

Digital Tools for Collecting, Organizing and Sharing Family History

Mapestry

Team:

Curtis Hwang

Carinne Johnson

Ryan McAdam

Elliot Nahman

Jen Wang

Advisor:

Tapan Parikh

Master's Final Project 2013

UC Berkeley School of Information

Acknowledgments

We would like to thank our advisor, Tapan Parikh, for his guidance and encouragement on this project. We would also like to thank each person we interviewed, without whose insight none of this would have been possible: David Dunham, Ariel Efron, Mohit Gupta, Laura Herberg, Martin Meeker, Erica Mu, Jessica Reid, T-Kay Sangwand, Bailey Smith, Senait Tesfai, Paulo Valle, and Anne Wootton. Also many thanks to our parents and significant others for putting up with us during this process. Finally, a very special thank you to Ryan's lovely grandmother Rose Burroughs, who generously shared with us her favorite memories from her distinguished past. Additional thanks to Jennifer's mother and father, Anna & Leonard Wang for sharing their memories.

Table of Contents

ACKNOWLEDGMENTS	I
TABLE OF CONTENTS	II
INTRODUCTION.....	2
PROBLEM STATEMENT.....	2
HYPOTHESIS	2
RESEARCH	4
COMPETITOR ANALYSIS	4
COMPETITOR ANALYSIS TAKEAWAYS	6
INTERVIEWS	7
INTERVIEW TAKEAWAYS	15
LITERATURE REVIEW & TAKEAWAYS.....	20
TARGET CUSTOMERS & PERSONAS	22
PROTOTYPING & PRODUCT DEVELOPMENT.....	24
GOALS & CRITERIA.....	24
ITERATIVE, USER-FOCUSED DESIGN PROCESS	24
DESIGNING FOR MOBILE DEVICES – RECORDER APP	25
DESIGNING FOR THE DESKTOP – WEB PLATFORM.....	30
UX WALKTHROUGH & TAXONOMY.....	34
DESIGN CHALLENGES	35
FUTURE PLANS	36
APPENDIX A.....	37
COMPETITOR ANALYSIS SUMMARIES	37
APPENDIX B.....	47
FINAL PROTOTYPE – SMARTPHONE APP	47
FINAL PROTOTYPE – TABLET APP	48
WIREFRAMES – WEB PLATFORM.....	55
FUNCTIONAL PROTOTYPE – WEB PLATFORM	67
WORKS CITED	73

“People are hungry for stories. Storytelling is a form of history, of immortality too. It goes from one generation to another.”

—Studs Terkel

Introduction

Mapestry evolved from the common idea that everyone has a story to tell. As a team we expressed an interest in exploring how to collect, organize, store, and disseminate oral histories. With this project, we sought to provide an easy-to-use, intuitive suite of tools that allowed individuals to preserve their personal and family stories.

Problem Statement

Through our research we realized there was a dearth of resources for individuals, families, and institutions to conserve and curate their history and life experience. Formal oral history projects lack financial and human resources and consequently face major barriers to mainstream access and participation. Meanwhile, online resources for family histories are most often relegated to facts, not the stories that bring the past to life. We were convinced the preservation and conveyance of oral history was an important undertaking for a myriad of reasons—from political to pragmatic to sentimental.

We wanted to empower individuals to collect, organize, and share their family histories by building multimedia narratives. Mapestry users will benefit from an integrated suite of digital tools that make it easy to start a conversation, visualize a narrative, and find meaning in shared history.

Hypothesis

With an audience interested in uncovering personal stories, our undertaking presented numerous challenges. We knew that many individuals find it difficult to talk about themselves because it is too personal, too revealing, or too embarrassing to be the focus of attention. Furthermore, memory is inherently prone to errors and exaggerations. Personal history is often not straightforward; stories may overlap chronologically, but have little to do with one another. We hypothesized that an external artifact used during an interview could facilitate memory by providing visual cues and diminishing self-focus.

We needed a common artifact that was easy to relate to, simple to use, and ubiquitous across varying demographics. After much brainstorming, we settled on the

assumption that geography—in the form of maps—could act as a facilitating agent in the collection of oral history. This hypothesis was later supported by the subject-matter experts we interviewed during our research phase.

Speaking about and pointing to a tangible object can be a flint to spark memories and elicit stories. Maps facilitate memory by providing geographic cues to help the storyteller remember details from his or her life. With the presence of a map, an oral history expands beyond the individual, bringing in a third element: place. Shifting the focus away from the individual allows him to more easily open up and share his story. Maps offer unique affordances, especially when collecting stories from those who may not be technologically literate. Finally, geography is an objective way to store and present the stories once collected. Stories about a place are intrinsically tied to that place, making location an intuitive way to organize and store these histories.

In conjunction with maps, technology offers innumerable opportunities to expand the preservation of oral histories. Collection, storage, preservation, search, presentation, sharing—all have opportunities for expansion with the aid of well-designed technology. Our hypothesis further ventured that a balance between old and new technologies would address the needs of both the oral history collector and the oral history content provider.

Research

During preliminary research and brainstorming, we realized the need to discern a clear, focused definition of the term “oral history.” While “oral history” is an academic or journalistic term, it is also frequently used informally. Before we could develop a better way of interacting with oral histories, we had to learn more about what the term encompassed.

- Did it include interviews or storytelling?
- Was the benchmark long form, or was short form allowed as well?
- Was it restricted to audio only, or could other artifacts be incorporated?
- Was it collaborative across different interviewers and subjects?
- What were the best practices for producing content that is “born digital”?

To understand oral history’s vocabulary problem and to determine the availability of online resources, we conducted competitor analysis and interviewed subject-matter experts. In our competitor analysis, we explored online platforms for storytelling and family history, as well as websites that feature maps and place-based oral histories. In our interviews, we sought to determine best practices among oral historians. Specifically, we wanted to know:

- How could we utilize the affordances of geography as a memory cue and present a neutral medium to draw out personal history?
- How does technology aid or hinder the collection and presentation of personal oral histories?
- And finally, how could we balance the affordances of paper with the affordances of technology to create a data collection device that anyone could use?

Competitor Analysis

Mapping as a way of organizing and presenting stories is not a new concept. Some websites provide a platform for users to submit their own stories; others use maps as an interface for browsing a set of stories; still others use maps for orientation rather than selection. We analyzed existing online platforms that incorporate audio and other media stories in a map-based interface, as well as those that address family history and genealogy. Below are a few examples from our competitive analysis; a full summary is available in Appendix A.

Map-Based Interfaces

Findery is a mapping platform that allows users to leave geocoded notes about locations. These can take the form of many different types of media. However, there is no way to weave these notes together into a collective narrative or tell a story spanning multiple locations.

Historypin users create geocoded pins on a map in order to share photos, videos, audio, or text. The map is the canvas upon which users collaboratively build a historical narrative. All content uploaded to Historypin is for public, collaborative use; there is no option to create a private project. Historypin is a platform for user-generated content, as well as an interface for browsing those public stories.

City of Memory provides an example of a map interface for exploring a single location, or theme. City of Memory is an online community map of personal stories and memories, organized on a map of New York City. It is a public, collaborative project, and all entries are reviewed and curated. It links stories and memories in a place-based way that transcends chronology.

In these three examples—Findery, Historypin, and City of Memory—the map plays a central role, remaining a visual touchpoint element throughout. The map is used as a primary selection mechanism. And when individual stories open on a separate page, the map remains visible as a major element.

When it comes to organizing audio stories, many **NPR-affiliated programs** have created web pages with limited map interfaces. Most similar to our project is **Hear Here**, which collects and maps user submitted audio stories (see Appendix A for full description). These largely present a single geocoded location where a particular story took place; they do not allow for a story that spans several locations. Also, these maps are generally static, merely allowing a user to select a story or see where a story took place. They are not utilized as a storytelling mechanism. In addition, nearly all of them are simply a selection interface which takes the user to another page where the story then plays. This interaction results in frequent backtracking to return to the map and explore another story. This minor role of the map is reinforced in some of the sites by its size, often taking up a small portion of the real estate. In others, the map occupies the whole screen, implying a more dominant role as a storytelling medium, but then the user transitions completely away from the map.

Other projects, such as **Meograph**, do not utilize the map as an interface, but rather as a storytelling mechanism. These projects create a holistic story, and will show maps to

locate parts of a story. In the projects we have seen, the map is a minor element that does little else than show up for a few seconds, locate an event, and then disappear.

Family History & Genealogy Websites

There are many tools for capturing a single dimension of genealogy. **Ancestry.com** is the big player among the genealogy sites. But it specializes in family trees and historical records—facts and data, not the stories we were hoping to share. It is very dense and data-driven—for example, users can find Census records and marriage licenses. However, if one is not well versed in genealogy research, Ancestry.com can be overwhelming.

Owned and operated by Ancestry.com, **1000memories** is a site specializing in old family photos. It provides tools and services to assist with scanning old family photos and organizing them online. But it is limited to one form of media, photos, and does not emphasize the stories connecting the photos.

Competitor Analysis Takeaways

Through our extensive competitor analysis, we found no online presence excelling in the particular niche we wanted to address: personal oral histories. Though we found several platforms well suited to everyday users, we knew we could add something valuable to the creation of multimedia stories, especially in the personal, familial context. In addition, we wanted to learn from the sites using maps as a storytelling mechanism and incorporate maps as a central element, part of the story. We still believed maps were capable of giving a sense of meaning and orientation to narratives.

Our research showed that our idea of a collaborative recording experience filled a need. Competitor applications, such as Meograph, offered features that allowed “4-D storytelling” through video mash-ups. Others offered geocoding tools that allowed for construction of single timelines, but struggled with semantic problems for locations and dates. Playback features were almost universally clunky with too many features for novice users. Finally, no product really offered room for self-exploration. Instead they all relied on a story constructed by the interviewer, forcing a passive interviewee experience. We believe the future of oral histories lies in co-creation.

Interviews

What Does Oral History Mean? What Challenges Do Oral Historians Face?

One of the first experts we approached was **Senait Tesfai**, who is currently a Master's candidate in Oral History at Columbia University. In a semi-structured phone interview, we asked for her opinion and guidance on the field in general and the idea of using maps. Senait, and oral historians in general, are very interested in capturing opinions and stories that question dominant narratives, which are often simplistic, archetypical, and offer only singular viewpoints of a more nuanced situation. Oral histories have the advantage of more effectively capture tone, inflection, and meaningful silences. Oral historians can tell a lot from people's voices and from what they say and don't say. Oral histories also provide a more intimate setting and can overcome literacy barriers.

When asked specifically for her opinion on maps as prompts, Senait said that they were good for difficult interviews where the interviewee was not providing good content. Maps help keep the interview on track and grounded while also serving as a structured guideline for presentation. She made sure to highlight that one of the largest struggles for an oral historian is making content accessible and user friendly, and that she believed maps to be very user friendly. She also pointed out that oral historians were always on the lookout for open-source tools to assist them. A kind of plugin with an existing map application might be a good place for our group to start.

When asked about the difference between oral history and an interview, she said that this was a hotly contested topic because oral history is a relatively new academic field. Opinion varies, but it is generally agreed upon that an oral history is a long-form interview that allows interviewees to speak as long as they want in order to get the story that both they and the interviewer want to express. A key factor up for debate was whether or not to allow access to the original unedited interview in order for the public to interpret the results for themselves.

Senait asserted that StoryCorps, and similar formats edited for public consumption, do not qualify as oral history. She cited heavy editing and production as interfering with the original, authentic voice of the interviewee, which is what an academic oral historian seeks to capture. Furthermore StoryCorps' full interviews are not readily accessible, which contradicts the mission of academic oral historians.

According to Senait, instead of heavy editing and leading questions, oral historians rely on lots of preparation and research. They mainly present their interpretations via books or written reports (and sometimes multimedia). They follow a set of best practices which include asking open-ended questions and allowing for the interviewee to create their

own storyline. Oral historians often prefer to have a theme for the interview (e.g., the 9/11 attacks) but not an agenda (e.g. “all Muslims are terrorists”). Conducting oral history interviews is a time-consuming process. Some topics, such as the 9/11 attacks, are incredibly traumatic for interviewees to relive. Interviewers try to ease into traumatic stories by letting the interviewee talk about surrounding circumstances or topics first. Senait believed artifacts like maps could come into play in these instances, as they could function as an effective tool at not only stoking memories, but allowing for context and gradual immersion in the topic.

For a second professional opinion, we turned to **T-Kay Sangwand**, an archivist at the Nettie Lee Benson Latin American Collection at the University of Texas at Austin. T-Kay’s responsibilities involve working directly with organizations that document human rights violations. For her work, oral history is very important in terms of exploring and exposing human rights violations because first-person accounts act as supplements to the official historical record, which in Latin America is often solely the work of “experts” appointed by biased governments.

Most of the documentation she produces comes in a digital format, both audio and video media. She determines the best practices for creating and preserving these media types. According to T-Kay, archiving digital audio is very different from archiving digital text largely due to the fact that audio files are often larger, differ greatly in terms of quality, and come in various formats. In her opinion, the best practices for digital preservation must be very flexible because of the way technology is constantly innovating, causing formats and delivery methods to be in a constant state of flux.

One of the largest roadblocks T-Kay has encountered is the problem of retrieval, contradicting the popular misconception anything digital is easy to find. Retrieval of digital media, much like any other type of information, relies heavily on the quality of metadata. T-Kay has been tasked with the development of a system of metadata that is easy and intuitive enough for the average person to use, yet not overly complicated so that it acts as a deterrent to access, all the while complex and robust enough to encompass the unique material being archived.

When asked about how maps could be a useful interface, T-Kay stated that she believed they could be helpful but that it was imperative that users not be limited to just spatial cues. She believed users greatly benefit from visualizations based on temporal cues as well. She did caution us to avoid keyword searches or cues though, as she believed these can be very overwhelming for users, especially the elderly or people who must deal with language barriers.

T-Kay was also careful to point out the financial and physical barriers to accessing archives of information. For some people, mobile devices act as their only access to the Internet. In other cases the digitized information is simply stored on disk and can only be accessed at certain physical locations. For this reason she suggested developing our tool on mobile platforms, not just desktop, in order to maximize the accessibility of our project.

How to Incorporate Technology

We then contacted **Ariel Efron**, a designer and filmmaker at Local Projects, a media design firm that specializes in, "...reinventing public space through media...engaging audiences through emotion, sharing, and technology...gathering stories through collaborative storytelling projects."¹ Ariel's background includes working with multimedia in a variety of different settings including concerts, theater, museums, and exhibits. He has a graduate degree in interactive telecommunications from NYU. According to him this means that he combines technology and programming to tell stories in a new and interactive way.

Ariel works in collaboration with museum curators to define the goals of each exhibit and to maximize how each tells a story. Ariel said his main process is to ask very basic questions that provoke curiosity. He believes that what makes the designer interested in the subject is what makes the viewer interested as well.

Local Projects tackled a very unique and important project for the 9/11 Memorial Museum in New York. The Memorial Museum faced the difficult task of designing something representing a collective memory—something that would convey the meaning to future generations. The creative solution for 9/11 project involved inviting people from all walks of life to respond to questions in a recording booths. The footage was then edited and curated by the institution and incorporated into videos, presentations, and exhibits. It was an untraditional method of storytelling, especially for an institution and subject such as the 9/11. It was a big risk for the museum to open up to public user generated content, but at the same time it allowed the museum to tackle a wide range of new questions about events connected to 9/11.

