

PROJECT: THE FUTURE OF DIGITAL MEDIA AND MEMORY



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PROJECT OVERVIEW

The Future of Digital Media and Memory is the name of a set of connected projects being explored as a part of my graduate research at Carnegie Mellon.

The goal of these projects is to examine how we manage and conceptualize our digital data, how and if we will pass that digital data on to future generations, and how future generations will manage the inheritance of digital information.

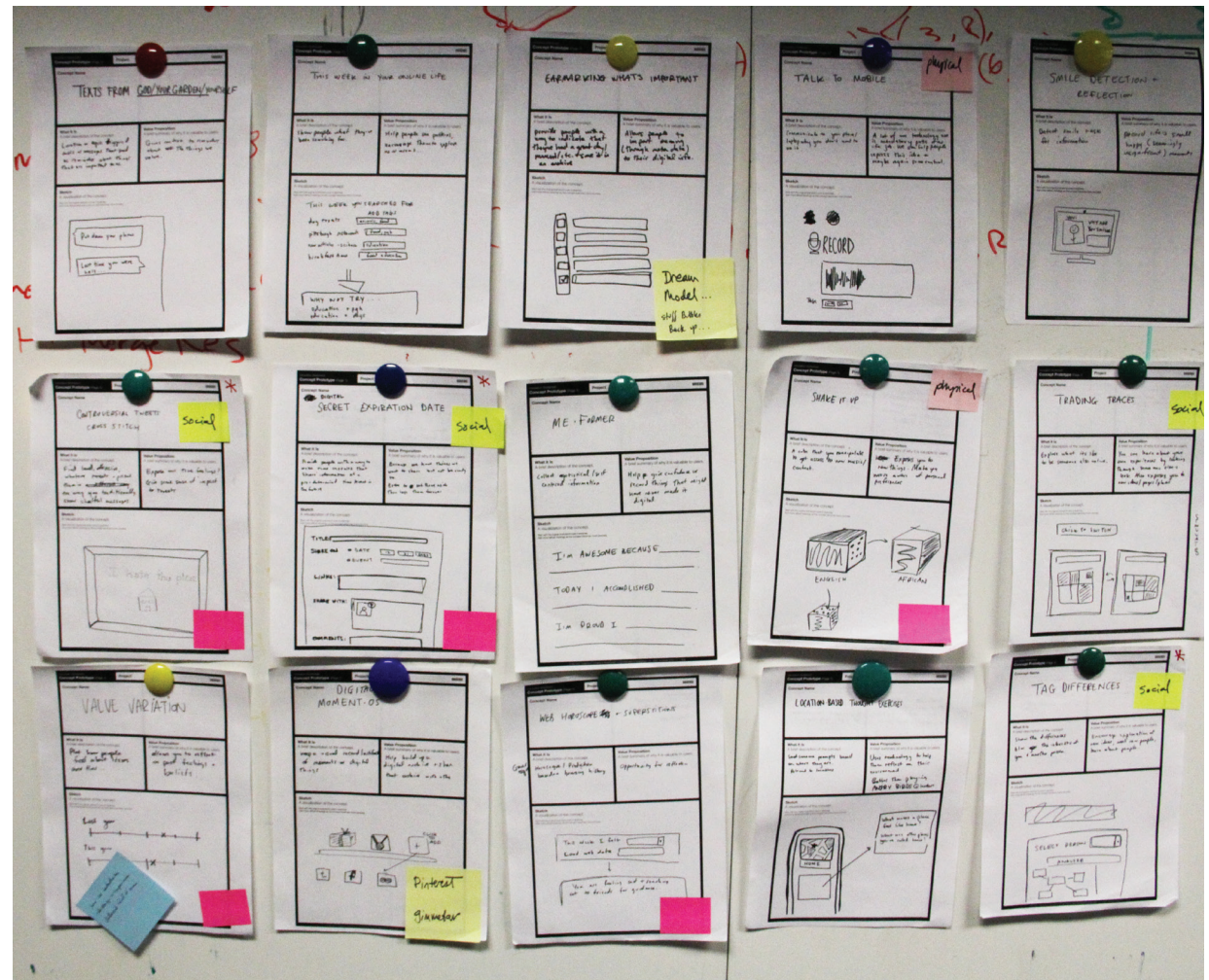
The exploration of these ideas draws from existing literature and research related to how people assign value to digital data and media, the rituals surrounding the inheritance of physical goods, and ways in which people establish their identity online and offline.

