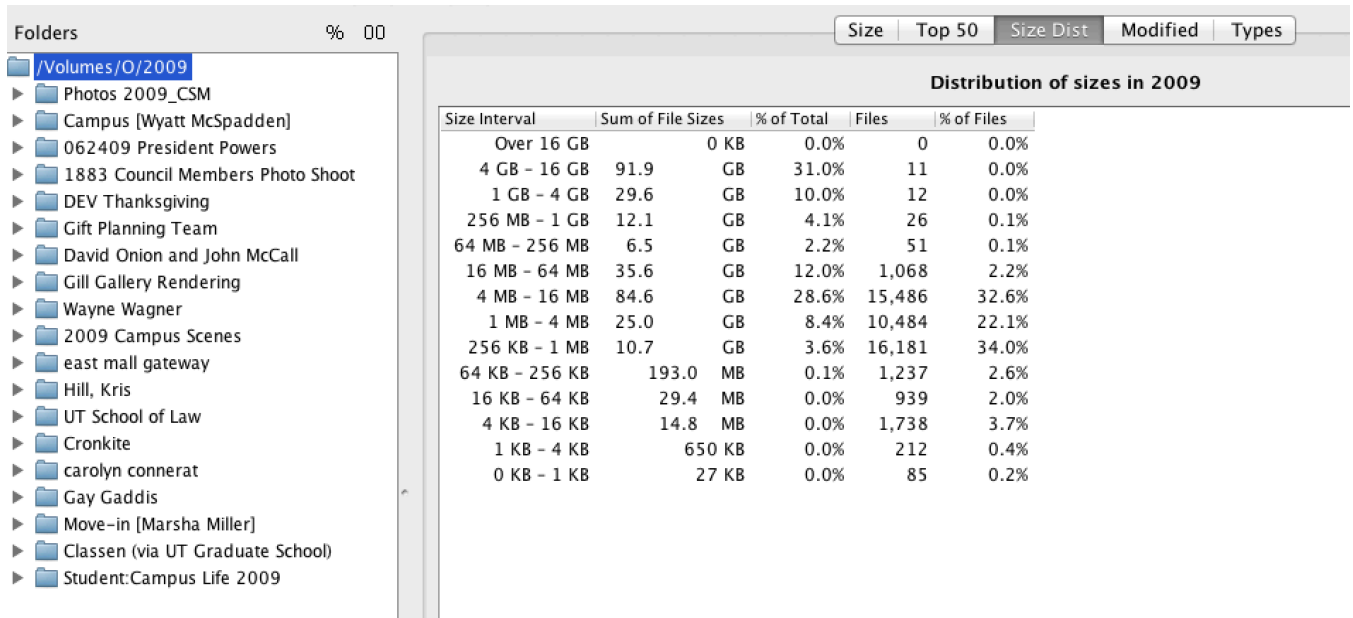


Figure A - 5 UMCS 2009 - Distribution of Sizes

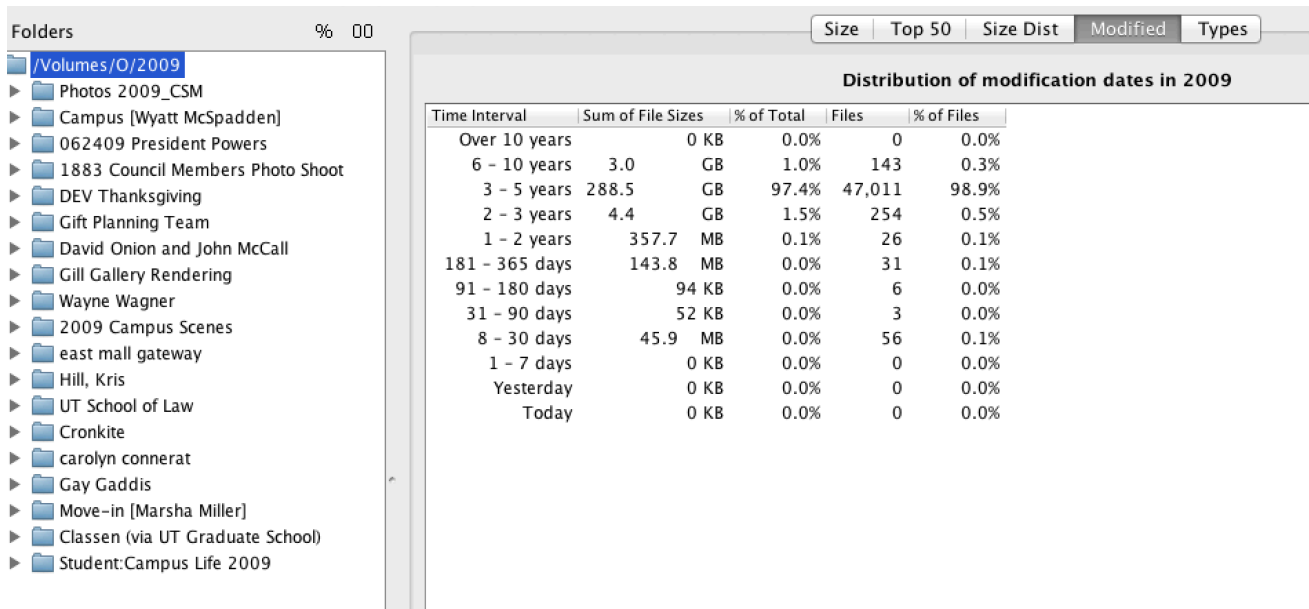


Figure A - 6 UMCS 2009 - Modification Dates

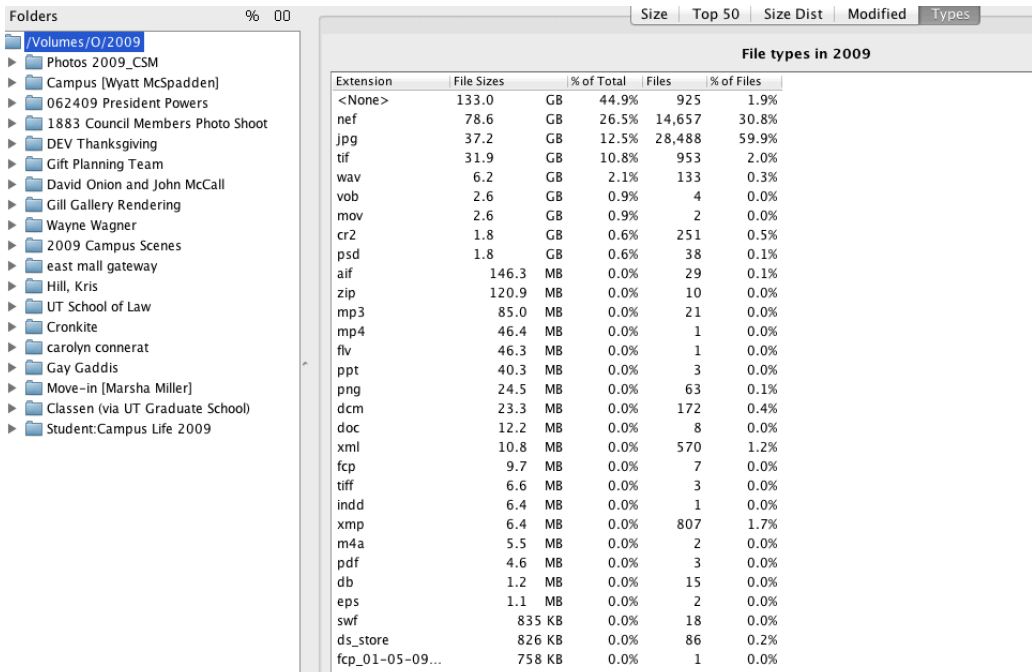


Figure A - 7 UMCS 2009 - File Types

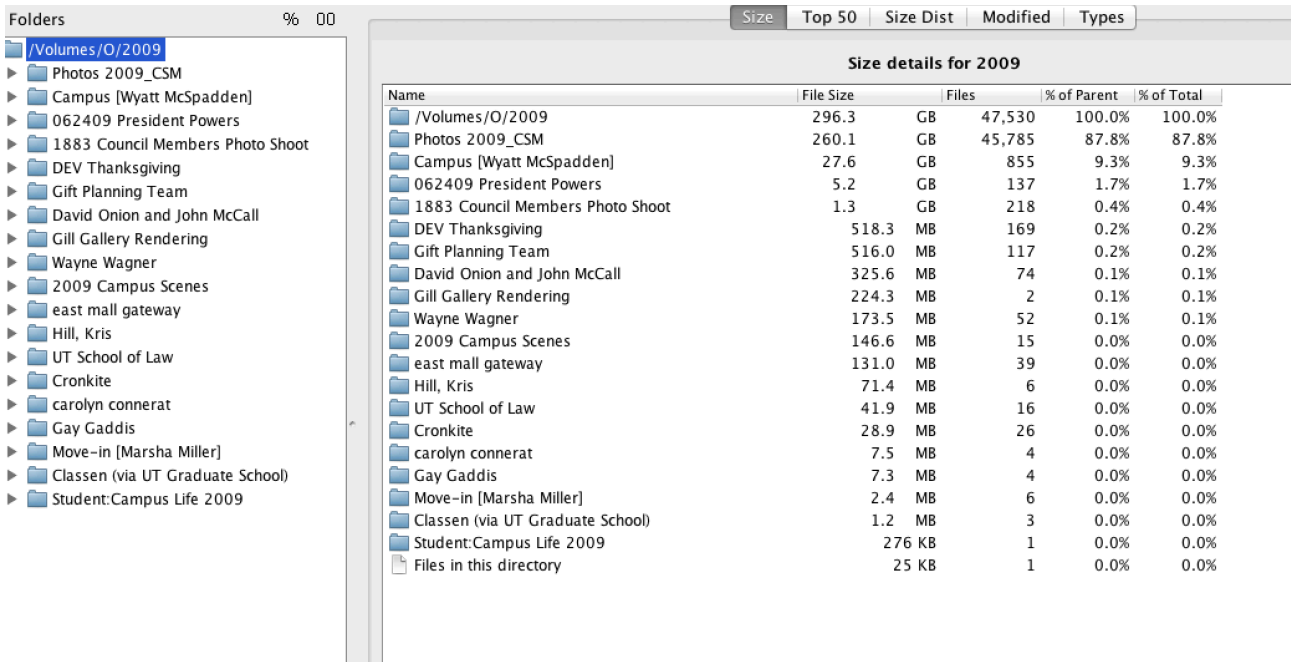


Figure A - 8 UMCS 2009 - Size Details

2010

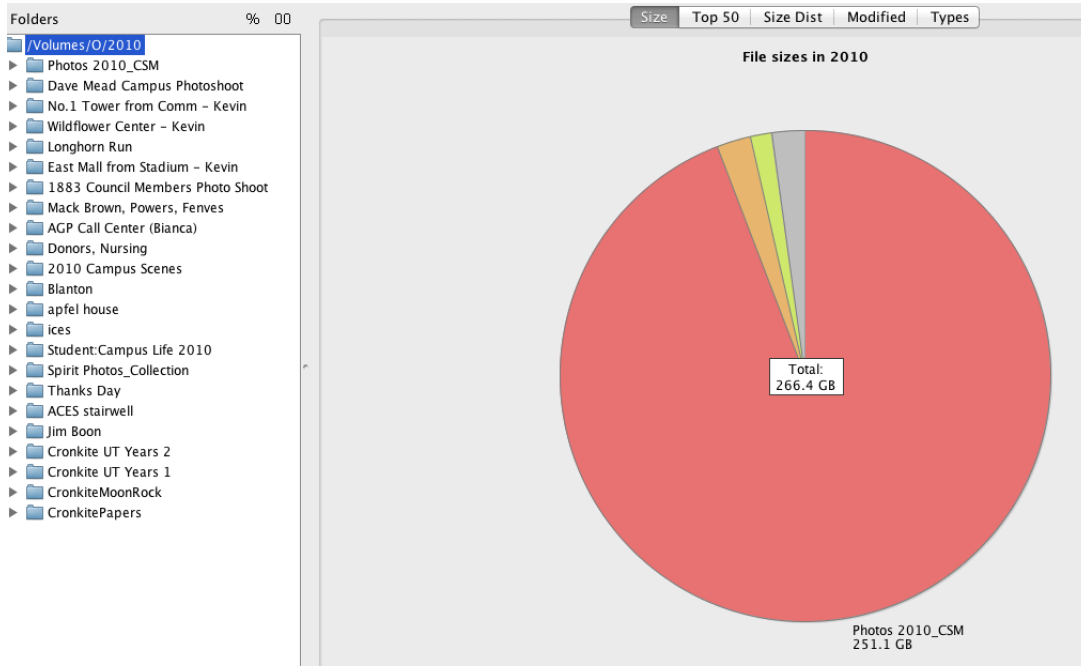


Figure A - 9 UMCS 2010 - File Sizes

Size details for 2010

Name	File Size	Files	% of Parent	% of Total
/Volumes/O/2010	266.4 GB	53,609	100.0%	100.0%
Photos 2010_CSM	251.1 GB	52,451	94.3%	94.3%
Dave Mead Campus Photoshoot	6.2 GB	248	2.3%	2.3%
No.1 Tower from Comm - Kevin	3.4 GB	427	1.3%	1.3%
Wildflower Center - Kevin	2.0 GB	137	0.8%	0.8%
Longhorn Run	1.3 GB	35	0.5%	0.5%
East Mall from Stadium - Kevin	887.4 MB	63	0.3%	0.3%
1883 Council Members Photo Shoot	753.3 MB	83	0.3%	0.3%
Mack Brown, Powers, Fenves	276.2 MB	9	0.1%	0.1%
AGP Call Center (Bianca)	210.8 MB	37	0.1%	0.1%
Donors, Nursing	141.7 MB	24	0.1%	0.1%
2010 Campus Scenes	91.4 MB	25	0.0%	0.0%
Blanton	32.5 MB	5	0.0%	0.0%
apfel house	22.5 MB	13	0.0%	0.0%
ices	6.6 MB	33	0.0%	0.0%
Student:Campus Life 2010	1.9 MB	3	0.0%	0.0%
Spirit Photos_Collection	1.0 MB	1	0.0%	0.0%
Thanks Day	514 KB	2	0.0%	0.0%
ACES stairwell	402 KB	3	0.0%	0.0%
Jim Boon	333 KB	4	0.0%	0.0%
Files in this directory	56 KB	5	0.0%	0.0%
Cronkite UT Years 2	7 KB	1	0.0%	0.0%
Cronkite UT Years 1	0 KB	0	0.0%	0.0%
CronkiteMoonRock	0 KB	0	0.0%	0.0%
CronkitePapers	0 KB	0	0.0%	0.0%