One of the features of the 9/11 Memorial was a recording booth where visitors could come and record their own stories about how 9/11 has affected them. When asked why a booth and not some type of collaborative storytelling convention (like an interviewer),

¹ <http://localprojects.net/about/>

Ariel noted the pros and cons of an interactive booth and a moderator or interviewer. On one hand a booth where people can record their own stories would often make people feel more comfortable about sharing, but the downside was that only about one-quarter of subjects provided good material without some type of moderator.

A screenshot of a web browser displaying the 9/11 Memorial website. The title bar shows 'Oral History Archives' and the URL 'www.911memorial.org/oral-history-archives-2'. The page header includes the 9/11 Memorial logo, navigation links for Newsroom, About Us, Interact, Images + Video, The Memo Blog, Museum Shop, and FAQ, and social media links for Facebook, Twitter, YouTube, and Pinterest. A search bar is also present. Below the header, there are links for Plan Your Visit, Memorial, Museum, Teach + Learn, Get Involved, and Donate. The main content area features a section titled 'Oral History Archives' with a list of categories: Family Members, First Responders, Lower Manhattan Residents, Recovery Workers, Survivors, Original World Trade Center, and Other Oral History Contributors. To the right, there is a detailed profile of Richard Sheirer, including his role as Former Director of the New York City Office of Emergency Management and a brief summary of his career. Below this is a video player showing a clip of Officer Scott Strauss from the New York Police Department, with a progress bar indicating 0:24.

Moderated interviews, on the other hand, raised the issue of chemistry between the moderator and the subject. Moderated interviews also had to deal with the heightened awareness of the subject and their own self-consciousness. The advantage of a moderated interview was that it was often more reliable for producing interesting and usable content. Ariel estimated about half of moderated interviews were deemed successful ventures. As for interviews on camera, the average person was not used to that exposure and it only served to heighten their level of awareness. Instead of a free-flowing interview, subjects would often shut down or feel the need to over prepare. Interviews in general were therapeutic for most people, but only after they gradually warmed up to the situation. Oftentimes half of a forty-minute interview was spent easing into the subject, with interviewees gradually opening up and dropping their guard.

When asked about the limits of collaborative storytelling, Ariel stated that public exhibits of oral histories are short-form stories and that to go longer than thirty minutes requires incorporating other forms of storytelling to make it more robust and interesting. The longer the piece, the more forms the audience needs (e.g., narration and visuals).

During our research we referenced a startup company called Findery, which featured a mapping platform that allowed users to leave notes around the world and let them share and store memories of about places. We spoke to one of their employees, **Jessica Reid**. We explained to Jessica that Findery intrigued us because it operated in the same space that we were interested in, the geo-social world. According to Jessica, every story is equally important and Findery aims to use locations as context for both long-form and short-form stories as well as simply leaving notes in an effort to let the user discover, or rediscover, the world around them. Their website states that, “You can find and leave notes around the world, public, or shared only with friends. You can be an armchair traveler, learning about distant lands. You can store your memories of places at those places.”²

Jessica stated that ideally Findery would like to move away from the gamification of maps, which meant none of the reviews or ratings content that one would find on Yelp or sites of that nature. Findery deploys multiple tactics to inspire participation. Examples include the issuing of daily challenges to users, the plaque system (much like badge system found in Foursquare), and the incorporation of textual cues. Findery would go to great lengths to incorporate unique conversation starters such as, “Tell us about the first concert you went to,” or “Where did that scar come from?” in an attempt to gather interesting and unusual content about otherwise mundane locations.

Findery demonstrated great flexibility in having gone out of their way to incorporate and leverage other sites and services such as Soundcloud, Vimeo, Youtube, instagram, and Flickr just to name a few. Jessica mentioned that Findery sought to incorporate influential content creators such as artists, bloggers, photographers, community organizers, and foodies. They even employed content associates whose role was to go around neighborhoods and ask people questions in order to help seed certain locations. Ultimately Findery was a great example of a service that believed their path commercial viability was focusing on unique user-driven, non-commercial content.

Refining our Approach and Exploring Potential Partnerships

Based on our research, our team decided to explore the accessibility and distribution of oral histories. We contacted potential partners who already had content but might be lacking the bandwidth or expertise to design an easy-to-use and easily accessible tool to get their content to potential users.

² <https://findery.com/>

We spoke with **Anne Wootton** and **Bailey Smith**, alumnae of the UC Berkeley School of Information and founders of Pop Up Archive. Pop Up Archive began as a Master's thesis project at the School of Information and is now a tool that helps users organize media (especially audio) by making it searchable, reusable, and accessible, without necessarily requiring technical expertise or substantial resources.³ Anne and Bailey target customers who have small archives which they want to be able to store and search but do not have the resources to do so. One of Pop Up Archive's goals is to create a user-friendly search interface. We initially approached them with the idea of working together, but our timetables didn't align.

Another potential partner was the UC Berkeley Regional Oral History Office (ROHO)⁴, where we spoke with **Martin Meeker** and **David Dunham**. Martin is the Associate Director of ROHO and David is in charge of their multimedia projects. ROHO specializes in what academics view as true oral histories. This means that their interview recordings can be over forty hours per subject and require extensive preparation on the interviewers part. Typically a ROHO scholar spends months dissecting all pertinent literature and media by or about the subject prior to an interview. These interviews can take place over long time periods and are subject to review and edit by the interviewee. They are not meant to be an unbiased documentary, instead they are meant to be a comprehensive review from the interviewee's point of view.

Right now ROHO faces a problem with how people interact with their content. Lots of their content is not easily available to the public, and the content that is online is in formats that are not easily searchable or organized. According to Martin and David, if someone wants to access ROHO audio, they have to come to the library in person.

One goal for ROHO is to let the public have access to ROHO content in order to let them create and curate their own mini-documentaries. In order to do this they need to add lots of metadata and they need ideas for how to go about doing so. Ideally they would like user-generated metadata, but that leads to a problem of inconsistent vocabulary.

The Actual Interview and Recording Process

Finally, the last expert we talked to at length was **Erica Mu**. Erica is a reporter and producer for Pop-Up Radio at KALW, a bay area local public radio station. She is currently working on her project called "Hear Here" at KALW, which involves the gathering of

³ <http://www.popuparchive.org/>

⁴ [http://Bancroft.berkeley.edu/ROHO/](http:// Bancroft.berkeley.edu/ROHO/)

community stories and hopes to use these to promote community building. Their website says it is “designed to illuminate life in Oakland and San Francisco...[by] asking residents to tell us about their favorite places—and their lives—in these two cities. [KALW] share[s] what we’ve learned on air, online, and on stage...ask[s] why this place matters to you and...the stories we collect will go on our Listening Map for visitors to hear and explore.”⁵

In order to get people in the Bay Area to share their stories with her, Erica has partnered with local public libraries because people tend to trust public institutions. Librarians also have the added benefit of knowing whom to talk to in the community. *Hear Here* sometimes holds local community gatherings as well, in order to talk to people and share stories. They have even experimented with a moveable installation complete with QR codes so that people can easily access and listen to stories. Surprisingly, Erica said she rarely runs into trust issues. Very rarely are people intimidated by the microphone, even when sensitive subjects were broached. When there is difficulty interviewing someone it is normally because they are from an immigrant community, and there may be cultural barriers to speaking.

She said that most people are not natively good storytellers and that they should have a good idea of what they want to talk about before you start recording. Pre-interviews set the mood and also serve to highlight avenues of questioning that excite the interviewee. Erica said she likes to start interviews with simple questions such as, “Where in your neighborhood do you play?” Erica’s advice is to always have your editor hat on, note where the person gets excited, provide good visuals, have the interviewee give lots of details, make sure to ask detailed questions, and always ask the interviewee for personal reflections or takeaways.

Some of the challenges that Erica faces involve editorial decisions—what to keep and what to cut from stories. These decisions are particularly difficult because most of the content is non-narrated which means the story must speak for itself. Erica was quick to point out that Hear Here is not reporting; it is storytelling. This means there is no fact checking like there would be for other public radio content.

Tools that Erica prefers to use include digital recorders, shotgun mics, omni-directional mics, and Pro Tools for editing, which she says is the industry standard. Her editing process involves listening to the audio back at the studio and selecting the tapes that not only have the best content, but also the best audio quality. While she specifically sought out stories with a beginning, middle, and an end, these stories were not often related to her in chronological order which meant she had to improvise questions on the fly.

⁵ <http://hearhere.kalw.org/about/>

When asked if live tagging of audio would be helpful, Erica stated that it might be helpful later on down the line or for reporters who face deadlines. Erica mentioned that reporters often haphazardly take notes or time stamps anywhere they can, such as scraps of paper or on the back of their hands. She also said that different interviewers have different recording techniques, including starting a separate recording for each question in order to make sure that if something goes wrong that one does not lose all of the audio.

Erica suggested that we devise a mobile recording tool rather than asking interviewees to talk to a computer. A small mobile recording tool would be less awkward and less intrusive.

Audio Story Consumers

Besides our subject matter experts, we also spoke to a number of individuals who could be classified as consumers of audio stories. These individuals range in age from their 20s to their 70s. Many of these individuals listen to audio stories from NPR, shows like *This American Life*, *StoryCorps*, and *RadioLab*. Some were interested in personal oral histories, listening to, and sometimes even collecting stories from their family and friends.

One key takeaway from these interviews was the difference between interviews and stories; interviews are simply about answering questions, stories are about weaving an emotional narrative with a beginning, middle, and end. Visuals are key to narrative and often what separates audio stories from video. In the end, for consumers, stories are far more engaging than interviews.

Another key takeaway was about the importance to individuals of their own family's oral histories. History is an abstract concept to most people and written historical accounts are a very passive/impersonal way to engage in history. Conversely, oral histories become a way for individuals to relate themselves and their family to grander historical events. It put perspective on the event. One interviewee mentioned that in a number of instances, they cared little to learn about some historical event until they found out a friend or family member had a personal connection to that event. The personal connection then became an entry point for this individual to learn more about that historical event.

Genealogy Hobbyists

We interviewed individuals who conduct genealogy research as a personal hobby. One woman explained that she likes genealogy research because it's like a treasure hunt—she loves the feeling of success when she finds an elusive piece of information. This hobby

has made all history more interesting to her now, and she enjoys watching historical programming on television, such as PBS's *Call the Midwife*.

To keep records of the data she collects, she uses The Master Genealogist software. But to preserve the stories from her relatives, she relies on a simple Word document to record these recollections. Genealogy tools do not meet her needs for recording narratives.

From these prospective users, we found that privacy is important when discussing family history. One genealogy buff explained, "I prefer to keep our trials and tribulations private to protect my family—both past and future." She liked to discover stories from the past and share them with her relatives, but not outside of the family.

Interview Takeaways

Challenges

A key theme amongst the experts we interviewed was that good material almost always required time, patience, and context, especially when dealing with sensitive topics or where there were gaps in language, culture, or age. To paraphrase Ariel Efron, "Interviews in general are therapeutic for most people, the downside is that therapy takes time to open up."

Archivists are after an interviewee's unadulterated point of view about a topic, which means they rarely interject, and ask lots of open-ended questions. The challenge facing an interviewer was toeing the line between stoking conversation and developing usable and interesting material versus biasing or negatively influencing the interviewee.

Experts also held differing opinions about leading questions, themes, editing content, and privacy versus access. The context and purpose of the interview, along with the goals of the interviewer, dictated how to approach an interview. For T-Kay Sangwand, who often deals with human rights violations, it was understandable that she would want an unadulterated account and that she often had to walk a fine line between privacy and access. On the other hand, Martin Meeker at ROHO readily admitted that sacrifices had to be made in order to gain complete access and time commitment from interview subjects. Because it is so incredibly difficult to get a subject to agree to a series of intensely personal interviews over a long period of time, ROHO grants interview subjects the ultimate ability to edit and redact interview transcripts before they became part of any official record.

ROHO's ultimate goal is to get the interviewee's perspective on record and as long as the interviewee is the only one doing the editing, then ROHO's goal is still achieved.

Ownership

During our competitor research we talked with **Leslie Tom** and the SF Chinese American Museum. They were in the process of utilizing Historypin, which allows users to "pin" their photos and other multimedia to Google Maps. We agreed with the museum that this approach would greatly enhance the visibility and access to the museum's cause. However, our team expressed concern about the issue of ownership and privacy rights of the photos and multimedia. Entrusting time, effort, and resources to a third party entity such as Historypin is a risky endeavor. Sites like Historypin could easily alter privacy agreements, advertising strategies, or simply fold up shop at a moments notice, taking with them everything a user had uploaded.

Senait also touched on the ownership issue by telling us that oral historians prefer to use open-source tools whenever possible.

We approached this project with these ideas in mind: to build something that respects the privacy and ownership personal stories, photos, and multimedia that a user records and uploads. We made sure the default sharing options were private and by invite only and that all content a user uploaded was owned and controlled by the user with the ability to download their content onto their own device. Even with the ebb and flow of services and devices, their information, artifacts, and metadata were never at a risk for loss.

Length

There is a clear divide when it came to suggested best practices for long-form interviews compared to short form. Academic experts clearly stated that long-form interviews are the only standard because people often take long, circuitous narrative routes during interviews. Not only that, but the context and build-up are nuances that make oral histories special, rather than having a reporter read from a list of questions. Influenced by these issues, we built in allowances for both long- and short-form interviews. We also allowed for the user to control the content and to decide when she would want to utilize tools to help, or possibly hinder, the conversation. One of these allowances includes the ability of the tablet application to function either as an individual recording tool or as a collaborative conversation tool at a touch of a button.

Preparation and Lead Up

A key theme amongst all the experts interviewed was that preparation was paramount, regardless of the duration of the interview. The role of an oral historian involved not just the interview itself, but a long and methodical preparation process beforehand. Oral Historians went to great lengths to understand the background and context of the interviewee. When getting to know the specific background of an interviewee was not plausible, the interviewer would still have a framework understanding of the cultural and regional influences of the interviewee.

Without resorting to leading questions, an interviewer should have a framework in place of what he would like to accomplish in his given time frame. The percentages varied, but almost every expert said that most of the content in an interview was either small talk which laid the groundwork leading to the heart of the interview. While seemingly ancillary to the key content of the interview, this vital process allowed for the interviewee to feel at ease and to speak from the heart. This was especially true for experts such as Senait or T-Kay, who often had to broach sensitive subject matter that was better approached in a delicate and thoughtful manner.

Our takeaway from this was that maps, photos, and video were ideal for functioning as part of the preparation and research process. Interviewers could gain a better understanding of their subjects when they can visualize spatial relationships and notice subtle details as simple as proximity and as complex as cultural patterns or regional differences. One could have a better understanding of someone when he can put themselves into the shoes of his interview subject and realize how far she immigrated, how close her immediate family lived, or how the inclement weather in her hometown affected her lifestyle. Maps also allow for temporal, spatial organization, which provides a clear structure and framework for an interview to follow and allowed for the natural flow towards key content.

Technology – Accessibility and Collaboration

For experts, making content as user friendly as possible was essential and maps were an ideal way to address that problem. Any artifact that lent structure and guidance to an interview was readily welcome as long as it was not intrusive or confusing. Other challenges that experts often encounter while conducting interviews are cultural, language, or economic barriers; any tool that served to surmount these barriers would be a welcome remedy. Often the subject matter of an interview was very sensitive, our experts dealt with human rights violations and 9/11, to name a few. These experts stressed that rushing a line

of questioning, especially when dealing with sensitive topics, simply caused interviewees to retreat into a shell.