This work is being completed in collaboration with my advisors, Haakon Faste and Jodi Forlizzi, and with Will Odom, a graduate researcher.

This project began in October 2011, and we expect that it will be completed by May 2012.

IDEATION AND CONCEPT GENERATION

These concepts sheets were used to generate project proposals. Each idea was accompanied by a short description and sketch of the proposed concept. After generating a number of concepts, we coded them based on several criteria: the ease of implementation, the nature of the interaction (social vs. personal), and the medium of the final product (physical vs. digital systems).

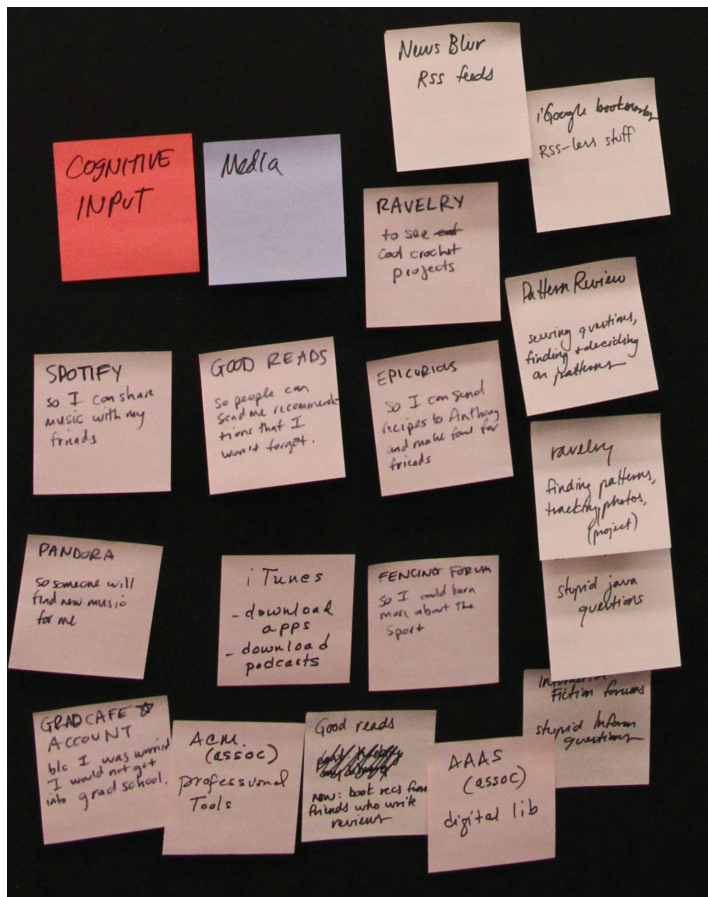


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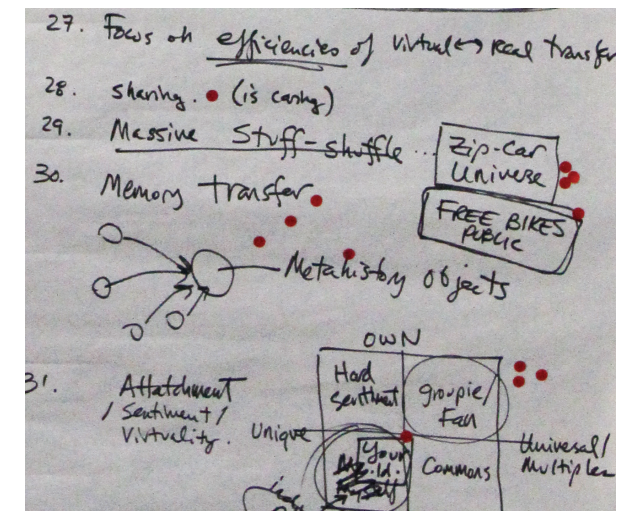
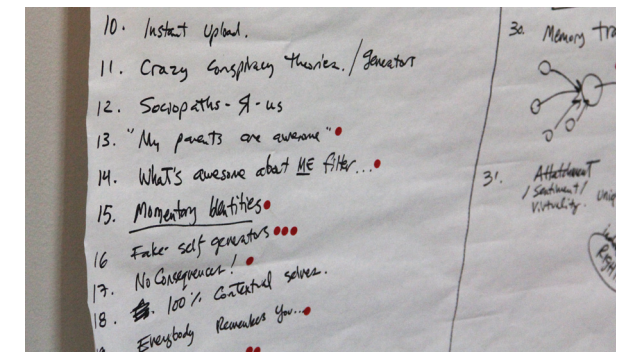
BRAINSTORMING

