PERMANENT LEGACY FOUNDATION

Preserving your legacy in the digital age

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Introduction

The mission of the Permanent Legacy Foundation is to provide a permanent place to store digital materials so that they will be preserved for family, friends, and future generations. The Foundation develops and maintains Permanent.org, an online platform to store your digital legacy, the legacy of someone dear to you, or the legacy of your organization, in perpetuity.

Each of us wants to leave an imprint on the world that endures beyond our life. In centuries past, a legacy was passed from one generation to the next through verbal stories, art, music, writings, books, and business. Today, technology gives us the power to capture our individual experiences more than ever before - in pictures, videos, documents, audio, and other files. We have the ability to record more, but no reliable way to preserve or pass down these legacies.

Digital storage continues to get cheaper with time, but it does fail. The companies that store your information in the cloud (Box, Dropbox, Google, Amazon, Apple, and others) only keep your information as long as you continue to pay, and there is no guarantee of any company's longevity. Thirty years ago Google didn't exist. Ten years ago most people were certain MySpace had a long and bright future. Corporations come and go.

Even more concerning is the fact that formats for photos, documents, and videos change at a rapid pace. Older formats quickly grow extinct and cannot be viewed. It is immensely difficult to view a Lotus 1-2-3 spreadsheet or a WordPerfect document today when only a few years past those formats were commonplace.

"The more you know about the past, the better prepared you are for the future." - Theodore Roosevelt

Founded in 2014 by well-known entrepreneur Dean Drako, the Permanent Legacy Foundation is the only non-profit institution for people from all walks of life to collect, share, and preserve their most personal experiences and most important knowledge. Permanent.org was established to help ensure that our experiences and histories outlive us to create a valuable springboard for future generations.

About this Document

This document outlines the Permanent Legacy Foundation strategy for creating, managing and preserving digital records for individuals, families and organizations.

We believe that the mission and vision of the Permanent Legacy Foundation is most clearly articulated by the Permanent.org platform itself, or to borrow from Marshall McLuhan, "the medium is the message." So this document serves as both a manifesto or vision statement and as a blueprint for both the Permanent.org platform and our terms of service.

Inside you will find a general overview of the Permanent.org concept, a detailed description of its key features, a consideration of copyright and content distribution laws, a review of the technology behind the platform, a description of the organizational structure of the Foundation and a glossary that explicates the specific ways we are applying common preservation terms like archive, record, file, format, user, etc. to our digital platform.

This is a living document. Some details described here may represent work-in-progress or expected final outcomes. Please direct inquiries by email to info@permanent.org for the latest version of this document and how it maps to the latest version of the software available on Permanent.org

Table of Contents

Permanent Legacy Foundation Manifesto

Overview

How the Permanent Legacy Foundation is Different

The Permanent Legacy Foundation mission is to preserve the important memories and knowledge of any individual, family or organization, migrate their legacy through future technology shifts, and provide widespread perpetual access per the dictates of the individual, family or organization.

You own your Permanent Archive. It's under your control; you decide what to put into it. It can be organized as you see fit. It can be shared if and when you want it to be. You can time capsule some or all of the materials in it. You can invite others to contribute and delegate control of your Permanent Archive to future generations. The Foundation's policies prohibit commercial exploitation of any of your materials. Your privacy is paramount and you retain the copyright of your uploaded materials and you are in full control of how they are handled.

The Permanent Legacy Foundation was established as a non-profit institution whose mission is to ensure the longevity and careful custody of the materials placed into its trust. In a very practical sense, the Foundation is most similar to a historical trust or a museum and our goals are similar – to make private collections preserved on our system available for educational and historical purposes at the discretion of our users directives.

The Foundation's objectives are entirely different from companies and projects such as:

- *Dropbox, Box, Google Drive, Amazon*: These companies are focused on storing documents for use today, but offer no support for handling file format changes and provide no guarantee of permanence.

- *Facebook, Instagram, Snapchat, MySpace*: These companies capture many moments that make up the here and now, but are not focused on keeping content for generations. Their perspective is on the immediate rather than on creating a digital legacy to pass on to others.

- *Wikipedia*: Wikipedia has done a tremendous job of crowdsourcing historical knowledge, but it does not allow individuals to control their own entries, nor does it allow them to control who obtains access. It is a public encyclopedia.

- *Long Now Foundation*: This organization is dedicated to inspiring people to think about the long term, it does not store any documents or legacies.

- *Internet Archive*: This non-profit organization archives web pages and digital books and other printed material, but has no endowment model for permanence, does not address the problems of file format extinction, and does not store personal legacies.

Without question, these organizations all serve a worthwhile purpose, but the Permanent Legacy Foundation is the only institution for individuals and organizations to create a truly enduring Permanent Archive.

In fact, the absence of organizations doing this work presents an ongoing challenge for the public archives of the world. It has become a burden for smaller museums, libraries and historical archives to ingest digital born records from their private donors. These underserved public institutions are left with the overwhelming task of decluttering, cataloging, and making sense of bloated personal hard drives and storage media to find records of historical import.

The Permanent Legacy Foundation has the unique opportunity to change the culture of personal digital archiving and preservation to improve the conditions and efficiency of the entire historical preservation field.

To put it succinctly, we hope to put the power of a museum into everyone's hands.

Shining a Light on The Digital Dark Ages

Many scholars have drawn attention to the coming Digital Dark Age as file formats are no longer widely supported and become inaccessible. There are tens of thousands of file formats in existence and thousands of them are already obsolete. The Permanent Legacy Foundation's strategy guarantees your materials are always viewable. Your original files are always preserved, but as technology evolves your files will be migrated so that they are always viewable.

Though it is unthinkable today, the Internet as we know it could also drastically change. The Permanent Legacy Foundation's mission promises to ensure that your Permanent Archive is available on the "Internet of the future," whatever that may be. That means new incarnations of "cloud storage" or any other technological shift that may fundamentally change the paradigm of information access.

Our mission is impossible to achieve alone. That is why the Permanent Legacy Foundation is actively seeking partnerships, like our developing relationship the Internet Archive for the storage dissemination and storage of public documents, as well as with the University of Southern California Digital Repository for backup of the Permanent Archives.

Permanent.org is also supportive of other non-profit organizations and has the objective of providing storage at no cost to non-profit partner organizations for the preservation of their history. This is especially important for small nonprofit organizations or civic and government institutions that collect sensitive data not appropriate for public release but of critical importance to history.

