

Applying Reflective Design to Digital Memorials

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ABSTRACT

Everyday technologies are being applied in new ways when designing for digital memorials for the dead. Designers are challenged to create rich interactions and/or new interactions, particularly if we consider that one party, the deceased, cannot be part of the interaction. In reflective design, where designers aim to provoke reflective thinking, in them and in their users, we find a useful frame for looking at the development of digital memorials today. We analyzed selected projects in terms of the six strategies of reflective design. We conclude that reflective design can help us to frame questions in developing fields of inquiry. It can also help designers of technology to understand the boundaries of acceptability while attempting to innovate new interactions.

Categories and Subject Descriptors

H.5 INFORMATION INTERFACES AND PRESENTATION ,
H.5.1 Multimedia Information Systems - *Artificial, augmented,
and virtual realities.*

General Terms

Design

Keywords

Death, digital memorials, reflective design

1. INTRODUCTION

Aristotle said: "The love for the dead is the ultimate and most unselfish form of affection and friendship (Eudemian Ethics 1239b): For this reason we praise those who remain constant in affection towards the dead; for they know, but are not known." [2]

Online memorials are a growing phenomenon. The community of living and dead that many digital projects try to recreate seem to translate by technological means Aristotle's insight. We offer a dedication of resources to love those who cannot love back. This miracle of memory and unselfish acts raises the dead to life and presents this higher form of friendship and human community and a different sense of immortality. It is

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this special type of friendship that "knows without being known" and preserves the memory of the dead. In this respect the different application do not only serve the dead but also the living.

The living experience death not just through the event and the dying person, but also through the lens of our upbringing. It is personal, visceral, and intimate. Every death we experience becomes a part of our inner selves. This is in contrast with the arena of current technology, which has been developed for public, group, work and task based goals. Sengers et al first proposed 'reflective design' [11] as a way to avoid "unwittingly propagating the values and assumptions that underlie our technical practices throughout our culture" (p. 49). Into this milieu, the unthinking introduction of technology may cause clashes. Or it may invent new ways of interacting with death via technology.

Reflective design is an amalgamation of many design traditions, from participatory design to critical reflective practice. In short, the aim of reflective design is to promote a critical evaluation of the technology and its emergent effects as the user uses it. In the original specification of reflective design, the user can easily be the technology designer as well.

The six strategies of reflective design offers designers of technology handles on two large challenges facing us today. Firstly, it offers a handle on what it means to be designing for rich experiences. These experiences have the characteristics of being emergent and personally meaningful. Rich experiences depend not just on the task at hand, but how it fits into our personal intimate histories and expectations [9]. In designing for online memorial technology, designers face a special type of these personal intimate histories and expectations related to someone who is dead. On one side these are the living memories of his relatives and friends, on another side digital remains in forms of different archives and information available on Internet.

When designing death commemorating and death memorial technologies, we have to take into account the dignity and the emotions of someone who cannot give us feedback on our choices. The rich experience is rich also in a sense of being sensitive to the needs and wishes of someone that is dead, sensitive to the cultural customs, ethical issues and something we call respect for the dead. The task is then to reify death practices in the new contexts, remediate existing death rituals, and also to create new experiences related to mourning and death for the users. All these push the envelope for technology designers seeking new ways to imagine the concept of 'rich interaction'.

Secondly, reflective design helps us to challenge our assumptions of appropriate contexts for various technology.

Contexts for technology have often been described using ‘social’, ‘physical’ and ‘cultural’ terms. However, another definition of context is the presence of awareness of what is the appropriate script to employ [5]. This definition discards strictures of social, physical and cultural descriptions and offers the possibility of new applications and reimaginings of mundane technologies. The relocation of memorials to virtual worlds is ripe with opportunities to reflect and challenge us to question and innovate new yet appropriate contexts for technology.

In this paper, we use Sengers’ et al’s six reflective design strategies to explicate the development of online memorials. The goal is, firstly, to see what kinds of reflection has been achieved in these memorials. Secondly, we want to understand the new ways in which reflective technology can change our rituals of death.