After developing the set of initial concepts, I led two brainstorming sessions with members of Carnegie Mellon's Creative Systems Lab.

In the first session, I asked the participants to write, on post-its, the names of websites on which they had created accounts or stored information over the course of their lifetime. Participants were asked to be as comprehensive as possible and to include sites they no longer use. We then arranged the post-its into groups based around motivations for using the sites, the role they play in the lives of the users, and the types of data contributed to them.



In the second brainstorming session, a different set of lab members were asked to think broadly about the future of the internet, passing on digital information to future generations, and the ways in which we represent ourselves online.



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SYNTHESIS

Based on our initial concepts, we developed three refined concepts to guide our work: (1) the collection and accumulation of physical objects and digital data, (2) the curation of those artifacts, and (3) the decay of those artifacts over time. Because these topic areas are so broad, we chose to create three small research projects, each of which would allow us to explore one concept using prototypes and qualitative research methods.

Accumulating Digital Information is a project that is exploring how people perceive their digital legacy and the ways in which various digital systems collect data about a person over time.

Alter Egos and Secret (Digital) Identities is a project that is examining how people curate their online identities and keep certain aspects of their lives secret or hidden from their main accounts.

Graceful Decay is a project that is investigating how the decay of digital objects differs from that of physical objects.

Project Title ACCUMULATION OF DIGITAL INFO	
What is it you'd like to study? A brief overview of a topic of interest. The internet knows a lot about us, but it's really hard to conceptualize just how much or what representations of ourselves are available.	
Why is this interesting? Because it's not obvious that people understand the extent of their digital legacy/identity nor the scope of that information.	Keywords IDENTITY, SELF, PERCEPTION
What could we study? One or more research questions related to the topic. <ul style="list-style-type: none">How do people's perceptions of their online identities differ from reality?How do we cope with all the clutter?What do people's long-term plans for this situation?How do we expose people to this idea + then what happens?How is the online self as different from the off-line self in terms of representation?	
How is this different from what's been done before? A description of related work. Well, it builds on my tech study and other work on digital identity which is nice BUT it takes a holistic view	

Project Title ALTER EGOS AND SECRET IDENTITIES	
What is it you'd like to study? A brief overview of a topic of interest. Let's study the secret aspects of people's digital lives. Modern internet users' digital identities are spread out across the internet. These identities	
Why is this interesting? As we get older (or after we're gone) our hidden, secret data may be of interest to our progeny.	Keywords SECRETS, DIGITAL IDENTITY, FAMILY, CURATION, HISTORY, FUTURE, LIFESPAN, THE FUTURE, REDDIT, FACEBOOK, FLICKR, BLOGS, ETC.
What could we study? One or more research questions related to the topic. <ul style="list-style-type: none">How do people conceptualize the different aspects of this digital lives?Are people concerned with passing on digital information?How do people value digital information?How will digital info fit into existing rituals associated with inheritance?Are there ways in which we can curate that vast amount of data we produce?	
How is this different from what's been done before? A description of related work. Categories of prior work: PERSONAL INFORMATION MANAGEMENT DEATH STUDIES IN AGE John Law will web, museum	

