DIRKS PROJECT

Designing a Recordkeeping System for Andrew Glass

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DIRKS STEP A: PRELIMINARY INVESTIGATION

I. ESTABLISH NEED TO INVESTIGATE RECORDKEEPING SYSTEMS

Andrew Glass is a current School of Information graduate student at the University of Texas at Austin and a recent appointee to the University of Texas Fine Arts Library Graduate Research Assistant position. He has found that the current filing systems on his laptop and Gmail account have become antiquated and cumbersome to manipulate when attempting to locate important files and documents. For example, while attempting to reapply for his 2014-2015 financial aid package last year, Andrew could not locate the FAFSA PIN that he had stored on his laptop. Another more recent example of the issues his filing structure has caused him was when he was attempting to locate his saved résumé in order to apply for the position he currently holds. Not only is this filing structure affecting both Andrew's scholastic and work-related productivity, but it is also hampering his leisurely activities. Andrew is an avid music enthusiast, and uses iTunes to play mp3s. But the filing structure of the mp3s themselves is awkward, often wrong, and without using the Windows Explorer search bar, unnavigable. Andrew is in need of a new filing structure that will not only allow him greater accessibility to important records for school, which in turn will allow him to work more efficiently and effectively, but also grant him the ease of locating a particular song or album.

- After obtaining further insight from our interview with Andrew into the problems he was experiencing with his current electronic filing systems, it quickly became apparent that these issues had been brought on by:
    - The retention of duplicate records;
    - The lack of standardized naming conventions; and,
    - The lack of a structured file classification system.

THIS SECTION:

- Establishes the need to examine Andrew Glass' recordkeeping needs.
- Examines his various roles in life through his functions and sub-functions.
- Delineates his current information and recordkeeping systems.
- Looks at the legal and regulatory ramifications of his recordkeeping systems.
- Identifies the stakeholders in his recordkeeping systems.
- Outlines the community expectations of these systems.
- Sketches out Andrew's attitude toward electronic recordkeeping.
- Identifies the factors affecting his recordkeeping systems.

II. THE ROLE OF THE INDIVIDUAL IN LIFE

Andrew Glass conducts most business using his laptop and Gmail. These activities define his various roles as a participant in society.

Function: Graduate Student	**Sub-Function:** Group Member	**Sub-Function:** Student
Andrew is a second year graduate student at the University of Texas' School of Information. Nearly all of his school work is conducted using his laptop and Gmail.	**Activity:** Communicates with fellow group members via email.	**Activity:** Communicates with professors and peers via email. **Activity:** Receives school related emails.

Function: Fine Arts Library Employee	**Sub-Function:** Employee	**Sub-Function:** Supervisor
Andrew is also a Graduate Research Assistant with the University of Texas' Fine Arts Library. His job includes supervising student workers. In order to communicate with his supervisors and student workers, email is paramount. For instance, when a student employee emails a month in advance that she will not be able to come to work on a specified date, being able to easily retrieve that email on the date in question is crucial to finding a substitute worker for that day.	**Activity:** Communicates with boss and co-workers over email. **Activity:** Receives work-related updates over email. **Activity:** Saves work-related documents to his laptop.	**Activity:** In charge of all library functions one day a week. **Activity:** Schedules student workers using email.

Function: Family Member	**Sub-Function:** Sibling	**Sub-Function:** Son
Although he prefers more personal forms of communication (i.e. personal visits, phone calls, etc.) with his family, email is still common. When Andrew became an uncle in July 2014, for instance, the easiest way for his brother to share pictures of the baby with all of the family at once was through email.	**Activity:** Sends and receives sibling-related updates over email. **Activity:** Saves uncle-related photos onto his laptop hard drive.	**Activity:** Sends and receives son-related updates over email. **Activity:** Sends photos retrieved from hard drive to parents in the hopes that they think he is doing okay.

Function: Roommate	**Sub-Function:** Shopping Partner	**Sub-Function:** Documenter
Andrew tries to keep communication lines open with his roommates at all times. For example, emailing reminders to pay bills has become sewn into his monthly routines.	**Activity:** Helps compile list of communal goods needed for household. Shares this via email.	**Activity:** Andrew will not live in this household with these people after his lease ends next August. It is a chapter in his and his two roommates' life that needs documentation. Pictures taken by Andrew are stored on his laptop's hard drive.

Function: Creator	**Sub-Function:** Photographer	**Sub-Function:** Writer	**Sub-Function:** Filmmaker
Andrew creates files and documents for various creative ventures.	**Activity:** Takes digital photographs and stores them on laptop hard drive.	**Activity:** Ventures into non-school/non-work related writings that are stored on hard drive and his Gmail account.	**Activity:** Records digital video that is stored on hard drive.

Function: Consumer	**Sub-Function:** Banking	**Sub-Function:** Online Purchaser
Purchasing items from websites such as Amazon.com means that his email contains many receipts. Also, his avid music obsessions means that the music files on his hard drive are plentiful.	**Activity:** Managing checking and savings account.	**Activity:** Uses online markets to procure needs and wants.

III. DELINEATE INFORMATION & RECORDKEEPING SYSTEMS

Andrew has two primary recordkeeping systems: his laptop's hard drive and his Gmail account.

- This section will begin with an analysis of the laptop's hard drive.
  - This begins with the Desktop.
  - Then moves on to the Libraries directories.
- The section will then focus on Andrew's Gmail account.

Recordkeeping System 1: Laptop's Hard Drive

Hard Drive (418 GB of 576 GB used)	
Andrew uses a Windows 7 Home Premium System operating system and has kept the default recordkeeping system. The two top level directories are Desktop and Libraries.	**Desktop**
	Documents (1.2 GB)
	Includes: • Shortcuts to folders and programs that are used regularly. • Documents that need to be easily retrievable (e.g. homework, PDFs for class, etc.)

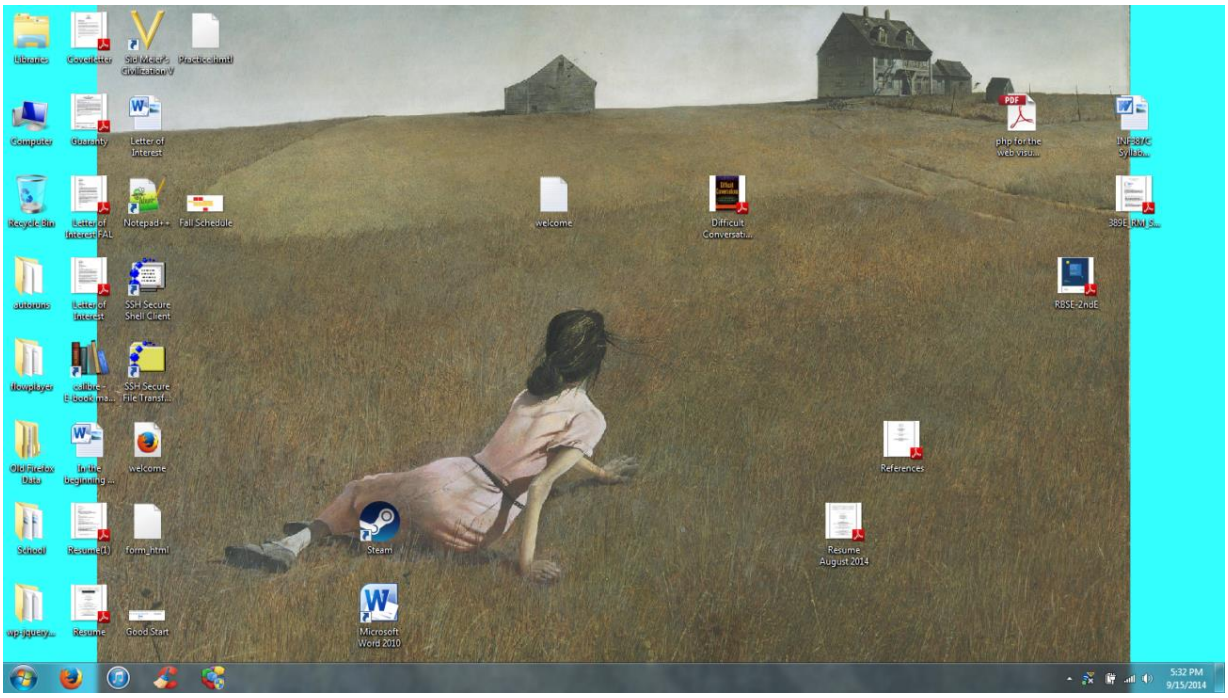


Figure A-1: Andrew's Desktop

Hard Drive (418 GB of 576 GB used)				
	Libraries			
	Documents (649 MB)	Music (174 GB)	Pictures (3.20 GB)	Videos (94.1 GB)
	Includes: • All text-based documents are placed here, in theory. • Some folder names within this directory include: "Registration Entries," "E Books," "Downloads." • Most text-based documents are in the top level.	**Includes:** • All audio files are placed here. • Some folder names within this directory include: "iTunes," "jfa," "Danny Music." • Most individual song files are stored within another folder.	**Includes:** • Nearly all pictures are uploaded from Andrew's mobile devices. • Some folder names within this directory include: "Food," "Environmental," "Cats and other Animals." • Most photographs are sorted into one or more subject-based files immediately after being uploaded.	**Includes:** • All video files are stored here. • Some folder names include "Films," "Phone," and "Sample Videos." • Many of the video files have not been sorted and live in the top level of this directory.

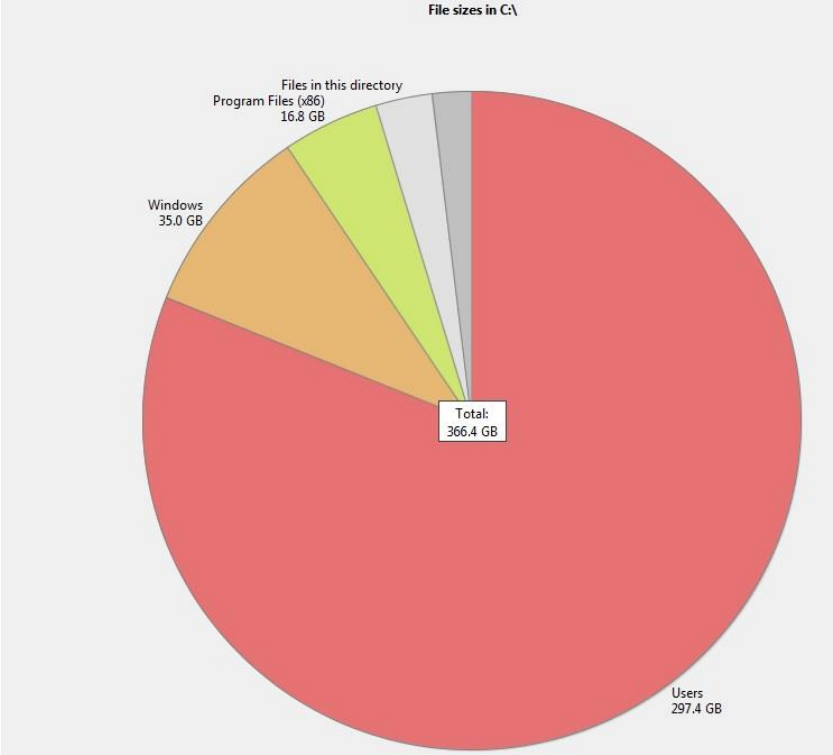


Chart A-1: Andrew's Hard Drive's File Distribution

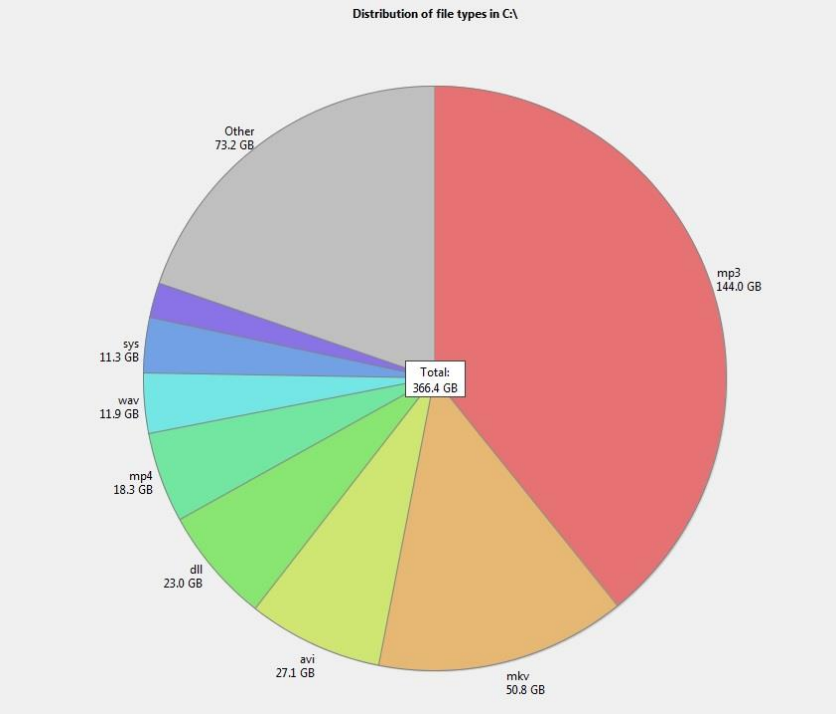
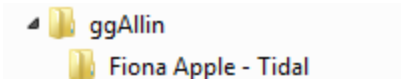


Chart A-2: Distribution of Andrew's File Types

Strengths

- The files saved and created by Andrew nearly all fall into one of the categories that he uses.
- The Windows Explorer search feature allows Andrew is readily find files when he needs them.
- Andrew is aware that there are limitations to his current recordkeeping regime. Andrew is therefore a willing participant in the DIRKS project and open to implementing more and different strategies.
- The metadata collected by the Windows system allows Andrew to sort and edit files to his liking.
- Security features such as password protected access, Windows firewall, and Microsoft Security Essentials allows Andrew to ensure the integrity of his records.
- An external hard drive for backup purposes was purchased and is used by Andrew on a regular and consistent basis.

- **Weaknesses**
  - Going one step beyond the top level directory will result in madness. File names often don't reflect contents. This is especially evident in his Music directory. For example, a cursory perusal produced this oddity:

    Clearly Fiona Apple should not be nested underneath GG Allin.
  - File naming conventions are not helpful. Andrew's reliance on automatic naming of files coming from his mobile device means that his pictures are assigned sequential numerical names. Andrew does his due diligence by putting each picture into an appropriate folder, but without the robust metadata captured by his phone and Windows system, it would be very difficult to find a particular picture.
  - Duplicate files abound. Often with the same names.
  - Lack of fixed retention schedule for his files. It often becomes the case that Andrew deletes files at his convenience, but without a strategy, this practice is unhelpful at best.
  - Minimal forethought when choosing recordkeeping systems to use. Andrew's default judgment has so far been to use native Windows program without weighing the pros and cons of those applications.

Recordkeeping System 2: Gmail (Montanaglass@gmail.com)

Appearance			
	Primary	**Social**	**Promotions**
Andrew has kept the three tabs that Google added last year. He has customized the background image and uploaded his own photo to be sent out along with any email he composes.	**Contents:** Messages from friends and family, as well as any other messages that don't appear in other tabs.	**Contents:** Messages from social networks, media-sharing sites, online dating services, gaming platforms, and other social websites.	**Contents:** Andrew's deals, offers, and other promotional emails.

Figure A-2: Andrew's Gmail Tabs

Gmail Recordkeeping System	
Personalization	**Migration**
Along with the default folders (i.e. "Travel," "Education," etc.) Andrew has added more personalized files. These include: • Kindle • CC Punk • Last.fm • Myspace • School Stuff • Amazon • Austin Film Society • Livejournal • MMA • Politics • Voice Mail	After moving to Gmail from Hotmail, Andrew imported all of his contacts and folders. • Emails date back as far as 2002. • Some of these are stored in a folder called "montana_409@hotmail.com." Others are distributed throughout the other folders.

Method
Andrew has a specific system for dealing with incoming emails. It is as follows: • Similar to his desktop on his laptop, Andrew's top level Inbox only includes emails that contain pressing information that he needs to retrieve in the near term. • As he receives emails, Andrew tries to file them away in their proper location. He erases most of his inbox immediately because either the email does not serve a useful purpose to him or it does not belong in any of his predefined folders. • Being a member of countless school and professional listservs, Andrew often finds that he does not have time to read everything in his inbox and most of it ends up in the trash.

- **Strengths**
  - Immediate systematic filing of nearly all incoming emails.
  - Customized folder names and tags that ensure useful to Andrew emails are filed away in their proper location.
  - Willingness to deal with all incoming emails.
  - Andrew is open to new email strategies.
  - Gmail has many customizability options.
  - At the present moment, more than enough cloud storage space.
- **Weaknesses**
  - Obsolete folders. Many of the folders listed above are no longer used by Andrew.
  - Misfiling. In Andrew's pursuit of efficiency, he is liable to put an email in a wrong location.
  - Search function is mandatory to pull up specific emails that are older than a few days.
  - Lack of any semblance of a retention policy. If an email survives the first round of appraisal, it is going to be filed away forever.
  - No backup policy. Andrew relies on the cloud storage to a fault.

IV. LEGAL REQUIREMENTS

There are numerous expectations placed upon Andrew and his recordkeeping habits. Most of these concern things such as "terms of use." Terms of use statements are legally binding documents that outline appropriate use of a computer application or online service.

Legal Entity	Requirement
Frost Bank	• Andrew must use his emails from Frost Bank to ensure that he does not overdraft when using his debit card.
IRS	• Andrew currently receives electronic copies of his W-2 forms, which he has been using to file his taxes online for the past two years. • All of his tax documents are now located in his Gmail and hard drive. • Being that Andrew is above the age of 25, Andrew has applied for financial aid as an independent for the past two school years. He accessed his tax information using his Gmail and hard drive.
iTunes	• Andrew uses iTunes to purchase and listen to music. iTunes uses a "terms and conditions" statement that must be signed before use. Like Gmail, iTunes also has an interest in the user understanding copyright, privacy, and data control. Additionally, iTunes operates as an online store, so they expect Andrew to understand their purchasing policy and return policy.
Microsoft Office	• Andrew uses the Microsoft Office suite to create and read text-based documents. Microsoft uses a "services agreement" before use is allowed. It is concerned with the user understanding copyright, data control, and the like. Since Microsoft Office is not free to the user, it also wants Andrew to understand how to cancel or amend his leasing of the programs.

Gmail	• There is a "terms of service" that needs to be agreed upon in order to use Gmail. Most of it is concerned with the user end. By signing off on the Gmail "terms of service," Andrew is expected to abide by and understand such things as copyright law, privacy policy, and how to control one's own data.
Adobe Suite	• Andrew uses a small number of free Adobe applications. These include Adobe Reader, Digital Additions, Audition, Shockwave, and Flash. He is not able to create content in these, only view previously created content so he is only expected to use the applications in a way that does not violate copyright.
University of Texas	• When Andrew logs onto the wi-fi offered by the University of Texas, he is required to sign off on an Acceptable Use Policy for Internet.

V. STAKEHOLDER INFLUENCES

Stakeholder	Influence	Consequence
Internal Revenue Service	Since opting for electronic pay stubs and W-2s, having a navigable set of records is paramount for filing accurate taxes.	Failure to file accurate taxes could jeopardize Andrew's health insurance, financial aid, and ability to function in American society.
Roommates	Paying rent and keeping up with the bills has moved from person-to-person to the cloud in recent years for Andrew.	Missing an important email from a roommate could result in utilities being shut off and/or getting an eviction notice from his landlord.
Schoolmates	Group projects are seldom discussed through phone calls or paper documents anymore. Nearly all of Andrew's group work is conducted via the cloud and shared e-documents.	Letting a group member down can not only negatively impact interpersonal relations among group members but has the potential to sink Andrew's GPA.

Frost Bank	Expects Andrew to pay attention to his monthly statements delivered to him via email.	Not paying attention to his bank statements can result in not noticing suspicious activity on his account. Could also lead to overdrafting.
Online Venders	Send Andrew emails letting him know that his order is confirmed. Send him follow up emails to check that order had been physically received.	Ignoring, misfiling or deleting one of these emails would give Andrew no recourse if an ordered item was not sent his way.
University of Texas at Austin	Require Andrew to pay tuition for the classes he signs up for. Also, expect Andrew to keep above a certain Grade Point Average to stay enrolled.	Non-payment of tuition would require Andrew to leave the University. Keeping a grade point average of 2.0 would result in Andrew being removed from the University. Reminders of these facts are kept in his email.
Family	Expect Andrew to give periodic updates on his life to them. This can occur over email using photos from his hard drive.	Without these emails, they may worry about Andrew and bother him.
Friends	Expect Andrew to give periodic updates on his life to them. This can occur over email using photos from his hard drive.	Without these emails, they may worry about Andrew and bother him.
Future Employers	May require Andrew to produce his transcripts and past school work. These are saved onto his computer and cloud storage.	Inability to prove that he went to college or produced anything while there will make his hiring prospects dim.

VII. ATTITUDE OF SUBJECT (PERTAINING TO RECORDS & RECORDKEEPING)

Andrew sees recordkeeping as very important for the retrieval of information. His filing structure and **reliance on the "search" function** in both his hard drive and Gmail is reflective of this.

- If he makes an appointment via email, he is more likely to leave that email in his top inbox than to write down the appointment on a calendar or enter it into another medium such as a smartphone. If after the appointment he feels compelled to verify the date of the appointment, he is more likely to use the "search" function on Gmail than to look up the correct file.
- When he purchases an album via iTunes, and wants to edit the metadata of the original file (add album artwork, change publication date, etc.) rather than rely on his filing structure, he is more likely to use the Windows Explorer search function to find the mp3.

Memorization

- Andrew has thus far had faith in his ability to memorize passwords and locations of files. He believes that if he does not immediately know where a file or email is, he will be able to retrieve it via the search function. When he forgets a password, he relies on the application to email him the username and password. What happens when he forgets his username is so not something he has considered or would like to think about at this point.

Time Management

- When Andrew sits down at his email or laptop and is faced with documents that need to be sorted, his instinct is to stow the files or emails away in the most logical place as quickly as possible so he can move on to other business.

Hoarding

- *Gmail*: Nearly all non-listserv emails are saved. Andrew sees email cloud storage as cheap and plentiful so he keeps all personal, work, and school correspondence.
- *Laptop*: Hoarding rears its head on his hard drive as well. His hard drive contains more than enough space to hold all of the files he produces and downloads.

VIII. IDENTIFY, DESCRIBE, AND ANALYZE FACTORS AFFECTING THEIR RECORDKEEPING PRACTICES

Quantity

- On the Gmail side, Andrew receives approximately 50 emails a day that do not get put into the spam filter. This requires Andrew to evaluate dozens of emails for their subject and or value each day. Mistakes can be made.
- On the hard drive side, music makes up the bulk of his media content. Though filed in the Music folder, Andrew does most of his sorting at a higher level of abstraction, in iTunes. This means that the hierarchy of most of the underlying files stays as is.

Reliance of the "search" function

- In Gmail, if Andrew wants to retrieve a document that has been filed away, he is more likely to use the search bar than use his already existing filing system.

- On the hard drive, a similar tactic is employed using Windows Explorer or the search bar in the start menu to access needed files.

Ambiguous file names

- This is especially evident in the Pictures folder on Andrew's hard drive. Nearly all of the pictures are uploaded from his mobile device and assigned a numerical name by the phone. Every time he imports his camera to his pictures folder he is faced with several duplicate file names.

Financial

- Andrew is but a poor student. He cannot afford many of the high end programs that would improve his recordkeeping. He is reliant on free and very cheap software.