Figure A - 10 UMCS 2010 - Size Details

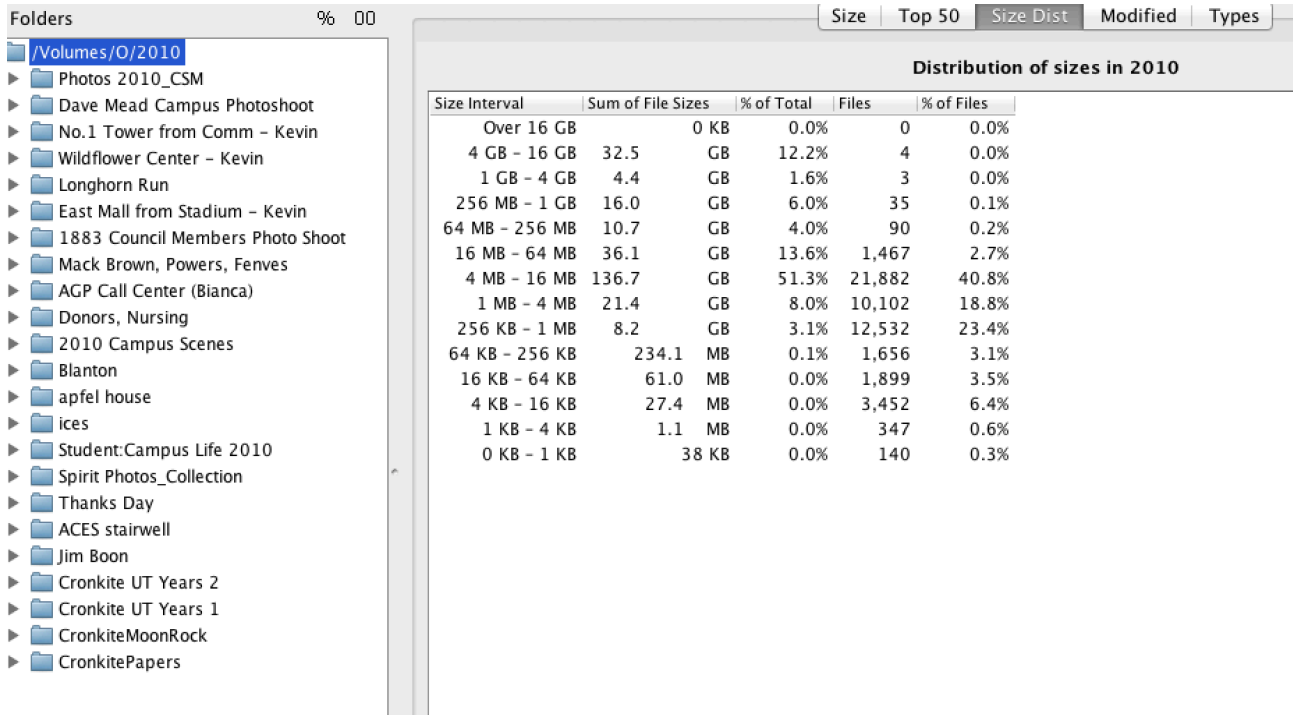


Figure A - 11 UMCS 2010 - Distribution of Sizes

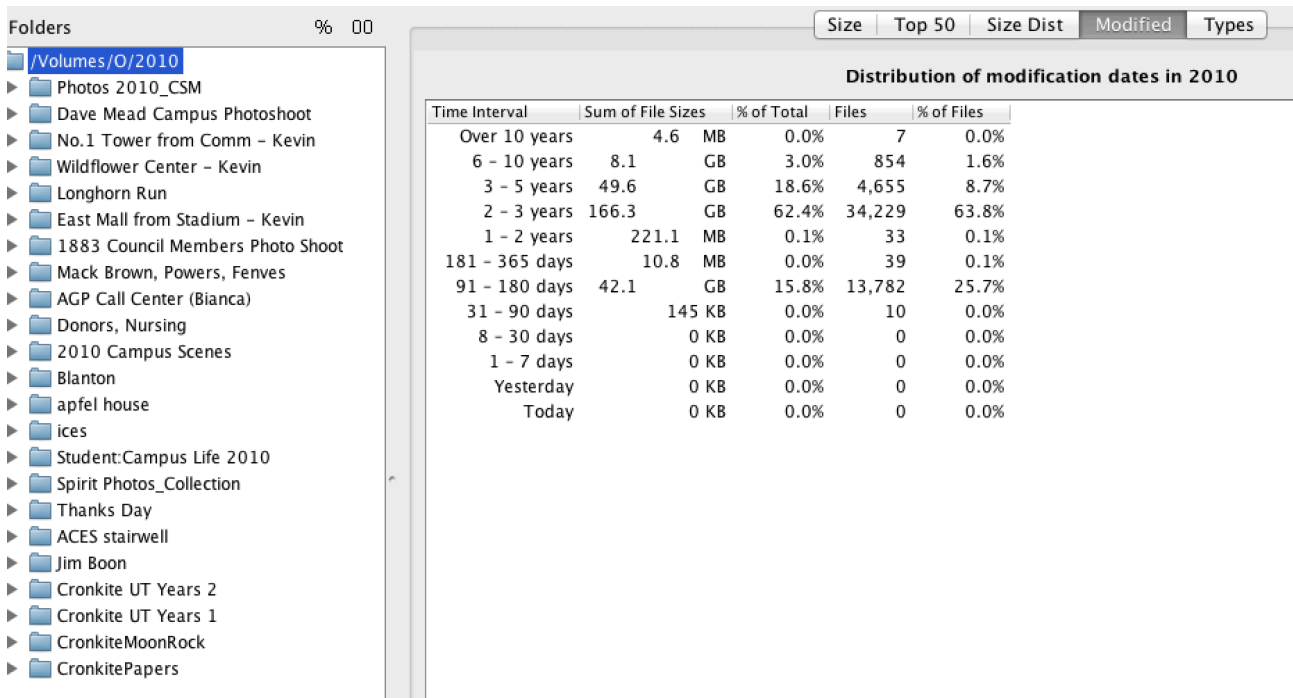


Figure A - 12 UMCS 2010 - Modification Dates

File types in 2010					
Extension	File Sizes	% of Total	Files	% of Files	
jpg	63.1	GB	23.7%	31,790	59.3%
nef	58.3	GB	21.9%	10,233	19.1%
cr2	52.5	GB	19.7%	5,658	10.6%
<None>	36.4	GB	13.7%	538	1.0%
wav	16.4	GB	6.2%	118	0.2%
dng	14.8	GB	5.5%	856	1.6%
mov	12.0	GB	4.5%	31	0.1%
tif	7.0	GB	2.6%	165	0.3%
psd	2.3	GB	0.8%	90	0.2%
tiff	1.7	GB	0.6%	33	0.1%
zip	738.5	MB	0.3%	15	0.0%
mp4	386.3	MB	0.1%	10	0.0%
mp3	263.2	MB	0.1%	64	0.1%
aif	214.1	MB	0.1%	6	0.0%
flv	132.7	MB	0.0%	1	0.0%
bmp	36.4	MB	0.0%	5	0.0%
pct	18.7	MB	0.0%	19	0.0%
pdf	18.6	MB	0.0%	5	0.0%
xml	16.7	MB	0.0%	843	1.6%
xmp	16.7	MB	0.0%	2,208	4.1%
png	4.5	MB	0.0%	3	0.0%
fcp	4.4	MB	0.0%	10	0.0%
docx	3.7	MB	0.0%	5	0.0%
ds_store	2.5	MB	0.0%	340	0.6%
swf	2.0	MB	0.0%	44	0.1%
fcp_10-23-09...	1.2	MB	0.0%	1	0.0%
fcp_10-23-09...	1.2	MB	0.0%	1	0.0%
fcp_10-13-09...	1.2	MB	0.0%	1	0.0%
fcp_10-13-09...	1.2	MB	0.0%	1	0.0%
fcp_10-13-09...	1.2	MB	0.0%	1	0.0%

Figure A - 13 UMCS 2010 - File Types

