INTRODUCTION TO RECORDS MANAGEMENT SPRING 2021

DIRKS Report

Subject: Hannah Dubbe

Project By Team Green
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Executive Summary

This project is investigating the digital recordkeeping habits of Hannah Dubbe with the end goal of providing a comprehensive assessment and action plan to improve existing organizational systems and implement ongoing best practices for personal recordkeeping.

Implementation year: 2021

Objective: This project aims to better structure, organize, and back up the records created, accessed, and stored in Hannah Dubbe's cloud-based Gmail account and locally on her personal computer.

Background: Dubbe lost her previous laptop, and all its contained locally stored files, in a disastrous water-related incident in August 2020. The DIRKS project aims to better protect, organize and back up her current and future files so that they don't potentially endure the same fate.

Scope: The project will investigate and create a recordkeeping action plan for Dubbe's personal MacBook Pro and her personal Gmail account.

Constraints: The project is limited by Dubbe's financial, technical, and organizational situation, because she is a student with finite financial and technical resources.

Conducting a DIRKS Assessment:
"DIRKS is an acronym that stands for 'designing and implementing recordkeeping systems'.
DIRKS is about building more efficient and accountable business practices through the design and encouragement of good recordkeeping across an organisation."
-Strategies for Documenting Government Business:
the DIRKS Manual, 2018

Business Case

ESTABLISHING NEED

Hannah Dubbe will benefit from the DIRKS project because she currently has little structure or organizational plan for her digital files located within her Gmail account and personal computer. By implementing DIRKS recommendations, Dubbe will substantially decrease the amount of time she currently spends searching for important documents and information due to the current lack of clear organizational systems. By developing a reasonable and actionable retention schedule, Dubbe will be less likely to lose needed information as she has previously experienced due to both hardware failures and over-eager attempts to tackle her current storage management.

She is not a conscientious recordkeeper. She has many files scattered across her laptop desktop and in random subfolders that are difficult to keep track of. The records on her laptop and her personal Gmail cannot be considered comprehensive, complete, accurate, or fixed. They are random, haphazard, and easily lost. She would do well to create records for all of her personal and financial dealings so that she can be an organized, effective, and compliant recordkeeper. She also needs to make sure that she properly stores and backs up her records so that she does not lose them to hardware damage or accidental deletion.

STRATEGIC PRIORITIES

A primary goal of this particular DIRKS assessment and the resulting recommendations is to create an efficient and productive digital work environment for Dubbe, in turn increasing productivity and reducing the emotional impact of constantly navigating disorganized digital records. Implementing the DIRKS recommendations will alleviate the challenges Dubbe currently experiences with record retrieval. She will also greatly benefit from having an organized personal laptop with defined structures for school, tax, and personal documents with a navigable and clear filing system. Having usable and accessible records will help Dubbe to become a more conscientious recordkeeper.

Another goal of this assessment is to make sure that Dubbe maintains recordkeeping systems (her laptop and Gmail account) that are systematic, accountable, compliant, comprehensive, reliable, and secure. Her laptop and Gmail account should be able to create and store records that are comprehensive and reliable traces of Dubbe's personal life if she uses the two systems to their full potential.

Business Case (continued)

ASSOCIATED RISKS

Even though the DIRKS project has a high probability of greatly improving Dubbe's everyday life, there are still some risks associated with a massive restructuring of her personal data that could result in some files getting lost or corrupted during the move.

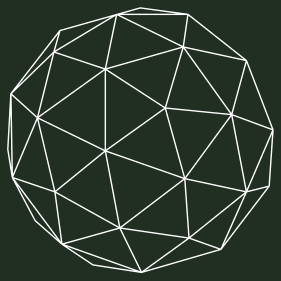
There is also the risk of relying on cloud storage for personal data preservation. With cloud technology and policy constantly changing, it will be a pertinent part of the initial assessment to become familiar with the Terms of Service and Privacy Policy that apply to the third-party storage provider, in this case, Gmail, which has its specific terms and is governed by the overall terms of Google's account usage. Understanding these terms will assist Dubbe with establishing a plan for record backup and disposition. Using a third party to store personal data always comes with some risk, so it is important to build that risk into the final plan for how Dubbe will organize her digital files.

Finally, there are risks associated with Dubbe remaining a sub-standard recordkeeper. If she continues down her current path, she runs the risk of losing important files that allow her to function as a graduate student, professional, leisurite, pet owner, resident, and taxpayer.

DETERMINING SUCCESS

The success of this project will be measured by how well Dubbe responds to and understands the personal file management plan that the DIRKS project will create. As user satisfaction is the goal of a bespoke organizational plan, the team must apply a measure of flexibility and adaptability as the project progresses in order to ensure the recommendations are appropriate for Dubbe's needs and are realistic for successful implementation. While the semester will end before Dubbe has a chance to fully implement the final recommendations, the success will be judged by her initial reaction to and comprehension of the plan.

The long-term goal of this project is for Dubbe to implement these changes and become a conscientious recordkeeper with strong, compliant recordkeeping processes.



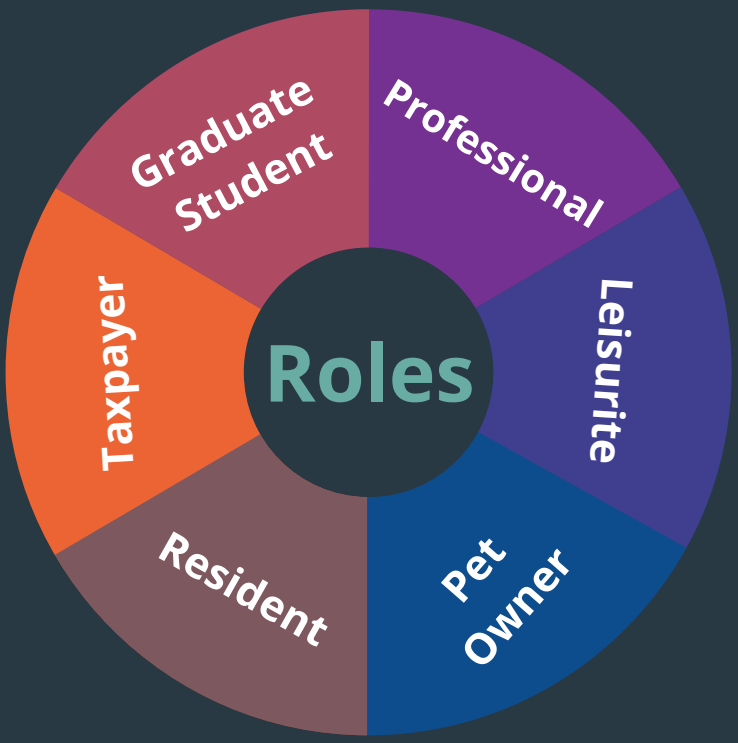
Step A

The goal of Step A is to conduct a preliminary investigation of Hannah Dubbe's recordkeeping habits in order to understand:

- how recordkeeping fits within her life
- how recordkeeping interrelates with her life
- personal needs to consider in the DIRKS project
- Dubbe's recordkeeping strengths and weaknesses
- concerns or barriers to improving recordkeeping
- the legal or other requirements she may need to accommodate
- the requirements of stakeholder and other broad interest groups

-The Dirks Manual

An Introduction to Hannah Dubbe



Dubbe would benefit from an investigation into her personal recordkeeping systems because over the years she has accumulated a lot of data and has done very little to organize and keep track of it.

She is a full-time **employee** at The University of Texas Libraries in addition to being a part-time **graduate student** at the University's iSchool. She is currently studying for a Master of Science in Information Studies degree. Outside of her staff and student role at UT Austin, she **owns a five-year-old cat named Merlin**. She is also a **taxpayer** and **rents an apartment** in Austin, TX. As a **leisurite,** she enjoys being a social being, making short films, fitness, and traveling.

Need for Investigation and Recordkeeping Systems

Dubbe's Gmail account and personal laptop are being investigated for this project.

Other pertinent recordkeeping systems that Dubbe uses, but are outside of the scope of this project, are her Outlook email account for work, her student Gmail account for UT Austin, her Google Drive account, and university-assigned Macbook Pro used only for her current job.

Her Gmail account has been active since mid-2015 and has no sort of reasonable organizational system. Nearly everything is in either the inbox or trash labels. There is one label called "Boring Business" where Dubbe keeps important documents that she wants to hold on to. Still, she has not looked in this label in years and she states that it makes her nervous to think about what is in there. She also over deletes messages because she does not like them building up in her inbox. She does not keep records for very long.

Her Google account has 15GB of available storage that shared between Gmail, Google Drive, and Google Photos. She has used 8.06GB of this space. As far as retention for accidentally deleted emails, once she deletes an email, it stays in her trash label for 30 days.

The file types in her Gmail are primarily text-based messages and calendar invitations.

The other device being investigated is Dubbe's personal 13" 2020 MacBook Pro. Dubbe purchased this computer in August 2020 after an unfortunate incident in which a water bottle was spilled on her previous machine – no files were recovered from Dubbe's previous laptop.

The file types on her laptop include Microsoft Word and Adobe documents (.doc, .pdf), image files (.jpeg), and media files (.mp3 and .mp4). There is no file system in place to keep track of these myriad records and they are currently stored on her desktop or in her downloads folder. Nearly nothing is stored in iCloud.

Her laptop's current internal hard drive is approximately one-third full. An external storage device may be wise for implementing a backup system for her records in the event that water damages her internal hard drive again.

She uses the built-in Apple search tool to look for files on her laptop when she cannot remember their location.

Strengths of Recordkeeping Practices

The following is a list of organizational advantages of Gmail and Macbook Pro as recordkeeping systems:

Gmail

1 Labels

Ability to create labels for different categories of emails that can be used for searching, retrieval and rendering.

2 Categories

Ability to set-up Gmail to filter emails based on content. Main, Promotional and Social are currently enabled for Dubbe.

3 Calendar

Gmail will add events from emails to personal calendar that is a reliable way to keep a schedule.

4 Free storage

Every Gmail account is allotted with 15 GB of free cloud storage. This is a fixed and secure way of keeping records.

Macbook Pro

1 Built-in storage

Laptop comes with 250GB storage capacity which is an accountable and comprehensive amount of space to store the type of records Dubbe needs to be considered a conscientious recordkeeper.

2 User Friendly GUI

Macbooks have a robust graphical user interfaces for creating folder structures. The GUI is searchable and reliable which makes retaining records simple.

Weaknesses of Recordkeeping Practices

The following is a list of organizational disadvantages of Gmail and Macbook Pros as recordkeeping systems:

Gmail

1 Pile-up

Easy to let emails pile-up before organizing them. This can lead to data loss and undermine the integrity of the system.

2 Learning Curve

Ability to set-up Gmail to filter emails based on content can be tricky. This affects accessibility of records.

3 Limited Storage

Paywall for additional storage after you have reached 15GB. Once the limit is reached, records are no longer fixed in the system.

4 Terms and Conditions

The terms and conditions for signing up for a Gmail account are long, complicated, and nearly unreadable. This affects understanding of the security and integrity of the system.

Macbook Pro

1 Pile-up

Documents and files can become numerous and disorganized easily. This affects accessibility and usability of the record system.

2 Limited storage

If you are planning to store a large amount of multi-media or other large amounts of files, one can run out of space easily. This affects the data integrity of the system if the hard drive becomes overwhelmed.

Stakeholder Identification

By broad category, Dubbe has identifed the following external stakeholders for information that she stores digitally

1

Family / Friends

family members, friends, cat named Merlin

2

Academic Associates

Teachers, classmates, Employees at the financial aid office

3

Professional Associates

Colleagues at work, potential employers, Human Resources employees

4

Legal / Financial Associates

IRS employees, financial aid employees, doctors, veterinarian, landlord

Identifying the broad categories of external stakeholders will allow Dubbe to develop a framework of how best to organize the existing unstructured data in her records management systems and identify areas where additional structure may be needed.

Merlin the cat

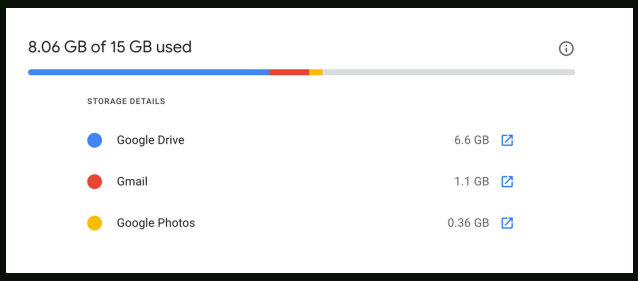
Dubbe's father

Legal Framework and Risks

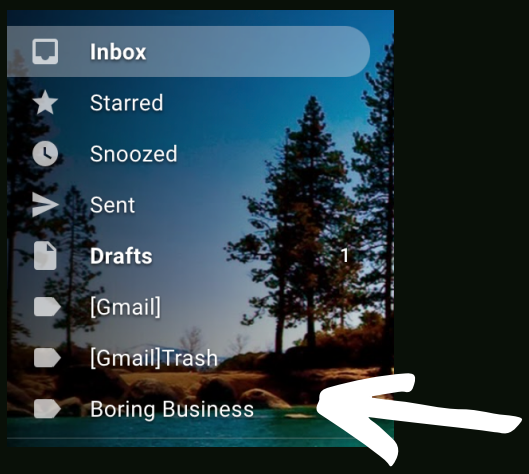
There are risks associated with Dubbe's recordkeeping because it is currently haphazard and largely unsecured.

- Dubbe keeps her apartment lease and tax documents buried in her Gmail account and has trouble locating them easily. This could potentially have consequences in the form of a tax audit or a dispute with her landlord about the terms and agreement of her lease. Some of her important documents are buried deep in a label called "Boring Business" that she rarely accesses because it overwhelms her.

- Dubbe never read the terms and conditions when signing up for her Gmail account. This could result in a loss of data one day because she is unfamiliar with the data retention schedules and policy of Google.



Dubbe's Google Storage



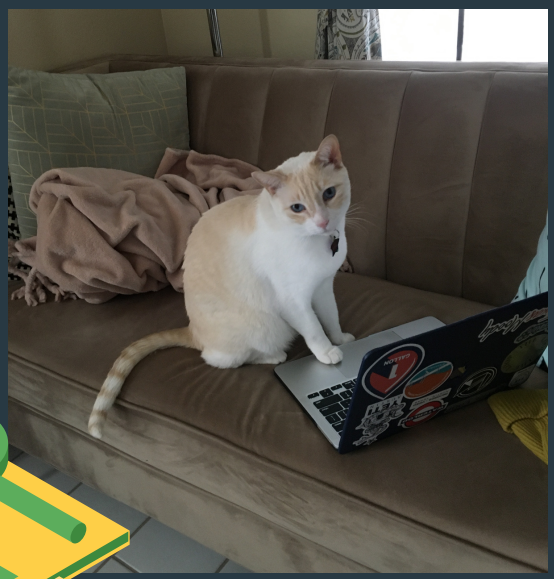
- According to the Google terms and conditions for Gmail:

"Each Google Account includes 15 GB of free storage quota, which is shared across Gmail, Google Drive, and Google Photos."
The following additional items will count against your storage quota:
High quality and Express quality photos and videos backed up to Google Photos after June 1, 2021. Learn more about this change.
Files created or edited in collaborative content creation apps like Google Docs, Sheets, Slides, Drawings, Forms and Jamboard.
Only files created or edited after June 1, 2021 will count against your quota.
Files uploaded or last edited before June 1, 2021 will not count against your quota.
"your content will be eligible for deletion when you have been over your storage quota for 2 years."

Social and Ethical Standards of the Community

Dubbe needs to make sure that she maintains comprehensive and reliable records in order to:

- **maintain her personal relationships**
- **remain an ethical and compassionate pet owner**
- **maintain good standing as a tenant**
- **be a legally compliant taxpayer who keeps track of her finances**



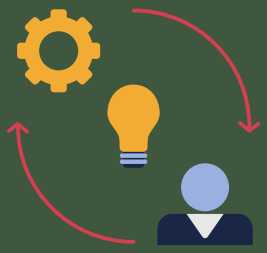
Factors Affecting Recordkeeping Practices

Dubbe is a somewhat disorganized person who has never put much emphasis on keeping a strong personal organizational system.

- She tends to get overwhelmed by emails and schedules easily. She also would prefer to not spend extra time on organizing her files into specific folders even though she knows it would be a good idea for her to do so.
- She understands that in order to function at her highest level, she needs to start putting an emphasis on her recordkeeping and data retention. She can no longer function by putting off things that overwhelm her.
- Paralyzing anxiety leads to a pile-up of files without any further action

Dubbe's desktop

Factors Affecting Recordkeeping Practices



Dubbe could definitely improve her recordkeeping practices and has a lot of potential to be a conscientious recordkeeper.

- According to the Information Governance Maturity Model, Dubbe is currently considered a "sub-standard" recordkeeper for the following reasons:
  - "There is no clear understanding or definition of the information or records [Dubbe] is obligated to keep."
  - "Information is not systematically managed."
  - "Records and other information are not readily available when needed"
  - "There is no current, documented records retention schedule or policy. "
  - "There is no documentation of the processes (if there are any) used to guide the transfer or disposition of records and information. "

- Dubbe has demonstrated an eagerness and willingness to change her recordkeeping practices. She recognizes that there are severe shortcomings within her recordkeeping systems and she knows there are viable avenues toward change.
- Dubbe wants to have fixed, comprehensive, and reliable records and has made it known that she just needs some guidance so that she can make the changes that are needed toward becoming a conscientious recordkeeper.

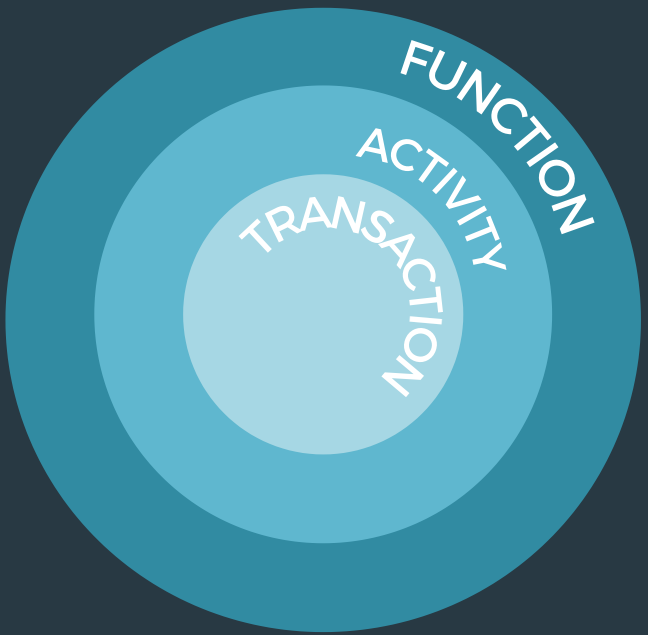
Step B

The goal of Step B is to collaborate with Dubbe in analyzing her functions, including the records created while executing those functions. Through this process, a business classification scheme is created which provides explanation and evidence for Dubbe's hierarchy of functions, activities, and transactions. The hierarchy is then connected to the records created by Dubbe.

Functions
The main roles and responsibilities of the subject in fulfilling their goals and are made up of activities.

Activities
The combined ongoing tasks performed by the subject in the course of fulfilling the goals of each function and are composed of a group of transactions.

Transactions
The individual tasks performed by the subject while fulfilling the goals of each activity and are the smallest unit of measure in the business classification scheme.



Information Governance: Where we are and where we're going

After evaluation of Dubbe's recordkeeping practices in Step B of the DIRKS project, the goal will be to provide Dubbe with the tools to move from recordkeeping practices which are at Level 2: "In Development" according to the Information Governance Maturity Model to a Level 3: "Essential." In order to achieve this, the primary focus of the project will be creating a system based on function-level organization.

Summary

Dubbe has identified five primary record storage areas for the purposes of this project:

Gmail

- Inbox
  36 items
- Boring Business
  255 items

Macbook Pro

- Desktop
  199 items
  10 folders
- Documents
  432 items
  2 folders
- Downloads
  58 items

It is the goal of Step B to identify Dubbe's record creating functions, activities, and transactions. The largest pitfall of Dubbe's current recordkeeping practices is the usability and accessibility of her records. Since records are not indexed with appropriate file names or meaningfully structured, it is difficult to link transactions with functions. A lack of conscientious organization leads to general records mismanagement and an arbitrary retention schedule results in records loss without attention to records preservation or prevention/elimination of ROT (redundant, obsolete, and trivial) information. Nearly none of her records are inviolate. They are not protected from accidental or intentional, yet perhaps regrettable, deletion in her Gmail account nor are they protected in the downloads folder. Because no records are purposefully preserved, they are not rendered unalterable. This summary introduces a couple of the characteristics that will be addressed in detail in the following step. In Step C, the record creating functions, activities, and transactions identified in Step B will be evaluated in accordance with the characteristics of good records and recordkeeping.

Level 1 (Sub-Standard)
This level describes an environment where information governance and recordkeeping concerns are not addressed at all, are addressed minimally, or are addressed in an ad hoc manner. Organizations that identify primarily with these descriptions should be concerned that their programs will not meet legal or regulatory scrutiny and may not effectively serve the business needs of the organization.

Level 2 (In Development)
This level describes an environment where there is a developing recognition that information governance and prudent recordkeeping have an impact on the organization and that the organization may benefit from a more defined information governance program. However, in Level 2, the organization is still vulnerable to scrutiny of its legal or regulatory and business requirements because its practices are ill-defined, incomplete, nascent, or only marginally effective.

Level 3 (Essential)
This level describes the essential, or minimum, requirements that must be addressed to meet the organization's legal, regulatory, and business requirements. Level 3 is characterized by defined policies and procedures and the implementation of processes specifically intended to improve information governance and recordkeeping. Organizations that identify primarily with Level 3 descriptions still may be missing significant opportunities for streamlining business and controlling costs, but they have the key basic components of a sound program in place and are likely to be at least minimally compliant with legal, operational, and other responsibilities.

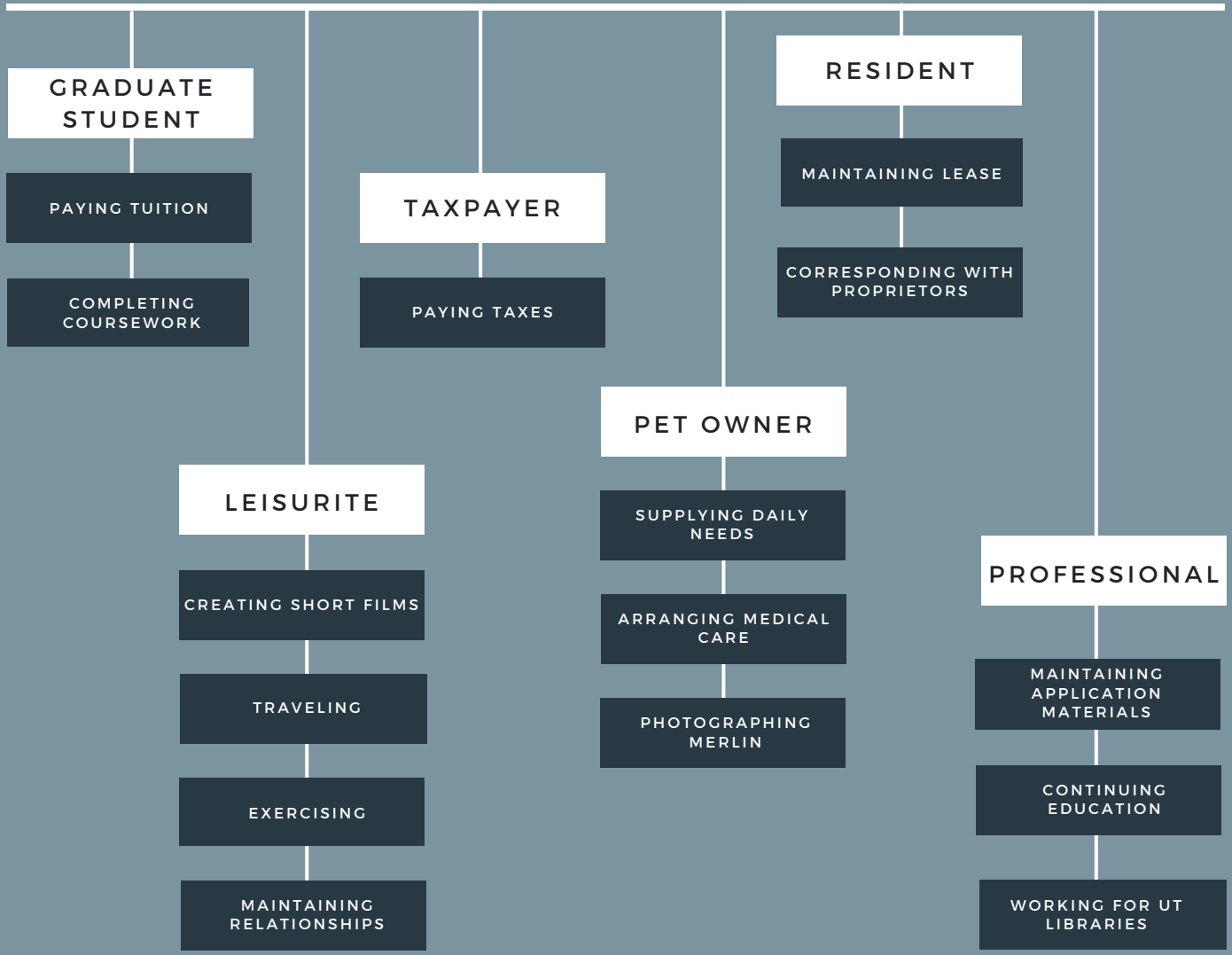
Generally Accepted Recordkeeping Principles®, ARMA

HIERARCHICAL ANALYSIS

Hierarchical analysis involves taking a 'big picture' view of your organisation's business activity and then breaking it down into more detailed parts. You look first at the goals and strategies of the organisation, then at component parts - the organisation's functions, activities and transactions. The boundaries of your analysis will be based on your project's scope.

Strategies for Documenting Government Business: the DIRKS Manual

RECORD CREATING FUNCTIONS



SEQUENTIAL ANALYSIS

Sequential analysis is a 'bottom-up' approach - at a smaller scale than the hierarchical analysis. It involves identifying the sequence of steps or transactions and any variations that are currently undertaken to respond to a business event and achieve an outcome within the context of an organisation's functions, systems and rules.

Strategies for Documenting Government Business: the DIRKS Manual

Processes

In a review of Dubbe's individual files, several processes became clear:

1. Downloading files for one-time use (e.g. a PDF article to read for a class)
2. Downloading files for personal archiving (e.g. copy of tax return)
3. Corresponding regarding one-time events (e.g. attending a family get-together on Zoom)
4. Corresponding regarding ongoing functions (e.g. renewing her apartment lease)
5. Creating Microsoft Word documents (e.g. class assignments and resume)
6. Taking screenshots of images, material, and other ephemera for use in creative projects

Products

The products, or files, created as a result of the above processes are typically handled by automatic sorting processes with no further intervention or filing.