The Endowment Financial Model

For your digitally stored materials to survive forever they need to be managed, and the organization managing them needs to endure. While Permanent.org is the technology for for preserving your legacy, the "endowment of materials" financial model is central to the strategy and longevity of the foundation and your Permanent Archive.

The Permanent Legacy Foundation endowment model is what makes true permanence possible. The endowment ensures that the institution endures and stays true to its preservation mission by sustaining its operations. The endowment model of the Permanent Legacy

Foundation keeps the institution focused on the mission, rather than on profit or changing business conditions.

The endowment functions like those of other long-lived non-profit organizations: universities such as Harvard, Yale, or the University of Michigan and museums like the Smithsonian, the Guggenheim, or the Field Museum.

"History is more than a reflection of memory; it is an illumination of the soul."
- Benjamin Franklin

To preserve your entrusted materials, the foundation charges a small ONE TIME fee based on the amount of storage you require; e.g. the size of your archive. Your storage fee is a "micro-endowment" that is aggregated into the Permanent Legacy Foundation's greater endowment for management. The Permanent Legacy Foundation board manages the endowment to guarantee the foundation's perpetual existence and the perpetual preservation of your Permanent Archive.

The Permanent Legacy Foundation Endowment is designed to keep the principal amount intact while using the investment income to maintain the storage of your Permanent Archive and the operation of the Foundation. With this approach, the Foundation only needs to collect storage fees ONE TIME but can use those fees to sustain operations indefinitely. Initial calculations indicate that approximately $10 per gigabyte of storage will deliver that permanent preservation capability.

Donors can also alway contribute to the endowment directly and founder Dean Drako has committed $5M USD as an initial contribution to the Permanent Legacy Foundation.

What is in a Permanent Archive?

A Permanent Archive is a unique collection of digital records – files and their associated metadata – that have been uploaded to the Permanent.org platform. Records may be shared between archives that have established relationships to each other. Each Permanent Archive is owned by a single person, but materials may be uploaded, edited, organized and shared by any number of members granted access to the archive.

Each Permanent Archive consists of the following sections containing records: *Private, Apps, Shares, Public, and Vault.* Each section can hold files of any format, files can be organized into folders, and files can be moved between sections. Each file is stored in a record that includes metadata about the file.

These sections function as follows:

· Private – where you directly upload all materials initially. Only you have access to files in this section until you elect to share them or move them to the Public section.

· Apps – where imported files from connected applications like Dropbox, Facebook, and

other third-party services are stored. App Files are treated the same as Private.

- · Public – where you place the materials you want to be searchable and viewable by anyone. These are the materials that make up your public legacy.

- · Shares – an overview of the materials that you have shared with other archives of your choosing or those shared with you by other archives.

- · Vault – a double-secure section used for legal, medical, or other important documents.

Each Permanent Archive also collects the following metadata about the archive: *Profile, Directives, Relationships and Members.*

- · Profile – archive metadata that uniquely identifies you, the person, your family, or your organization for disambiguation and historical context.

- · Relationships – other Permanent Archives that you identified to have a relationship to yourself, the person, your family or your organizational archive.

- · Members – these are other accounts that you designated to have controlled access to curate, contribute, edit, or view all records contained within the archive.

- · Directives – automated actions to move files between sections of your archive and to change archive access based on a life-status update such as divorce or death.

Our Secure Technology Platform

Permanent.org uses the strongest available security technologies. Security is of the utmost concern so we continuously upgrade to use the safest and most secure technology available. We currently employ "bank level" security: AES-256 encryption (used by the US government for top secret data), multi-factor authentication for access, and other advanced security techniques.

Data is stored securely on multiple redundant locations throughout the world. Data is further continuously backed up on physical media and secured physically. Redundancy combined with physical backup achieves greater than 99.999999999% data durability, and over 99.9% availability. Every quarter the system validates data integrity and restores any corrupted data.

Permanent.org provides an open API for integration with other platforms. We want your legacy to be available broadly. It is part of our mission.

SECTION 1 – KEY FEATURES AND CAPABILITIES

Permanent.org is the only place to document, preserve, and share your personal life story for eternity. We provide you the tools to upload, organize, and collect your most important digital information in one place where it will exist forever. You can decide what you make public and what you keep private. You decide what information will be shared and with whom. It is your life story so you should own and control it.

There several key components of a Permanent Archive that enable control and protect privacy.

Profile

Each Permanent Archive has a Profile that contains information to uniquely identify you. We refer to this as "disambiguation". A Profile can reveal your personal character, but the key function of the Profile is to uniquely identify you by name and key facts about you.

Each Archive Profile has a public section and a private section. The Public Profile is also used as the homepage of your Public Legacy.

Private Records

Each Permanent Archive has a Private section that contains Records that are not publicly accessible. It serves as your working area. The Records can be organized and moved. Folders can be created within the Private Folder for organizing and Files can be placed in them. Nothing in your Private Folder is public. However, you can designate access to Records in your Private section by sharing them with other Archives that have a Relationship with your Archive or by adding Members to your Archive who have controlled Access roles.

Public Records

Each Permanent Archive has a Public section where you organize and place Records that you want to be accessible on the Internet. This is where you curate your Public Legacy. All Records in Public will be indexed by search engines such as Google and Bing. The files in your Public section are published on the Permanent.org website. They are navigable from your Public Profile using the Public Views that you select to display them.

Public Legacy

Your Public Legacy consists of your Public Profile plus your Public Records. Your Public Profile has a URL that can be used to directly reference it. The URL is based on your Permanent Archive Number (PA#).

Vault

Each Permanent Archive has a Vault section that has been designed for maximum security.

Content in the Vault is encrypted from the moment its received and throughout the rest of its full lifetime. By utilizing strong encryption technology combined with redundant multi-factor authentication you can trust that your Vault will only be accessed by you. Only Owners of a Permanent Archive get access to their Vault. Only one person has access. The Vault requires multi-factor authentication every time it is accessed. Access expires after a period of no use.

Relationships

Each Permanent Archive can be associated with any other Permanent Archive to create a network of archival relationships. This serves two functions: 1) documented Relationships between individuals, families and organizations provide important context to the archive Metadata and 2) Relationships establish a mechanism by which Records can be shared between Archives.