2011

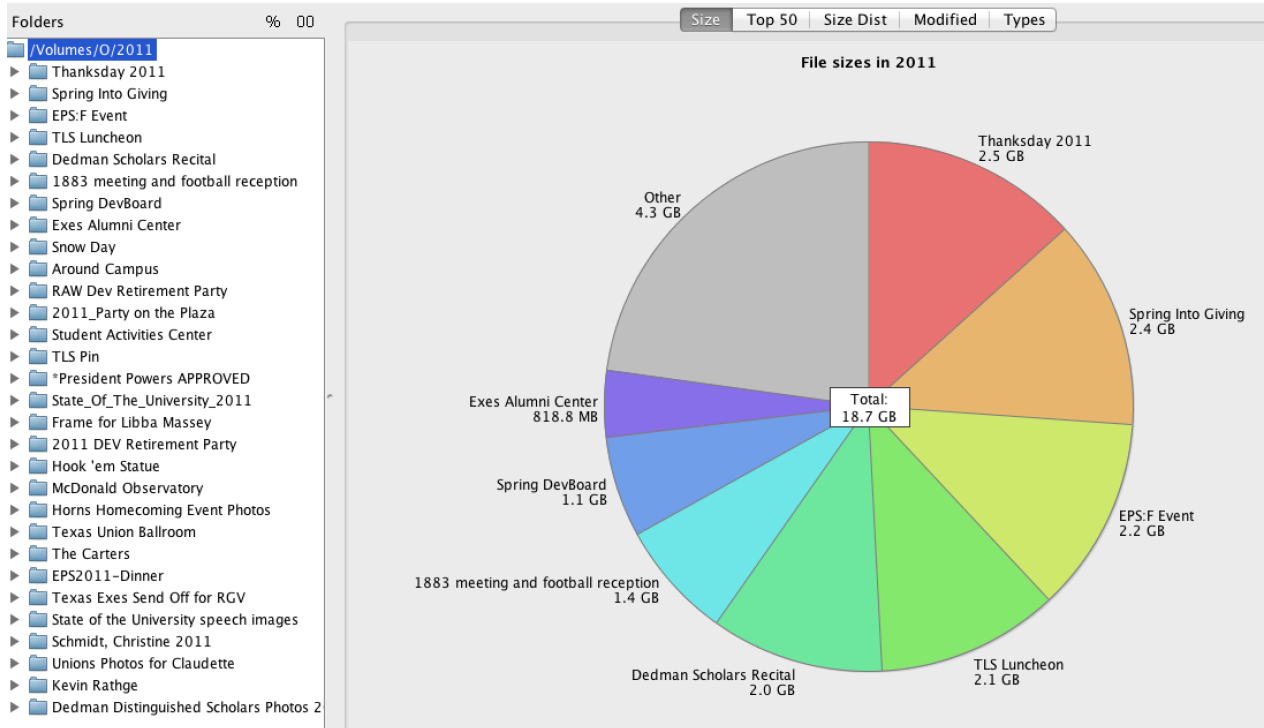


Figure A - 14 UMCS 2011 - File Sizes

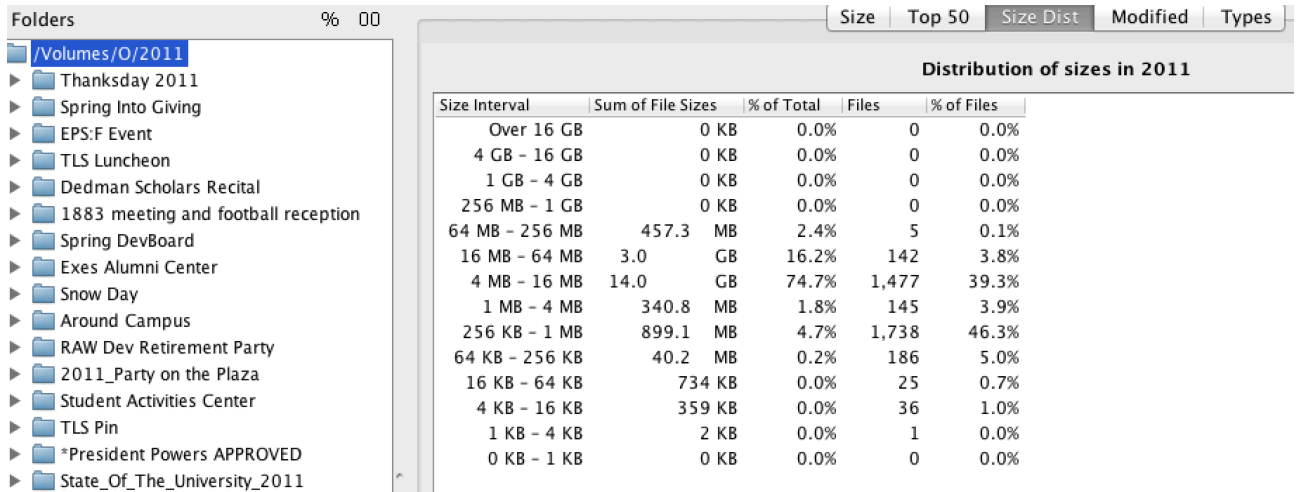


Figure A - 15 UMCS 2011 - Distribution of Sizes

Distribution of modification dates in 2011					
Time Interval	Sum of File Sizes	% of Total	Files	% of Files	
Over 10 years	0 KB	0.0%	0	0.0%	
6 - 10 years	0 KB	0.0%	0	0.0%	
3 - 5 years	0 KB	0.0%	0	0.0%	
2 - 3 years	840.1 MB	4.4%	145	3.9%	
1 - 2 years	5.8 GB	30.7%	683	18.2%	
181 - 365 days	216.6 MB	1.1%	31	0.8%	
91 - 180 days	12.0 GB	63.8%	2,894	77.1%	
31 - 90 days	13 KB	0.0%	2	0.1%	
8 - 30 days	0 KB	0.0%	0	0.0%	
1 - 7 days	0 KB	0.0%	0	0.0%	
Yesterday	0 KB	0.0%	0	0.0%	
Today	0 KB	0.0%	0	0.0%	

Figure A - 16 UMCS 2011 - Modification Dates

File types in 2011					
Extension	File Sizes	% of Total	Files	% of Files	
jpg	12.9 GB	68.9%	3,264	86.9%	
nef	4.1 GB	21.8%	363	9.7%	
psd	833.5 MB	4.3%	22	0.6%	
tif	696.1 MB	3.6%	32	0.9%	
pdf	189.7 MB	1.0%	3	0.1%	
jpeg	28.3 MB	0.1%	12	0.3%	
zip	17.1 MB	0.1%	1	0.0%	
<None>	15.1 MB	0.1%	5	0.1%	
eps	10.5 MB	0.1%	2	0.1%	
ds_store	718 KB	0.0%	48	1.3%	
png	21 KB	0.0%	1	0.0%	
xmp	8 KB	0.0%	1	0.0%	
bridgesort	2 KB	0.0%	1	0.0%	