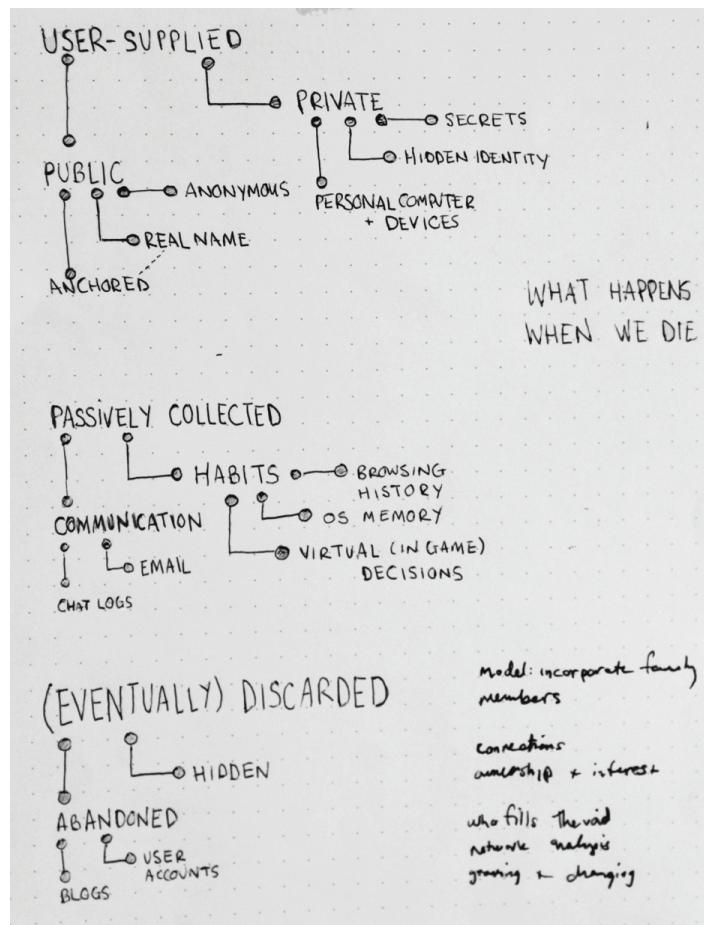
Project Title GRACEFUL DECAY	
What is it you'd like to study? A brief overview of a topic of interest. Physical objects and media are subject to continuous, "graceful" degradation. Digital data is fundamentally different and so its unclear how we can conceptualize this	
Why is this interesting? Because existing efforts are superficial (at best). Also, we produce an astounding amount of data that will need to get passed down to future generations	Keywords DECAY, INHERITANCE, FAMILIES, LEGACY
What could we study? One or more research questions related to the topic. <ul style="list-style-type: none">How do people conceptualizeHow existing systems do not meet these needs.How people conceive of their digital legacy.What does it mean for a digital object to decay?What is special about decay?What is the expected lifespan of digital data?	
How is this different from what's been done before? A description of related work. Will also suggested that people research	

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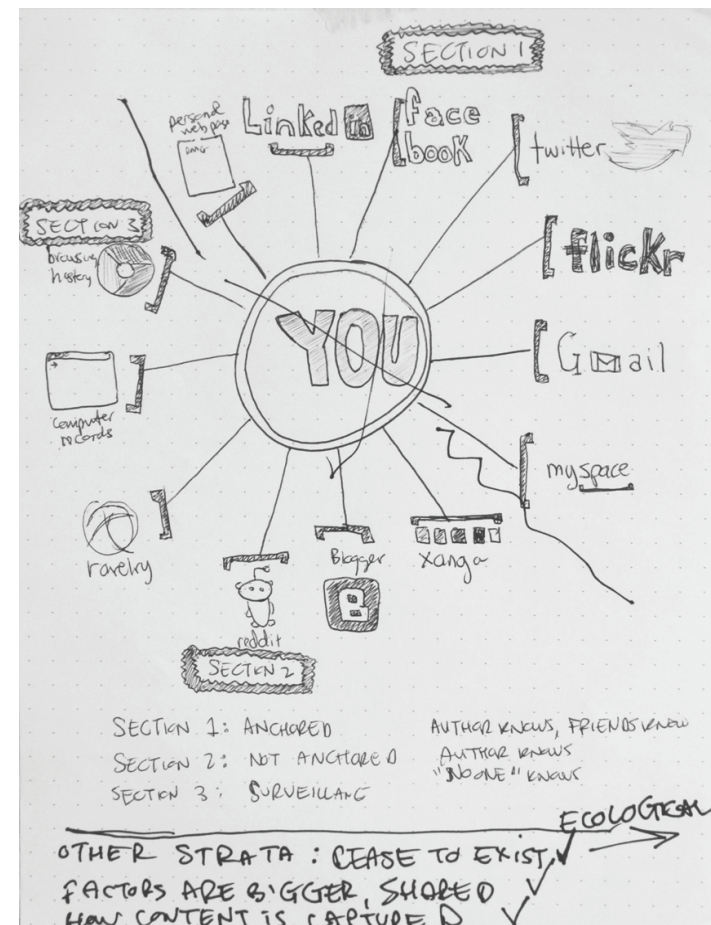
CONCEPT MODELS