1. Downloaded files remain in the Downloads folder, then deleted **OR** moved to the desktop or to the Documents folder
2. Correspondence is deleted **OR** moved to "Boring Business" if it includes ongoing information
3. Screenshots are automatically saved onto the desktop, then moved at some point to the Documents folder **OR** an external hard drive for creative projects

GRADUATE STUDENT

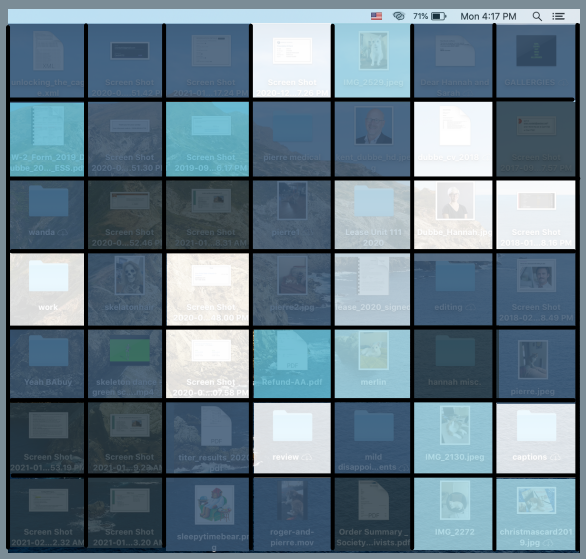
LEISURITE

TAXPAYER

PET OWNER

RESIDENT

PROFESSIONAL



In the visual schematic provided here of a section of her computer desktop, file icons are coded according to their related function. Dubbe does not currently utilize an organizational structure for files or folders. Each of her primary functions is represented by at least two files on her desktop.

BUSINESS CLASSIFICATION SCHEME

Business classification schemes are conceptual models that identify the specific relationship between functions, activities, and transactions. In the tables on the following pages, Dubbe's general functions are further detailed using information from both the hierarchical and sequential analyses. For Dubbe, a "Functional" classification scheme is the most relevant to her existing records, systems, and processes. As defined by the Tasmanian Archive + Heritage Office, this functional approach identifies how Dubbe creates records in each of her functions (TA+HO, Information Management Advice). Stakeholders and risks are discussed briefly in both this step and in the next step.

STAKEHOLDERS

"Stakeholders in processes will include those involved and those managing the processes or those requiring the process to take place in order to complete other processes."

Identifying stakeholders affected by Dubbe's recordkeeping practices assists with analyzing risk and determining how her practices are or are not meeting the needs of stakeholders, including herself.

Strategies for Documenting Government Business: the DIRKS Manual

RISKS

Referencing the below Risk Assessment Matrix, risk levels are assigned to each of Dubbe's functions. These levels provide guidance for reviewing current practices and prioritizing areas that may need significant modification in Dubbe's systems, records, and processes. These assigned levels take into consideration administrative, records control, legal and regulatory, and technological risk. Step C will detail further specific risks associated with Dubbe's records.

Low
A low risk level indicates that the function predominantly impacts only Dubbe.

Moderate
Moderate risk levels indicate additional stakeholder involvement and/or lasting consequences if unaddressed.

High
High risk levels entail more severe consequences and are typically associated with legal or professional functions that have several external stakeholders.

		Severity of Consequences				
		Insignificant	Minor	Moderate	Major	Catastrophic
Probability of Occurrence	Almost certainly in most circumstances	High	High	Extreme	Extreme	Extreme
	Likely and frequently	High	High	High	Extreme	Extreme
	Possible and likely at some point	Significant	High	High	High	High
	Unlikely, but could happen	Moderate	Moderate	Significant	Significant	Significant
	May occur rarely or exceptional circumstances	Low	Low	Moderate	Moderate	Significant
		Levels of Risk				

Risk Assessment Matrix, Patricia C. Franks, *Records and Information Management*, Second Edition, Ch. 9

Statement of Validation

The business classification scheme developed throughout the step was validated with Dubbe. With some shared aspects of our lives as graduate students in the iSchool, the group was able to make inferences regarding recordkeeping practices. These were confirmed or amended as necessary by Dubbe upon review of the draft as well as through interviews and reviews of Dubbe's current records.

GRADUATE STUDENT

Date Range

June 2020 - present

Description

As a part-time graduate student, Dubbe is responsible for coursework that requires downloading materials onto her personal computer, creating editable files for course assignments submitted through online platforms, and remitting the necessary documentation for attendance tuition and fees.

Risk Level

Moderate

Many of the records captured by Dubbe in her function as a graduate student are either copies (e.g. scanned readings) or originated and stored elsewhere (e.g. receipts). Possible risks are reputational if she must ask others for a new copy, financial if she cannot prove payment of tuition or fees, and operational if she is unable to get a new copy and is, therefore, unable to complete the transaction.

Of higher risk are the records created in the composing/submitting assignments and group work transaction. These records are likely one of a kind, have involved an extensive investment of time, and are more likely to affect external stakeholders.

Stakeholders

Dubbe, Group Members / Classmates, Professors

GRADUATE STUDENT

ACTIVITY | PAYING TUITION AND FEES

JUNE 2020 - PRESENT

The financial activities associated with attending the University of Texas at Austin.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Applying for the Staff Tuition Assistance Program	Gmail > Boring Business	Email
Applying for federal financial aid and privately distributed scholarships	Gmail > Boring Business AND Laptop > Documents folder	Email and .doc
Drafting promissory notes for scholarships	Laptop > Desktop AND Gmail > Boring Business	.doc and .pdf

ACTIVITY | PREPARING AND COMPLETING COURSEWORK

AUGUST 2020 - PRESENT

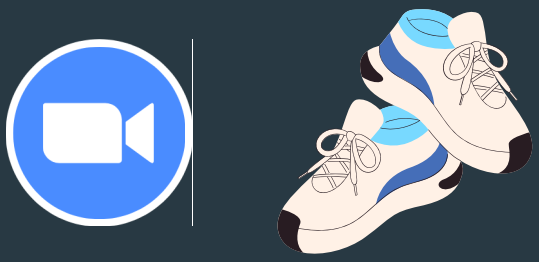
The activity of preparing and completing coursework includes the successful execution of all responsibilities assigned to Dubbe by professors as both an independent student and as a member of assigned groups.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Downloading / accessing assigned readings	Laptop > Desktop AND Laptop > Downloads folder	.doc, .pdf, online*
Composing assignments and group work	Laptop > Desktop AND Laptop > Downloads folder AND Laptop > Documents folder	.doc, .pdf, online*

*Outside the scope of the project

The University of Texas at Austin
School of Information

LEISURITE



Date Range

June 2015 - present

Description

Dubbe's function as a leisurite involves her social, creative, and physical activities. This function is mostly completed as an individual but occasionally involves others such as her family and friends.

Risk Level

Low

In general, the records created in these activities are within systems that a copy can be easily retrieved. In her social and familial relationships, while email may not be the day-to-day mode of communication, poor attention to records regarding virtual family get-togethers could have negative results on her relationships, potentially impacting her mental and emotional health.

As Dubbe considers physical activity to be a significant factor in her life, she risks decreased physical, mental, and emotional health when missing fitness classes or activities due to poor recordkeeping.

Stakeholders

Dubbe, Family, and Friends

LEISURITE

ACTIVITY | DEVELOPING SHORT DIGITAL FILMS WITH FOUND AND ORIGINAL MATERIAL

OCTOBER 2012-PRESENT

This activity involves using pop-cultural and born-digital content to provide inspiration to piece together an original creative work.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Collecting inspiration	Laptop > Desktop	.jpeg, mp4, mp3
Utilizing cloud software to design film product	External Hard Drive*	.mp4, mp3, .flac, .wav, .aep, and premiere pro project files

*Outside the scope of the project

ACTIVITY | TRAVELING

JUNE 2015-PRESENT

The activity of exploring new locations—domestically and internationally—as well as visiting family and friends who live in locations other than Austin, Texas.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Booking flights, lodging, and recreational activities	Gmail > Inbox	Email
Paying for flights, lodging, and recreational activities	Gmail > Inbox	Email

ACTIVITY | COMPETING, TRAINING, AND EXERCISING

JANUARY 2016-PRESENT

The activity of improving one's physical, mental, and emotional health through cardiovascular exercises.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Registering for organized marathon and half-marathon events	Gmail > Inbox	Email
Registering for yoga and spin classes	Gmail > Inbox	Email

ACTIVITY | SPENDING TIME WITH FAMILY AND FRIENDS VIRTUALLY

MARCH 2020 - PRESENT

This activity involves the gathering of family and friends via a virtual format due to the global pandemic which is currently affecting America.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Participating in Zoom gatherings	Gmail > Inbox	Email

TAXPAYER

Date Range

March 2012 - present

Description

As a function of being an independent resident and citizen of the United States of America, Dubbe is required by law to file taxes annually.

Risk Level

High

Dubbe's function as a taxpayer comes with legal and financial risks. Legally, Dubbe is required to file her tax return with the IRS. Failing to do so or providing an inaccurate return could result in legal action by the federal and state governments. These legal proceedings would likely be accompanied by financial obligations including fees and fines.

Stakeholders

Dubbe, IRS, Residents of the United States of America

ACTIVITY | PAYING TAXES — MARCH 2012-PRESENT

The activity of fulfilling the obligation to pay federal, state, and local taxes as a student, resident, and gainfully employed individual of the United States of America.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Receiving tax records	Gmail > Inbox AND Workday*	Email
Submitting tax return	TurboTax Online*	Online*
Communicating with TurboTax professionals	Gmail > Inbox	Email
Receiving tax return	Gmail > Boring Business AND Laptop > Downloads folder	.pdf (email attachment) AND .pdf

*Outside the scope of this project

PET OWNER

Date Range

June 2020 - present

Description

Dubbe's function of caring for her five year old cat Merlin. This care includes his daily needs in terms of supplies, ordered through Chewy.com, and medical well-being as well as the love shared through photographing him.

Risk Level

High

The risks that Dubbe faces in her function as a pet owner are high. There are health risks to Merlin if shipments go missing or payments are not complete. Similar risks to Merlin are faced with arranging medical care. These health risks to Merlin are accompanied by financial risks to Dubbe if payments are missed or late. Lastly, the photos of Merlin are one of a kind making them irreplaceable.

Stakeholders

Merlin, Dubbe, Veterinarian, Chewy

PET OWNER

ACTIVITY | SUPPLYING MERLIN'S DAILY NEEDS

JANUARY 2020-PRESENT

This activity entails acquiring the food, litter, medication, and toys required for the care of Merlin the cat. Dubbe utilizes the auto-shipment service through pet supplier Chewy.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Receiving receipts of purchases	Gmail > Inbox	Email
Tracking of shipments	Gmail > Inbox	Email

ACTIVITY | ARRANGING MEDICAL CARE

JANUARY 2020-PRESENT

The activity of communicating with the veterinarian's office.

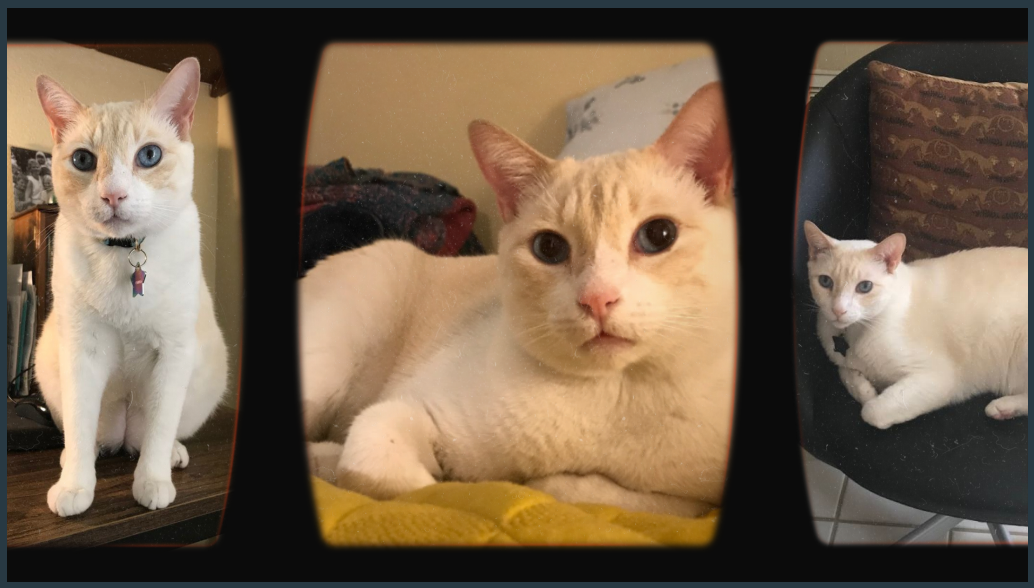
TRANSACTION	RECORDS LOCATION	FILE FORMAT
Scheduling vet appointments	Gmail > Inbox	Email

ACTIVITY | PHOTOGRAPHING MERLIN

JANUARY 2020-PRESENT

This activity includes capturing photographs of Merlin at his cutest, silliest, and most mischievous via Dubbe's phone and camera.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Uploading photos of Merlin from phone and camera	Laptop > Desktop	.jpeg



RESIDENT

Date Range

July 2012 - present

Description

Dubbe rents an apartment from a landlord in Austin, Texas where she resides full-time.

Risk Level

High

Dubbe's risk level is high as a renter because the lease agreement is a legal contract. She risks legal action which could also result in financial risks if she does not adhere to the lease agreement. The risk of losing her place of residence would not only affect her, but Merlin, the landlord, and possibly family and friends who might give her a place to stay in the meantime. Lease agreements also protect the renter and therefore could be a benefit to her if the landlord does not uphold their terms. Therefore, the risk to Dubbe is in losing, misplacing, or accidentally deleting the contract so that she would not be able to hold the landlord legally or financially liable in the case of a broken arrangement.

Stakeholders

Dubbe, Merlin, Landlord, Family, Friends, and Utility Companies

RESIDENT

ACTIVITY | MAINTAINING A COPY OF THE LEASE JULY 2012-PRESENT

The activity of ensuring protection for all stakeholders by retaining a copy of the signed lease agreement.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Receiving a copy of the lease agreement	Gmail > Boring Business	Email
Downloading a copy of the lease agreement	Laptop > Desktop > Lease Unit 1 1 1 2020	.jpeg

ACTIVITY | COMMUNICATING WITH LANDLORD AND UTILITY PROVIDERS JULY 2012-PRESENT

The activity of communicating with stakeholders via email regarding apartment updates, maintenance requests, and utilities.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Communicating with landlord	Gmail > Inbox	Email
Communicating with utility providers	Gmail > Inbox	Email

iStock by Getty Images

PROFESSIONAL

Date Range

June 2015 - present

Description

In her career pursuit, Dubbe currently serves as a Technical Associate for UT Libraries. The university provides a work laptop for this role though at times documents are created on Dubbe's personal computer that are work-related and continue to reside on her personal computer. Dubbe pursues independent training through LinkedIn Learning. To keep up with potential employment opportunities, Dubbe keeps her resume and references list up-to-date and retains copies of cover letters submitted for job opportunities.

Risk Level

Moderate to High

Although Dubbe has been issued an institutional workstation (laptop), the work from home environment caused by the pandemic has resulted in some work documents originating on Dubbe's personal computer. This doubling of hardware systems can lead to information loss if documents are not transferred between the two systems in a timely and organized manner. As Dubbe has already experienced the loss of records as a result of hardware failure, this has the potential to affect her workplace efficiency by needing to recreate any documents that originated on her personal laptop and were lost. In a personal capacity, this leads to additional time spent on recreating resumes and cover letters. As listed references need to be kept up to date for contact information and willingness to provide a reference, the loss of this information would require revisiting provided references to ensure the integrity of information.

Stakeholders

Dubbe, Work Colleagues and Supervisors, Future Employers, Professional/Academic References

PROFESSIONAL

ACTIVITY | MAINTAINING UP-TO-DATE SUBMISSION MATERIALS FOR PROFESSIONAL OPPORTUNITIES

JUNE 2015-PRESENT

This activity relates to the utilization of past and current records when applying for promotions or jobs at other institutions.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Creating and updating resume	Laptop > Documents folder WITH Backup copies in Gmail > Boring Business	.doc and .pdf
Writing cover letters tailored to specific opportunities	Laptop > Documents folder WITH Backup copies in Gmail > Boring Business	.doc and .pdf
Retaining up-to-date list of professional and academic references	Laptop > Documents folder	.doc and .pdf

ACTIVITY | CONTINUING PROFESSIONAL EDUCATION

APRIL 2018 - PRESENT

Participating in online learning opportunities through LinkedIn Learning allows Dubbe to keep up to date with specific professional interests.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Completing LinkedIn Learning (formerly Lynda) exercise files for programming platforms and languages (e.g. Python, Linux, Unix, etc.)	Laptop > Desktop	.mp4 and .pdf

ACTIVITY | EMPLOYED AS DIGITAL STEWARDSHIP LIBRARY TECHNICAL ASSOCIATE AT UT AUSTIN

APRIL 2018 - PRESENT

Troubleshooting and resolving technical issues for the Digital Stewardship unit of UT Libraries. Oversee daily technical operations in the library digitization unit, including specialized software and equipment maintenance; develop workflows for digital reformatting production activities; supervise reformatting equipment operators; resolve technical issues as they arise; assist with LTO tape workflows such as writing data to tape as well as restoring data from tape.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Creating and downloading work records	Laptop > Documents folder > Captions folder AND Laptop > Downloads folder	.doc and .pdf

Step C

The goal of Step C is to identify and document Dubbe's recordkeeping requirements. Recordkeeping requirements are requirements arising from regulatory sources, business needs, and community expectations. They identify the types of records she needs to create and the management framework she needs to establish in order to have and accountably manage all her essential information. The three types of requirements are regulatory, business, and community. Regulatory requirements are imposed on Dubbe by policy, standards, regulation. Business requirements support efficiency in Dubbe's day-to-day functions and activities. Requirements from the community are any requirements that arise from Dubbe's stakeholders.

Many DIRKS projects require knowledge of one's recordkeeping requirements so that one can determine whether current practices are actually meeting business needs, and so that systems can be designed that fully meet one's range of requirements.

Step C is a crucial step in designing a recordkeeping system. By knowing exactly what Dubbe's recordkeeping requirements are, we can ensure:

- she makes effective use of records management resources
- she is meeting her requirements and conducting her business in line with best practice

-The Dirks Manual

Step C - I. Identify and Document Requirements for Recordkeeping

These are the standards for an ideal recordkeeping system. Requirements may stem from regulatory, business, or community needs. These requirements will serve as a benchmark for the effectiveness of Hannah's recordkeeping systems.

Nature: Conscientious Organization

TYPE: Regulatory, Business, Community
SOURCES: PITTSBURG PROJECT, *FUNCTIONAL REQUIREMENTS FOR EVIDENCE IN RECORDKEEPING*, GARP, GOOGLE TERMS/POLICIES
SPECIFICS:
"Organizations must comply with the legal and administrative requirements for recordkeeping within the jurisdictions in which they operate, and they must demonstrate awareness of best practices for the industry or business sector to which they belong and the business functions in which they are engaged." [Pittsburgh Project]
Principle of Transparency: "An organization's business processes and activities, including its information governance program, shall be documented in an open and verifiable manner, and that documentation shall be available to all personnel and appropriate, interested parties." [GARP]
Principle of Integrity: "A recordkeeping program shall be constructed so the records and information generated or managed by or for the organization have a reasonable and suitable guarantee of authenticity and reliability." [GARP]
"Each Google Account includes 15 GB of free storage quota, which is shared across Gmail, Google Drive, and Google Photos." [Google]

Nature: Records

SUBCATEGORY | COMPREHENSIVE
TYPE: Regulatory and Business
SOURCES: Pittsburgh Project, Functional Requirements for Evidence in Recordkeeping, ISO 15489
SPECIFICS:
"Records must be created for all business transactions." [Pittsburgh Project]
"Records, regardless of form or structure, should possess the characteristics of authenticity, reliability, integrity and useability." [ISO 15489]

SUBCATEGORY | COMPLETE
TYPE: Regulatory and Business
SOURCES: Pittsburgh Project, Functional Requirements for Evidence in Recordkeeping, DIRKS
SPECIFICS:
"Records must contain the content, structure and context generated by the transaction they document." [Pittsburgh Project]
"Recordkeeping is the making and maintaining of complete, accurate, reliable evidence of business transactions" [DIRKS]

SUBCATEGORY | ACCURATE
TYPE: Regulatory and Business
SOURCES: Pittsburgh Project, Functional Requirements for Evidence in Recordkeeping, ISO 16175
SPECIFICS:
"The content of records must be quality controlled at input to ensure that information in the system correctly reflects what was communicated in the transaction." [Pittsburgh Project]
"An understanding of the business context of records is required to enable accurate interpretation of their context" [ISO 16175]

SUBCATEGORY | FIXED
TYPE: Regulatory and Business
SOURCES: InterPARES project, ISO 16175, Google Terms/Policies
SPECIFICS:
Records must have fixed form and stable content.
"If records are to serve as reliable evidence of business functions and processes, they need to be fixed and inviolable" [ISO 16175]
"Each Google Account includes 15 GB of free storage quota, which is shared across Gmail, Google Drive, and Google Photos." [Google]

SUBCATEGORY | RELIABLE

TYPE: Regulatory and Business

SOURCES: ISO 15489, GARP

SPECIFICS:

"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 which can be depended upon in the course of subsequent transactions or activities." [ISO 15489].

"... the records and information generated or managed by for the organization have a reasonable and suitable guarantee of authenticity and reliability." [GARP]

SUBCATEGORY | AUTHENTIC

TYPE: Regulatory and Community

SOURCES: ISO 15489

SPECIFICS:

"An authentic record is one that can be proven to: be what it purports to be, have been created or sent by the agent purported to have created or sent it; and have been created or sent when purported." [ISO 15489].

SUBCATEGORY | UNDERSTANDABLE

TYPE: Regulatory, Business, Community

SOURCES: Pittsburgh Project, Functional Requirements for Evidence in Recordkeeping

SPECIFICS:

"The relationship between elements of information content must be represented in a way that supports their intended meaning." [Pittsburgh Project]

SUBCATEGORY | MEANINGFUL

TYPE: Regulatory

SOURCES: Pittsburgh Project, Functional Requirements for Evidence in Recordkeeping

SPECIFICS:

"The contextual linkages of records must carry information necessary to correctly understand the transactions that created and used them." [Pittsburg Project]

SUBCATEGORY | USABLE/ACCESSIBLE

TYPE: Regulatory, Business, Community

SOURCES: ISO 15489, ISO 16175

SPECIFICS:

" A usable record is one that can be located, retrieved, presented, and interpreted within a time period deemed reasonable by stakeholders." [ISO 15489]

"Risks may arise from arise from...not ensuring the accessibility and readability of records over time" [ISO 16175]

SUBCATEGORY | PRESERVED

TYPE: Regulatory, Business, Community

SOURCES: Pittsburgh Project, Functional Requirements for Evidence in Recordkeeping, ISO 15489

SPECIFICS:

Preserved: "Records must continue to reflect content, structure and context within any systems by which the record are retained over time.

Coherent: The information content and structure of records must be retained in reconstructable relations." [Pittsburgh Project]

"Records, regardless of format or media, should be preserved in a way that protects them from unauthorized access, change, loss, or destruction, including theft or disaster." [ISO 15489]

SUBCATEGORY | REMOVABLE

TYPE: Regulatory

SOURCES: Pittsburgh Project, Functional Requirements for Evidence in Recordkeeping, ISO 15489

SPECIFICS:

"Records content and structure supporting the meaning of content must be deletable." [Pittsburgh Project]

"Records destruction should be carried out in a way that ensures complete destruction." [ISO 15489]

Nature: System

SUBCATEGORY | SYSTEMATIC

TYPE: Regulatory

SOURCES: ISO 15489, GARP

SPECIFICS:

"The creation, capture, and management of records should be systematized through the design and routine operation of records systems and by adherence to authorized policies and procedures." [ISO 15489]

"The recordkeeping system is itself structure in a lawful and appropriate way." [GARP]

SUBCATEGORY | COMPLIANT

TYPE: Regulatory, Business, Community

SOURCES: DIRKS, Community

SPECIFICS:

"Be managed in compliance with all requirements that apply to the business documented within them." [DIRKS]

"Records systems should be managed in compliance with requirements arising from business, community, or societal expectations and the legal and regulatory environment." [ISO 15489]

SUBCATEGORY | ACCOUNTABLE

TYPE: Regulatory

SOURCES: Pittsburgh Project, Functional Requirements for Evidence in Recordkeeping, Maturity Model

SPECIFICS:

Responsible: recordkeeping systems must have accurately documented policies, assigned responsibilities, and formal methodologies for their management.

Implemented: recordkeeping systems must be employed at all times in the normal course of business.

Consistent: recordkeeping systems must process information in a fashion that assures that the records they create are credible. [Pittsburgh Project]

"A senior executive (or a person of comparable authority) shall oversee the information governance program." [Maturity Model]

SUBCATEGORY | COMPREHENSIVE

TYPE: Regulatory and Business

SOURCES: DIRKS, ISO 15489

SPECIFICS:

Systems "should manage records resulting from the complete range of business activities that are documented or managed by the system." [DIRKS]

"Records systems should be capable of managing all required records of the range of business activities to which they relate." [ISO 15489]

SUBCATEGORY | RELIABLE
TYPE: Regulatory and Business
SOURCES: ISO 15489, GARP
SPECIFICS:
"Records systems should be capable of continuous and regular operation in accordance with authorized policy and procedures." [ISO 15489]
"The recordkeeping system must be reliable to prove reliability and integrity of the records. A record is only as reliable as the system in which it is maintained." [GARP]

SUBCATEGORY | INTEGRITY/SECURITY
TYPE: Regulatory and Business
SOURCES: DIRKS, ISO 15489, GARP, Google Terms of Service
SPECIFICS:
"Records must contain the content, structure and context generated by the transaction they document." [Pittsburgh Project]
Tracking: records systems should be capable of "monitoring record use to ensure no inappropriate use occurs and an auditable record of use is maintained." [DIRKS]
"Measures such as access controls, monitoring... and authorized destruction should be implemented to prevent unauthorized access..." [ISO 15489]
"The recordkeeping system must be reliable to prove reliability and integrity of the records. A record is only as reliable as the system in which it is maintained." [GARP]
"You're responsible for what you do with your Google Account, including taking reasonable steps to keep your Google Account secure, and we encourage you to regularly use the Security Checkup." [Google Terms of Service]

SUBCATEGORY | ACCESSIBLE
TYPE: Regulatory and Community
SOURCES: DIRKS, GARP
SPECIFICS:
Systems should "allow records to be shared as information resources across a workspace, business unit or organization." [DIRKS]
"An organization's personnel are more likely to retrieve and use information for better decision making and more effective work if it has well-designed storage processes and access to understandable, retrievable, relevant, and consistent information." [GARP]

Nature: Recordkeeping Processes

SUBCATEGORY | CAPTURE
TYPE: Regulatory and Business
SOURCES: MATURITY MODEL, GARP
SPECIFICS:
Establish a relationship between the record, the creator and the business context that originated it; place the record and its relationship within a records system and link it to other records.
"Information creation and capture are in most cases systematically carried out in accordance with information management principles." [Maturity Model]
"Information must be described during the capture, maintenance, and storage processes in such a way as to make retrieval effective and efficient." [GARP]
SUBCATEGORY | REGISTRATION
TYPE: Regulatory
SOURCES: DIRKS
SPECIFICS:
"Systems should be capable of "capturing records by assigning them unique identities and attributing brief descriptive information to them, such as a title and date." [DIRKS]
SUBCATEGORY | CLASSIFICATION/INDEXING
TYPE: Regulatory and Business
SOURCES: DIRKS, ISO 16175
SPECIFICS:
"Systems should be capable of "arranging records into categories based on the business activities they document, as a means of facilitating record control, retrieval, disposal and access." [DIRKS]
Indexing: systems should be capable of "establishing access points to facilitate record retrieval." [DIRKS]
"Software applications that enable business activities or transactions should be able to capture and/or ingest...evidence of those activities. This involves identifying sets of digital information to serve as records." [ISO 16175]

SUBCATEGORY | APPRAISAL AND RETENTION

TYPE: Regulatory, Business, Community

SOURCES: DIRKS, ISO 15489

SPECIFICS:

Records systems should be capable of facilitating and implementing decisions on the retention or disposition of records.