Shared Records

Each Permanent Archive can have any number of Shared materials so that you can easily and securely transfer information between Permanent Archives. Sharing creates a window between archives.

An established Relationship is required for sharing Records between two Permanent Archives.

Records can be shared individually as files or in collections as folders. You can find your Shared Records and manage their sharing permissions in the Shares section. Sharing permission levels control the level of Access to the Shared Records for each Archive they are shared with.

- · Viewer Access – permission to view the Records only.

- · Contributor Access – Viewer Access plus permission to add Files and create Folders.

- · Editor Access – Contributor Access plus permission to edit Metadata and change Views.

- · Curator Access – Editor Access plus permission to move, copy and delete Records.

- · Owner Access – Curator Access plus permission to Share the Records to additional Archives and retain a private copy of the Shared Record. Owner Access cannot be revoked by the original Owner Archive once granted to another Archive but it can be relinquished. Any Archive with Owner Access to Records can choose to Fork the Records with Owner Access. When the 2nd to last Archive with Owner Access on Shared Records Forks the Shared Records the Shared Records will only have a single Owner Archive.

Note: The storage space occupied by new Shared Files added to a Shared Folder in any Archive is endowed by the Account that uploads the Shared Files to the Shared Folder.

Multiple Archives

A single Account on Permanent.org can be associated with more than one Permanent Archive. This is used for people creating Permanent Archives for other people, families or organizations.

An Account can create any number of Permanent Archives. The creator Account of a Permanent Archive becomes the Owner by default.

Gifting Archives

Permanent Archives can be gifted to other people with a specified amount of endowed storage. This is a key feature that can be used to create a Permanent Archive for a parent or loved one, to start a Permanent Archive for a friend, or start and build and Permanent Archive for a child. When gifting a Permanent Archive, the gift must be accepted in order for the transfer to complete, until then, you will still own the Permanent Archive.

Members

Each Permanent Archive can be managed by any number of Members who have controlled access to all of the materials in an archive. Members can be assigned different access levels similar to those used in Shared materials.

- · Viewer Access – permission to view the materials and metadata only.

- · Contributor Access – Viewer Access plus permission to add materials and create folders in the archive.

- · Editor Access – Contributor Access plus permission to edit archive materials and folder metadata and to change default Folder Views.

- · Curator Access – Editor Access plus permission to move, copy and delete materials.

- · Owner Access – Curator Access plus permission to share the archive with additional Account holders. There can be only one Permanent Archive Owner Account. Owner Access can be transferred between Accounts by Gifting. If a Permanent Archive is Gifted, the Owner Access transfer cannot be revoked by the previous Owner Account.

Members can be Permanent.org Account holders who may or may not have an established relationship to the archive. For example, a private archivist might be employed to curate an archive as an archive Member but not associated with the archive via a relationship.

Directives

Directives allow you to automate the control of how information and materials are shared with others, go public or remain private in the event of a life altering transition. Directives are a set of rules to move, delete, copy, or change permissions of Profile info, Folders, and Files. These instructions are executed based on a timetable that is specified by you.

If you desire that some information only be released to specific people, you can create instructions for that. There are many possibilities for the application of directives and there are many potential triggers to activate a directive. Basic Directives will be based on dates and death only, but Permanent.org will allow other inputs to trigger directives in the future.

SECTION 2 – COPYRIGHT AND LAWS

Laws of Different Countries

Content must adhere to the laws of the country in which you reside. The Permanent Legacy Foundation will abide by all laws of the appropriate jurisdiction.

Ownership

A Permanent Archive is owned by a single Account.

Permanent Archives for individuals are intended to be established by the individual represented by that Permanent Archive or an authorized designee at the time the Permanent Archive is created (i.e. power of attorney, legal guardian, a descendant or relative, etc.). Pseudonym or alias Permanent Archives are not allowed and violate our terms of service.

For an Account to establish a Permanent Archive for an organization, that Permanent.org User must produce identification such as Corporate ID, state or county of incorporation and legal paperwork establishing that the person has authority on behalf of the organization. When an organization's Permanent Archive is initially created this information is uploaded as part of the Permanent Archive and then approved by staff of the Foundation.

Permanent Archives for families are not exclusive to relationships of blood or marriage. Family Archives can be established for community groups, clubs, associations, or other entities of cultural or historical value that do not have legal standing. However, Permanent Archives for families must be established by an individual designated by the family to create an Archive on behalf of the family that will represent the family. It is important to note that this archive is not jointly owned and that Sharing should be use to preserve Ownership Access for Records.

Fraudulent Permanent Archives

Fraudulent Permanent Archives are not allowed. If the Permanent Legacy Foundation discovers a fraudulent entry, access to that Permanent Archive will be disabled. Permanent.org will notify the Owner Account that the archive has been disabled.

Data Privacy

Permanent Archive Owners control their Permanent Archive and everything that they choose to put in it. Permanent Archive Owners decide who can access and/or edit their information. Directives are established that will oversee the data for the next generation at which point it can be decided whether the information becomes part of the public trust.

Death

By default, Permanent Archives are locked when the Account holder dies. Prior to the

individual's death, directives may have been established on Archives owned by the Account that will continue to be executed. These instructions can delegate control, change Owner Access, and alter the Permanent Archive.

In order to activate directives upon death, a person with knowledge and evidence of the death sends Permanent.org the appropriate information: death certificate, full name on Permanent Archive, social security number, and birth city. Once identity has been confirmed and death Certificate has been validated, Permanent.org will notify the person who sent in the information and will enact directives.

The death directives may be initiated by a Public User from the deceased's Public Legacy page, an Account holder that is a Member of the deceased's Archives with access to their Directives, or a non-user through written correspondence with the Permanent Legacy Foundation.

Survival

A Permanent Archive Owner can optionally designate editing and control rights of their Permanent Archive to any Account of their choosing. Some Permanent.org Users will do this to ensure the continuing upkeep and updating of their Permanent Archives. Others may opt not to do this. This is exclusively in Owner's control.

Copyright Ownership

It is important that the Permanent.org Archive holder either own or have properly and fully licensed all content that they share on the Permanent.org. They continue to own content and all copyrights. The Permanent Legacy Foundation is required to retain the minimum license necessary to make content available per the Owner's instructions. This license is granted as part of the Terms of Service.