Ignorance

- In many ways, Andrew simply does not know that he is doing anything wrong. He has honed practices that have sometimes worked for him and he thinks they will continue working in perpetuity. What he does not realize, is that he is staring down the barrel of a gun.

VIII. BUSINESS CASE FOR DIRKS

Andrew will need to create a recordkeeping system that will allow him to create, capture, maintain, preserve, manage, access, and dispose of records according to his personal needs. This new recordkeeping regime will be finalized by February 2015, in order to make his last semester at the University of Texas' School of Information one that that will be well organized.

How Personal Recordkeeping Practices Will Change:

File Naming and Classification: Andrew will need to rethink his approach to naming files. He will also come up with more useful and less antiquated classification schemes.

Backup: Andrew will be able to be more discriminating when it comes to backing up files on his hard drive and Gmail account. He will use the retention schedule to determine which files should be saved onto his external hard drive, and which ones can safely be kept on his local hard drive.

Retention and Disposition: A retention schedule will be created based on Andrew's classification scheme. This schedule will use the information gathered throughout this report to identify records of short term, long term or no value. Andrew does not currently have such a regimented schedule for his records. Andrew will be able to figure out which items need to be preserved.

Security: Andrew may have to look into more robust security programs for his hard drive and Gmail.

Recordkeeping Systems: Looking holistically at Andrew's current practices have lead Team Red to observe that these need to change. Steps E and F will outline the specific changes required of Andrew's recordkeeping.

Potential Risks of Implementing DIRKS:

Loss of Information: De-duplicating and file-renaming applications always come with the caveat that an underprepared user could end up erasing or misidentifying large swaths of data. Batch processing personal information always runs this risk. Also, before Andrew gets used to his new file naming convention, he may not be able to find a file or files that he was, until implementation, familiar with.

Potential Risks of not Implementing DIRKS:

Security and Backup Issues: Andrew could potentially lose all or many of his records due to insufficient attention paid to security. A hacker could implant a virus that renders his laptop's hard drive i noperable. Without backing up important files and ensuring a robust security regime, Andrew could be in deep trouble. Same goes for his Gmail account.

File Classification and File Naming Conventions: Andrew knows where many files on his computer are and the search function helps, but he is absolutely useless when looking for certain older less high use documents. The same goes for his Gmail. He wastes a lot of time looking through his files.

Retention and Disposition: At the present moment, Andrew is comfortable with the amount of space allotted to him by his Gmail account and internal hard drive. But these good times may not last forever. When storage space begins to a run out an indiscriminate purge may occur which would leave his files crippled.

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DIRKS STEP B: ANALYSES OF BUSINESS ACTIVITY

I. INTRODUCTION

Step B of the DIRKS report is designed to help conceptualize the functions in which Andrew participates as well as the activities and transactions that reflect these functions. Through the creation of this conceptual model, these functions and activities will be tied to the corresponding records that Andrew creates. This section will:

I. Identify and describe the work performed by Andrew.
II. Develop a business classification scheme (BCS) to tie Andrew's work to his records.
III. Describe how the BCS was created with cooperation from Andrew.

DEFINITIONS

Below are definitions for several terms that will be used frequently throughout the BCS and Step B of the DIRKS report as a whole:

Functions: The major roles and responsibilities that Andrew fulfills in his life. A collection of his activities.

Activities: The major tasks that Andrew completes as part of his functions. A collection of his transactions.

Transactions: The smallest segment of Andrew's activity representing specific tasks.

II. IDENTIFICATION AND DESCRIPTION OF FUNCTIONS

As a *young professional*, Andrew Glass participates in society by fulfilling multiple different roles and functions. In the course of fulfilling these functions, Andrew collects and produces various types of records that he stores on the recordkeeping systems that are being examined in this report: his laptop and his Gmail account. These functions cross between these recordke eping systems Andrew's main functions are his functions as a graduate student, an information professional, a social being, a manager of his personal finances and a participant in creative enterprise.

As a graduate student at the University of Texas at Austin, Andrew attends courses and communicates with his peers and professors. While attending courses like Introduction to Records Management or Managing Information Organizations, Andrew frequently takes notes of the lectures and class discussions so that he may refer back to them later. Andrew's communication with his peers and professors is recorded in the form of emails stored in his Gmail account. In the course of being a student, Andrew also receives a multitude of emails from student groups and from school-related listservs that are also contained on his Gmail account.

As an information professional, Andrew mainly acts within his role as a Fine Arts Library employee. However, his functions as an information professional also include his activities in professional development as well as his volunteer work. As an employee at a Fine Arts Library, Andrew must communicate with both his supervisors and the student workers that he supervises. This communication is often documented in the form of emails on his Gmail account. While working, Andrew also frequently saves work-related documents to his laptop.

As a social being, Andrew engages in several activities; acting as a citizen of the United States, a family member and a roommate. As citizen of the United States, Andrew engages in activities such as jury duty and tax paying that tend to leave records in his Gmail account. As a family member, Andrew prefers personal forms of communication that do not leave behind electronic records. However, in the process of setting up personal meetings and family events, emails are still exchanged amongst family members. In his function as a roommate, Andrew exchanges emails to facilitate the payment of bills and communication between his two roommates.

Andrew has personal finances that need to be managed. In this function, Andrew manages his online purchases as a consumer. These purchases can result in receipts in Andrew's Gmail account. Andrew also participates in online banking and taxpaying that also results in email documentation.

Andrew functions as a participant in creative enterprises on a daily basis. As a creative entity, Andrew engages in photography and filmmaking that result in the production of images and videos. These images and videos are stored on Andrew's laptop. Andrew also engages in creative writing activities, the products of which are also stored on his laptop.

III. BUSINESS CLASSIFICATION SCHEME (BCS)

Function	*Activity*	*Transaction*
Graduate Student *August 2013 to May 2015* Andrew Glass is a current UT graduate student in the second	**Coursework** In the course of his required studies in the MSIS program, Andrew has accumulated a large	- Attends class - Takes notes - Obtains readings and other files from Canvas or Blackboard

year of the MSIS program at the School of Information.	quantity of school-related files on his laptop, some of which may also exist as attachments in his Gmail account.	- Completes and annotates readings - Completes rough drafts and final drafts of assignments
	Communication In the process of completing coursework, Andrew has also accumulated emails from professors and peers pertaining to his classwork and studies. Some assignments are group projects, and emails regarding meeting times, project details, and the like make up a large portion of class-related correspondence.	- Receives school-related emails from iSchool listservs - Receives announcements and notifications regarding classes - Corresponds with professors and classmates via email - Corresponds with group members via email - Sends and receives work-in-progress and final drafts of files through email
Information Professional *August 2006 to present* Andrew began developing his career in the information profession since first working at the UT Library in 2006. He is currently an employee of the Fine Arts Library at UT, a member of SLA, and a volunteer.	**Communication** The majority of Andrew's email communication occurs within the spheres of his professional activity as an employee of the Fine Arts Library at UT, a member of SLA, and a volunteer.	- Receives work-related updates via email - Corresponds with boss and co-workers via email - Schedules student workers via email - Receives SLA announcements via email - Corresponds with the volunteer coordinator at the Inside Books Project
	Supervision One of Andrew's responsibilities as a GRA at the Fine Arts Library is the management and direction of four undergraduate student workers at the library.	- Participates in meetings - Schedules student workers via email - Emails updates and instructions to student workers
	SLA Participation Since August of 2014, Andrew has been an active participant in the Special Libraries Association. He is an officer and was in charge of recruitment.	- Attendance of SLA meetings - Participation in running of events - Recruitment of incoming Master's students
	Volunteering Andrew has contributed nearly 100 hours of his time volunteering at the Inside Books Project, an Austin-based organization that donates books and educational materials to inmates in Texas' prison system.	- Attends established volunteer hours - Opens letter requests from inmates - Selects books that best fit the requests - Sends packages of requested material

Social Being *Ongoing* Within the context of society, Andrew has obligations in his roles as a citizen of the United States, a resident of Texas, and as a human being. On a personal level, Andrew has a network of family, friends, colleagues, coworkers, and roommates with whom he regularly interacts.	**Civic Duties** As a citizen of the United States, and a resident of Texas, Andrew is a taxpayer with civic obligations and privileges.	- Fulfills jury duties when called upon - Complies with city regulations regarding residential maintenance - Pays taxes
	Communication A large part of his transactions as a social being falls under the activity of communication. This may include telephone calls, emails, text messages, instant messaging, video conferencing, and so forth. Due to the nature of most of these communications, many of these correspondences can be saved digitally, and may also have other file formats attached.	- Receives family updates via email - Use of email to contact colleagues and coworkers in the course of work and schoolwork - Corresponds with roommates about bills and rent via email - Use of Google Voice to communicate with others - Use of iExplorer to save text message histories as PDFs on computer
	Interactions As a participating member within his social network, Andrew may plan or spontaneously join in interactions with others. To develop or maintain his relationships, visits, trips, meetings, and appointments may be coordinated. The outcomes of some of these interactions may produce further documentary records on his laptop and Gmail account (such as photographs, confirmation emails, etc).	- Plans trips and appointments through email - Online purchase of airline tickets - Creation and saving of photographs and videos
	Social Bike Rides As an avid biker, Andrew sometimes participates in social bike rides.	- Receives and sends notifications pertaining to social bike rides - Organizes and participates in social bike rides - Documents rides through photographs
Financial Management *1999 – present* In order to appropriately manage his expenses, Andrew necessarily makes use of online banking. He also utilizes online means to pay for bills, rent, and taxes, in addition to other needs and wants.	**Banking** Andrew manages his checking and savings account online, and receives email notifications and documentation regarding these activities.	- Deposits and withdraws money - Manages checking and savings account - Manages and documents financial aid paperwork
	Paying Bills, Rent, and Taxes As a taxpayer and tenant, Andrew pays bills, rent, and taxes online,	- Pays bills, rent and taxes - Files emailed invoices

	with receipts, invoices, and W-2s being stored in his Gmail account.	
	Online Purchasing A significant portion of Andrew's purchases occur online, and as a result, leave a record of receipt in his Gmail account. With purchases that may only exist online and/or on a computer (such as of software or services), the additional record of a digital file may exist. In this regard, Andrew regularly purchases e-books and subscribes to magazines from Amazon for his Kindle.	- Uses online markets to procure needs and wants - Files emailed receipts and invoices
Creative Enterprise *1988 to present* Over the course of his life, Andrew has regularly undertaken, completed or involved himself in creative projects with others or on his own.	**Writing** Most of Andrew's writing exists as Word documents on his computer, or online through a blog service.	- Creates non-school and non-work related writings stored on hard drive and Gmail account - Semi-regular maintenance of several blogs - Receives email notifications regarding blog activity - Word documents from high school work for the school newspaper
	Music In middle school and high school, Andrew was involved in several bands as a bassist and guitarist, and created and recorded music.	- Project to digitize cassette tapes of music from middle and high school
	Photography and Filmmaking In the course of a day, Andrew may come across moments to document as a photographic image or a recorded video. He does some photo- and video-editing with his AV material. In high school, he had access to a dark room, and was able to take photographs on film and develop them himself.	- Documentation of life and surroundings through digital photographs and video - Some photo- and video-editing - In the process of scanning photographs developed from 35mm film from high school

IV. EXTENDED BUSINESS CLASSIFICATION SCHEME

The business classification scheme represents a type of hierarchy of Andrew's functions, activities, transactions, and everything in between. It describes each of these categories, and the documents and records that each involves.

DEFINITIONS

Within the Extended BCS, the Risk section refers to different levels of risk. The terms used are defined as follows:

Minimal: Consequences of data loss or inaccessibility can be easily remedied. Obligations to keep up with maintenance of records are limited. Consequences impact one or few stakeholders.

Moderate: Consequences of data loss or inaccessibility is inconvenient or destructive to the subject's obligations to other stakeholders.

High: Consequences of data loss or inaccessibility has legal or financial ramifications. The effects can impact the security of the finances or legal status of the stakeholder(s).

Function

Graduate Student, *August 2013 to May 2015*

Andrew Glass is a current UT graduate student in the second year of the MSIS program at the School of Information. In the course of his required studies in the MSIS program, Andrew has accumulated a large quantity of school-related files on his laptop, some of which may also exist as attachments in his Gmail account. Email communication with his classmates, group members, and professors is a significant part of his function as a graduate student.

Currently enrolled in Introduction to Records Management, Management of Organizations, and Database Management for Fall 2014.

Activity

Coursework	*Sub-Activity*	*Transactions*	*Records Series*
For Fall 2014, Andrew accesses and stores class-related files on his laptop. This includes readings and documents made available by the professor, as well as documents he has created or collaborated on with group members of his various group projects.	- Class preparation - Individual assignments - Group work	- Attends class - Takes notes - Obtains readings and other files from Canvas or Blackboard - Completes and annotates readings - Completes rough drafts and final drafts of assignments	- The majority of these files are located either in the *Desktop* folder or in the *School* folder on the Desktop of laptop for immediate access - Located in *School Stuff* folder in Gmail *Format & Location* - .pdf, .doc, docx, .php, .txt, .xml, .xls, .ppt, .pptx, .jpg, .png

			- On laptop and in Gmail
	Stakeholders		
	Andrew, *his group members*, and *his instructors* are stakeholders in his function as a student enrolled in the classes for Fall 2014. Access to emails, readings, assignment prompts, and assignment drafts allows Andrew and the other stakeholders the certainty that assignments will be completed.		
	Risk		
	Risk is *minimal*. The course readings and documents are available online, and should the files be lost on Andrew's computer, he could easily regain access to them. As for work documents, group collaborations are often done in the cloud for convenient share-ability. For individual assignments, inconsistent versioning or naming schemas compounded with an unnavigable directory could lead to confusion or difficulty.		
Activity			
Communication As a byproduct of completing coursework, Andrew has also accumulated emails from professors and colleagues pertaining to classes and projects. Emails regarding meeting times and project details make up a large portion of class-related correspondence.	*Sub-Activity*	*Transactions*	*Records Series*
		- Receives school-related emails - Receives class announcements - Corresponds with professors and classmates via email - Corresponds with group members via email - Sends and receives work-in-progress and final drafts of files through email	- Located in *School Stuff, Work, Personal,* and *Friends and Family* folders in Gmail *Format & Location* - Gmail account
	Stakeholders		
	Andrew, *his group members*, and *his instructors* are stakeholders in the activity of communication, as it relates to his work as a graduate student. Having reliable access to emails for reference is important to stakeholders' successful instruction and completion of coursework.		
	Risk		
	Risk is *moderate*. Being unable to reliably refer to emails pertaining to current coursework for Fall 2014 classes would create inconveniences for stakeholders, but other forms of communication are possible. Improper filing of emails could lead to miscommunications amongst group members and could affect the quality of work that is produced in group projects.		

Function
Information Professional, *August 2006 to present*

Andrew began developing his career as an information professional since first working at the UT Library in 2006. He is currently an employee of the Fine Arts Library at UT, a member of SLA, and a volunteer.

Sub-Function

Fine Arts Library Employee

As a student worker at the Fine Arts Library, Andrew has a number of responsibilities and duties, as well as current and future projects. He regularly evaluates the library's media collection, makes recommendations based on what he finds during his assessments, and enacts those recommendations. Andrew also manages the collection's acquisitions and processes new media that comes to the library. Some current projects that he is working on is the digitization and archiving of 16 mm film as a means to support the library's proof of ownership over the materials, as well as the relocation of VHS tapes out of the library into remote storage. He is also currently building relationships with subject bibliographers on campus to inform other departments of the library's collection. Andrew is also a supervisor of four undergraduate student workers. The amount of communication, both email and in-person, that each of Andrew's roles demands creates a need for accurate and reliable filing within his Gmail account.

Activity

Communication

The majority of Andrew's email communication occurs within his function as an employee of the Fine Arts Library at UT. Within some communiqués are document attachments. Most of Andrew's work-related documents are kept on a flash drive, and some are additionally stored on his laptop.

Sub-Activity	*Transactions*	*Records Series*
	- Receives work-related updates via email - Corresponds with boss and co-workers via email	- Located in *Work* and *School Stuff* folders in Gmail *Format & Location* - .jpg, .gif, .png - Gmail account

Stakeholders

Andrew, *his boss*, *coworkers*, and *student workers* are stakeholders. Andrew regularly communicates with the other stakeholders regarding his own and their availability. For example, he communicates his availability to his boss by way of .jpg email attachments that are formatted and color-coded for easy reference as digital and physical copies.

Risk

Risk is *moderate*. Being unable to reliably refer to emails pertaining to his work responsibilities as well as those of his boss, coworkers, and student workers would create difficulties for the stakeholders, and potential problems at work.

Activity

Supervision

One of Andrew's major roles at his position at the Fine Arts Library is as supervisor. He has four undergraduate student workers that he supervises, and with whom he regularly communicates in order to

Sub-Activity	*Transactions*	*Records Series*
	- Participates in meetings - Schedules student workers via email - Emails updates and instructions to student workers	- Located in *Work* folder in Gmail *Format & Location* - .jpg, .gif, .png - Gmail account

Stakeholders

enforce the work schedule, inform, and update them. Meetings are attended in order to confirm schedules and enforce them.	*Andrew* and his undergraduate *student workers* are the stakeholders of this activity. *Risk* Risk is *moderate*. Being unable to reliably communicate with his undergraduate student workers would interfere with the operation of his own work and the work of those he supervises.

Sub-Function

Professional Development

In order to fully develop as a professional, Andrew supplements his work as a graduate student and as an employee at the Fine Arts Library with volunteer activities and participation in other organizations, such as SLA.

Activity

SLA Participation

Andrew's has attended all of the SLA meetings since joining, and he is also an SLA officer. He is in charge of recruitment at orientation, where he talks to new students, obtains a list of emails, and adds these contacts to the organization's roster.

Sub-Activity	*Transactions*	*Records Series*
	- Attendance of SLA meetings - Participation in running of events - Recruitment of incoming Master's students	- Located in *School Stuff* folder in Gmail *Format & Location* - Gmail account

Stakeholders

Andrew, the *SLA president*, and *the group itself* are stakeholders.

Risk

Risk is *minimal*. Attendance is not mandatory and participation is voluntary. But when assisting with events, communication would be important.

Activity

Volunteering with the Inside Books Project

From January to June 2014, Andrew has contributed nearly 100 hours of his time volunteering at the Inside Books Project, an Austin-based organization that donates books and educational materials to inmates in Texas' prison system. His work with the organization was initially prompted by a project in Dr. Barbara Immroth's section of Social and Cultural Context, but Andrew continued on as

Sub-Activity	*Transactions*	*Records Series*
	- Attends established volunteer hours - Opens letter requests from inmates - Selects books that best fit the requests - Sends packages of requested material	- Located in *School Stuff* folder in Gmail *Format & Location* - Gmail account

Stakeholders

Andrew, the *inmates* of the program, and the *Inside Books Project organization* are stakeholders in Andrew's actual volunteering efforts. It should be clarified that because Andrew's involvement in this program came about as a result of a group project for Social and Cultural Context, additional stakeholders were also *group members* and his course *professor* for a period of time, when interactions involved interviews with the organizers regarding the information life cycle of the program.

Risk

a volunteer after the completion of the project.	Overall risk is *minimal*. Attendance is not mandatory and participation is voluntary. Involvement with the group as it relates to coursework does have some risk, but this is separate from Andrew's volunteer work with the program.

Function

Social Being, *Ongoing*

Within the context of society, Andrew has obligations in his roles as a citizen of the United States, a resident of Texas, and as a human being. On a personal level, Andrew has a network of family, friends, colleagues, coworkers, and roommates with whom he regularly interacts. A large part of his transactions as a social being falls under the activity of communication. This may include telephone calls, emails, text messages, instant messaging, video conferencing, and so forth. Due to the nature of most of these communications, many of these correspondences can be saved digitally, and may also have other file formats attached. As a participating member within his social network, Andrew may plan or spontaneously join in interactions with others. To develop or maintain his relationships, visits, trips, meetings, and appointments may be coordinated. The outcomes of some of these interactions may produce further documentary records on his laptop and Gmail account (such as photographs, confirmation emails, etc).

Sub-Function

US Citizen

Activity

Civic Duties

As a citizen of the United States, and a resident of Texas, Andrew is a taxpayer with civic obligations and privileges.

Sub-Activity	*Transactions*	*Records Series*
	- Fulfills jury duties when called upon - Complies with city regulations regarding residential maintenance - Pays taxes	- Located in *Work* and *Receipts* folders in Gmail *Format & Location* - Gmail account

Stakeholders

The stakeholders for this activity are *Andrew*, the *county*, *state*, and *federal governments*.

Risk

Risk is *high*. Failing to properly pay taxes or comply with regulations could lead to legal penalties.

Sub-Function

Family Member, Friend, and Colleague

Activity

Communication

Communication between family members, friends, and colleagues varies. While more personal means of communication are preferable with family

Sub-Activity	*Transactions*	*Records Series*
	- Receives family updates via email - Use of email to contact colleagues in the course of work and schoolwork	- Located in *Personal* and *Friends and Family* folders in Gmail *Format & Location*

<table>
<tr><td rowspan="4">and friends, emails tend to predominate in situations where updates to a group of people are desired. Andrew has recently become an uncle, and regularly receives emailed updates about and photographs of his niece.</td><td></td><td>- Use of Google Voice to communicate with others
- Use of iExplorer to save text message histories as PDFs on computer</td><td>- On laptop and in Gmail</td></tr>
<tr><td colspan="3">Stakeholders</td></tr>
<tr><td colspan="3">The stakeholders are Andrew, his family members, friends, and colleagues. Communication is a significant means of maintaining and strengthening personal relationships.</td></tr>
<tr><td colspan="3">Risk</td></tr>
<tr><td colspan="4">Risk is moderate. Being unable to locate personal emails and attachments on his laptop or Gmail would be of serious personal significance to Andrew. While there is some personal significance to the other stakeholders, the risk is more communicatory.</td></tr>
<tr><td colspan="4">Activity</td></tr>
<tr><td rowspan="5">Interactions
Social interactions may be documented though photographs or video. Interactions with others can be mediated through email, such as when preparing for a trip or meeting.</td><td>Sub-Activity</td><td>Transactions</td><td>Records Series</td></tr>
<tr><td></td><td>- Plans trips and appointments through email
- Online purchase of airline tickets
- Creation and saving of photographs and videos</td><td>- Located in Personal, Receipts, and Friends and Family folders in Gmail
Format & Location
- On laptop and in Gmail</td></tr>
<tr><td colspan="3">Stakeholders</td></tr>
<tr><td colspan="3">The stakeholders are Andrew, his family members, friends, and colleagues. Planning trips, visits and appointments are a significant means of maintaining and strengthening personal relationships.</td></tr>
<tr><td colspan="3">Risk</td></tr>
<tr><td colspan="4">Risk is moderate. Being unable to locate personal emails and attachments on his laptop or Gmail would be of serious personal significance to Andrew. This would include misplacement of airline ticket confirmation emails, loss of personal photographs and videos, as well as communicatory mishaps.</td></tr>
<tr><td colspan="4">Activity</td></tr>
<tr><td rowspan="2">Social Bike Rides
As an avid biker, Andrew sometimes participates in social bike rides.</td><td>Sub-Activity</td><td>Transactions</td><td>Records Series</td></tr>
<tr><td></td><td>- Receives and sends notifications pertaining to social bike rides
- Organizes and participates in social bike rides</td><td>- Located in Myspace, Personal, and Friends and Family folders in Gmail
Format & Location
- Gmail account</td></tr>
</table>

	Stakeholders		
	Andrew and *other cyclists* are the stakeholders.		
	Risk		
	Risk is *minimal*. There is some risk in being unable to properly communicate with other cyclists to organize social bike rides. While these social bike rides are interactive events, there is also the enjoyment of biking in itself for the stakeholders.		
Sub-Function			
Roommate			
Activity			
Communication Email is the primary mode of contact between Andrew and his roommates regarding rent and bills to be paid.	*Sub-Activity*	*Transactions*	*Records Series*
		- Corresponds with roommates about bills and rent via email - Accesses and updates a shared Google Doc to list expenses	- Located in *Personal* folder in Gmail and Google Drive *Format & Location* - Gmail account
	Stakeholders		
	The stakeholders are *Andrew*, and *his two roommates*. Having access to emails and the collaborative Google Doc are important to appropriately managing their shared expenses.		
	Risk		
	Because these emails are an embedded part of Andrew's routine, there is *moderate* risk in being unable to accurately and reliably communicate via email about rent and bills. Spoken reminders could temporarily replace emailed reminders.		