2. APPLYING REFLECTIVE DESIGN

Thus we use the six reflective design strategies first presented in the Sengers’ et al paper and apply them to a review of the current state of digital memorials. They can be grouped into three subcategories, organized into the three activities of the technology designers when designing for rich experiences. In Reify, we examine how the provision or lack of channels of interpretation allows for existing cultural practices to be expressed. In the part on remediation, we consider the requirement for rich and dynamic feedback and how the technological definition of feedback is being pushed to its limits in case of interaction with someone who is dead. In Reinvent, we look at some attempts to reanimate the dead by repositioning them as part of the living. This is the most experimental section in terms of the design, but the technology employed is available in the world today.

2.1 Reify

2.1.1 Provide for interpretive flexibility

Sengers et al lists the first strategy of reflective design as “allowing users to maintain control of and responsibility for the meaning-making process. This requires actively building for co-construction of meaning between users, systems, and designers.”

“Digital Remains” by Michele Gauler, [6] claims to create a digital archive of generations of people. Special “access keys” are given to people close to the deceased. When placed next to a mobile phone, MP3 player or computer, the keys establish a Bluetooth connection with the device and trigger a remote log-on to the digital remains of the deceased person they are linked to. These special devices allow a person to access the dead person’s data and different degrees of access are given to different people. The deceased previously decided the degree of access. The access keys become tools for a type of dialogue that continues after death and which is also managed not only by the living but also by the deceased who decides on what data will be accessible to whom. It is a solution that seems more sensitive to the design problems with similar applications: the deceased are usually left powerless in deciding how their remains will be used.

However, no instructions are left on what the user is supposed to do with these data. This opens up the user to draw on existing practices with physical ephemera and apply them to digital ephemera. Interestingly enough, this opportunity to reify the practices of working with the deceased belongings does *not* exclude the option for interpretive flexibility. It can simultaneously invite the creation of new relationships with the data.

2.1.2 Give users license to participate

Sengers et al draw on their experience in designing reflective design to give allowance for footholds for the user to begin engagement with a new technology as in the example above. They write, “Presenting the strange or the unfamiliar may alienate, confuse, or simply not interest people, so this must be done in a way that gives footholds for interpretation.”

In MASTABA, a work sited in Japan’s cultural milieu, designers constructed a shrine of the future, where multi-generational families can hand down their memories through digital pictures. This combines the cultural practice of the family shrine and the visit to the gravesite into a new activity. The family visits this outdoor shrine, where they use RFID tagged cups to interact with a display table. Family members can see the pictures when they were at the same age as the deceased side by side. And users can select the age when the picture was taken, with the shrine physically embodying a life by having a 99-step spiral staircase that lights up at the appropriate age. The comparison affords interaction between family members and the deceased, as well as between family members.

In this design, the cultural script acts as a stepping-stone into new technology. The cultural practice affirms the acceptability of the technology, and the technology strengthens the practice of cultural rituals. In this way the ‘new’ technology quickly becomes mundane technology, allowing acceptance by users as it too becomes part of the accepted script. It seems here that giving users the license to participate also means giving them the means to adopt unusual technology.

2.2 Remediate

2.2.1 Provide dynamic feedback to users

In the third strategy, providing dynamic feedback means that “whatever information is collected about or from users is used to provide a stimulus of reflection, whether as input to the system itself or for evaluating the system”

This simple condition for reflective design has a special meaning in the case of digital memorials since the dynamic feedback should include not only the living but also paradoxically also the dead. How should the license to participate in memorial systems look like for them and should it be issued during their lifetime or somehow connected to the wishes of the family and circle of friends they left behind? The main problem is that *the* dead have very little if any control of the digital remains left about them on different websites and archives or even data uploaded about them after their death. While the law, social customs and rituals dictate how to dispose of remains and mourn protect physical remains, a person’s digital remains are easily desecrated and disgraced. There are two famous examples of such “desecrating” design that shows the borders of acceptable use of digital remains and poses many questions about the missing legal frame and social customs related to death and Internet and how can design act in such circumstances. The archival sites <http://yourdeathspace.blogspot.com> and <http://www.mydeathspace.com> simply link the profiles of the deceased MySpace user to articles related to their often violent and tragic deaths with a forum on which unknown and even anonymous people can discuss their deaths. It is neither a memorial site nor an attempt for a morning ritual but a desecrated virtual graveyard serving the curiosity and voyeurism of anonymous public. The main reason why these deaths are so

interesting to the anonymous public is the demographics of MySpace users where roughly 70 percent of the dead are aged 21 and under and 90 percent are 25 and under. So their deaths always include some aspect of shock, paradox and sadness. Profiles do not come to rest here, they do not they serve any meaningful ritual of mourning and tribute, but they take on an entirely new life which transforms their death into reality show, which can be even more painful for their relatives and friends.