Figure A - 17 UMCS 2011 - File Types

2012

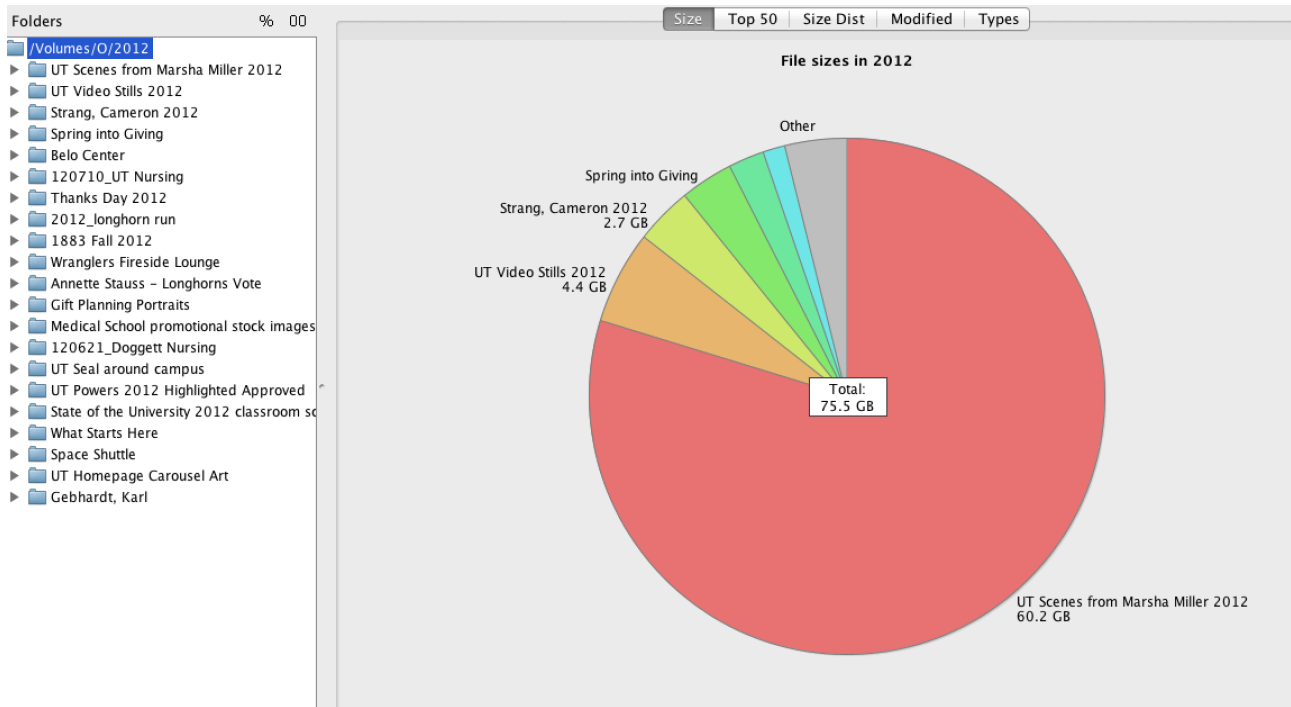


Figure A - 18 UMCS 2012 - File Sizes

Name	File Size	Files	% of Parent	% of Total
/Volumes/O/2012	75.5 GB	11,584	100.0%	100.0%
UT Scenes from Marsha Miller 2012	60.2 GB	6,625	79.8%	79.8%
UT Video Stills 2012	4.4 GB	2,453	5.8%	5.8%
Strang, Cameron 2012	2.7 GB	286	3.5%	3.5%
Spring into Giving	2.4 GB	422	3.2%	3.2%
Belo Center	1.8 GB	278	2.3%	2.3%
120710_UT Nursing	990.6 MB	159	1.3%	1.3%
Thanks Day 2012	676.5 MB	485	0.9%	0.9%
2012_longhorn run	595.6 MB	36	0.8%	0.8%
1883 Fall 2012	494.7 MB	354	0.6%	0.6%
Wranglers Fireside Lounge	461.8 MB	25	0.6%	0.6%
Annette Stauss - Longhorns Vote	280.6 MB	189	0.4%	0.4%
Gift Planning Portraits	157.3 MB	76	0.2%	0.2%
Medical School promotional stock images 2012	156.1 MB	48	0.2%	0.2%
120621_Doggett Nursing	154.1 MB	28	0.2%	0.2%
UT Seal around campus	80.8 MB	11	0.1%	0.1%
UT Powers 2012 Highlighted Approved	30.9 MB	13	0.0%	0.0%
State of the University 2012 classroom scenes, etc.	30.9 MB	29	0.0%	0.0%
What Starts Here	25.4 MB	49	0.0%	0.0%
Space Shuttle	5.5 MB	3	0.0%	0.0%
UT Homepage Carousel Art	5.0 MB	8	0.0%	0.0%
Gebhardt, Karl	3.8 MB	6	0.0%	0.0%
Files in this directory	25 KB	1	0.0%	0.0%