Digital Millennium Copyright Act

It is the Permanent Legacy Foundation's policy to respond to notices of alleged infringement that comply with the Digital Millennium Copyright Act ("DMCA"). We do not allow posting content that violates someone else's intellectual property rights, including copyright and trademark. If we are informed of copyright and trademark violation on some public aspect of Permanent.org, we will disable public access to the offending content.

Legal Use of Permanent Archives, Cease and Desist

Permanent.org Account holders are permitted to upload, share, and permanently preserve their content on Permanent.org. Account holders are not permitted to use permanent.org or any archives for direct commercial use. Account holders are not allowed to use or make available inappropriate, criminal, or dangerous information. Account holders must abide by all laws of their jurisdiction.

As the purpose of the Permanent.org is to permanently preserve the legacies of any individual,

family, and organization, we must reserve the right to disable illegal content as defined by the current laws of the relevant countries. This includes but is not limited to the following rules:

- ·   No child pornography

- ·   No legally defined slander or hate materials

If you see something you think see something that violates any of these provisions, email us at violations@Permanent.org

Disambiguation

Many people might have the same name. Organizations in different parts of the world might have the same name. Permanent.org will optionally store personal information to disambiguate Permanent Archives. The information may include: birth date, birth city, ID numbers, relationships, establishment dates, job history, cities lived in, or more. This information will be highly secured and encrypted. The Permanent Archive holder can set a date on which the disambiguation data goes public. This will typically be a long time in the future when the data is not relevant for any other purposes beyond disambiguation.

Suspicious Archive Owner

If an archive has been created in one's name that they deem suspicious, the individual should contact Permanent.org for resolution by email at violations@Permanent.org.

Divorce, Dissolution, Survivorship

In Permanent.org, you can have shared Owner Access of materials, but not Archives. If two or more individuals have Owner Access to Shared materials and one of the individuals chooses to "break the Share" all Owners will receive their own personal copy of the materials and can then do as they please. This is called Fork.

Minor's Permanent Archives and Accounts

Parents or guardians can set up Permanent Archives for minors, or they can put the materials in their own Permanent Archive. The parent or guardian can transfer full Owner Access to the minor at any point in time. Until full Owner Access is transferred the minor's Permanent Archive can be limited by the parent or guardian for safety and security. These limitations are designed to allow the minor to build a Permanent Archive in a safe environment, but not allow any public sharing. The Permanent Archive will be attached to the minor's account. The Account and the Permanent Archive are both tagged as belonging to a minor and Public sharing is not allowed.

Traffic Abuse

While the endowment model of the Permanent Legacy Foundation is designed to keep your materials into perpetuity, it is not designed to be a high-traffic heavy-bandwidth hosting site. With the exception of approved nonprofit partners, we do not allow references of embedded

materials on external sites for, and we must reserve the right to throttle or block abusive traffic.

Search Engines, Robots, Scraping, Etc..

Public Permanent Archives will generally be available for indexing by search engines. Other automated systems are not allowed to use Permanent.org. Scraping and copying any Account holder's content is not allowed. API access to the system is allowed for authorized users but may be throttled to limit abuse.

Use For Research

The fundamental policy of the Foundation is to support research into the public Permanent Archives for academics and others. This research will be supported free of charge to the best of the ability of the Foundation. Obviously abuse of this could be possible and the Foundation will develop policy and procedure around this, but the philosophical objective is to support research into the "Permanent History of Mankind".

SECTION 3 - TECHNOLOGY

Security

Permanent.org uses a hybrid encryption system to store content, ensuring that nothing is available without proper credentials. We continuously evolve our encryption technology to ensure that we are utilizing the best available algorithms. Currently we utilize AES-256 encryption, which is certified by the US government for top-secret data. This algorithm provides 1.1×10^{77} possible combinations, meaning it would take 3.31×10^{56} years to be cracked using current computing capabilities. We have also deployed multi-factor authentication for access rights, ensuring that we authenticate someone before access is granted. Multi-factor authentication requires a secret password and a physical device that can verify someone's identity. This prevents someone with a stolen password from gaining access to an account. Accessing the vault will require a second authentication that will only remain valid for a limited period of time. The decryption keys will only be available to the system during this period of time, and by keeping the keys in volatile memory, it will be unusable as soon as you log off or the authentication time expires. We will continue to evaluate and deploy the leading security technologies and practices.

Open APIs

The Permanent Legacy Foundation APIs were built to integrate with many other open and commercial applications and solutions. We use a common RESTful API design approach as of today. We work with leading organizations to ensure smooth and open integration through our publicly documented and public APIs. The APIs use a design that ensures simplicity and ease of integration. Only vetted applications have access to the APIs to prevent malicious use. Public profile information, (i.e. the information you have consented to be made public) is available to search engines, crawlers, and similar services. As technology advances, we will continue to advance our approach and improve our APIs.

Permanent Archive Number (PA#)

Every Permanent Archive created at Permanent.org is given a unique identifier called a Permanent Archive Number (PA#). This identifier is used to directly access a Permanent Archive or File and give a permanent easy way to reference the Permanent Archive file. It's like a Library of Congress number or a ISBN number in the publishing industry. The format of this number is P-X. P is a unique identifier given to each Permanent Archive on Permanent.org and X is a sequential file creation number for that file. When more than one Archive has Owner Access to Shared materials, the P number will be the number of the Permanent Archive that initially created/uploaded the file. The numbers are sequential base 36 (26 letters and 10 digits) case insensitive. The P will be padded with zeros to reach a minimum of 4 digits. X will be padded with zeros to reach a minimum of 4 digits. Some example Permanent Archive Numbers would be 00GH-006T, 8HGT3KMUU-78GDQ9, 0001-0001, 999999-9999999, ZZZZZ-ZZZZZZ.

Permanent Legacy Foundation Manifesto

Strategy for Guaranteeing Permanence

Digital storage technology is constantly changing. The Foundation uses a multipronged strategy to ensure materials endure for eternity. All Permanent Archives are stored in multiple locations at all times. They are also stored on multiple implementation architectures at all times. Given today's technology, we also believe Permanent Archives must also be stored offline and therefore do so on a regular basis.

Today the Permanent Legacy Foundation's implementation stores Permanent Archives on multiple data centers to ensure maximum reliability. Permanent Archives are further backed up on physical media and stored in a secure offline vault. Redundancy combined with physical backup achieves greater than 99.99999999% data durability, and over 99.9% availability. Every quarter the system automatically validates data integrity using asymmetric data hashing algorithms and restores any corrupted files.