An integral part of our research process was to develop models to explore the relationship between digital data and identity. The drawings below represent our efforts to extend existing frameworks about how people form their identities through the contribution of media and information online.

This model provides a general framework for what will happen to different types of digital data once the owner of that data has passed away. The permanence of the information is connected to the ways in which the data was collected, who created it, and its ties to offline relationships.



This model describes how different types of digital information (social network data, browsing history, email archives) are tied to different types of relationships with people online and offline.



MOOD BOARDS

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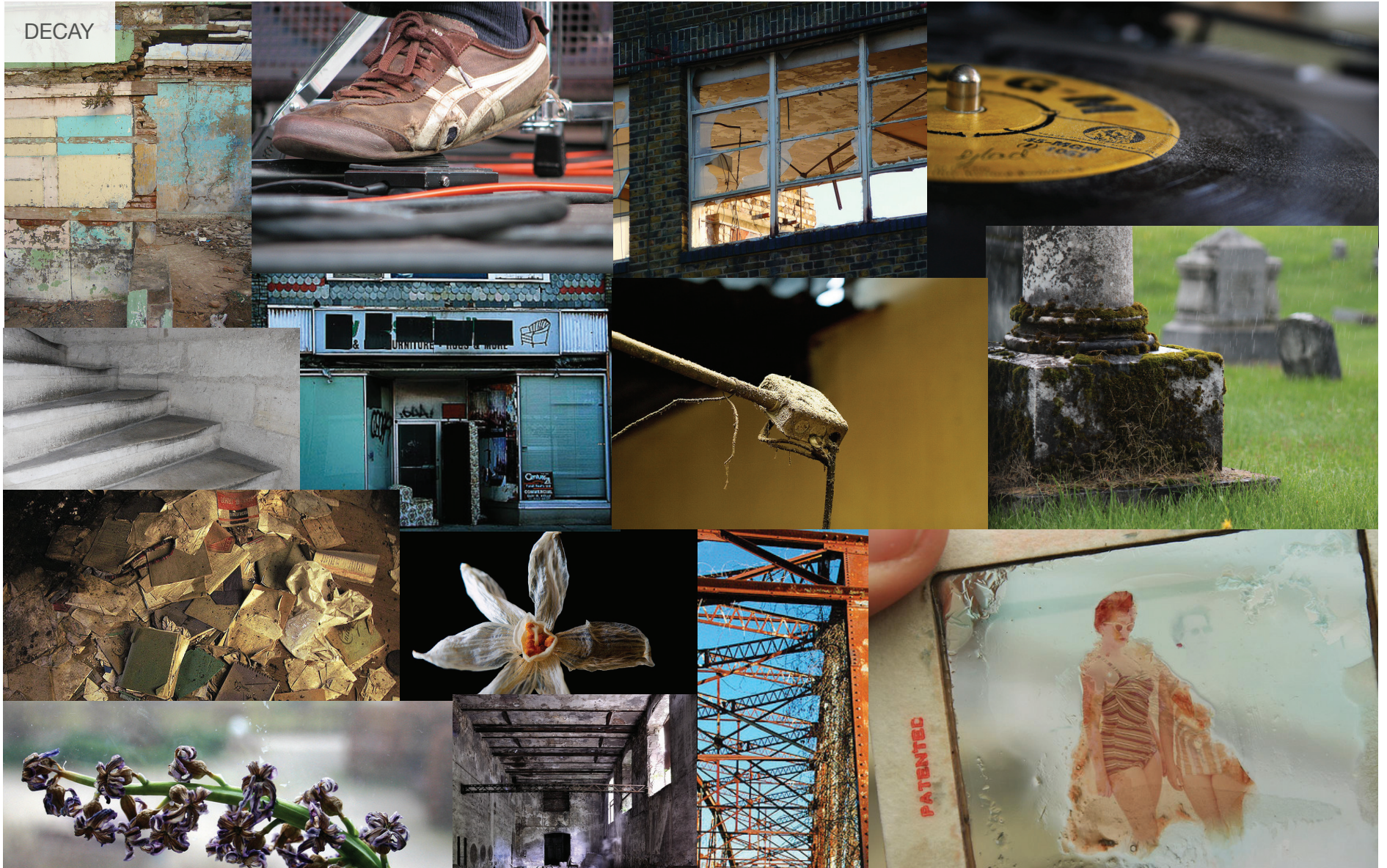
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MOOD BOARDS