Figure A - 19 UMCS 2012 - Size Details

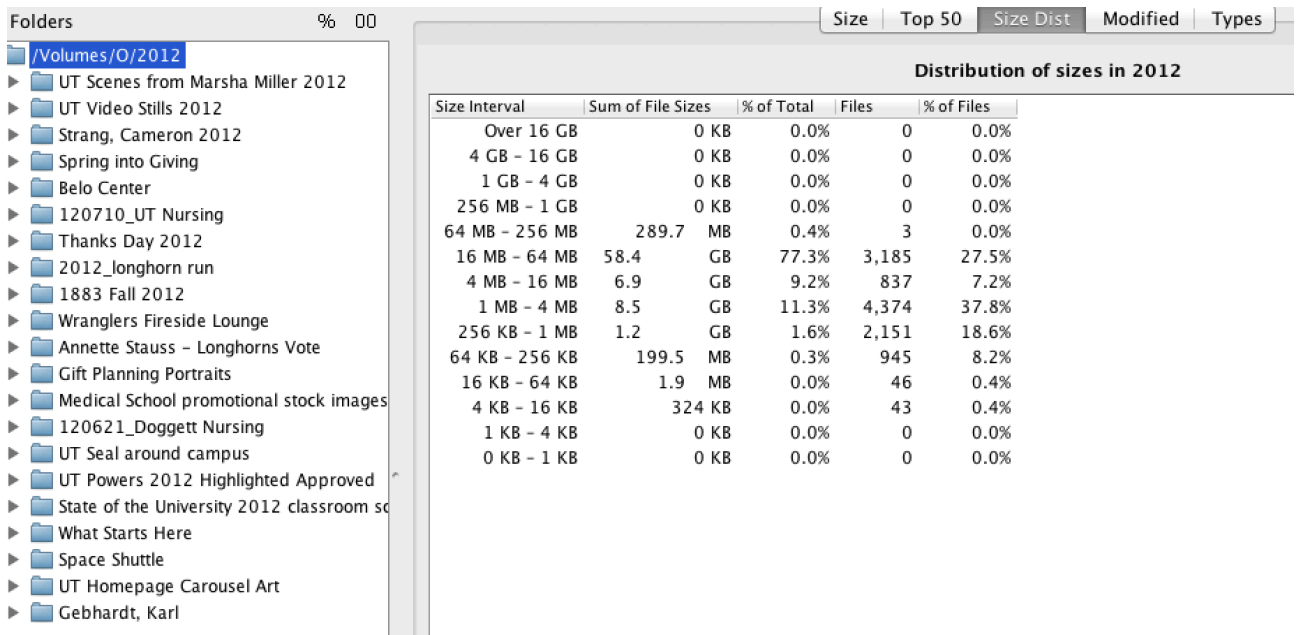


Figure A - 20 UMCS 2012 - Distribution of Sizes

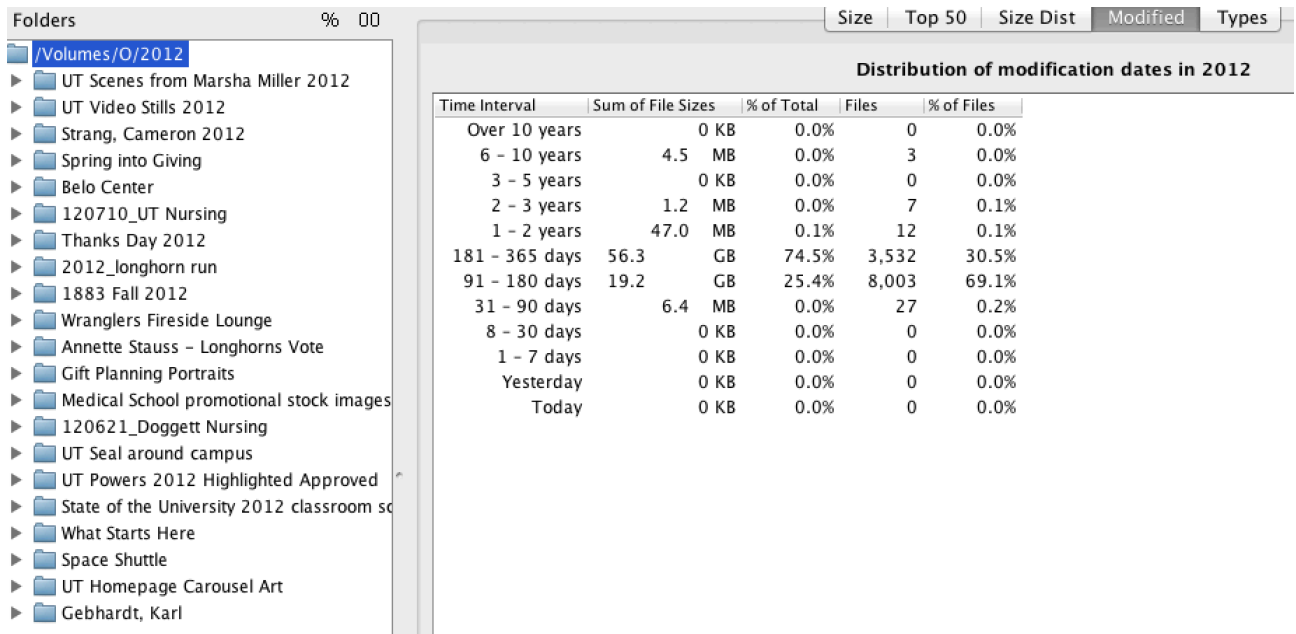


Figure A - 21 UMCS 2012 - Modification Dates

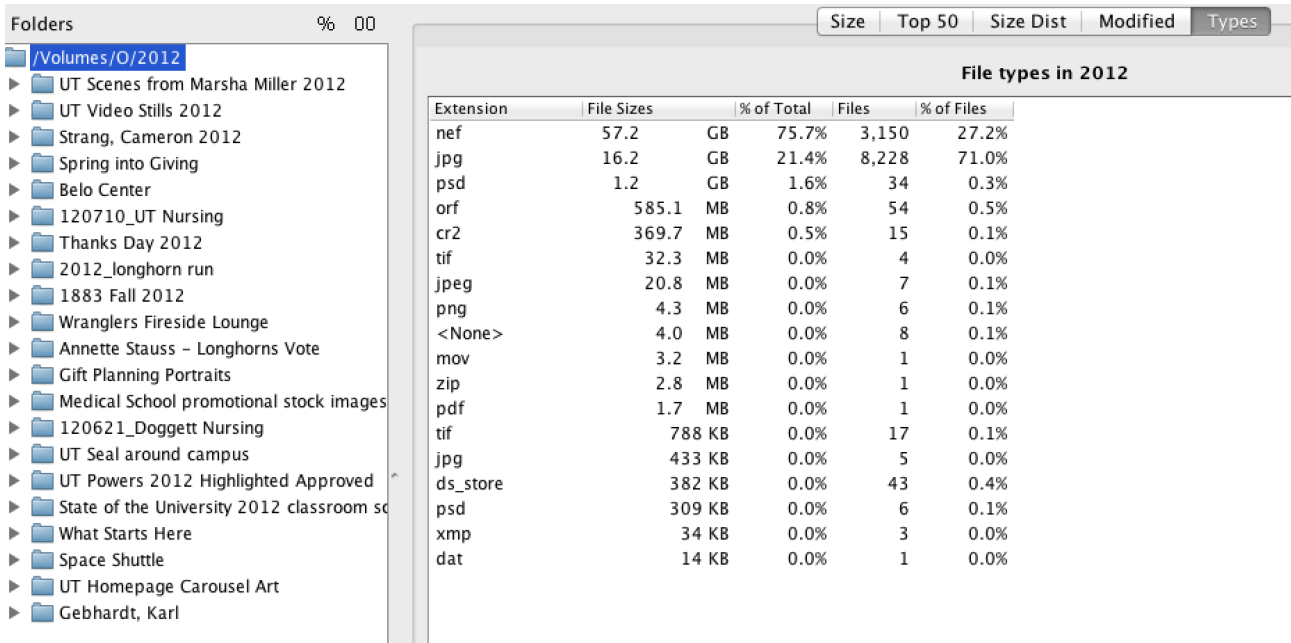


Figure A - 22 UMCS 2012 - File Types

UMCS Videos

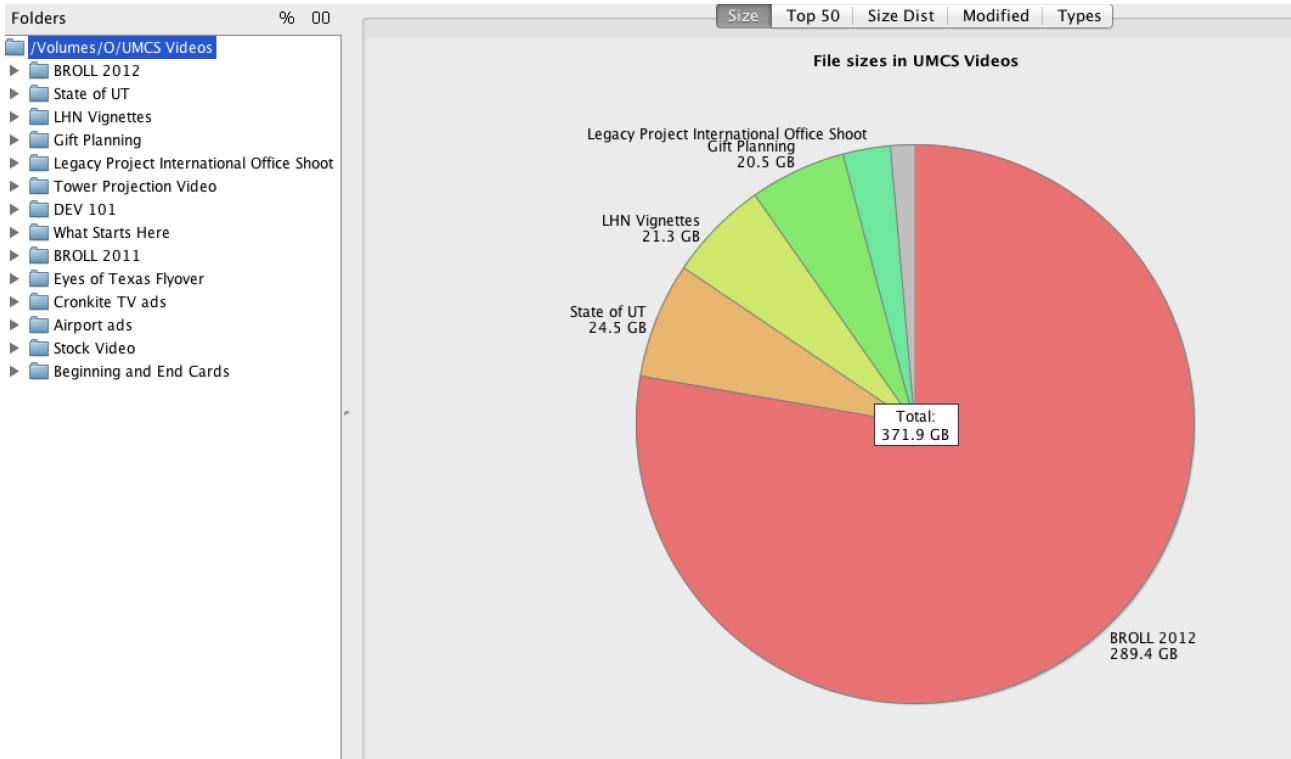


Figure A - 23 UMCS Videos - File Sizes

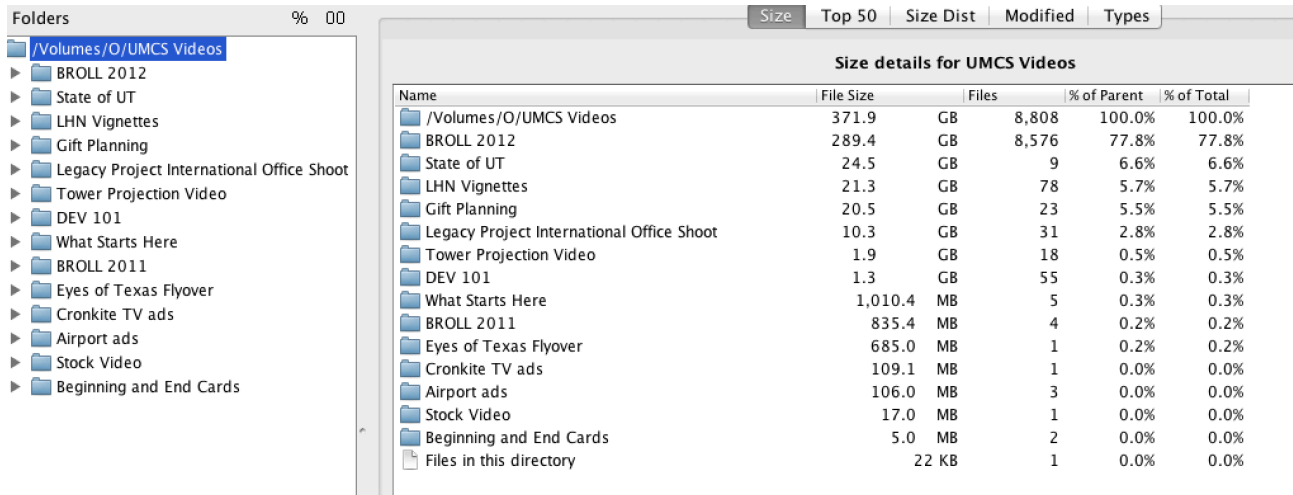


Figure A - 24 UMCS Videos - Size Details

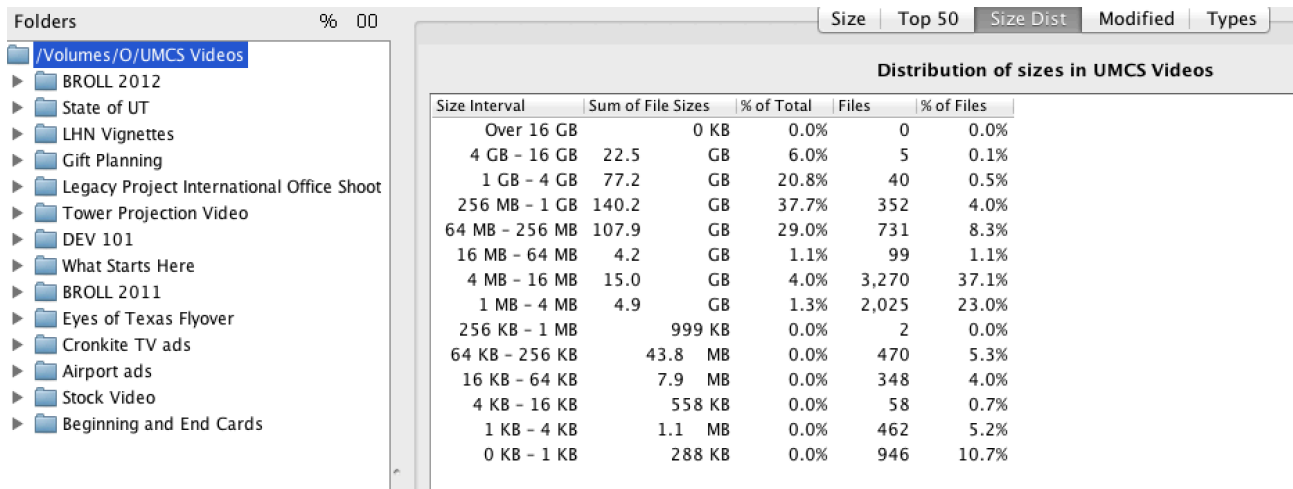


Figure A - 25 UMCS Videos - Distribution of Sizes

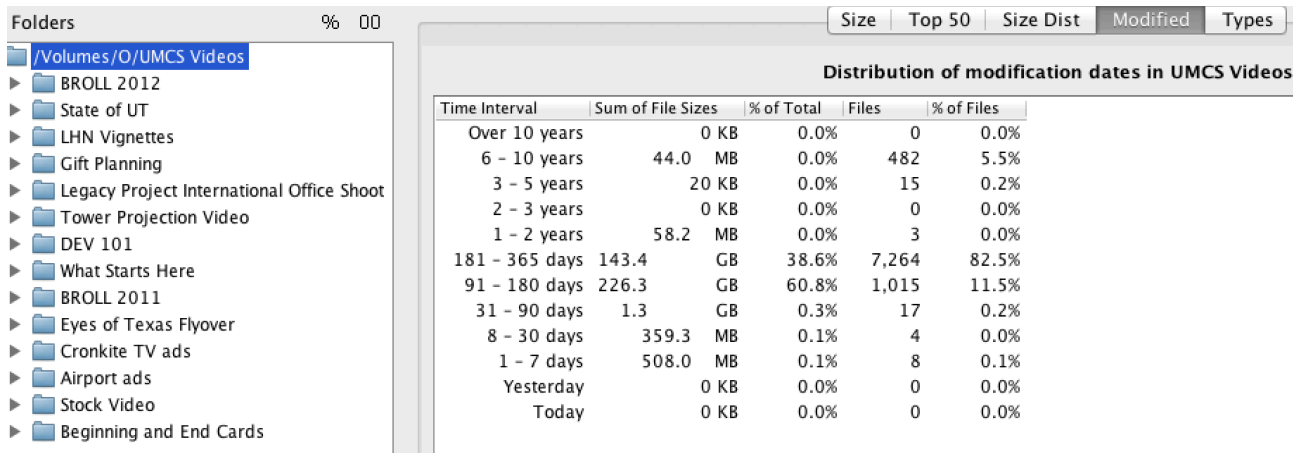


Figure A - 26 UMCS Videos - Modification Dates