File Names

Files can have names of up to 256 characters which may include spaces, but no carriage returns.

Format Support

Permanent.org ensures that data will be accessible and viewable for the ages. Many scholars have drawn attention to an imminent digital Dark Age because of the many data formats will be lost unless data formats are considered, preserved, and supported into the future. There are tens of thousands of data formats currently in existence and countless more being created each day. Already, thousands of data formats are no longer used or cannot be accessed using modern operating systems.

The Permanent Legacy Foundation's Content Format Board selected the ubiquitous formats of today and will migrate them forward as necessary to ensure widespread availability. The original file in its original format will obviously always be available. As new formats become ubiquitous, the Foundation's Content Format Board will determine which ones will be added to our supported list.

The Permanent Legacy Foundation allows upload of all formats. Files fall into the 3 categories: 1) Permanent Formats, 2) Supported Formats, and 3) Other Formats. The file in its original format is always preserved and available.

If the file is in a Permanent Format it will be supported in perpetuity. This means that if the format is no longer viewable in a significant portion of computer or equivalent systems the Foundation will provide the resources (compute, viewers, conversion software, etc..) to insure it is viewable. The file will always be widely available and widely viewable. Please note we guaranteed the file will be viewable - not editable or executable. This is a very important distinction.

If the file is in a Supported Format, it will be stored in its original format, but will also be automatically converted to one or more Permanent Formats upon upload. The Permanent

Format will always be viewable in the future (see above). The Supported Formats will be converted into Permanent Formats that are viewable, but not necessarily editable. For example a Microsoft Word 2015 document added to a Permanent Archive will be converted to a Permanent Format and is therefore guaranteed to be viewable in the year 2500 AD, but it is unlikely that you will be able to open the original file and edit it.

As of 2018 the Foundation's Formats are:

Permanent Formats	Supported Formats

Documents:
  • Text (.txt)
  • Open Document (.odt)
  • Portable Document Format PDF/A-3 (.pdf)
Spreadsheets
  • Open Spreadsheet (.ods)
  • Comma Separated Values (.csv)
Presentations
  • Open Presentation (.odp)
Images:
  • Joint Photographic Experts Group (.jpg)
  • Tagged Image File Format (.tiff)
Audio:
  • MPEG Audio Layer III (.mp3)
 	
Video:
  • MPEG-4 Part 14 (.mp4)
	Documents:
	  • Microsoft Word (.doc, .docx)
	  • Portable Document Format (.pdf)
	  • Hyper Text Markup Language (.html, .htm)
	  • Email Message (.eml)
	  • Rich Text File (.rtf)
	Spreadsheets
	  • Microsoft Excel Spreadsheet (.xls, .xlsx)
	Presentations
	  • Microsoft PowerPoint (.ppt, .pptx)
	  • Keynote Presentation (.key)
	Images:
	  • Graphics Interchange Format (.gif)
	  • Portable Network Graphics (.png)
	  • Bitmap Image Format (.bmp)
	  • High Effeciency Image Format (.heic, .heif)
	Audio:
	  • Advanced Audio Coding (.aac)
	  • Audio Interchange File Format (.aiff)
	  • Free Lossless Audio Codec (.flac)
	  • MPEG-4 Audio (.m4a)
	  • Waveform Audio File Format (.wav)
	  • Windows Media Audio (.wma)
	  • Open Container Format (.ogg)
	Video:
	  • Audio Video Interleave (.avi)
	  • QuickTime File Format (.mov)
	  • Theora (.ogv)
	  • Windows Media Video (.wmv)
	  • Open web Media (.webm)
	  • Third Generation Partnership Project (.3gp, .3g2)
	  • Apple Media (.m4v)
	  • Matroska Video (.mkv)

Conversions

The following table lists the conversions for uploaded files that are Supported Formats or Permanent Formats.

Original Format	Conversion 1	Conversion 2	Conversion 3
Documents			
• .doc • .docx • .rtf	.odt	.pdf/a	.txt

• .eml • .html • .htm • .odt • .pdf	.pdf/a	.txt	
• .pdf/a	.txt		
Spreadsheets			
• .xls • .xlsx	.ods	.pdf/a	.csv
• .ods	.pdf/a	.csv	
Presentations			
• .ppt • .pptx • .key	.odp	.pdf/a	.txt
• .odp	.pdf/a	.txt	
Images			
• .bmp • .gif • .png • .tif • .tiff • .heic • .heif	.jpg		
• .jpg • .jpeg			
Audio			
• .aac • .aiff • .flac • .m4a • .ogg • .wav • .wma	.mp3		
• .mp3			
Video			
• .avi • .mov • .ogv • .wmv • .webm • .m4v • .mkv • .3gp • .3g2	.mp4		
• .mp4			

Network Migration

Though it is unthinkable today, the Internet as we know it may cease to exist in the future. The Permanent Legacy Foundation will ensure that all the Permanent Archives are moved to whatever the Internet evolves to, the "next Internet", in the future. The Internet will eventually change and a endowed organization will be needed to move and preserve the archives.

Audit Trail

Each File and Permanent Archive has an audit trail that is recorded associated with it. The Owner of a Permanent Archive can view this audit trail, but it is not available to anyone else.

Internationalization

Initially the Foundation will only support English language. This will change over time and most languages will be supported.

Metadata

A Permanent Archive file consists of the file and the metadata associated with that file.

Core Metadata will preserved with the file and migrated forward with the file. Metadata is very important for searching and many other display reasons. The Foundation wants a very limited set of Core Metadata because it needs to be preserved for the long term. We need to keep the Core Metadata clearly defined, precise and simple in order to guarantee that it can be migrated forward to eternity.

