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Digital Legacy—Who Do You Trust?

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Abstract

In this paper, we discuss views on trust around custodianship and curation of non-photographic digital legacies. Physical photographs have long been the artefact of choice for storytelling and leaving a legacy for those that come after. Digital photographs, on the other hand, present curation challenges in terms of the size and complexity of the user-generated libraries. Further, their highly personal nature can lead to concerns over possible embarrassing content, which makes custodianship difficult.

In a mixed method research project, five non-photographic digital asset types emerged as being significant in the daily lives of participants, namely music, books, programming, gaming and note-taking. We compared them to participants' views of digital photographs as a legacy.

We found that journaling, music and books read were on par with photographs for emotional attachment and providing a sense of self, in some circumstances. Indeed, some non-photo assets, such as music playlists and reading lists were cited as being less context specific and more able to communicate sense of self than photographs.

Collections of non-photographic assets were typically much smaller than collections of photographs and were stored in more organised and centralised libraries, which makes curation easier. We also examined the intent to leave assets as legacy and the desire to curate them before leaving them.

Our research also revealed lack of defined custodianship for digital legacy data being left behind. Participants were pre-occupied with ultimate target audiences that might be interested in the legacy, as opposed to who would be trusted to look after and administer the legacy.

In future work, we plan to conduct a series of workshops on trust and custodianship to explore how a cohort of everyday users might navigate and show confidence in leaving a curated digital legacy.

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Introduction

Digital Legacy at its simplest consists of digital assets left post-mortem. Here, we are mainly interested in non-financial digital assets that may be viewed as heirlooms or may tell a story about the deceased person. With the explosion of digital platforms, people leave digital footprints in a variety of online spaces. Often, these reflect multiple personas created for different audiences. When curating their digital legacy, the final stories that people leave are in dialogue with those that were told during their lifetime.

While digital photographs have been extensively researched in the context of archiving, legacy, and heirlooms (Kirk et al., 2006; Odom et al., 2012; Wolters et al., 2015), in this paper, we follow Peoples & Hetherington (2015) in focusing on non-photographic digital assets, such as gaming and music assets. In a mixed-methods study consisting of 19 semi-structured interviews, followed by a broader online survey, we sought to answer the following Research Questions:

- RQ1: What non-photographic digital assets might someone choose to leave behind for others as legacy?
- RQ2: To what extent might those digital assets be curated?
- RQ3: Do intentions to leave digital assets and intentions to curate them differ between asset types?

Methodology

Semi Structured Interviews

Semi-structured interviews were conducted in 2020/21 with 19 adults aged 18 to 78 years from UK, Sweden and Germany. The interview schedule covered digital photographs, social media usage and attitudes, story-crafting with digital legacy, and other notable aspects of the interviewee's online lifestyle and what, if anything, might be included in a legacy. The interviews were coded and analysed using thematic analysis by the first author.

Online Survey

The interviews informed the design of an online survey, which examined six asset types: photos (baseline) and books, music, gaming, coding and note-taking. For each asset type, we established the frequency of interaction with the asset category, rough estimates as to sizes of libraries and collections, and the main applications/services for interaction and storage. Participants were asked to what degree these collections were "reflective of self" and to what extent of they worried about loss or deletion of the assets.

In terms of digital legacy, we asked about intent (how important it would be to leave this asset as a digital legacy) and curation (to what extent would this asset collection be edited before leaving it). Free text questions were presented for each section based on the participants answer to their intention to leave that asset as part of a digital legacy. If positive, we asked why they considered this valuable as part of their legacy and to whom would they entrust it. If negative, we asked why they considered this not worthy of being legacy. We also asked participants about digital legacy in general, allowing participants to comment generally about the concept and to mention other assets that might not have been discussed elsewhere. For the purpose of this study, free text responses for those who intended to leave a digital asset were coded into general categories regarding the potential custodian that the legacy would be left to. Free text responses were analysed by the first author using content analysis.

Interested adult participants were recruited using Prolific Academic[1]. The survey was published in English in late 2022 and was designed to take around 25 minutes. Recruitment was not limited to English-speaking countries and not designed to be balanced by age and gender.

There were 396 valid responses. 61% (N=243) were male, 36% (N=141) female, and 3% (N=12) were non-binary or did not wish to state their gender. 46% (N=183) were aged under 24, 35% (N=137) aged 25 to 34, and 19% (N=76) over 35. Average response time was 25 minutes.

Results

Leaving a Digital Legacy Beyond Photos

In addition to photos, five main asset types emerged from the semi-structured interviews: e-books, digital music collections, digital notes and journals, games (including characters), and coding (software, game worlds, etc.). Table 1 shows the median size of e-books, digital music, digital notes and journals, games, and coding collections. All were substantially smaller and therefore potentially easier to review and collate than digital photos collections (average for digital photos collections: 13,384 items, median: 3,000, inter-quartile range: 1,000-8,000). By far the largest collections were for digital music assets followed by books. The smallest collections were for coding, which may be due to the effort required to create such an asset.