Disposal: system should be capable of "utilising disposal authorities, linking disposal periods to records, triggering any required disposal actions, reviewing any history of use to confirm or amend disposal status and maintaining an auditable record of disposal (retention, destruction or transfer) actions." [DIRKS]

"Reasons for conducting appraisal may include: losing or gaining functions or activities, and changing perceptions of risk or priorities." [ISO 15489]

SUBCATEGORY | STORAGE

TYPE: Regulatory, Business, Community

SOURCES: DIRKS, GARP

SPECIFICS:

Systems should be capable of "appropriately maintaining records in consideration of their form, use and value for as long as they are legally required." [DIRKS]

"An organization's personnel are more likely to retrieve and use information for better decision making and more effective work if it has well-designed storage processes and access to understandable, retrievable, relevant, and consistent information." [GARP]

SUBCATEGORY | SEARCHING, RETRIEVAL AND RENDERING

TYPE: Regulatory, Business, Community

SOURCES: DIRKS, GARP

SPECIFICS:

System should be capable of "making records available as corporate information resources, identifying and presenting records in response to user search requests and, where appropriate, enabling records to be printed on request." [DIRKS]

"An organization's personnel are more likely to retrieve and use information for better decision making and more effective work if it has well-designed storage processes and access to understandable, retrievable, relevant, and consistent information." [GARP]

SUBCATEGORY | DATA BACKUP, PRESERVATION, RECOVERY, AND MIGRATION

TYPE: Regulatory, Business, Community

SOURCES: ISO 15489

SPECIFICS:

"During migration or conversion, all record content and its associated metadata in the originating system or format should be retained until the process is finished and the integrity and reliability of the destination system or format have been controlled and secured." [ISO 15489]

Step C – II. Fold Requirements into BCS

Now that we have documented the requirements, we have folded them, where appropriate, into an extended version of the Business Classification Scheme from Step B.

Function: Pet Owner

ACTIVITY | SUPPLYING MERLIN'S DAILY NEEDS — JANUARY 2020-PRESENT

This activity entails acquiring the food, litter, medication, and toys required for the care of Merlin the cat. Dubbe utilizes the auto-shipment service through pet supplier Chewy.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Receiving receipts of purchases	Gmail > Inbox	Email
Tracking of shipments	Gmail > Inbox	Email

Dubbe's emails regarding purchases for her cat require accurate, reliable and authentic records under The Pittsburgh Project and ISO 15498

RECORDKEEPING REQUIREMENTS	RELEVANT CITATION
Accurate, Reliable, Authentic: Dubbe is responsible for making sure that she keeps records of purchases for cat supplies that are accurate, reliable and authentic so that she knows exactly what she ordered, when it will be delivered and what she needs to do if the items need to be returned.	"The content of records must be quality controlled at input to ensure that information in the system correctly reflects what was communicated in the transaction." [Pittsburgh Project] "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 which can be depended upon in the course of subsequent transactions or activities." [ISO 15489]. "An authentic record is one that can be proven to: be what it purports to be, have been created or sent by the agent purported to have created or sent it; and have been created or sent when purported." [ISO 15489].

Risk Level: Moderate
If Dubbe fails to keep reliable, authentic and accurate records of her cat supplies purchases, she runs the risk of not having enough food or medication for her cat when he needs it because she does not know when the next shipment is coming or if it was ordered.

Function: Pet Owner

ACTIVITY | ARRANGING MEDICAL CARE		JANUARY 2020-PRESENT
The activity of communicating with the veterinarian's office.		
TRANSACTION	**RECORDS LOCATION**	**FILE FORMAT**
Scheduling vet appointments	Gmail > Inbox	Email

Dubbe's emails containing her communications with her veterinarian's office require accurate, reliable and authentic records under The Pittsburgh Project and ISO 15498	
RECORDKEEPING REQUIREMENTS	**RELEVANT CITATION**
Accurate, Reliable, Authentic: Dubbe is responsible for making sure that she keeps records of communications between her and Merlin's veterinarian so that he remains up to date on shots and appointments. She also needs reliable records of when she might need to go in for an unplanned appointment because Merlin has become sick or injured.	"The content of records must be quality controlled at input to ensure that information in the system correctly reflects what was communicated in the transaction." [Pittsburgh Project] "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 which can be depended upon in the course of subsequent transactions or activities." [ISO 15489]. "An authentic record is one that can be proven to: be what it purports to be, have been created or sent by the agent purported to have created or sent it; and have been created or sent when purported." [ISO 15489].

Risk Level: Moderate

If Dubbe fails to keep accurate, reliable and authentic records of her communications with her vet's office, she could potentially put Merlin at risk of not getting the care he needs in a timely and effective manner. Merlin's overall well-being relies on these records to be accurate and authentic.

Function: Pet Owner

ACTIVITY | PHOTOGRAPHING MERLIN		JANUARY 2020-PRESENT
This activity includes capturing photographs of Merlin at his cutest, silliest, and most mischievous via Dubbe's phone and camera.		
TRANSACTION	**RECORDS LOCATION**	**FILE FORMAT**
Uploading photos of Merlin from phone and camera	Laptop > Desktop	.jpeg

Dubbe's photos of her cat require the need to be classifiable and properly indexed according to the DIRKS document	
RECORDKEEPING REQUIREMENTS	**RELEVANT CITATION**
Classification/Indexing: Dubbe is responsible for making sure that she can access photos of her cat easily, accurately and efficiently. Knowing where the photos are and that they are titled in a helpful and accurate way will help make accessing of Merlin photos more efficient and effective.	"Systems should be capable of "arranging records into categories based on the business activities they document, as a means of facilitating record control, retrieval, disposal and access." [DIRKS] Indexing: systems should be capable of "establishing access points to facilitate record retrieval." [DIRKS]

Risk Level: Low

If Dubbe does not classify her cat photos properly and index them in a helpful manner, she runs the risk of losing them to her desktop clutter and may never be able to meaningfully retrieve them again.

Function: Professional

ACTIVITY | EMPLOYED AS DIGITAL STEWARDSHIP LIBRARY TECHNICAL ASSOCIATE AT UT AUSTIN

APRIL 2018 - PRESENT

Troubleshooting and resolving technical issues for the Digital Stewardship unit of UT Libraries. Oversee daily technical operations in the library digitization unit, including specialized software and equipment maintenance; develop workflows for digital reformatting production activities; supervise reformatting equipment operators; resolve technical issues as they arise; assist with LTO tape workflows such as writing data to tape as well as restoring data from tape.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Creating and downloading work records	Laptop > Documents folder > Captions folder AND Laptop > Downloads folder	.doc and .pdf

Dubbe's work records on her laptop need to be classifiable and properly indexed as well as be accurate, reliable and authentic records under DIRKS, The Pittsburgh Project and ISO 15498

RECORDKEEPING REQUIREMENTS	RELEVANT CITATION
Classification/Indexing: Dubbe is responsible for making sure that she can access work documents easily, accurately and efficiently. Knowing where the files are and that they are titled accurately will help make accessing those potentially important and time-sensitive files efficient and effective. *Accurate, Reliable, and Authentic:* Dubbe needs to make sure that her work documents are accurate, reliable and authentic so that she can keep quality information about her work processes that she and her colleagues can rely on.	"Systems should be capable of "arranging records into categories based on the business activities they document, as a means of facilitating record control, retrieval, disposal and access." [DIRKS] Indexing: systems should be capable of "establishing access points to facilitate record retrieval." [DIRKS] "The content of records must be quality controlled at input to ensure that information in the system correctly reflects what was communicated in the transaction." [Pittsburgh Project] "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 which can be depended upon in the course of subsequent transactions or activities." [ISO 15489]. "An authentic record is one that can be proven to: be what it purports to be, have been created or sent by the agent purported to have created or sent it; and have been created or sent when purported." [ISO 15489].

Risk Level: Moderate

If Dubbe fails to properly classify and index her work records, she runs the risk of losing them to her laptop's blackhole of other miscellaneous documents and files. They may become forgotten and ultimately unretrievable. Also, if she fails to keep accurate, authentic and reliable records, she risks compromising her position at work by not having reliable records to call upon when she or her colleagues need them.

Function: Professional

ACTIVITY | CONTINUING PROFESSIONAL EDUCATION		APRIL 2018 - PRESENT
Participating in online learning opportunities through LinkedIn Learning allows Dubbe to keep up to date with specific professional interests.		
TRANSACTION	**RECORDS LOCATION**	**FILE FORMAT**
Completing LinkedIn Learning (formerly Lynda) exercise files for programming platforms and languages (e.g. Python, Linux, Unix, etc.)	Laptop > Desktop	.mp4 and .pdf

Dubbe's LinkedIn Learning files on her desktop need to be Accessible according to The DIRKS Manual and GARP	
RECORDKEEPING REQUIREMENTS	**RELEVANT CITATION**
Accessible: Dubbe is responsible for making sure that she can access work documents efficiently. If she can retrieve and use the information easily, she can better enhance her work skills and ultimately advance her career.	Systems should "allow records to be shared as information resources across a workspace, business unit or organization." [DIRKS] "An organization's personnel are more likely to retrieve and use information for better decision making and more effective work if it has well-designed storage processes and access to understandable, retrievable, relevant, and consistent information." [GARP]

Risk Level: Low

If Dubbe fails to make her professional development files accessible, she risks forgetting about them entirely. Therefore, she will not develop the necessary skills to become a better employee and ultimately advance her career.

Function: Professional

ACTIVITY | MAINTAINING UP-TO-DATE SUBMISSION MATERIALS FOR PROFESSIONAL OPPORTUNITIES

JUNE 2015-PRESENT

This activity relates to the utilization of past and current records when applying for promotions or jobs at other institutions.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Creating and updating resume	Laptop > Documents folder WITH Backup copies in Gmail > Boring Business	.doc and .pdf
Writing cover letters tailored to specific opportunities	Laptop > Documents folder WITH Backup copies in Gmail > Boring Business	.doc and .pdf
Retaining up-to-date list of professional and academic references	Laptop > Documents folder	.doc and .pdf

Dubbe's submission materials for professional opportunities need to be accessible and accurate according to DIRKS, GARP and The Pittsburgh Project

RECORDKEEPING REQUIREMENTS	RELEVANT CITATION
Accessible: Dubbe is responsible for making sure that she can easily access her resume/cover letter, etc. so that she can quickly and efficiently apply to job opportunities as they arise. *Accurate:* Dubbe's submission materials need to be an accurate representation of her job history, goals and references so that she can add to them as needed if a job opportunity arises.	Systems should "allow records to be shared as information resources across a workspace, business unit or organization." [DIRKS] "An organization's personnel are more likely to retrieve and use information for better decision making and more effective work if it has well-designed storage processes and access to understandable, retrievable, relevant, and consistent information." [GARP] "The content of records must be quality controlled at input to ensure that information in the system correctly reflects what was communicated in the transaction." [Pittsburgh Project]

Risk Level: Low

If Dubbe fails to keep accessible and accurate submission materials for professional opportunities, she risks having to re-do her resume, CV, etc. every time a new job opportunity arises. This will cost her precious time and she may potentially risk meeting deadlines for job listings.

Function: Graduate Student

ACTIVITY | PREPARING AND COMPLETING COURSEWORK AUGUST 2020 - PRESENT

The activity of preparing and completing coursework includes the successful execution of all responsibilities assigned to Dubbe by professors as both an independent student and as a member of assigned groups.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Downloading / accessing assigned readings	Laptop > Desktop AND Laptop > Downloads folder	.doc, .pdf, online*
Composing assignments and group work	Laptop > Desktop AND Laptop > Downloads folder AND Laptop > Documents folder	.doc, .pdf, online*

*Outside the scope of the project

Dubbe's coursework needs to be accessible and classifiable/indexed according to DIRKS and GARP

RECORDKEEPING REQUIREMENTS	RELEVANT CITATION
Accessible: Dubbe is responsible for making sure that she can easily access her coursework so that she can do all of the necessary work to get good grades and ultimately make the most out of her education. *Classifiable/Indexed:* Dubbe's coursework needs to be accurately classified and indexed so that she knows where it is on her computer at all times.	Systems should "allow records to be shared as information resources across a workspace, business unit or organization." [DIRKS] "An organization's personnel are more likely to retrieve and use information for better decision making and more effective work if it has well-designed storage processes and access to understandable, retrievable, relevant, and consistent information." [GARP] "Systems should be capable of "arranging records into categories based on the business activities they document, as a means of facilitating record control, retrieval, disposal and access." [DIRKS] Indexing: systems should be capable of "establishing access points to facilitate record retrieval." [DIRKS]

Risk Level: Low

If Dubbe fails to maintain accessible, classifiable, and properly index coursework, she risks wasting a lot of time searching through her downloads or non-indexed documents folder looking for documents that she needs to complete her classwork to the best of her ability. This could ultimately impact her good standing as a student at UT.

Function: Graduate Student

ACTIVITY | PAYING TUITION AND FEES JUNE 2020 - PRESENT

The financial activities associated with attending the University of Texas at Austin.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Applying for the Staff Tuition Assistance Program	Gmail > Boring Business	Email
Applying for federal financial aid and privately distributed scholarships	Gmail > Boring Business AND Laptop > Documents folder	Email and .doc
Drafting promissory notes for scholarships	Laptop > Desktop AND Gmail > Boring Business	.doc and .pdf

Dubbe's tuition and fees materials for graduate school need to be accessible, accurate, and authentic according to DIRKS, GARP, The Pittsburgh Project, ISO 15489

RECORDKEEPING REQUIREMENTS	RELEVANT CITATION
Accessible: Dubbe is responsible for making sure that she can easily access her tuition and fees materials so that she can keep track of her finances and be able to access those materials during tax season. *Accurate:* Dubbe's tuition materials need to be an accurate representation of her school expenses so that she knows exactly where she stands financially so that she does not go into unexpected debt or is unable to complete her taxes accurately. *Authentic:* Her tuition materials also need to be authentic so that she has accurate proof of her school related expenses for tax and banking reasons.	Systems should "allow records to be shared as information resources across a workspace, business unit or organization." [DIRKS] "An organization's personnel are more likely to retrieve and use information for better decision making and more effective work if it has well-designed storage processes and access to understandable, retrievable, relevant, and consistent information." [GARP] "The content of records must be quality controlled at input to ensure that information in the system correctly reflects what was communicated in the transaction." [Pittsburgh Project] An authentic record is one that can be proven to: be what it purports to be, have been created or sent by the agent purported to have created or sent it; and have been created or sent when purported." [ISO 15489].

Risk Level: High

If Dubbe fails to maintain accessible, accurate, and authentic records of her tuition and fees, then she risks losing track of her up-to-date financial situation. She also risks being audited by the IRS if she fails to maintain authentic and accessible records of her school-related expenses and cannot accurately complete her taxes.

Function: Leisurite

ACTIVITY | SPENDING TIME WITH FAMILY AND FRIENDS VIRTUALLY MARCH 2020 - PRESENT

This activity involves the gathering of family and friends via a virtual format due to the global pandemic which is currently affecting America.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Participating in Zoom gatherings	Gmail > Inbox	Email

The arrangement of Zoom gathers requires *conscientious organization,* and *accurate, authentic, and understandable records* under the Pittsburg Project and ISO 15489.

RECORDKEEPING REQUIREMENTS	RELEVANT CITATION
Conscientious Organization: Hannah is accountable for the organization of records in her Gmail Inbox in a manner that will allow her to take note of important incoming emails from family members to arrange meetings and the invitations for the meetings themselves.	"Organizations must comply with the legal and administrative requirements for recordkeeping within the jurisdictions in which they operate, and they must demonstrate awareness of best practices for the industry or business sector to which they belong and the business functions in which they are engaged." Source: Pittsburgh Project, *Functional Requirements for Evidence in Recordkeeping*
Accurate Record: Hannah's email correspondence for Zoom meetings must be accurate to ensure that Hannah has all the information necessary to set up a meeting and the other participants receive this information as well. For example, the correct date and time of a meeting must be included in the record of the Zoom gathering.	"The content of records must be quality controlled at input to ensure that information in the system correctly reflects what was communicated in the transaction." Source: Pittsburgh Project, *Functional Requirements for Evidence in Recordkeeping*

Authentic Record: An authentic email must be sent by Hannah to her family, contain information about a Zoom gathering, and also must be created and sent at a known time.	"An authentic record is one that can be proven to: be what it purports to be, have been created or sent by the agent purported to have created or sent it; and have been created or sent when purported." Source: ISO 15489
Understandable Record: Both Hannah and her family must be able to clearly understand what is in the correspondence between them to arrange family gatherings. Hannah's emails must be clear in meaning in order to complete this activity.	"The relationship between elements of information content must be represented in a way that supports their intended meaning." Source: Pittsburgh Project, *Functional Requirements for Evidence in Recordkeeping*

Risk Level: Low

Lack of inbox organization could cause Hannah to unintentionally ignore correspondence regarding Zoom gatherings. If Hannah's inbox is not organized properly these messages could get lost in her inbox as they are mixed with other types of correspondence. If Hannah's records are not accurate, authentic, or understandable in regards to Zoom gatherings, both Hannah and family members could potentially miss gatherings or be unable to plan gatherings. Hannah's email records must contain information that gives an accurate date and time, be authentically sent by Hannah, and also be legible to her recipients.

Function: Leisurite

ACTIVITY | DEVELOPING SHORT DIGITAL FILMS WITH FOUND AND ORIGINAL MATERIAL

OCTOBER 2012-PRESENT

This activity involves using pop-cultural and born-digital content to provide inspiration to piece together an original creative work.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Collecting inspiration	Laptop > Desktop	.jpeg, mp4, mp3
Utilizing cloud software to design film product	External Hard Drive*	.mp4, mp3, .flac, .wav, .aep, and premiere pro project files

*Outside the scope of the project

In order to be able to view the inspiration and develop her short films Hannah must have *useable and preserved records, an accessible systematic recordkeeping system,* and *classification, searching, and migration* in her recordkeeping processes

RECORDKEEPING REQUIREMENTS	RELEVANT CITATION
Useable Record: Hannah's digital content that she uses in her creative work must be useable so she can collect inspiration and create content. She must ensure that these records can be retrieved and presented when she needs them.	"A usable record is one that can be located, retrieved, presented, and interpreted within a time period deemed reasonable by stakeholders." Source: ISO 15489
Preserved Record: Hannah must be able to maintain the content in these records if they are in a different system. Since the creation of the videos themselves is in a cloud software program, these records must be preserved in their format as they move systems	"Records must continue to reflect content, structure and context within any systems by which the record are retained over time." Source: Pittsburg Project, *Functional Requirements for Evidence in Recordkeeping*
Accessible Recordkeeping System: Hannah must maintain an accessible recordkeeping system so she may locate the records easily to complete this activity. Without accessibility in her system, Hannah will have a difficult time retrieving this information and making her short films.	"An organization's personnel are more likely to retrieve and use information for better decision making and more effective work if it has well-designed storage processes and access to understandable, retrievable, relevant, and consistent information." Source: GARP
Classification: Hannah's records need to be arranged based on activities so she can access them easily. Her digital files for her short film inspiration should be classified separately from her other activities and functions to ensure quick retrieval and access so she can use more of her time to create her films.	"Systems should be capable of "arranging records into categories based on the business activities they document, as a means of facilitating record control, retrieval, disposal and access." Source: DIRKS

Searching: Hannah needs to ensure her files an organized and named in a standardized way that will allow her to search for them properly so she is inclined to use this information.	"An organization's personnel are more likely to retrieve and use information for better decision making and more effective work if it has well-designed storage processes and access to understandable, retrievable, relevant, and consistent information." Source: GARP
Migration: Hannah must keep her original files of her short film inspiration in tact while she is migrating them into the software she uses to make her movies to guarantee that the files retain their reliability while they are being transferred. Retention of the original records will help prevent any loss during migration.	"During migration or conversion, all record content and its associated metadata in the originating system or format should be retained until the process is finished and the integrity and reliability of the destination system or format have been controlled and secured." Source: ISO 15489

Risk Level: Low

Hannah risks losing the necessary records needed to create her short films if she does not keep these requirements. Since she creates her films using cloud software, she must be able to not only use and find her records but also migrate them into this software to create the films. Without these capabilities, Hannah would not be able to complete this activity that allows her a creative outlet in her leisure time. These records must be useable and searchable records so that Hannah does not spend any unnecessary time trying to find her records on her hard drive, and instead can focus her energy on using the files as inspiration and subsequently making her films. Her files also must be retained during migration into the new software to help prevent potential loss of their original integrity.

Function: Leisurite

ACTIVITY | TRAVELING		JUNE 2015-PRESENT
The activity of exploring new locations—domestically and internationally—as well as visiting family and friends who live in locations other than Austin, Texas.		
TRANSACTION	**RECORDS LOCATION**	**FILE FORMAT**
Booking flights, lodging, and recreational activities	Gmail > Inbox	Email
Paying for flights, lodging, and recreational activities	Gmail > Inbox	Email

Hannah's travel records must be *accurate* and *useable/accessible* and in a recordkeeping system that is *systematic* capable of *searching.*

RECORDKEEPING REQUIREMENTS	RELEVANT CITATION
Accurate Record: Hannah's email records of her bookings and payments must reflect the fact that she has completed her bookings and include times, dates, etc. for her travel, and should also confirm and detail the costs of these bookings so Hannah can plan her trip accordingly.	"The content of records must be quality controlled at input to ensure that information in the system correctly reflects what was communicated in the transaction." Source: Pittsburgh Project, *Functional Requirements for Evidence in Recordkeeping*
Useable/Accessible Record: Hannah must be able to easily access her travel records in her Gmail so she can create an itinerary of her trip and also manage her receipts of payment. The records should be easily retrieved and distinguished from emails for her other activities.	"A usable record is one that can be located, retrieved, presented, and interpreted within a time period deemed reasonable by stakeholders." Source: ISO 15489

Systematic Recordkeeping System: Hannah's Gmail needs to be structured in a way that allows her to access her records and distinguish between activities. The use of a folder system to sort her emails by function and activity would help to structure her emails.	"The recordkeeping system is itself structured in a lawful and appropriate way." Source: GARP
Searching: Hannah's email inbox needs to be conducive to searching so she may easily find the record relating to her travels. A specific confirmation may need to be quickly accessed and referenced.	"An organization's personnel are more likely to retrieve and use information for better decision making and more effective work if it has well-designed storage processes and access to understandable, retrievable, relevant, and consistent information." Source: GARP

Risk Level: Low

If proper records are not kept Hannah will not be able to carry out this leisure activity. The records of her travel kept in her Gmail Inbox are to make sure she has not only booked all necessary aspects of her trip, but she is aware of key dates, times, and locations that are a part of her travel. The payment receipts found in her Inbox are also important financial records that contribute to Hannah's budget. If Hannah does not keep track of her payments she might spend over her budget or not pay for a specific aspect of her trip. Hannah's lack of folder structure also does not help to access the records and could potentially cause her to forget an important aspect of her trip if an email is buried in with other activities.

Function: Leisurite

ACTIVITY | COMPETING, TRAINING, AND EXERCISING JANUARY 2016-PRESENT

The activity of improving one's physical, mental, and emotional health through cardiovascular exercises.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Registering for organized marathon and half-marathon events	Gmail > Inbox	Email
Registering for yoga and spin classes	Gmail > Inbox	Email

In order for Hannah to complete her leisure activity of competing, training and exercising she must have records that are *accurate, comprehensive,* and *useable/accessible* and in a recordkeeping system that is *systematic.*

RECORDKEEPING REQUIREMENTS	RELEVANT CITATION
Accurate Record: Hannah's email records should reflect her registration status for her events and classes. They should also include dates, times, and organizations she booked through.	"The content of records must be quality controlled at input to ensure that information in the system correctly reflects what was communicated in the transaction." Source: Pittsburgh Project, *Functional Requirements for Evidence in Recordkeeping*
Comprehensive Record: Hannah needs to ensure she creates records of her registration for her events and classes in order to maintain her schedule.	"Records must be created for all business transactions." Source: Pittsburgh Project, *Functional Requirements for Evidence in Recordkeeping*
Useable/Accessible Record: Hannah's emails need to be easily retrieved records that have clear information contained within them.	"A usable record is one that can be located, retrieved, presented, and interpreted within a time period deemed reasonable by stakeholders." Source: ISO 15489
Systematic Recordkeeping System: Hannah's Gmail needs to be structured in a way that allows her to access her records and distinguish between activities. The use of a folder system to sort her emails by function and activity would help to structure her emails.	"The recordkeeping system is itself structured in a lawful and appropriate way." Source: GARP

Risk Level: Low

If Hannah does not maintain good recordkeeping practices for this activity she might miss events and classes. Certain classes also charge penalties for missing a class without forewarning and if Hannah lacks organization she could potentially lose track of an email that certifies her registration and could also not be able to email the class organizer to cancel. Hannah's lack of file structure could cause her to lose track of her email registrations.

Function: Taxpayer

ACTIVITY | PAYING TAXES MARCH 2012-PRESENT

The activity of fulfilling the obligation to pay federal, state, and local taxes as a student, resident, and gainfully employed individual of the United States of America.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Receiving tax records	Gmail > Inbox AND Workday*	Email
Submitting tax return	TurboTax Online*	Online*
Communicating with TurboTax professionals	Gmail > Inbox	Email
Receiving tax return	Gmail > Boring Business AND Laptop > Downloads folder	.pdf (email attachment) AND .pdf

*Outside the scope of this project

In order to pay taxes Hannah must have *fixed, reliable, useable/accessible* and *preserved* records, a recordkeeping system that is *compliant*, and has *integrity/security* and should complete the record keeping process of *storage*.