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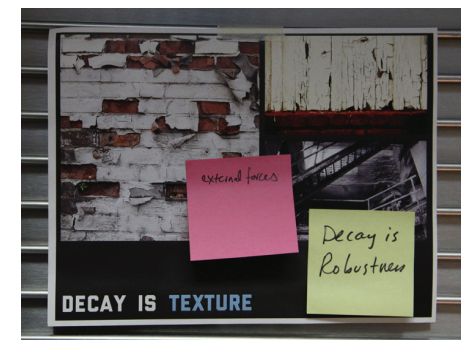
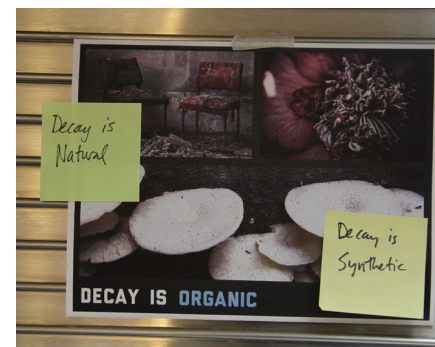
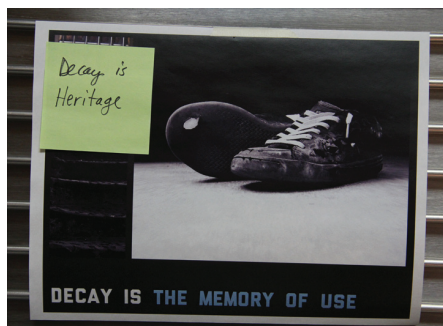
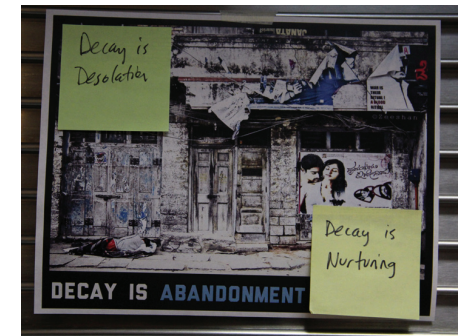
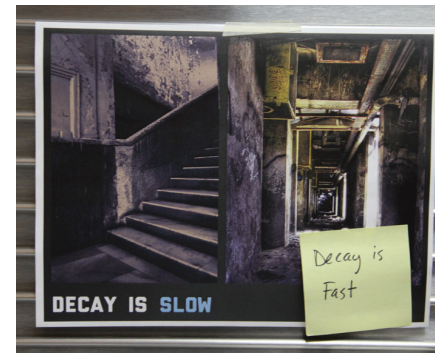
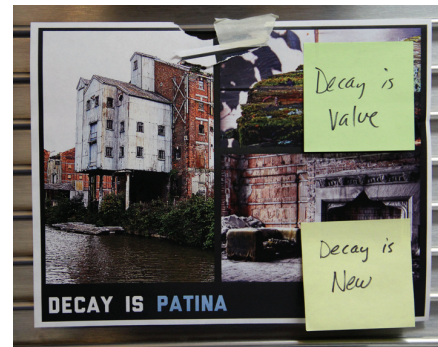
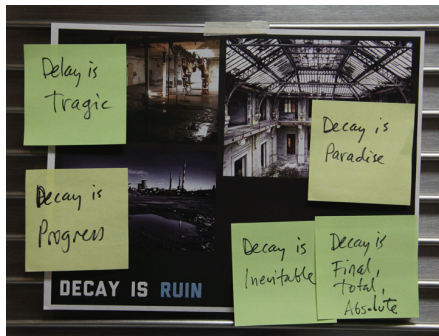
MOOD BOARDS



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REFLECTIONS ON DECAY

Using images of decaying physical objects, I created a set of eight “Decay is” posters, each of which focused on a particular characteristic of decay. We then used the posters to reflect on other ways in which you can view the impact and manifestation of decay.