Another problem with archive websites and on line tributes especially on social networking sites is the cult of virtual immortality which can inspire suicide rings of teenagers as in the recent case of Bebo networking site in UK [13]. Studies are needed to explore how social networking sites romanticize death and what effects they can have on teenage suicide rates. The dynamic feedback in case of digital memorials means taking into account not only the wishes and privacy of the dead but also resisting the temptation to romanticize them to create some cult of virtual immortality that serves very dubious ends. The dynamic feedback can help us create a balanced relation between the living and dead which should be equals in similar applications rather than one being better and more powerful in any sense.

2.2.2 Inspire rich feedback from users

Sengers et al's fourth strategy is that "Reflective designs encourage making evaluation and reflection an inherent part of the design, not merely a step added on at the end."

Rich feedback from users means basically making them part of the design of the application or the tool which in return becomes an integral part of their life allowing them richer and larger scope of experiences. How can rich feedback, evaluation, reflection and participation become an integral part not only of our life but also of our deaths? How can design prepare us for our own death and help us face issues of mortality? The issue of rich feedback and participation in digital memorials relates not so much the interface or the type of community between the living and the death we create but mainly the fate of our data. It is a paradox that we live at times when the pace with which data disappear is as extreme as the pace of surveillance and the increasing retention of data. During our lifetime we face the dilemma of the disappearance of our digital "footprints" and on another side the lack of control over our digital "remains" and there are limited tools that help us face our digital mortality. One interesting case study and experiment that faces these problems is a recent project "Mission Eternity" [10] by artist collective etoy.CORPORATION.

They created a mobile cemetery in a form of tank allowing relocation of the "massive body of information". It is a cemetery for digital remains in a form of a large sarcophagus covered with LED screens which display information that is left about someone in "governmental data-bases, in family archives, in professional records, and in emotional data stored as electrical impulses in the bio-memory of our social network". (<http://missioneternity.org/summary/>)

The living and the dead are part of special mission, which is almost a type game or a cult. The dead in this mission are called pilots trying to reach eternity with their data particles circulating forever in the global info sphere hosted in the shared memory space of thousands of networked computers and mobile devices of so called angels, living people that contribute a part of their digital storage capacity to this "mission". The digital "protection" of thousands of angels lets the pilot travel space and time forever.

The users become angels by downloading an application and offering 50Mb hosting for the digital remains of the pilots.

This strange community of the living and the dead already counts some 1118 registered user that "investigate afterlife, the most virtual of all worlds" (<http://missioneternity.org/cult-of-the-dead/>). Their goal is to "reconfigures the way information society deals with memory (conservation / loss), time (future / present / past) and death" and presents even "an information technology-driven cult of the dead". It stands somewhere between a new ritual of burring digital remains, special digital religion, an on line game and social networking site investigating and creating its own version of afterlife. Here the users, living and dead, are part of the creation of this application and special type of cemetery. Its basis are in distributive computing, free software and public licenses creating something of a protocol or "basic standards for replicability and access (formats, rites, and rights) and minimal information requirements (personal data, basic questions) and then extends beyond the standards adding arcane, individual traces of life, post mortem plans, snapshots and time stamps, and anything that can capture a fraction of a person's life in the form of digital data." Even the remains of the physical body are coupled with special tags mounted directly on the tombstone or ash container with engraved code with 16 digit alpha numerical code and a 2D barcode (Semacode) that can be scanned with an optical device and automatically links the mobile device or computer to the portal on which the visitor can interact with the data. In this digital memorial and cemetery no one is just a viewer or customer but all participate in the design and the product. The relation between dead and living is fluid and part of the game of angels and pilots helping us face our mortality but also showing a possibility of real immortal of our specie or group of volunteers which preserve our data on their trip to immortality. This project is first of its kind because it offers a complex solution for mourning and memorial of digital remains which is not using the same metaphors and rituals from the real world but tries to create something more specific to the digital world and rituals already existing – like peer to peer sites, importance of torrent or even the game ethos. It creates a rich experience in terms of our digital existence and its disappearance and tries to relate it to our real world and death.