RECORDKEEPING REQUIREMENTS	RELEVANT CITATION
Fixed Record: Hannah's tax documents must be fixed records if they can serve as evidence of her tax payments. Any tax document must remain fixed after it has been received by Hannah so they are legally acceptable evidence of either employment and income, or the payment of taxes. In the event of an audit, the tax return must be the same, fixed record as it was given to Hannah by the IRS.	"If records are to serve as reliable evidence of business functions and processes, they need to be fixed and inviolable" Source: ISO 16175
Reliable Record: Hannah's tax documents must represent the activity of paying taxes. Any tax information received must be an accurate representation of the payment of taxes.	"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 which can be depended upon in the course of subsequent transactions or activities." Source: ISO 15489
Useable/Accessible Record: In the event of an audit, Hannah must be able to access her tax documentation in a timely fashion.	"Records must continue to reflect content, structure and context within any systems by which the record are retained over time." Source: Pittsburgh Project, *Functional Requirements for Evidence in Recordkeeping*

Preserved Record: Tax documents must keep their same form and information if they are transferred from an emailed format to a downloaded computer file. The content and structure of the record must be retained if it is stored in more than one location or moved from one location to another over time.	"Records systems should be managed in compliance with requirements arising from business, community, or societal expectations and the legal and regulatory environment." Source: ISO 15489
Compliant Recordkeeping System: Hannah's tax documents should be kept in a recordkeeping system that keeps her in compliance the IRS' legal tax requirements. Hannah should keep her records in a way that allows her to submit the correct documentation to the IRS and to store and retrieve her tax returns in the case of an audit.	"Records systems should be managed in compliance with requirements arising from business, community, or societal expectations and the legal and regulatory environment." Source: ISO 15489
Integrity/Security: Due to the sensitive nature of the contents of tax documents, they must be kept in a secure recordkeeping system. The personal information contained in them, such as a social security number, needs to be protected.	"You're responsible for what you do with your Google Account, including taking reasonable steps to keep your Google Account secure, and we encourage you to regularly use the Security Checkup." Source: Google Terms of Service
Storage: Hannah's tax documents should be able to be stored for the appropriate retention period stipulated by the IRS.	Systems should be capable of "appropriately maintaining records in consideration of their form, use and value for as long as they are legally required." Source: DIRKS

Risk Level: High

If Hannah does not retain her tax documents and is not able to access her tax returns it could pose a risk if she is audited. Hannah also needs to ensure the security of her Gmail account so that sensitive tax and personal information is not taken from tax documents residing in her inbox. Hannah also faces legal risk by not paying taxes on time and keeping her tax records organized.

Function: Resident

ACTIVITY | MAINTAINING A COPY OF THE LEASE		JULY 2012-PRESENT
The activity of ensuring protection for all stakeholders by retaining a copy of the signed lease agreement.		
TRANSACTION	**RECORDS LOCATION**	**FILE FORMAT**
Receiving a copy of the lease agreement	Gmail > Boring Business	Email
Downloading a copy of the lease agreement	Laptop > Desktop > Lease Unit 1 1 1 2020	.jpeg

The record of Hannah's lease must be *accurate, reliable, and understandable* and her recordkeeping system must be *systematic,* and she needs to *migrate* the copy as a recordkeeping process.

RECORDKEEPING REQUIREMENTS	RELEVANT CITATION
Accurate Record: Email correspondence should reflect any issues Hannah encounters with her apartment fully and should also reflect any important information sent to her from her landlord regarding her lease. These email records must communicate fully any interaction with her landlord to maintain her lease.	"The content of records must be quality controlled at input to ensure that information in the system correctly reflects what was communicated in the transaction." Source: Pittsburgh Project, *Functional Requirements for Evidence in Recordkeeping*
Reliable Record: The copy of the lease needs to be trusted as a reliable source of information on Hannah's lease agreement and the stipulations Hannah must keep in order to live at her place of residence.	"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 which can be depended upon in the course of subsequent transactions or activities." Source: ISO 15489

Understandable Record: The record of the lease needs to be clearly understood as a lease agreement. The content of the record should only be a copy of the agreement.	"The relationship between elements of information content must be represented in a way that supports their intended meaning." Source: Pittsburgh Project, *Functional Requirements for Evidence in Recordkeeping*
Systematic Recordkeeping System: Hannah's should maintain a file structure on her desktop so these records are easily accessed without too much effort on her part.	"The recordkeeping system is itself structured in a lawful and appropriate way." Source: GARP
Migration: Hannah should retain a copy of her lease in her email until she is sure her copy on her desktop is reliable and she ensures she integrity of her copy.	"During migration or conversion, all record content and its associated metadata in the originating system or format should be retained until the process is finished and the integrity and reliability of the destination system or format have been controlled and secured." Source: ISO 15489

Risk Level: High

Hannah should maintain a copy of her lease so she does not break any stipulation in the contract and face any repercussions from her landlord. There is also potential for a lawsuit from her landlord for breaking her lease contract. The lease is also important if Hannah decides to change residence. In order to maintain her current place of residence, Hannah needs to have access to her lease.

Function: Resident

ACTIVITY | COMMUNICATING WITH LANDLORD AND UTILITY PROVIDERS JULY 2012-PRESENT

The activity of communicating with stakeholders via email regarding apartment updates, maintenance requests, and utilities.

TRANSACTION	RECORDS LOCATION	FILE FORMAT
Communicating with landlord	Gmail > Inbox	Email
Communicating with utility providers	Gmail > Inbox	Email

Hannah's records must be *accurate, authentic, and understandable* and her recordkeeping system must be *systematic* to communicate with her landlord and utility providers.

RECORDKEEPING REQUIREMENTS	RELEVANT CITATION
Accurate Record: Email correspondence should reflect any issues Hannah encounters with her apartment fully and should also reflect any important information sent to her from her landlord regarding her lease. These email records must communicate fully any interaction with her landlord to maintain her lease.	"The content of records must be quality controlled at input to ensure that information in the system correctly reflects what was communicated in the transaction." Source: Pittsburgh Project, *Functional Requirements for Evidence in Recordkeeping*
Authentic Record: The email communication must be authentic so the landlord and utilities providers knows Hannah is the one who communicating and vice versa. The information shared within the emails needs to be accurate and trustworthy.	"An authentic record is one that can be proven to: be what it purports to be, have been created or sent by the agent purported to have created or sent it; and have been created or sent when purported." Source: ISO 15489

Understandable Record: The email records must clearly be understood as correspondence relating to Hannah's place of residence. She must be able to understand the content of the email records to support this activity.	"The relationship between elements of information content must be represented in a way that supports their intended meaning." Source: Pittsburgh Project, *Functional Requirements for Evidence in Recordkeeping*
Systematic Recordkeeping System: Hannah's Gmail needs to be structured in a way that allows her to access her records and distinguish between activities. The use of a folder system to sort her emails by function and activity would help to structure her emails.	"The recordkeeping system is itself structured in a lawful and appropriate way." Source: GARP

Risk Level: Moderate

If Hannah does not communicate properly with her landlord and utility providers she may encounter issues with her rent, lease, and other maintenance issues, therefore putting her place of residence in jeopardy and also running the risk that repairs are not made in a timely and correct fashion.

Step C – III. Create a Records Retention Schedule

Finally, we have created a functions-based records disposal authority that builds from the basic architecture of the business classification scheme.

Records Retention Schedule

Based on the analysis of recordkeeping expectations Hannah is bound to, we have created a Records Retention Schedule in accord with our subject's business classification scheme created in Step B.

Function	Activity	Records Series	Retention period	File Format	Details
Pet Owner	Acquiring pet supplies for Merlin	Buying supplies and tracking shipments	AC+1 year	Email	AC: After items have been received and don't need to be returned
Pet Owner	Arranging Merlin's medical care	Communications with vet office	AC+1 year	Email	AC: After vet appointment/treatment has completed
Pet Owner	Taking photos of Merlin	Photos of Merlin	Archival	.jpeg	Photos of Merlin are priceless and should be kept forever
Professional	Employed at UT-Austin as a Technical Associate	Work documents downloaded to laptop	AC+5 years	.doc, .pdf	AC: After the project has ended or in case of moving to a new job.
Professional	Continuing Professional Education	LinkedIn Learning files	AC+1 year	.pdf, .mp4	AC: After the course has completed
Professional	Maintaining submission materials for job opportunities	Resume, cover letter, list of references	Archival	.doc, .pdf	These should be kept and periodically updated until retirement
Graduate Student	Preparing and completing coursework	Coursework related files that have been downloaded	AC+1 year	.doc, .pdf	AC: Kept until the course has ended
Graduate Student	Paying tuition and fees	Financial activities associated with being a UT-Austin student	AC+4 years	Email, .doc, .pdf	AC: Should be kept until semester has ended or until graduation at the longest

Function	Activity	Records Series	Retention period	File Format	Details
Leisurite	Spending Time with friends and family	Participating in Zoom gatherings	AC+1 year	Email	AC: After the gathering has completed
Leisurite	Developing short digital films with found and original material	Collecting Inspiration	AC+1 year	.jpeg, mp4, mp3	AC: After migration into video creation software is complete
Leisurite	Traveling	Booking flights, lodging, and recreational activities	AC+1 year	Email	AC: After the trip has been completed
Leisurite	Traveling	Paying for flights, lodging, and recreational activities	AC+1 year	Email	AC: After the trip has been completed
Leisurite	Competing, Training, and Exercising	Registering for organized marathon and half-marathon events	AC+1 year	Email	AC: After the race is completed
Leisurite	Competing, training, and exercising	Registering for yoga and spin classes	AC+1 year	Email	AC: After the class is completed
Taxpayer	Paying taxes	Receiving tax records	AC+3 years	Email	AC: The IRS recommends tax returns should be held for three years after the filing date.
Taxpayer	Paying taxes	Communicating with TurboTax professionals	AC+3 years	Email	AC: After filing taxes
Taxpayer	Paying taxes	Receiving tax return	AC+3 years	Email, .pdf	AC: The IRS recommends tax returns should be held for three years after the filing date.
Resident	Communicating with landlord and utility providers	Communicating with landlord	AC+4 years	Email	AC: After the termination of the lease, the statute of limitations in Texas for a lawsuit between a landlord is four years.
Resident	Communicating with landlord and utility providers	Communicating with utility providers	AC+4 years	Email	AC: After the termination of the lease, the statute of limitations in Texas for a lawsuit between a landlord is four years.
Resident	Maintaining a copy of the lease	Downloading a copy of the lease agreement	AC+4 years	.jpeg	AC: After the termination of the lease, the statute of limitations in Texas for a lawsuit between a landlord is four years.
Resident	Maintaining a copy of the lease	Receiving a copy of the lease agreement	AC+4 years	Email	AC: After Hannah ensures her copy has reliability and integrity on her desktop after download and the statute of limitations.

Key:
AC: After close

Step D

The goal of Step D is to "identify and analyze existing recordkeeping systems and other information systems to measure their performance against the requirements for records." - DIRKS Manual

It is important to undertake the analysis in Step D to evaluate whether or not the existing recordkeeping systems provide the functionality required by Dubbe. The knowledge obtained in this step will help to determine if the systems need to be replaced or better utilized.

Parts of Step D

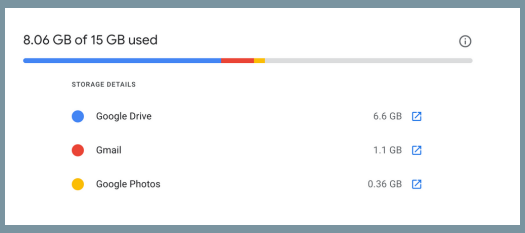
Part I
Description of Dubbe's recordkeeping systems. This part of Step D will specifically address the functionality, use, management, policies, tools, and data maintenance of these systems.

Part II
Gap Analysis of the recordkeeping systems from the perspective of the previously defined recordkeeping requirements.

Part III
Summary of the strengths and weaknesses of Dubbe's existing recordkeeping systems.

System Description: Gmail

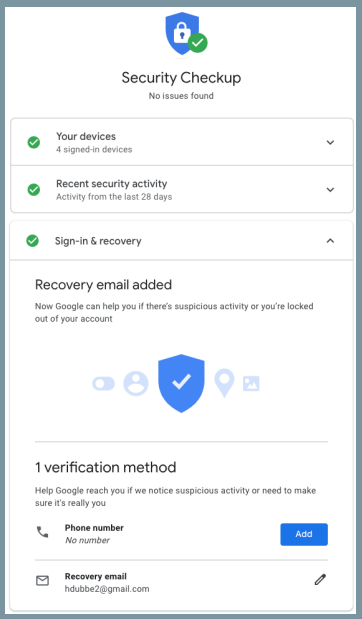
Gmail, administered by Google, is a cloud-based email service also known as a Software as a Service Cloud application (SaaS). Dubbe is the sole user of this Gmail account and its current size is 1.1 GB.



Technical Specifications

Storage Capacity:
Google offers 15 GB of free storage shared between Google Drive, Gmail, and Google Photos. Dubbe is using just over half of the storage currently avaiable to her, although only 1.1 GB of that storage is being used for her Gmail account. Additional storage can be purchased from Google.

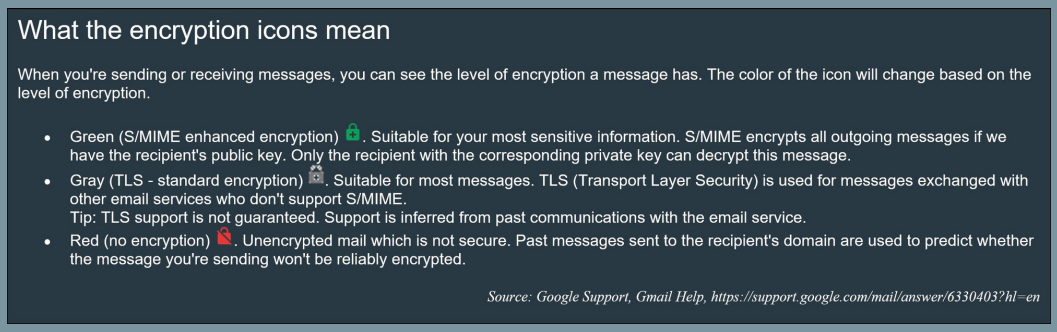
Key System Risks



According to Google's Terms of Service which must be agreed to upon making a Gmail account. Google maintains the right to suspend or terminate a Google account and remove any of the content therein if the user or content is in violation of the Terms of Service. Also, according to Google's Terms of Service, it is the responsibility of the Google Account holder to reasonably secure their Google Account. Gmail offers a security checkup to evaluate and improve user security settings. This checkup includes the devices currently signed-in to the account, recent security activity, as well as sign-in and recovery. Also included is the third-party application that are connected to the user's Gmail account. Dubbe currently has one verification method and has not set up 2-factor authentication. She also has four devices connected to her Gmail from which she accesses her account.

Gmail automatically uses S/MIME to support enhanced encryption of emails in transit when possible, if S/MIME is enabled on the Gmail account. Gmail utilizes colored symbols to inform the user of what level of encryption is supported by the recipient(s) of the email. Gmail recommends removing any confidential information when a user sees the red lock icon. (See more about the encryption icons on the next page).

Key System Risks continued



What the encryption icons mean

When you're sending or receiving messages, you can see the level of encryption a message has. The color of the icon will change based on the level of encryption.

- Green (S/MIME enhanced encryption) . Suitable for your most sensitive information. S/MIME encrypts all outgoing messages if we have the recipient's public key. Only the recipient with the corresponding private key can decrypt this message.
- Gray (TLS - standard encryption) . Suitable for most messages. TLS (Transport Layer Security) is used for messages exchanged with other email services who don't support S/MIME.
  Tip: TLS support is not guaranteed. Support is inferred from past communications with the email service.
- Red (no encryption) . Unencrypted mail which is not secure. Past messages sent to the recipient's domain are used to predict whether the message you're sending won't be reliably encrypted.

Source: Google Support, Gmail Help, https://support.google.com/mail/answer/6330403?hl=en

Backup, Disposition, and Migration

Gmail's "archive" feature moves an email from the Inbox to the All Mail system label. It remains searchable but is no longer cluttering the user's Inbox. In this space, it is closer to being preserved and inviolate because it is less prone to accidental or intended damage or destruction by the primary user.

Google automatically backs up user data. One manner of backup is conducted on offline servers. Additionally, Google uses encrypted backup storage.

Despite the security features built-in to Gmail, the largest risk to data stored in the Gmail system is users. Gmail understands the commands it receives and executes them without question. This makes the system vulnerable to accidental and malicious data deletion.

In Gmail, the main option for disposition is deletion. When a user deletes an email, it is labeled "Trash" and moved from the "Inbox" label to the "Trash" label. The email will remain in the Trash label for a 30 day recovery period after which it will be automatically "deleted forever," an option that the user can choose at any time under this label.

According to Google's Privacy & Terms, Technologies, Google works to safely and completely delete user data. When an email is moved to the Trash label by a user, Google automatically starts to remove that data from view. After the 30 day recovery period has passed or when the user selects the "Delete Forever" option, Google begins to remove the offline server backups, which can take approximately 60 days. Lastly, Google addresses the encrypted backups. Deletion of this data can take up to six months.

Additionally, Google offers users the ability to migrate their data from Gmail with Google Takeout. This service allows users to download their messages and attachments from Gmail, including all mail data, at any time. These migrations can be done manually or set up to occur automatically. Furthermore, it can be set up to migrate only certain labels. This service allows Dubbe to download .MBOX files that can be easily imported into Apple's Mail app.

Types of Physical Form of Data Stored

The forms Dubbe's records take in her Gmail account are emails and email attachments. The email attachments tend to align with the file formats most utilized in her MacBook Pro system, either .doc, .pdf, or .jpeg.

Metadata

Gmail automatically collects metadata with each email. This metadata is useful in classification and indexing, especially while maintaining a retention and disposition schedule. Additionally, this data ensures that the record has integrity is reliable, authentic, and identifiable, making the record usable and accessible.

This metadata includes,

from - the sender

to - the receiver

cc - the other receivers

date - the date and time the email was sent

subject - the subject assigned to the email

mailed-by - the email was authenticated and mailed by the listed

signed-by - the email was authenticated and signed by the listed

security - the level and type of encryption used when sending the message

important - a marker to note the message as important

from:	**Hannah N Dubbe** <hdubbe@utexas.edu>
to:	Rebecca Wells <rebecca.wells@utexas.edu>
cc:	Claire L Ridley <clridley@utexas.edu>, Erin R Coupal <erin.coupal@utexas.edu>
date:	Apr 7, 2021, 4:28 PM
subject:	Re: DIRKS - Team Green
mailed-by:	utexas.edu
signed-by:	utexas-edu.20150623.gappssmtp.com
security:	Standard encryption (TLS) Learn more
:	Important mainly because you often read messages with this label.

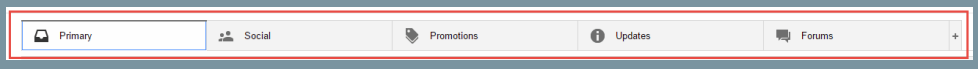
**This screenshot is not from the Gmail account being analyzed and is used as a general illustration of the metadata captured by Gmail.*

Classification and Indexing Functionality

Dubbe does not fully utilize the classification and indexing capabilities of her Gmail account, which has multiple means by which to classify and index records. Currently, she has the Inbox, Social, and Promotions category tabs active. She also uses the system labels and one custom label, Boring Business.

Categories

When enabled, Gmail can automatically classify and index the emails received by an account into a variety of different inbox tabs called categories. These categories are pre-set (Primary, Social, Promotions, Updates, and Forums) and can be shown or hidden based on the user's preference.



System Labels and Labels

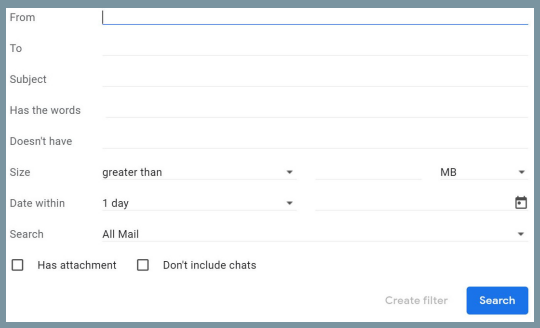
System labels and labels, provide similar functionality to the common folder. All labels can be shown or hidden based on the user's preference. Gmail has system labels in which messages are automatically sorted (Inbox, Starred, Snoozed, Important, Chats, Sent, Scheduled, Drafts, All Mail, Spam, and Trash). The user can also create their own labels and nested labels into which they can move messages or have them automatically filtered. For example, Dubbe currently uses the label "Boring Business."

Stars

Assigning stars, or the other symbols available in Gmail (still known as stars), allows for classification. The account user can personally associate each star for various functions or activities. The starred messages will be aggregated into a system label titled "Starred" and can easily be searched using the Gmail search function. All starred messages can be retrieved or a special search, using a phrase such as "has:yellow-star," can retrieve messages classified and indexed with specific stars.

Filters

Gmail filters can be created by the user to automatically classify and index incoming emails. These filters can be created using one, or a combination of, the filtering criteria as seen in the image below. Filters can easily be used in conjunction with labels and stars. Creating filters uses the same criteria as the Gmail search function making it very simple to control and retrieve Gmail content.



Dubbe's Gmail Uses

- Graduate Student
  - **Paying tuition and fees** – June 2020-present
    - Applying for the Staff Tuition Assistance Program
    - Applying for federal financial aid and privately distributed scholarships
    - Drafting promissory notes for scholarships
- Leisurite
  - **Spending time with family and friends virtually** – March 2020-present
    - Participating in Zoom gatherings
  - **Traveling**
    - Booking flights, lodging, and recreational activities
    - Paying for flights, lodging, and recreational activities
  - **Competing, training, and exercising** – January 2016-present
    - Registering for organized marathon and half-marathon events
    - Registering for yoga and spin classes
- Taxpayer
  - **Paying taxes** – March 2012-present
    - Receiving tax records
    - Submitting tax return
    - Communicating with TurboTax professionals
    - Receiving tax return
- Pet Owner
  - **Supplying Merlin's daily needs** – January 2020-present
    - Receiving receipts of purchases
    - Tracking of shipments
  - **Arranging medical care** – January 2020-present
    - Scheduling vet appointments
- Resident
  - **Communicating with landlord and utility providers** – July 2012-present
    - Communicating with landlord
    - Communicating with utility providers
  - **Maintaining a copy of the lease** – July 2012-present
    - Receiving a copy of the lease agreement
- Professional
  - **Maintaining up to date submission materials for professional opportunities** – June 2015-present
    - Creating and updating resume
    - Writing cover letters tailored to specific opportunities

Collection and Storage

Dubbe accesses her Gmail account daily, collecting and storing information regarding a variety of her functions and activities.

Access and Retrieval

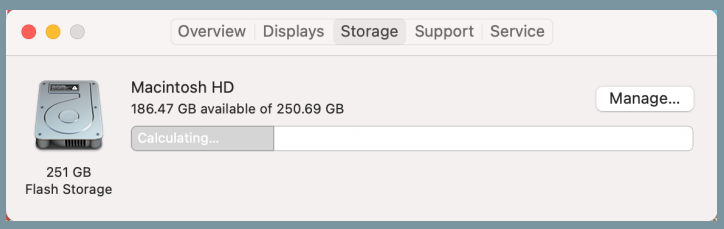
In order to access and retrieve records stored in her Gmail account, Dubbe either browses or searches among the records and ROT. She browses the system labels, such as the Inbox and Sent or she utilizes Gmail's search function.

Disposition, Backup, and Migration

Dubbe places email messages, with occasional attachments, into the Trash system label of her Gmail account to dispose of them. She utilizes the label Boring Business to "archive" emails and attachments. Dubbe does not migrate messages from her Gmail account. Occasionally, she will download an attachment onto her MacBook Pro.

System Description: Laptop

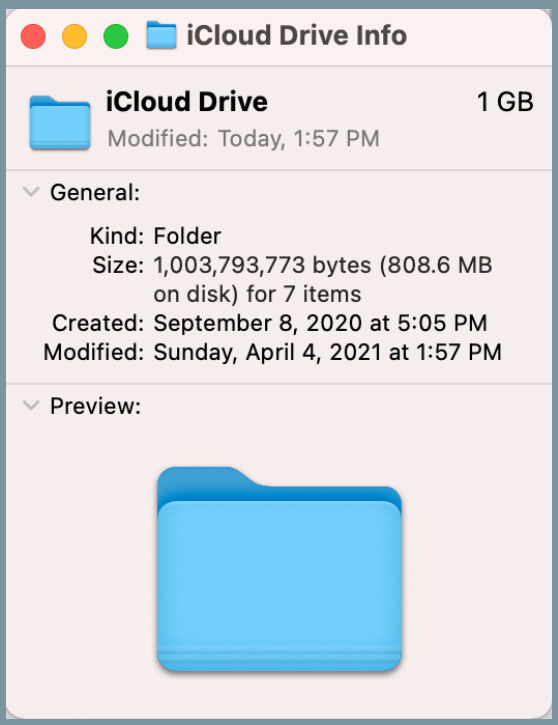
Dubbe's MacBook Pro, is a local laptop computer currently 64.22 GB in size. Dubbe is the sole user.



Technical Specifications

Storage Capacity:

The hard drive capacity of Dubbe's laptop is 251GB of Flash Storage. Of the 251 GB storage on her laptop, 5.31 GB is unusable as it is required for system functionality. Dubbe has currently used 64.22 GB of her available 250.69 GB, leaving 186.47 GB available for use.



A popular additional storage option for Apple devices is Apple's iCloud. Apple offers iCloud storage which stores information on Apple's remote servers rather than on the physical device. This information is synced across all the user's Apple devices, and can be retrieved from the cloud to be added to a new device or in the case the users device is lost or destroyed (say, by a spilled water bottle). When signing up for Apple's iCloud service the user receives 5 GB of free storage. Additional storage can be purchased at a monthly subscription rate of $0.99 for 50 GB, $2.99 for 200 GB, or $9.99 for 2 TB. Dubbe currently has 1 GB of iCloud Drive storage and is utilizing 808.6 MB for 7 items.

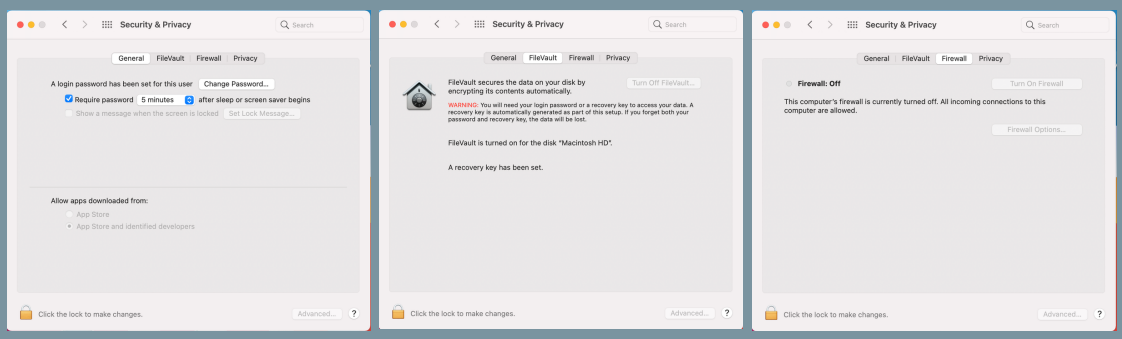
Key System Risks

Dubbe manages the log-in credentials for her MacBook Pro and given that the computer is owned by Dubbe, she is limited mostly by the functionality and tools of the system, not so much by policies or procedures.

One system risk Dubbe currently faces is delays in system software updates because she has the automatic software updates turned off on her laptop. Software updates contain app updates and, more importantly, security updates.

Key System Risks continued

Additionally, Dubbe has set up her MacBook's Security and Privacy settings. Generally, a password is required after 5 minutes following sleep or screen saver making it so only Dubbe can log back into her laptop. All of the data saved to Dubbe's MacBook Pro disk is automatically encrypted by FireVault. A recovery key is required to access this data and Dubbe has set that recovery key so that no unauthorized users can access the data stored on her disk. Lastly, Dubbe has the Firewall turned off leaving her laptop vulnerable to malware and hackers.