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DECAY AS PROCESS

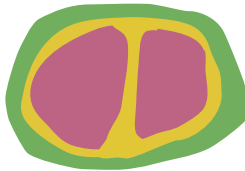
After developing a sense of the ways in which physical objects decay, we created this simple illustration to contrast the forces that cause decay in physical and digital artifacts. This work was based on previous research that explained that the decay of physical and digital media differ because physical objects are more often subject to a process of graceful decay, whereas the fragile, binary nature of digital data causes these objects to decay abruptly and without visual cues.

PHYSICAL DECAY

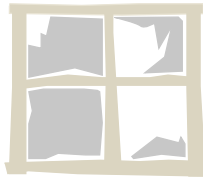
WEATHER



INVASION



ABANDONMENT



TIME



USE

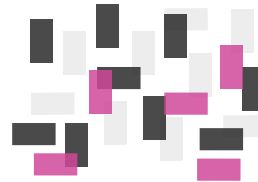


NATURE



DIGITAL DECAY

NOISE



SABOTAGE



POINTERS

404 File Not Found

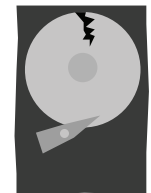
FORMATS



FORGETTING



DAMAGE



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INFORMATION NETWORK

We also created a set of networked personas. The goal of this exercise was to learn more about how digital identity varies across age and familiarity with technology. Additionally, creating a multi-generational network of personas allowed us to explore the differences between people who curate their digital identities by actively engaging with social networks and those for whom the bulk of their digital information is contributed by others. In our network the focal point is Dalia, whose information is below.



Dalia is an 84 year old woman living in Villareggia, Italy.

Dalia got her first computer about 5 years ago, and uses it once a day to read the news and check for mail from her friends and family. She does not send many messages, but likes to see pictures of her kids and grandkids, who don't live nearby. She will sometimes shop on sites that seem safe and that her kids tell her about.

She does not have a formal digital identity, and has never joined a social network. But, her kids and grandkids have posted pictures of her online on sites like Flickr and Facebook. There are old pictures from when she was young, and more recent photos taken by her family members. These pictures are a way for them to share memories about her and to stay connected to each other.

On a few occasions, her kids have talked about her life online, usually when telling family stories or remembering moments of their own childhoods.

In this way, she has a rich digital legacy, curated by the people who love her as a way to remember the moments of their lives.

Her legacy is:

Public Contributed by others A form of social memory Familial Sparse
Hard to find External Lasting Recently created Limited

After she dies:

Her digital legacy is preserved through the digital lives of her family. It will grow as long as they have stories, pictures, and information to add to it (and that they share online).

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INFORMATION NETWORK

In addition to the profile of Dalia, we created profiles for two of her family members (a son and a granddaughter) and for two friends. In each of these profiles we described how these people use technology and how they contribute to Dalia's digital identity. Below I've included a profile for one friend and one family member.



Dot is a 78 year old woman living in Cleveland.

Dot met Dalia when Dot visited her town as a part of a travel and food tour. Dot and Dalia stay in touch over the phone.

Dot does not know a lot about how the internet works, but likes to use her computer and is not afraid to try new things and explore on her own. She has accounts on popular social networks and is friends with her kids and grandkids.

She uses Snapfish to post photos. She likes that service because she can send links of the pictures to her kids over email and she can order printed copies as well. Dot also enjoys signing in to her Facebook account to see what her family has been doing. She likes to comment on her grandkids' photos, especially now that they are in college.