Core Metadata

Permanent Archive number	A unique Permanent Archive identifier given to all items on Permanent.org. This is assigned when archives are created, records are created by uploading files or when folders are created. This is the primary index for every record, archive, or folder.
Filename	The filename in the directory structure - this is the original filename that was used when the file or folder was uploaded or created. The filename cannot be changed.
Display Name	Display Name - this is a more descriptive name that can be used to override the original filename. If there is a Display Name it will be used everywhere instead of the original filename in the user interfaces. Limited to plain text and 255 characters.
Description	A description that describes the file. This is plain text. No formatting. Limited to 10,000 characters.
Private Note	A long multi-paragraph text block that is private and remains private forever - used by the Permanent Archive

	Owner in which the record was created only. Limited to 10,000 characters.
Date	A Date and Time entered by the Permanent.org User for a record or folder. This Date will be used in the system for sorting and display purposes. This will set the upper limits of the folder's date range on timelines. If no date is set by the Permanent.org User, the system will initialize this by utilizing the available meta data of the item, file created date, or uploaded date.
End Date	A Date and Time entered by the Permanent.org User for a folder that allows the end date specification of a range of date/times for a folder. Can be blank. For Folders if the End Date is not been entered by the Permanent.org User it will be automatically calculated any time a an item within the folder is changed to be last date of any item's End Date or Date.
Uploaded Date	The date and time that a record was initially uploaded into the system or when a folder was created. This is not editable.
Last Modified Date	Date and time when the record or folder metadata was most recently changed. This is not editable. For a folder this does NOT reflect any changes to items in the Folder, just the Folders name, and metadata.
Time Zone	The time zone as set by the Permanent.org User for a record or file. The system will initialize the time zone based on record metadata or current timezone of browser or computer. This will be in the ISO 8601 Format.
Record Creator	This is the Permanent.org Account that uploaded or created the file. Set when the file is created or uploaded. Cannot be changed. This is an Account ID#.
Geolocation	This is the latitude and longitude where the document was either created or the corresponding event happened. Extracted from some files upon upload. Can be edited by the Permanent.org User and changed at any time.
Position	This is a number indicating the sequence of preferred display. Defaults to alphabetical order. Can be edited by the Permanent.org User.
View Type	View number/name selected by the Permanent.org User for this file or folder. Can be edited by the Permanent.org User. See View information.
Tags	Text tags entered by the Permanent.org User. Can be edited the Permanent.org User. These are used for searching and organization. Account holders can use 100 tags on each Record or Folder. each tag is plain text up

Permanent Legacy Foundation Manifesto

	to 50 characters
Name Value Pairs	Account holders can enter up to 50 name Value pairs that are used to configure the Views. These can also be used to alter the display configuration of a single Record or Folder. names and values are plain text and up to 50 characters.

Internal Use Only Metadata

MIME Type	This is the MIME type of the uploaded File.
File Format	The file system identifier type used to distinguish what type of file was uploaded.
Related files(s)	As the system converts files into new formats, it will preserve the relationship between files. This can be used to identify which file was used as the source when creating the new converted file.
File Type	A generic identifier of the various files that are allowed and identified within the system. This includes images, documents, spreadsheets, presentations, videos, audio, and text.
Derived Date	A UTC date and time that is retrieved from image metadata (EXIF, IPTC), file headers, or computed from the folder contents. This date and time is not visible to Permanent.org Users and is used internally within the system.
Derived Time Zone	The time zone stored in ISO 8601 format that is retrieved from metadata or file headers. This is not visible to Permanent.org Users and is used internally within the system.
Derived End Date	Then internally computed End Date and Time of a folder based on the maximum Date and Time from all folders and records contained within the folder. This will be used to populate the End Date if a Permanent.org User has not already set it. It is not editable by the Permanent.org Users.
File Created Date	This is the original file creation date. This cannot be edited. It is determined from data imbedded in the file at upload time or the upload date/tim is used. If the system cannot determine this date, then it will be set to the time at which the file was first uploaded.

Permanent Legacy Foundation Manifesto

File Conversion Date	This is the UTC date and time in which the system converted a file into a new format.
Size	The amount of storage space that a file consumes in bytes.

Logging Historical Data

File Conversion Logs

All conversions of files will be logged with information about what file was the source of the conversion, and what file was the end result. The date and time of this action will be recorded as well.

Conversion Date	The Date and Time of when the file was converted. This is stored as a UTC formatted Date.
File Type	The specific file type used to identify how the file should be converted and stored.
File Extension	The filesystem identifier of what the file type is. (Eg. .pdf, .jpg, .docx)
MIME Type	The identifier for how the file should be transmitted on the internet. Browsers often utilize the Mime Type to determine what actions or application should be used to handle the file.
Source File	The identifier of the file that was used to create this converted file. If the file is the original uploaded by the Permanent.org User, then this would be null.
Source File Type	The specific file type of the source file used for conversion. If this file is the original uploaded by the Permanent.org User, then this would be null.
Size	The size of the file on disk in bytes.
MD5 Checksum	The MD5 hash of the file used to verify that the file has no corruption while on storage.

Metadata Change Log

Any time the metadata of a Folder or Record is changed by an Account or by the system, a log of that change will be made. It will contain the date, who made the change, what element was changed, and the Permanent Archive Number of the folder or record was affected.

Views

Views are how a Folder, File or Profile are displayed in "play mode". Play Mode is the appearance that a different User or the public will see. Views are broken down into a descriptive name and a number. For example. Grid View 1. The Foundation will attempt to preserve views that are similar over time, but there will be significant variation in different medias and as the internet evolves. Views can also have settings that are stored in the Name Value Pair to adjust them. These settings will be preserved and used as best as possible in different medias.

Ownership of Permanent Archives

Permanent Archives can only be owned by one account. Folders can be owned by multiple Permanent Archives. You can transfer Owner Access of a Permanent Archive, which must be acknowledged and accepted, but cannot be revoked. For example you can create a permanent archive for your Father and then transfer Owner Access to him and also retain curator rights.

Copying of Folders

Any copy of a folder will generate all new PA#'s for the member doing the copy. The space consumed by the materials of the folder will be decremented from the space available to the account of the user.

Multiple Accounts

You are able to create multiple archives within Permanent.org but you should not create multiple accounts. When you create your account, you must create a personal Permanent Archive. You can make the personal archive completely private and empty, but you have to have it in order to participate with an Organization's Permanent Archive.

Endowment Contributions

The account that is uploading the materials is responsible for providing the endowment contribution. Donations can also be made directly to the endowment by any person or organization.

Preferences

There are settings for an Account related to billing and archive creation. There are settings related to each Permanent Archive as to defaults for uploads, display of profile, and typical settings.

Connected Apps

Permanent.org will build and maintain connectors to social media and file storage services.

These will have rules and methods for automatically obtaining files, photos, and other information to be automatically stored into your Permanent Archive.