We specifically chose maps because maps and locations bridge many of the aforementioned gaps that experts encounter. They function as memory prompts, illicit context in terms of space, and offer many levels of view. They operate independent of culture, language, and economic concerns and offer a neutral medium for discussion. Most importantly they could be interactive, flexible, and can act as “containers” for other types of media. This allowed for both the interviewer and interviewee to be the driving force during an interview.

Barriers

A lot of the tools that our experts used involved expensive equipment or physical recording booths at specific locations. Ariel Efron collected most of his audio at museum booths, while Erica Mu often relied on open invitations to come to trusted public institutions like local libraries. Other tools involved large and intrusive microphone apparatus and old fashioned digital recorders. Both Erica Mu and our group believed that these booths and tools had several downsides. We wanted to design something where the barrier to entry was very low, both physically and technologically. Our tablet and mobile devices help eliminate the physical barrier to entry that some subjects might encounter by helping to bring a full-fledged booth style interview to them whereas previously it might have required lots of equipment.



(On the left:) A StoryCorps recording booth; (on the right:) Oral historian Studs Terkel behind the mic.

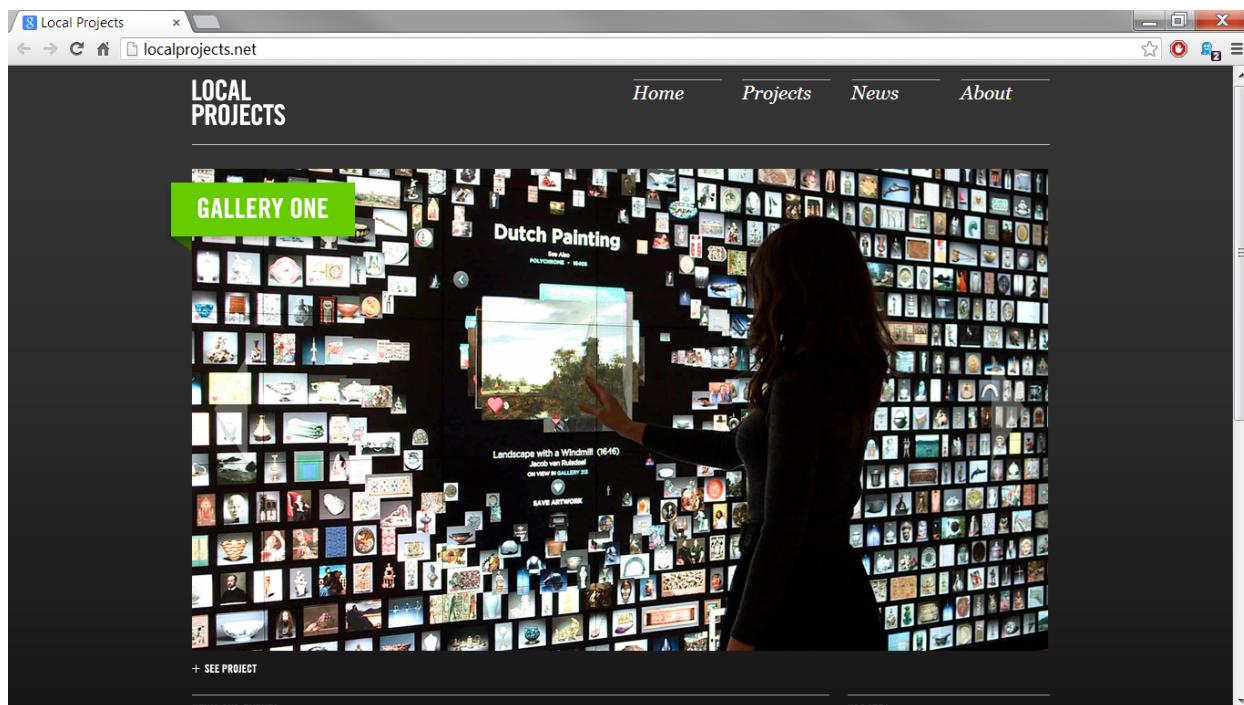
Also, a lot of the equipment available to our historians was not only bulky and a physical hindrance, but also was intrusive and foreign to the average person being interviewed. The smaller form factor of our smartphone or tablet application was less

intrusive and less likely to be a persistent reminder to someone that they were being interviewed.

Ariel Efron's thoughts on technology allowing people to more easily access micro communities and cultures through collaborative storytelling and multimedia were key to the motivations of our product. As a group we wanted to focus on tools and techniques for families and individuals to learn about and preserve their histories. The availability of technology today makes it very easy for individuals to take on the task of interviewing and recording, whereas even a few years ago the overhead cost of equipment and the lack of training could easily hamper individual efforts.

New Technology

Experts like Ariel Efron offered a technological perspective to storytelling and provided important information regarding that aspect of collecting narratives. The chance to get a better understanding of how new multimedia can make the storytelling process interactive was very inspiring to our group. Whereas some of the experts we talked to had an archivists approach to oral histories, Ariel's approach could be categorized as much closer to that of an activist. He strived to use multimedia, often interactive, in new and exciting ways to heighten people's awareness of topics that might have otherwise gone overlooked or had been inaccessible with a more traditional archive.



We took to heart Ariel's advice about provoking curiosity, both with line of questioning but more importantly using artifacts that engage both the interviewer and interviewee. The more engaged, curious, attentive, and interested an interviewer the better the final outcome will be. Again this goes back to the maps and photos that we are incorporating into our product. The interviewee can often fall short of describing their mental pictures, but with the aid of multimedia and maps, an interviewer can press the subject or bring up details that an interviewee might have just assumed was universally understood.

Literature Review & Takeaways

The group reviewed articles and books about collaboration and design in an effort to understand how emerging technologies and interaction design could be used to derive more meaningful interactions with people's heritage and the changing set of values within communities. Many of our readings indicated that technologies, such as social and mobile, actively change the way people interact and relate, allowing for people to form new kinds of communities based on common interests and affinities as opposed to the traditional ones bound by geography and location.

In accordance with our focus on individual and family histories, Elisa Giaccardi wrote about how the role of designers stems beyond creating inclusive interactions at sites of "official" heritage spaces but to also explore how they may support such "unofficial" peer-to-peer interactions, such as grandchild to grandparent.

"Grounded in the understanding that we build (or oppose) a sense of community and identity through a plurality of experiences, meanings, and affects [sic], heritage practice shifts the focus of interaction design from the centrality of an individual experience to repeated and enduring interactions....How can we bring enduring participation and engagement to bear on the cultural work done by emerging technologies?"⁶

We also sought out research of location based multimedia and content. For this we discovered a project by Giles Lane, which was a wireless system application which allowed

⁶ Giaccardi, Elisa. "Things We Value" *Interactions* 18, No. 1 (2011): p 17-21.

users to create geocoded multimedia content, such as “local historical information, personal memories, pictures, short movies, and sounds.”⁷

The system he theorized about used a combination of WiFi and mobile to alert a user that they could access or upload data uploaded for a given location when they arrived at that location. Users could also remotely add GPS locations by uploading something at a particular coordinate set. The key conceptual features of Lane’s idea was to create a cooperative, co-creative, and organic application whereas previous attempts at a project like this were very hierarchical and structured and often focused on consumption of static media. Lane sought to use text, sound, movies, and images in a system of short term messages for announcements or observations about a place, somewhat like a digital, “time-limited street graffiti system.”⁸

He theorized that user uploads could be categorized into “threads” which could be followed across locations. Unfortunately, he never followed through with building the actual product. Although we are targeting a different audience and use, we were inspired by Lane’s concept of a following location-based media across different “threads” or themes and using them not just for information access, but also for communication.

For a graduate student perspective we turned to an I School group project from 2012 called Meaningful Location (MELO), which attempted to build a “meaningful” tagging API that worked with Google in order to provide more context and meaning to important locations in everyday life...such as home, school, favorite coffee shop, buddy’s apartment, etc. Users could tag and categorize while the product pre-fetched as much venue information it could from Yelp, GeoAPI, and Google Location Search in order to enrich experience.⁹

After reviewing this project our takeaways included a better understanding of vocabulary problems that arise when users are allowed to tag and how we could go about setting rules and confinements to avoid tagging problems. We also considered using tagging suggestions from external sources, commonly used tags, and suggested tags based on a user’s previous tagging behavior. Lastly, the MELO final product really helped our group visualize how some of the search and filter mechanisms based on location and tags

⁷ Lane, Giles. “Urban Tapestries: Wireless Networking, Public Authoring, and Social Knowledge” *Personal and Ubiquitous Computing* 7, No. 3-4 (2003): p 169-175.

⁸ Lane, Giles. “Urban Tapestries: Wireless Networking, Public Authoring, and Social Knowledge” *Personal and Ubiquitous Computing* 7, No. 3-4 (2003): p 169-175.

⁹ Doty, Nick., Greenburg, Ryan., Gupta, Mohit., Nomorosa, Karen., Pakrul, Stephanie., “MELO: Meaningful Location Project” UC Berkeley School of Information. (2010).

would function without us having to spend too much time experimenting and revising on our own.

To research more about someone who has had hands on experience with collaborative and interactive storytelling we turned to literature featuring Jake Barton, founder of Local Projects, which created the media design for the 9/11 Memorial and Museum and many other high profile museums. Jake is recognized as a leader in the field of collaborative storytelling projects where participants generate content. Both Jake and our group are intent on exploring how “official” institutional versions of history coexist with this proliferation of constantly shifting personal expression. Also, how there is a shift from institutional curation to “a vast outpouring of personal memories linger online in the form of blogs, photos, videos, and individual stories that now comprise an essential part of the historical record.”¹⁰

Our takeaways from the Barton discussion were his advise that the key ingredients for a successful collaborative storytelling environment included: People who care about the topic, A good mixture of freedom and constraints, avoiding a blank canvas which kills conversation, and creativity which is accessed through rules about how to interface with a project.

Finally, we wanted to read more about storytelling in general and how it is used to convey information. For this we turned to Mobilizing Attention: Storytelling for Innovation. This article stated the case for using storytelling within professional organizations to push information. It may seem so obvious that it doesn’t need to be stated, but this article stressed that humans are hardwired to process information in the form of stories. Our takeaways were the key points that the authors proposed. Stories and storytelling involve knowledge that is co-constructed by the teller and the listener. This helps inspire creative ideas, encourage constructive partnerships, and increase the pace of innovation by focusing people’s attention on particular topics, aligning their interests, and acting as an invisible driving force behind innovation.

Target Customers & Personas

We wanted to create Mapestry for anyone interested in crafting personal stories. Our target customers include the following kinds of people:

¹⁰ Of Memories and Memorials: A conversation with Jake Barton about the Make History Project.

The Amateur Genealogist is someone who collects personal history with an eye towards future generations. These individuals are the archivists in their family who find value in preserving their history, and want to enhance the data he has already gathered.

The Newbie is a person listen to *This American Life* and *StoryCorps*. She wants to try creating similar stories for herself but does not have special equipment or access to a StoryCorp booth.

The Teacher may use this as a new way of prescribing the “family tree” homework for his students. This traditional exercise in strengthening research skills—when paired with Mapestry—also promotes media literacy, which is of growing importance as part of a child’s skill set.

Prototyping & Product Development

Based on our findings from competitor analysis, research, and conversations with experts, we decided to develop a suite of integrated mobile (phone, tablet) and web applications that would serve the needs of both interviewer and interviewee. Designing for three separate platforms required that we delineate the scope of each tool while ensuring an integrated experience. The design and development decisions of our application were based on the research we had conducted. We wanted each tool to be best suited for its specific task and to complement each other while minimizing redundancy.

Goals & Criteria

Our research findings informed the goals and criteria for our project. Making oral history, especially family storytelling, more accessible to ordinary individuals was our primary goal. To achieve this we focused on creating a cohesive, user-friendly suite of tools that would integrate accessibility, privacy, storytelling, multimedia (including audio, video, photos, text, maps), and control of one's own content.

Visually, the mobile and web applications needed a unifying look and feel to emphasize that they were part of a system. We developed a common design vocabulary as a way of bringing together the interactions users would experience across various contexts. We chose a unifying Flat UI theme for visual design and arrived at a simplified approach to user interactions that places emphasis on accomplishing tasks through continuity of design elements.

Early on in our process, we identified one of the issues we wanted to address: the difficulty of initiating or carrying on an intimate conversation. To this end, we used maps as a way of diffusing tension by shifting the focus to a more objective medium. Maps proved a successful aid in gathering stories, and we proceeded to use maps as a method of grounding and contextualizing the narrative. We found that the geographical journey plays a large role in family history especially in the US, with its rich culture of immigration.

Iterative, User-Focused Design Process

Following our intense initial phase of research and competitor analysis, we started prototyping and user testing in three phases, following an iterative, user focused design process.

1. Paper prototypes were our starting point, followed by click-through prototypes. The feedback we received helped us refine our design, creating high-fidelity visual mockups using InDesign and Illustrator.
2. A second round of user testing was conducted before those insights were used to tackle an interactive web-hosted prototype.
3. The third round of user testing focused on the web layout and fleshed out the details of user interactions flows. Our mobile recorder app remains in its high-fidelity prototype format.

Designing for Mobile Devices – Recorder App

Tablet devices afforded us the ability to develop an application that would facilitate non-invasive, one-to-one conversations in intimate settings. The application was designed to facilitate a scaled-down and portable recording experience for personal recording interactions. The lightweight smartphone application afforded a more spontaneous experience for more informal interviews. Based on our research which suggested that the best recording experiences require passive, non-invasive tools, we scoped our recording applications narrowly. Access to mobile device video cameras was excluded but allowing access to the photo camera for the tablet remained for the intention of documenting artifacts, such as photographs, letters, and historical documents.

We intentionally avoided advanced features such as sound editing and audio effects. The market already offers low cost editing tools with such features. Our goal was not to emphasize technology, but to facilitate conversations with the aid of technology.



Example mobile recording apps
(top, from left): *USB Recorder*, *Voice Pro*
(bottom, from left): *Field Recorder*, *iRig*

For the design of the tablet interface, we elected to integrate several key takeaways from our interview with Erica Mu. Interviewers often resort to creating a new audio file for each line of questioning, which then needs to be stitched together in post-production. Our bookmark feature inserts a generic metadata tag into the audio file at the selected location. Upon later review, the interviewer can edit the metadata to be more specific. To further reduce the cognitive load on a user conducting an interview, she may segment the audio based on selected topics within a single file.

We also allow for a more robust experience within the tablet by integrating maps and multimedia. These are supplementary features that users may introduce to the conversation as guides or cues.