Overall, participants were undecided about whether to leave any of the non-photo categories as a legacy (c.f. Table 1). They were most positive about leaving digital music collections and least inclined to leave collections of notes and journals. Differences between asset types in terms of intent to leave were significant (Kruskal-Wallis test, Kruskal-Wallis Chi^2=135.29, df=4, $p<0.00001$). The photo section of the survey, modelled after a previous survey, asked participants about importance of preservation on a four-point scale. Photos, a classic heirloom, were rated as somewhat important to preserve (M=2.0, SD=0.95).

Asset Type	(N)	(%)	Collection Size	Intent to Leave	Degree of Curation
Music	386	97%	2,007	M=2.93, SD=1.32	M=1.53, SD=1.10
Games	334	84%	120	M=3.34, SD=1.31	M=1.59, SD=1.25
Note Taking	254	64%	164	M=4.03, SD=1.12	M=2.71, SD=1.80
Books	195	49%	628	M=3.31, SD=1.31	M=1.58, SD=1.29
Coding	101	26%	72	M=3.34, SD=1.31	M=1.80, SD=1.39

Table 1. Asset Collections in survey: number of mentions (N), collection size (mean), intent to leave (1=yes, 5=no), degree of curation (1=no curation, 5=full deletion).

Curation: Who to Trust

While participants were mostly undecided about leaving different types of digital assets, it was clear that they did not plan to curate them extensively, with the exception of notes, which were regarded as more personal (Kruskal-Wallis test, Kruskal-Wallis Chi^2=181.68, df=4, $p<0.00001$). Participants were also inclined to curate their personal photos only minimally (M=1.92, SD=1.00).

To establish potential custodians and/or audiences for digital legacy, 666 legacy-positive free text responses for all six asset types including photos were coded into 13 categories, which were then combined into four high-level types of custodians: “Specific But Not Known”, “Specific and Known to Respondent”, “Family and/or Friends” and “Children.”

[1] https://www.prolific.com/

Participants rarely (9%) mentioned "Specific but Not Known/Named" custodians, which described specific groups or types of people, such as "collectors", "historians", "general public." Books, music and gaming were the main assets that were intended to be left to this category, with photos only counting for 12% of responses.

Children were mentioned in 35% of responses. This category also represented a future intention for legacy audience with comments relating to possible "future grandchildren" and "future generations" being mentioned. This could reflect the predominantly younger demographic of our respondents.

"Family, Friends or Both" was the largest grouping at 44%, and like children, seemed to centre around general future intent for benefiting from the legacy as a whole, as opposed to targeting specific people who could be custodians. In these types of responses there was no clear route or thought process as to how this would be achieved, more a general idea of the desired end result in terms of audience and appreciation.

The "Specific Known and Named" covered answers that described known groups, such as "Parents", "Partners" and "Best Friends", accounting for 10% of responses. In this case, photos were the majority asset grouping, accounting for 29% of the answers. Partners were the most frequently named item within this overall audience (87%), and this group really related to custodianship.

Within this custodian group, Parents and Partners featured strongly. Comments such as "my mum already seen me at my worst" supported the idea that parents would be trusted to curate a legacy according to the respondent's wishes, and less likely to be offended by contradictory content. Partners, on the other hand, were cited more as trusted guardians rather than curators. The emerging theme was one of enlightenment and understanding, that through leaving the legacy to them, they would understand the deceased better, and perhaps in ways that mere words could never communicate during life.

Trust in terms of handling difficult curation issues emerged as a strong theme in the survey free text and the interviews, in particular when the digital legacy might hold evidence that contradicts the intended narrative. Notes had very high curation scores indicating the potentially very personal nature of some of the content, whereas music and books were seen as of very low concern, with occasional song choices referred to more as "guilty pleasures" and amusing anecdotes rather than something that would undermine the final narrative being told.

Gaming was a complicated category. Comments supported how much time and effort, and sometimes real-world money, had been expended in online character development and achievements. These clearly spoke about the person and could be an important legacy, but users struggled to envisage how that could be represented and preserved outside the very specific game world environment the player existed within. The idea of a partner playing on as the character was strongly rebuked, though leaving games to a "brother" was mentioned 8 times in the comments.

Finally, copyright and digital ownership emerged as a clear issue, not only for gaming, but also for books and music, a reflection of the more common subscription-based economy in current operation.