SECTION 4 - FOUNDATION STRUCTURE

Governing Board

The Governing Board is responsible for oversight and operation of permanent.org. It is responsible for the financial plan and the selection of staff to operate the Foundation. It ensures mission compliance, appropriate use of funds, establishes the messaging of the Foundation, and makes sure the Foundation endures.

The Governing Board currently has 6 members:

- [Dean Drako](), Board Chair and Sole Member, President CEO Eagle Eye Networks, IC Manage, and Drako Motors

- [Stephen Wolfram](), Founder and CEO at Wolfram Research

- [Joshua Baer](), Founder and CEO at Capital Factory

- [Tracy LaQuey Parker](), Founder of the UTeach Institute and Internet Hall of Fame Inductee

- [David Munson](), President, at Rochester Institute of Technology

- [Paul Vixie](), CEO at Farsight Security and Internet Hall of Fame Inductee

Board terms are 1 year and are renewable.

Endowment Management and Investment Strategy

The Foundation's endowment is managed by Goldman Sachs with a clear objective of capital preservation with oversight by the Endowment Board and the Governing Board.

Non-Profit Organizations

All nonprofits can get a modestly sized Permanent Archive at no charge. This is made possible by contributions from Dean Drako.

Advisory Boards

The Permanent Legacy Foundation's Boards are instrumental to the Foundation's longevity and success. The structure is specifically designed along with this Manifesto to insure that the mission of the Foundation stays true and that all the Permanent Archives are preserved for eternity.

The following Boards are responsible for the oversight of specific areas of the Foundation.

Academic Board
Responsible for relationships with Universities. Responsible for procuring advice and policy relating to academic research. Engage with Universities.

Artist Board
Ensure that unique needs of artists are met, such as copyright, digital rights, formats Musicians, Fine Artists, Sculptors, FilmMakers

Author Board
Ensure the the copyright issues and needs of a authors are met by permanent.org.

Corporate Legacy (History) Board
Permanent.org can be used to record the history of corporations and other organizations effectively. This Board discusses the needs and methods of reaching this audience

Digital Format Board
Responsible for recommendations and guidance related to the digitization of media to Permanent Archives. Reviews any relationships that the Foundation has with partners to assist with any outside third party media conversion. Advises and creates policies for supported file formats and the conversion of these file formats to ensure long long term compatibility.

Disambiguation and Search Board
Keep Permanent.org up to date on best approaches for disambiguating individuals and organizations. Optimize search approaches for finding people and information.

Education Board
Connection to Primary and Secondary Schools / School Districts / Educators

Endowment Board
Responsible for investment policy, verifying investment management, and overseeing the endowment.

Estate Board
Responsible for advice, input and direction with regard to estate planning documents and features related to storing Wills, Trusts, Estates.

Ethics Board
Responsible for advice and policies on ethical issues. These can involve political figures, minors, death & dying, differing ethics laws of other countries, and international racial, religious, and historic issues as well as hate speech.

Family Board
Group of people focussed on personal and family preservation. Provides input and usability feedback on meeting the needs of recording and capturing family history.

Genealogy Board
Ensure the unique needs of genealogists are met and that Permanent.org interoperates with key genealogical sites / organizations.

History Board
Engage with historians, historical organizations, and historical societies. Make sure Permanent.org is meeting the needs of small and large organizations focussed on preserving history.

Image Board
Ensure we are doing the right thing to preserve photos and images.

International Board
Responsible for planning and advising on issues related to moving internationally with the Permanent.org service.

Journalism Board
Issues such as public / private news information – source protection, journalistic references. Engage with journalist to preserve their materials and the items they choose to preserve. Make sure time capsules meet their needs.

Legal Board
Ensure Permanent Legacy Foundation meets legal non-profit requirements, DMCA compliance legal advice, and copyright issues, and legal estate issues.

Library Board
Responsible for guidance on meeting the desires and needs of libraries. Community outreach to local libraries.

Museum Board
Ensure that Permanent.org meets the needs of museums and other cultural institutions. Engage with them.

Narrative Board
Focused on different approaches to enable people to tell their life stories or simple stories of snippets of their lives.

Non-profit Legacy
Permanent.org will provide free storage to non-profits. This board will provide feedback on usage and guidance on programs for Non-Profit organizations.

Outreach Board
Responsible for coordinating growth in usage and reaching out to target user base.

Personal Historian Board
Evolve Permanent.org to for capture and long term storage of personal histories. Outreach to personal historians.

Digital Archiving Board
Communicate with the PDA community and ensure Permanent.org meets their needs

Preservation Board
Keep Permanent.org up to date on the latest approaches to long term preservation. Ensure the organization has implemented the most durable approaches to long term storage and retrieval of archives.

Security Board
·   Responsible for advice and policy related to verifying that a Permanent Archive is authentic and that the person or people creating are authorized to do so. Makes sure we disallow imposters and fake archives.

·   Responsible for advice and policy relating to Privacy. Very critical item for permanent.org. Advises on what features and capabilities in the system are required to achieve proper privacy for all the users.

·   Responsible for advice, policy, and strategy related to other entities using the Permanent Storage API of permanent.org. Responsible for oversight and policies related to cyber security of permanent.org. Handles all encryption policy issues and makes sure the Foundation is in compliance with the latest security standards.

·   Responsible for advice on the architecture, implementation methodology, and other engineering related items to ensure permanence of all the stored data at permanent.org.

·   Responsible for advising and assisting with user interactions, ease of use, use case scenarios, and making sure the user interfaces are exemplary.

Technology Board
Ensures that Permanent.org is up to date on the latest technology related to storage, retrieval

Veterans Board
Partner with veterans groups so that Permanent.org can properly preserve veteran's stories and the histories of their military service.

GLOSSARY

Curator
Shorthand for an Archive or Account that has been granted Curtator Access.

Curator Access to an Archive
An Account that has the ability to control, update, and modify the entirety of a Permanent Archive in which they are a Member.

Curator Access to Shared Records
An Archive that has the ability to control, update, and modify the Shared Records.

Directives
These are instructions and rules that are established as part of a Permanent Archive that will modify access, move, Share, or delete Records of a Permanent Archive, or send out notifications to specific Accounts.

External Sharing
External Sharing is when Records are shared outside of the Permanent.org system entirely.

File
The Audio, Video+Audio, Video, Document, or Image or other digital entity that has been added to the Permanent Legacy Foundation's Permanent.org. The File is automatically processed by the Permanent.org system if it is a Supported Format in order to create a Record, extract Metadata from the file header, generate system files, and convert the File into a Permanent Format.