Function			
Financial Management, *1999 to present* In order to appropriately manage his expenses, Andrew necessarily makes use of online banking. He also utilizes online means to pay for bills, rent, and taxes, in addition to other needs and wants.			
Sub-Function			
Consumer			
Activity			
Banking	*Sub-Activity*	*Transactions*	*Records Series*

<table>
<tr><td rowspan="4">Andrew manages his checking and savings account online, and receives email notifications and documentation regarding these activities.</td><td></td><td>- Deposits and withdraws money
- Manages checking and savings account</td><td>- Statements stored in Banking and Receipts folders in Gmail
Format & Location
- Gmail account</td></tr>
<tr><td colspan="3">Stakeholders</td></tr>
<tr><td colspan="3">Andrew is the stakeholder.</td></tr>
<tr><td colspan="3">Risk
Risk is high. Due to the sensitive nature of these financial transactions, there is considerable risk if this information is not securely communicated and stored.</td></tr>
<tr><td colspan="4">Activity</td></tr>
<tr><td rowspan="4">Online Purchasing
A significant portion of Andrew's purchases occur online, and as a result, leave a record of receipt in his Gmail account. With purchases that may only exist online and/or on a computer (such as of software or services), the additional record of a digital file may exist. In this regard, Andrew regularly purchases e-books and subscribes to magazines from Amazon for his Kindle.</td><td>Sub-Activity</td><td>Transactions</td><td>Records Series</td></tr>
<tr><td></td><td>- Uses online markets to procure needs and wants
- Files emailed receipts and invoices</td><td>- Receipts and invoices stored in Amazon and Receipts folders in Gmail
Format & Location
- Gmail account</td></tr>
<tr><td colspan="3">Stakeholders
Andrew is the stakeholder. In circumstances in which purchases are made as gifts or on the behalf of others, these others (namely, friends and family) would be additional stakeholders.</td></tr>
<tr><td colspan="3">Risk
Risk is high. Due to the sensitive nature of these financial transactions, there is considerable risk if this information is not securely stored.</td></tr>
<tr><td colspan="4">Sub-Function
Taxpayer and Tenant</td></tr>
<tr><td colspan="4">Activity</td></tr>
<tr><td rowspan="4">Paying Bills, Rent, and Taxes
As a taxpayer and tenant, Andrew pays bills, rent, and taxes online, with receipts and invoices being sent to his Gmail account.</td><td>Sub-Activity</td><td>Transactions</td><td>Records Series</td></tr>
<tr><td></td><td>- Pays bills, rent and taxes
- Files emailed invoices</td><td>- Located in Banking and Receipts folders in Gmail
Format & Location
- Gmail account</td></tr>
<tr><td colspan="3">Stakeholders
Andrew is the stakeholder. In his function as a tenant, his two roommates are additional stakeholders.</td></tr>
<tr><td colspan="3"></td></tr>
</table>

	Risk
	Because these emails are an embedded part of Andrew's routine, there is *moderate* risk in being unable to accurately and reliably communicate via email about rent and bills. Spoken reminders could temporarily replace emailed reminders. However, because of the sensitive nature of these financial transactions, there is considerable risk if this information is not securely stored.

Function

Creative Enterprise, *1988 to present*

Over the course of his life, Andrew has regularly undertaken, completed or involved himself in creative projects with others or on his own. He creates written, musical, photographic, and filmed works. Other than his musical projects, Andrew continues to produce documents and other records in his creative enterprise function. As a musician, he plays electric bass, and electric and classical guitar. As a middle- and high-schooler, he was involved in several bands with whom he created and recorded music. The documentation of this endeavor still exists on audiocassette tapes, and Andrew is in the process of beginning to digitize these records. Similarly as a photographer, Andrew has some work he had developed when he had access to a darkroom and photo-developing equipment. He is in the process of digitizing and scanning these records to his computer.

Sub-Function

Creator

Activity

Writing

Most of Andrew's writing exists as Word documents on his computer, or online through a blog service.

Sub-Activity	*Transactions*	*Records Series*
	- Creates non-school and non-work related writings stored on hard drive and Gmail account - Semi-regular maintenance of several blogs - Receives email notifications regarding blog activity - Word documents from high school work for the school newspaper	- Located in *Personal* and *School Stuff* folders in Gmail
		Format & Location
		- .doc, .docx, .txt - Laptop

Stakeholders

Andrew is the stakeholder, as well as *followers* of his blogs.

Risk

There is *moderate* risk. Data loss, especially of creative endeavors, is a regrettable scenario. If these documents are not securely stored, the possibility of loss becomes greater.

Activity

<table>
<tr><td rowspan="4">Music
In middle school and high school, Andrew was involved in several bands as a bassist and guitarist, and created and recorded music.</td><td>Sub-Activity</td><td>Transactions</td><td>Records Series</td></tr>
<tr><td></td><td>- Project to digitize cassette tapes of music from middle and high school</td><td>Format & Location</td></tr>
<tr><td colspan="3">Stakeholders</td></tr>
<tr><td colspan="3">Andrew is the stakeholder.</td></tr>
<tr><td></td><td colspan="3">Risk</td></tr>
<tr><td></td><td colspan="3">There is moderate risk. Data loss, especially of creative endeavors, is a regrettable scenario. If these documents are not securely stored, the possibility of loss becomes greater.</td></tr>
<tr><td colspan="4">Activity</td></tr>
<tr><td rowspan="4">Photography and Filmmaking
In the course of a day, Andrew may come across moments to document as a photographic image or a recorded video. He does some photo- and video-editing with his AV material. In high school, he had access to a dark room, and was able to take photographs on film and develop them himself.</td><td>Sub-Activity</td><td>Transactions</td><td>Records Series</td></tr>
<tr><td></td><td>- Documentation of life and surroundings through digital photographs and video
- Some photo- and video-editing
- In the process of scanning photographs developed from 35mm film from high school</td><td>- Located in Personal and School Stuff folders in Gmail
Format & Location
- .jpg, .mov
- Laptop</td></tr>
<tr><td colspan="3">Stakeholders</td></tr>
<tr><td colspan="3">Andrew is the stakeholder, in addition to his friends and followers on the web.</td></tr>
<tr><td></td><td colspan="3">Risk</td></tr>
<tr><td></td><td colspan="3">There is moderate risk. Data loss, especially of creative endeavors, is a regrettable scenario. If these documents are not securely stored, the possibility of loss becomes greater.</td></tr>
</table>

V. VALIDATING THE BCS

With the information gathered from DIRKS Step A, the group was able to form potential questions that would help build a possible BCS. The BCS was then validated with Andrew Glass through an interview that took place with the group members. The interview consisted of questions pertaining to the various functions and activities that Andrew holds in his life and how those functions and activities were

reflected in his personal records. The BCS was then created in a procedural manner as the group progressed through Andrew's personal functions and activities.

DIRKS STEP C: IDENTIFICATION OF RECORDKEEPING REQUIREMENTS

I. INTRODUCTION

Being the owner and manager of his records, Andrew is also responsible for their organization, upkeep, and retention schedules. When maintaining certain records, Andrew must adhere to external regulations and policies, such as in his management of academic, financial, and tax records, as well as those he retains in his cloud storage Gmail account. Not only do these institutions regulate how and why Andrew preserves these records, but they also affect their creation, retention, disposal, access, content, form, and quality. This step of DIRKS identifies and documents Andrew Glass' requirements in creating the evidence of his activities in a structured format. Here is what we will be covering is Step C of DIRKS:

I. For each function and activity, identify and describe regulatory, business and community requirements for record keeping.
    a. Describe whether these requirements related to the creation, retention, disposal, access, content, form, quality of records, etc.
II. For each function and activity, determine and document which of the identified requirements will be met.
    a. Involves an element of risk assessment with regards to recordkeeping.
III. Document these identified requirements in a manner suitable for reference purposes.
IV. The final section illustrates all of the information given in Step C in a functions-based records disposal authority.

DEFINITIONS

Below are a list of definitions of terms used throughout Step C of the DIRKS report:

Federal Requirements: The requirements imposed by United States federal law on all citizens above 18 years of age.

Academic Requirements: The requirements imposed by an institution of learning in order maintain academic integrity and successfully complete a course of study.

Business Requirements: The requirements imposed by entities or persons with which Andrew does business such as his employer, financial institutions, or business from which he procures items or services.

Community Requirements: The requirements imposed as a result from personal ties to other members of the community or a social organization.

Accessibility: The degree of facility with which Andrew can locate and access his records for their intended purpose.

Retention: The length of time records will be preserved determined by requirements.

Disposal: The destruction of records will be determined by records requirements and the retention schedule.

RISK MATRIX

Probability	Level of Consequence				
	Disastrous	**Critical**	**Moderate**	**Minor**	**Insignificant**
Almost Certain	Extreme	Extreme	Significant	Significant	Negligible
Highly Likely	Extreme	Major	Significant	Significant	Negligible
Moderate	Major	Major	Significant	Negligible	Negligible
Unlikely	Significant	Significant	Negligible	Negligible	Negligible
Rare	Significant	Significant	Negligible	Negligible	Negligible

ASSESSMENT TERMS

PROBABILITY

Almost Certain: The loss of, or damage to, the records is an event that will occur unless stringent measures are undertaken for their preservation, and even then there is no guarantee of record security.

Highly Likely: The loss of, or damage to, the records is likely to occur and should be expected.

Moderate: It is possible the records will be lost or damaged, but preventative measures should mitigate or completely negate the potential threat.

Unlikely: As long as precautions are taken, it is unlikely that the records will suffer any sort of damage.

Rare: Damage to, or loss of, the records will generally be the result of gross negligence or a chance accident.

LEVELS OF CONSEQUENCE

Disastrous: The loss of these records makes the fulfillment of the requirements for the function they serve impossible. These records may also be irreplaceable.

Critical: The loss of these records make performing the function they serve extremely difficult and may halt the function until they are replaced.

Moderate: Functions are difficult to perform but still possible with the records being relatively easy to replace or reconstruct.

Minor: Damage to these records makes performing functions merely inconvenient without being a serious impediment.

Insignificant: The loss or damage to these files would not violate any requirements or create any sort of inhibition in the fulfillment of functions.

LEVELS OF CONCERN

Extreme: Andrew should be very concerned over the potential loss of these files due to the high probability of loss and their sensitive nature.

Major: Andrew should maintain strict precautions against the loss of these files either due to their sensitive nature and likelihood of loss.

Significant: There is still a moderate level of risk to significant files, but either the probability of loss is low or the files are unimportant enough that Andrew can be certain of their safety as long as precautions are taken.

Negligible: The low probability of loss as well as the level of file importance indicate Andrew does not need to be concerned.

II. IDENTIFIED REQUIREMENTS

FUNCTION: GRADUATE STUDENT

As a graduate student, Andrew generates multiple records through his interactions with classmates and his academic engagement with his classes. This includes the generation of papers, project documents, as well as communications with the members of his project groups and professors. Many of these documents must be retained for the duration of the course for which they have been generated. In some cases, Andrew may want to retain the documents as reference material for future coursework. Project documents may also be retained for Andrew's portfolio to showcase his skills for prospective employers.

Function: Graduate Student	
Sub-Function: Scholar	
Activity: Communication	
Transactions: Communications via e-mail	
Description of Records & Formats	**Description of Records:** Andrew uses e-mail has his primary medium of communication. He uses it to exchange ideas with his project groups regarding their objectives, and it is his means of reaching out to his professor. Sometimes he is required to share project documents with his group mates and attaches project documents to his e-mails in order to provide information pertaining to the completion of projects. **File Format:** Email, .doc, .docx
Requirements for Recordkeeping	Permanent Retention

Source	Andrew Glass' needs, Gmail Terms of Agreement
Stakeholder(s)	Andrew, professors (Ciaran Trace, Diane Bailey, Stan Gunn), and project groups
Requirement Type	Andrew will continue to access these records through his Gmail account as long as his access is permitted.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent archive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk –** moderate. Being unable to access his e-mail would cause difficulties concerning coordination of his group's efforts to meet project objectives as well as maintaining communication with his professors. However, it is considered a rare occurrence that his account might be terminated without any prior notification.

Function: Graduate Student	
Sub-Function: Scholar	
Activity: Course Work	
Transactions: Project documents	
Description of Records & Formats	**Description of Records:** Andrew saves all of his project documents to his hard drive. They are all placed in a file titled "School Stuff", but there is no further organization scheme applied to the documents. There are a variety of file formats present and they lack a standardized naming scheme. **File Format:** .doc, .docx, .pptx, .pdf, .jpg, .xls
Requirements for Recordkeeping	Permanent Retention

Source	Andrew Glass' needs
Stakeholder(s)	Andrew, professors (Ciaran Trace, Diane Bailey, Stan Gunn), and project groups
Requirement Type	Andrew will continue to preserve his project documents on his hard drive indefinitely.
Disposal Action	None – however, Andrew wishes to periodically transfer unused files to an external hard drive.
Other	Andrew considers these records to be part of his permanent archive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk –** There is a critical level of risk concerning these documents. They are important to meet his course objectives in order to fulfill his function has a scholar, and if they are rendered inaccessible, there is the potential to cause him to fail at this designated function. There is a moderate probability of this occurring, and as a result there should be a major level of concern in regards to these files.

Function: Graduate Student	
Sub-Function: Scholar	
Activity: Communication	
Transactions: Communications via e-mail	
Description of Records & Formats	**Description of Records:** Andrew uses e-mail has his primary medium of communication. He uses it to exchange ideas with his project groups regarding their objectives, and it is his means of reaching out to his professor. Sometimes he is required to share project documents with his group mates and attaches project documents to his e-mails in order to provide information pertaining to the completion of projects. **File Format:** Email, .doc, .docx

Requirements for Recordkeeping	Permanent Retention
Source	Andrew Glass' needs, Gmail Terms of Agreement
Stakeholder(s)	Andrew, professors (Ciaran Trace, Diane Bailey, Stan Gunn), and project groups
Requirement Type	Andrew will continue to access these records through his Gmail account as long as his access is permitted.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent archive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – moderate. Being unable to access his e-mail would cause difficulties concerning coordination of his group's efforts to meet project objectives as well as maintaining communication with his professors. However, it is considered a rare occurrence that his account might be terminated without any prior notification.

FUNCTION: INFORMATION PROFESSIONAL

Andrew began developing his career in the information profession when he first started working at the UT Library in 2006. He is currently a GRA employee of the Fine Arts Library at UT, a member of SLA, and a volunteer. As an Information Professional, Andrew's electronic records are mostly email correspondence between himself, his supervisor, colleagues and staff. Most of these documents may be dispositioned once the task as been complete. There may be some emails, such as employee complaints that will need to be retained in order to document work-related incidents.

Function: Information Professional
Sub-Function: Fine Arts Library Employee
Activity: Communication
Transactions: Receives Work-Related Updates Via Email

Description of Records & Formats	**Description of Records:** Andrew regularly communicates with his supervisor and coworkers regarding his availability. He also communicates with his student workers about their availability. For example, he communicates his availability to his supervisor by way of .jpg email attachments that are formatted and color-coded for easy reference as digital and physical copies. **File Format:** jpg, .gif, .png
Requirements for Recordkeeping	Records shall only be kept as long as they are relevant to the tasks at hand.
Source	Andrew Glass' needs, Gmail Terms of Agreement
Stakeholder(s)	Andrew, his supervisor, coworkers, and student workers
Requirement Type	• Access – Andrew expects to be able to access these files for a short time. Even though these records are ephemeral, Andrew must be aware that Gmail states that it can terminate a user's account at any time and for any reason. • Retention – Andrew expects these records will not be retained indefinitely.
Disposal Action	Dispose of after completion of task or after they are no longer relevant.
Other	Andrew considers these records to be ephemeral. Andrew will make regular assessments of his records, then remove these records when they are no longer relevant.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – moderate. Being unable to reliably refer to emails pertaining to his work responsibilities as well as those of his boss, coworkers, and student workers would create difficulties for the stakeholders, and potential problems at work.

Function: Information Professional

Sub-Function: Fine Arts Library Employee

Activity: Communication	
Transactions: Corresponds with boss and co-workers via email	
Description of Records & Formats	**Description of Records:** Andrew regularly communicates with his supervisor and coworkers regarding his availability by way of .jpg email attachments that are formatted and color-coded for easy reference as digital and physical copies. He also corresponds with his supervisor and coworkers about work-related updates. **File Format:** jpg, .gif, .png
Requirements for Recordkeeping	Records shall only be kept as long as they are relevant to the tasks at hand.
Source	Andrew Glass' needs, Gmail Terms of Service
Stakeholder(s)	Andrew, his boss, coworkers, and student workers.
Requirement Type	• Creation – Andrew will continue to create files in these formats while a GRA at the Fine Arts Library as well as after his position has ended (i.e. when asking for a reference). • Access – Andrew expects to permanently be able to access these files; however, Gmail states that it can terminate a user's account at any time and for any reason. • Retention – Andrew expects these records will be retained permanently.
Disposal Action	Dispose of after completion of task or after they are no longer relevant.
Other	Andrew considers these records to be ephemeral and not part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – moderate. Being unable to reliably refer to emails pertaining to his work responsibilities as well as those of his boss, coworkers, and student workers would create difficulties for the stakeholders, and potential problems at work.

Function: Information Professional	
Sub-Function: Fine Arts Library Employee	
Activity: Supervision	
Transactions: Schedules Student Workers via Email	
Description of Records & Formats	**Description of Records:** Andrew coordinates student workers' schedules at the Fine Arts Library via email. **File Format:** jpg, .gif, .png
Requirements for Recordkeeping	Retain these records until the end of the semester, unless given an updated worker schedule.
Source	Andrew Glass' needs, Gmail Terms of Agreement
Stakeholder(s)	Andrew and his undergraduate student workers.
Requirement Type	• Creation – Andrew will continue to create files in these formats while a GRA at the Fine Arts Library. • Access – Andrew expects to be able to access these files for a short amount of time. Gmail states that it can terminate a user's account at any time and for any reason. • Retention – Andrew expects these records will not be retained permanently.
Disposal Action	Dispose of after completion of the semester or when given a more current schedule.
Other	Dispose of after completion of the semester or when given a more current schedule.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive.

	Risk – moderate. Being unable to reliably communicate with his undergraduate student workers would interfere with the operation of his own work and the work of those he supervises.

Function: Information Professional	
Sub-Function: Fine Arts Library Employee	
Activity: Supervision	
Transactions: Emails updates and instructions to student workers	
Description of Records & Formats	**Description of Records:** Part of Andrew's supervisory duties include keeping his student work staff up to date and on task through emailing them updates and instructions. **File Format:** jpg, .gif, .png
Requirements for Recordkeeping	Records shall only be kept as long as they are relevant to the tasks at hand.
Source	Andrew Glass' needs, Gmail Terms of Agreement
Stakeholder(s)	Andrew and his undergraduate student workers.
Requirement Type	• Creation – Andrew will continue to create files in these formats while a GRA at the Fine Arts Library. • Access – Andrew expects to be able to access these files for a short amount of time. Gmail states that it can terminate a user's account at any time and for any reason. • Retention – Andrew expects these records will not be retained permanently.
Disposal Action	Dispose of after completion of task or after they are no longer relevant.
Other	Andrew considers these records to be ephemeral and not part of his record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then

	move relevant records that qualify for permanent retention to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – moderate. Being unable to reliably communicate with his undergraduate student workers would interfere with the operation of his own work and the work of those he supervises.

Function: Information Professional	
Sub-Function: Professional Development	
Activity: SLA Participation	
Transactions: Participation in running of events	
Description of Records & Formats	**Description of Records:** For SLA outings, for example, to Sirius Logic, he sends out informative emails about SLA event's date, location, etc. **File Format:** Listserv emails
Requirements for Recordkeeping	Records shall only be kept as long as they are relevant to the tasks at hand.
Source	Andrew Glass' needs, Gmail Terms of Service
Stakeholder(s)	Andrew, the SLA president, and the group itself.
Requirement Type	• Creation – Andrew will continue to create files in these formats while a GRA at the Fine Arts Library. • Access – Andrew expects to be able to access these files for a short amount of time. Gmail states that it can terminate a user's account at any time and for any reason. • Retention – Andrew expects these records will not be retained permanently.

Disposal Action	Dispose of records once task at hand is complete or are no longer relevant.
Other	Andrew considers these records to be ephemeral and not part of his record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move relevant records that qualify for permanent retention to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – minimal. Attendance is not mandatory and participation is voluntary. But when assisting with events, communication would be important.

Function: Information Professional	
Sub-Function: Professional Development	
Activity: SLA Participation	
Transactions: Recruitment of Incoming Master's Students	
Description of Records & Formats	**Description of Records:** As an SLA officer, Andrew is in charge of recruitment at orientation. During these orientation sessions, Andrew talks with new students, obtains a list of emails and adds these contacts to the organization's roster and listserv account. **File Format:** SLA listserv
Requirements for Recordkeeping	Records shall only be kept as long as they are relevant to the tasks at hand.
Source	Andrew Glass' needs, UT SLA Student Chapter needs, Gmail Terms of Agreement
Stakeholder(s)	Andrew, the SLA president, and the group itself.

Requirement Type	• Creation – Andrew will create further files in these formats while remaining a SLA officer whose duties include new student recruitment. • Access – Andrew expects to permanently by able to access these files. • Retention – Andrew expects these records to be retained permanently.
Disposal Action	None
Other	Andrew considers these records to be ephemeral and not part of his record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move relevant records that qualify for permanent retention to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – minimal. Attendance is not mandatory and participation is voluntary. But when assisting with events, communication would be important.

Function: Information Professional	
Sub-Function: Professional Development	
Activity: Volunteering	
Transactions: Attends Established Volunteer Hours	
Description of Records & Formats	**Description of Records:** As a volunteer for the Inside Books Project, an Austin-based organization that donates books and educational materials to inmates in the Texas prison system, Andrew attends his established volunteer hours to the organization and does not currently generate any records. However, Andrew's involvement in this program came about as a result of a group project for the Social and Cultural Context course. During the project, and during which time, Andrew took pictures to document his group's work flow. **File Format:** .docx, .jpeg
Requirements for Recordkeeping	Records shall only be kept as long as they are relevant to the tasks at hand.

Source	Andrew Glass' needs; the needs of the group project and those needs of the Inside Book Project.
Stakeholder(s)	Andrew, the inmates of the program, and the Inside Books Project organization, group members and his course professor for a period of time, when interactions involved interviews with the organizers regarding the information life cycle of the program.
Requirement Type	• Access – Andrew expects to permanently by able to access these files. • Retention – Andrew expects these records to be retained permanently.
Disposal Action	None
Other	Andrew considers these records to be ephemeral and not part of his record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move relevant records that qualify for permanent retention to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – minimal. Attendance is not mandatory and participation is voluntary. Involvement with the group as it relates to coursework does have some risk, but this is separate from Andrew's volunteer work with the program.