Discussion

Overall Findings

Based on findings from 19 semi structured interviews, we investigated the digital legacy potential of five types of digital artefacts: books, code, games, music, and notes / journals. We showed that participants were open to leaving all five asset types as part of a digital legacy (RQ1). Participants mostly planned to leave their digital legacy as-is, with relatively little curation. Survey respondents struggled with the concept of whom to leave a legacy to, with the wording vague enough to cause a split in response between the overall intended, and the very specific custodians who would administer and manage the legacy (RQ2). There were significant differences between asset types. Notes and journals were least likely to be left as legacy, and most likely to be curated in the event that they were left (RQ3).

Qualitative analysis showed that trust played a substantial role when thinking about custodianship. Specifically, custodians should be those who could be trusted with potentially contradictory or embarrassing material, and who knew what a person would have wanted to be shared.

Implications for stakeholders

There are clear implications for users who wish to leave a digital legacy, as well as for platform providers, and professional advisors, such as lawyers.

Users need to be mindful as to what they wish to leave and to whom would they pass immediate access, and what curation instructions might be needed, if curation had not happened before death.

Platforms might assist users by providing metadata for digital assets that relate to posthumous events. For example, certain assets could be flagged as not available for legacy viewing or transfer, or a "death switch" might be activated to transfer ownership of an asset collection to a custodian. Legal issues over who owns the digital assets remain, with debate over the value of the assets themselves or the index to them, if the assets are, for example, books or songs. Spotify was cited as a popular service with questions raised over the ownership of the playlist rather than the copyrighted songs it contained.

Professional advisors who regularly offer estate and end-of-life planning may wish to include digital legacy as part of their offerings. They may be best placed to provide a safe space for the transfer of passwords and other such keys and to ensure that platforms and data owners comply with end-user wishes.

Overall, we need to rethink custodianship so that the digital legacies can be preserved and that the chosen final story is shared as intended. We need to understand how a chain of custodians might be established to pass legacy from generation to generation, and at which point should the legacy simply become part of societal record as opposed to personalised storytelling.

Limitations

While the interviews were with people from a range of age groups, the survey respondents were predominantly younger and as such not at a time in their life where legacy is at the forefront of their minds. There may also be cultural differences in responses that were not accounted for in the analysis. Other forms of digital legacy, such as social media profiles, were not explored—instead, we focused on more "tangible", countable assets similar to photos.

Conclusion

Non-photographic digital assets clearly have a place in a narrative based digital legacy. Different assets were viewed differently for legacy, with coding projects falling last in terms of desirability and music scoring very highly. Technical and legal challenges as regards the ability to preserve an asset are a worry to end-users. The ability to define both a custodian and an intended audience are important considerations that are generally missing in current legacy thinking for the majority of users. Platform providers and professional advisers have a part to play in education, enablement and enactment of digital legacy wishes.

In further work on these data, we will investigate what makes an asset legacy worthy. Based on these findings, we envisage a series of co-design workshops designed to explore how users might decide the asset mix, how platforms might facilitate allocating custodianship, and where a person's digital legacy might be housed, so that their final wishes over their final story can be fulfilled. In particular, we wish to explore the difference between custodianship and target audience with users, and to understand both concerns over trust and privacy issues and what might be a logical process to enable users to take specific action to enact a digital legacy.

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Appendix 1 – Semi-Structured Interview Questions

Semi Structured Interview Format

We wanted to give interviewees freedom to express their views in an open discussion, whilst ensuring we extracted common core data related to this study.

We structured the topics and questions as detailed below.

Social Media Usage – Differences, Narratives, Audiences

We asked about social media usage, questioning if different platforms were used for expressing different personas and for different uses, and to what extent use may have changed over time.

Photography – Subject, Storage & Management

We wanted to know about photo storage in terms of volume and types of places, and how they generally managed their photo collections. We wanted to enquire about how different types of photos might be managed differently, and what importance was placed on different photos. We also wanted to know if non-important photos were regularly deleted.

Sharing & Privacy Concerns

We asked about attitudes to sharing photos, and where they might share or not share, and what concerns they had over privacy.

Other Assets (Gaming, Music, Coding, etc.) that formed part of their Digital Lifestyle

We then asked what else could the interviewees identify as part of their digital lifestyle that was important to them and that they might want to pass onto others.

Digital Footprint & Digital Waste / Recycling

We asked about awareness of the impact and reach of their digital footprint and how that might impact environmental aspects, and how they engaged with physical recycling of older technology.

Digital Legacy Viewpoints and Concerns

We asked about views on their personal digital legacy, especially as regards any digital artefacts that had been mentioned in the interview. We also wanted to know thoughts on who and where they might decide to leave a digital legacy, if so inclined.

Finally, We asked about the longer term societal issues regarding the preservation of the historical record of life at the start of the 21st Century, and any other digital lifestyle or legacy thoughts not already covered. Interviewees were invited to add any further comments or thoughts that they had not had a chance to express in the interview so far.