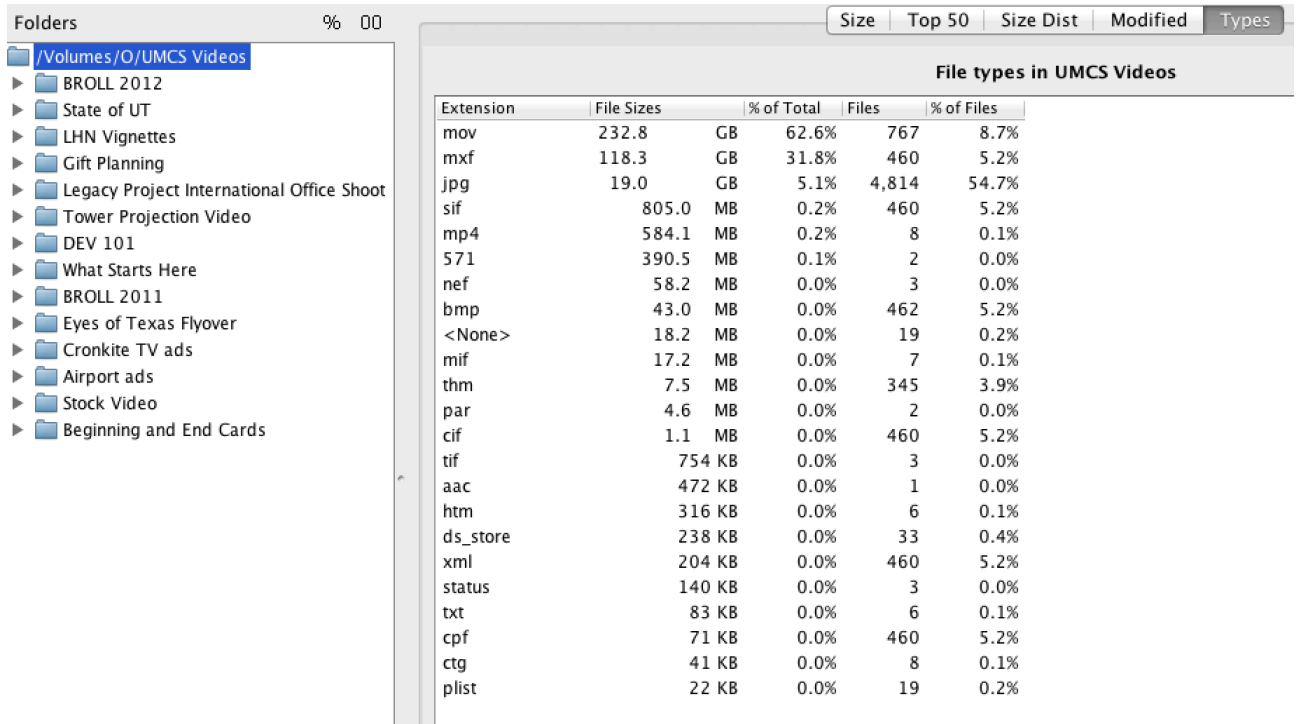


Figure A - 27 UMCS Videos - File Types

Appendix B – COLA Disk Analysis Results

COLA Size Details

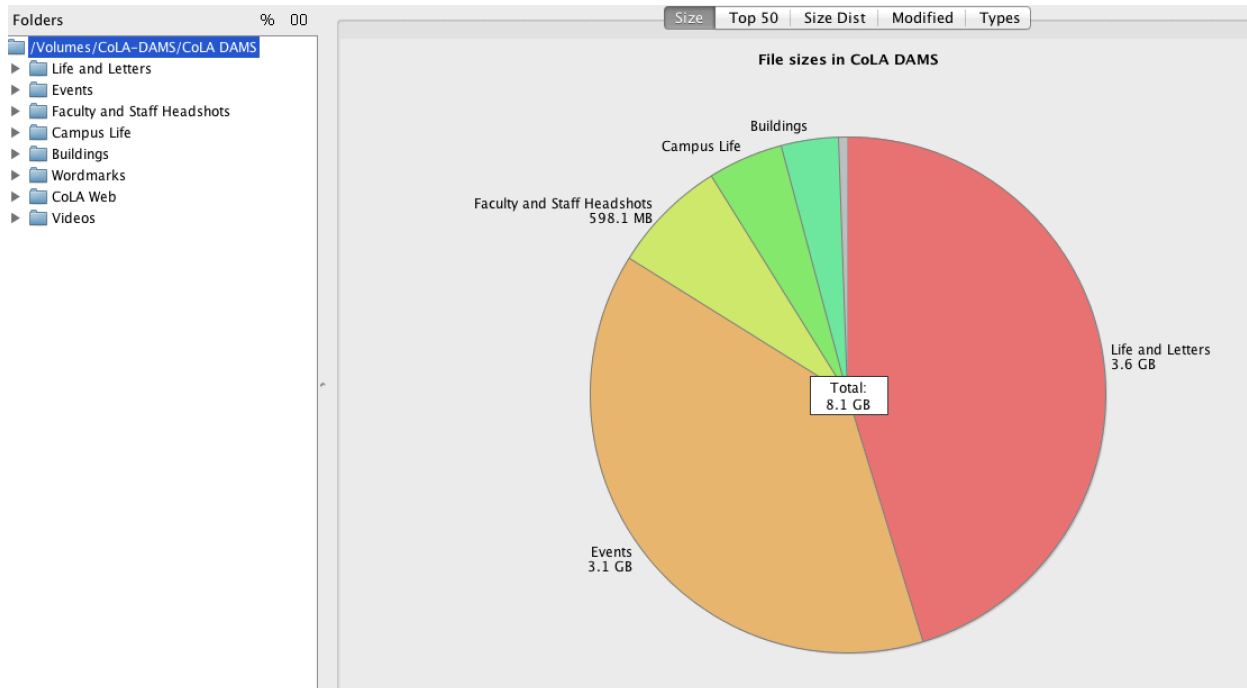


Figure B - 1

Size details for CoLA DAMS

Name	File Size	Files	% of Parent	% of Total
/Volumes/CoLA-DAMS/CoLA DAMS	8.1 GB	5,770	100.0%	100.0%
Life and Letters	3.6 GB	2,485	45.2%	45.2%
Events	3.1 GB	1,640	38.5%	38.5%
Faculty and Staff Headshots	598.1 MB	994	7.3%	7.3%
Campus Life	386.5 MB	316	4.7%	4.7%
Buildings	293.0 MB	127	3.6%	3.6%
Wordmarks	49.9 MB	191	0.6%	0.6%
CoLA Web	15.2 MB	14	0.2%	0.2%
Files in this directory	20 KB	2	0.0%	0.0%
Videos	7 KB	1	0.0%	0.0%