FUNCTION: SOCIAL BEING

Within the context of society, Andrew has obligations in his roles as a citizen of the United States, a resident of Texas, and as a human being. On a personal level, Andrew has a network of family, friends, colleagues, coworkers, and roommates with whom he regularly interacts.

Function: Social Being
Sub-Function: US Citizen
Activity: Civic Duties
Transactions: Complies with City Regulations Regarding residential maintenance

Description of Records & Formats	**Description of Records:** As a citizen and tenant in Austin, there are certain residential maintenance regulations that he and his roommates need adhere to. After being sent a violation notice from Code Compliance, Andrew took a photograph of the ticket. **File Format:** .jpeg
Requirements for Recordkeeping	Semi-Permanent Retention
Source	Andrew Glass' needs, City of Austin Code Compliance: http://www.austintexas.gov/department/code
Stakeholder(s)	Andrew, the county, state, and federal governments.
Requirement Type	• Access – Andrew expects to permanently by able to access these files. • Retention – Andrew expects these records to be retained permanently.
Disposal Action	Dispose of records only after termination of lease agreement (1 year).
Other	Andrew considers these records to be part of his semi-permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – Failing to properly comply with city maintenance codes and regulations could lead to legal penalties.

Function: Social Being
Sub-Function: US Citizen
Activity: Civic Duties
Transactions: Pays Taxes

Description of Records & Formats	**Description of Records:** Andrew Glass is a citizen of the United States of America, and therefore it is obligatory for him to complete the necessary tax forms annually to the Internal Revenue Service. In order to fill out the tax forms, Andrew also needs a copy of his W-2. The format of both the W-2 form and the tax forms are electronic. **File Format:** .pdf
Requirements for Recordkeeping	Semi-Permanent Retention
Source	Andrew Glass' needs; IRS.gov; https://turbotax.intuit.com/tax-tools/tax-tips/General-Tax-Tips/How-Long-Do-Federal-and-State-Tax-Returns-Need-to-Be-Kept--/INF14249.html
Stakeholder(s)	Andrew, the county, state, and federal governments.
Requirement Type	• Creation – Andrew will complete new tax forms yearly while he remains a U.S. citizen or until his death. • Access – Andrew expects to permanently be able to access these records. • Retention – Andrew expects these records to be retained permanently. The IRS suggests that his filings be retained for as long as they are needed. However, they also suggest keeping employment tax records for four years; Turbo Tax suggests that you keep your filings for 3 years.
Disposal Action	Dispose of these records after 3 years.
Other	Andrew considers these records to be part of his semi-permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – moderate. Failing to properly pay taxes and keep track of the tax forms could lead to legal penalties if audited.

Function: Social Being

Sub-Function: Family Member, Friend and Colleague	
Activity: Communication	
Transactions: Receives family updates via email	
Description of Records & Formats	**Description of Records:** Communication between family members varies. While more personal means of communication are preferable with family, emails tend to predominate in situations where updates to groups of people are desired. Andrew has recently become an uncle and regularly receives emailed updates and photographs of his niece. **File Format:** .jpeg, .mov
Requirements for Recordkeeping	Permanent Retention
Source	Andrew Glass' needs, Gmail Terms of Service
Stakeholder(s)	Andrew and his family members
Requirement Type	• Creation – Andrew will create further files of this type until his death. • Access – Andrew expects to permanently keep these files. • Retention – Andrew expects these records will be retained permanently.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – high. Being unable to locate personal emails and attachments on his laptop or Gmail would be of serious personal significance to Andrew. While there is some personal significance to the other stakeholders, the risk is more communicatory.

Function: Social Being	
Sub-Function: Family Member, Friend and Colleague	
Activity: Communication	
Transactions: Use of email to contact colleagues and coworkers in the course of work and schoolwork	
Description of Records & Formats	**Description of Records:** These records are created for communicative purposes and are saved for referential purposes. **File Format:** Email, jpeg, avi's
Requirements for Recordkeeping	Records shall only be kept as long as they are relevant to the tasks at hand.
Source	Andrew Glass' needs, Gmail Terms of Service
Stakeholder(s)	Andrew, his colleagues, and coworkers
Requirement Type	• Creation – Andrew will create further files in these formats while an Information Professional. • Access – Andrew expects to be able to access these files. • Retention – Andrew expects these records will be retained permanently.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – high. Being unable to locate emails from colleagues and coworkers and their attachments on his laptop or Gmail would be of serious professional significance to Andrew. While there is some professional significance to the other stakeholders, the risk is more communicatory.

Function: Social Being	
Sub-Function: Family Member, Friend and Colleague	
Activity: Communication	
Transactions: Use of Google Voice to communicate with others	
Description of Records & Formats	**Description of Records:** Uses Google Voice to communicate with others. He uses it to receive and send voicemail, get emails with voicemail, and send voicemail to the cloud. **File Format:** .avi
Requirements for Recordkeeping	Permanent Retention
Source	Andrew Glass' needs, Gmail Terms of Service
Stakeholder(s)	Andrew, his family members, and colleagues
Requirement Type	• Creation – Andrew will create further files of this type until his death. • Access – Andrew expects to permanently keep these files. • Retention – Andrew expects these records will be retained permanently.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – moderate to high. Being unable to locate certain personal/professional voicemails his laptop or Gmail would be of serious personal/professional significance to Andrew. While there is some personal/professional significance to the other stakeholders, the risk is more communicatory.

Function: Social Being	
Sub-Function: Family Member, Friend and Colleague	
Activity: Communication	
Transactions: Use of iExplorer to save text message histories as PDFs on computer	
Description of Records & Formats	**Description of Records:** In order to save records of his text messaging, Andrew uses iExplorer. iExplorer turns his text messages into PDFs. He then saves them on his computer. **File Format:** .pdf
Requirements for Recordkeeping	Permanent Retention
Source	Andrew's needs.
Stakeholder(s)	Andrew
Requirement Type	• Creation – Andrew will continue to create these types of files for an undermined amount of time. • Access – Andrew expects to permanently be able to access these records. • Retention – Andrew expects to retain these records permanently.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – high. Being unable to locate personal emails and attachments on his laptop or Gmail would be of serious personal significance to Andrew. While there is some personal significance to the other stakeholders, the risk is more communicatory.

Function: Social Being	
Sub-Function: Family Member, Friend and Colleague	
Activity: Interactions	
Transactions: Plans trips and appointments through email	
Description of Records & Formats	**Description of Records:** Planning trips, visits, and appointments are a significant means of maintaining and strengthening personal relationships. **File Format:** Email
Requirements for Recordkeeping	Permanent Retention
Source	Andrew's needs
Stakeholder(s)	Andrew, his family members, friends, and colleagues.
Requirement Type	• Creation – Andrew will create files in these formats while remaining a friend and family member. • Access – Andrew expects to permanently be able to access these files. • Retention – Andrew expects these records to be retained permanently.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – high. Being unable to locate personal emails and attachments on his laptop or Gmail would be of serious personal significance to Andrew. This would include misplacement of airline ticket confirmation email mishaps.

Function: Social Being	
Sub-Function: Family Member, Friend and Colleague	
Activity: Interactions	
Transactions: Online purchase of airline tickets	
Description of Records & Formats	**Description of Records:** These records indicate his purchase and receipt of airline tickets. He also receives updates via email regarding the status of his flights. **File Format:** Email
Requirements for Recordkeeping	Permanent Retention
Source	Andrew's needs
Stakeholder(s)	Andrew
Requirement Type	• Creation – Andrew will create further records in these formats while remaining a family member, friend and colleague. • Access – Andrew expects to permanently be able to access these files. • Retention – Andrew expects these records to be retained permanently.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – high. Being unable to locate personal emails and attachments on his laptop or Gmail would be of serious personal significance to Andrew. This would include misplacement of airline ticket confirmation email mishaps.

Function: Social Being	
Sub-Function: Family Member, Friend and Colleague	
Activity: Interactions	
Transactions: Creation and saving of photographs and videos	
Description of Records & Formats	**Description of Records:** Andrew documents social interactions through photographs and videos. **File Format:** .jpeg, .mov
Requirements for Recordkeeping	Permanent Retention
Source	Andrew
Stakeholder(s)	Andrew, his family members, friends, and colleagues.
Requirement Type	• Creation – Andrew will create further files in these formats while remaining a family member, friend and colleague. • Access – Andrew expects to permanently be able to access these files. • Retention – Andrew expects these records to be retained permanently.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – high. Being unable to locate personal emails and attachments on his laptop or Gmail would be of serious personal significance to Andrew. This would include misplacement or loss of personal photographs mishaps.

Function: Social Being	
Sub-Function: Family Member, Friend and Colleague	
Activity: Social Bike Rides	
Transactions: Receives and sends notifications pertaining to social bike rides	
Description of Records & Formats	**Description of Records:** Andrew receives and sends email notifications regarding social bike rides. **File Format:** Email
Requirements for Recordkeeping	Permanent Retention
Source	Andrew's needs
Stakeholder(s)	Andrew and other cyclists
Requirement Type	• Creation – Andrew will create further files in these formats while remaining a part of social bike rides. • Access – Andrew expects to permanently be able to access these files. • Retention – Andrew expects these records to be retained permanently.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – moderate. There is some risk in being unable to properly communicate with other cyclists to organize social bike rides. While these social bike rides are interactive events, there is also the enjoyment of biking in itself for the stakeholders.

Function: Social Being	
Sub-Function: Family Member, Friend and Colleague	
Activity: Social Bike Rides	
Transactions: Organizing and participates in social bike rides	
Description of Records & Formats	**Description of Records:** When organizing social bike rides, Andrew does so through email. **File Format:** Email
Requirements for Recordkeeping	Permanent Retention
Source	Andrew's needs
Stakeholder(s)	Andrew and other cyclists
Requirement Type	• Creation – Andrew will create further files in these formats while a part of the social bike rides. • Access – Andrew expects to permanently be able to access these files. • Retention – Andrew expects these records will be retained permanently.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – moderate. There is some risk in being unable to properly communicate with other cyclists to organize social bike rides. While these social bike rides are interactive events, there is also the enjoyment of biking in itself for the stakeholders.

Function: Social Being	
Sub-Function: Family Member, Friend and Colleague	
Activity: Social Bike Rides	
Transactions: Documents rides through photographs	
Description of Records & Formats	**Description of Records:** During the social bike rides, Andrew enjoys documenting the rides through photography. **File Format:** .jpeg
Requirements for Recordkeeping	Permanent Retention
Source	Andrew's needs
Stakeholder(s)	Andrew and other cyclists
Requirement Type	• Creation – Andrew will create further files in these formats while a part of the social bike rides. • Access – Andrew expects to permanently be able to access these files. • Retention – Andrew expects these records will be retained permanently.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – moderate. There is some risk in losing the photographs of the bike rides, however, if Andrew sticks to a well-organized file structure and naming conventions, the less likely he will be to lose those photographs.

Function: Social Being	
Sub-Function: Roommate	
Activity: Communication	
Transactions: Corresponds with roommates about bills and rent via email	
Description of Records & Formats	**Description of Records:** Email is the primary mode of contact between Andrew and his roommates regarding rent and bills to be paid. **File Format:** Email
Requirements for Recordkeeping	Permanent Retention
Source	Andrew's needs
Stakeholder(s)	Andrew, and his two roommates
Requirement Type	• Creation – Andrew will create further files in these formats while a member of Gmail. • Access – Andrew expects to permanently be able to access these files. • Retention – Andrew expects these records will be retained permanently.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – moderate. Because these emails are an embedded part of Andrew's routine, there is moderate risk in being unable to accurately and reliably communicate via email about rent and bills. Spoken reminders could temporarily replace emailed reminders.

Function: Social Being	
Sub-Function: Roommate	
Activity: Communication	
Transactions: Accesses and updates a shared Google Doc to list expenses	
Description of Records & Formats	**Description of Records:** Andrew accesses and updates a shared Google Doc with his roommates that lists their shared expenses. **File Format:** .docx
Requirements for Recordkeeping	Permanent Retention
Source	Andrew's needs
Stakeholder(s)	Andrew and his roommates
Requirement Type	• Creation – Andrew will create further files in these formats while a Google Docs member. • Access – Andrew expects to permanently be able to access these files. • Retention – Andrew expects these records will be retained permanently.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – moderate. Google or the UT Google Administrator could delete Andrew's Google Doc's account and anytime and for any reason.

FUNCTION: FINANCIAL MANAGER

Records generated by Andrew's role as a financial manager will be primarily dictated by business requirements. These requirements stem from the various institutions and commercial entities which Andrew uses for his financial transactions. He must follow the regulations set forth by Frost Bank, where he has a savings and checking account as well as online merchants such as Amazon and eBay where he makes purchases. His financial activities generate receipts, bank statements, and bills which must either be retained or securely destroyed as they can contain sensitive personal information.

Function: Financial Manager	
Sub-Function: Client	
Activity: Banking	
Transactions: Savings and Checking Account	
Description of Records & Formats	**Description of Records:** Andrew receives electronic bank statements every month detailing the status of his accounts with Frost Bank. This includes account balances, lines of credit, and other information that could be considered sensitive. **File Format:** .pdf
Requirements for Recordkeeping	Permanent Retention
Source	Andrew Glass' needs, Frost Bank regulations, IRS tax records
Stakeholder(s)	• Andrew • Frost Bank • IRS • Creditors
Requirement Type	• Andrew will retain these records on his hard drive indefinitely • Bank statements are only required to be retained for 5 years
Disposal Action	None
Other	Andrew considers these records to be part of his permanent archive.

What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk –** Disastrous. These files contain information which could be used to gain access to Andrew's financial accounts at Frost Bank. The bank itself retains these statements so that their clients can access them at their convenience. In this regard, they could be considered a rare probability of illegal access. However, the statements saved to Andrew's hard drive are of a more moderate probability. If he loses his hard drive, or someone else accesses it without his knowledge, there is a potential for financial damage. This should be considered an item of major conern.

Function: Financial Manager	
Sub-Function: Consumer	
Activity: Shopping	
Transactions: Purchases	
Description of Records & Formats	**Description of Records:** Andrew makes use of Amazon, and to a rare degree Ebay, to make purchases online. Generated receipts are sent to his email account where he retains them for reference purposes and in case the items need to be returned. **File Format:** Email
Requirements for Recordkeeping	Permanent Retention
Source	Andrew Glass' needs, Gmail Terms of Agreement, Amazon Terms of Service
Stakeholder(s)	• Andrew • Amazon
Requirement Type	• Andrew will continue to access these records through his gmail account as long as his access is permitted.

Disposal Action	None
Other	Andrew considers these records to be part of his permanent archive.
What Requirements Will Be Met and Are Risks Involved?	**Risk –** Insignificant. The receipts that are generated are of no practical use to someone beyond Andrew. They do not contain sensitive account information. Andrew's concern for these records should be negligible.

Function: Financial Manager	
Sub-Function: Student	
Activity: Paying Tuition	
Transactions: Tuition Transactions	
Description of Records & Formats	**Description of Records:** Andrew receives his tuition notices and receipts detailing tuition payments in his Gmail account. These records are retained for tax purposes and personal reference. **File Format:** Email
Requirements for Recordkeeping	Permanent Retention
Source	Andrew Glass' needs, Gmail Terms of Agreement, University of Texas at Austin regulations, Great Lakes Borrower Terms of Service
Stakeholder(s)	• Andrew • UT Austin • Great Lakes Borrower
Requirement Type	• Andrew will continue to access these records through his gmail account as long as his access is permitted.
Disposal Action	None

Other	Andrew considers these records to be part of his permanent archive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – Minor. Being unable to access his e-mail may cause Andrew to miss a notification regarding tuitions payments. However, it is considered a rare occurrence that his account might be terminated without any prior notification. His concern for these records should be negligible.

Function: Financial Manager	
Sub-Function: Tenant	
Activity: Paying bills	
Transactions: Repaying Roommate	
Description of Records & Formats	**Description of Records:** The utility bills of Andrew's rental are paid by his roommate, Roberto Flores. Once the bills are paid, he is sent a text with his portion of the bill that he owes Roberto. He converts the text to a pdf document to have a running record of his transactions. **File Format:** .pdf
Requirements for Recordkeeping	Permanent Retention
Source	Andrew Glass' needs, Adobe Acrobat terms of service
Stakeholder(s)	• Andrew • Roberto Flores
Requirement Type	• Andrew will save these records to his hard drive indefinitely
Disposal Action	None – however Andrew wishes to periodically transfer unused files to an external hard drive for storage

Other	Andrew considers these records to be part of his permanent archive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk -** Insignificant. These files do not contain any information that could be considered a security risk for Andrew even if his hard drive were compromised. His concern should be negligible for these files.

Function: Financial Manager	
Sub-Function: Student	
Activity: Acquiring Student Loans	
Transactions: Loan statements via e-mail	
Description of Records & Formats	**Description of Records:** Andrew is acquiring loans from the Great Lakes financial institution. He receives loan statements detailing his loan amount in his e-mails. These periodic updates are retained for tax purposes. **File Format:** Email, .pdf
Requirements for Recordkeeping	Permanent Retention
Source	Andrew Glass' needs, Gmail Terms of Agreement, Great Lakes Terms of Service
Stakeholder(s)	• Andrew • Great Lakes
Requirement Type	• Andrew will continue to access these records through his gmail account as long as his access is permitted.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent archive.

What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk –** Critical. These records contain potentially sensitive information regarding Andrew and his loan services. However, it is unlikely that if proper safeguards are in place on Andrew's Gmail account that they will be accessed by third parties. It should be considered an item of significant concern.

FUNCTION: CREATIVE ENTERPRISE

Over the course of his life, Andrew has regularly undertaken, completed or involved himself in creative projects with others or on his own.

Function: Creative Enterprise	
Sub-Function: Creator	
Activity: Writing	
Transactions: Creates non-school and non-work related writings stored on hard drive and Gmail account	
Description of Records & Formats	**Description of Records:** Outside of work and school, Andrew is a writer. Most of Andrew's writing exists as Word documents on his computer, or on his Gmail account. **File Format:** .doc, .docx, .txt,
Requirements for Recordkeeping	Permanent Retention
Source	Andrew's needs
Stakeholder(s)	Andrew
Requirement Type	• Creation – Andrew will create further files in these formats while continuing to write. • Access – Andrew expects to permanently be able to access these files.

	• Retention – Andrew expects these records will be retained permanently.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – There is moderate risk. Data loss, especially of creative endeavors, is a regrettable scenario. If these documents are not securely stored, the possibility of loss becomes greater.

Function: Creative Enterprise	
Sub-Function: Creator	
Activity: Writing	
Transactions: Semi-regular maintenance of several blogs	
Description of Records & Formats	**Description of Records:** Andrew also writes a blog and keeps his work online through a blog service. **File Format:** .doc, .docx, .txt,
Requirements for Recordkeeping	Permanent Retention
Source	Andrew's needs
Stakeholder(s)	Andrew and his blog followers
Requirement Type	• Creation – Andrew will create further files in these formats while a blogger. • Access – Andrew expects to permanently be able to access these files.

	• Retention – Andrew expects these records will be retained permanently.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – There is moderate risk. Data loss, especially of creative endeavors, is a regrettable scenario. If these documents are not securely stored, the possibility of loss becomes greater.

Function: Creative Enterprise	
Sub-Function: Creator	
Activity: Writing	
Transactions: Receives email notifications regarding blog activity	
Description of Records & Formats	**Description of Records:** As a blogger, Andrew also receives email notifications about blog activity. **File Format:** Email
Requirements for Recordkeeping	Permanent Retention
Source	Andrew's needs
Stakeholder(s)	Andrew and his blog followers
Requirement Type	• Access – Andrew expects to permanently be able to access these files. • Retention – Andrew expects these records will be retained permanently.

Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – There is moderate risk. Data loss, especially of creative endeavors, is a regrettable scenario. If these documents are not securely stored, the possibility of loss becomes greater.

Function: Creative Enterprise	
Sub-Function: Creator	
Activity: Writing	
Transactions: Word documents from high school work for the school newspaper	
Description of Records & Formats	**Description of Records:** Andrew is also holding on to Word documents that he created in high school while working for the school newspaper. **File Format:** .doc, .docx, .txt,
Requirements for Recordkeeping	Permanent Retention
Source	Andrew's needs
Stakeholder(s)	Andrew
Requirement Type	• Access – Andrew expects to permanently be able to access these files. • Retention – Andrew expects these records will be retained permanently.
Disposal Action	None

Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – There is moderate risk. Data loss, especially of creative endeavors, is a regrettable scenario. If these documents are not securely stored, the possibility of loss becomes greater.

Function: Creative Enterprise	
Sub-Function: Creator	
Activity: Music	
Transactions: Project to digitize cassette tapes of music from middle and high school	
Description of Records & Formats	**Description of Records:** Andrew is also working on a project to digitize cassette tapes of music from middle school and high school. **File Format:** .avi
Requirements for Recordkeeping	Permanent Retenti
Source	Andrew's needs
Stakeholder(s)	Andrew
Requirement Type	• Access – Andrew expects to permanently be able to access these files. • Retention – Andrew expects these records will be retained permanently.
Disposal Action	None

Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – There is moderate risk. Data loss, especially of creative endeavors, is a regrettable scenario. If these documents are not securely stored, the possibility of loss becomes greater.

Function: Creative Enterprise	
Sub-Function: Creator	
Activity: Photography and Filmmaking	
Transactions: Documents of life and surroundings through digital photographs and video	
Description of Records & Formats	**Description of Records:** Andrew is also documents life and his surroundings through both digital photography and video **File Format:** .jpeg, .mov
Requirements for Recordkeeping	Permanent Retention
Source	Andrew's needs
Stakeholder(s)	Andrew, his friends and his followers on the web
Requirement Type	• Creation – Andrew will create further files in these formats indefinitely as a creator. • Access – Andrew expects to permanently be able to access these files • Retention – Andrew expects these records to be retained permanently.

Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – moderate. Data loss, especially of creative endeavors, is a regrettable scenario. If these documents are not securely stored, the possibility of loss becomes greater.

Function: Creative Enterprise	
Sub-Function: Creator	
Activity: Photography and Filmmaking	
Transaction: Some photo- and video-editing	
Description of Records & Formats	**Description of Records:** He does some photo- and video-editing with his AV material. **File Format:** .jpeg, .mov
Requirements for Recordkeeping	Permanent Retention
Source	Andrew's needs
Stakeholder(s)	Andrew, his friends and his followers on the web
Requirement Type	• Creation – Andrew will create further files in these formats indefinitely as a creator. • Access – Andrew expects to permanently be able to access these files • Retention – Andrew expects these records to be retained permanently.

Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – moderate. Data loss, especially of creative endeavors, is a regrettable scenario. If these documents are not securely stored, the possibility of loss becomes greater.

Function: Creative Enterprise	
Sub-Function: Creator	
Activity: Photography and Filmmaking	
Transactions: In the process of scanning photographs developed from 35mm film from high school	
Description of Records & Formats	**Description of Records:** In high school, he had access to a dark room, and was able to take photographs on film and develop them himself. Now his is currently in the process of digitizing those photographs he took in high school. **File Format:** .jpeg
Requirements for Recordkeeping	Permanent Retention
Source	Andrew's needs
Stakeholder(s)	Andrew, his friends and his followers on the web
Requirement Type	• Creation – Andrew will create further files in these formats indefinitely as a creator. • Access – Andrew expects to permanently be able to access these files

	• Retention – Andrew expects these records to be retained permanently.
Disposal Action	None
Other	Andrew considers these records to be part of his permanent record collection. In order to ensure permanency within his collection, Andrew will make regular assessments of his records (i.e. the weeding duplicates) and then move them to an external hard drive.
What Requirements Will Be Met and Are Risks Involved?	Andrew will ensure that his records are organized and that they are easily accessible. He will also back up his materials regularly onto an external hard drive. **Risk** – moderate. Data loss, especially of creative endeavors, is a regrettable scenario. If these documents are not securely stored, the possibility of loss becomes greater.