Classification and Indexing Functionality

Dubbe does not utilize the classification and indexing capabilities of her MacBook Pro, which has multiple means by which to classify and index records. Currently, her Desktop has 199 items, 10 folders; Documents folder has 432 items, 2 folders; and Downloads folder has 58 items.

Finder Tags

Assigning Finder Tags to files allows for classification. These tags can be customized to fit the needs of Dubbe by establishing tags for her various functions. The tags will appear in the Finder window as aggregations and can easily be searched using the Finder function. These classified records are indexed and therefore retrievable.

Folders

Similarly, folders and subfolders can be used to classify records into Dubbe's different functions and activities. The aggregations of these records will appear in the Finder window and the records within them can be found using the Finder function making them indexed and therefore retrievable.

Stacks

Unique to the Desktop of a MacBook Pro, stacks can be utilized as a classification and indexing method. Stacks automatically group records and folders based on the criteria established by the user; examples of which are, by file format, date (created or last opened), or Finder Tags.

Types of Physical form of Data Stored

Dubbe primarily stores .doc, .pdf, .jpeg, .mp3, and .mp4 formats on her MacBook Pro. Of these five file formats, the majority of Dubbe's files are either .doc, .pdf, or .jpeg.

Metadata

The three main file formats Dubbe utilizes for recordkeeping collect metadata that ensures the records are identifiable and useable/accessible. The records are identifiable because the metadata captures attributes which make them unique. The records are useable/accessible because the captured metadata includes what is required to access and retrieve the records. The metadata captured includes:

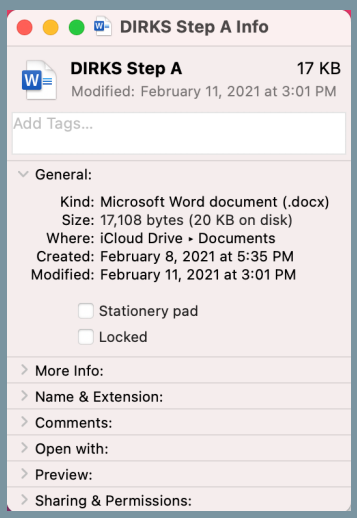
Kind - the file format (e.g. Microsoft Word Document, PDF document, JPEG image)

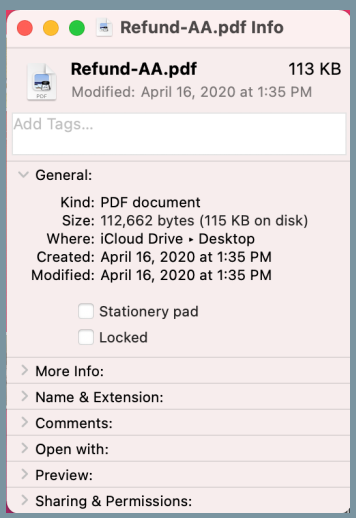
Size - the size of the record, including the space it takes up on the disk

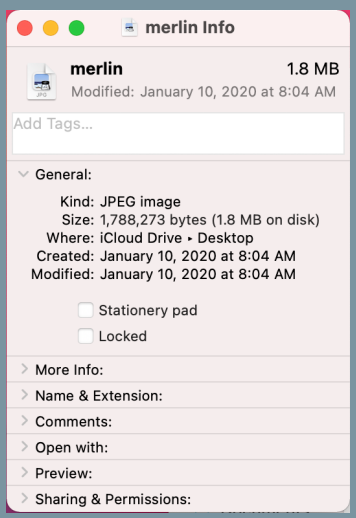
Where - the location where the record is saved

Created - the date and time the record was created

Modified - the date and time the record was last modified







Dubbe's Laptop Uses

- Graduate Student
  - **Preparing and completing coursework** – August 2020-present
    - Downloading / accessing assigned readings
    - Composing assignments and group work
  - **Paying tuition and fees** – June 2020-present
    - Applying for federal financial aid and privately distributed scholarships
    - Drafting promissory notes for scholarships
- Leisurite
  - **Developing short digital films with found and original material** – October 2012-present
    - Collecting inspiration
- Taxpayer
  - **Paying taxes** – March 2012-present
    - Receiving tax return
- Pet Owner
  - **Photographing Merlin** – January 2020-present
    - Uploading photos of Merlin from phone and camera
- Resident
  - **Maintaining a copy of the lease** – July 2012-present
    - Downloading a copy of the lease agreement
- Professional
  - **Employed as Digital Stewardship Library Technical Associate at UT Austin** – April 2018 – present
    - Creating and downloading work records
  - **Continuing professional education** – April 2018 – present
    - Completing LinkedIn Learning (formerly Lynda) exercise files for programming platforms and languages (e.g. Python, Linux, Unix, etc.)
  - **Maintaining up to date submission materials for professional opportunities** – June 2015-present
    - Creating and updating resume
    - Writing cover letters tailored to specific opportunities
    - Retaining up-to-date list of professional and academic references

Collection and Storage

Dubbe accesses her MacBook Pro laptop daily, collecting information and storing information regarding a variety of her functions and activities.

Access and Retrieval

In order to retrieve records stored on her laptop, Dubbe browses through individual records on her Desktop or in her Downloads or Documents folders. She utilizes the MacBook Finder function to search the data stored on her computer.

Disposition, Backup, and Migration

Dubbe places records into the Trash Bin on her laptop to dispose of them. She utilizes an external hard drive to migrate documents related to her filmmaking. Because Dubbe does not follow a retention schedule, the disposition, backup, and migration of records is inconsistent.

Gap Analysis: Gmail

Dubbe uses her Gmail account in every function of her daily life as identified in Step B. According to the records retention schedule developed in Step C, nearly every record created or captured by Dubbe in her Gmail account is an active record that will not transition to an inactive record for retention or migration (for continued retention). A few records created or captured in her Gmail account—specifically in the Boring Business label—will make the transition to inactive records. These records were identified in previous steps. Dubbe receives tax documents and returns in her Gmail account, which she labels as Boring Business. The retention schedule identifies these documents as requiring retention for 3 years after close. It was suggested in Step C that these records be migrated onto her laptop for retention. Additionally, Dubbe uses the Boring Business label in Gmail as a back up location for her submission materials for job opportunities (resume, cover letters, and references) which have been identified as becoming archival after close, being retained until retirement.

GMAIL		
RECORDS	SYSTEM	PROCESS
☒ Complete ☒ Accurate ☒ Fixed ☒ Reliable ☒ Authentic ☒ Identifiable ☒ Integrity ☒ Understandable ☒ Meaningful ☒ Useable/Accessible ☒ Preserved ☒ Removable	☒ Systematic ☒ Compliant ☒ Accountable ☒ Comprehensive ☒ Reliable ☒ Integrity/Security ☒ Accessible	☒ Capture ☒ Registration ☒ Classification and indexing ☒ Appraisal, retention, and disposal ☒ Storage ☒ Searching, retrieval, and rendering ☒ Data backup, preservation, and recovery ☒ Migration ☒ Use/Tracking
Key ☒ Compliant - System is capable of being compliant and it is being used in such a manner ☒ Semi-Compliant - System is capable of being compliant but it is not being used in such a manner ☒ Non-Compliant - System is incapable of being compliant		

Compliant

Records
The constraints of creating a record in Gmail means records have the characteristics of being complete, fixed, authentic, identifiable, integrity, understandable, and meaningful.

System
Gmail is a robust and user-friendly system making it comprehensive, reliable, and accessible.

Process
Gmail requires all users to have log-in credentials and tracks log-ins. It also automatically assigns unique metadata to each email for registration purposes.

Semi-compliant

Records
Dubbe does not follow a controlled policy or procedure when creating or disposing of records in Gmail, meaning her records are not accurate, reliable, or removable. Gmail's 30 day recovery period for deleted emails allows for Dubbe to recover intentionally or accidentally deleted emails for the purpose of preservation. Despite Gmail's classification and indexing tools, Dubbe utilizes only one label, "Boring Business," to identify transactions, making her records difficult to locate or retrieve.

System
Dubbe's lack of policies and procedures also leads to a non-systematic and accountable use of the system. Although Gmail has security functions, including 2-factor authentication, Dubbe utilizes only the minimum security requirements of retaining a Gmail account. This means that the system is capable of compliance, but Dubbe's current use of the system is non-compliant.

Process
Dubbe needs to utilize classification and indexing processes to ensure automatic system links at capture as well as reliable search, retrieval, and rendering. Dubbe must manually implement strategies for appraisal, retention, and disposal as well as the storage and migration of her data.

Non-compliant

Records, System, and Process
Through implemented manual policies, procedures, and processes, Dubbe can bring Gmail into compliance as a characteristically good recordkeeping system for the functions and activities defined in the business classification scheme defined in Step B and the retention and disposition schedule defined in Step C.

Gap Analysis: MacBook Pro

Dubbe uses her laptop in every function of her daily life as identified in Step B. According to the records retention schedule developed in Step C, most documentation created by Dubbe on her MacBook Pro consists of active and transitory records that will not transition to an inactive status for purposes of retention or migration (for continued retention). Examples of such transactional records include academic readings, current work-related documents, and short film inspiration that will be migrated to an external hard drive. Most importantly, Dubbe's active records require that they are usable/accessible, accurate, authentic, and reliable.

As identified in the retention schedule, some documents on Dubbe's laptop will transition from active to inactive records. These records represent legal obligations, personal investment, and professional advancement, in the form of tax documents, photos of Merlin, and job application materials.

MacBook Pro		
Records	**System**	**Process**
☒ Complete ☒ Accurate ☒ Fixed ☒ Reliable ☒ Authentic ☒ Identifiable ☒ Integrity ☒ Meaningful ☒ Understandable ☒ Usable/Accessible ☒ Preserved ☒ Removable	☒ Systematic ☒ Compliant ☒ Accountable ☒ Comprehensive ☒ Reliable ☒ Integrity/Security ☒ Accessible	☒ Capture ☒ Registration ☒ Classification and indexing ☒ Appraisal, retention, and disposal ☒ Storage ☒ Searching, retrieval, and rendering ☒ Data backup, preservation, and recovery ☒ Migration ☒ Use and tracking
Key ☒ Compliant - System is capable of being compliant and it is being used in such a manner ☒ Semi-Compliant - System is capable of being compliant but it is not being used in such a manner ☒ Non-Compliant - System is incapable of being compliant		

Compliant

Records
Currently, Dubbe utilizes the functionality of her MacBook Pro to create records that are complete, identifiable, meaningful, understandable, and removable.

System
Dubbe's laptop is a reliable recordkeeping system that also allows her to share information. As the sole user, with a password required for entry, the system is secure and has integrity.

Process
The MacBook Pro automatically registers records and tracks usage through metadata.

Semi-Compliant

Records
Without policies, procedures, or intentional routine operation, Dubbe's laptop records are not accurate, fixed, reliable, authentic, nor do they have integrity, despite the system's capability. Dubbe does not utilize the laptop's functionality to make her records usable/accessible or preserved.

System
Dubbe is the manager of the system which provides her the opportunity to design routine operations that would support compliance. However, Dubbe does not employ the functionality of the system at all times to make it systematic, accountable, and overall compliant.

Process
Dubbe does not utilize recordkeeping processes to create entirely compliant records meaning capture, storage, migration, backup, preservation, and recovery, as well as appraisal, retention, and disposal are not compliant, despite the system's capability. One process that could greatly enhance searching, retrieval, and rendering is classification and indexing, a process for which the MacBook Pro has various tools.

Non-Compliant

Records, System, and Process
Dubbe's MacBook Pro is a characteristically good system that is capable of being compliant for all of the characteristics of good records and systems. The gap in compliance is with Dubbe's current use and setup of the system.

System Strengths and Weaknesses

Strengths and Weaknesses of Dubbe's Gmail Account

As a system, Gmail has many strengths. One of the most apparent for the everyday accessibility and use of the system would be the tools available for classification and indexing. Dubbe, as someone who does not like to spend much time participating in the naming and aggregation of her records could greatly benefit from these tools. By taking the time upfront to set up Stars, Labels, and Filters, much of the classification and indexing of her records would be automated going forward. Although Dubbe could take better advantage of Gmail's security services, a strength of the Gmail system is its built-in security features such as 2-factor authentication and encryption.

Overall, Gmail's weakness as a recordkeeping system for Dubbe is that she lacks control. Despite the customizability of the system for general use, the specifics of records management functions like appraisal, retention, disposal, storage, and migration are managed and administered by Google. As an email service, Google is less concerned with the recordkeeping compliance of these functions than Dubbe. As a result, Dubbe must manually implement these operations.

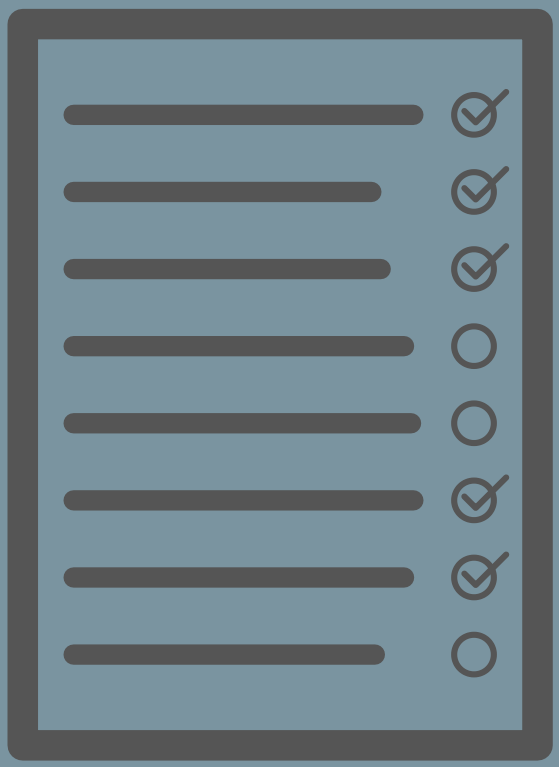
Strengths and Weaknesses of Dubbe's MacBook Pro

The majority of Dubbe's important records are stored on her laptop and recommendations have been made throughout this project to move important records from other systems to this system. One of the reasons for this is the strength of the MacBook Pro for automatic backup to Apple's iCloud, which requires additional setup by Dubbe. Another strength of the MacBook Pro is its tools for classification and indexing, specifically the Tags and Stacks. Similar to Gmail, investing time in the initial setup of these aggregators allows for automation going forward. Stacks are particularly of interest for Dubbe's records because they can be customized, are automatic, and reflect, in some ways, her existing processes.

The main weakness of Dubbe's MacBook Pro is in complete juxtaposition to her Gmail. As the manager of this system, she has control over the tools she implements. With this control, Dubbe has shut off automatic software updates and turned off the firewall leaving her system vulnerable to threats. Additionally, there is no one else in control of setting up the system to ensure compliance or that her records meet all of the characteristics of good recordkeeping.

Step D Summary

Overall, regardless of the system, Dubbe lacks strategies, policies, and procedures regarding her records. She does not have a policy or procedure that she follows explaining what records should be captured and how. Neither does she have retention strategies or a process in place for data backup and migration. Furthermore, Dubbe lacks adequate classification and file naming conventions that would aid in the access and retrieval of her records. All of this contributes to ROT and records that are not stored in appropriate, secure, ways. Every step in this project has identified these gaps and the development of a retention schedule in Step C began to present recommendations that will address these issues. Steps E and F will continue to provide recommendations, utilizing the gap analysis to address compliance issues.



Step E

Step E will identify strategies and tactics that can be put into place to achieve Dubbe's recordkeeping requirements as identified in Step C, focusing on remedying the weaknesses identified in Step D. Utilizing four broad categories of tactics, as defined below, the goal of this step to determine the combination of tactics that will best serve Dubbe and her current recordkeeping practices. In Step F, these tactics will be applied specifically in recommendations for achieving a useful, productive, and robust recordkeeping practice.

Recordkeeping Strategies

Policy

The policy strategy involves using policy or other forms of organizational rules as a means to meet recordkeeping requirements. Employing the policy strategy involves developing policies, procedures, practices, guidelines, business rules, or other instruments to specify what recordkeeping is, how it should be undertaken in your organization and the specific rules that apply to your recordkeeping system.

Strategies For Documenting Government Business: The Dirks Manual

Design

The design strategy enables you to design or redevelop recordkeeping systems in ways that enable your organisation to automatically meet its recordkeeping requirements...Using the design strategy makes recordkeeping less obvious or intrusive to employees by rendering it a routine or automatic part of doing business using the systems and technology available.

Strategies For Documenting Government Business: The Dirks Manual

Implementation

The implementation strategy involves considering the way in which you implement recordkeeping systems in your organisation. If systems are implemented in a particular way, you can ensure that recordkeeping requirements are met....Implementation strategies are particularly useful when there is user resistance to change, or design is not cost effective.

Strategies For Documenting Government Business: The Dirks Manual

Standards

This strategy concerns the use of technical standards as means of ensuring that recordkeeping requirements are met. Technical standards usually apply to the creation and management of electronic records or to the design of electronic systems...To incorporate technical standards within systems, you will need to consider elements of technical design.

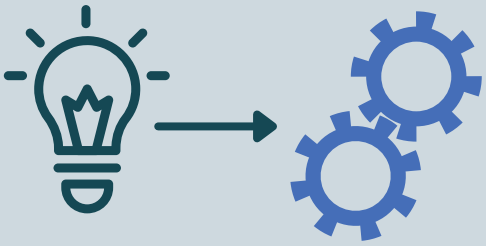
Strategies For Documenting Government Business: The Dirks Manual

Policy

Policies and procedures support consistent and compliant recordkeeping. Policy-based tactics can include codifying rules related to record classification, disposal and retention schedules, and security requirements that relate to records management. Dubbe's Gmail system is governed by policies that she does not directly manage, but the primary policy document for Dubbe's purposes will be this DIRKS Report and the recommendations within.

ISO 15489-1:2016(E)

The objective in issuing and implementing policies on managing records should be the creation, capture, and management of authentic, reliable, and useable records that possess integrity and support and enable business activity for as long as they are required.

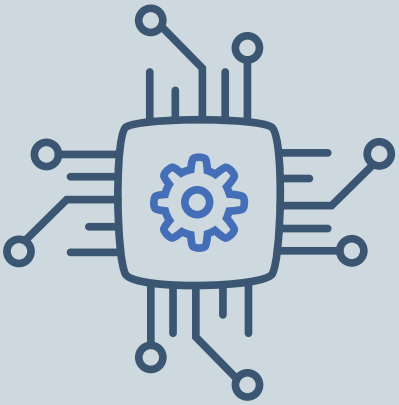


Implementation

An implementation strategy reviews the processes and systems available within the machine's capability and analyzes whether they are being used effectively By looking at the requirements identified in Step C and comparing them to the capabilities identified in Step D, this strategy will come into play most effectively in Dubbe's case.

Design

Design tactics support the development and use of technological solutions to create automated recordkeeping processes that eases the manual labor of engaging in record classification and indexing. As identified in Step D, Dubbe's systems are capable of significantly more complex design tactics than she currently utilizes. While it will require labor up front to set up these systems, it will benefit her in the long run.



Standards

Standards strategies relate directly to the technical capability and standards of electronic systems and files, from file format to system interoperability. Utilizing technical standards supports a preservation mentality as it relates primarily to system and file migration and ongoing accessibility. Dubbe's recordkeeping requirements, identified in Step C, do not require significant long term retention, so while technical standards will be considered in this analysis, it will not be the primary strategy used for recommendations.

Step E

System Specific Tactics

As determined in Step D, both of Dubbe's recordkeeping systems, Gmail and MacBook Pro, are semi-compliant in key areas relating to records, systems, and processes. In this part of Step E, we will introduce specific policy, standards, design, and implementation tactics for both systems to remedy the gaps determined in Step D and bring Dubbe's systems into compliance. These specific tactics will be further explained in Step F in more detail.

Gmail		
Records	System	Process
☒ Complete ☒ Accurate ☒ Fixed ☒ Reliable ☒ Authentic ☒ Identifiable ☒ Integrity ☒ Understandable ☒ Meaningful ☒ Useable/Accessible ☒ Preserved ☒ Removable	☒ Systematic ☒ Compliant ☒ Accountable ☒ Comprehensive ☒ Reliable ☒ Integrity/Security ☒ Accessible	☒ Capture ☒ Registration ☒ Classification and indexing ☒ Appraisal, retention, and disposal ☒ Storage ☒ Searching, retrieval, and rendering ☒ Data backup, preservation, and recovery ☒ Migration ☒ Use/Tracking

MacBook Pro		
Records	System	Process
☒ Complete ☒ Accurate ☒ Fixed ☒ Reliable ☒ Authentic ☒ Identifiable ☒ Integrity ☒ Meaningful ☒ Understandable ☒ Usable/Accessible ☒ Preserved ☒ Removable	☒ Systematic ☒ Compliant ☒ Accountable ☒ Comprehensive ☒ Reliable ☒ Integrity/Security ☒ Accessible	☒ Capture ☒ Registration ☒ Classification and indexing ☒ Appraisal, retention, and disposal ☒ Storage ☒ Searching, retrieval, and rendering ☒ Data backup, preservation, and recovery ☒ Migration ☒ Use and tracking

Specific Recordkeeping Tactics for Gmail

Accurate Records | Records must be quality controlled and must correctly reflect what was communicated in the transaction

DIRKS Step D Assessment: **Semi-Compliant**

Dubbe does not regularly assess the contents of her Gmail according to the retention schedule leading to an accumulation of ROT resulting in questionable accuracy

Strategies

Policy:

1. Upon receipt, emails need to be classified according to the retention schedule.
2. Emails that contain legal or regulatory information should be backed up into preservable format.

Design:

Using Gmail classification tools (labels, stars, and filters), identify email contents according to the retention schedule.

Implementation:

1. Utilize a third-party application to extract emails and attachments from Gmail.
2. Regularly download attachments with legal implications.

Reliable Records | Records must have stable content and correctly reflect a full transaction

DIRKS Step D Assessment: **Semi-Compliant**

Dubbe's current practices concerning email does not establish an authoritative transaction or document for future reference

Strategies

Policy:

Identify authoritative copies and follow procedures for ensuring preservation by classifying and/or downloading relevant information.

Implementation:

1. Create additional folders and/or labels to group conversations and mark priority correspondence automatically upon arrival.
2. Download information regularly to create complete records where legally mandated (residential, tax, etc.).

Useable/Accessible Records | Records must be able to be located and retrieved for presentation and interpretation

DIRKS Step D Assessment: **Semi-Compliant**

Without an established organizational strategy, Dubbe must utilize the search function to access emails with transactional and archival information

Strategies

Policy:

Utilize labels and filters to organize emails upon receipt.

Implementation:

1. Create labels that reflect the functions identified in the Business Classification Scheme in Step B.
2. Create filters to ensure incoming email is labeled according to the designations defined in the first step

Preserved Records | Records must reflect the content, structure, and context within any system they are retained over time

DIRKS Step D Assessment: **Semi-Compliant**

Dubbe does not follow a classification system that identifies records appraised as archival or otherwise requiring preservation

Strategies

Policy:

Emails must be marked according to their retention schedule and back-ups should be saved into another storage system (cloud storage, laptop hard drive, or external storage).

Standards:

Emails containing archival information should be transferred into readily accessible and archival formats that retain metadata.

Implementation:

Select a star icon that can be applied upon receipt and indicate whether the transaction is complete and should be migrated from Gmail into preservable formats on the laptop hard drive.

Removable Records | Content and structure of records must be verifiably removable with documented audit trail

DIRKS Step D Assessment: **Semi-Compliant**

As identified in Step D, Gmail permanently removes records labeled "Trash" after a 30-day period ensuring complete disposition of information

Strategies

Policy:

Follow the retention schedule to ensure timely and verifiable disposition of records once a transaction is closed.

Implementation:

Only label emails "Trash" once the transaction is closed and follow the classification system established to identify emails ready for disposition.

Systematic System | Routine operation of systems should be designable and utilized

DIRKS Step D Assessment: **Semi-Compliant**

Gmail classification tools are customizable and support automatic application of indexing and sorting

Strategies

Implementation:

Create a classification system as recommended in Step F.

Compliant System | Recordkeeping systems should be in compliance with all requirements that apply to the business documented in them

DIRKS Step D Assessment: **Semi-Compliant**

Dubbe uses Gmail as the primary correspondence platform for legal and regulatory records

Strategies

Policy:

Security measures should be implemented to protect legal and regulatory records.

Implementation:

1. Activate two-factor authentication for account access.
2. Migrate records designated "Archival" into long-term storage system.

Accountable System | Recordkeeping systems must be employed at all times and must have formal methodologies for their management

DIRKS Step D Assessment: **Semi-Compliant**

Gmail provides tools for accountable security and classification that Dubbe can utilize to bring the system into compliance

Strategies

Policy:

1. Implement all available classification tools to assist with organizational needs.
2. All available security measures should be activated to retain record integrity.

Implementation:

Follow recommendations in Step F to address security and classification schemes.

Integrity/Security | Control measures are implemented that prevent unauthorized access to records and accounts

DIRKS Step D Assessment: **Semi-Compliant**

Gmail is capable of multi-level security measures that Dubbe does not currently utilize

Strategies

Policy:

Security measures should be implemented to ensure greater security of access and content manipulation.

Implementation:

Using personal smart phone, follow Gmail steps for applying 2-step verification requiring a text message verification.

Capture | Information must be described during capture in a way that makes retrieval effective and efficient. Capture should be carried out systematically.

DIRKS Step D Assessment: **Semi-Compliant**

Implementing the classification and indexing tools in Gmail will ensure retrieval is in compliance

Strategies

Implementation:

Create labels, filters, and stars as recommended in Step F to classify email messages and follow retention schedule guidelines.

Classification and Indexing | Systems should be capable of arranging and retrieving records

DIRKS Step D Assessment: **Semi-Compliant**

Gmail provides several options for automatic classification and organization that Dubbe does not fully utilize

Strategies

Implementation:

1. Create labels according to Step F, then determine and create filters to automatically apply labels to incoming messages.
2. Manually apply stars as emails are received to identify additional actions as necessary according to the retention schedule.

Appraisal, Retention, Disposal | Records should be valued upon receipt and records systems should facilitate retention and disposal of records.

DIRKS Step D Assessment: **Semi-Compliant**

Dubbe receives transactional and archival information through her Gmail and could better utilize classification tools to indicate the value of records and track disposal

Strategies

Policy:

Incoming messages must be appraised according to the retention schedule.

Implementation:

Following recommendations in Step F, Dubbe should implement both automatic (filters) and manual (stars) classification systems that indicate the value of the record's contents.

Searching, Retrieval, Rendering | Records should be easily available with user search requests. Records are more likely to be used with well-designed storage processes.

DIRKS Step D Assessment: **Semi-Compliant**

Gmail provides search tools based on classification elements, so these must be implemented for search processes to be better utilized

Strategies

Standards:

Apply filters to incoming messages to automatically classify them for easy searching.

Storage | Systems should maintain records in consideration of their form, use, and value for as long as they are required

DIRKS Step D Assessment: **Semi-Compliant**

Gmail records are vulnerable to accidental or malicious tampering. Records containing archival information as identified in the retention schedule need to be migrated and/or backed up

Strategies

Policy:

Incoming messages with legal or regulatory implications must have further action assigned to them to retain necessary information in preservable formats.

Standards:

Google Takeout should be used to extract messages and their attachments in one action.

