Tele-Story

Reading together while apart

Daphne Mintz

M2: Users

Understanding the Problem Space

HCI Capstone

Iowa State University

Spring 2016

Table of Contents

Product Description

Tele-Story is an easy-to-use application to connect distanced relatives to their loved ones.

From a touchscreen interface, users select an e-book, record their voice reading the book, along with all the personal commentary that makes reading together a close experience; then, send the book to a child.

Users

Primary Users

The primary users of *Tele-Story* consist of children ages 0 through 7 who enjoy having books read aloud to them and members of their family circle of reading age that want to form a connection to the children by recording a story for them.

Children, ages 0 through 7

I conducted in-person and chat room interviews of parents and grandparents of children ages 0 through 7 to learn about their children's current level of experience and skill with portable touchscreen devices, such as digital tablets, and to solicit their input as to what experiences they want *Tele-Story* to provide.

Children ages 0 through 2 will require a caregiver that can operate the touchscreen device in a manner similar to traditional story time where the child is in the caregiver's lap.

Children ages 3 through 5 will initially require a caregiver who can operate the touchscreen device to demonstrate how the child can listen to a story. Eventually, the child will be able to operate the device without help. The calls to action will need to support users that cannot read (Jarrett, 2010).

Children ages 6 through 7, may or may not initially require a caregiver who can operate the touchscreen device to demonstrate how the child can listen to a story. Based on their familiarity with software applications operating on a touchscreen device, the child will immediately or very quickly be able to operate the device without help.

The parents conducted the child interviews for me to ask if they would like listening to a book on their tablet and to name a book they would want.

Family Circle Members

Family circle members are also primary users as they record the stories for the child users and are the users that rely on the *Tele-Story* solution to form or maintain a bond with the children. Family circle members, of course, can include honorary family members, such those friends we teach our children to call "Auntie" or "Uncle."

These users must be able to read and to operate a simple application user interface from either a traditional computer workstation (computer, mouse, keyboard), or a touchscreen interface, or have the assistance of a caregiver.

Based on the interviews and research, I have broken out Family Circle Members into three subcategories based on user skillsets or limitations. As the primary task for these users will be centered on recording stories, I have appended "recorder" to the user description to help differentiate user groups.

Child Recorders have emerged as a user group as participants have expressed the desire for the solution to encourage reciprocal interaction between children and their distanced relatives. Parents

recommend that children be encouraged to share their reading progress or send personalized recordings to request specific books or tell about their interests. Parents also want younger children to be able to record short form messages, such as “Thank you, Grammy! I love you.”

Active Adult Recorders include grandparents who lead independent and agile lives. The users interviewed have moderate computer skills (i.e., frequently use email, social networks, and the Internet) to advanced computer skills (i.e., work in computer technology).

Inactive Adult Recorders include elderly relatives who may live independently or in adult care facilities. These users have likely lost physical and/or mental agility to the point that they live in moderate isolation. These users may or may not be familiar with touchscreen devices. The design approach will assume that some of these users will need caregivers to perform initial set up and provide some level of training to help these users feel comfortable and confident using *Tele-Story*.

Secondary Users

Secondary users include caregivers (parents or adult caregivers) that will be responsible for setting up the application and training primary users how to use it. These users may not be interested in recording or listening to the stories; however, they are likely to be the target sales audience. They will be interested in security, usability and desirability, educational value for the primary users, and cost.

Non-Users Impacted by System

Non-users impacted by this system are the administrators of an adult caregiver facility. These users may be interested in designing a therapy program that uses the solution. They will also be interested in an enterprise cost model.

Project Focus

This project will focus on the needs of the Primary Users described as Child Users ages 6 through 7 and Active Adult Recorders.

Tasks

Task Analysis for Primary User Tasks

The interviews revealed that the users have significant differences in skillsets yet desire to perform the same tasks. Primary users will launch the application desiring to record a story, listen to a story, or add a story to a wish list in hopes that a family circle member will record it, or shop-now/save for later. They will need to select a story to complete all of these tasks. The search options vary based on the primary task.