III. RECORD RETENTION SCHEDULE

Function/Sub-Function/Activity/ Transaction	Record Series	Retention Period			Remarks/ Recommendations
		PC or Gmail	*Storage*	*Total*	
Graduate Student/ Scholar/ Communication/ Communications via e-mail	*Desktop* or *Desktop* ➡ *School* folder	C	C	C	It is recommended that he only keep them as long as they are relevant to the tasks at hand.
Graduate Student/Scholar/ Course Work/ Project Documents	*Desktop* or *Desktop* ➡ *School* folder	PM	PM	PM	Only if used in e-portfolio.
Information Professional/Fine Arts Library Employee/ Communication/ Receives Work-Related Updates Via Email	*Work* folder in Gmail	C	C	C	It is recommended that he only keep them as long as they are relevant to the tasks at hand.
Information Professional/Fine	*Work* folder in Gmail	C	C	C	It is recommended that he only keep them as long as

Arts Library Employee/ Communication/ Corresponds with Supervisor and Co-Workers via Email					they are relevant to the tasks at hand.
Information Professional/Fine Arts Library Employee/ Supervision/ Schedules Student Workers via Email	*Work* folder in Gmail	SE	SE	SE	It is recommended that these records be kept until the end of the semester, unless give an updated schedule.
Information Professional/Fine Arts Library Employee/ Supervision/Emails Updates and Instructions to Student Workers	*Work* folder in Gmail	C	C	C	It is recommended that he only keep them as long as they are relevant to the tasks at hand.
Information Professional/ Professional Development/ SLA Participation/ Participation in Running of Events	*School Stuff* folder in Gmail	C	C	C	It is recommended that he only keep them as long as they are relevant to the tasks at hand.
Information Professional/ Professional Development/ SLA Participation/ Recruitment of Incoming Master's Students	*School Stuff* folder in Gmail	C	C	C	It is recommended that he only keep them as long as they are relevant.
Information Professional/ Professional Development/ Volunteering/ Attends Established Volunteer Hours	*School Stuff* folder in Gmail	C	C	C	It is recommended that he only keep them as long as they are relevant.
Social Being/U.S. Citizen/ Civic Duties/	*Work* and *Receipts* folder in Gmail	LE	LE	LE	It is recommended that these records be kept

Complies with City Regulations Regarding Residential Maintenance					until the end of the lease agreement.
Social Being/U.S. Citizen/Civic Duties/Pays Taxes	*Work* and *Receipts* folder in Gmail	3 yr	3 yr	3 yr	The IRS suggests that his filings be retained for as long as they are needed. However, they also suggest keeping employment tax records for four years; Turbo Tax suggests that you keep your filings for 3 years.
Social Being/Family Member, Friend and Colleague/ Communication/ Receives family updates via email	*Personal* and *Friends and Family folders* in Gmail	PM	PM	PM	Andrew expects these records to be retained permanently; however, it is recommended that he only keep them as long as they are relevant. If they are documentary to his personal/ professional life, then they should indeed be retained permanently.
Social Being/Family Member, Friend and Colleague/ Communication/ Use of email to contact colleagues and coworkers in the course of work and schoolwork	*Personal* and *Friends and Family folders* in Gmail	PM	PM	PM	Andrew expects these records to be retained permanently; however, it is recommended that he only keep them as long as they are relevant. If they are documentary to his personal/ professional life, then they should indeed be retained permanently.
Social Being/Family Member, Friend and Colleague/ Communication/ Use of Google Voice to communicate with others	*Personal* and *Friends and Family folders* in Gmail	PM	PM	PM	Andrew expects these records to be retained permanently; however, it is recommended that he only keep them as long as they are relevant. If they are documentary to his personal/ professional life, then they should indeed be retained permanently.

Social Being/Family Member, Friend and Colleague/ Communication/ Use of iExplorer to save text message histories as PDFs on computer	*Personal* and *Friends and Family folders* in Gmail	PM	PM	PM	Andrew expects these records to be retained permanently; however, it is recommended that he only keep them as long as they are relevant. If they are documentary to his personal/ professional life, then they should indeed be retained permanently.
Social Being/Family Member, Friend and Colleague/ Interactions/Plans trips and appointments through email	*Personal, Receipts,* and *Friends and Family* folders in Gmail	PM	PM	PM	Andrew expects these records to be retained permanently; however, it is recommended that he only keep them as long as they are relevant. If they are documentary to his personal/ professional life, then they should indeed be retained permanently.
Social Being/Family Member, Friend and Colleague/ Interactions/ Online Purchases of Airline tickets	*Personal, Receipts,* and *Friends and Family* folders in Gmail	PM	PM	PM	Andrew expects these records to be retained permanently; however, it is recommended that he only keep them as long as they are relevant. If they are documentary to his personal/ professional life, then they should indeed be retained permanently.
Social Being/Family Member, Friend and Colleague/ Interactions/ Creation and savings of photographs and videos	*Personal, Receipts,* and *Friends and Family* folders in Gmail	PM	PM	PM	Andrew expects these records to be retained permanently; however, it is recommended that he only keep them as long as they are relevant. If they are documentary to his personal/ professional life, then they should indeed be retained permanently.
Social Being/Family Member, Friend and Colleague/	*MySpace, Personal,* and *Friends and*	PM	PM	PM	Andrew expects these records to be retained permanently; however, it is recommended that he

Social Bike Rides/ Receives and sends notifications pertaining to social bike rides	*Family* folders in Gmail				only keep them as long as they are relevant. If they are documentary to his personal/ professional life, then they should indeed be retained permanently.
Social Being/Family Member, Friend and Colleagues/ Social Bike Rides/ Organizing and participates in social bike rides	*MySpace, Personal,* and *Friends and Family* folders in Gmail	PM	PM	PM	Andrew expects these records to be retained permanently; however, it is recommended that he only keep them as long as they are relevant. If they are documentary to his personal/ professional life, then they should indeed be retained permanently.
Social Being/ Family, Friends and Colleagues/ Social Bike Rides/Documents rides through photographs	*MySpace, Personal,* and *Friends and Family* folders in Gmail	PM	PM	PM	With exception of duplicates and photographs that did not develop, Andrew expects these records to be retained permanently; however, it is recommended that he only keep them as long as they are relevant. If they are documentary to his personal/ professional life, then they should indeed be retained permanently.
Social Being/ Roommate/ Communication/ Corresponds with roommates about bills and rent via email	*Personal* folder in Gmail and in Google Drive	PM	PM	PM	Andrew expects these records to be retained permanently; however, it is recommended that he only keep them as long as they are relevant (i.e. the length of the rental lease).
Social Being/ Roommate/ Communication/ Accesses and updates a shared Google Doc to list expenses	*Personal* folder in Gmail and in Google Drive	PM	PM	PM	Andrew expects these records to be retained permanently; however, it is recommended that he only keep them as long as they are relevant (i.e. the length of the rental lease).

Financial Manager/ Client/Banking/ Saving and Checking Account	*Banking* and *Receipts* folders in Gmail	PM	PM	PM	Andrew expects these records to be retained permanently; however, as per Frost Bank regulations, bank statements are only required to be retained for 5 years.
Financial Manager/ Consumer/ Shopping/ Purchases	*Amazon* and *Receipts* folders in Gmail	PM	PM	PM	Andrew expects these records to be retained permanently.
Financial Manager/ Student/Paying Tuition/Tuition Transactions		PM	PM	PM	Andrew expects these records to be retained permanently.
Financial Manager/ Tenant/Paying bills/Repaying Roommate	*Banking* and *Receipts* folders in Gmail	PM	PM	PM	Andrew expects these records to be retained permanently; however, it is recommended that he only keep them as long as they are relevant (i.e. the length of the rental lease).
Financial Manager/ Student/Student Loans/ Loan statements via email		PM	PM	PM	Andrew expects these records to be retained permanently; however, these statements should only be kept until the loans are paid off.
Creative Enterprise/ Creator/Writing/ Creates non-school and non-work related writings stored on hard drive and Gmail account	*Personal* and *School Stuff* folders in Gmail	PM	PM	PM	Andrew expects these records to be retained permanently as they are documentary to his personal life.
Creative Enterprise/ Creator/ Writing/ Semi-regular maintenance of several blogs	*Personal* and *School Stuff* folders in Gmail	PM	PM	PM	Andrew expects these records to be retained permanently as they are documentary to his personal life. Since blogging websites are

					notorious for disappearing overnight, it is recommended that Andrew find some way, either through screen shots or another method (depending on whether the content and/or functionality of his blog page is important to him) to document his blog page, and then move those records to an external hard drive.
Creative Enterprise/ Creator/ Writing/ Word documents from high school work for the school newspaper	*Personal* and *School Stuff* folders in Gmail	PM	PM	PM	Andrew expects these records to be retained permanently as they are documentary to his personal life.
Creative Enterprise/ Creator/Music/ Project to digitize cassette tapes of music from middle and high school	(Pending)	PM	PM	PM	Andrew expects these records to be retained permanently as they are documentary to his personal life.
Creative Enterprise/ Creator/ Photography and Filmmaking/ Documents life and surroundings through digital photographs and video	*Personal* and *School Stuff* folders in Gmail	PM	PM	PM	With exception of duplicates and photographs that did not develop, Andrew expects these records to be retained permanently as they are documentary to his personal life.
Creative Enterprise/ Creator/ Photography and Filmmaking/Some photo- and video-editing	*Personal* and *School Stuff* folders in Gmail	PM	PM	PM	With exception of duplicates and photographs that did not develop, Andrew expects these records to be retained permanently as they are documentary to his personal life.

Creative Enterprise/ Creator/ Photography and Filmmaking/In the process of scanning photographs developed from 35mm film from high school	*Personal* and *School Stuff* folders in Gmail	PM	PM	PM	With exception of duplicates and photographs that did not develop, Andrew expects these records to be retained permanently as they are documentary to his personal life.

Retention Codes	**Medium Codes**
C - Completion of Task DBA - Determined by Andrew PM – Permanent SE – Semester End LE – Lease End T – Transfer V – Upon Verification	D – Word Document - .doc(x) E – Email J - .jpeg P - .pdf M - .mov Au - .avi

DIRKS STEP D: ASSESSMENT OF EXISTING SYSTEMS

I. INTRODUCTION

The purpose of DIRKS Step D is to assess the subject's existing recordkeeping systems (RKS). A significant part of achieving the objective of Step D is to clearly delineate the current recordkeeping system and juxtapose it with the characteristics of an ideal RKS, which are based on the subject's functions and requirements. This step is the benchmarking step of DIRKS, and the comparison of the existing systems to ideal systems allows for the identification of strengths and weaknesses, which in turn illuminates a path toward the creation of an RKS that would appropriately meet the needs of the subject. The basic goal of Step D is establish to what degree the subject's systems are meeting recordkeeping requirements. The systems currently in place may not be recordkeeping systems at all, and may need to be overhauled in favor of more compliant processes. By understanding the weaknesses involved in the current system, we will be able to illustrate the depth of risk to which the subject is exposed. Ultimately, Step D is designed to identify and analyze the functionality of the existing systems in order to determine the next steps for creating and strategizing more efficient and effective recordkeeping systems for the subject. This step is critical to the redesign of implementable and successful new recordkeeping systems.

Up until Step D, this DIRKS report has identified Andrew's activities and transactions, and given us a solid foundation of what those functions may require. Based on our understanding of Andrew's needs, we have duly conducted a gap analysis of his recordkeeping systems. To most effectively achieve the goals of Step D, we have split our assessment into four sections:

I. Definition of the key characteristics and functions of recordkeeping systems;
II. Identification and description of the subject's existing recordkeeping systems;
III. Analysis of gaps between existing and ideal recordkeeping systems; and,
IV. Determination of the strengths and weaknesses of the subject's recordkeeping systems.

II. DEFINITIONS OF A RECORDKEEPING SYSTEM

Building upon an understanding of Andrew's records and his recordkeeping needs, we have created a list of RKS characteristics and functions that we deemed most pertinent to his recordkeeping purposes. In order to create a standard appropriate to his needs, we referred to the "Characteristics and functionality of recordkeeping systems" section as outlined in the DIRKS manual [1]. We have split our listed attributes into the categories of characteristics and functions, to keep the abstract qualities of RKS separate from actionable operations that systems must be able to perform.

[1] National Archives of Australia & The State Records Authority of New South Wales. (Revised January 2007). *Characteristics and functionality of recordkeeping systems.* Retrieved from http://www.records.nsw.gov.au/recordkeeping/ advice/designing-implementing-and-managing-systems/dirks-manual/introducing-the-dirks-methodology/characteristics-and-functionality/

CHARACTERISTICS OF A RECORDKEEPING SYSTEM

Possessing the following characteristics means that recordkeeping systems have the ability to produce and maintain authoritative records, and in essence, operate effectively. For Andrew, the characteristics of an effective RKS is demonstrated in Table 1.

Characteristics	*Definitions*
Reliability	- A reliable record is authored according to a standard and can be trusted as a full and accurate representation of the transaction or activity. - Recordkeeping systems capture, organize, and provide context and access to the subject's records.
Integrity	- A record has integrity if it is what it claims to be, and is unaltered and uncorrupted. - Systems prevent the unauthorized access, alteration and/or disposal of the subject's records.
Identity	- A record has an identity if it can establish the relationship to other records and has characteristics that distinguish it from other records (date, author, subject, etc.). - There is a network of relationships between the records of a system that are kept in place through classification and indexing (metadata).
Fixity	- Preservation of the record as an accurate, unaltered representation of the transaction or activity. - Recordkeeping systems securely store their records, only providing authorized access to ensure that they are not inappropriately tampered with or altered.
Accessibility	- The records are named and filed effectively within a standardized recordkeeping system for search and retrieval purposes.

Table D.1: Characteristics of a Recordkeeping System.

FUNCTIONS OF A RECORDKEEPING SYSTEM

A robust and effective system would be able to perform a range of recordkeeping functions. The following functions are most important to the effective operation of Andrew's recordkeeping systems.

Functions	*Definitions*
Registration	- A record is given a unique identity, and basic metadata attributes are attached to them (i.e. title and date).

	- A recordkeeping system would have a systematic and consistent naming scheme to apply to any new records the subject may create.
Classification	- The hierarchy of the subject's records directory would be arranged by function and activity. - A properly classified RKS would consistently apply metadata to its records for indexing purposes in order to facilitate access and retrieval.
Search and Retrieval	- A properly maintained recordkeeping system makes search and retrieval processes more efficient. The maintenance of all other functions affects the efficacy of search and retrieval.
Security and Access	- A secure RKS would control access in order to protect records against unauthorized use or access.
Storage	- A recordkeeping system securely maintains and stores records. The system has backup and recovery functionality.
Disposal	- An RKS has methods for the secure disposal of records. This may include the retention of records within the system, their destruction, or their transfer to external hard drives.

Table D.2: Functions of a Recordkeeping System.

III. DESCRIPTION OF EXISTING RECORDKEEPING SYSTEMS

Section 3 will describe the functionality of two electronic recordkeeping systems currently used by Andrew Glass. The two recordkeeping systems examined are Andrew's laptop computer, his main recordkeeping platform, and Andrew's Gmail account (montanaglass@gmail.com), a cloud-based system. Each of Andrew's recordkeeping systems will be detailed in Parts A and B. Each part will:

I. Identify the managers and users of the systems;
II. Examine any policies that govern the use of or access to the systems, and any procedures involved in operating the systems; and,
III. Analyze the technical specifications of the systems, such as hardware and software.

LAPTOP

This section will describe the hardware and software the Andrew uses to create, maintain, and dispose of records on his laptop computer. This section also includes discussion of the people and policies that are factors of the laptop as a recordkeeping system.

USERS AND MANAGERS

Andrew is the sole user and manager of his laptop computer. As a result, it is Andrew's responsibility to maintain all of the records located on this recordkeeping system. Most of Andrew's electronic records are located on this platform, including records related to his academic career, finances, work, social life, and creative endeavors.

POLICIES AND PROCEDURES

While Andrew is the sole user and manager of this recordkeeping system, there are policies and procedures in place that may impact the use of this system. Andrew uses a number of software applications that require acceptance of a Terms of Service agreement, the acceptance of which may affect possible recordkeeping strategies. iTunes, Andrew's preferred music library, specifically states that the content that Andrew downloads using this application is not technically his. In fact, iTunes reserves the right to take back these materials at any time. As a result, if Andrew does not keep copies of these files somewhere other than his laptop's hard drive, he runs the risk of losing these files permanently.

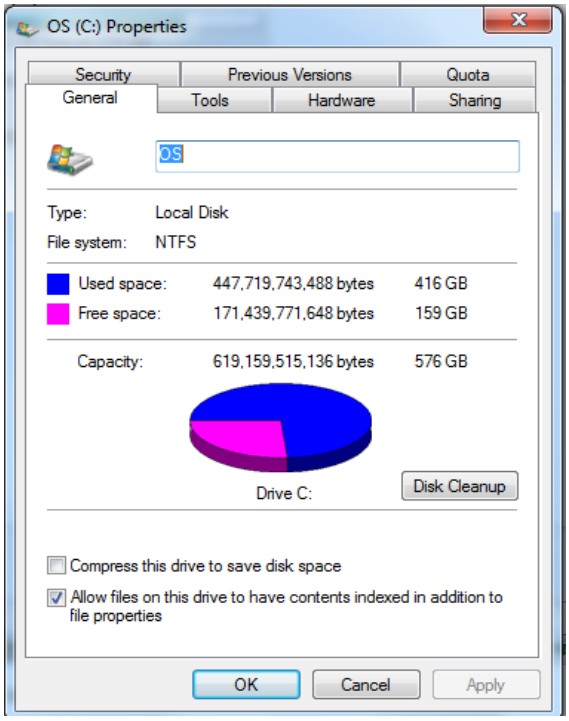

Figure D.1: Laptop Hard Drive Space

TECHNICAL SPECIFICATIONS

HARDWARE

Andrew's laptop computer was manufactured by ASUSTek Computer Inc. It is a model G73Jh with 6.00 GB of RAM and a 1.73 GHz Intel Core i7 processor. Andrew's laptop runs Microsoft Windows 7 Home Premium operating system. Andrew consistently uses around half of the system's physical memory in his normal laptop usage. Figure 1 shows the 3.10 GB of the 6 GM total RAM being used by Andrew on a consistent basis. The more RAM that is used by Andrew; the more time it may take the laptop to retrieve and perform tasks that Andrew wishes, thus making the system less efficient.

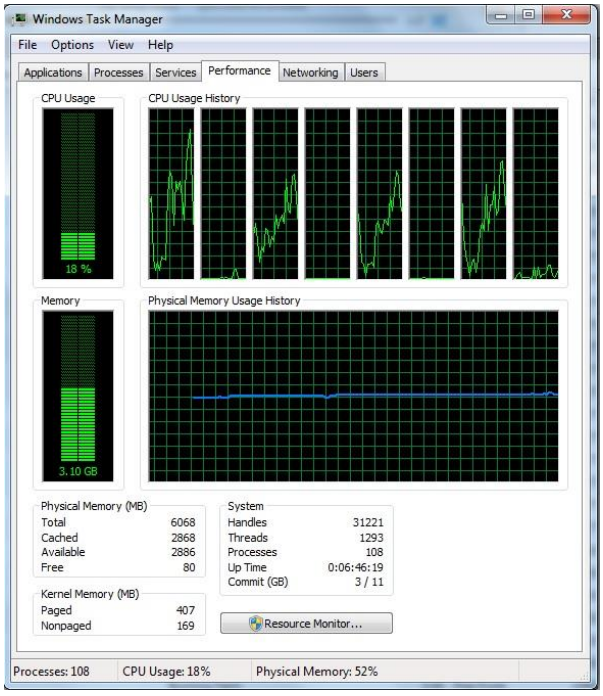

Figure D.2: Laptop Performance

As shown in Figure 2, Andrew's laptop has a 576 GB hard drive. Of these 576 GB, only 159 GB are free and available for use. Andrew's music and videos take up most of the space on his laptop's hard drive. The laptop's hard drive is not the only form of storage that Andrew possesses for this recordkeeping system; Andrew owns an external hard drive. The external hard drive is a Matsunichi USB 3.0 Mobile HD that is capable of storing 931 GB of data. So far, Andrew has 414 GB available for use on the external hard drive. This means that as space becomes a problem on the laptop hard drive, Andrew is able to relocate files onto the external hard drive. This serves the dual purpose of protecting loss of records in the event that Andrew's laptop is damaged as well as creating more space for records on the laptop itself.

SOFTWARE

OPERATING SYSTEM

Andrew's laptop runs using Microsoft Windows 7 Home Premium Edition. This operating system comes with a collection of applications which can aid in the maintenance of a recordkeeping system. These Windows 7 Home Premium applications aid in several main areas of recordkeeping: mainly system maintenance, system security, and record retention. Each of these applications can be used by Andrew to aid him in key decision making aspects regarding how his laptop system is performing.

WINDOWS 7 HOME PREMIUM APPLICATIONS

Application Name	*Functions*	*System Significance*
Event Viewer	- Tracks system errors and failures that occur on the computer.	This allows Andrew to view what problems may exist on the system. Can allow him to see what programs or applications are causing problems on his computer. This is important for system maintenance.

Performance Monitor	- Shows the performance and usage of the system in a visual manner.	This allows Andrew to see how his system is performing in terms of RAM usage and CPU usage in real time. This allows Andrew to make decisions about system performance and potential hardware changes.
System Configuration	- Keeps track of the services and processes that run upon system startup. - Contains a list of system tools that can be launched and what they do.	This allows Andrew to see what programs are running behind the scenes when the computer turns on. These services affect system performance.
Task Scheduler	- Can schedule tasks to occur at specified times. - Creates a log of tasks performed.	This allows Andrew to schedule maintenance tasks on a regular basis. This assists Andrew with system maintenance.
Windows Defender	- Scans computer system for malicious spyware, viruses, and other unwanted processes.	Allows Andrew to identify unwanted programs that can cause security risks to the system. These programs can then be removed. This helps Andrew with system security.
Windows Experience Index	- Rates your computer's performance based on criteria such as RAM, Processor speed. - Provides a score based on the performed tests.	This program allows Andrew to see how efficiently his system is running. Can allow him to make decisions related to upgrading or updating his system hardware which is a key part of system maintenance.
Windows Firewall	- Checks information being received while an internet connection is active. - Can block or allow processes to occur.	This program helps assure that the system is secure and not accessed by unauthorized services or processes. This helps Andrew with system security.
Windows Memory Diagnostic	- Performs diagnostics on memory of the system. - Checks for problems with the system memory.	Can allow Andrew to see what memory on his computer is operating properly as well as if any problems exist. This allows Andrew to make decisions about system performance and whether hardware upgrades are necessary for system maintenance.

Table D.3: Windows 7 Home Premium Applications.

APPLICATIONS

Andrew creates and maintains four main types of records on his laptop computer: text files, image files, audio files and video files. For the creation and maintenance of text files, Microsoft Word and Adobe Reader are the two main applications that Andrew uses. The image files are a combination of downloaded images and digital photographs taken on Andrew's iPhone and then transferred to his laptop. Andrew's audio files are largely downloaded from iTunes and managed in the iTunes application. To access his video files, Andrew uses the VLC media player application.