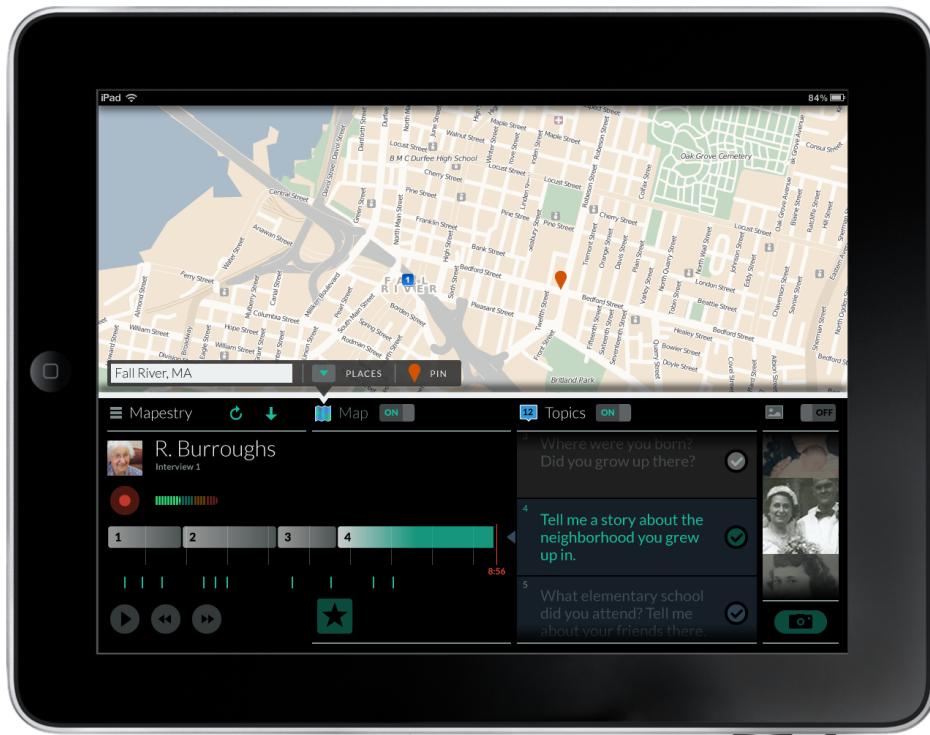
Building the tablet application was a three-step approach. We began with paper prototypes and sketches. Seeing the prototype in rough physical form allowed us to present the user interface as two separate parts—the recorder and the map. These features were key to allowing either the interviewer or interviewee to direct the conversation.

The wireframing process was designed with an accessible use case in mind—an interview with Ryan’s grandmother. Following an iterative process led to many design decisions that were driven by our desire to focus on acquiring narratives with minimal intrusion and distraction. We reduced the number of buttons, removed the sound wave representation, and removed a structured line of question topics, which conflicted with the natural flexibility that a conversation usually follows. Instead, we introduced passive question suggestions that the user could select in any order.

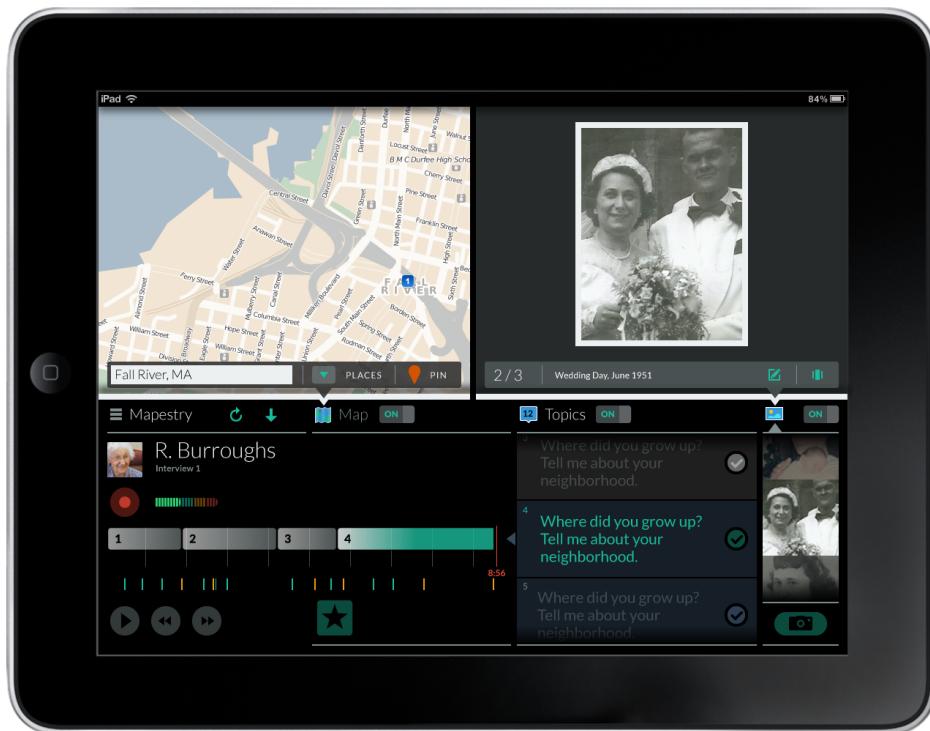
Finally the team reviewed the high-fidelity prototype, leading to further refinement of features. Once this was completed we ensured the tablet application used the same vocabulary, definitions, and taxonomy based on the set that we established for the suite of tools as a whole. (See Appendix for more screenshots.)



Final Prototype – Tablet App (*interview screen – question prompts and bookmark button*)



Final Prototype – Tablet App (*map view enabled*)



Final Prototype – Tablet App (*map view + photo view enabled*)

Our approach to designing the smartphone application was to take the essential features of the tablet application—recording and bookmarking—and utilize them in a simple-to-use, one-touch form factor. Due to our desire to both streamline the application, to reduce confusion and to enhance one-touch ease of use, we elected to not carry over many of the multimedia features in the tablet. Many experts required a tool for simple note-taking and on-the-fly spontaneous recording. Individual users could also benefit from such features that they could have on hand at all times due the ubiquitous nature of smartphones. We envisioned the smartphone application being used for follow up or quick complementary interviews, as well as audio playback and review in unconventional locations.

Our user testing influenced many small but not insignificant design decisions, such as button placement, reduction or inclusion of textual cues and making media more visually distinct. We specifically noticed how users interacted with bookmarks and redesigned them to be more fluid and easy to use during the review process.





Final Prototype – Smartphone App

Designing for the Desktop – Web Platform

Much like the mobile devices, the development of the **desktop application** started with paper concepts and wireframing. Initially, we made sketches on paper and whiteboards as a way to quickly visualize our ideas to determine our key functionalities. At this stage, the iterations were much more akin to visual notes than actual prototypes. We quickly moved into wireframing in InDesign, chosen for being a lighter and faster program to use than Illustrator, and getting feedback discussions going in regards to the direction of the app's functionality. These went through many variations that often did not look dramatically different from previous versions in terms of layout. However, each version made adjustments to the user experience and narrative flow of the application and got us

closer to defining how we wanted users to interact with the application. (See Appendix for wireframes 1-4.)

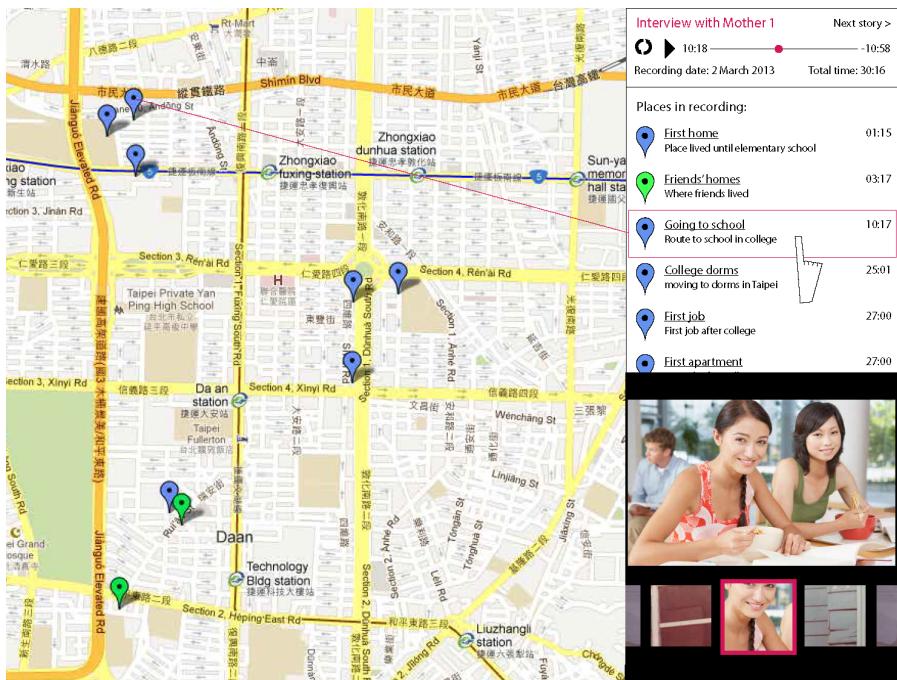
When we had reached a version of the application that satisfied our requirements in terms of high-level user experience, we began working out the details in the interaction design. Whereas the wireframes provided an overarching view of how the application would look and work, programming the prototypes helped us think through the actual interactions which would take users from A to B.

Throughout the entire design process, user testing, team brainstorming, and advisor feedback played a large role in determining the direction of the app. At each major point in the design process we conducted user testing. Our most valuable user testing session was during New Admit Day at the School of Information. We tested two versions of our early prototypes with about 10 prospective students, who expressed interest in recording family histories. We conducted “think-aloud” user testing, asking them to talk through their thought process while interacting with our Balsamiq prototypes. We also conducted two consequent user tests, which further refined our layout and taxonomy. User feedback gave us an idea of how better to structure our administrative portions of the web application, such as creating a story, converting bookmarks to pins, and explaining our taxonomy.

▼ Interview with Mother (00:01:25)

<p>Interview with Mother</p> <ul style="list-style-type: none"> Talking about potatoes Mom talking about Grandma Mom talking about Dad College In Taoyuan In Taipei <p><i>(all part of red interview and different time stamps/sections)</i></p>	<p>A red box highlights the 'In Taipei' section of the sidebar. Another red box points to the 'Taipei Train' location on the map with the note: 'assumes clicking here plays clip; else click everywhere!'. A third red box points to the 'more photos >' button with the note: 'associated with selected segment'.</p>
--	--

Prototype 1 – Web Platform (*photo view*)



Prototype 2 – Web Platform (*map view, on rollover*)

[INTERVIEW NAME]

Recorded: April 1, 2013
00:00/ 22:00
Mom X California X
Immigration X 1984 X

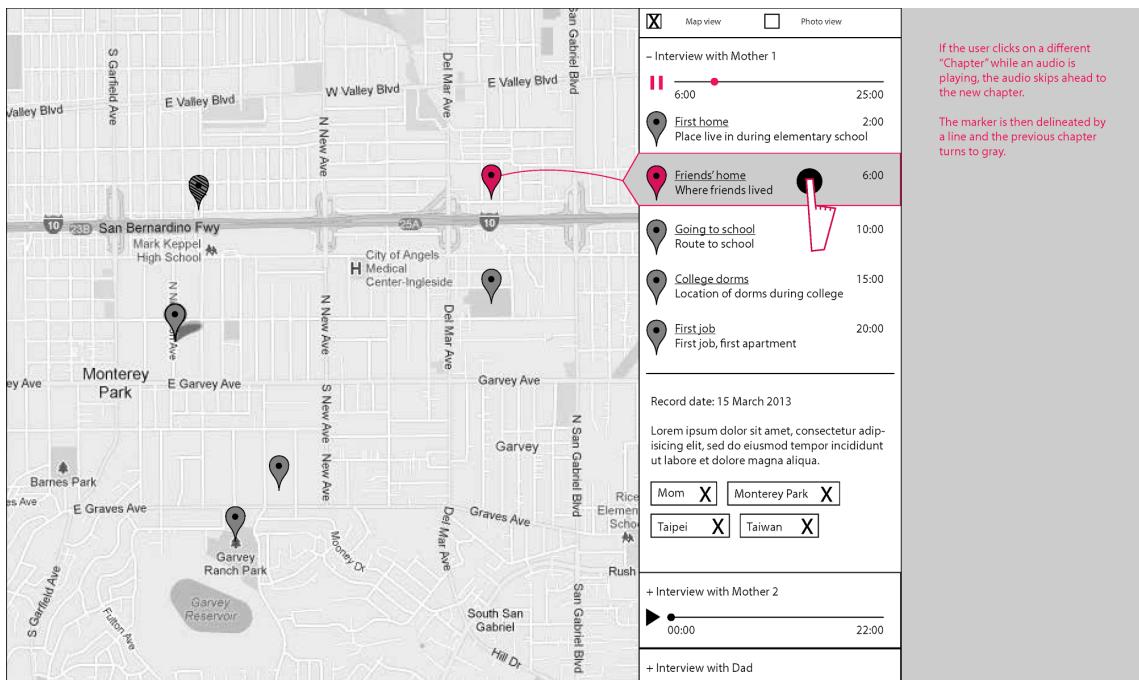
SHOW MORE

Map View (San Bernardino, CA)

Segment Name: [segment name]
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Photos & Videos

Prototype 3 – Web Platform (*map view, on photo rollover*)



Prototype 4 – Web Platform (*map view, on rollover*)

Maestry: Your Voice Matters

www.maestry.co/maestry.html

Ryan McAdam

Maestry Media Library Create a Story Projects Listen

Maternal Grandmother - Rose Burroughs

Grandma Rose Grandpa Wendell
Waterloo Fall River

Courtship & Marriage

Spiegels Where Rose met Wendell.
First Date The Paramount Theatre
Home Rose's Home

Corsage The flower store
The Proposal

Functional Prototype – Web Platform (*player, map view*)

UX Walkthrough & Taxonomy

The entire Mapestry ecosystem contains six phases.

The **Preparation** phase involves the interviewer researching the background on their topic and gathering relevant media or data needed to conduct an in-depth interview. This phase is where an interviewer could populate Mapestry with photos, video, notes, and map locations.

The **Recording** phase consists of the actual interview itself and results in an original recording we called the **raw version**. During this phase a recorded interview could contain a single question, lines of questioning, or general themes. These we called **topics**. Also during the recording phase the interviewer may timestamp any moment during the recording that they would like to come back to at a later point and explore. This technique is called **bookmarking**.

Once a raw version exists, we offer the interviewer two courses of action, the first being an option to edit the raw file, called **Editing the Original**. During this phase the interviewer has the ability to review their bookmarks and attach geographical locations or some type of media to said bookmark. This process of adding media or locational information to a bookmark is called **Pinning** the bookmark.

The second course of action an interviewer may take with the raw file is to select or combine excerpts to **Create a Story**. We define **excerpts** as audio cuts of a raw file made to highlight or isolate content. A collection of these interesting excerpts we define as a **story**. We encouraged these stories to consist of a single theme, idea, or line of questioning. During this **Authoring** phase an interviewer may also convert bookmarks to **pins**, or add **tags** to excerpts, stories, or pins.

An author also has the option of creating a **Project**. This phase is the last part of the series of steps which begins with collecting excerpts into stories, followed by compiling the stories. These stories are gathered together into Projects. Collaborators may also be brought in to contribute to a user's Project.

Finally the **Playback** is the visualization of a Project the user has created. The Playback section is the finalization of a Project, and while private by default, is where a user may share their finished Project with an audience as selective or as broad as she chooses.

Design Challenges

The Vocabulary Problem

We realized the need to establish a standardized vocabulary for the main features and functions in our digital ecosystem. The taxonomy introduced above in the UX walkthrough is the result of that work. However, we chose a different solution for our tagging system.

In order to allow quick access to stories, segments, and excerpts we implement a tagging system. Unfortunately all tagging systems inherently bring issues of ambiguity, spelling, definitions, synonyms, semantics, and languages. We debated how to deal with this issue and considered creating a pre-defined controlled vocabulary. We quickly realized that a pre-defined controlled vocabulary was not the way to go because it was next to impossible to capture the nuances of the unique and personal content that our users would want to tag. Ultimately we decided the best way to implement a tagging system was to keep the tagging and searching functionality unique to and confined to each user. By enforcing this restriction we eliminated ambiguity between users by allowing only a single authority to populate his own vocabulary and meanings.

While this restriction might initially seem to go against our objective of sharing, we believe that it only strengthened our intentions of facilitating interactions between individuals and families. Instead of depositing material and passively sharing, much like the Facebook or Flickr model, we intended for our product to promote and facilitate active sharing. A few generations ago families and friends would gather together to share physical photos and slideshows of vacations, weddings, and new babies. Our product can act as a tool to bring families and friends together again and interact in person while sharing their cherished memories.

