Digital Decay: (Dis)Repair, Reflection, and Forgetting

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DIGITAL AND PHYSICAL DECAY

Traditionally, physical goods have played an important role in how people define their environments, identities, relationships, and legacies. Certainly, this is still true, but digital information and media is being integrated into these practices as a way of sharing and archiving information about their lives and experiences. As people capture and share increasingly significant aspects of their life digitally and online, it is important that we examine what it might mean to hold on to and pass on this information.

This issue is complicated by an uncertainty regarding the ways in which digital information ages and decays over time. Physical goods typically decay in ways that are visible, natural, and slow-moving; it is a present and expected component of the lifespan of physical objects and environments. Additionally, processes such as repair and maintenance are deeply integrated into many ubiquitous physical objects.

In contrast, digital information is valued for its longevity and security. Although information stored in digital formats can be easily damaged or erased without adequate redundancy and backup mechanisms, users still think of digital data as something that lives outside of the pattern of decay seen in the natural world. The types of corruption and aging that affect digital data are wholly unlike those experienced by physical objects. Instead of a slow decay, a user may find that a file has become instantly inaccessible due to corruption. Similarly, a person may lose the ability to open to a file because formats have changed.

These differences have significant implications for how we place value on digital information. Repairing an object is an event that enables a number of processes: empowerment, reflecting on the value of an object, repurposing or reclaiming it, saving it for the future, passing it on to our children, and so on. In the absence of the ability to repair digital data, people are exposed to a different set of experiences in which they must grapple with contradictions related to the lifespan and value of digital data.

DIGITAL CONTEXT

At the outset, creating digital media and information has become extremely easy; there are thousands of tools, websites, and devices that provide people with the ability to seamlessly generate new photographs, blog posts, and updates.

Though it is relatively easy to generate new media and information, it is often difficult to understand why or how a file or piece of information has become inaccessible or corrupted. Fixing a corrupted digital file requires knowledge that is held disproportionately to the ease with which we can author new content. Most computer users do not understand the technological intricacies of how their computers and online systems work. Unlike with the creation of physical objects, this knowledge is not a necessary part of the process of making new digital data.

As a result, the difficulty of fixing digital files puts strain on how people conceptualize its value, as does the ease with which we can share an store and share this information and the unpredictable nature of its lifespan.

DIGITAL FORGETTING

It is unclear that the destruction and disrepair of digital data is a process that we should work to counteract. Computer users generate more data than is manageable; this problem has been documented by a number of fields within and outside of HCI (e.g. photography, digital privacy, library sciences). It is common to lose access to files through format changes and file corruption. Similarly, the scale of collections of digital information also makes it difficult to maintain access to that information.

Instead, we might consider embracing disrepair as a mechanism for forgetting and purging information from our vast archives. The decay of physical objects allows us to place particular importance on the objects that we chose to repair and save. The loss of digital objects might provide a similar opportunity for users to rethink their habits related to producing and managing digital content. Additionally, this loss might be a helpful mechanism for managing large collections of digital data.

DISCUSSION

Our previous work has investigated the ways in which people manage their digital information in terms of their own personal legacy and that of their families. The decay of digital files and data is an integral part of this work, and we have implemented systems that intentionally degrade digital files as a way of examining how the loss and disrepair of digital systems impacts the ways in which people address concerns about the lifespan of their information.

At the workshop, we would like to examine two related issues: (1) the challenges associated with repairing and maintaining digital data over a long time span and (2) potential tools that might provide users with the ability to repair dysfunctional digital systems.