METADATA

Many of the applications used on Andrew's laptop automatically create metadata fields associated with each file. These applications and examples of their default metadata are displayed further in Table 4. Some examples of these are fields like: creator, date created, date last modified, etc. These metadata fields can allow Andrew to see information about these records and help him identify if these records are authentic and unaltered without his permission.

The metadata of these records can also help Andrew determine information about records that he himself did not create and subsequently determine whether those records are authentic. Metadata plays an important role in determining the success of recordkeeping systems as metadata fields can speak to a record's integrity, identity, reliability and fixity.

Metadata also contributes to various functions of recordkeeping systems. For example, metadata can allow for informed decisions for disposal of records based on their last opened dates. Metadata can also help improve the ability of the user to search for a retrieve relevant record for a given task. Thus, creating and maintaining this metadata is a key part of a successful recordkeeping system.

APPLICATION DEFAULT METADATA

Record Type	*Application*	*Metadata**
Text	Microsoft Word (.doc, .docx, .txt, .rtf, .pdf)	Microsoft Word generates metadata relating to: title, file type, location, file size, date created, creator, editing time, and revision number.
	Adobe Reader (.pdf .tiff)	Adobe Reader creates metadata relating to: title, file type, location, file size, date created, editing time and revision number.

Image		Images that are imported to Windows are automatically assigned metadata relating to: file name, file type, location, date created, file size, dimensions (width, height), resolution, and number of pixels.
Audio	iTunes	iTunes contains default metadata relating to: title, artist, file type, location, file size, bit rate, sample rate, play count and genre of music.
Video		Windows default metadata for video files relates to: title, file type, file size, date created, video length, bit rate and audio bit rate.

Table D.4: Application Default Metadata.

*The default metadata listed in this table are by no means extensive and more options for metadata are available for Andrew if he chose to input them manually.

GMAIL

A large part of Andrew's functions involve communication with others, and examining the functionality of his Gmail account as a recordkeeping system will be advantageous to the development of a RKS design or redesign. This section will examine the features and tools offered by the email service, as well as the policies and procedures which govern service usage.

USERS AND MANAGERS

Andrew is the sole user and manager of this system. Gmail allows him the ability to make recordkeeping decisions and employ recordkeeping processes, but as an end-user agreeing to the terms of service and privacy policies of Gmail and Google, he is subject to their legal conditions.

POLICIES AND PROCEDURES

Gmail has a set of Terms & Privacy categories to which users agree when they sign up for their email service. These legal conditions pertain to all of Google's services, and includes Legal Notices, Privacy Policy, Program Policies, and Terms of Service. This subsection will discuss only the policies relevant to recordkeeping and recordkeeping processes. Andrew is currently using the free 15 GB plan with Google. This storage is shared across Google Drive, Gmail, and Google+ Photos. There is a 25 MB attachment limit to the amount of data that users can attach to each email.

Google's Privacy Policy was last modified on March 31, 2014, and specific aspects of the document directly supports classification and indexing, and security and access recordkeeping functions. Google's algorithms collect information about their users in order to determine "the people who matter most to you online,"[2] meaning that Gmail is able to determine which emails are "important" based on senders and recipients. Upon receipt of an email, Google may add the note that the record is "important" based on recipients or senders. While interesting, users are able to recognize which contacts are important to them, and the "pre-labeling" performed by Gmail is nothing more than an unostentatious notation. The manual strain of classification is not removed from the recordkeeping system. However, Gmail's recent addition of the Primary, Social, and Promotions tabs (sections of the Gmail inbox) does filter out types of emails that users may receive. Here, the manual strain of classification and disposition is somewhat alleviated because promotional and notification emails from online services are filtered into separate tabs.

Figure D.4: Email labels used in Andrew's classification system.

Figure D.3: Email labels used in Andrew's classification system (contd).

The privacy policy does mention the added security option of two-step verification. This feature for Google accounts would add "an extra layer of security"[3] to Andrew's Gmail system by restricting access to his email account. It requires the user to enter both the account password and a security key generated by a mobile app or a verification code sent to an authorized telephone number.

[2] Google. (March 31, 2014). *Privacy Policy*. Retrieved from https://static.googleusercontent.com/media/www.google.com/en/us/intl/en/policies/privacy/google_privacy_policy_en.pdf/

[3] Google. *2-Step Verification*. Retrieved from https://www.google.com/intl/en/landing/2step/#tab=how-it-protects/

The "Google Terms of Service" has policies in place for users interested in modifying or terminating their services. The significance of these policies is the continued access to data after discontinuation of the service. Google "believe[s] that you own your own data and [that] preserving your access to such data is important,"[4] giving users opting-out of the service the ability to retrieve their information and data from their accounts. The data that is provided comes "in a variety of open, portable formats so you can easily import the data into other internet services."[5] Users are essentially given the ability to download their data for archiving and backup purposes, as well as for the transfer of emails generated through Gmail to a dedicated mail client (such as Microsoft Outlook, Mozilla Thunderbird, and Apple's Mail program). Google has limited the amount of discrete times that users may be able to export their Gmail data every week: "three times a day, and up to seven times total per week."[6]

The policies and procedures governing Andrew's personal management of his emails records are informal, but consistent and immediate. He uses a classification system (Figures 1 and 2) to organize his emails as they arrive. Depending on the activity, the senders, or recipients, Andrew stores the emails in appropriate folders, disposes of them, or keeps active emails in his inbox as reminders for transactions and activities.

TECHNICAL SPECIFICATIONS

STORAGE

There are some limitations to the amount of space that Andrew has in his Gmail account. The free 15 GB that is available to him is spread across his Google account, and includes Google Drive and Google+ Photos, as well as Gmail. There is a 25 MB attachment limit to the amount of data that Andrew may be able to attach to each of his emails. However, despite nearly 5 years of using Gmail, he has only used 7% of his total storage (Figure 5). With the current data load given from the functions and activities he performs, Andrew is not in any danger of exceeding his current storage capabilities. The procedures behind his consistent and immediate classification and disposition decisions relieve any potential strain that could be put on accessibility and search and retrieval functions.

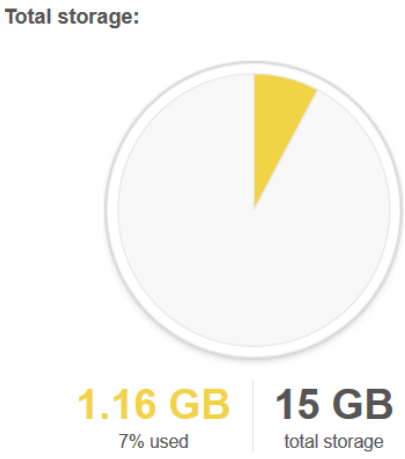

Figure D.5: Google storage.

[4] Google. (April 14, 2014). *Google Terms of Service.* Retrieved from https://www.google.com/intl/en/policies/terms/
[5] Google. *Download your data: FAQ.* Retrieved from https://support.google.com/accounts/answer/3024190?hl=en
[6] Google. *Download your data: Per-service information.* Retrieved from https://support.google.com/accounts/answer/3024195?hl=en/

SECURITY

Although he does not use the service, Andrew has the option to turn on two-step verification, which would give an added layer of security to his Gmail account. Another security feature that Gmail offers is the "activity information" feature, which provides information about concurrent and recent activity on the account (Figure 6). Being able to scan activity by Access Type, Location (IP address), and Date/Time gives Andrew the ability to monitor his records and system.

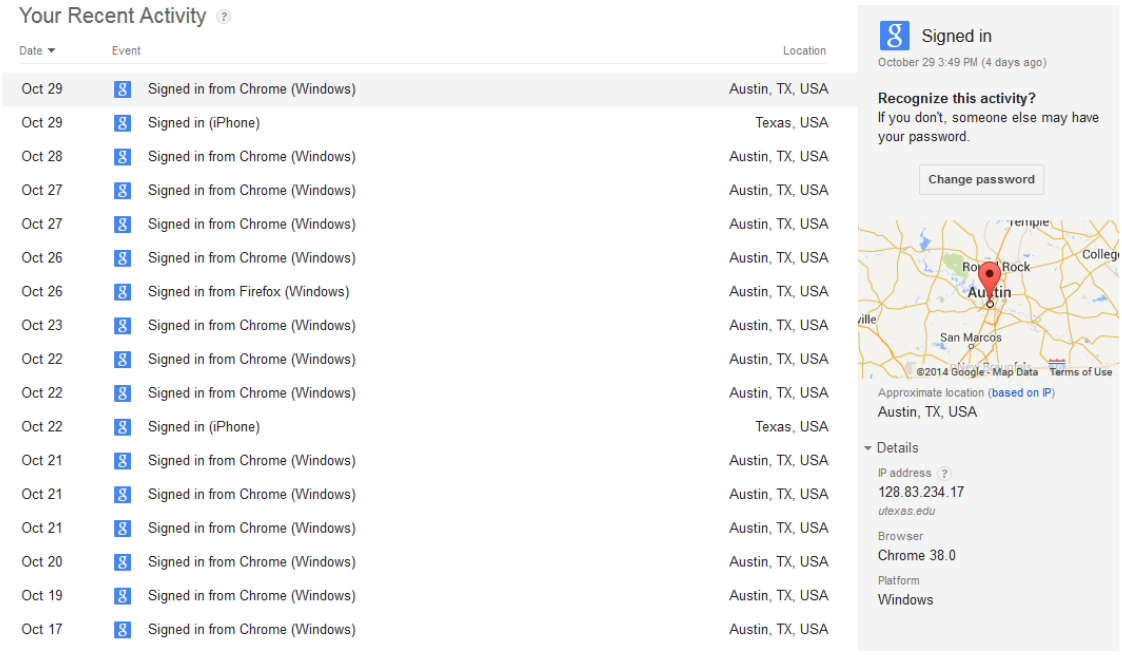

Figure D.6: Recent Gmail activity on Andrew's account.

ORGANIZATION

Gmail now organizes emails into Primary, Social, and Promotions tabs, based on email senders. Promotional or notification emails pertaining to social networks or other web accounts are filtered into the Social and Promotions tabs, ostensibly leaving more important emails in the Primary tab. Filters could be set on incoming email messages for direct organization of specific emails to be classified with a particular label. The filter function gives users classification functionality over their incoming emails by automatically setting an action for specific emails (Figure 7).

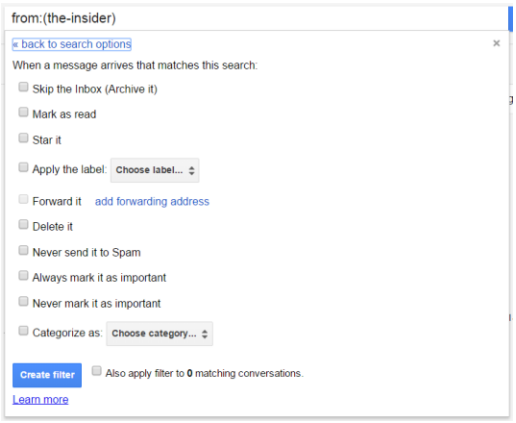

Figure D.7: Setting a filter on email messages.

Gmail's organizing use of the "label" functions as a folder as well as a labeling notation, but without the strictures of foldering. Multiple labels can be applied to single items. Labels are also applied to entire threads, rather than individual email messages. Users may create and customize labels in order to facilitate the management and organization of their records. Emails may also be starred and tagged.

Andrew makes full use of the labeling capabilities that Gmail offers. He has an established classification scheme which he adheres to, and into which the majority of his communications can be properly organized.

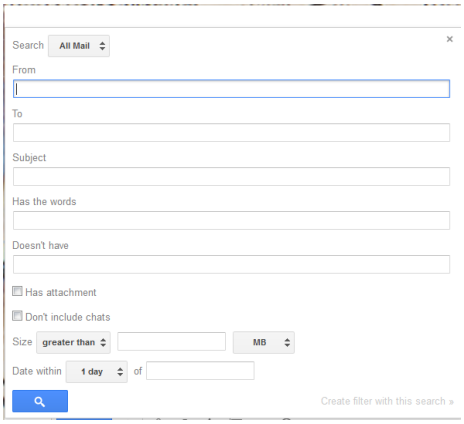

Figure D.8: Dropdown menu from Gmail's search bar

SEARCH

Andrew's Gmail system allows for a powerful search and retrieval function which he facilitates through his classification scheme. Users are able to perform full text searches of all messages through a search bar. Gmail's search bar is a keyword search bar but also has a dropdown menu which gives users the option to fill out relevant fields for their searches (Figure 8). Users may search by label, recipient, sender, subject, keyword, date, and/or size.

Under each label, emails are presented with basic metadata. Information regarding sender, subject, email preview, and date are visible in inbox views and search result views (Figure 9). Emails that are marked with a label also have their label names attached.

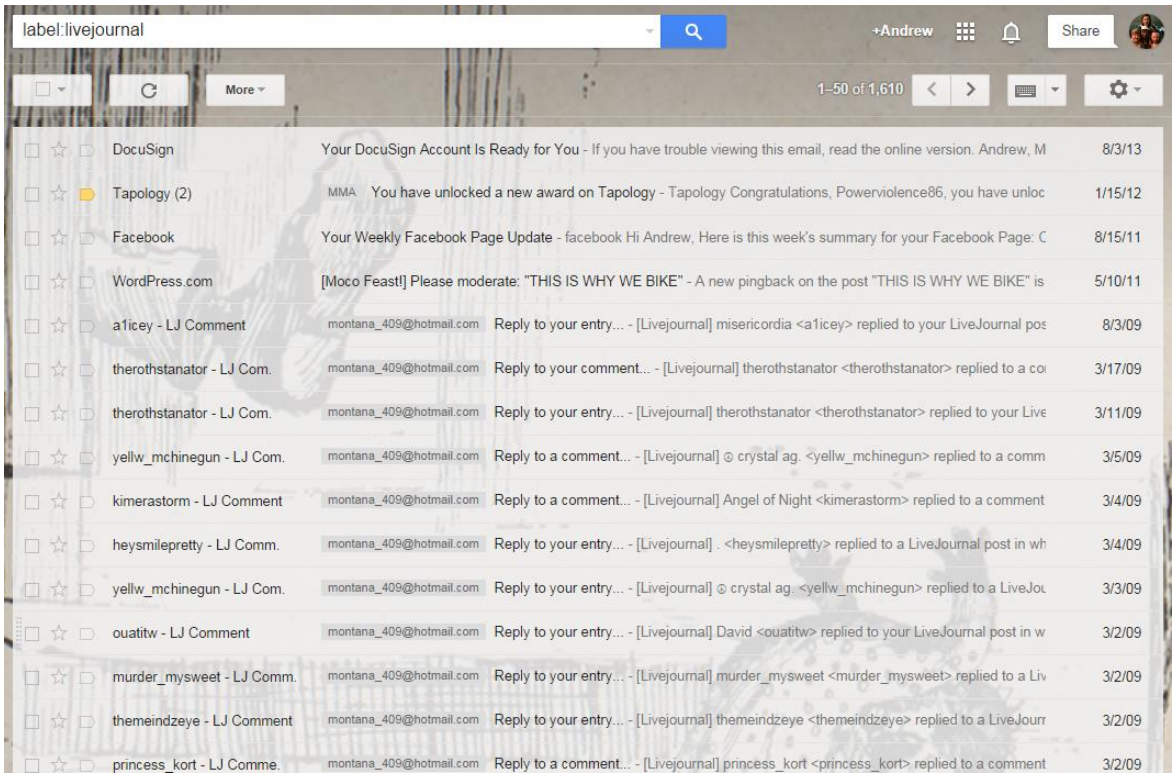

Figure D.9: Search result view of records labeled "livejournal."

ARCHIVING AND BACKUP

There are policies within Google's terms of service which allow users to archive and backup their data. Users own their data, and Google has the capability to make archiving and backup fairly simple. When requested, Gmail will provide their users all of their mail in a single mbox file, a file which allows for "storing mail messages and is supported by common mail clients."[7] While Google has limited the number of times that users can export their Gmail data on a weekly basis, users are given some flexibility when choosing which of their emails to export and archive. Users may choose specific labels and folders to export, each to its own mbox file. For users in need of more information about importing mboxes into desktop email clients, Google refers their users to a tutorial from the University of Wisconsin-Madison.

[7] *Ibid* 6.

Andrew would be able to easily create an archive of their Gmail data. Users may choose their archive's file type (.zip, .tgz, .tbz), and receive a download ink via email, or save the files to their Google Drive. Archives may be broken into multiple .zip files because of a 2GB size limit, but choosing .tgz or .tbz file types ensures a single file archive (due to a 50GB size limit). Google notes that the time it takes to create an archive varies, depending on the amount of data stored in the service. It is unclear whether or not a user's data remains with Google even after termination of their services, but it may be the case that while users can receive archives of their data, copies will still remain with Google.

IV. GAP ANALYSIS

This section will determine whether or not the qualities and requirements of recordkeeping systems enumerated in Section 2 were apparent when assessing Andrew's recordkeeping systems. Observations regarding manifestations of each RKS characteristic and function are noted in Tables 5 and 6.

The Compliance Determination table refers to a document released by the International Records Management Trust (IRMT) in March 2006. Consultation with the document, *Integrating Records Management Requirements into Financial Management Information Systems (FMIS), Systems Requirements: Gap Analysis Tool*,[8] helped in developing a gap analysis tool for Andrew's recordkeeping systems. Each section is built upon a combination of the RKS characteristics and functions from Section 1 of DIRKS Step D.

OBSERVATIONS OF RECORDKEEPING SYSTEM CHARACTERISTICS

Characteristics	*Analysis Comments*
Reliability	*Laptop* - Records created by this system are assigned metadata that can speak to reliability, including creator, date created and title. - Automatically generated metadata can only ensure a certain level of reliability; additional metadata must be created by Andrew.
	Gmail - The metadata attached to each email sent and received contain information such as senders and recipients, date and time sent, and subject, and can ensure a level of reliability.
Integrity	*Laptop* - Andrew's laptop does display metadata that reflects when a record was created, modified and last saved.

[8] International Records Management Trust. (March 2006). *Integrating Records Management Requirements into Financial Management Information Systems (FMIS), Systems Requirements: Gap Analysis Tool.* Retrieved from http://www.irmt.org/documents/assessment%20tools/financial_mgmt/IRMT_IFMISGuide.pdf/

	- Firewall and security software scan files and processes for any harmful or malicious content.
	Gmail - Andrew is the sole user and manager of his password protected email account, ensuring the integrity of the records that he manages and creates.
Identity	*Laptop* - Andrew's laptop does display information about the creator, date and time when a record is created through applications. - This system does not directly establish relationships between records. Records must be manually placed in folders to create any sort of context.
	Gmail - Gmail automatically groups incoming messages according to Primary, Social, and Promotions categories, which creates a context and classification from which Andrew can manually build. - The labeling capabilities of Gmail allows Andrew to manually create a context for his records.
Fixity	*Laptop* - Created records do possess metadata that reflect alterations and changes made to the record. - Andrew's laptop cannot guarantee the fixed nature of a record. While changes can be seen through the metadata, nothing can be done to prevent the alterations on the current system. - No separate storage at this point for retained/fixed records.
	Gmail - Andrew is the sole user and manager of his password protected email account, to an extent guaranteeing that his records will not be inappropriately tampered with or altered.
Accessibility	*Laptop* - Andrew's laptop can create files that are easily accessible through the Windows file system. - Created records are assigned metadata by the creating applications that allow Andrew to view information about the records. - Andrew's laptop cannot automatically categorize the records based on Andrew's activities, rather records can be categorized based on file types.
	Gmail - The search and retrieval functions of Gmail are robust enough to ensure that files remain easily accessible. This is in part due to the automated registration and classification functions of the system, as well as Andrew's own classification scheme.

Table D.5: Observations of RKS Characteristics within Andrew's Recordkeeping Systems.

OBSERVATIONS OF RECORDKEEPING SYSTEM FUNCTIONS

Functions	*Analysis Comments*
Registration	*Laptop* - Andrew's laptop does not create any default naming scheme. - File names have to be manually input by Andrew to create any file naming convention. - Andrew's laptop does generate metadata that can allow for some indexing functions.
	Gmail - Gmail automatically captures metadata generated with every email, such as sender, recipient, and subject. - Gmail has a filter function where settings could be set on specified incoming email messages, so that they could be automatically labeled.
Classification	*Laptop* - This system does not directly establish relationships between records. Records must be manually placed in folders to create any sort of context.
	Gmail - Labeling is the main organization function in Gmail, allowing users to establish a hierarchy arranged by function and activity. - Filter settings could be set on specified incoming email messages, allowing for classification to be automated.
Search and Retrieval	*Laptop* - Andrew's laptop does facilitate the search for files through Windows. - Search times depend on the portion of the file directory being searched and the hardware of the laptop functioning properly. - Poor file naming conventions or records saved to the wrong folders can limit the effectiveness of the Windows searching function.
	Gmail - The search and retrieval functions of Gmail are powerful, and allows users to perform full text searches of all their messages. The dropdown menu from Gmail's search bar gives users many options to make their searches as granular as they need. - The usefulness of the search and retrieval functions of the RKS are only proportionate to the level of use and understanding that the user has. Andrew has a consistent classification system in place which allows his records to remain easily accessible to him. If he were to utilize some of Gmail's other classification utilities, such as the filtering feature, his recordkeeping may further benefit.
Security and Access	*Laptop* - Andrew's laptop is password protected, and as a result access to the records on it is controlled. - Once the password has been entered, records can be altered and created freely.

	Gmail - Andrew's Gmail account is password protected, and has the option for two-step verification. Andrew does not currently employ this service. - Gmail also has a feature which allows Andrew to monitor recent and current account activity, to ensure that all access to his account is authorized.
Storage	*Laptop* - This system has large amounts of storage available for records creation. - Backup storage is available in the form of an external hard drive. - Records are not automatically backed up beyond what is moved to the external hard drive. - Recovery is possible through the Windows System Restore in the System Configuration Application.
	Gmail - Andrew's current plan with Google is the free 15GB plan. This storage space is shared across Google Drive, Gmail, and Google+ Photos. - Backup and archiving options are available from Gmail. Users may request the download of their email data through a download link or to be saved as a file in Google Drive.
Disposal	*Laptop* - Andrew's laptop does provide means for records disposal in the form of the "Recycling Bin." - No secure disposal is guaranteed, records removed from the laptop may still be recoverable from the hard drive with forensic tools.
	Gmail - Gmail has an "Archive" button which labels the email message. Even if the archived email had been manually labeled, the archived messages can only be found in the "All Mail" view of Gmail. - Gmail provides Andrew with a "Trash" label. All items marked as "Trash" are automatically deleted after 30 days. - As a free service, Gmail is able to collect and store data about its users. After 30 days, emails "are no longer user-recoverable,"[9] implying storage elsewhere.

Table D.6: Observations of RKS Functions within Andrew's Recordkeeping Systems

COMPLIANCE DETERMINATION

Compliant	**Reliability and Integrity**	
The system must create records that possess reliability and integrity.		
Analysis Comments	*Laptop* - Metadata is available to view last modified by and who modified the record.	*Gmail* - Basic metadata attributes created to mark records as complete and accurate.

