

Considerations for PIM and aging

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1 INTRODUCTION

Aging is inevitable. Advice tells us to embrace getting older. Less discussed is the fact that our personal information is also getting older. Or at least some of it is. Birth records, family photos, deeds of ownership, documents written on a word processor from the 1980s – all these are elements of PIM that were created in our past but continue to be important and need to be maintained as part of our personal space of information.

But as we age, we are also acquiring new PIM: electronic medial records from a recent doctor's visit stored in an online e-health system; a video of a grandchild sent as an Apple iMessage; emails with important details about an upcoming trip; data tracking our workouts on our smartwatch; financial statements downloaded from our bank; social media posts from friends and family; and documents shared with us through collaboration tools such as Slack, Microsoft Teams, and Google Drive. These are all relatively new types and formats of PIM that we may encounter in our everyday lives. The methods for creating, delivering, and storing information are ever evolving, especially in the digital age.

As a result, for many people each year of age adds additional types of PIM that need to be managed, curated, and maintained. Over time our PIM becomes more fragmented along several dimensions: media type, storage format, and the level of access and control we have over it (e.g., many information services allow users to download some, but not all of their personal data).

Fragmentation has long been understood as a challenge for PIM. PIM fragmentation seems likely to continue to increase as new services, vendors, and tools are created and as old ones are discontinued. When file formats, online services, and software tools are discontinued, users must engage in PIM maintenance, or even PIM salvage!

In this short position paper, I outline: 1) some of the ways that our PIM can age, and 2) some of the ways that our aging may impact our PIM.

2 WAYS THAT OUR PIM CAN AGE

Out of date file formats – File formats can become out of date, unsupported, obsolete, and even inaccessible. For widely used software, there are likely to be conversion tools to convert an older file format to a newer one. However, for lesser used programs, such conversion or data export tools may not exist or may be limited in their

capabilities (e.g., they may not convert/export a complete view of the original data).

No longer supported software/hardware – There are many examples in this category. Consider old word processors and data storage tools from the 1980s that ran on various hardware. While many of these older systems have emulators that can run on modern operating systems, not all do and configuring the emulators can require specific expertise. Considering the number of electronic devices and tools used for PIM over the past 50 years, there are likely many devices that do not have support communities, emulators, and data connection tools.

Physical degradation – Some of PIM from the past is in physical forms that can suffer from degradation. Examples include paper decay, faded photos, worn out floppy disks, hard drives that won't spin.

Hardware issues – In some cases, we may still have our old PIM devices, but they may have hardware issues. For example, old cell-phone batteries may be dead and not have easily found replacements, older proprietary mp3 players may require software that is incompatible with current operating systems, old cellphones may have pictures that are inaccessible because the proprietary cable to connect the phone to a computer has been lost.

Changing norms – On the less technical side, things that we may have stored as PIM from years ago may not have aged well due to changing norms, beliefs, or societal values.

Closed businesses – Business that stored our PIM, but that have closed can impact our ability to maintain PIM. In some cases, PIM stored by others may be gone (e.g., a doctor's office that closed, or a social media platform that is defunct). In other cases, the PIM may still exist, but it may be inaccessible (e.g., it was sold to another company that has not made it available to us).

Context and meaning can be lost over time – Over time, our PIM may lose meaning and context. For example, we may not remember where a picture was taken, who was in it, or why it was important. The annotations and notes we make about our PIM may not always be sufficient to help us remember the context, or may not be understandable by other family members. Consider family photos that have been inherited by grandchildren who do not know who "Uncle AJ" is or why he was in a particular photograph.

3 WAYS THAT OUR AGING IMPACTS OUR PIM

Cognitive changes – As we age, we may experience cognitive changes such as forgetting, confusion, and slowing down. These changes can impact our ability to recall and re-access our PIM, and our ability to use PIM tools.

Physical changes – Also as we age, physical changes may impact our ability to interact with our PIM. For example, eyesight degradation may make it more difficult to read small text or see

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fine details in photographs; mobility limitations may impact our ability to maintain our PIM and the devices needed to access it (e.g., learning a new PIM technology may be challenging, or a mobility limitation may hinder our ability to access physical PIM such as photographs or paper records).

Changes in relevance – PIM that was important to us at an earlier stage of life may become less important as we get older. For example, maintaining records for a life insurance policy may be of great importance while we are raising children, but become less important

in our 70s and 80s. Similarly, contact lists, emails, and even writing we did that were important to us 20 years ago may seem less so as we age.

New technologies - New PIM technologies may be unfamiliar, confusing, or difficult for us to use as we get older. This may be because the new technology is aimed at younger users, or due to other limitations (e.g., fine motor control, experiencing dizziness in a head-mounted display).