Implementation:

Assess value of incoming information and download or otherwise duplicate archival information to prevent accidental loss.

Data Backup, Preservation, and Recovery | Systems should support reliable extraction methods for preservation and recovery in the event of data loss.

DIRKS Step D Assessment: **Semi-Compliant**

Emails should be classified upon receipt and steps followed as recommended in Step F to ensure preservation of vital information. Gmail provides tools for manual and automatic extraction

Strategies

Policy:

All incoming records must be classified according to the retention schedule and backed up on another platform to prevent permanent data loss.

Implementation:

Follow instructions in Step F to use Google Takeout for extracting messages and attachments from Gmail in accordance with the retention schedule.

Migration | Systems should have the ability to move records from one system to another, while maintaining authenticity, integrity, reliability, and usability.

DIRKS Step D Assessment: **Semi-Compliant**

Google Takeout can be used for migration purposes as the extracted records can be opened in a variety of programs

Strategies

Standards:

Follow instructions to use Google Takeout for extracting messages and attachments from Gmail in accordance with the retention schedule.

Specific Recordkeeping Tactics for MacBook Pro

Accurate Records | Records must be quality controlled and must correctly reflect what was communicated in the transaction.

DIRKS Step D Assessment: **Semi-Compliant**

Due to Dubbe's lack of recordkeeping procedures her records lack accuracy and cannot be trusted as correct information.

Strategies

Policy:

Records must have standardized names to ensure accuracy of versions and what is contained.

Standards:

File formats must be standardized for records designated archival to ensure accuracy

Implementation:

1. Dubbe must create standardized record names to show both version history and what is contained within the record
2. Dubbe must change the file formats of her archivally designated files, if they are not already in the designated format.

Reliable Records | A record should be trusted as a full and accurate representation of the transaction or action they represent.

DIRKS Step D Assessment: **Semi-Compliant**

Due to Dubbe's lack of recordkeeping procedures her records lack reliability and cannot be trusted as complete representations of her activities.

Strategies

Policy:

Records must have standardized names to show version and what is contained in the record.

Standards:

File formats must be standardized for records designated archival to ensure future reliability.

Implementation:

1. Dubbe must create standardized record names to show both version history and what is contained within the record
2. Dubbe must change the file formats of her archivally designated files, if they are not already in the designated format.

Fixed Records | Records must have stable content.

DIRKS Step D Assessment: **Semi-Compliant**

Due to Dubbe's lack of recordkeeping procedures her records do not have fixity and are not stable.

Strategies

Policy:

Records naming should be standardized to show versions to ensure each record is in a fixed state.

Standards:

File formats must be standardized for records designated archival to ensure accuracy.

Implementation:

1. Dubbe must create standardized record names to show version history.
2. Dubbe must change the file formats of her archivally designated files, if they are not already in the designated format to ensure they are fixed in format.

Record's Integrity | A record must contain the content, structure and context generated by the transaction they document.

DIRKS Step D Assessment: **Semi-Compliant**

Due to Dubbe's lack of recordkeeping procedures her records currently lack aspects of the content and structure generated by her transactions.

Strategies

Standards:

1. File formats must be standardized for records designated archival to ensure future reliability.
2. The firewall must be turned on to ensure the protection of records against any malicious attacks on the system that would compromise the integrity of records.

Implementation:

1. Dubbe must change the file formats of her archivally designated files, if they are not already in the designated format.
2. Requiring Dubbe to turn the firewall on

Authentic Records | A RECORD SHOULD MUST BE ABLE TO PROVE TO BE WHAT IT PURPORTS ITSELF TO BE

DIRKS STEP D ASSESSMENT: **SEMI-COMPLIANT**

DUE TO DUBBE'S LACK OF RECORDKEEPING PROCEDURES HER RECORDS LACK AUTHENTICITY AND CANNOT WHOLLY PROVE THEMSELVES AS AUTHENTIC REPRESENTATIONS.

STRATEGIES

Policy:

Additional identity metadata should be added, particularly regarding documentary form and function.

Standards:

The firewall must be turned on to protect the authenticity of records from any malicious attacks while in storage on the hard drive.

Design:

Automatic software updates must be employed in order to protect the authenticity of Dubbe's records from software obsolescence and security risks.

Implementation:

1. Dubbe must add additional metadata to her records when they are created.
2. Dubbe must turn the firewall on to assure the authenticity of her records.
3. Automatic software updates must be turned on.

Useable/Accessible Records | RECORDS MUST BE ABLE TO BE LOCATED AND RETRIEVED.

DIRKS STEP D ASSESSMENT: **SEMI-COMPLIANT**

DUE TO DUBBE'S LACK OF ORGANIZATION IN HER RECORDS SHE CANNOT EASILY USE OR ACCESS HER RECORDS.

STRATEGIES

Policy:

1. A formal classification system is needed to organize records.
2. Records must have standardized names to ensure they can be easily located within a folder.

Design:

Automatic software updates should be employed to ensure that files are accessible with up-to-date software and that out-of-date software does not prohibit Dubbe from accessing any records.

Implementation:

1. Dubbe must create a folder structure so that she can easily access her records and use them.
2. Dubbe must standardize her record names so she can easily find a particular record within a folder, or if need be, easily search her desktop for a particular record
3. Require Dubbe to turn on automatic software updates so that her records remain useable

Preserved Records | Records must reflect the content, structure, and context within any system they are retained.

DIRKS Step D Assessment: **Semi-Compliant**

Due to Dubbe's lack of organization in her records she cannot easily use or access her records.

Strategies

Standards:

File formats must be standardized for records designated archival

Implementation:

Dubbe must change the file formats of her archivally designated files, if they are not already in the designated format to ensure the preservation of records if they are migrated.

Systematic System | Recordkeeping systems should be structured in an appropriate way

DIRKS Step D Assessment: **Semi-Compliant**

Due to Dubbe's lack of organization in her recordkeeping system her system is not properly structured.

Strategies

Policy:

1. A formal classification system is needed to organize records based on their functions.
2. Records must have standardized names to ensure they can be easily located within a folder.

Implementation:

1. Dubbe must create a folder structure so that her records are structured based on function.
2. Dubbe must standardize her record names so she can easily find a particular record within a folder, or if need be, easily search her desktop for a particular record

Compliant System | Recordkeeping systems should be in compliance with all requirements that apply to the business documented in them.

DIRKS Step D Assessment: **Semi-Compliant**

Due to Dubbe's current lack of a retention schedule in her recordkeeping system her current system is not fully compliant.

Strategies

Policy:

Records must not be deleted until specified by the retention schedule

Implementation:

Dubbe must follow her retention schedule and dispose of documents at the appropriate time and also retain those marked archival.

Accountable System | Recordkeeping systems must be employed at all times and must have formal methodologies for their management

DIRKS Step D Assessment: **Semi-Compliant**

Due to Dubbe's lack of organization in her recordkeeping system her system is properly management and she is not employing her system effectively.

Strategies

Policy:

1. A formal classification system is needed to organize records based on their functions.
2. Records must have standardized names to ensure they can be easily located within a folder.
3. Records must not be deleted until specified by the retention schedule.

Implementation:

1. Dubbe must create a folder structure by function to easily access records.
2. Dubbe must standardize her record names so she can easily find a particular record within a folder, or if need be, easily search her desktop for a particular record.
3. Dubbe must follow her retention schedule and dispose of documents at the appropriate time and also retain those marked archival.

Capture | Information must be described during capture in a way that makes retrieval effective and efficient. Capture should be carried out systematically.

DIRKS Step D Assessment: **Semi-Compliant**

Due to Dubbe's lack of organization in her recordkeeping she does not properly capture her records in a systematic way that is conducive to future use.

Strategies

Policy:

1. A formal classification system is needed to organize records based on their functions.
2. Records must have standardized names to ensure they can be easily located within a folder.
3. Additional identity metadata should be added, particularly regarding documentary form and function.

Implementation:

1. Dubbe must create a folder structure based on function to access records easily.
2. Dubbe must standardize her record names so she can easily find a particular record within a folder, or if need be, easily search her desktop for a particular record.
3. Dubbe must capture metadata when her records are created.

Storage | Systems should maintain records in consideration of their form, use and value for as long as they are required

DIRKS Step D Assessment: **Semi-Compliant**

Due to Dubbe's lack of retention schedule she does not maintain her records for an appropriate amount of time.

Strategies

Policy:

Records must not be deleted until specified by the retention schedule

Standards:

File formats must be standardized for records designated archival to ensure accuracy

Implementation:

1. Dubbe must follow her retention schedule and dispose of documents at the appropriate time and also retain those marked archival.
2. Dubbe must change the file formats of her archivally designated files, if they are not already in the designated format.

Searching, Retrieval, Rendering | Records should be easily available with user search requests. Records are more likely to be used with well-designed storage processes.

DIRKS Step D Assessment: **Semi-Compliant**

Due to Dubbe's lack of organization and standardization in her recordkeeping she cannot easily search for and retrieve her records.

Strategies

Policy:

1. A formal classification system is needed to organize records based on their functions.
2. Records must have standardized names to ensure they can be easily located within a folder.

Implementation:

1. Dubbe must create a folder structure based on function so she can easily retrieve records.
2. Dubbe must standardize her record names so she can easily find a particular record within a folder, or if need be, easily search her desktop for a particular record

Data Backup, Preservation, Recovery, Migration

DURING MIGRATION ALL RECORDS SHOULD BE RETAINED UNTIL THE PROCESS IS FINISHED TO ENSURE INTEGRITY.

CERTAIN RECORDS SHOULD BE BACKED-UP FOR PRESERVATION.

DIRKS STEP D ASSESSMENT: **SEMI-COMPLIANT**

DUE TO DUBBE'S LACK OF RETENTION SCHEDULE SHE DOES NOT MAINTAIN HER RECORDS FOR AN APPROPRIATE AMOUNT OF TIME AND SHE CURRENTLY DOES NOT BACK-UP HER RECORDS.

STRATEGIES

Policy:

1. Records must not be deleted until specified by the retention schedule.
2. Archival records should be backed-up to ensure their long term preservation

Standards:

File formats must be standardized for records designated archival to they are preserved properly.

Design:

Automatic iCloud storage backup should be utilized.

Implementation:

1. Dubbe must follow her retention schedule and dispose of documents at the appropriate time and also retain those marked archival.
2. Dubbe must change the file formats of her archivally designated files, if they are not already in the designated format.
3. Require Dubbe to set-up automatic iCloud storage backup.

Appraisal, Retention, Disposal

RECORDS SYSTEMS SHOULD FACILITATE RETENTION AND DISPOSAL OF RECORDS. APPRAISAL SHOULD BE CONDUCTED WHEN A FUNCTION IS GAINED OR LOST.

DIRKS STEP D ASSESSMENT: **SEMI-COMPLIANT**

DUE TO DUBBE'S LACK OF RETENTION SCHEDULE SHE DOES NOT RETAIN AND DISPOSE HER RECORDS FOR THE PROPER LENGTH OF TIME.

STRATEGIES

Policy:

Records must not be deleted until specified by the retention schedule.

Standards:

File formats must be standardized for records designated archival to ensure they are stored properly.

Implementation:

1. Dubbe must follow her retention schedule and dispose of documents at the appropriate time and also retain those marked archival.
2. Dubbe must change the file formats of her archivally designated files, if they are not already in the designated format.

Step E:
Will these Tactics be Adopted?

With the introduction of policy, standards, design, and implementation tactics, there are key factors that will determine Hannah's success or failure in the process of implementation.

Supporting Factors

The implementation of key design tactics, like automatic software updates and iCloud backup, will ensure guaranteed improvement in Dubbe's recordkeeping practices with little effort past initial implementation. Allowing Dubbe's systems to work automatically will mean that she will spend less effort on improving certain aspects of her system. This, in turn, will allow her to dedicate that time to changing her current attitudes towards recordkeeping and take a more active approach in key areas like classification and organization of her records. Luckily, on both her systems, Gmail and Macbook Pro, the recordkeeping capabilities are available, Dubbe just needs to ensure she capitalizes on their recordkeeping functions. Dubbe's Macbook has functions that will help her automatically classify files and will encourage file organization on her desktop. Similarly, her Gmail has the capabilities to automatically classify and index her emails. All Dubbe needs to do is set up these functions and allow them to classify her records. Implementing these tactics will only serve to improve Dubbe's overall recordkeeping function and will not hinder any current strengths in her recordkeeping.

Limiting Factors

One major factor that will affect the implementation and adoption of these tactics is Dubbe's current culture around recordkeeping. Currently, Dubbe does not fully engage with the recordkeeping capabilities of either of her systems. While these functions exist and can be easily used and implemented in both her MacBook and Gmail, she employs neither. Her current, laissez-faire approach to recordkeeping is going to be a difficult habit to break. While there are tools that Dubbe can use to automate certain recordkeeping processes, she will have to make the transition to being more involved in her recordkeeping. This transition could prove to be difficult at first because of its stark contrast to her current habits. Dubbe's greatest risk in not satisfying these requirements is the loss of her archivally marked documents. If Dubbe does not implement key tactics, such as the backup of these files, she has the potential to permanently lose important records. Not implementing tactics, such as a file structure or standardized record names, carry less risk, but Dubbe will continue to not be able to easily find files and can easily lose files due to the volume she retains.

Step F

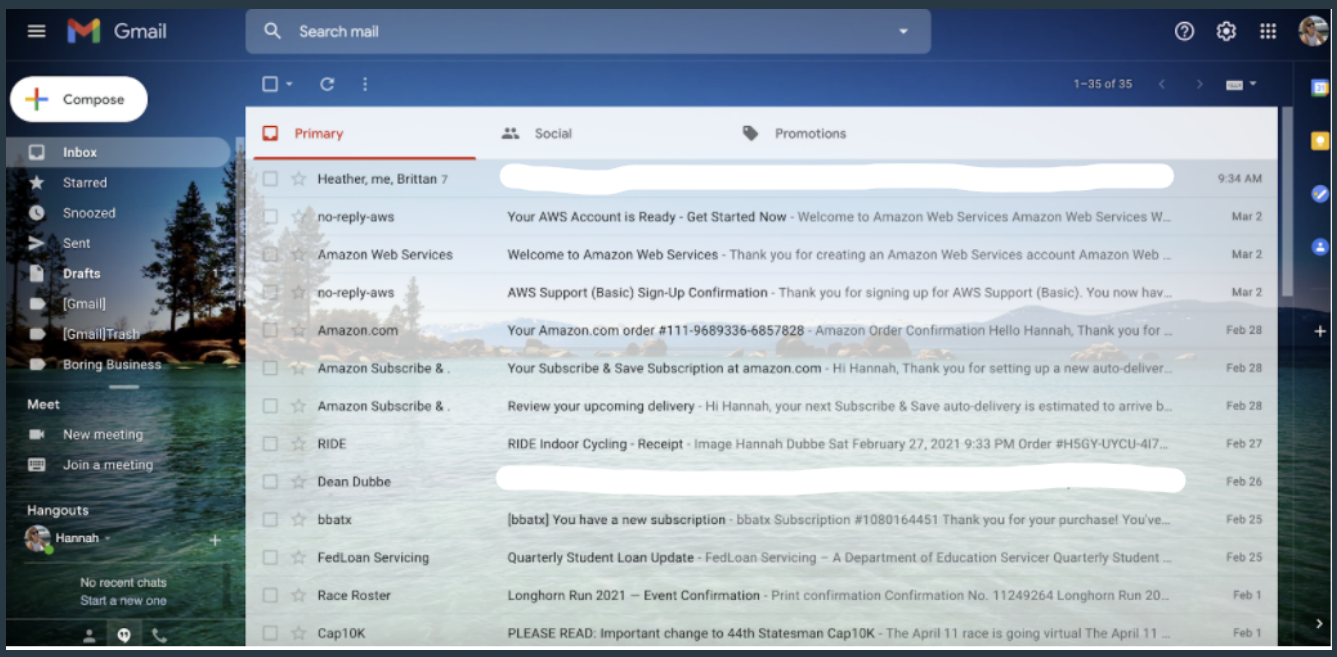
Design of a Recordkeeping System

Now that a broad range of tactics has been introduced to bring Dubbe's recordkeeping on her Gmail and MacBook Pro into compliance, we will now give concrete guidance on the practical implementation of these tactics. According to the DIRKS manual, the goal of Step F is to take strategies that were identified in Step E and turn them into a blueprint to redevelop recordkeeping systems. This step involves tangible solutions to Dubbe's most pressing recordkeeping problems.

The Culmination of Steps A to E

Step F draws on the understanding of current recordkeeping systems, context, and practices, and Dubbe's recordkeeping requirements that were explained in previous steps.

A current strength and the major requirement for Dubbe's recordkeeping is that systems and processes remain simple. As identified in Step A, Dubbe becomes easily overwhelmed by an overabundance of documents and emails, so has systems and processes to accommodate this, though with varying degrees of success. Some additional automatic classification schemes, provided by Gmail, will help ensure that she does not inadvertently delete important emails, remembers to download attachments and messages with regulatory stipulations, and can abide by the retention schedule set up in Step C in a more ordered fashion.



As identified in Step B, the goal of this DIRKS assessment in Dubbe's case is to move her recordkeeping compliance from Level 1-2 to Level 3 on the Maturity Model. As her needs are fairly simple and few records are identified as "Archival," the recommendations for her Gmail will address the following aspects that are simple to implement and therefore will have the most likelihood of succeeding without adding unnecessary steps to Dubbe's day-to-day life once these are set up.

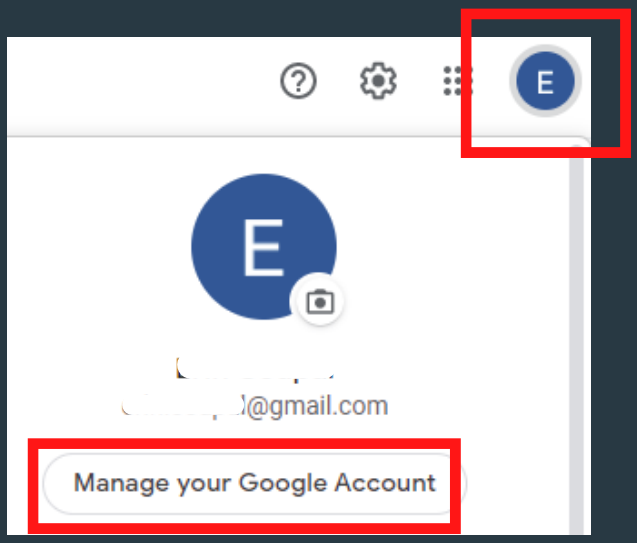
- Security, Authenticity / Integrity
  - Two Factor Authentication
- Classification / Indexing
  - Labels
  - Filters
- Appraisal, Retention, Disposal
  - Stars
  - Google Takeout

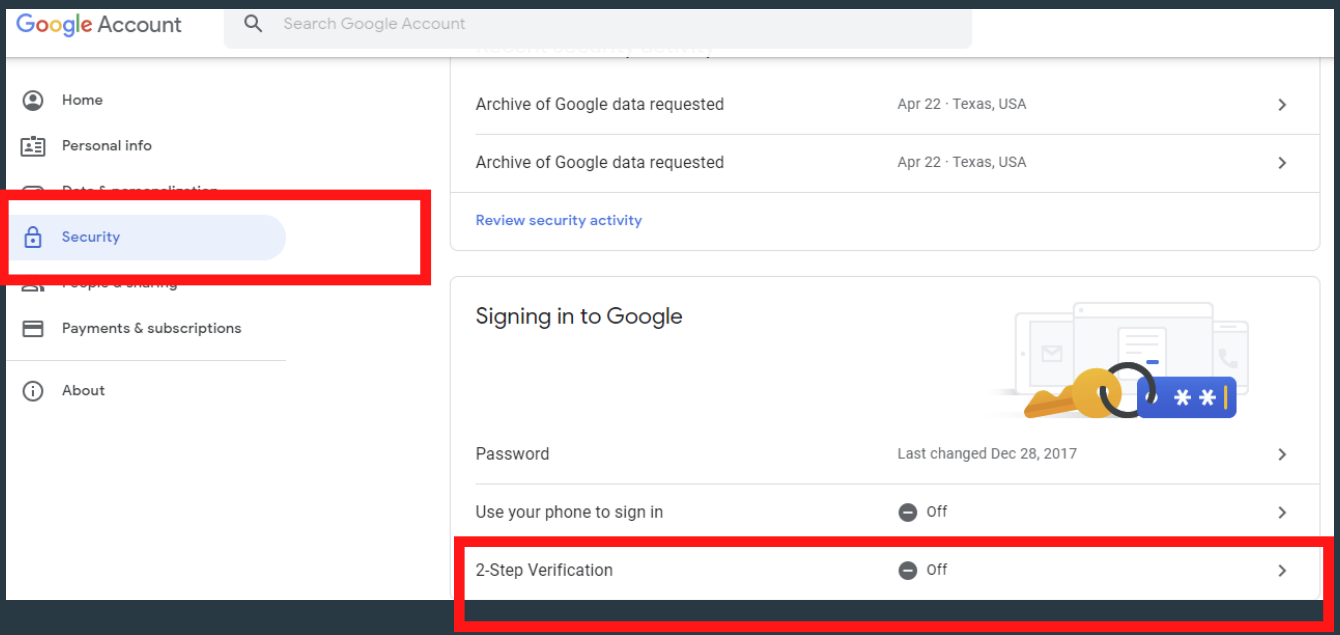
Security

Security measures for personal accounts are important for ensuring record authenticity and accuracy. If Dubbe can prove in a regulatory or legal situation that only she has both authority and ability to access her accounts can she defend the integrity of her records. While all virtual systems, particularly web-based services, like Gmail, risk unauthorized access by a malicious actor, having multi-step verification processes can help protect against intrusion. In Gmail, this is a 2-step verification process that requires both a password and an additional verification method, typically through the user's smart phone. This verification method is simple to set up, user-friendly, and provides an extra layer of security to ensure records are protected.

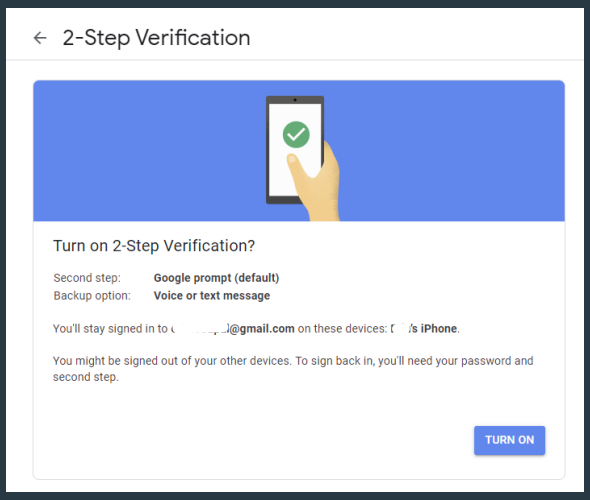
How to

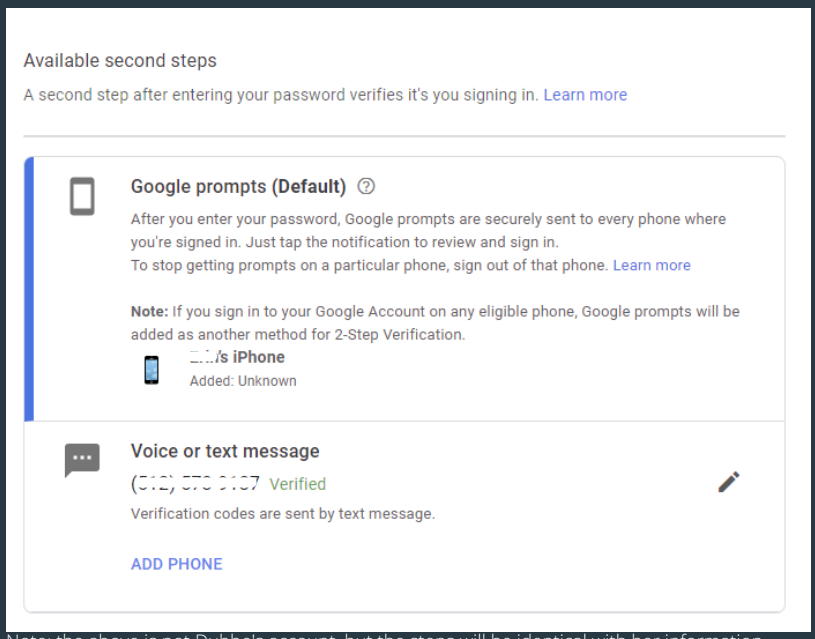
In Dubbe's Google account (accessible by clicking on the icon with her initial in the upper right hand corner of her inbox), she will need to toggle "on" the 2-step verification option. Google will then guide the user through a step-by-step process to turn on the verification method.





Security

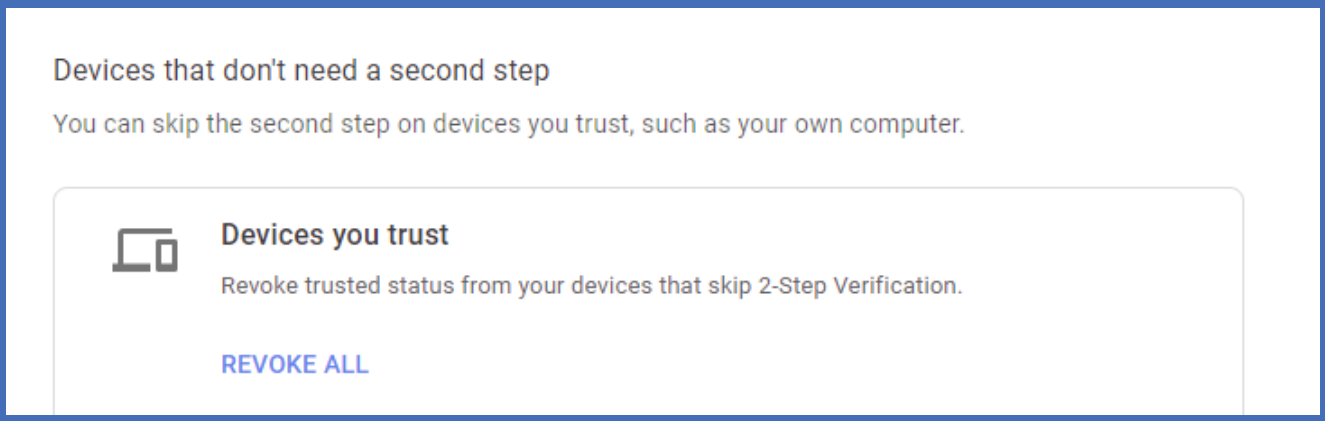




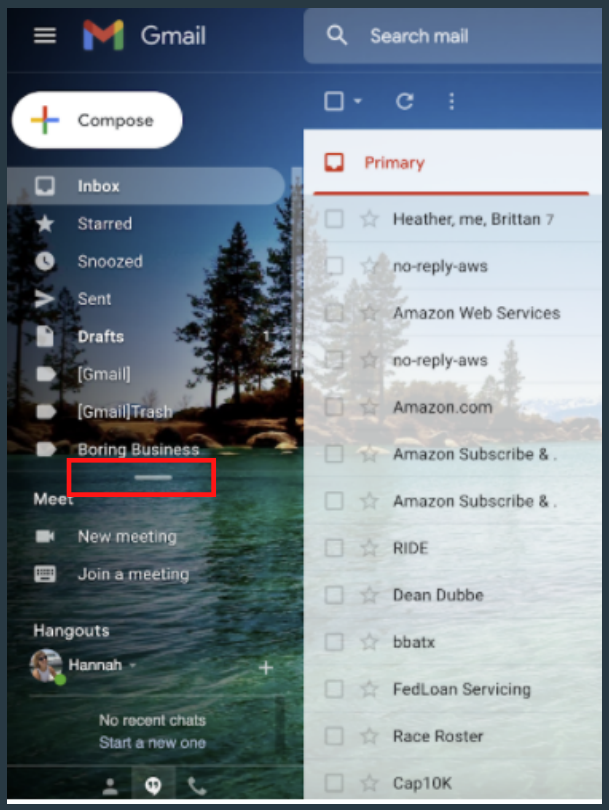
Note: the above is not Dubbe's account, but the steps will be identical with her information

BONUS

Gmail allows the user to define "trusted" devices so that the 2-step process is only needed when the user's account is accessed from an unknown computer or smart phone. This allows the security measure to stay in place, but does not require a constant additional step to sign into the account when there is reasonable assumption that it is the authorized user.