[9] Google. *Delete messages*. Retrieved from https://support.google.com/mail/answer/7401?hl=en/

	- Documents are created by Andrew during his activities, reflected in metadata.	- Password protection secures Andrew's records. - A two-step verification process would ensure only authorized persons are permitted access. - Recent and current account activity can be monitored and managed to control access.
Citations	"A reliable record is one whose contents can be trusted as a full and accurate representation of the transactions, activities or facts to which they attest and can be depended upon in the course of subsequent transactions or activities." - *ISO 15489.2, 7.2.3 Reliability* "Records should be created at the time of the transaction or incident to which they relate or soon after, by individuals who have direct knowledge of the facts or by instruments routinely used with the business to conduct the transaction." - *ISO 15489.2, 7.2.3 Reliability* "The integrity of a record refers to its being complete and unaltered. It is necessary that a record be protected against unauthorized alteration." - *ISO 15489.2, 7.2.4 Integrity*	
Non-Compliant	**Registration**	
The system must capture records and assign appropriate metadata attributes. Effectively named records will give the user control over record versioning and tracking.		
Analysis Comments	*Laptop* - Records created are not automatically assigned an identifier. - Metadata is created by applications that identify title, creator, date and time of creation. - Full compliance requires manual input from Andrew when creating records.	*Gmail* - Basic metadata attributes are captured, identifying sender(s), recipient(s), time and date of sending, attachment information, and labels, if available. - Labeling capabilities allows Andrew to automate and manually create a context for his records. - A filter function allows users to specify settings on particular incoming email messages, so that they could be automatically redirected to the Archive, starred, forwarded, deleted, marked as important or read, categorized, and/or labeled.
Citations	"Systems that capture records also need to capture metadata associated with the record." - *ISO 15489-2, 4.3.2 Capture*	

	"Registration specifies the following metadata as a minimum: a) unique identifier assigned from the system; b) the date and time of registration; c) a title or abbreviated description; d) the author (person or corporate body), sender or recipient." - *ISO 15489-2, 4.3.3 Registration* "An organization may determine that RMAs should have the capability to manage working and draft versions of documents and other potential record materials as they are being developed." - *DoD 5015.2 (v.2, 2002), C3.2. Other Useful RMA Features - C3.2.11*	
Non-Compliant	**Classification**	
The system's classification system must be based on the functions and activities of the subject.		
Analysis Comments	*Laptop* - Folders are created by Andrew, not necessarily reflecting activities or transactions. - Folder names for the most part reflect the type of records being stored (i.e. Music, Pictures, Downloads). - Records are saved to folders at the time of download or creation.	*Gmail* - Gmail streamlines disposition by identify grouping incoming messages into basic Primary, Social, and Promotions categories. - Combining automated and manual features (*viz.* the filtering feature, and manually labeling) would be optimal use of the RKS's classification functions.
Citations	"Classification is the process of identifying the category or categories of business activity and the records they generate and of grouping them, if applicable, into files to facilitate description, control, links and determination of disposition and access status." - *ISO 15489-2, 4.3.4 Classification* "The degree of refinement of a classification system is at the discretion of the organization and reflects the complexity of the function undertaken within the organization." - *ISO 15489-2, 4.2.2 Business activity classification* 'The file/record is best classified at the same time as it is registered.' - *ISO 15489-2, 4.3.3 Registration*	
Non-Compliant	**Security and Access**	
The system must have security measures in place to protect user access and to prevent unauthorized alteration or deletion of records and their metadata.		
Analysis Comments	*Laptop* - Laptop has a password required to access Andrew's user profile and files. - Firewalls and Security applications prevent malicious spyware from harming files.	*Gmail* - Andrew's account is password protected. - He has not yet utilized the option for two-step verification. - Andrew can monitor and manage current and recent activity on his account, and

	- Individual folders and files can be protected manually through manual folder and file settings.	has the ability to sign other devices out of their sessions on his account, if he notices unauthorized access.
Citations	"Records systems should provide timely and efficient access to, and retrieval of, records needed in the continuing conduct of business and to satisfy related accountability requirements." - *ISO 15489-1, 8.3.6 Access, retrieval and use* "Systems should include and apply controls on access to ensure that the integrity of the records is not compromised." - *ISO 15489-1, 8.3.6 Access, retrieval and use* "Storage conditions and handling processes should be designed to protect records from unauthorized access, loss or destruction, and from theft and disaster." - *ISO 15489-1, 9.6 Storage and handling* "The RMA, in conjunction with its operating environment, shall use identification and authentication measures that allow only authorized persons access to the RMA." - *DoD 5015.2 (v.2, 2002), C2.2.7. Access Controls - C2.2.7.1.*	
Non-Compliant	**Storage**	
The system must provide a reliable storage repository for current and disposed records. The system must also provide reliable backup and recovery measures to protect against data loss.		
Analysis Comments	*Laptop* - Files are not stored in a safe location for retention. - Backup and recovery applications are available for use. - External hard drive provides additional storage, but could be used more effectively for retention or backup purposes.	*Gmail* - Current plan with Google is the free 15GB plan, and Andrew has only used 7% of this space over the nearly 5 years he has used Gmail. - Backup, archiving, and transfer options available from Gmail.
Citations	"The decision to capture a record implies an intention to store it." - *ISO 15489-2, 4.3.7.1 Record Storage Decisions* "Appropriate storage environment and media, physical protective materials, handling procedures and storage systems should be considered when designing the records system." - *ISO 15489-1, 8.3.3 Physical storage medium and protection* "Records identified for continuing retention need to be stored in environments conducive to their long-term preservation." - *ISO 15489-2, 4.3.9.2 Continuing Retention* "Storage conditions and handling processes should be designed to protect records from unauthorized access, loss or destruction, and from theft and disaster." - *ISO 15489-1, 9.6 Storage and handling*	
Non-Compliant	**Disposal**	
The system must establish appropriate retention and disposition rules.		
Analysis Comments	*Laptop* - Retention and disposition rules are not included in the	*Gmail* - RKS capabilities do not support the implementation

	system; decisions are manually made by Andrew. - Stakeholders and other groups are not involved in retention decisions; Andrew is sole user of records on his laptop. - Retention and disposition schedules are not in place on laptop.	of retention or disposition schedules. - Andrew makes informal retention and disposition, not according to a set schedules.
Citations	"Statutory or other regulatory requirements may demand minimum retention periods or submission to an authorizing body such as an archival authority or auditors for any necessary approval [of the records disposition authority]." - *ISO 15489-1, 9.2 Determining how long to retain records* "The rights and interests of all stakeholders should be considered when determining how long records need to be maintained. The decisions should not be made intentionally to circumvent any rights of access." - *ISO 15489-1, 4.2.4.3 Determining how long to retain records* "If electronic records are transferred, such issues as the following need to be considered: hardware and software compatibility; metadata (control and contextual information); data documentation (technical information on data processing and data structure); licensing agreements; and standards." - *ISO 15489-2, 4.3.9.4 Transfer of custody or ownership of records*	
Compliant	**Search and Retrieval**	
The system must provide the ability to search for, retrieve, and display records.		
Analysis Comments	*Laptop* - Files and folders are available to search through by Windows search function. - Search is efficient as long as folder names and file naming conventions are consistent.	*Gmail* - Andrew's email records are easily searchable and accessible. - Search function allows for a moderately refined level of granularity. - Utilization of the filtering feature would benefit access and search functions.
Citations	"Records systems should provide timely and efficient access to, and retrieval of, records needed in the continuing conduct of business and to satisfy related accountability requirements." - *ISO 15489-1, 8.3.6 Access, retrieval and use*	

Table D.7: Compliance Determination.

V. STRENGTHS AND WEAKNESSES

Based on the analysis of previous sections, the strengths and weaknesses of Andrew's current recordkeeping systems are outlined below. This can aid in the design or redesign of his recordkeeping systems, policies, or procedures.

LAPTOP

Andrew's laptop has many of the characteristics that are asked of an effective and efficient recordkeeping system. In its current state, Andrew's laptop fails to meet all of the requirements of a good recordkeeping system. File naming conventions are not used consistently, folder naming also suffers from a lack of consistency.

However, Andrew's laptop, combined with the available applications, is capable of storing his records in a way that is easily searched. The metadata applied by his applications is enough for Andrew to gain information on many key aspects of these records and for him to judge whether these records are in fact trustworthy representations of his activities. In fact, the system is capable of even more detailed metadata for the records, provided that Andrew is willing to input these fields manually.

It should be noted that many of the functions discussed, while possible on the laptop system, place a lot of burden on Andrew as the manager of these records. None of these applications automatically classify these records based on Andrew's activities or transactions. If Andrew wishes for his laptop to have an organized recordkeeping system, with consistent and clear file names, then he must carry out these tasks himself.

Andrew's laptop also fails to ensure secure disposal of his records as simply deleting them from his folders does not entirely erase the record from his hard drive beyond recovery. Andrew's external hard drive could serve as storage for retained or fixed records. However, for the time being the external hard drive is used only to remove files directly from the laptop and free up memory space on the laptop itself, or to place copies of important files for backup.

GMAIL

Many of Andrew's functions are represented within his Gmail account. Communications with his coworkers, colleagues, professors, family, and friends are all stored within his account. Examining the functionality of his Gmail account as a recordkeeping system is beneficial to his enhanced use of the system for these purposes. The capabilities and functionality of Gmail as a recordkeeping system are adequate, as well as Andrew's utilization of its main features. The system offers all of the functionalities of a good recordkeeping system, to varying degrees of robustness. The system appropriately captures

records and provides means for their classification. The metadata attached to each record are registered and indexed by the system, making access, search, and retrieval very reliable functions of the system.

Andrew could improve the security of his account by using the two-step verification method offered by Gmail, in addition to regularly monitoring the activity on his account. Employing the feature would further ensure that access to his Gmail account remains only with him, the authorized user and manager. Ensuring that no incidents of unauthorized access to his account not only guarantees the security of Andrew's records, but their reliability, integrity, and authenticity.

The search and retrieval functions of Gmail are robust enough to ensure that Andrew's email records remain easily accessible. The search function allows for a moderately refined level of granularity. The usefulness of the search and retrieval functions of the RKS are only proportionate to the level of use and understanding that the user has. Andrew has a consistent classification system in place which allows his records to remain easily accessible to him. If he were to use the filtering function that Gmail offers to automatically label or redirect incoming email, it would put part of the burden of classification onto the system rather than with Andrew. The labeling capabilities of this RKS makes efficiently organizing Andrew's functions and activities a matter of combining automated and manual features.

DIRKS PART E: STRATEGIES FOR RECORDKEEPING

INTRODUCTION

The purpose of DIRKS Step E is to propose appropriate policies, strategies, tools, and systems that will allow Andrew Glass to meet recordkeeping requirements. The policies will eliminate the weaknesses identified in the analysis conducted in Step D and bring Andrew's record keeping system into compliance with ISO-15489 standards. The policies will cover four areas: policy, design, standards, and implementation.

SYSTEM GAPS

The following functions of Andrew's recordkeeping system were deemed non-compliant with ISO-15489 standards in the Step D analysis:

I. **Registration -** The system must capture records and assign appropriate metadata attributes.
II. **Classification -** The system's classification system must be based on the functions and activities of the subject.
III. **Security and Access -** The system must have security measures in place to protect user access and to prevent unauthorized alteration of records and their metadata.
IV. **Storage -** The system must provide a reliable records repository as well as backup and recovery measures to guard against the loss of data.
V. **Disposal** - The system must establish appropriate retention and disposition rules.

These functions, in turn, affect the key characteristics of good records:

I. **Authenticity -** The record must be what it claims it is, must have been created or sent by the person it claims created or sent it, and must have been created or sent at the time it claims it was created or sent.
II. **Reliability -** The record must be a full and accurate account of what transactions, activities, or facts it attests to.
III. **Integrity -** The record must be complete and unaltered.
IV. **Usability -** The record must be able to be located, retrieved, presented and interpreted.

Both the functions and the characteristics must be upheld in order for the recordkeeping system to be compliant.

STRATEGIES FOR RECORDKEEPING

DIRKS Step E will provide several strategies to meet recordkeeping requirements in the following areas:

Policy Strategies

Policy strategies make use of organizational rules and policies in order to meet recordkeeping requirements. These strategies establish procedures, guidelines, and practices that define recordkeeping in the context of an organization and rules that will govern the specific recordkeeping system. Policy strategy should be instituted when a framework is needed to establish consistent recordkeeping practices and provide an explanation for how the practices fit into the organization's programs as a whole.

The following is an example from the DIRKS manual of policy strategy:

> Your Step D research has revealed that record disposal is being poorly managed within current systems. The organization has no functional retention and disposal authority, there are no policies concerning record destruction or maintenance and staff are unaware of what their responsibilities are.
>
> In Step E you therefore decide to develop a corporate policy which will tell all staff that they must not destroy any records without the approval of the Records Management Unit

The policy strategies put forth in Step E are designed to raise Andrew's awareness of his recordkeeping responsibilities, creating procedures to assist him in operating his recordkeeping system.

Design Strategies

Design strategy pertains to the technical aspects of recordkeeping systems. These strategies help incorporate recordkeeping practices into the routine of the subject, making them an automatic part of the work practice using available technology. As technology systems are the main component of design strategy, it best to employ the strategies when the technical system or the activity processes are being redesigned. The goal should be to use these technologies to smoothly integrate recordkeeping with the

subject's workflow to make sure that records consistently meet compliance standards. Design strategy can incorporate existing systems or use new technology to meet its goals. The resources of the organization along with the needs of the user will determine the best strategy.

The following is an example from the DIRKS manual of design strategy:

> In your Step D assessment, you may have had concerns about the security of organizational information and may have recommended that stronger security controls and audit logs be captured to document system use.
> In Step E, you would decide to implement a design strategy and redesign the system to capture when, how and by whom records have been accessed. You could also ensure that user logins are utilised to make sure that only persons with appropriate authority can access records within the system.

The design strategies proposed in Step E are to help Andrew make use of available technologies to meet recordkeeping requirements while integrating good recordkeeping practices into his workflow.

Standards Strategy

Standards strategies use technical standards as a means of meeting recordkeeping requirements. While technical standards are applicable to paper-based record systems, they primarily apply to the creation and management of electronic records. Technical standards govern such aspects as security, format, technical system and communication protocols, record formats, and record storage. There is a strong link between design strategy and standards strategy. Technical design will need to be taken into account when considering what technical standards will apply. Using open technical standards will improve the likelihood of records being accessible over time. These strategies will address technical standards only. While they are designed to support best practices, the strategies themselves will not address best practices.

The following is an example from the DIRKS manual of standards strategy:

In Agency Y, license records, created and maintained electronically, need to be kept indefinitely. XML is used to encode these records after their creation. A Word version is also maintained on the agency's network.
Encoding records in XML facilitates their long term maintenance as it means the records will be easier to migrate, are subject to fewer migrations and can be accessed and read using a number of different hardware and software combinations.

The proposed standards strategies in Step E will provide Andrew with technical standards aligned with the design strategies to help ensure the accessibility of his records, but it will be his responsibility to continue to monitor his records for accessibility issues.

Implementation

Implementation strategies are aimed toward implementing recordkeeping systems in a way that ensures that recordkeeping requirements are being met. These strategies can be useful in encouraging reluctant users to adopt recordkeeping practices to help meet recordkeeping requirements. These strategies will assist the user to incorporate the previous strategies in their records management system. Some strategies include providing recordkeeping training across the organization, assign access permissions for security purposes, or redesign practices to make recordkeeping easier.

The following is an example from the DIRKS manual of implementation strategy:

In the course of its analysis, Indiana University undertook a data management survey to determine how data was being used and managed across the university. This information was used to provide an understanding of how the university's electronic records are regarded and managed. It also helped to reveal what types of strategies would need to be employed to improve University recordkeeping:

In general, I found that personnel in units wanted to do the right thing, but they did not have the information or skills to meet the challenges. They tended to:

- have too many files
- convert electronic records to paper documents and
- duplicate data files to ensure that they would have access to data and could produce the reports they need.

The most important needs are for retention schedules, for education in managing digital objects, and for instilling in managers a better sense of how information flows through the University. [4]

Through its survey, Indiana was therefore able to determine that staff need more training in various aspects of records administration, and need rules such as disposal authorities.

In Step E, the University would therefore decide to adopt the policy and implementation strategies, to ensure staff have the disposal rules they require and have the knowledge to implement these and other requirements that would enable them to improve their daily business arrangements.

The proposed implementation strategies in Step E will assist Andrew in adopting new strategies that will help his recordkeeping system meet recordkeeping requirements.

STAKEHOLDERS

Andrew is the primary stakeholder in his recordkeeping system and the only records manager. All policies and measures used to rectify the deficiencies in his recordkeeping system will need to be instituted and maintained by him.

POLICIES

REGISTRATION AND CLASSIFICATION

The system must capture records and assign appropriate metadata attributes.

Policy Strategies	
Gmail	• Labels will be used to properly identify e-mails. • Andrew will use the Labels tab in Gmail Settings to review what labels are in use and consolidate labels attached to redundant functions. • Labels will have consistent naming conventions based on functions and activities • E-mails will be archived according to the retention schedule, but the archived e-mails should be saved with their metadata intact.
Laptop	• Identify what metadata is being generated during document creation and what metadata should be preserved with the record • Implementation should focus on continued capture of metadata with a minimum of involvement from Andrew • Naming conventions of files will be instated based on functions and activities
Design Strategies	
Gmail	A. Andrew can make use of Gmail's filter property to sort his e-mail as it comes in, making the process more automated B. Gmail settings can be used to merge labels for redundant functions such as School Stuff and Education can make Andrew's e-mail records more usable. C. When archiving e-mails, the Gmail POP3/IMAP capability allow the records to be saved with metadata intact
Laptop	A. Use the Microsoft office pop-up window to capture additional metadata concerning the function and activities that produced the record. B. Bulk Rename Utility is a highly rated piece of free software that would allow Andrew to rename his files and folders in batches, thus allowing him to impose naming conventions on previously existing records. C. Andrew could go in by hand and rename all his documents, which although time consuming would allow him to also dispose of documents that have already reached their retention deadline.

<table>
<tr><th colspan="2">Standards Strategies</th></tr>
<tr><td>Gmail</td><td rowspan="2">When Andrew archives his e-mails and their metadata, they should be saved in the .msf format in order to improve the length of their accessibility.
To ensure the preservation of metadata in his records, Andrew will used controlled and tested methods when converting files to a standard format for long-term storage.</td></tr>
<tr><td>Laptop</td></tr>
<tr><th colspan="2">Implementation Strategies</th></tr>
<tr><td>Gmail</td><td rowspan="2">Of the gaps identified in Andrew's recordkeeping system, these put the most work on Andrew. Most of his metadata will need to be captured by hand, but he can schedule the pop-up window to appear as he saves a document thereby reminding him that he needs to do it. Batch renaming programs will make changing his folder and file names less time-consuming, but it will be up to Andrew to make sure he is saving his records to the appropriate folder based on their function and the context of their activity.

The implementation of capturing metadata will be hindered by Andrew's lack of practice so far. He does not make it a habit to capture metadata beyond the basic information automatically captured by his office programs, so the formation of metadata capture practices are entirely up to Andrew to develop, making their adoption uncertain. However, in regards to his Gmail account, he is already in the habit of applying labels to his e-mails, so after standardizing his label names, continuing to label e-mails will be smoothly integrated into his work flow. The adoption of naming conventions follows similar lines. Once the conventions are in place, it should be easy for Andrew to follow them when naming his files, and with the free renaming software available, imposing those conventions on old files should be accomplished with minimum effort.</td></tr>
<tr><td>Laptop</td></tr>
</table>

SECURITY AND ACCESS

The system must have security measures in place to protect user access and to prevent unauthorized alteration of records and their metadata.

Policy Strategies	
Gmail	• A schedule for the periodic changing of Andrew's Gmail password would reduce the likelihood that an individual gains unlawful entry into his account. • Passwords should include a mix of letter and numbers, avoiding birthdates, personal names, and use of the word "password." • Tools provided by Google to monitor account activity need to be evaluated for implementation.
Laptop	• A schedule for the periodic changing of Andrew's laptop password would reduce the likelihood that an individual gains unlawful entry into his computer. • Anti-virus software needs to be evaluated for efficacy and regularly updated. • A regular schedule of anti-virus scans should be implemented for the laptop.
Design Strategies	
Gmail	A. Gmail allows its users to change their passwords when they like, so Andrew could have a regularly scheduled password change to improve security B. The implementation of Gmail's two step verification system would increase Andrew's account security by requiring him to also enter a security code sent to him via text to ensure he is the one accessing the account. C. Andrew can have account activity e-mails provided to him by Gmail so that he can monitor his account for suspicious activity.
Laptop	a. As the administrator for his laptop, Andrew can change passwords, so he can choose to implement a regularly scheduled password change to improve his laptop's security. b. Andrew can create a separate user account on his computer in case he lends it out, therefore keeping other users from being able to access his files. c. Free software such as Spybot Search and Destroy and Malwarebytes can be downloaded to assist in keeping harmful programs of Andrew's computer. d. Andrew has the option of switching to Panda, a cloud based antivirus program. It blocks more threats than the standard antivirus software, however it does require an internet connection to be operational. e. Andrew can evaluate plug-ins provided by anti-virus software to alert him to dangerous websites while browsing.

Standards Strategies	
Gmail	• Depending on the anti-virus software Andrew uses, their plug-ins may not be compatible with certain internet browsers, so using AVG, a free open source anti-virus program, or Panda, a cloud based anti-virus program, could offer more universal protection regardless of his preferred browser. • Anti-virus programs will need to be compatible with a PC laptop, not Mac.
Laptop	
Implementation Strategies	
Gmail	Once adopted, the following security measures can be automated: anti-virus scans, Gmail two-step verification, account activity e-mails. This will increase Andrew's security with a minimum of effort for his part. For a password change schedule, reminders on Andrew's calendar should be set so he will recall when he is supposed to reset his password.
Laptop	The adoption of any of these policies is aided by several factors. Andrew already uses anti-virus software and regularly scans his computer, so continuing the practice will not be difficult. Establishing account activity e-mails along with the two-step verification for Gmail is not difficult, although the extra time involved with the verification may prove a barrier to convincing Andrew to adopt this practice.

STORAGE

The system must provide a reliable records repository as well as backup and recovery measures to guard against the loss of data.

Policy Strategies	
Gmail	• Andrew will back up his e-mails according to a set schedule. • If Andrew should switch e-mail clients, he should evaluate their back-up systems before switching. • E-mails will be preserved in .msf format which can be opened by basic test editors, thus increasing the longevity of access.

Laptop	• Andrew will back up his files according to a set schedule. • Files will be stored in an approved archival format to ensure their longevity. • Files need to be evaluated to determine which ones are worthy of being stored long-term.
Design Strategies	
Gmail	A. Using the POP3/IMAP feature in Gmail will allow Andrew to download his e-mails with their metadata preserved and then save them to his external hard drive. B. Andrew can also save the downloaded e-mails onto a USB flash drive for greater portability, although there is less storage space and greater danger of damage or loss of the backup drive. C. CD's could be used as back-up storage, but the concern would be the longevity of the medium and possible obsolescence.
Laptop	a. Andrew's files can be backed up on his external hard drive on a regular schedule to ensure the safety of his data. b. Andrew could use CD's as a back-up medium, however issues with longevity and obsolescence may not make this the best option. c. Cloud based storage is an option, but Andrew will have to weigh the possible costs in order to decide if this is viable. d. Converting files into open archival formats will increase their long-term accessibility.
Standards Strategies	
Gmail	• Open archival formats such as ASCII, HTML, and JPEG can be read on a wider range of machines and programs and could increase the long-term viability of his stored records. • PDF-A is a proprietary format that is also viable long-term. • New software should be evaluated for compatibility with stored files. • Storage mediums will need to be periodically evaluated as hardware continues to evolve.
Laptop	
Implementation Strategies	
Gmail	While Andrew can run automated back-ups of his computer files, it will be up to him to evaluate the files and make sure that they are in the proper format. Andrew is not in the habit of doing this, so a regularly scheduled period of evaluation and file transfer will be of great assistance in ensuring that his important files are backed up on a regular basis.