Figure B - 2

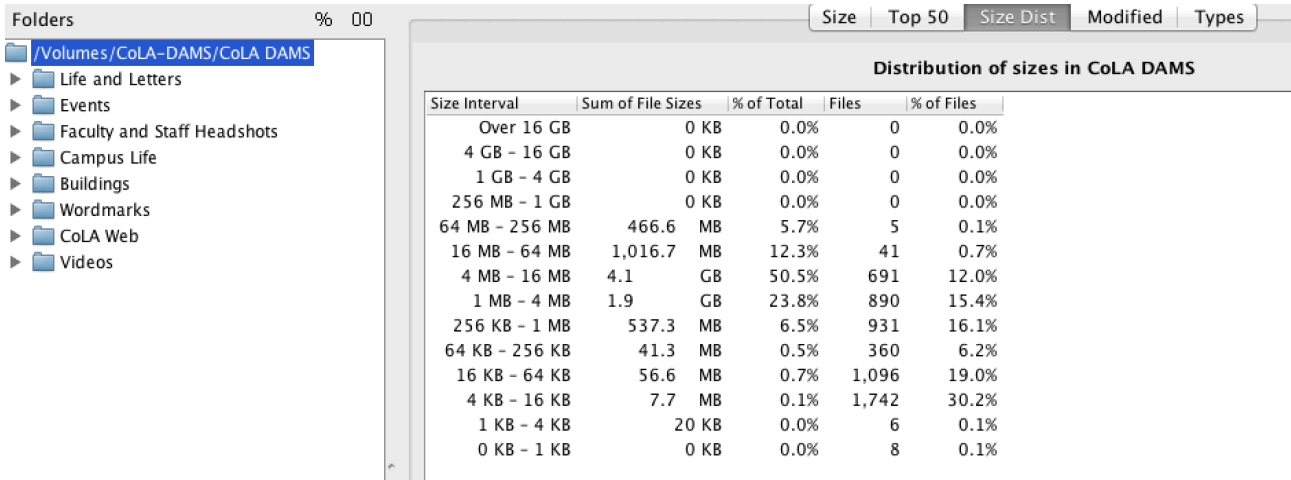


Figure B - 3

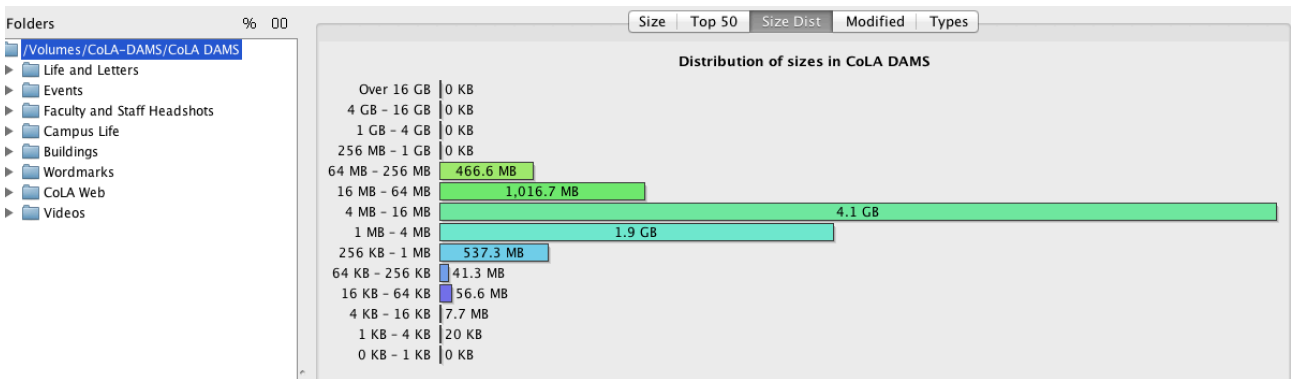


Figure B - 4

COLA Modification Dates

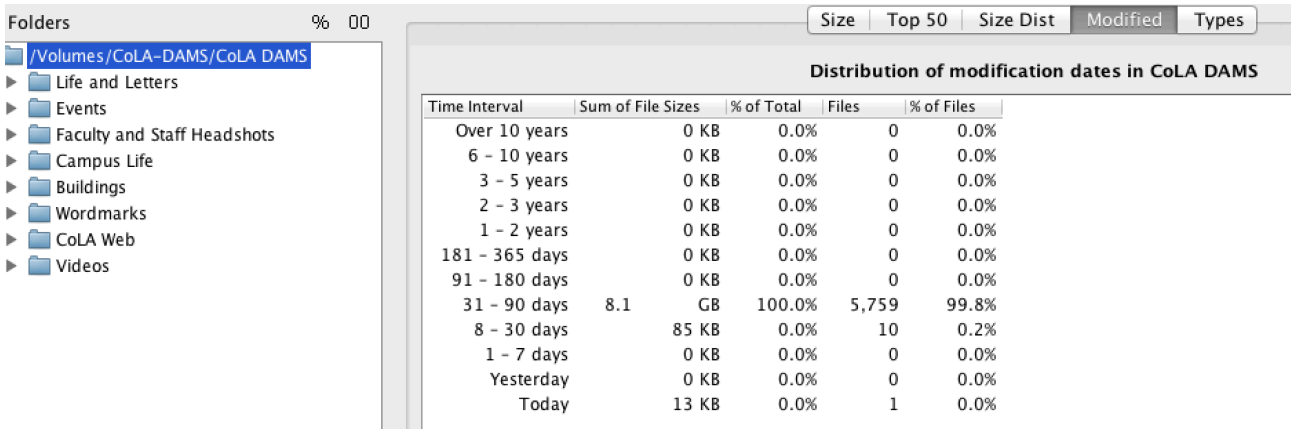


Figure B - 5

COLA File Types

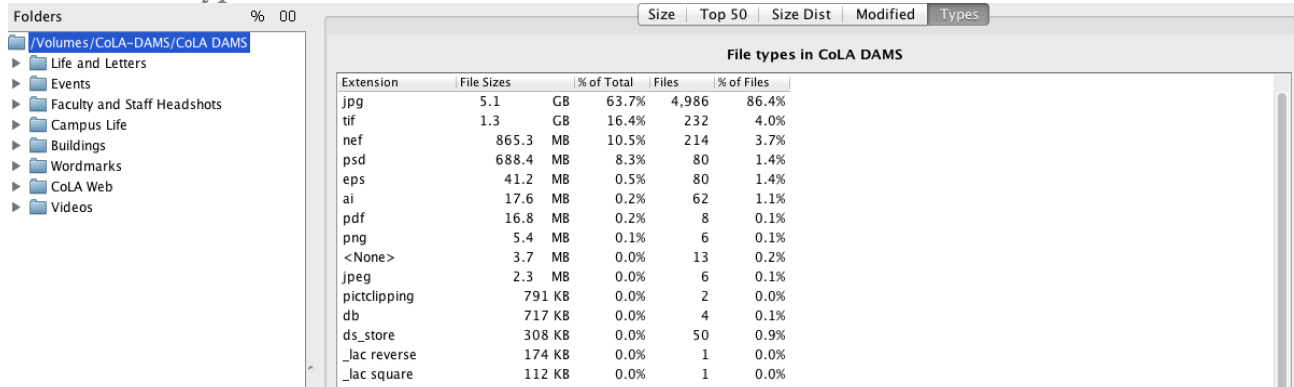


Figure B - 6

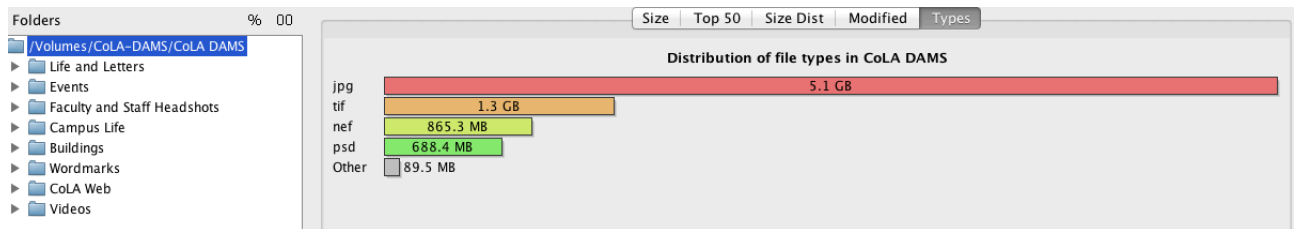


Figure B - 7

Appendix C – Office of Admissions Disk Analysis Results

Admissions Size Details

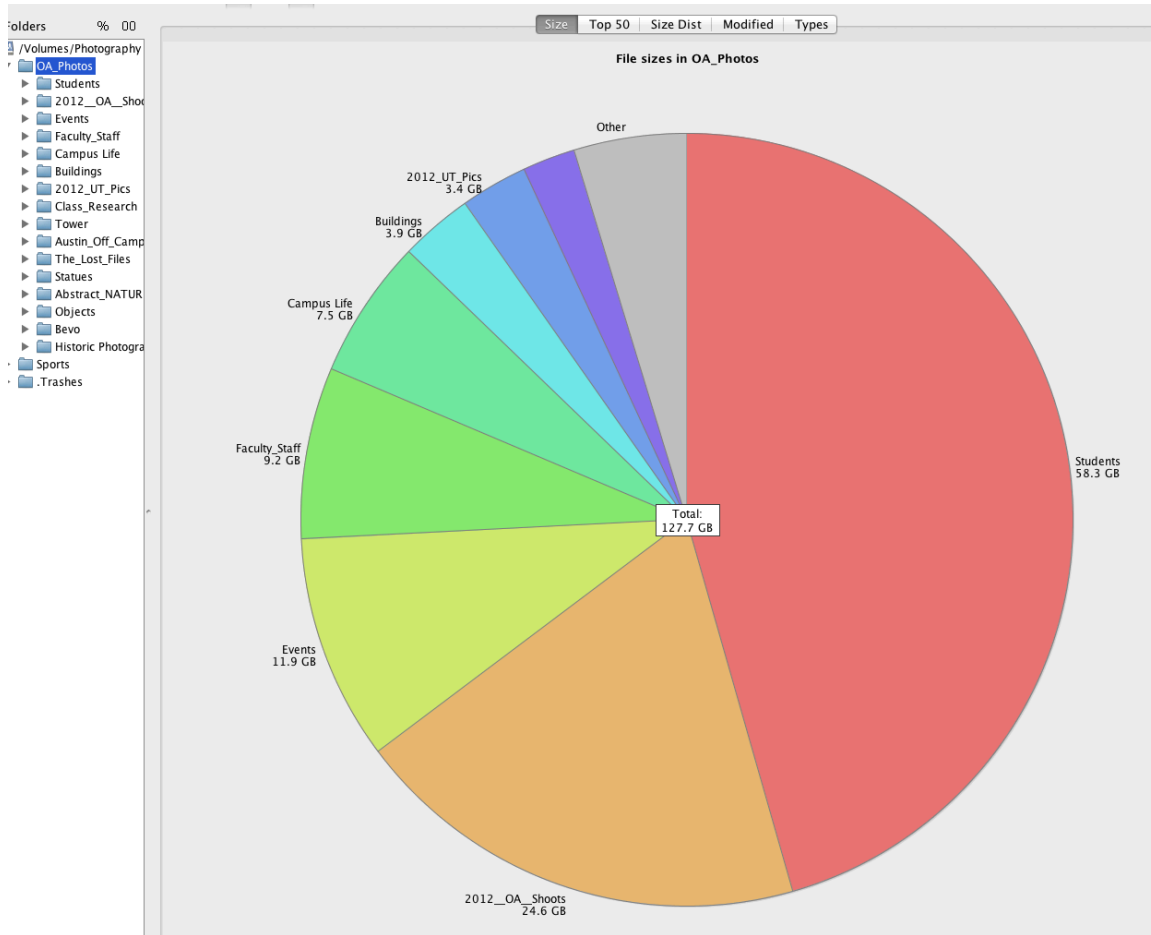


Figure C - 1

Name	File Size	Files	% of Parent	% of Total
Students	58.3 GB	16,157	45.6%	44.7%
2012_OA_Shoots	24.6 GB	4,752	19.3%	18.9%
Events	11.9 GB	5,372	9.3%	9.1%
Faculty_Staff	9.2 GB	3,238	7.2%	7.1%
Campus Life	7.5 GB	2,520	5.8%	5.7%
Buildings	3.9 GB	1,853	3.0%	3.0%
2012_UT_Pics	3.4 GB	201	2.7%	2.6%
Class_Research	3.0 GB	1,466	2.3%	2.3%
Tower	1.4 GB	646	1.1%	1.1%
Austin_Off_Campus	1.2 GB	412	0.9%	0.9%
The_Lost_Files	1.1 GB	237	0.9%	0.9%
Statues	975.9 MB	490	0.7%	0.7%
Abstract_NATURE	338.5 MB	144	0.3%	0.3%
Objects	336.9 MB	122	0.3%	0.3%
Bevo	291.3 MB	89	0.2%	0.2%
Historic Photographs	278.1 MB	16	0.2%	0.2%
Files in this directory	49.3 MB	17	0.0%	0.0%