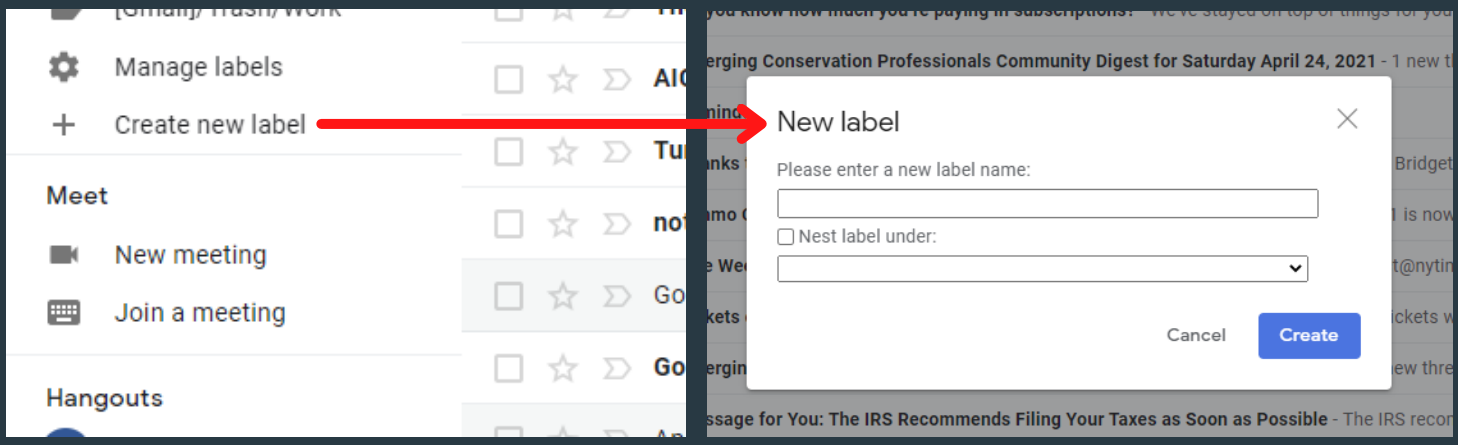
Labels

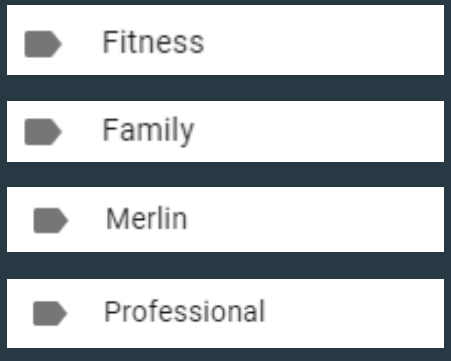


Expand the left sidebar to find the menu option to create a new label.

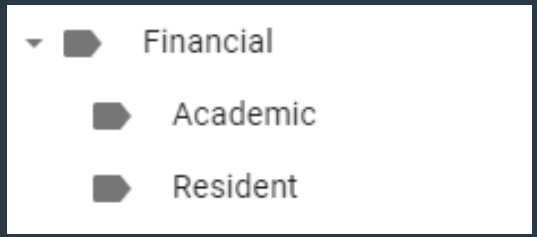
Currently, Dubbe utilizes only one label: Boring Business
While this description makes sense to Dubbe, she does not stay on top of what is labeled Boring Business and what messages are then filtered into this label category. In order to better classify her emails, Dubbe should utilize additional labels as recommended below.

Gmail allows the user to "nest" labels, which will be particularly helpful to Dubbe in parsing out her "Boring Business" emails to stay abreast of her retention schedule and avoid retaining outdated information. This process will also indicate where attachments or correspondences need to be migrated to a more stable storage area.





Utilize the "Nest label under" option to create additional specific categories:

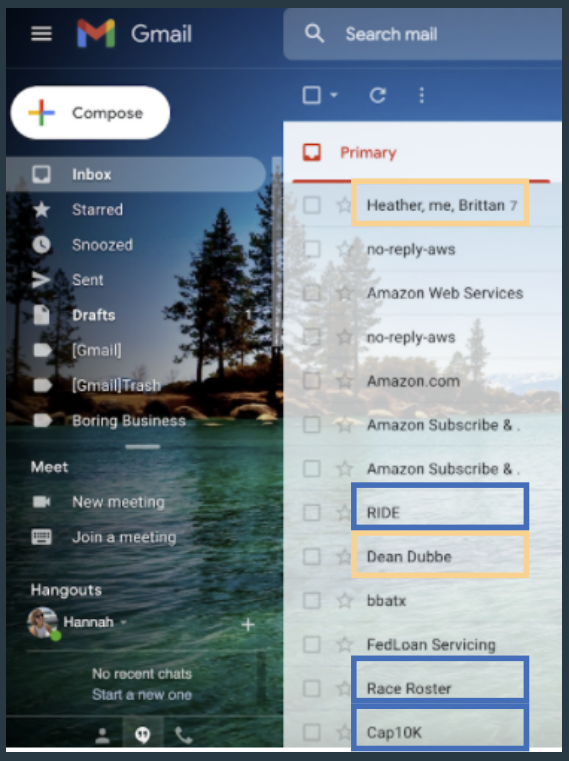


Filters

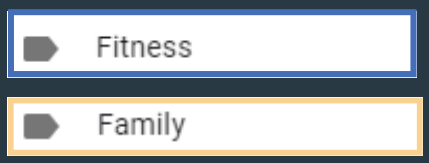
A key component of good recordkeeping, as defined by the InterPARES 2 Project (quoted below) involves maintaining a logical classification scheme based on the information contained in the record as well as the identifying information about the record. Gmail makes this an easy process with their built-in tools that allow the user to engage a one-time set-up for ongoing automatic classification according to a variety of metadata aspects.

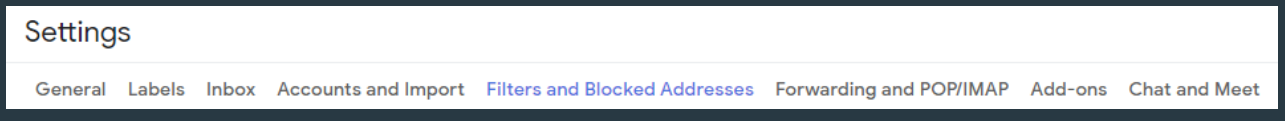
<< CLASSIFICATION SCHEME >>
A plan for the systematic identification and arrangement of business activities and records into categories according to logically structured conventions, methods and procedural rules.

<< IDENTITY >>
The whole of the characteristics of a document or a record that uniquely identify it and distinguish it from any other document or record. With integrity, a component of authenticity.

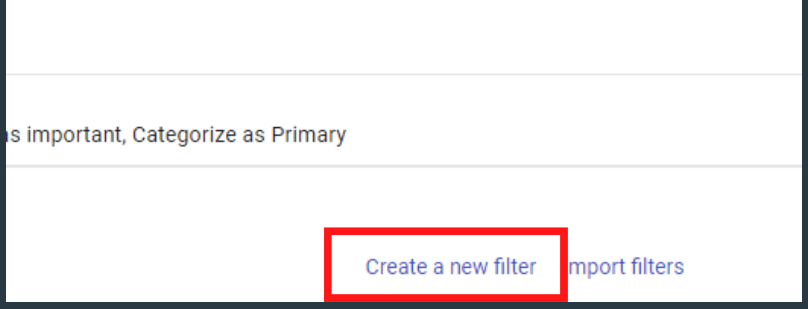


Once labels are created, utilize the filtering option to automatically label incoming emails where appropriate. In this snapshot of Dubbe's inbox, several senders are indicated where a filter can easily be applied to automatically label the incoming message or conversation.

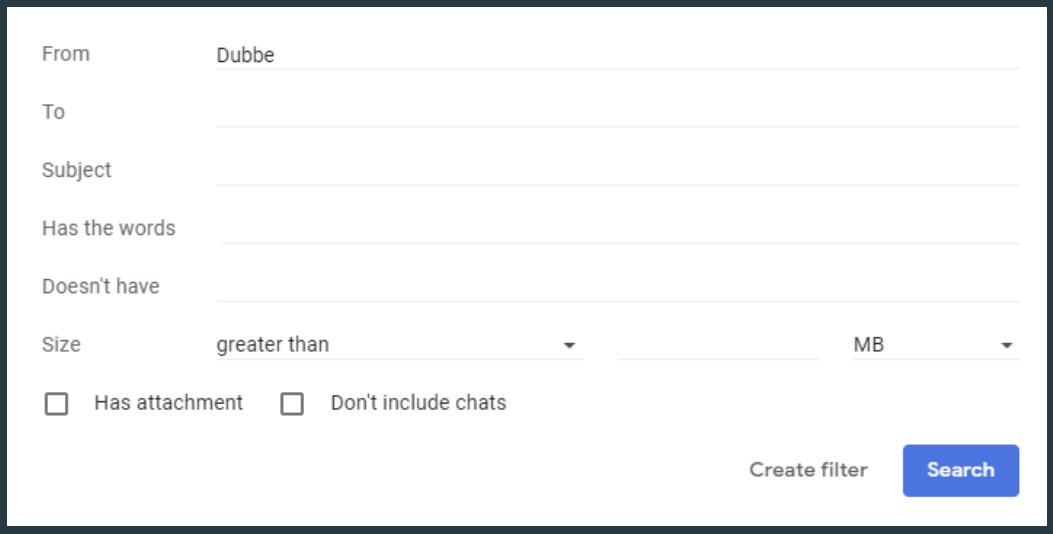


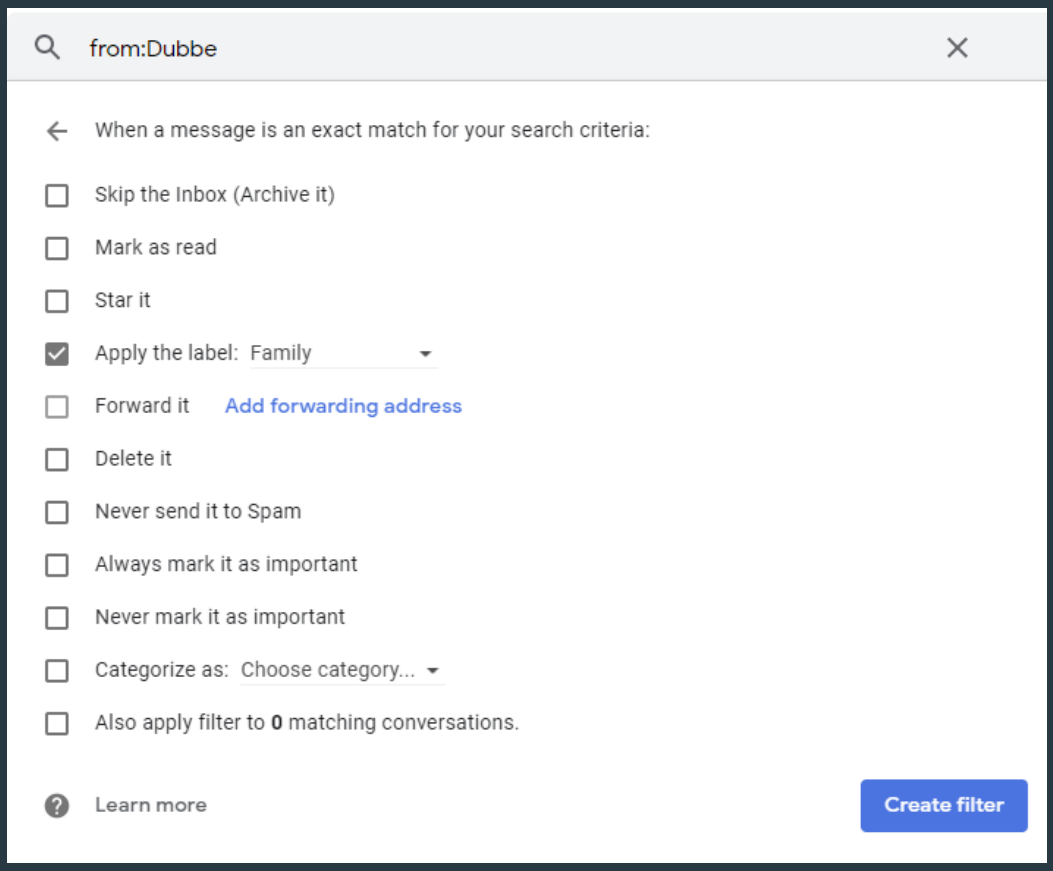


Under Settings for a Gmail account (upper right hand icon), select the Filters and Blocked Addresses tab. Select "Create a new filter."



Filters





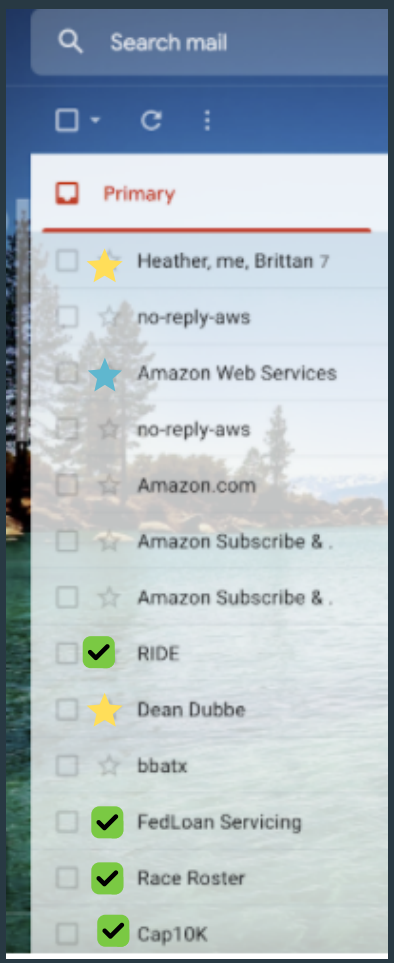
Gmail provides a flexible range of options for creating filters. The "From" line can used for specific email addresses or keywords. With this suggested filter, all messages received from an address containing the word "Dubbe" will be labeled as Family. When Dubbe selects the label from the left hand menu, all emails with this label will appear together, including sent mail. This is particularly helpful for tracking conversations that might have multiple threads, a common occurrence with large family communications.

Stars

Stars are a quick way to classify incoming messages. By utilizing the spectrum of stars available, as described in Step D, Dubbe can indicate to herself the importance or relevance of specific emails. Stars are used in conjunction with labels to further identify an email's content.

Because Dubbe's classification needs in her Gmail are fairly simple, a "4 star" preset is recommended. This way, she can select up to four different indicators for received messages and be able to identify next steps at a glance.

When using the 4 star method, the stars will rotate through the selected icons with each click (i.e. one click will apply a yellow star, two clicks will apply a blue star, etc.)

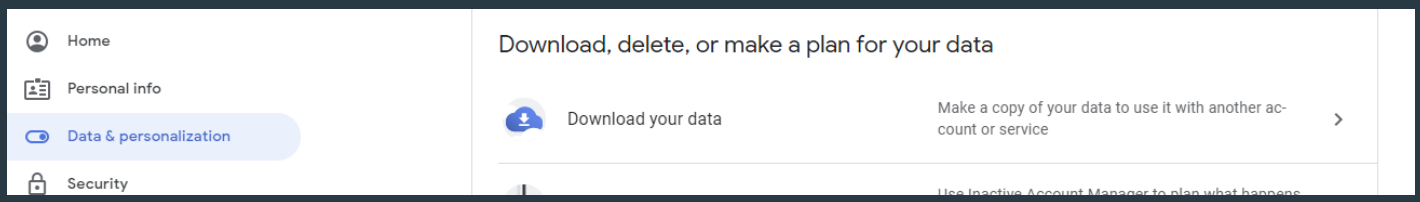


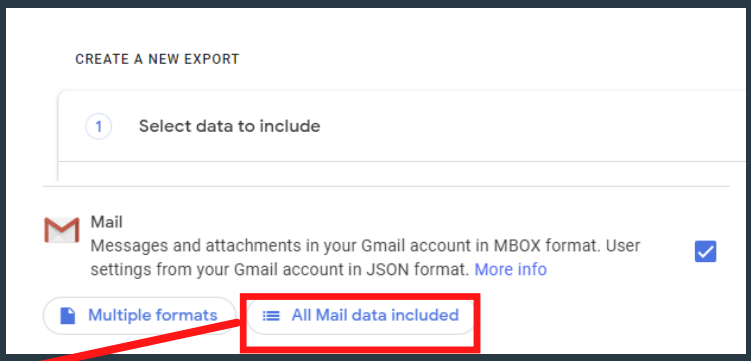
Suggested indications

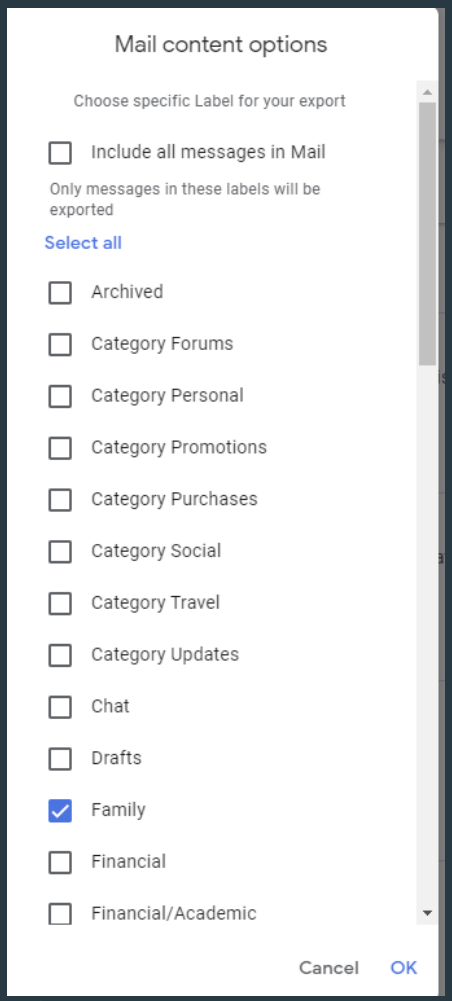
- Yellow star = important and ongoing
  - Family discussions
- Blue star = contains information that needs to be downloaded or otherwise stored for archival purposes
  - Financial documents
  - Merlin care documents
- Green check box = delete when complete
  - Fitness activity registration information
  - Zoom invitations
- Red exclamation = need to reply
  - Residential maintenance

Google Takeout

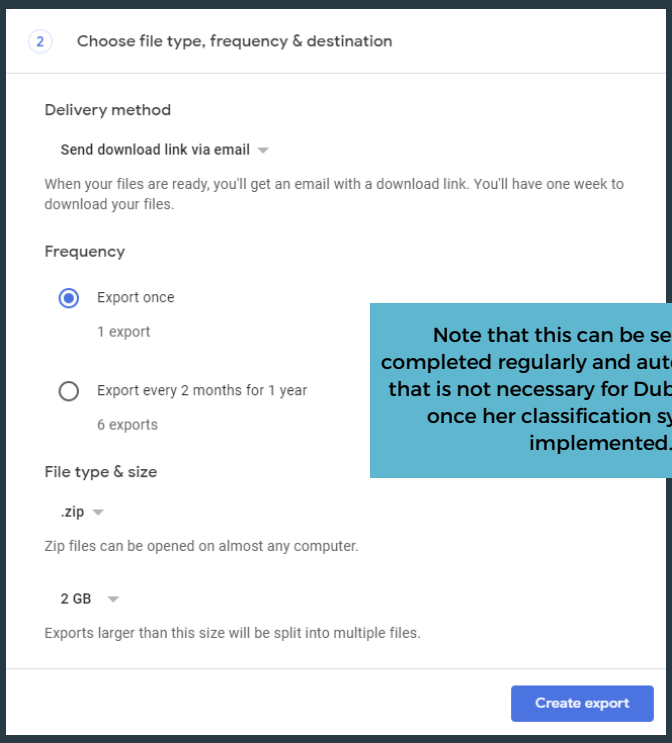
Dubbe has utilized the label "Boring Business" for a significant amount of time which has let outdated and redundant information accumulate in her Gmail account to the point of feeling overwhelmed by looking at the emails associated with the label. Using Google Takeout as a method of extracting the messages and attachments with this label is a way to feel confident that the information is backed up before proceeding with analyzing the messages in accordance with the retention schedule. Once the data is received for download (in a .zip file), Dubbe should undertake an examination of the messages classified as Boring Business and dispose of them per the retention schedule.





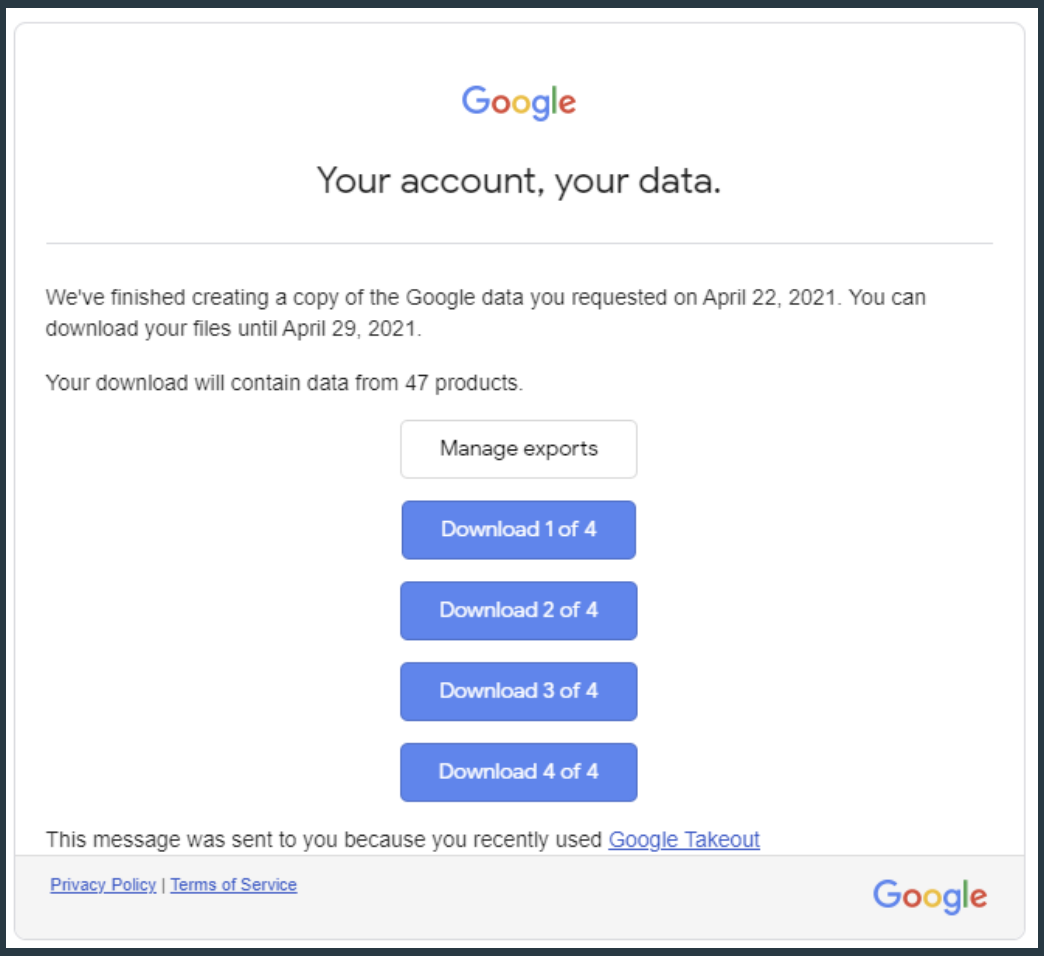


This menu allows Dubbe to select only one label from her inbox to export.

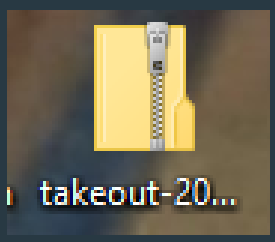


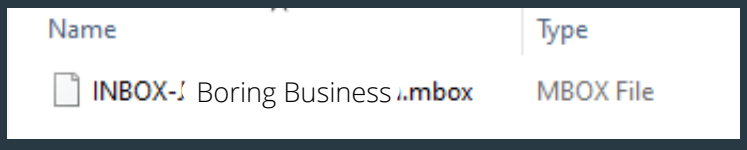
Note that this can be set up to be completed regularly and automatically, but that is not necessary for Dubbe's purposes once her classification systems are implemented.

Google Takeout



Download .zip file. When records are needed, extract records from the .zip format (this may take some time).





About .MBOX files

"If you're on a Mac, you can use Apple's Mail app to import .MBOX files. Open the app, click on File, and click on "Import Mailboxes." Make sure "Files in mbox format" is selected, and then find your .MBOX file(s). Anything you import will get dropped into the "On My Mac" section of Mail as a subfolder of a new "Import" folder."

https://lifehacker.com/how-to-back-up-your-gmail-and-view-mbox-files-1827660389

One of Dubbe's greatest weaknesses in her recordkeeping on her MacBook Pro is her lack of organization. Luckily, this system has ways that Dubbe can easily classify and index her records by setting up Tags and Stacks on her system. There are also many easy fixes to Hannah's current recordkeeping practices such as turning on automatic software updates and iCloud backup. By turning on these automatic features, the system will do the work, which in turn takes the pressure off Dubbe.

Dubbe's desktop

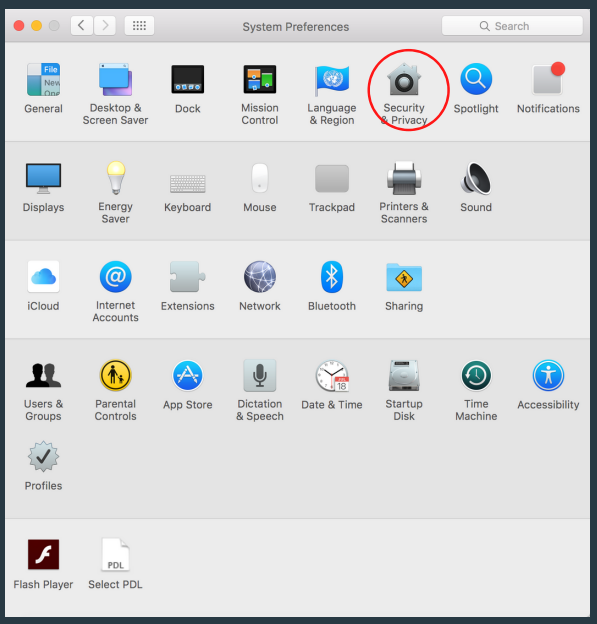
Similar to her Gmail, Dubbe's needs are simple. However, Dubbe will need to make a few extra steps in her daily recordkeeping to bring her MacBook into compliance. Most of the recommended tactics will be easy to implement. and are automatic. There are a few tactics that will require more attention from Dubbe in her day-to-day recordkeeping.