2.3 Reinvent

2.3.1 Build technology as a probe

The thought of reinventing death using technology invokes thoughts of the quest for immortality. Beyond cryogenics, stem cell research or keeping the dead artificially alive, there exist other interpretations of 'not dying' that exist today. Clearly there is an ethical storm brewing in this area. The fifth strategy calls for designing for reflective experiences is to design such that "new technology acts as a stimulus or probe for understanding larger social practices...". Perhaps these designs aid in laying out the options for life after death in ways that generate discussion about our understandings of death.

In Cemetery 2.0 [4], Elliott Malkin created a mashup of different applications with aim to recreate and connect the digital remains into one profile. It is a concept for networked devices that connect burial sites to online portals. He built a prototype linking the gravestone of Hyman Victor, his great-grandfather, to his surviving Internet presence on websites such as Flickr, Genealogical Repository, Facebook Memorial Profile, Pedigree Resource File and Family Tree of the Jewish People entry. It is a

device that allows visitors to the physical memorial to view related digital remains on the device display, while visitors of any of the online memorials will recognize that their browsing is associated directly with the actual burial site.

In a strange quest for immortality, a recent project by London based artists Shiho Fukuhara and Georg Tremmel – Biopresence [3] offers people a chance to have their DNA live on in nature. Instead of complex networks in which digital remains fluctuate forever, these artists envision simple living memorials using human DNA implanted into live trees. They incorporate human DNA into plant cells allowing the person's DNA to live as an integral part of the tree. These "Memorials for Life" or "Transgenic Tombstones" offer an alternative to traditional graves and headstones.

Both projects present very interesting questions whether our DNA or digital traces mean some type of afterlife. Can we stay in some sense alive through these data and genes? Where are borders of the self today? Is this search for eternal life always futile or does it serve some ritual, some form of mourning and even be part of our tribute to the dead?

2.3.2 *Invert metaphors and cross boundaries*

The final reflective design strategy that might be employed by designers searching to enrich experience is the practice of "Inverting traditional assumptions and looking to practices that are left 'un-designed for' is a wealthy source of inspiration and generalizability."

Strangely enough, the dominant concern in most of the projects mentioned so far seems to be the digital remains of a person rather than the death of the physical body. In the following designs, the physical body is even treated as a material that needs to be recycled and somehow embedded into objects that can be useful to the living. For example design solutions such as LifeGems [8] creates diamonds from the ashes of human remains. Loved ones typically have the gem incorporated into jewellery.

In this example, artificial diamond manufacturing technology has been reinvented as a way for us to immortalize our loved ones. The moribund activity of keeping ashes in a vessel close to us has been given a veneer of acceptability via the subtle channel of jewellery. Boundaries between mourning (ashes) and celebration (diamonds and weddings) have been crossed successfully.

By contrast, in "AfterLife" by James Auger and Jimmy Loizeau [1] the rotting chemistry of cadavers was used as a source of electricity. The creators envisioned afterlife as electrons circulating in our apparatuses. When we showed this example to our students, they reacted with disgust covered by nervous laughter. We feel that in this design, the cycle of life-death-life, while accepted so easily for trees, does not seem to translate well.

So it seems that designers must also sometimes fail in their designs to understand the boundaries of technological innovation in death. This failure is also very much the aim of reflective design, because reflection must be provoked both in the user and in the designer.

3. DISCUSSION

We find that, while not an explicit goal of the designers of these technologies, reflective design offers an excellent frame when surveying an uncharted field of development. We have seen

how some technologies are serving the concretization of existing cultural practices. In the section on remediation, we saw how some designers are reaching for rich interactions by reimagining the presence of the deceased. Finally, we looked at how reflective design can help us feel our way around the boundaries of acceptability when we innovate.

In this sense, we are beginning to see that if designers engage in reflective design, they can employ it to ask questions about how we can frame emerging issues. In the case of online memorials, we see that the question of 'what to do with a person's digital remains' remains unanswered. However, as we create reflective technologies, we find they aid in concretizing the issues at hand. In this case, how do we preserve the privacy of data, or retain respect for the dead in a virtual sense? Finally, it helps us to innovate and disseminate standards of acceptability. Using a reflective approach, innovation in design can also mean innovation in human behaviors.

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