Figure C - 2

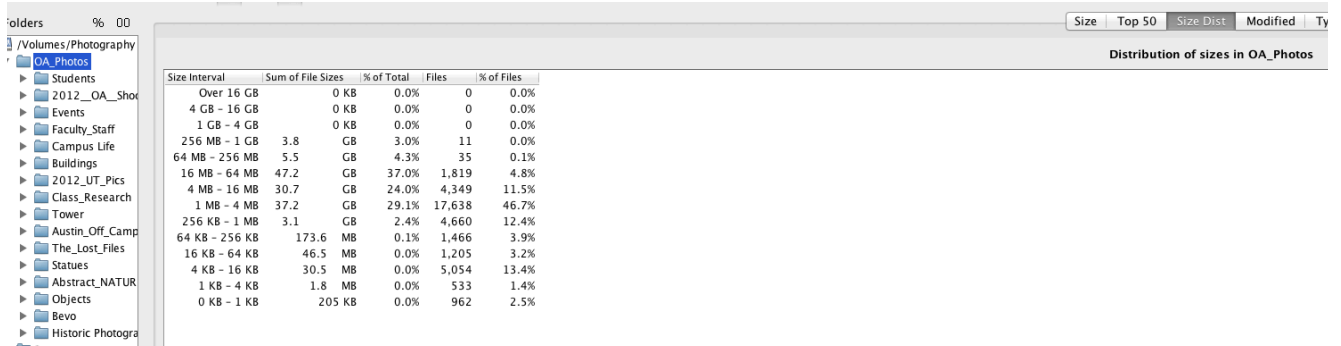


Figure C - 3

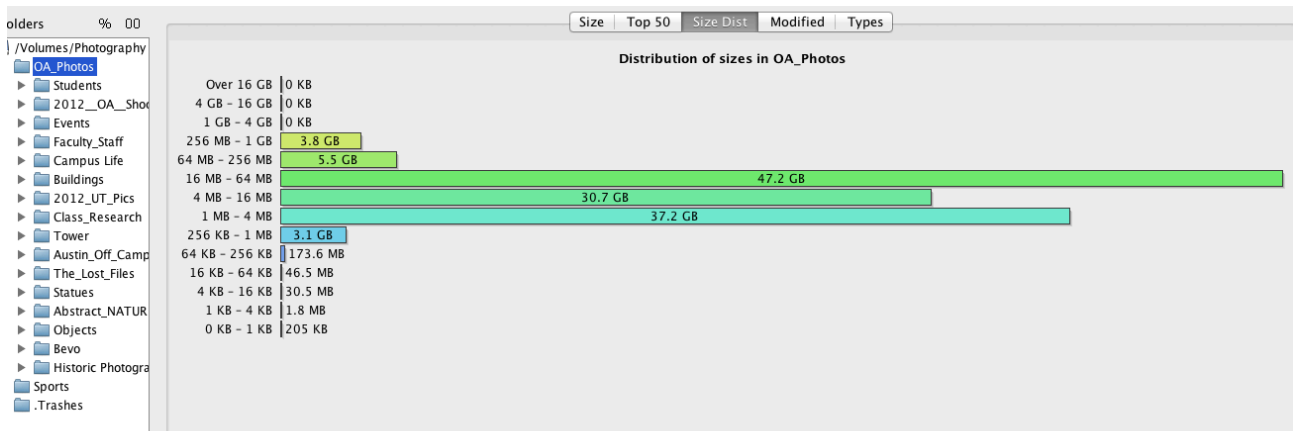


Figure C - 4

Admissions Modification Dates

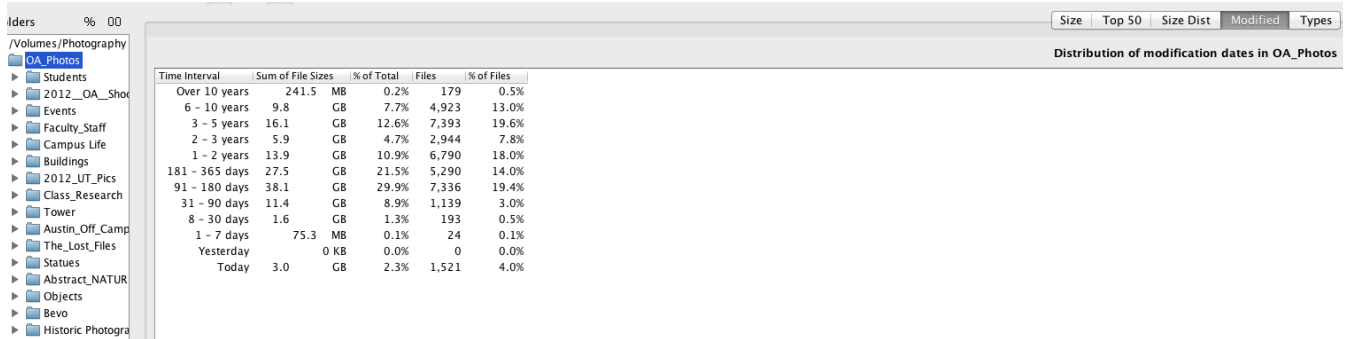


Figure C - 5

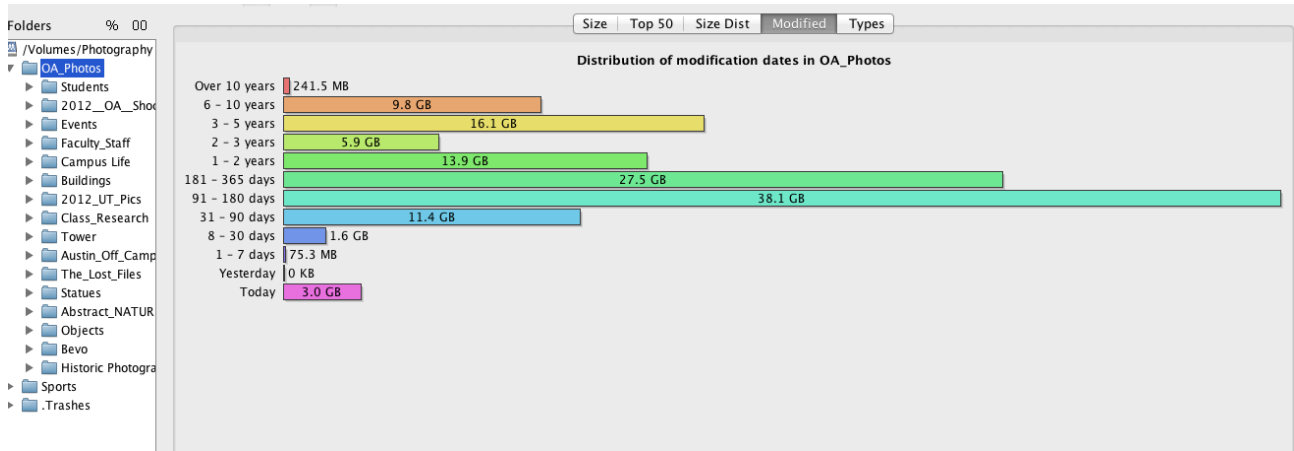


Figure C - 6

Admissions File Types

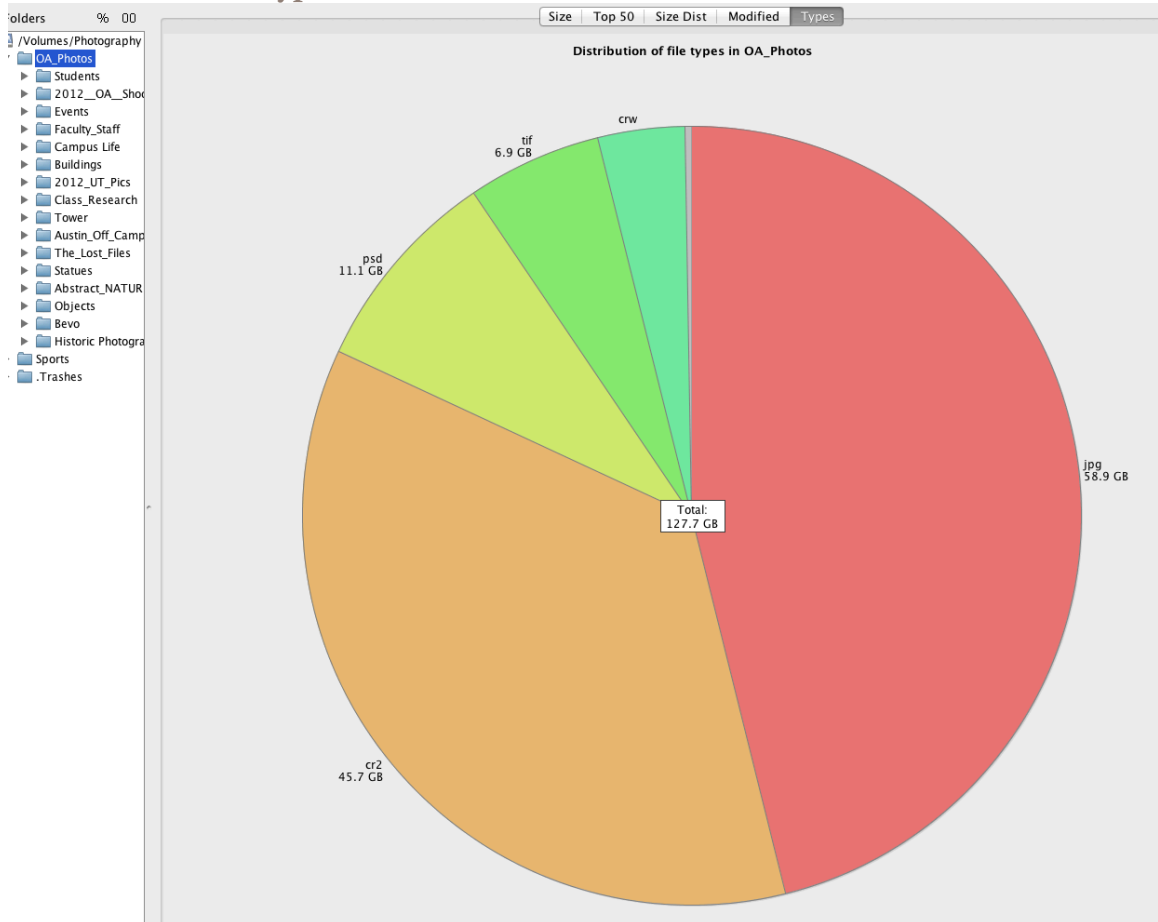


Figure C - 7

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