Penseive Box: Themes for Digital Memorialization Practices

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Abstract
In this work, we describe several themes that can be useful for designing tangible technology in the context of death and mourning. We explore the effectiveness of physical and digital artifacts in the process honoring a loved one who has passed away. We employ a speculative prototype called Penseive Box to explore the intersection of tangible digital memorialization practices. Using this prototype to elicit reflections on personal memorialization practices, we interviewed several individuals who had recently lost a loved one, and present the results of our initial analysis here.

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ACM Classification Keywords
H.5.1 Information interfaces and presentation: General; H.5.2 Information interfaces and presentation: User Interfaces;

Introduction
Human beings are social animals. We form bonds and nurture relationships all throughout our lives. And when someone very close to us passes away, we are left with the memories of our times and experiences with them. We use objects, photos, videos, stories and other media to preserve these moments, traditional means of recording and preserving our lives have limitations.

With the advent of social media, mourning and remembrance practices have taken on a new dimension. Facebook accounts of deceased loved ones persist online providing photos and text-based interactions for viewing long after the person who originated them is gone. Loved ones now have modern ways to hold on to memories using digital media. Currently, there is a gap between traditional *material* memorialization practices and *digital* practices of memorializing and honoring a deceased loved one. We use physical objects to remind ourselves of a lost loved one and we preserve important memories digitally in the form of photos, videos, and audio recordings. However, these two practices are often separated by a "digital/physical" divide. In this work, we try to bridge this gap and probe the possibility of a tangible-digital memorialization process. To this end we describe a study in which we interviewed individuals who had recently lost a loved one about hybrid physical/digital memorialization practices, using a speculative prototype called the Pensive Box.

Several themes emerged from our study. We found that a physical object that bridges the digital world is desirable for people actively seeking tools for remembrance. Our participants expressed a desire to customize their Penseive Box and in doing so take personal ownership of it. However, they felt that social media provided an incomplete picture of the deceased and requested the ability to selectively edit and augment the box with additional sources of data. In the following sections we situate this work within the literature around tangibles and memorialization and discuss our findings in more detail.

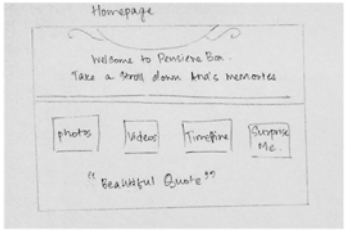
Related Work and Key Concepts

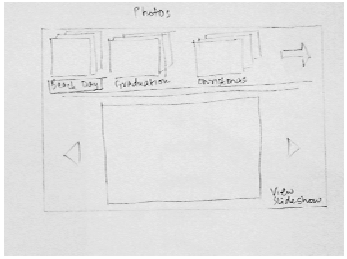
Materiality and emotions

Physical objects can play a significant role in our recollection and recounting old memories and experiences. In "*Material Objects as Facilitating Environments: The Palestinian Diaspora*", Zeynep Turan explores the significance of material objects to maintain the memory of their ancestors and former lifestyles. The loss of a home and its associated memories can be overcome by some kind of material representation of that particular time and place [10]. In "*Understanding why we preserve some things and discard others in the context of interaction design*", Odom et al. "contrast between the *ensoulment* of things non-digital and the *unensoulment* of things digital". Here, they define 'ensoulment' as "high strength of attachment" and 'unensouled' as low strength [8]. This notion of ensoulment is similar to the notion of *aura* discussed by Walter Benjamin in his classic essay *"The Work of Art in the Age of Mechanical Reproduction"* [1]. The *aura*, as described by Benjamin, could be described as the sense of an object's *uniqueness*. This uniqueness resists reproduction: when we speak of memory objects or ensoulment, we can also speak of the particular material properties that make those objects unique to their owners. Thus, a rock or a seashell becomes "my grandfather's rock" or "my child's seashell". Janet Hoskins describes these as "Biographical Objects", and explores how specific items take on significance in our lives [4].

Within the literature on tangible computing, there has been significant exploration of the use of objects as containers for stories, or points of access into narrative worlds. Mazalek et al.'s *Genie Bottles* used glass bottles to contain storytelling agents [6], and Homquist

Initial design and some sketches used during the interviews.





The sketches were shown to the participants to elicit their response on the design and their preferences.

et al. developed a system in which barcoded objects were associated with video "memories" that they had witnessed [3]. Tanenbaum et al.'s *Reading Glove* told a story distributed across a collection of evocative narrative artifacts [9]. In all of these systems, physical objects are seen as repositories for memories and emotions.

Digital media and its impact in mourning

With the increased importance of media technology in our lives, digital records like photos, videos, audio, etc. have become commonplace, documenting both quotidian and significant moments. Our ability to easily capture our lives in great detail both facilitates and complicates memorialization practices. Brubaker et al. explain how social networking sites have expanded temporally, socially and spatially into new digital social platforms for grieving and bereavement [2,5]. These studies highlight how digital memorialization has become a prominent practice and how many people are increasingly using platforms like social media to mourn and deal with their loss.

Odom et al. conducted a study on technological heirlooms to explore how digital materials might be inherited or passed down by generations. They reported that "families desired to treat their archives in ways not fully supported by technology"[7]. This emphasizes the need to find an intermediate approach to incorporate both the tangible and the digital aspects in the practices of mourning and honoring the deceased loved ones.

In this work, we aim to merge these two areas of research to analyze the usefulness of the combined practices.