Capturing a Moment in Time

Another challenge the group ran into was the fact that maps and locations inherently evolve and constantly change. Entire cities come and go, buildings are razed and new ones erected, new streets are built and old ones are paved over, names of locations change or sometimes are not even agreed upon. We approached this with understanding that we would design using current maps that represent only a slice in time. We did this for many reasons, chief among them being that the group agreed that if attempting to make semantic and design for evolving maps was a slippery slope. We did not believe developing a system of best practices for timeframes to use or developing a system of

governance for certain map versions was the main goal of this endeavor. We acknowledged that there would be stories involving physical locations that no longer existed or were renamed.

Excerpting, Not Editing

A contentious design decision that the group made was to forego all but the simplest editing sound editing options. We decided to take this path for two main reasons, the most important one being that based on our research from our competitive analysis we determined that there existed a glut of very good post-recording editing tools readily available. There tools are often freely available, user friendly, and target users of varying skill level. We felt that not only would introducing editing tools be a duplicative effort, but also that sound editing was not our focus. From the personas we came up with we believed sound editing was ancillary to their main concerns, which were getting meaningful content and preserving it in an easy to use and friendly format. The limited editor we built focuses on creating excerpts of an interview and applying geographic and media objects to the audio stream, thereby creating a story builder for our application, than an audio editor.

Future Plans

The group is currently exploring opportunities to partner with established entities that could leverage our product and experience. One potential partner is another I School endeavor, Local Ground.

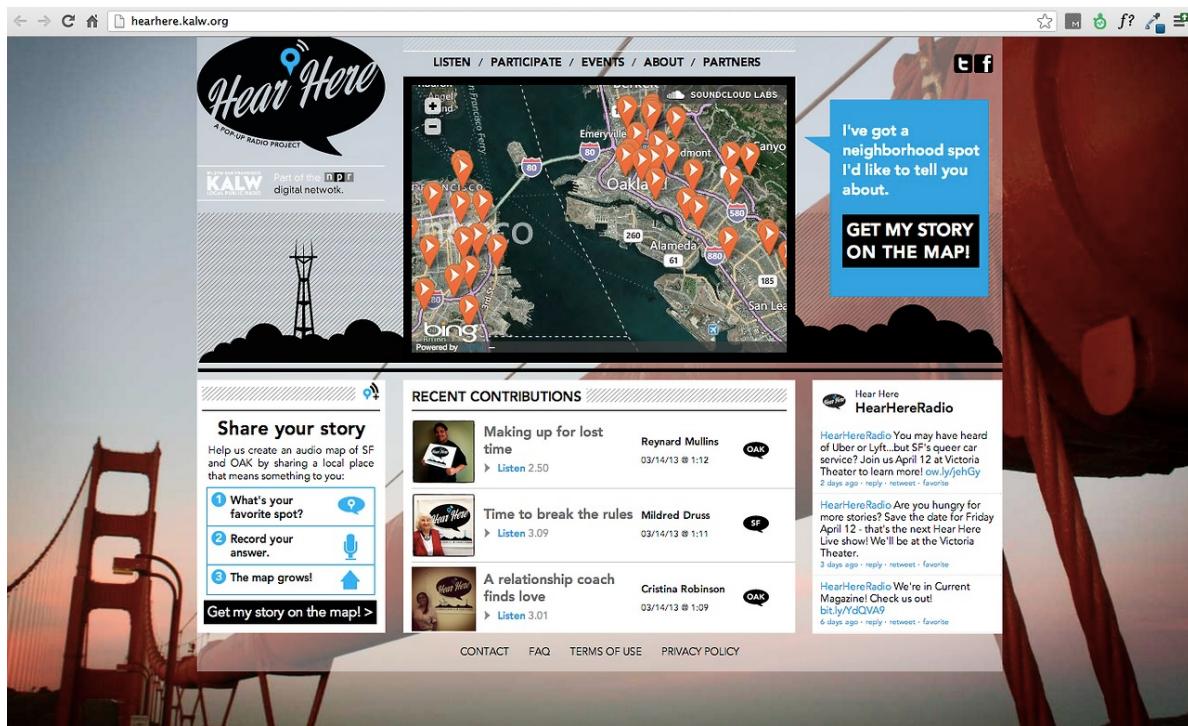
In phase two of Mapestry, we would focus on completing a fully functional website and mobile app. After that, we would enhance the web features, including targeting public groups and institutions that would like to use Mapestry for crowd-sourced oral history projects.

Appendix A

Competitor Analysis Summaries

Hear Here

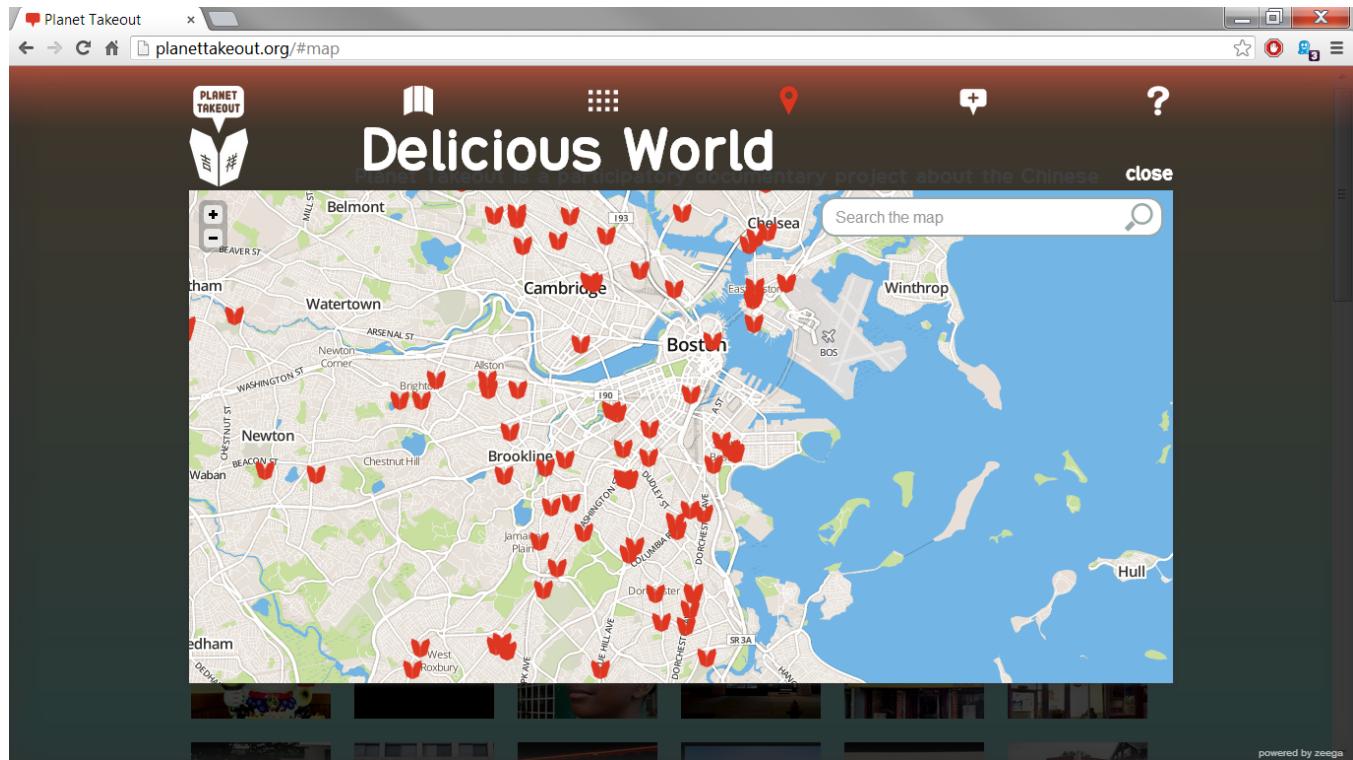
<http://hearhere.kalw.org/>



Hear Here is a radio program on KALW, an NPR station. It focuses on providing local, place-based stories from communities in San Francisco and Oakland. In addition, Hear Here's website hosts a map of official Hear Here audio stories and user submitted stories about particular locations. The map itself is only used as a selection tool, geocoding a single location which is a story's primary location. User's may select a story on the map, an info window opens, and the audio starts playing. The map is quite an important element as it is the only way to access all the media on Hear Here's website. Yet, as can be seen in the screenshots, the map only occupies one-quarter of the screen real estate. There is no way to expand the map, so users are limited to the small access window. Moreover, only a single location can be chosen for a particular story and users may only upload a single photo as media support. In terms of the audio stories themselves, the stories are submitted via SoundCloud and no editing support is offered on Hear Here. Also, there are no best practices presented for recording the stories; during our interview with the creator of Hear Here, she indicated that this was quite a problem and led to a number of sub-par audio recording and narratives.

Planet Takeout

<http://planettakeout.org/#map>



Planet Takeout, a WGBH offshoot, is a collection of multimedia, including audio, images, and video, exploring the world and cultures around Chinese takeout. It provides three ways of accessing their collected content--a map which geocodes the location of each takeout joint, a gallery which organizes a single thumbnail of each takeout joint into a grid, and a “menu”, which thematically organizes each story along a single facet. The map itself is barebones; clicking on a pin only opens a teaser thumbnail. Interestingly, there are pins located all across the US, Canada, and Europe, but the map loads centered and zoomed in Boston, MA, and there is no cue to zoom out and explore outside the area. Clicking on a collection, via the map, or gallery, takes the user to another context where the story “plays”. Backtracking requires accessing the main navigation and going back to the page the user was on and starting again.

The Making Of

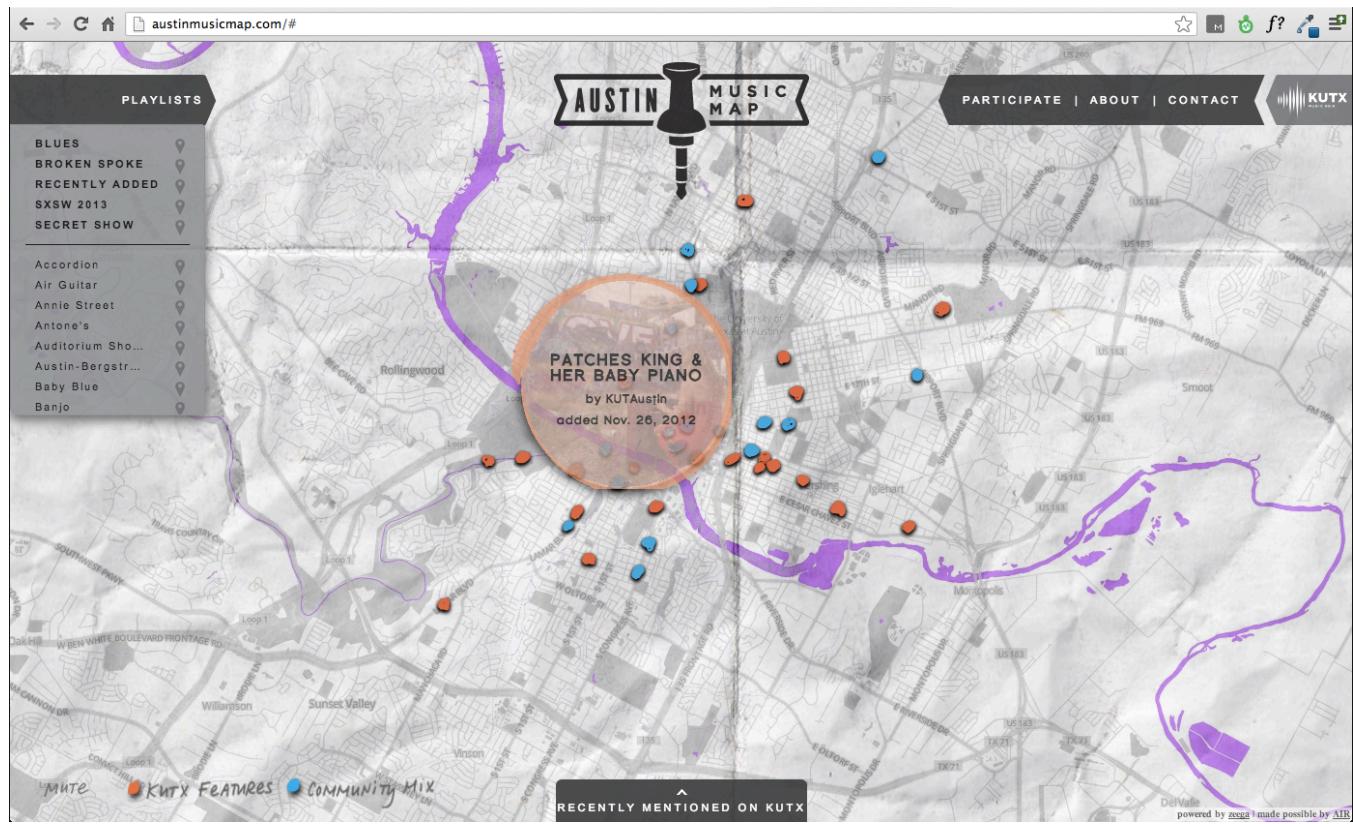
<http://blogs.kqed.org/makingof/>

The screenshot shows the homepage of 'The Making Of' website. At the top, there's a navigation bar with links for HOME, STORIES, STUDIO, SUBMIT, and ABOUT. To the right of the navigation are social media icons for RSS, Facebook, and Twitter, followed by a search bar and a 'GO' button. The main title 'THE MAKING OF...' is prominently displayed in red text. Below the title, there's a subtitle 'THE BAY BRIDGE A SURFBOARD ETC.' and a map of Berkeley, California. The map highlights streets like University Avenue, Shattuck Avenue, and MLK Way, along with landmarks like the University of California Berkeley and the Berkeley Public Library. Below the map, there's a grid of nine thumbnail images representing different stories. To the right of the thumbnails is a text block: 'A new community story project from The Kitchen Sisters, KQED Public Radio, AIR, and Zeega. What people make in the Bay Area and why.'

The Making Of is a Kitchen Sisters-KQED project where users submit audio stories around creating things. These are geolocated on a tiny Google Map. Selecting a story based on the map is limited, to say the least. Many of their stories are not geocoded, so the map is almost an afterthought.