Folder
Folders are used to collect and organize files into groups. Folders have a set of metadata associated with them which includes the name of the folder and a default View for the files in that Folder. Folders have a PA#.

Materials
A term used to describe all the different items that can be created or uploaded into an Archive. Materials may refer to Folders and their File contents both.

Micro-Endowment
The concept of creating a small endowment to guarantee that Records associated with the micro-endowment are permanently preserved. Micro-endowments are grouped together to create a larger managed endowment. Micro-endowments are funded by storage fees assessed by gigabyte of storage on the Permanent.org system. Each item stored in Permanent.org is

endowed proportionally to the storage space it occupies.

Minor Permanent Archive
A Permanent Archive created for a minor, controlled by a parent or guardian.

Other Format
File formats that can be successfully uploaded into Permanent.org but not processed into Permanent Formats or system files used for the purpose of rendering for display. The files cannot be displayed directly on Permanent.org nor can Permanent.org guarantee that it will be permanently viewable. The file will be stored, but it is vulnerable to Digital Dark Age decay because it has not been converted to a Permanent Format.

Owner
Shorthand for an Archive or Account that has been granted Ownership Access.

Ownership Access of an Archive
An Archive with Ownership Access granted to an Account is a legal declaration that the entire material contents of that Archive and their copyrights is owned by the Permanent.org User associated with that Account. This grants the Permanent.org User the ability to change, update, delete, remove, or share any part of a Permanent Archive. There can only be one Account with Ownership Access to a Permanent Archive. Owner Access can be transferred to another Account. A single Permanent.org User can have Owner Access to multiple Permanent Archives.

Ownership Access of Shared Records
A Shared Record with Ownership Access granted to an Archive is a legal declaration that the material contents of the Shared Files and Folders that and their copyrights is owned by the Account has Ownership Access to the Archive to which those Records have been shared. This grants the Permanent.org User associated with that Account the ability to change, update, delete, remove, or share any part of the Shared Records. There can be multiple Archives with Ownership Access to Shared Records. Shared Records can be Forked to permanently copy the Shared Records to an Archive with Ownership Access and dissolve the Share leaving two distinct Records for those Records in two distinct Archives, both with separate Ownership Access.

Permanent Archive
A Permanent Archive is the collection of digital Records to be preserved forever that are the legal property of an individual, family or organizational identity represented in the associated Profile or have been legally released by that individual or others into the public commons. The Permanent Archive directly represents the legal ownership and copyrights of that individual, family or organization so that any materials placed in the archive are assumed to have those rights. These are the digital materials that are endowed through storage fees.

Permanent Archive Number (PA#)
Each item added to or created in a Permanent Archive is given a PA# in the format of P-X. This is like an ISBN or Library of Congress number to refer to the item. The item can always be directly accessed using this number.

Permanent Format
File formats that when stored into a Permanent Archive will be guaranteed to be viewable for eternity. These are the formats that the Foundation will guarantee to evolve forward. Files in Supported Formats will be converted into Permanent Formats. Files in Other Formats can be uploaded but will not be converted into Permanent Formats. Other formats will only be stored. We only guarantee that Permanent Formats are perpetually viewable.

Permanent.org
Permanent.org is the URL of the Permanent Legacy Foundation, a non-profit organization that has been established with the explicit goal of preserving the collections of Permanent.org Users forever. The URL functions as the locations for Permanent.org Users to update and edit Permanent Archives. It also serves as the location for Public Users to access the public portion of all the Permanent Archives.

Permanent.org Account
A person establishes an Account on Permanent.org with security credentials and payment information. The Account is the endowment contribution and billing entity. An Account must be associated with an individual person. An Account always has an individual Permanent Archive associated with it, which might be completely empty or completely private. A single Account can own or be a Member of multiple Permanent Archives.

Permanent.org Storage API
The RESTFUL API that is the core of Permanent.org. Open for other developers to build other applications that desire permanent endowed storage or desire to create custom views of Public Legacies. Custom views can be hosted on Permanent.org or independently.

Permanent.org User
A Permanent.org User is a person who logs into Permanent.org with Account credentials.

Private Folder
The Private Folder is the collection of files that have been added to a Permanent Archive that are not available to anyone other than the Owner of the Permanent Archive by default. They can be shared when they are moved into a Shared Folder or a Public Folder.

Private Profile
The part of a Profile that is currently not public, but will become public at a time specified in the Directives.

Profile
Information including name and other specifics that are used to uniquely identify a person or organization. A Profile has public and private versions. You can also keep your profile completely private if you wish. A profile can have a personal twist to it. The Profile includes name, birthdate, birthplace, government identification numbers, list of employers, list of places lived (and dates), degrees from schools, and personal connections (family tree information).

Public Folder
The Public Folder is the collection of items from a Permanent Archive that are publically available. Users organize Permanent Archive Records they want to share with the world for eternity in their Public Folder.

Public Legacy
A Public Legacy consists of a Permanent Archive's Public Profile and Public Records. A Public Legacy has a URL based on the PA#.

Public Profile
The part of a profile that is currently visible the to the public.

Public User
A person who accesses anything publically accessible on Permanent.org.

Record
A Record consists of a File uploaded to Permanent.org, the Metadata associated with that File, and the PA# that identifies it.

Relationships
The Permanent.org system can establish Metadata connections between Archives called Relationships. A Relationship has a Type to assist with disambiguation, for example: Mother, Father, Friend, Colleague, Staff, etc. The Relationship Type can differ between the two Archives. These represent real-world family, community and professional relationships. Relationships are required in order to Share Records between Archives.

Shared Records
Members can Share Records in their Permanent Archive with other Permanent Archives by assigning Access permissions to those Records. Shared Records appear in the Shares section of each Archive that is granted Access to the Shared Records.

Supported Format
Any File format that Permanent.org will store and will also convert into a Permanent Format such that it will be perpetually viewable.

Permanent Legacy Foundation Manifesto

View
Views are layouts and rules the determine how Records will be displayed by default on the Public Legacy pages on Permanent.org for Public Users or in Preview mode for Permanent.org Users. Views are primarily used to configure the display of image collections and photographs to create slideshows, timelines, scrap books, etc. Views do not affect the underlying Materials and are not saved as part of a Record.

Permanent Legacy Foundation Manifesto

CONTACT
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