Dot has tried to get more of her friends online, including Dalia, but so far Dalia has not been interested in making a Facebook account. Dalia has seen the photos Dot took when visiting her town, and asked Dot to send her some of her favorite photos. Dalia and Dot both have these photos framed in their houses.

Dot's legacy is: **Positive** **Experience-based** **Familial** **Extended** **Mainstream** **Genuine** **Anchored**



Matt is a 46 year old man living in Milan.

Matt is Dalia's son and oldest child. Years ago, he moved to Milan to study math at the University of Milan. After college, he found a job there and decided to stay. Milan is only about 100 km from Villareggia, where his mom lives.

When they were younger, his mom would come to Milan to visit him. However, it is now more difficult for her to leave home and travel. He goes to see her about once a month, when he can get away from work.

Matt is a tech savvy computer and internet user. That being said, he does not like to share a lot of information publicly. He does not have a blog, or a twitter account. But he does use Google +, which he likes because of its privacy options. On his Google+ account, he shares pictures and information about topics like travel and his hobbies. He also shares links that he finds interesting.

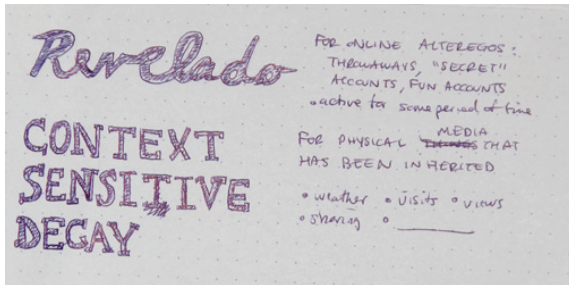
He has posted photos and short stories about his mom and other family members online, but only shared them with his close friends and people who know his family.

Matt's legacy is: **Private** **Curated** **Reflective** **Network-based** **Objective** **Mainstream** **Guarded**

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SKETCHES

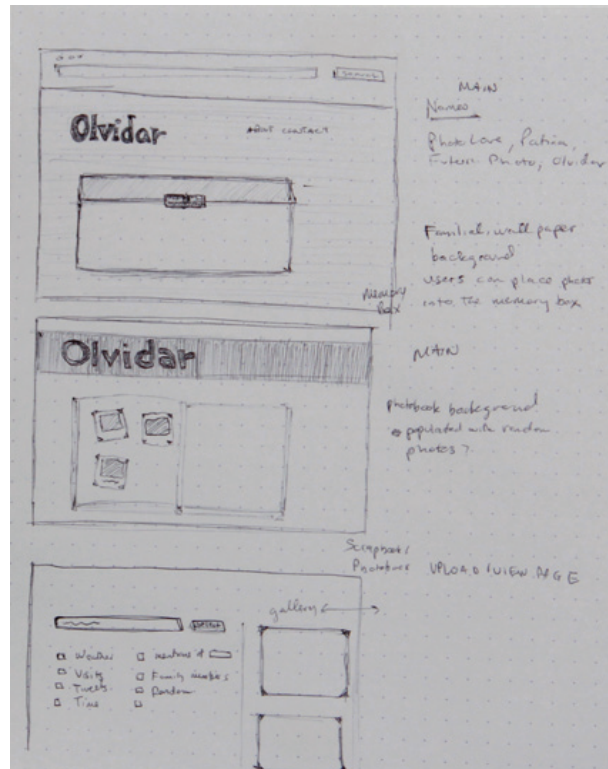
These are examples of possible website site designs for two of the applications we are developing. These sketches were inspired by images and themes from the mood boards.



FUTURE WORK

We are now in the development phase of this project and are working to create three web applications related to our main concepts.

After the web applications have been created, we will recruit 10-15 participants and invite them to our lab to try using these systems and provide feedback about their experiences.



APPENDIX

ATTRIBUTIONS

MEMORY MOOD BOARD

From top left to bottom-right:

<http://www.flickr.com/photos/68777870@N00/99654436/>
<http://www.flickr.com/photos/bradmontgomery/4750876646>
<http://www.flickr.com/photos/pakgwei/2996321730/>
<http://www.flickr.com/photos/duesentrieb/45873304/>
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DECAY MOOD BOARD

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COLLECTIONS MOOD BOARD

From top left to bottom-right:

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