Austin Music Map

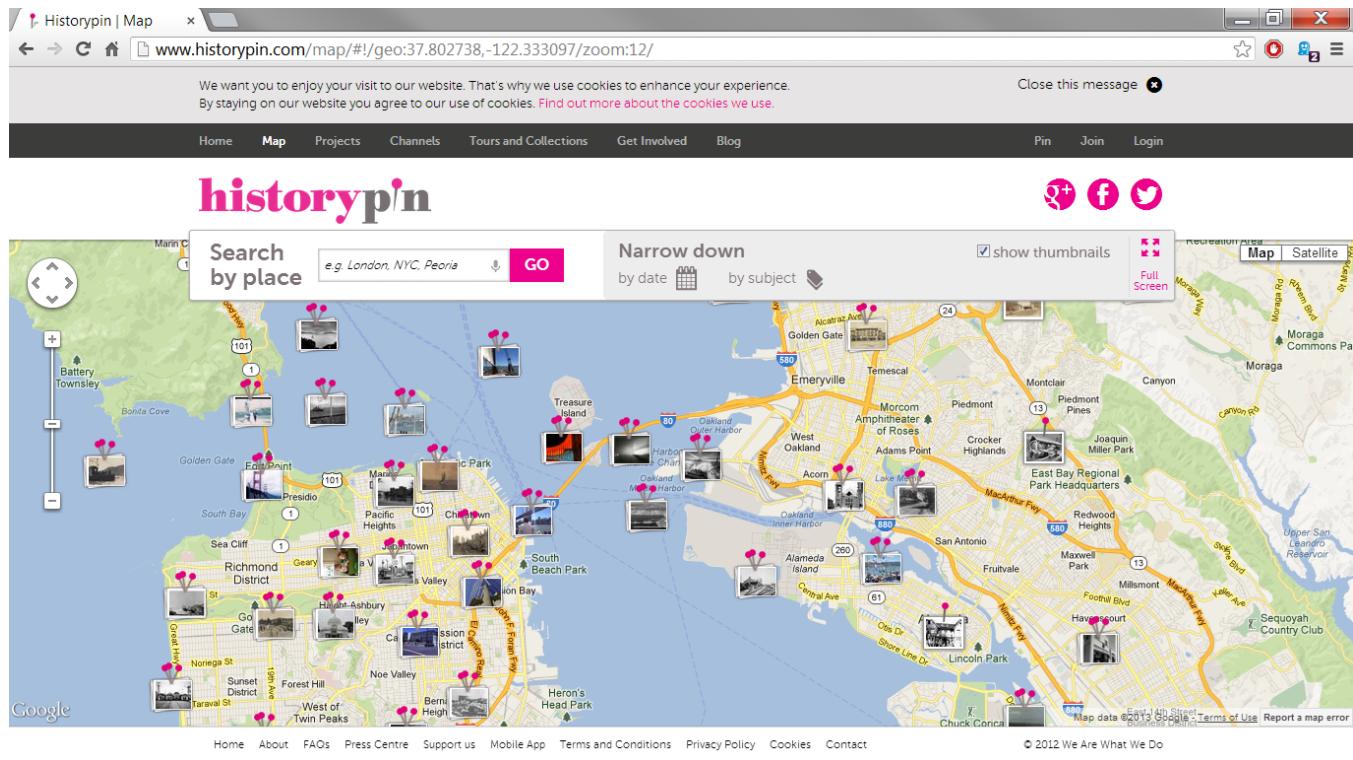
<http://austinmusicmap.com/>



The Austin Music Map maps out radio station KUTX and “community mix” audio-video stories centered around music. The map is the main interaction element, mapping out the location each story takes place. Playing the story occurs on another page. Unlike most other maps, selecting a story on the map provides a nice transitional experience linking the map experience to the player experience despite the fact that they occur in completely separate experiences. However, transitioning back to the map from the story page is a slow and arguably unappealing process.

Historypin

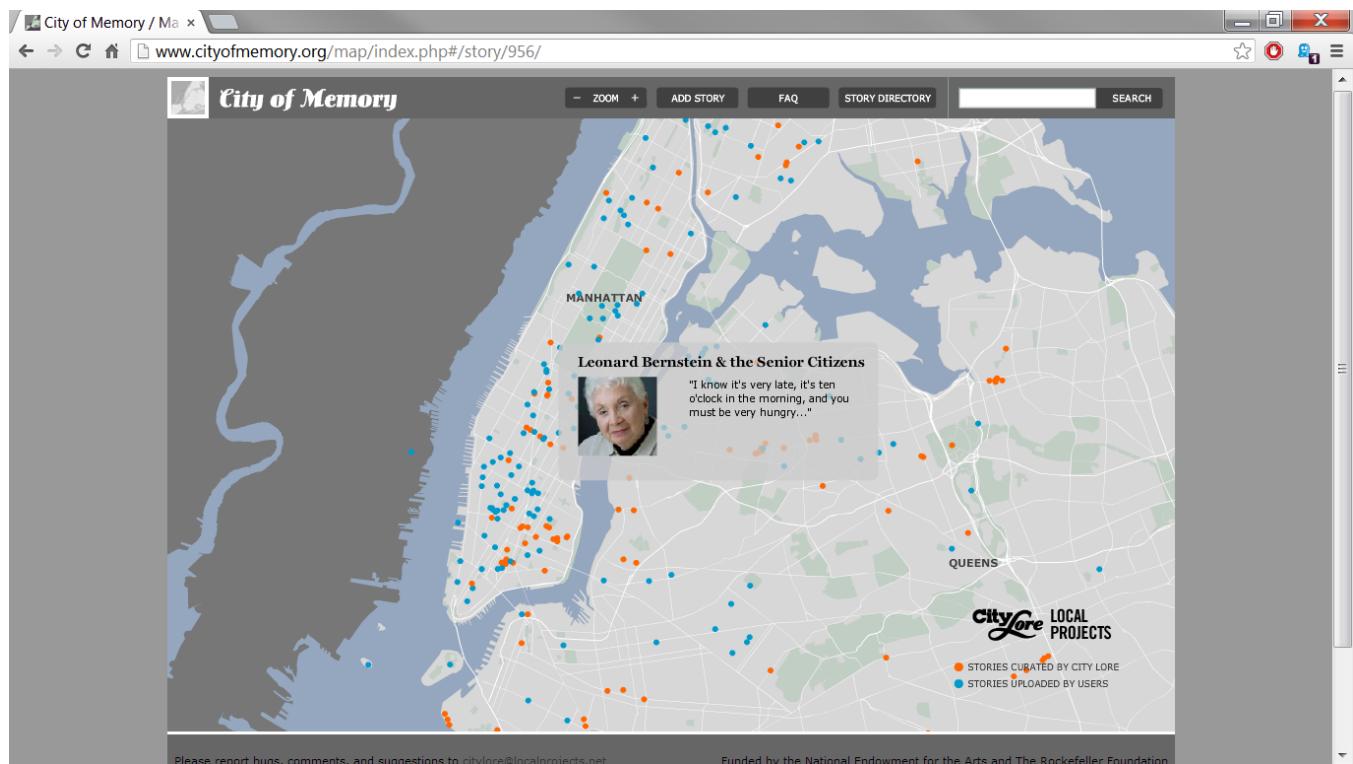
<http://www.historypin.com/>



Historypin is a website that utilizes user-generated content including historical photos, videos, audio recordings and personal recollections in an archival attempt. Users specify the location and date of their uploaded content to "pin" to Google Maps. In Google Street View mode, users can add their own contemporary or historical photographs and compare them with other users and with archival media.

City of Memory

<http://www.cityofmemory.org>



City of Memory is an online community map of personal stories and memories, organized on a map of New York City. City of Memory is a public, collaborative project, and all entries are reviewed and curated. It links stories and memories in a place-based way that transcends chronology.

Findery

<https://findery.com/>

The screenshot shows a web browser window for 'South Hall, UC Berke' at <https://findery.com/Kristi/notes/south-hall-uc-berkeley>. The interface includes a top navigation bar with 'Big Map', 'Search Findery', 'Sign in', and 'Sign Up!'. Below the search bar is a map of the San Francisco Bay Area with a callout bubble showing three small photos. The main content area features a large photo of South Hall, UC Berkeley, with the caption 'South Hall - home of the UC Berkeley School of Information'. A note from 'Kristi' dated October 15, 2012, is visible on the right. The bottom right corner of the page has a 'Map data ©2013 Google - Terms of Use Report a map error' link.

Findery aims to be a place where users can discover, or rediscover, the world around them. It allows users to find and leave notes about their surroundings for both public and private consumption. It provides a place where you can store your memories about certain locations. However, there is no real way to weave together a narrative; one can leave notes, but not take users through a connected story.

MeoGraph

<http://www.meograph.com/>



Meograph is a tool which allows users to create, watch, and share interactive stories. It allows the user to combine maps, timeline, links, and multimedia to tell stories. Essentially, it is a Google map with media overlay (YouTube, photos, narration, or links) allowing the user to link when/where/what moments and include media to add color. Meograph gets around locational or temporal ambiguity by allowing a user to progressively get more specific (e.g., Where=Berkeley and Place=iSchool). In Meograph, the media is the star, not the map; the map is literally in the background as a narrative device.

Ancestry

<http://www.ancestry.com>

The screenshot shows the homepage of Ancestry.com. At the top, there's a navigation bar with links for Home, Family Trees, Search, DNA, Collaborate, Learning Center, Publish, Shop, Hire An Expert, and a 'Gifts for Mom' button. There are also 'Sign In', 'Subscribe', and 'Get Help' buttons. Below the navigation is a search bar with fields for 'First & Middle Name(s)' and 'Last Name', and a dropdown for 'Name a place your ancestor might have lived'. There are also buttons for 'Estimated birth year', 'Calculate it', '+ Add life events (birth, marriage, death, and more)', '+ Add family members (mother, father, spouse, siblings, children)', 'Search', 'Show Advanced', 'Clear Form', and 'Help'. To the right of the search area is a 'Special Collections' sidebar with sections for 'Historical Records', 'Census & Voter Lists', 'Immigration & Travel', 'Schools, Directories & Church Histories', 'Tax, Criminal, Land & Wills', and 'Reference, Dictionaries & Almanacs'. The main content area features a map of the United States where each state is labeled with its name. Below the map is a grid of state names: Alabama, Alaska, Florida, Louisiana, Nebraska, Oklahoma, Vermont; Georgia, Maine, Nevada, Oregon, Pennsylvania, Virginia; Arizona, Hawaii, Maryland, New Hampshire, New Jersey, Rhode Island, West Virginia; Arkansas, Idaho, Massachusetts, New Mexico, South Carolina, Wisconsin; California, Illinois, Michigan, New York, South Dakota, Wyoming; Colorado, Indiana, Minnesota, North Carolina, Tennessee, USA; Connecticut, Iowa, Mississippi, North Dakota, Texas; Delaware, Kansas, Missouri, Ohio, Utah; District of Columbia, Kentucky, Montana.

Ancestry.com is the big player among the genealogy sites. It specializes in family trees and historical records—facts and data, not the stories we were hoping to share. It's very dense and data-driven—for example, Census records and marriage licenses.

1000memories

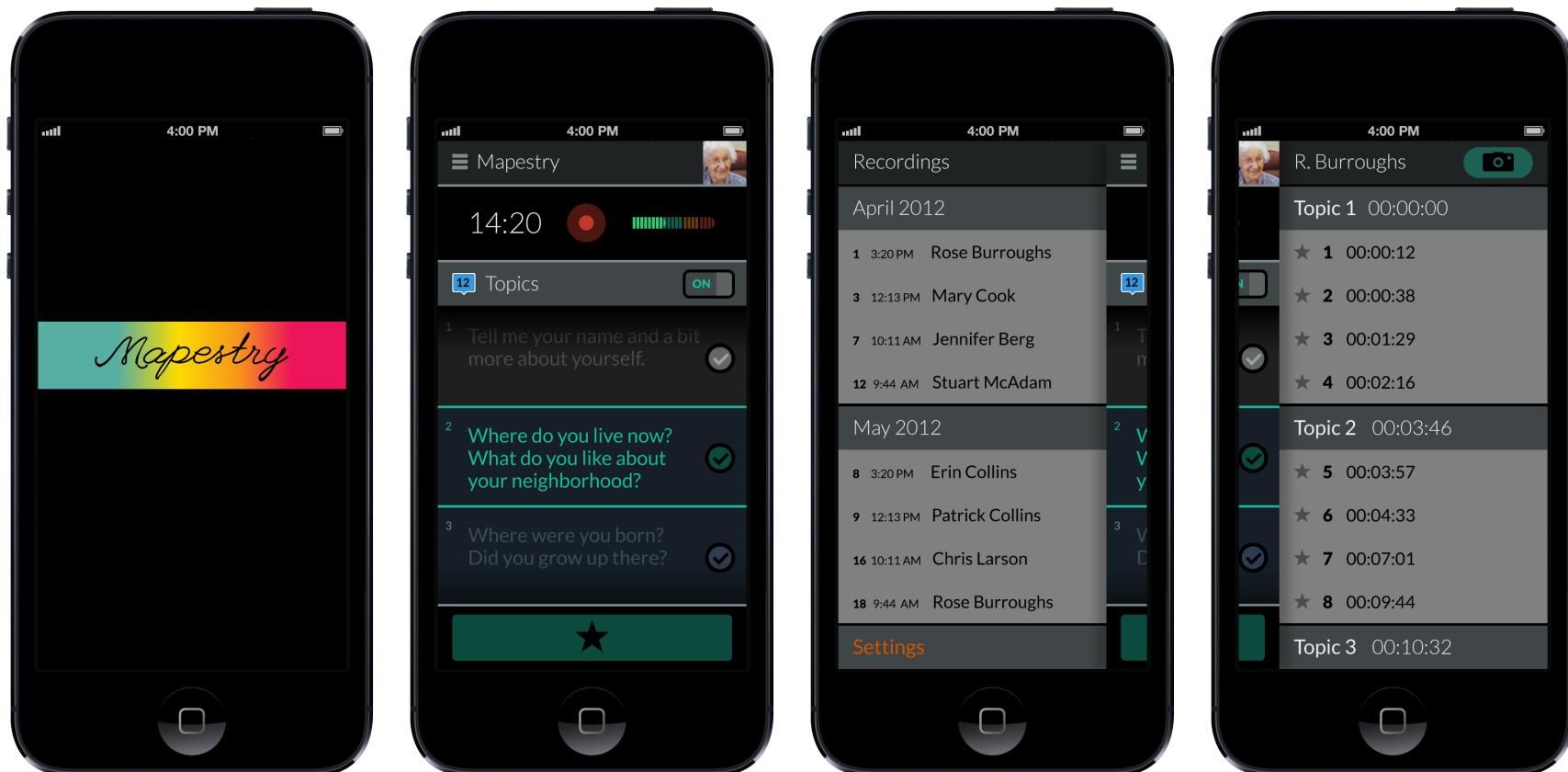
<http://www.1000memories.com>

The screenshot shows a web browser window with the title bar "McDougal Family History" and the URL "1000memories.com/shoeboxes/312-mcdougal-family-history?h=fc4960". The page header includes the "1000memories" logo, navigation links for "About", "Login", and "Register", and a "Join this shoebox" button. Below the header is a section with three small profile icons. The main content area is titled "McDougal Family History" and displays a grid of 12 thumbnail images representing various family photos and documents. The images include group portraits, individual portraits, a landscape photo, and a couple's photo. A dropdown menu "Sort by: Rearranged" is visible above the grid.

Owned and operated by Ancestry.com, 1000memories, specializes in old family photos. It provides tools and services to assist with scanning old family photos and organizing them online.