Study Design and Prototyping

To explore this design space, we interviewed six people who had lost someone close to them recently (within the last 5 years). Through semi-structured interviews we asked them about their experiences with digital and physical memorial practices. To help elicit responses, we asked participants to bring a meaningful remembrance object of a deceased loved one. We also showed them rough sketches of a speculative prototype – the "Penseive Box"[1] – to help structure their thinking about the possibilities of a hybrid physical/digital memorialization technology.

Figure 1. Prototype of the Penseive Box

For the prototype, we designed a wooden box with a digital screen (tablet) fitted inside it. We envisioned this screen to be the main point of interaction for the participants presenting them with photos, videos,

[1] The word "Penseive" in this context is borrowed from J.K. Rowling's *Harry Potter* stories, which depict it as a magical basin in which one may relive selected memories.

timeline and so on. This box also had thin LED panels on its edges which would produce an ambient glow on special occasions like birthdays, anniversaries and so on. This glow was aimed to be a gentle reminder of an important event rather than an intrusive notification.

Analysis

After interviewing these six participants, we transcribed the audio recordings. We conducted some broad thematic analysis on these transcriptions to ascertain some prominent issues that surfaced in most of the interviews and to highlight the general perspective of the participants. This analysis is still underway, and a more rigorous analysis is planned for the future. However, we consider our early results to be of interest, and so here we present the four recurring sentiments that emerged from our initial analysis of the interviews.

Personal Memorialization v/s Automated Memorialization

We believed that there was a value to offloading the cognitive burden of remembering important dates and events to a system of social media, and so our prototype design reflected this. One of the central functions of the prototype Penseive Box was to gently remind its owner about important dates. We also envisioned the system automatically aggregating data from the social media presence of the deceased loved one, in order to produce a digital record. However, many participants reported a preference to personally customize the behavior of the system. One participant said, "I want this box to be about my memories of my grandfather rather than his interactions with others."P01. Many of the participants also showed keen interest in adding or removing options on the homepage of the prototype. This impulse to personalize the system suggests to us that memorialization practices are perhaps best left in the hands of a human user rather than an automated system. Interestingly, most participants liked the antique look of the box, saying that they would want it to be visually valuable and capture their lost one's personality. We hope to further explore the differences between participants' sentiments about the form vs. the function of the system in future work.

Social Media as an incomplete record of deceased loved one

There was another problem with our initial plan to extract data from different kinds of social media and consolidate this data into the box using a digital screen. It became immediately apparent in our interviews that social media could not provide a sufficiently complete record of a deceased loved one to satisfy the memorialization desires of our participants. Many participants pointed out that people's online identity is not an "*exact representation*" (P06) of the person. Despite the additional effort involved, the participants stressed the value of self-curated memories instead of the data extracted from the person's social media profile. All the people that we talked with had lost someone who was not very active on social media – often a family elder. This leaves us with an open question of how one might appropriately preserve and document one's own life, along with the lives of one's close friends and family for the purposes of memorialization without these actions becoming intrusive, invasive, and even overtly morbid.

Favoring the gentle reminders on special occasions
One participant stated, "Even though these people are important to us, there might be times when we forget their birthdays. So, I would like to be reminded of it."P06. For the most part, participants liked the idea of LED lights that illuminate for special occasions like birthdays, anniversaries, and so on. This finding contrasts previous conclusion from studies dealing with online memorialization processes, which report that people dislike unexpected notifications related to the person they have lost [5]. This contradiction suggests that participants perceive memorialization practices with a system like the Penseive Box to be very different from the post mortem interactions on social media.

Unwillingness to share the box
All the participants expressed their desire to share this box with close ones – like family and very close friends. However, the general opinion of the participants was that this box would be something that is personal to them and they wouldn't want anybody apart from their inner circle to use it extensively. This is distinctly different from the memorialization practices online where shared ownership is assumed [5].

"It will not be the same thing if my brother also has the same box. I would want him to have something similar, but not the same" P06.

Attaching strong emotions to common and shared objects seems to be a difficult concept to grasp.

Underlying all these themes is that the participants saw this box as an embodiment of their lost loved one. Personalization is important to them because they want to make sure that the person is depicted perfectly. The incompleteness of social media reinforces this since a person's personality doesn't wholly comprise of his/her online identity. The preference for gentle reminders indicates that the participants viewed this box as a form of post mortem interaction with their deceased loved one. The quote from P06 highlights this perception when she says "Also, if it is glowing on these occasions, it would make me feel that it is actually that person." We came across many quotes from the participants where they express their view of this box as a personification of their lost one.

Conclusion and Future Work

The clearest finding from this study was the surprising level of personalization and customization that the participants preferred. This was reinforced by the impulse of our participants to want to perceive this box as an embodiment of their deceased loved one. We contend that our speculative prototype was successful in conveying how a hybrid digital/physical memorialization technology might work, while also surfacing interesting design ideas that we hadn't considered. Our participants expressed a desire to use this technology in their own lives, provided it met their needs for personalization.

However, we believe that we have only scratched the surface of this domain: more analysis is needed of the current interview data, as is a more extensive iterative design process. One of the primary lessons we have learned in this initial study is that we need to attend more carefully to the design of the digital content that the physical memorial will hold. In our future work we intend to explore new strategies for authoring, collecting, and curating important memories as part of a more individualized practice of hybrid

memorialization.

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