Laptop	Andrew alone is responsible for his records, so the greatest barrier to implementing key storage policies is his lack of established practice. A set schedule with regular reminders may be able to overcome this. He is already in possession of an external hard drive, which will be helpful in establishing a regular backup schedule since the expense of a storage device is negated.

DISPOSAL

The system must establish appropriate retention and disposition rules.

Policy Strategies	
Gmail	• Andrew will check his e-mails against the retention schedule provided in Step C. • He will send e-mails to the trash based on the retention schedule requirements. • Before emptying the trash, he will review the e-mails to make sure there are no necessary communications that were moved there by accident.
Laptop	• Andrew will use the retention schedule in Step C to determine how long to preserve his files. • The retention schedule will be reviewed on a regular schedule based on disposition dates listed. • Before transferring to a new computer, Andrew will make sure the hard drive on his old one is wiped.
Design Strategies	
Gmail	A. Gmail's searching feature will allow Andrew to locate records that have reached their disposition date and delete them easily. B. Records that have reached their disposition date should be sent to trash, and then after review, the trash should be emptied so they are no longer accessible.
Laptop	a. Records that have reached their disposition date will be deleted, while those deemed important enough to merit long-term storage will be dealt with according to storage policies. b. Software such as MRU-Blaster and CCleaner are free applications that will scrub the hard drive, removing deleted files entirely whereas before they could potentially be accessed until overwritten. c. Unless otherwise specified in the schedule, duplicates are unnecessary and AntiTwin will remove them from Andrew's computer unless he decides to retain them.

Standards Strategies	
Gmail	• Since a deleted file can be retrieved up until it is overwritten, it is important for Andrew to have programs to scrub his hard drive after every disposition period.
Laptop	
Implementation Strategies	
Gmail	• Establishing a retention schedule is vital to the implementation of any of the proposed disposal strategies. A regular schedule with reminders will aid Andrew in the disposal of unnecessary records. Programs such as AntiTwin and CCleaner make the responsibility of disposal simple as they are easy to use and require minimal effort from Andrew.
Laptop	• Regular adherence to the schedule will be a difficulty that Andrew will need to overcome. Fortunately, the programs available for records disposition make the task easy which will encourage Andrew to follow through with the task.

COMPLIANCE

Andrew's current recordkeeping practices are haphazard. By adopting any of these policies that have been outlined in Step E, he will bring his recordkeeping functions in compliance. Improving only one function of his recordkeeping practices will not satisfy the necessary requirements that will result in a system with good characteristics as well. However, by improving all his recordkeeping functions according to recordkeeping requirements, Andrew will successfully ensure the authenticity, integrity, reliability and usability of his records.

DIRKS PART F: DESIGN OF A RECORDKEEPING SYSTEM

I. INTRODUCTION

Step F seeks to design a recordkeeping system for Andrew that incorporates the strategies, processes and practices endorsed by ISO 15489 and elaborated upon in Step C. It seeks to close any and all recordkeeping gaps identified in Step D. To accomplish this, Andrew will be required to use the following policy, design, standards and compliance and implementation strategies to his Gmail emails account and his Laptop Hard Drive. As creator and sole manager of his records, Andrew is responsible for ensuring the use and the design described in detail here.

RECORDKEEPING REQUIREMENTS IDENTIFIED BY STEP D

As identified in Step D's gap analysis, Andrew's recordkeeping practices are not compliant in the following areas:

I. The system must capture records and assign appropriate metadata attributes. Effectively named records will give the user control over record versioning and tracking.
II. The system's classification system must be based on the functions and activities of the subject.
III. The system must have security measures in place to protect user access and to prevent unauthorized alteration of records and their metadata.
IV. The system must provide a reliable storage repository for current and disposed records. The system must also provide reliable backup and recovery measures to protect against data loss.
V. The system must establish appropriate retention and disposition rules.

Though his current system is compliant in the following two areas, Andrew needs to ensure that these requirements continue to be met with the implementation of a new recordkeeping system.

VI. The system must create records that possess reliability and integrity.
VII. The system must provide the ability to search for, retrieve and display records.

CHARACTERISTICS OF A RECORD

According to ISO-15489, a record must possess the following characteristics:

I. *Authenticity*. The record must be what it claims it is, must have been created or sent by the person it claims created or sent it, and must have been created or sent at the time it claims it was created or sent.
II. *Reliability*. The record must be a full and accurate account of what transactions, activities, or facts it attests to.
III. *Integrity*. The record must be complete and unaltered.
IV. *Usability*. The record must be able to be located, retrieved, presented and interpreted.

The following recordkeeping strategies for Andrew's records will be linked to the characteristics of a record outlined above.

STRATEGIES FOR RECORDKEEPING

This DIRKS Step F will use four different strategies to guarantee that the recordkeeping requirements are met.

I. *Policy Strategies*. A series of proposed principles and statements that define and mandate best recordkeeping practices.
II. *Design Strategies*. A series of proposed strategies that relates to the system functionality and the development and selection of technological solutions.
III. *Standards Developments and Compliance Strategies*. Defining and adopting specific standards of practice.
IV. *Implementation of Specific Strategies*. Proposed programs and user-oriented solutions to ensure long-term regulations compliance.

STEP F OVERVIEW

GMAIL

The recordkeeping challenges of Andrew's Gmail account are addressed in this section in the application of Policy, Design, Standards Development and Compliance, and Implementation Strategies.

LAPTOP HARD DRIVE

The recordkeeping challenges of Andrew's Laptop Hard Drive are addressed in this section in the application of Policy, Design, Standards Development and Compliance, and Implementation Strategies.

POLICY STATEMENT OF RESPONSIBILITY

As sole user, creator, owner and administrator of the records kept on his Gmail account and Laptop Hard Drive, Andrew is responsible for enacting, overseeing and maintaining the recordkeeping system described here in Step F.

II. STRATEGIES FOR GMAIL

The recordkeeping design for Andrew's Gmail account will encompass a mix of policy and design strategies as well as creating new standards development and compliance strategies. The design will also implement specific strategies.

POLICY STRATEGIES

Policy 1: Back Up Emails

Addresses the following requirements:

- The system must capture records and assign appropriate metadata attributes. Effectively named records will give the user control over record versioning and tracking.
- The system must provide a reliable storage repository for current and disposed records. The system must also provide reliable backup and recovery measures to protect against data loss.
- The system must create records that possess reliability and integrity.
  - A. Andrew will continue using Gmail as his primary personal email client. That is, he is not being asked to migrate his email services to a different client. The free version of Gmail offers many features that are important for the implementation of this policy recommendation.
  - B. Andrew will take advantage of Gmail's free POP3/IMAP capabilities. These will allow Andrew to back up his emails in their original format with all relevant metadata preserved.
  - C. Andrew is instructed to implement this by immediately signing into Gmail. Clicking on the Settings tab and opening the Forwarding and POP/IMAP tab. From there, he will select to enable POP for all mail. Then he will click Save Changes.
  - D. The now downloaded and saved emails will be backed up onto his external hard drive.
  - E. If Andrew is to move to a different email client, he will choose one based on whether or not it has POP3/IMAP capabilities or an equivalent backup system.

Record Characteristics: Authenticity, Reliability, Integrity, Usability

Policy 2: Use Clear Consistent Names for Folders

Addresses the following requirements:

- The system must capture records and assign appropriate metadata attributes. Effectively named records will give the user control over record versioning and tracking.
- The system's classification system must be based on the functions and activities of the subject.
  A. Andrew will go to Settings->Labels in his Gmail and look at the currently existing labels. He will notice that Education and School Stuff have identical content. These will be merged with School Stuff because Andrew has thus far preferred to put school related documents in that folder. The folder labeled Myspace will be changed to "Social Media" to better reflect its contents. Personal and Friends and Family will also be merged. CC Punk and Livejournal will be hidden from Andrew's general inbox due to their lack of use over the past several years. Kindle will be merged with Amazon.
  B. If a new folder label is needed in order to facilitate one of Andrew's roles, Andrew will make sure that the naming system is based on his roles in life.

Record Characteristics: Reliability, Integrity

Policy 3: Use the Records Retention Schedule in Step C to Determine a Record's Retention Requirements

Addresses the following requirements:

- The system must establish appropriate retention and disposition rules.
- The system must provide a reliable storage repository for current and disposed records. The system must also provide reliable backup and recovery measures to protect against data loss.
  A. Andrew will apply the Records Retention Schedule Outlined in Part C to his Gmail account in order to determine whether an email is to be disposed of or archived.
  B. In order to dispose of an email in Gmail properly, trashing an email is not enough. After sending an Email to the trash, Andrew will need to go to the Trash label on his Gmail inbox. From there he can give a final review to the emails. He will then click "Empty Trash now" near the top of the window. This will rid his Gmail of trashed emails. This process will be conducted according to the RRS in Step C.
  C. Emails that according to the RRS are to be backed up, will be archived using Gmail's archiving tool.

Record Characteristics: Reliability, Integrity

DESIGN STRATEGIES

Design Strategy 1: Gmail

Addresses the Following Requirements:

- The system must capture records and assign appropriate metadata attributes. Effectively named records will give the user control over record versioning and tracking.
- The system's classification system must be based on the functions and activities of the subject.
- The system must provide the ability to search for, retrieve and display records.
- The system must create records that possess reliability and integrity.
  - **A.** Andrew will make use of the Priority Inbox function found in Gmail. By setting parameters that suit his various functions in life, he can use this native Gmail feature to make his inbox even more manageable.
  - **B.** Another native Gmail feature that Andrew will start using is the Gmail filters. Customizing his Gmail filters to process incoming messages will be helpful for managing his inbox.
  - **C.** Andrew has up till now done an okay job with his Gmail folders. But it's time for him to implement Gmail labels. Stronger than the traditional folder system that Andrew is reliant on, with labels he can tag and email with more than one label.
  - **D.** Andrew will also sign up for Account Activity emails that will give him a monthly summary of account activities so he can be on the lookout for suspicious account activity.

Record Characteristics: Authenticity, Integrity, Reliability, Usability

STANDARDS STRATEGIES

Standards Strategy 1: Gmail

Addresses the Following Requirements:

- The system must create records that possess reliability and integrity.
- The system must provide the ability to search for, retrieve and display records.
  - **A.** Andrew will make use of free open source plugins to make his Gmail more productive.
    - **a.** An example would be the use of Rapportive. A free Gmail plugin that allows the Gmail user to replace commercial advertisements on the sidebar with social profiles and current work positions of contacts. This plugin will fall in line with the overall thrust of Andrew's Email records better reflecting his functions and roles in life.
  - **B.** Andrew' emails will be archived in the non-proprietary format .msf. .msf files can be rendered using a basic text editor, including headers, ensuring that they will stand the test of time.

Record Characteristics: Usability

IMPLEMENTATION STRATEGIES

Implementation Strategy 1: Gmail

Addresses the Following Requirements:

- The system must provide a reliable storage repository for current and disposed records. The system must also provide reliable backup and recovery measures to protect against data loss.
- The system must provide the ability to search for, retrieve and display records.
- The system must create records that possess reliability and integrity.
  - **A.** Andrew's implementation strategy will begin with a thorough reading of documentation provided by Google upon joining Gmail. Especially those documents pertaining to his functions outlined in Step B.
  - **B.** When Andrew is confused, he is asked to consult the gear tab which brings down a few options that he will find useful. Chief among these are "Send Feedback" and "Help." He will also be delighted to find that underneath that gear tab are customizability options where he can practice some graphic design. Not as relevant to his recordkeeping, but fun nonetheless.

Record Characteristics: Authenticity, Reliability, Integrity, Usability

III. STRATEGIES FOR ANDREW'S LAPTOP HARD DRIVE

POLICY STRATEGIES

Policy 1: Assign File Naming Conventions to Records and Files

Addresses the following requirements:

- The system must capture records and assign appropriate metadata attributes. Effectively named records will give the user control over record versioning and tracking..
- The system's classification system must be based on the functions and activities of the subject.
- The system must create records that possess reliability and integrity.

A. Andrew will implement file naming conventions in order to normalize his file categorization and in order to avoid losing files from within his own system.
B. By adhering to a file naming system, Andrew will have better access to his records.

Record Characteristics: Usability and Reliability

Policy 2: External Hard Drive Backup

Addresses the following requirements:

- The system must provide a reliable storage repository for current and disposed records.
- The system must also provide reliable backup and recovery measures to protect against data loss.

A. In order to ensure the integrity of the records remain unaltered, are accessible and in safekeeping Andrew will first disconnect his laptop from the internet. Next he will conduct a check sum on his records then copy them over to an external hard drive. The records saved on the external hard drive will become the master copy of their laptop counterpart. By checksumming his records before they enter the external hard drive, he will have a way, while running future checksums, to check if a certain record has been altered or changed.
B. Using an external hard drive provides a more reliable storage medium, than say a compact disc as well as a way to better ensure the longevity of accessibility of the record.
C. The external hard drive can also act as a backup and recovery system for Andrew's laptop.

Record Characteristics: Usability, Integrity, Reliability, Authenticity

Policy 3: Method for Engaging Records Retention Code

Addresses the following Requirements:

- The system must establish appropriate retention and disposition rules.
- The system must create records that possess reliability and integrity.

A. The retention schedule as shown in Step C outlines the parameters for the retention and/or disposal of

certain records in Andrew's laptop.
B. Andrew will check his records retention schedule once a month, once every six months, once a year and once every four years depending on the retention period for each specific records group.
C. All course materials that have been copyrighted and are subject to a terms of use agreement will be purged from Andrew's laptop at the end of each of his courses as well as at the end of his studies in the iSchool.
D. In order to ensure that a record has been properly disposed of, Andrew will use CCleaner to securely dispose of any records that do not qualify for semi-permanent/ permanent retention.
E. All records that qualify for semi-permanent/permanent retention will be reformatted to an approved open archival file format, such as PDF-A or JPEG 2000, then checksummed and moved to his external hard drive.

Records Characteristics: Authenticity,Reliability, Integrity, Usability

Policy 4: Continual use of Antivirus and Malware Software

Addresses the following Requirements:

- The system must have security measures in place to protect user access and to prevent unauthorized alteration of records and their metadata.
- The system must create records that possess reliability and integrity.

A. Andrew will continue to use antivirus and malware software.

Record Characteristics: Authenticity, Integrity, Usability

Policy 5: Regularly Update and Maintain Laptop Software

Addresses the following Requirements:

- The system must create records that possess reliability and integrity.
- The system must provide the ability to search for, retrieve and display records.

A. In order to ensure the accessibility, usability of his records, Andrew will set his software programs to auto-update.

Records Characteristics: Integrity, Usability

DESIGN STRATEGIES

Design Strategy 1: Application of Standardized File Organization, File and Metadata Naming Conventions

Addresses the following Requirements:

- The system must capture records and assign appropriate metadata attributes. Effectively named records will give the user control over record versioning and tracking.
- The system's classification system must be based on the functions and activities of the subject.
- The system must create records that possess reliability and integrity.

A. Andrew will set his Microsoft software to prompt him to create metadata in the properties box everytime he creates a new record.
B. Andrew will create a records filing system based on the functions and activities of the record.
C. By continual file organization and adherence to a standardized file and metadata naming convention, will not only give Andrew control over his records, but will also help to maintain their reliability and the integrity.

Records Characteristics: Authenticity, Integrity, Reliability, Usability

Design Strategy 2: External Hard drive for Backup and Restore/Archive Use

Addresses the following Requirements:

- The system must provide a reliable storage repository for current and disposed records. The system must also provide reliable backup and recovery measures to protect against data loss.
- The system must create records that possess reliability and integrity.

A. In order to ensure the longevity of his records, Andrew will backup his records stored on his laptop weekly to his external hard drive.
B. The external hard drive will also be used as a way to retain certain records that need to be kept for the predetermined time described in his Records Retention Schedule.

Record Characteristics: Authenticity, Integrity, Reliability, Usability

Design Strategy 3: Record Disposition and Hard Drive Clean up

Addresses the following Requirements:

- The system must establish appropriate retention and disposition rules.

A. As stated in Policy 3: Method for Engaging Records Retention Code, in order to ensure that a record has been properly disposed of, Andrew will use the free software program, CCleaner to securely dispose of any records that do not qualify for semi-permanent/ permanent retention.

Record Characteristics:

Design Strategy 4: Updating and Maintaining Laptop Software

Addresses the following Requirements:

- The system must create records that possess reliability and integrity.
- The system must provide the ability to search for, retrieve and display records.

A. Andrew will change the software settings on his laptop and allow them to auto-update.

Records Characteristics: Integrity, Usability

Design Strategy 5: Antivirus and Malware Software

Addresses the following Requirements:

- The system must have security measures in place to protect user access and to prevent unauthorized alteration of records and their metadata.

A. Andrew will continue to implement and maintain antivirus and malware software on his laptop.

Record Characteristics: Integrity, Usability

Design Strategy 6: Reformat Records to Open Source Formats

Addresses the following Requirements:

- The system must create records that possess reliability and integrity.

A. By reformatting his records to open sources formats, such as PDF-A or JPEG 2000, that were originally created in proprietary formats, Andrew will increase the longevity, accessibility and usability of his records.

Records Characteristics: Authenticity, Integrity, Reliability, Usability

Design Strategy 7: De-Duplicate Redundant Files

Addresses the following Requirements:

- The system must capture records and assign appropriate metadata attributes. Effectively named records will give the user control over record versioning and tracking.
- The system must establish appropriate retention and disposition rules.
- The system must create records that possess reliability and integrity.

A. Andrew will use the Anti Twin Software in order to control duplication of records.

Record Characteristics: Authenticity, Integrity, Usability

STANDARD STRATEGIES

Standard Strategy 1: Use of Open Source Software and Tools

Addresses the following Requirements:

- The system must create records that possess reliability and integrity.

A. Use of open source software and tools will ensure the longevity, accessibility, usability and preservation of Andrew's records.

Records Characteristics: Usability

Standards Strategy 2: Use of Open Source Formats

Addresses the following Requirements:

- The system must create records that possess reliability and integrity.
- The system must provide the ability to search for, retrieve and display records.

A. Use of open source formats will ensure the longevity, accessibility, usability and preservation of Andrew's records.

Records Characteristics: Authenticity, Integrity, Usability

Standards Strategy 4: DIRKS Red Team Proposed General Standards

Addresses the following Requirements:

I. The system must capture records and assign appropriate metadata attributes. Effectively named records will give the user control over record versioning and tracking.
II. The system's classification system must be based on the functions and activities of the s ubject.
III. The system must have security measures in place to protect user access and to prevent unauthorized alteration of records and their metadata.
IV. The system must provide a reliable storage repository for current and disposed records. The system must also provide reliable backup and recovery measures to protect against data loss.
V. The system must establish appropriate retention and disposition rules.
VI. The system must create records that possess reliability and integrity.
VII. The system must provide the ability to search for, retrieve and display records.

A. Use standard naming conventions for both records and metadata.
B. Standard for update and software maintenance.
C. Continue use of antivirus and malware software.
D. Use the records retention schedule created in Step C.

Records Characteristics: Authenticity, Integrity, Reliability, Usability

IMPLEMENTATION STRATEGIES

Implementation Strategy 1: Use the Records Retention Schedule Created by DIRKS Red Team

Addresses the following Requirements:

- The system must capture records and assign appropriate metadata attributes. Effectively named records will give the user control over record versioning and tracking.
- The system's classification system must be based on the functions and activities of the s ubject.
- The system must have security measures in place to protect user access and to prevent unauthorized alteration of records and their metadata.
- The system must provide a reliable storage repository for current and disposed records. The system must also provide reliable backup and recovery measures to protect against data loss.
- The system must establish appropriate retention and disposition rules.
- The system must create records that possess reliability and integrity.
- The system must provide the ability to search for, retrieve and display records.

A. By Implementing DIRKS Red Team Records Retention Schedule, Andrew will bring his records under control as well as into compliance with national records management standards.

Records Characteristics: Authenticity, Integrity, Reliability, Usability

Implementation Strategy 2: Use Microsoft Training Tutorials for Firm Grounding in CPU Capabilities

Addresses the following requirements:

- The system must provide a reliable storage repository for current and disposed records. The system must also provide reliable backup and recovery measures to protect against data loss.
- The system must provide the ability to search for, retrieve and display records.

A. With access to Lynda.com through his University of Texas EID, Andrew can consult numerous tutorials aimed at improving his Microsoft products IQ.

B. In addition to the tutorials offered by such third party databases as Lynda.com are in the in house Microsoft tutorials. The tutorials will teach Andrew to perform basic and fundamental PC skills such as system restore, native hardware, defragmentation and more.

Records Characteristics: Authenticity, Integrity, Usability

Implementation Strategy 3: Review Records Management Resources for Instruction

Addresses the following Requirements:

- The system must capture records and assign appropriate metadata attributes. Effectively named records will give the user control over record versioning and tracking.
- The system's classification system must be based on the functions and activities of the subject.
- The system must have security measures in place to protect user access and to prevent unauthorized alteration of records and their metadata.
- The system must provide a reliable storage repository for current and disposed records. The system must also provide reliable backup and recovery measures to protect against data loss.
- The system must establish appropriate retention and disposition rules.
- The system must create records that possess reliability and integrity.
- The system must provide the ability to search for, retrieve and display records.

A. For more information on national and international records management standards and requirements, Andrew should consult the ISO-15489 guide, the InterPARES 2 Project guidelines as well as the PARADIGM "Guidelines for Creators of Personal Digital Archives"

Records Characteristics: Authenticity, Integrity, Reliability, Usability

Implementation Strategy 4: Use the Documentation Supplied by Third Party Programs Prescribed by Step F to better Understand What They Do

Addresses the following requirements:

- The system must provide the ability to search for, retrieve and display records.
- The system must capture records and assign appropriate metadata attributes. Effectively named records will give the user control over record versioning and tracking.

A. Andrew will only truly grasp his new Recordkeeping regimen after having a firm grasp of such programs recommended in Step F as CCleaner, Anti Twin et al. Some of these programs have a steep learning curve, so it is imperative that Andrew know what he is dealing with.

B. Nothing is written in stone, yet. If Andrew finds himself frustrated and alone (for lack of documentation) his freedom to seek alternative programs to the ones recommended by Red Team will

be respected. He might want to puruse Cnet.com for the latest reviews for instance.

Record Characteristics: Authenticity, Reliability, Integrity, Usability

Implementation Strategy 5: Learn about Computer Safety and Security

Addresses the following requirements:

- The system must have security measures in place to protect user access and to prevent unauthorized alteration of records and their metadata.
- The system must create records that possess reliability and integrity.

A. This is another opportunity for Andrew to take advantage of his free access to Lynda.com. There are courses listed on that database in essential Windows Security. How to create smart passwords. How to be safe when using cloud storage. And many other useful courses that Andrew will need to understand to implement this new regime.

B. Andrew's employment with the University of Texas Fine Arts Library makes him eligible to attend weekly webinars held at the Perry-Castañeda Library in basic computer maintenance and security. Team Red requests that Andrew take advantage of these opportunities.

Record Characteristics: Integrity, Usability, Reliability, Authenticity

Implementation Strategy 6: Automation of Processes and Usage of Software

Addresses the following Requirements:

- **The system must create records that possess reliability and integrity.**

A. In order to streamline and ease the burden of Andrew's record management processes, many of these processes will be automated either by changing the settings in his software programs to auto-mode, or by installing free and user friendly records management software for his convenience.