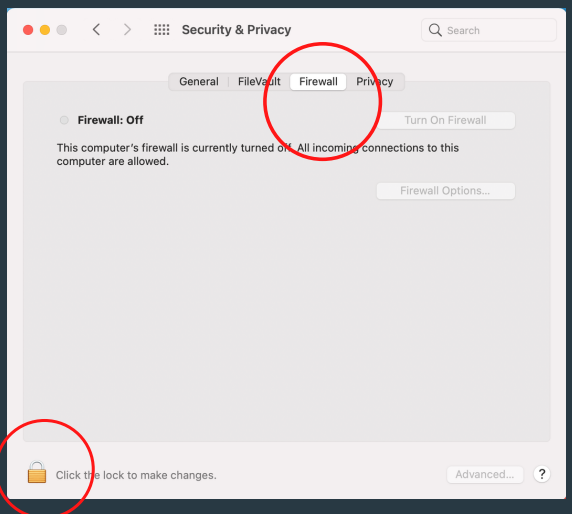
- Security, Authenticity / Integrity
  - Turning the Firewall on
  - Turning on Automatic Software Updates
- Classification / Indexing
  - Record Naming
  - Folder Structure
  - Metadata
- Appraisal, Retention, Disposal
  - Following the Retention Schedule
  - Archival file formats
- Data Backup
  - Turn on Automatic iCloud Backup

Turn on Firewall

As identified in Step D, Dubbe's firewall is turned off. On a MacBook Pro, the firewall needs to be manually turned on. To increase security and protect the integrity of Dubbe's records, it is highly recommended that she turn her firewall on. Luckily this is a very simple step that will offer additional security for Dubbe.

To turn the firewall on, Dubbe must go to her system preferences, and then to security and privacy.

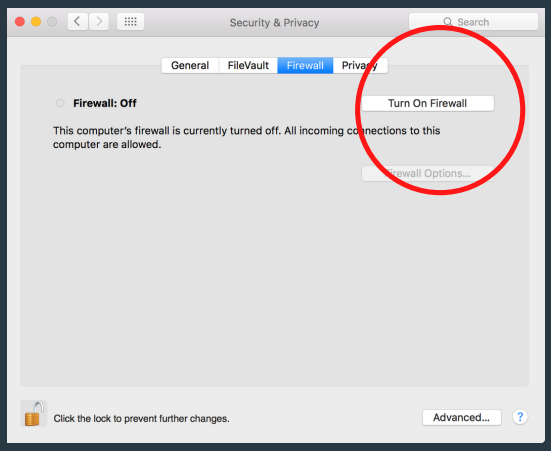




Then she needs to go to the firewall tab of security & privacy.

At the bottom-left corner, click the lock to change the setting. Dubbe will need to enter her password to make any changes.

After entering her password, Dubbe can then click 'Turn On Firewall.'

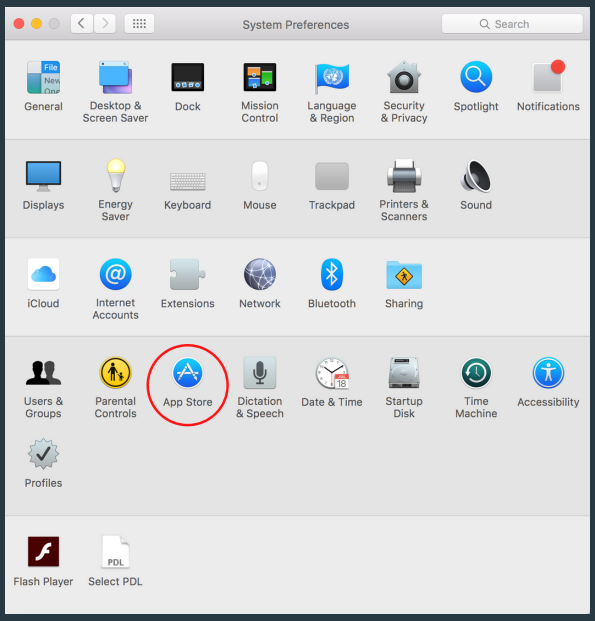


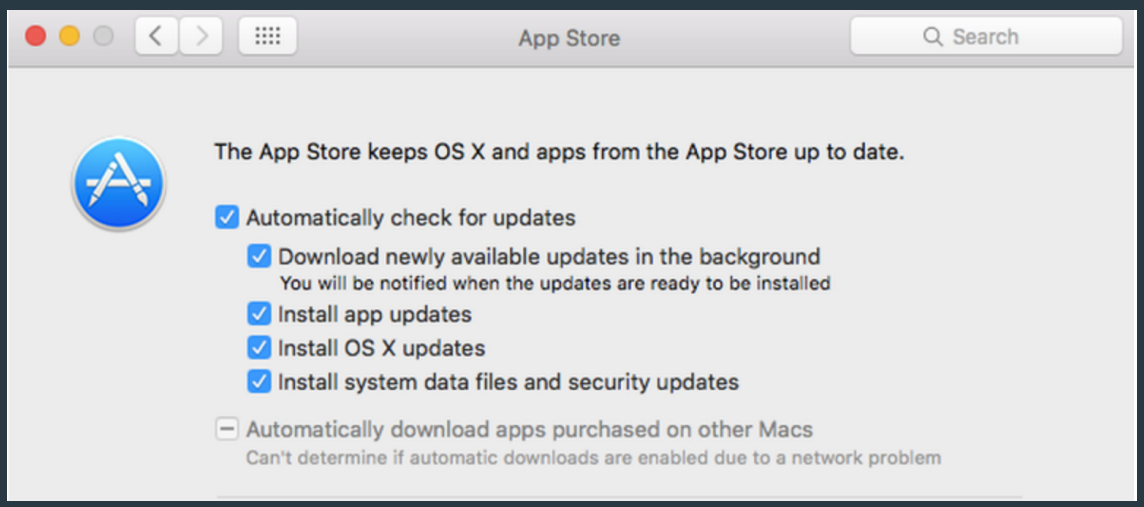
Automatic Software Updates

In order to ensure that Dubbe's records remain authentic, secure, and accessible, she must turn automatic software updates on. According to the University of Texas Information Security Office, updates often "address security flaws as well as stability and usability issues," and they deem software updates as "essential." InterPARES 2 also suggests that steps be taken against software obsolescence, which updates will help.

https://security.utexas.edu/outreach/top-10-list#7

To turn on automatic updates Dubbe must first go to system preferences, and then to the App Store preferences.





Hannah must ensure that all fields are checked so not only will her system check for updates, but the software will update automatically.

Standardize Record Naming

Dubbe needs a systematic way to name her files in order to bring her recordkeeping into compliance. According to 'Guidance for Creators of Personal Papers' files should have meaningful names that facilitate searching and browsing. This will also particularly be helpful for Dubbe to find files if she does not implement a folder structure on her desktop.

Parameters for Record Naming

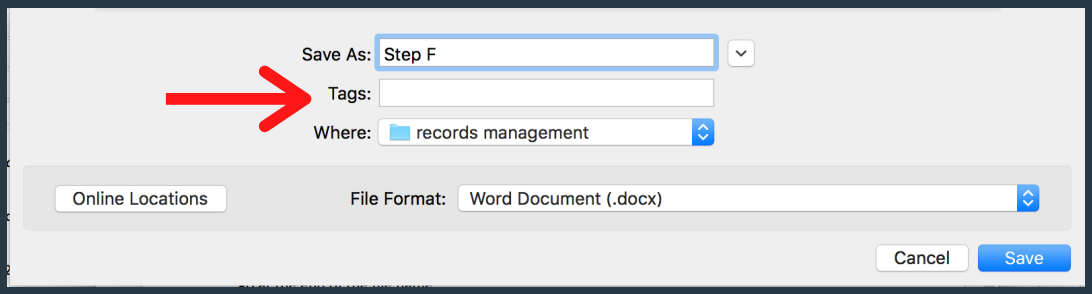
- In her file names, Dubbe should avoid capitals and spaces.
- In any drafts of a document, Dubbe needs to adopt a version control system. The version should go at the end of the file name.
- Dubbe's files should contain the year, and if needed month and day, in this format: yyyymmdd
- Placing the year also will present the files in chronological order on her desktop, another safeguard if a file structure is not implemented.
- Her file names should appear something like this, with the date, a title that briefly describes what the document is (i.e. tax return), and the version if necessary: yyyymmddtitle-2

Formal Classification System

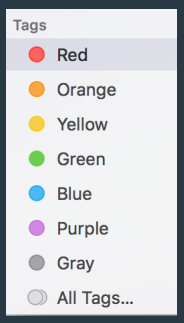
Dubbe needs a systematic way to organize her records so they will be easily accessible and retrievable. InterPARES 2 suggests that digital materials be organized into logical groupings. For Dubbe, this means to organize her records by her different functions of pet owner, professional, graduate student, leisurite, taxpayer, and resident. MacBook has key features that will allow her to set up automatic classification including Tags and Stacks. Additionally, the Tags function is another way to add identity metadata to records.

Tags

There are several ways to tag a file. The first way is while the file is open to click 'save' and then add a tag under the file name. Dubbe should name a tag after each of her functions.



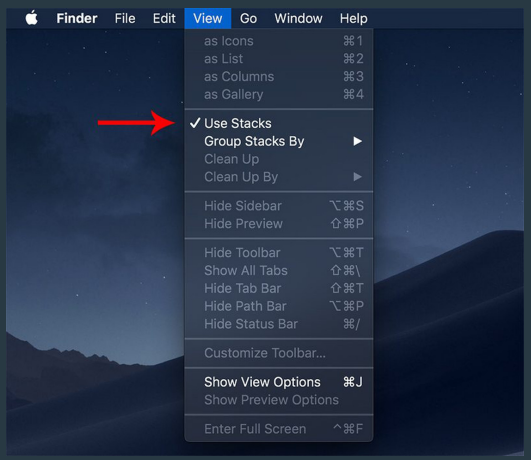
Dubbe can also sort her existing records into tags and rename the preset tags MacBook provides by going to 'Finder' and then dragging her existing files into a tag. To rename the tags, Hannah can press 'command' and click on a preset tag.

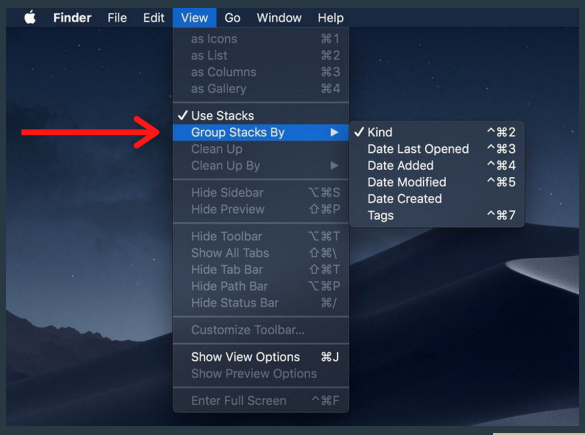


MacBook's preset tags

Stacks

After Dubbe has set up tags for her records, Stacks will allow her to easily organize and view her records by these tags. To turn on stacks, she will go to her desktop, click on 'View', and in the dropdown menu select 'Use Stacks.' In the same dropdown menu, she should then 'Group Stacks By' and then select 'Tags.' This will automatically sort Dubbe's records.



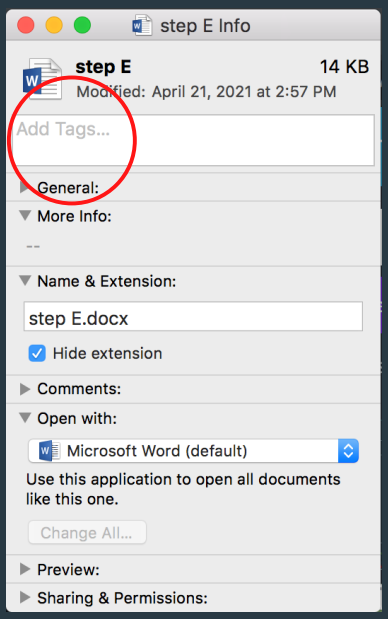


Metadata

While Dubbe's MacBook Pro automatically captures much of the most important metadata such as date created, date modified, file location, etc., Dubbe can also add additional identity metadata to ensure that her records are accessible and to maintain authenticity. With the Tags Dubbe should add the function that the record fits under to help in classification. There is also an additional metadata field entitled 'Comments' where Dubbe can add the documentary form of the record as suggested in InterPARES 2.

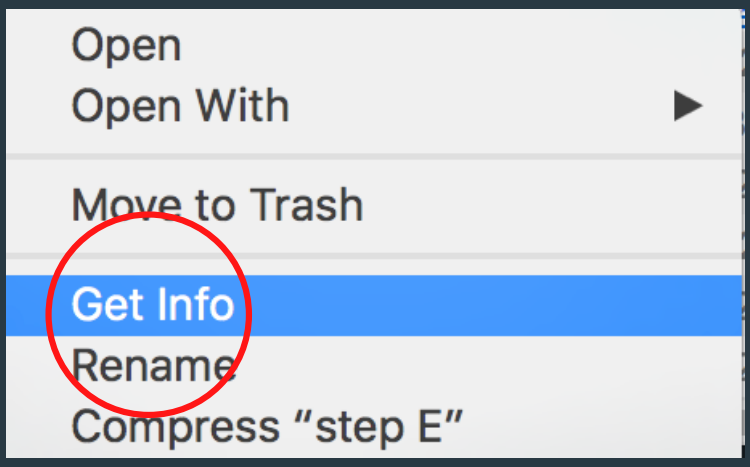
Tags

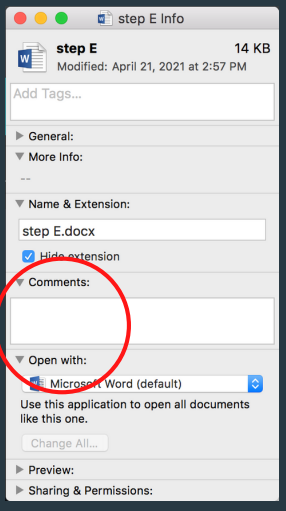
There are several ways to tag a file. The first way is explained on the previous page. The second way is to go to 'Finder,' then hit 'control' and click on the record to add metadata to. Then she must click 'more info' on the dropdown menu. Dubbe should then create a tag for her record based on which function it is under.



Comments

Under the same 'more info' pop up, there is also a field to add comments. Here Dubbe can add the documentary form of the record such as, a letter, a report, etc.



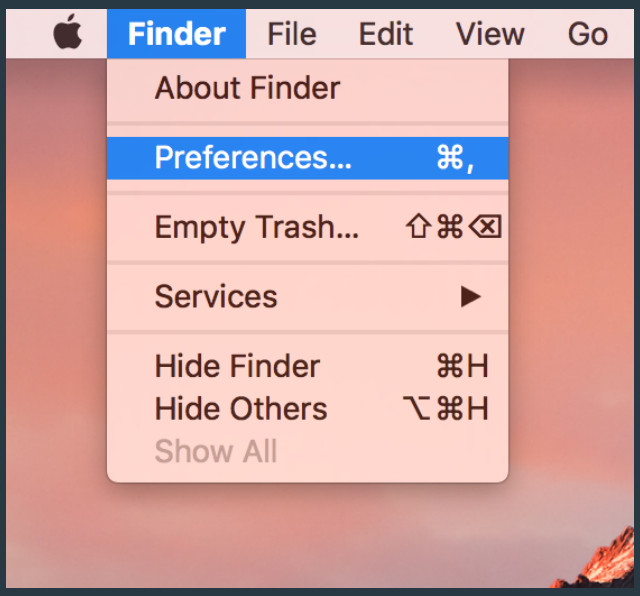


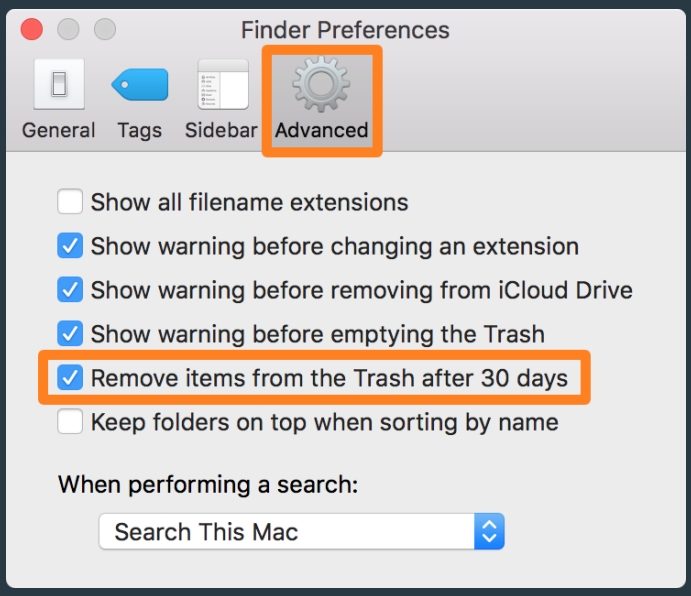
Following the Retention Schedule

Dubbe must follow her retention schedule set up in Step C and dispose of her records on time. However, MacBook Pro does not offer any automatic deletion or disposal. It is also imperative that Dubbe not delete any files marked 'archival' in her retention schedule.

One thing Dubbe can set up is automatic trash clearing after thirty days. Once records are deleted they are moved into a 'trash' folder. The trash folder must be cleared for the files to be removed and storage freed up in her hard drive.

To set this up, Dubbe must go to the finder menu on her desktop and then select 'Preferences.' In 'Preferences' she should go to 'Advanced' and select 'Remove items from Trash after 30 days.'

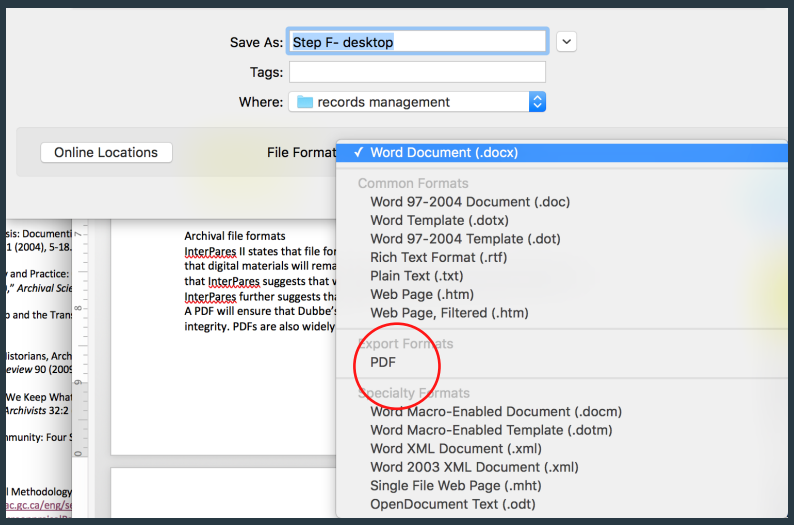




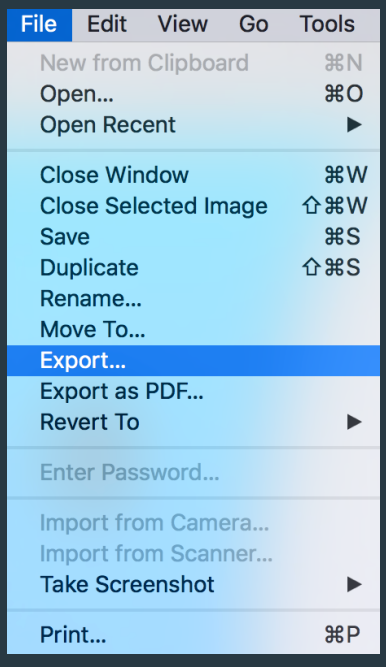
Archival File Formats

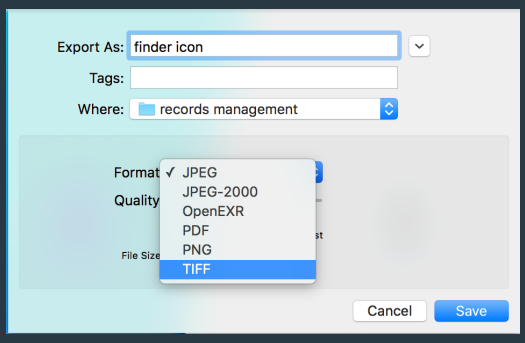
InterPares II states that file formats should be selected that offer the best hope for ensuring that digital materials will remain easily accessible over time. The de facto file format standards that InterPares suggests that will be most relevant to Dubbe will be PDF and TIFF. InterPares further suggests that digital records should be stable and fixed in content and form. A PDF will ensure that Dubbe's archivally designated records will have fixity and maintain their integrity. PDF and TIFF file formats are also widely used.

Dubbe should ensure that all of her archivally designated records, as determined in Step C's retention schedule, are in these standardized formats. If they are not already in these formats, they can easily be converted.



For documents, Dubbe needs to resave the file and then switch the file format in the dropdown menu.





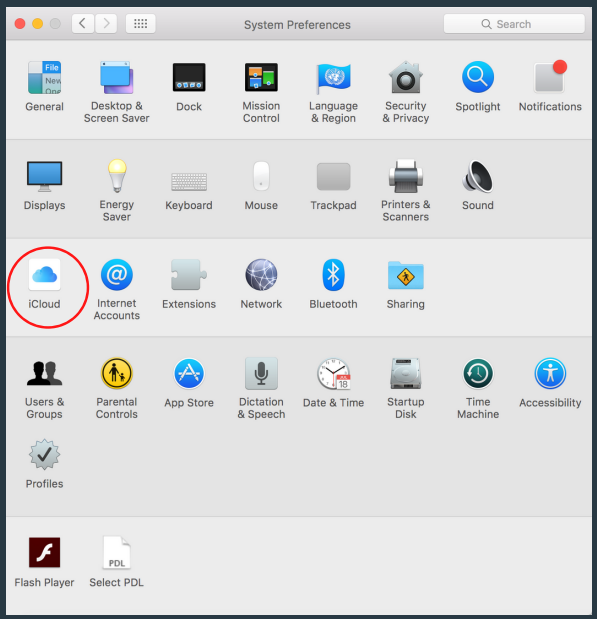
For images, she needs to go to the 'File' dropdown menu, and then to 'Export' and select TIFF as the file format.

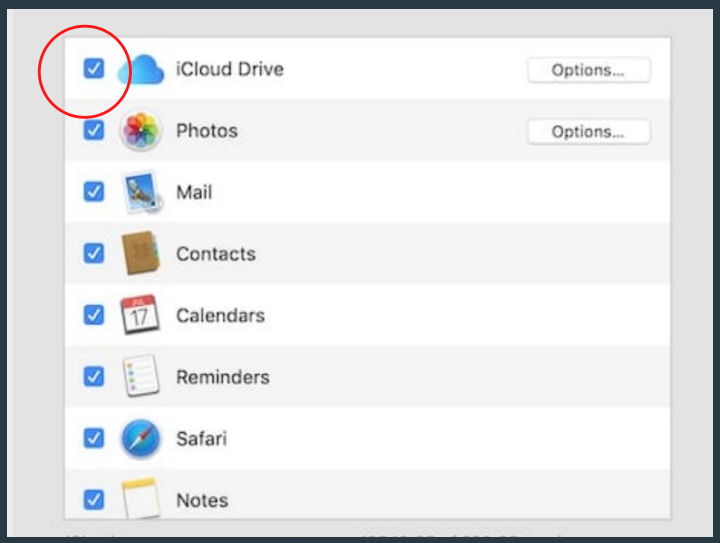
Automatic iCloud Backup

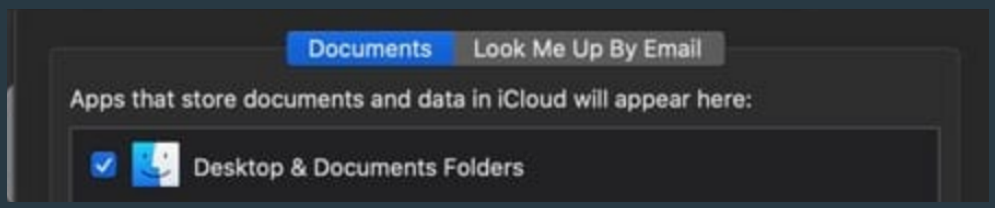
'Guidance for Creators of Personal Papers,' InterPARES 2, and the University of Texas Information Security Office all highly suggest data backup in order to prevent loss of important records. InterPARES 2 suggests daily backup. By turning on automatic iCloud backup, Dubbe's records will be backed up daily without Dubbe having to significantly change her routine to manually back up her data. By having automatic backup to iCloud, Dubbe will not have to worry about remembering to back up important records, and if her computer crashes, or she purchases a new Mac computer, she can access her files through iCloud.

In order for Hannah's records to be automatically backed up, she will need to ensure all her records on her desktop are saved to iCloud drive. This ensures that if Hannah edits a record on her Mac they will automatically synced and uploaded to the drive.

She will need to go to her System Preferences, then to 'iCloud,' select 'iCloud Drive' and then ensure that 'Desktop & Document Folders' is selected to retain her records. She can additionally backup Photos, Calendars, and other important aspects on her computer.







DIRKS Concluded

While DIRKS Step G (Implementation of a recordkeeping system) and Step H (Post-Implementation review) are outside the scope of this project, Dubbe should perform these steps on her own. The guidelines given to Dubbe in Step F will bring her system fully into compliance if she moves forward with implementation in Step G. The Step F guidance was meant to be easy to complete so that Dubbe can efficiently move into Step G without the assistance of a formal DIRKS step. After implementation Dubbe should take time to review if the guidelines were effective for her recordkeeping and how successful she was in implementation. Completing Step H will allow Dubbe to evaluate the impact DIRKS had on her systems and whether or not these changes were helpful to her daily functions and activities.

Summary

- Step A provided a general introduction to Dubbe and her current record-creating activities as well as giving a general introduction to the two systems analyzed through the DIRKS method.
- Step B applied a detailed analysis of how her records are organized and created a Business Classification Scheme to detail Dubbe's functions, activities, and transactions in technical and practical detail.
- Step C identified standards (regulatory, social, and business) that govern Dubbe's records contained in the two systems analyzed. Dubbe advised on a retention schedule for records created for each of her functions.
- Step D took into account the capabilities and limitations of Dubbe's recordkeeping systems, identifying built-in security and preservation tools to ensure integrity and authenticity of Dubbe's records.
- Step E identified strategies and tactics applicable to Dubbe's specific needs and system capabilities.
- Step F created a step-by-step process for Dubbe to implement for both of her recordkeeping systems, bringing together recommendations, standards, and capabilities to bring her recordkeeping into compliance as required for each of her functions.