Appendix B

Final Prototype – Smartphone App

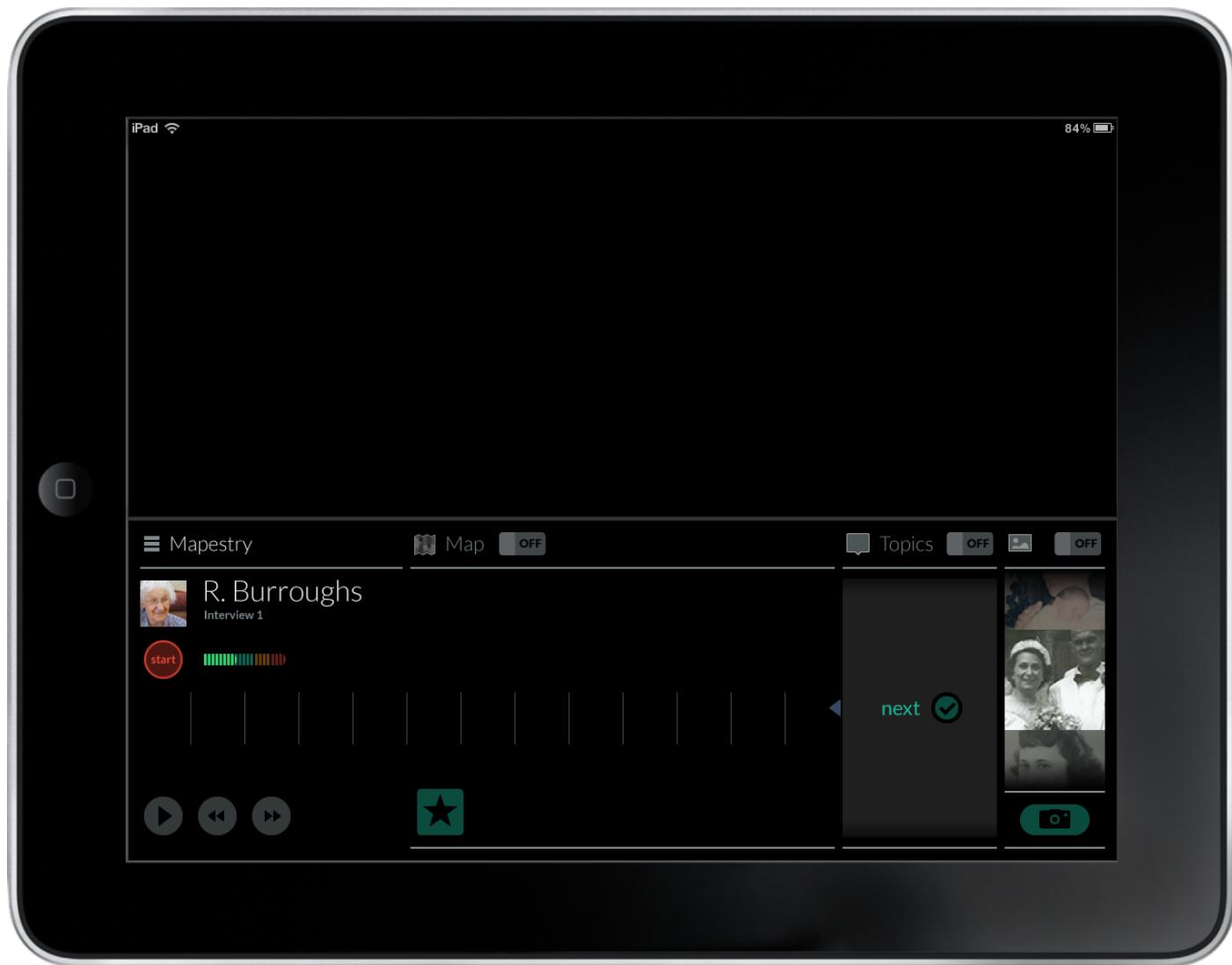


Final Prototype – Smartphone App

Final Prototype – Tablet App



Final Prototype – Tablet App (*loading screen*)



Final Prototype – Tablet App (*interview screen – ready to start*)



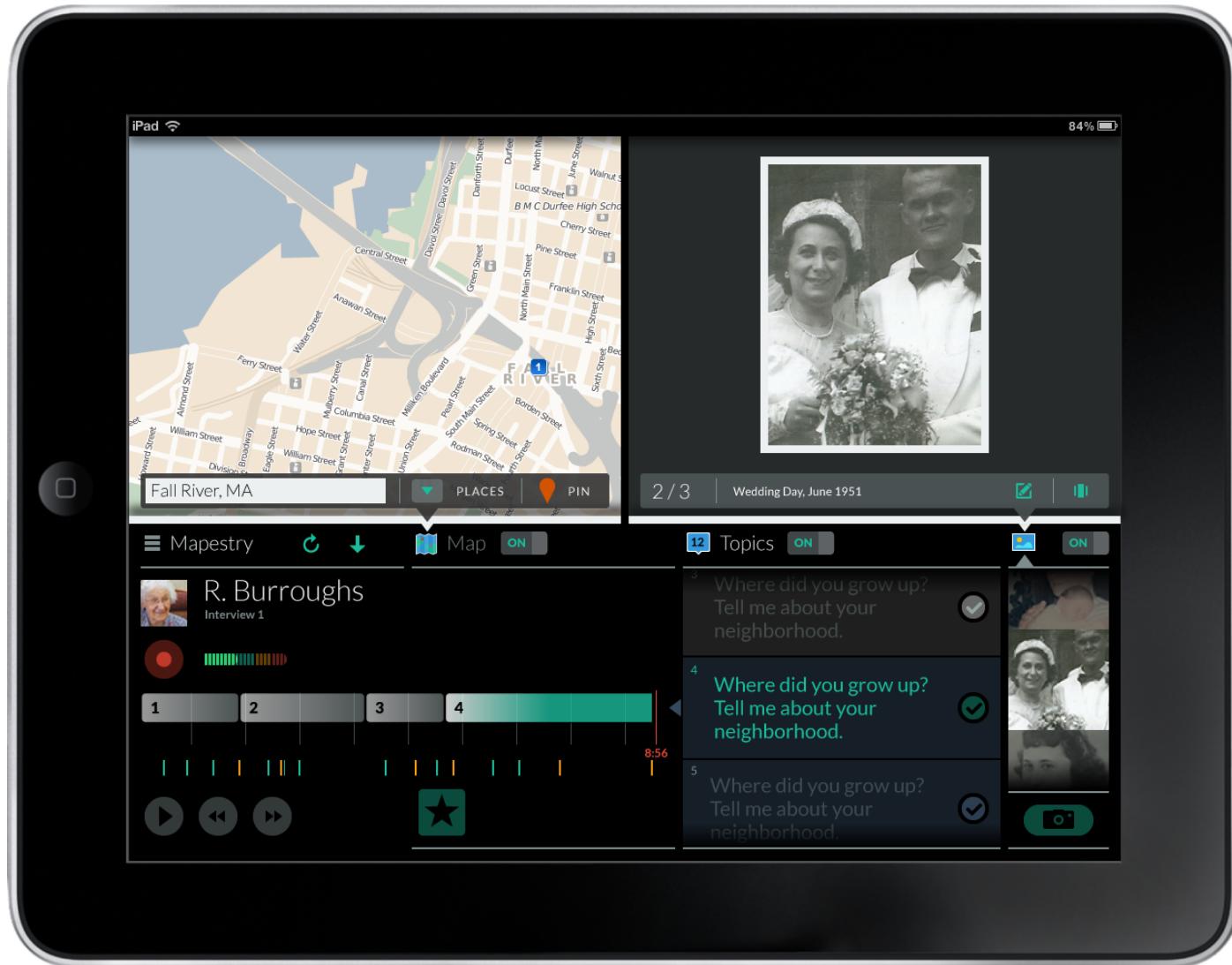
Final Prototype – Tablet App (*interview screen – question prompts and bookmark button*)



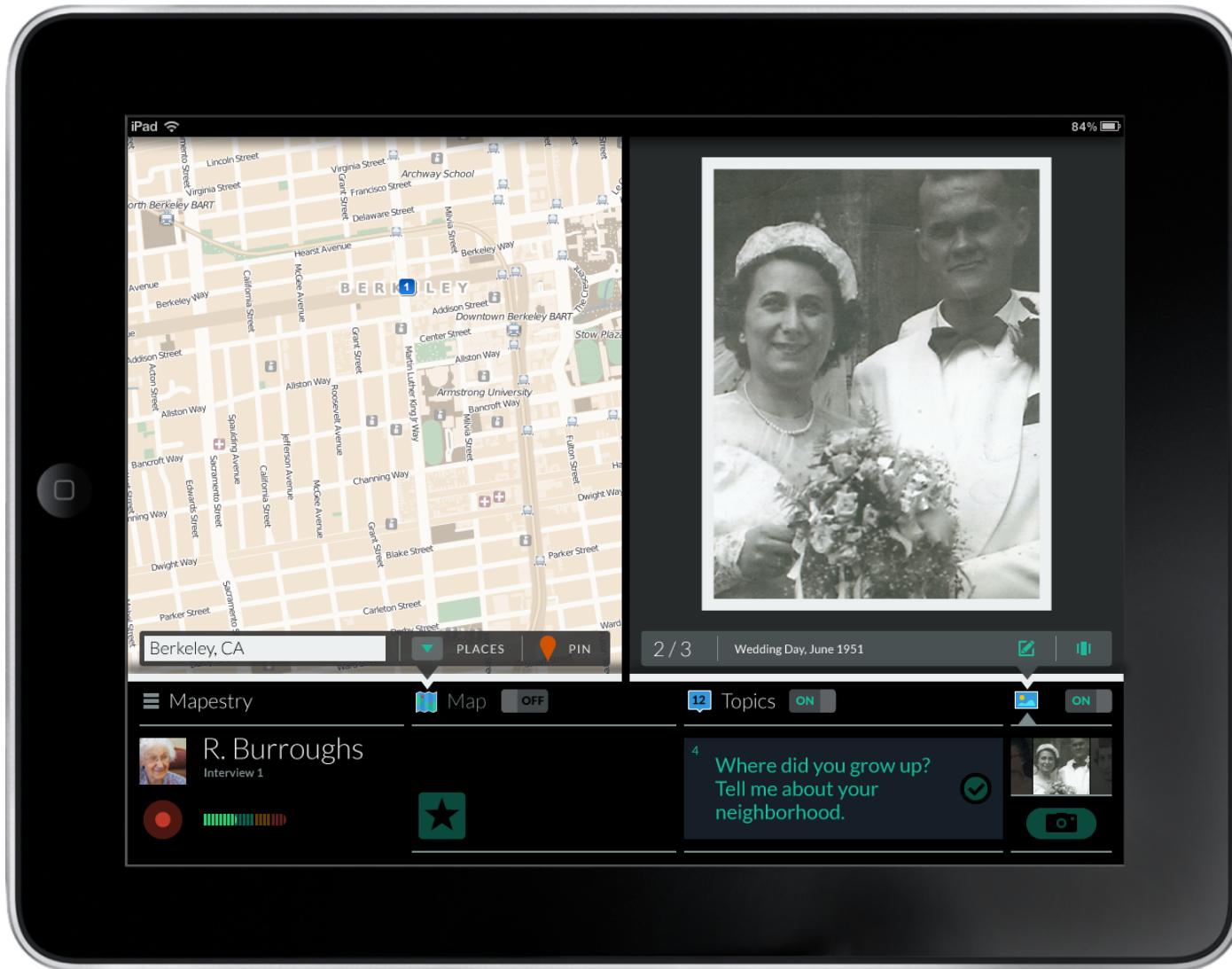
Final Prototype – Tablet App (*interview screens – with cover hiding the map portion*)



Final Prototype – Tablet App (*map view enabled*)



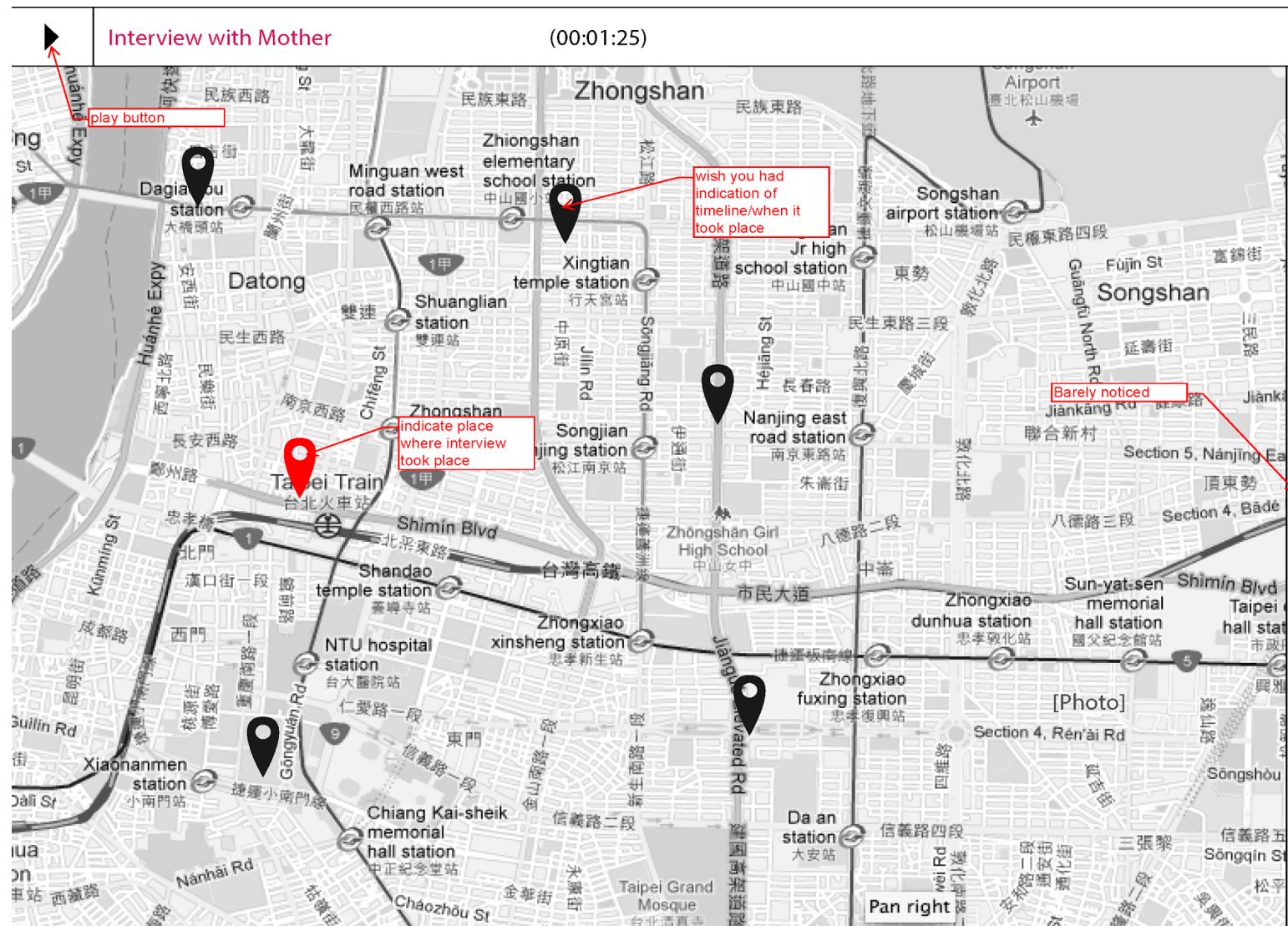
Final Prototype – Tablet App (*map view + photo view enabled*)



Final Prototype – Tablet App (*map view + photo view enabled; recorder minimized*)

Wireframes – Web Platform

Prototype 1 – Web Platform



Prototype 1 – Web Platform (Map View)

▼ Interview with Mother (00:01:25)

Interview with Mother	
Talking about potatoes	[Photo]
Mom talking about Grandma	[Photo]
Mom talking about Dad	[Photo]
College	[Photo]
In Taoyuan	[Photo]
In Taipei	[Photo]

The map shows the following locations with red markers:

- Top Center:** Ming road station (中山國小站), Zhongshan temple station (行天宮站), Xingtian temple station (行天宮站), Zhongshan Jr high school station (中山國中站).
- Bottom Left:** Taipei Train (台北火車站), Shuanglian station (雙連站), Zhongshan station (中山站), Nanjing station (松江南京站), Shandao temple station (臺禪寺站), NTU hospital station (台大醫院站), Chiang Kai-shek memorial hall station (中正紀念堂站), Gōngyuán Rd (公園路), Xiaonanmen station (小南門站), and Cháozhōu St (潮州街).

Annotations on the map:

- A red box around the top center area with the text: "assumes clicking here plays clip; else click everywhere!"
- A red box around the bottom left area with the text: "all part of red interview and different time stamps/sections"
- A red arrow points from the "In Taipei" table entry to the bottom left red marker.
- A red box labeled "associated with selected segment" points to the bottom right [Photo] box.
- A red box labeled "[Photo]" is placed over the bottom right [Photo] box.

Prototype 1 – Web Platform (Photo View)

Prototype 2 – Web Platform

Interview with Mother 1 Next story >

1:18 -19:58
Recording date: 2 March 2013 Total time: 30:16

Places in recording:

- First home** Place lived until elementary school 01:15
- Friends' homes** Where friends lived 03:17
- Going to school** Route to school in college 10:17
- College dorms** moving to dorms in Taipei 25:01
- First job** First job after college 27:00
- First apartment** 27:00

Photo: Two young women smiling at a table.

Prototype 2 – Web Platform (Map View)

Interview with Mother 1 [Next story >](#)

10:18 ————— 10:58
 Recording date: 2 March 2013 Total time: 30:16

Places in recording:

- First home** Place lived until elementary school 01:15
- Friends' homes** Where friends lived 03:17
- Going to school** Route to school in college 10:17
- College dorms** moving to dorms in Taipei 25:01
- First job** First job after college 27:00
- First apartment** 27:00

Prototype 2 – Web Platform (Map View, on rollover)

Interview with Mother 2 [Next story >](#)

00:00 -30:58
Recording date: 12 March 2013 Total time: 30:16

Places in recording:

- [Moving to the US](#) 01:15
Place lived until elementary school
- [Monterey Park home](#) 03:17
Where we first lived
- [Going to school](#) 10:17
Nan and Jack's first school
- [Monterey Park Library](#) 25:01
Where we often went






Prototype 2 – Web Platform (Map View)

Prototype 3 – Web Platform

[INTERVIEW NAME]

00:00 / 22:00

SHOW MORE

Recorded: April 1, 2013
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Mom X California X

Immigration X 1984 X

▶

The map displays a grid of streets in South San Gabriel and Whittier, California. Key features include the San Bernardino Fwy (I-10) running east-west, and State Rtes 23B, 10, 25A, 26A, and 26B running north-south. Notable landmarks include the City of Angels Medical Center-Ingleside, Jess Gonzales Sports Park, and Whittier Narrows Golf Course. Several parks are marked: Barnes Park, Garvey Ranch Park, and Garvey Reservoir. The interview locations are indicated by red and grey markers: one red marker is placed near the intersection of N New Ave and Del Mar Ave; two grey markers are placed near the intersection of S New Ave and New Ave, and another grey marker is placed near the intersection of Garvey Ave and N San Gabriel Blvd. A large grey shaded area covers the southern portion of the map, roughly bounded by the San Bernardino Fwy to the west, State Rte 19 to the east, and the Whittier Narrows Golf Course to the south.

+ Photos & Videos

Prototype 3 – Web Platform (Map View)

[INTERVIEW NAME]

00:00/ 22:00

[SHOW LESS](#)

Recorded: April 1, 2013
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Mom X California X
Immigration X 1984 X

00:00 [segment name]
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod.

03:00 [segment name]
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod.

05:00 [segment name]
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod.

10:00 [segment name]
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod.

15:00 [segment name]
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod.

20:00 [segment name]
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod.

[MORE](#)

+ Photos & Videos

Prototype 3 – Web Platform (Map View, details expanded)

[INTERVIEW NAME]

00:00 / 22:00

[SHOW MORE](#)

Recorded: April 1, 2013
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Mom X California X
Immigration X 1984 X

[segment name]
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod.

—Photos & Videos

< >

Prototype 3 – Web Platform (Map View, on photo rollover)

[INTERVIEW NAME]

00:00 / 22:00

[SHOW MORE](#)

Recorded: April 1, 2013
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Mom X California X
Immigration X 1984 X

[media name]
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

—Photos & Videos

< >

Prototype 3 – Web Platform (Map View, photo popup)

Prototype 4 – Web Platform

Map view Photo view

- Interview with Mother 1	
II 6:00	25:00
First home Place live in during elementary school	2:00
Friends' home Where friends lived	6:00
Going to school Route to school	10:00
College dorms Location of dorms during college	15:00
First job First job, first apartment	20:00

If the user clicks on a different "Chapter" while an audio is playing, the audio skips ahead to the new chapter.

The marker is then delineated by a line and the previous chapter turns to gray.

Record date: 15 March 2013

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Mom X	Monterey Park X
Taipei X	Taiwan X

+ Interview with Mother 2	
▶ 00:00	22:00
+ Interview with Dad	

Prototype 4 – Web Platform (Map View)

Map view
X
Photo view

- Interview with Mother 1

|| 6:00 25:00

📍 First home 2:00
Place live in during elementary school

📍 Friends'home 6:00
Where friends lived

📍 Going to school 10:00
Route to school

📍 College dorms 15:00
Location of dorms during college

📍 First job 20:00
First job, first apartment

Record date: 15 March 2013

Placeholder text: Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Mom X
Monterey Park X

Taipei X
Taiwan X

+ Interview with Mother 2

▶ 00:00 22:00

+ Interview with Dad






If the user wants to see photos that coincide with the audio they can toggle over to the photo view.

Prototype 4 – Web Platform (Photo View)



Date: circa 1978

Lore ipsum dolor sit amet, consectetur adipisciing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

[Hear about this photo](#)

Map view X Photo view

- Interview with Mother 1

|| 10:00 25:00

📍 First home 2:00
Place live in during elementary school

📍 Friends' home 6:00
Where friends lived

📍 Going to school 10:00
Route to school

📍 College dorms 15:00
Location of dorms during college

📍 First job 20:00
First job, first apartment

Record date: 15 March 2013

Lore ipsum dolor sit amet, consectetur adipisciing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Mom X Monterey Park X

Taipei X Taiwan X

+ Interview with Mother 2

▶ 00:00 22:00

+ Interview with Dad

When the user clicks ahead in the slideshow the thumbnail view moves the photo to the first position in the carousel.

Prototype 4 – Web Platform (Photo View, captions on rollover)

Functional Prototype – Web Platform

The screenshot shows a web browser window for the Maestry platform at www.maestry.co/admin.html. The interface has a green header bar with the Maestry logo, navigation links for Media Library, Create a Story, Projects, Listen, and a user account for Ryan McAdam. Below the header is a toolbar with filters for ALL FILES/RECENT UPLOADS, Audio (selected), Media, Locations, and Questions. There are also settings and add file buttons.

The main content area displays a list of audio files:

- Interview with Grandma Rose** (3 March 2013) - Private: First interview with Grandma Rose. Great stuff about her childhood. Used in projects: Maternal Grandmother - Rose Burroughs.
- Moving to Iowa** (28 MARCH 2013) - Shared: Grandma talking about her childhood. Used in projects: Maternal Grandmother - Rose Burroughs.
- Job History** (4 APRIL 2013) - Shared: Stories about her work. Used in projects: Maternal Grandmother - Rose Burroughs.
- Interview with Grandma Rose #2** (14 April 2013) - Private: A more organized interview with Grandma. Got the great story of how she met Grandpa!

Each item in the list includes a speaker icon, a download button, and a "Create New Story" button.

Functional Prototype – Web Platform (Media Library, Audio)

Mapestry: Your Voice Matters

www.mapestry.co/admin.html

Ryan McAdam

Media Library Create a Story Projects Listen

ALL FILES / RECENT UPLOADS

Audio Media Locations Questions

Add file

All Media Photos Only Videos Only

Grandma at 23
Photo of Grandma Rose DeBonis at age 23
3 March 2013
Used in stories:
• Courtship & Marriage
• Moving to Iowa

Private

Grandma and Baby Ryan
3 March 2013
Used in stories:
• None



Functional Prototype – Web Platform (Media Library, photos and videos)

Mapestry: Your Voice Matt X

www.mapestry.co/storyCreator.html

Ryan McAdam

Bookmarks Media Locations Add file

★ Camera Location

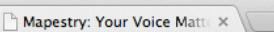
★ ★ ★ ★ ★ ★

0:00 1:20 3:20 5:10 6:00 6:40

Save

The screenshot shows the Mapestry Story Creator interface. At the top, there's a navigation bar with links for 'Media Library', 'Create a Story', 'Projects', and 'Listen'. On the right, it shows the user 'Ryan McAdam'. Below the navigation is a toolbar with 'Bookmarks' (star icon), 'Media' (camera icon), 'Locations' (location pin icon), and a green 'Add file' button. To the left of the main area is a sidebar with icons for camera, star, location, and other media types, followed by a list of six stars. The main workspace displays a timeline at the bottom with time markers at 0:00, 1:20, 3:20, 5:10, 6:00, and 6:40. Above the timeline, there are six large thumbnail images representing different video clips. Each clip has a small green location pin icon in the bottom-left corner. Below the thumbnails, there are three smaller, partially visible thumbnail images. The entire interface has a warm, orange-to-yellow gradient background.

Functional Prototype – Web Platform (Story Creator)

Mapestry: Your Voice Matt... 

www.mapestry.co/projects.html

Ryan McAdam

Projects

MATERNAL GRANDMOTHER - ROSE BURROUGHS

Stories: 3

- 1. Courtship & Marriage
- 2. Moving to Iowa
- 3. Job History

Total Photos: 10

[Preview](#)

Interview with Grandma Rose

 Moving to Iowa 28 MARCH 2013

Grandma talking about her childhood

PHOTOS & VIDEOS: 3

Used in projects:

- Maternal Grandmother - Rose Burroughs

[EDIT STORY](#)

 Job History 4 APRIL 2013

Stories about her work

PHOTOS & VIDEOS: 3

Used in projects:

- Maternal Grandmother - Rose Burroughs

[EDIT STORY](#)

Interview with Grandma Rose #2

 Courtship & Marriage 16 APRIL 2013

The story of how Grandma and Grandpa met

PHOTOS & VIDEOS: 4

Used in projects:

- Maternal Grandmother - Rose Burroughs

[EDIT STORY](#)

Functional Prototype – Web Platform (Project list)

Mapestry: Your Voice Matt... K

[www.mapestry.co/mapestry.html](#)

Mapestry Media Library Create a Story Projects Listen Ryan McAdam

Powered by [Leaflet](#) — Map data © Imagery [CloudMade](#)

Maternal Grandmother - Rose Burroughs

Grandma Rose **Grandpa Wendell**

Waterloo **Fall River**

Courtship & Marriage

1:39

- Spiegels
Where Rose met Wendell.
- First Date
The Paramount Theatre
- Home
Rose's Home
- Corsage
The flower store
- The Proposal

Functional Prototype – Web Platform (Player, map view)

Mapestry: Your Voice Matt... 

[www.mapestry.co/mapestry.html](#)

Mapestry Media Library Create a Story Projects Listen Ryan McAdam



Maternal Grandmother - Rose Burroughs

 	
TYPES OF PHOTOS	SLIDE SHOW
<input type="radio"/> Show All Photos	<input type="radio"/> Slideshow OFF
<input checked="" type="radio"/> Show Story Photos	<input checked="" type="radio"/> Slideshow ON

Grandma Rose **Grandpa Wendell**

Waterloo **Fall River**

Courtship & Marriage

1:50

-  Spiegels Where Rose met Wendell.
-  First Date The Paramount Theatre
-  Home People's Home

Functional Prototype – Web Platform (Player, photo view)

Works Cited

- "A New Shoebox for Your Old Photos." *1000memories*. N.p., n.d. Web. 2 February 2013.
- "Ancestry." *Ancestry.com*. N.p., n.d. Web. 12 February 2013.
- "Austin Music Map." *Austin Music Map*. N.p., n.d. Web. 2 February 2013.
- Brooks, Max. *World War Z: An Oral History of the Zombie War*. New York: Three Rivers, 2006.
- Butler, R.P. (2008). Oral History as Educational Technology Research. *TechTrends: Linking Research and Practice to Improve Learning*, 52(4), 34-41.
- "City of Memory » Map." *City of Memory » Map*. N.p., n.d. Web. 2 February 2013.
- "College of Arts and Sciences." *The Writing Center Oral History Comments*. N.p., n.d. Web. 22 January 2013.
- Corner, James. (1999) The Agency of Mapping. *The Agency of Mapping: Speculation, Critique and Invention*. Mappings.
- Coughlan, Tim., Van der Linden, Janet., Adams, Anne. (2012). Local Connections: Designing Technologies for Discovery and Creativity Within the Community. *Interactions* 19(1), 18-22.
- Doty, Nick., Greenburg, Ryan., Gupta, Mohit., Nomorosa, Karen., Pakrul, Stephanie.,(2010) MELO: Meaningful Location Project" UC Berkeley School of Information.
- "Easily Create Multimedia Stories." *Meograph: Four-dimensional Storytelling*. N.p., n.d. Web. 12 March 2013.
- "Findery." *Findery*. N.p., n.d. Web. 2 February 2013.
- Ganz, Marshall. (2008). What is Public Narrative? *Working Paper*, Harvard Kennedy School.
- Giaccardi, Elisa. (2011). Things We Value. *Interactions* 18(3), 17-21.
- "Hear Here." *Hear Here About Comments*. N.p., n.d. Web. 12 March 2013.
- "Historypin | Home." Historypin | Home. N.p., n.d. Web. 2 February 2013.
- Holbrook, Allyson P., (1995). Methodological Developments in Oral History: A Multi-Layered Approach. University of Newcastle.
- Hunter, Jane., James, Darren. (2000). The Application of an Event-Aware Metadata Model to an Online Oral History Project. *The Fourth European Conference on Research and Advanced Technology for Digital Libraries*.
- Kim, J.Y., Lund, A.M., Dombrowski, Caroline. (2010). Mobilizing Attention: Storytelling for Innovation. *Interactions* 17(2), 24-26.

- Lane, Giles. (2003). Urban Tapestries: Wireless Networking, Public Authoring and Social Knowledge. *Personal and Ubiquitous Computing* 7 No. 3-4, 169-175.
- "Listen to Detroit." *Listen to Detroit*. N.p., n.d. Web. 2 February 2013.
- "LocalProjects." *Local Projects About Comments*. N.p., n.d. Web. 12 March 2013.
- McPherson, Tara. (2009) Introduction: Media Studies and the Digital Humanities. *Cinema Journal* 48:2.
- "Planet Takeout." *Planet Takeout*. N.p., n.d. Web. 2 February 2013.
- "PopUp Archive." *Pop Up Archive*. N.p., n.d. Web. 12 March 2013.
- "Regional Oral History Office." *Regional Oral History Office*. N.p., n.d. Web. 12 March 2013.
- "Step-by-Step Guide to Oral History." *Step-by-Step Guide to Oral History*. N.p., n.d. Web. 22 January 2013.
- "The Making Of...." *The Making Of RSS*. N.p., n.d. Web. 22 January 2013.
- Ullmer, Brygg. (2012). Entangling Space, Form, Light, Time, Computational Steam, and Cultural Artifacts. *Interactions* 19(4), 32-39.
- Wood, Denis., Fels, John. (2008). Excerpts from The Nature of Maps. *The Natures of Maps: Cartographic Constructions of the Natural World*, 6-16.
- Wright, Alex. (2010). Of Memories and Memorials: A Conversation With Jake Barton About the Make History Project. *Interactions* 17(1), 20-23.