For my project, I will focus on the *Select a Story*, *Record a Story*, and *Listen to a Story* tasks.

Figure 1. Primary User Task Story Map

Task and Subtasks

The suggestions from the interviews resulted in the following high-level task descriptions and subtasks.

Primary Users Tasks

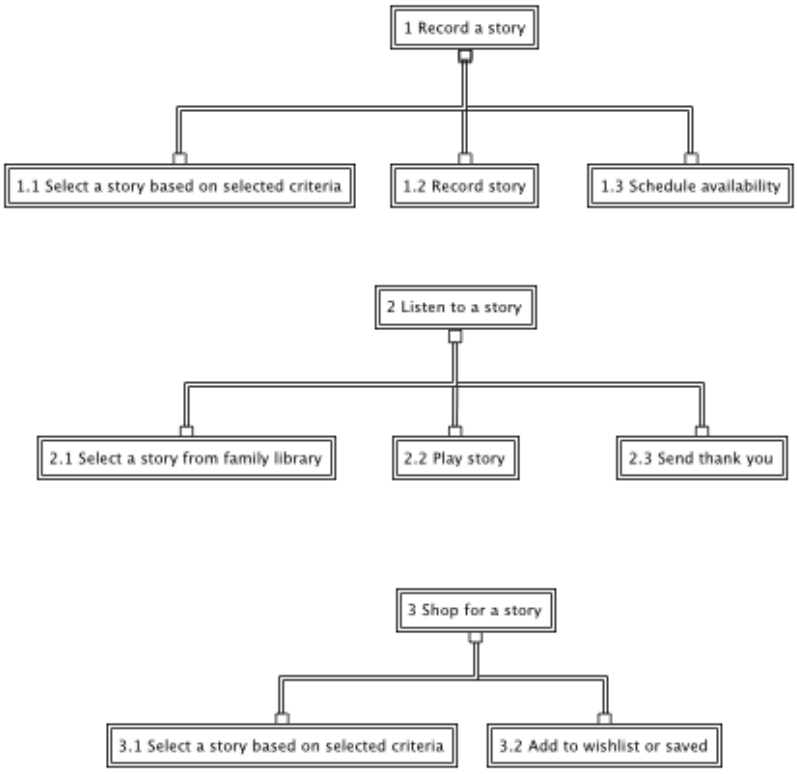

Figure 2. Hierarchical Task Analysis for Primary User Tasks

Secondary User Tasks

- Set up account (user name, password)
- Set up payment information
- Setup users and devices

Environment

One appeal for *Tele-Story* expressed in the interviews is the ability to shop and deliver the product within the application. The recording session will require a quiet place where the recorder is comfortable reading aloud. The listening session can be anywhere for children old enough to use headphones. For younger children, an environment suitable for audio is required.

This section contains images and quotes that participants provided to help me envision the user space and mindset.

Children

Figure 3. Bruce, age 11 weeks, and Roger (Dad), age 31, reading a book

Bruce sits propped against his dad as he experiences the traditional story time experience.

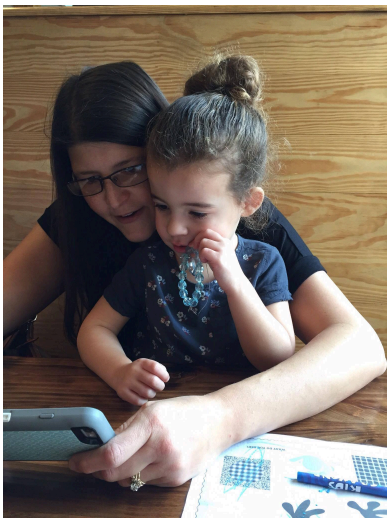

Figure 4. Audrey, age 3, and Kelly (Mom), age 34, using a digital tablet

Audrey experiences the traditional closeness of reading together, but with a tablet

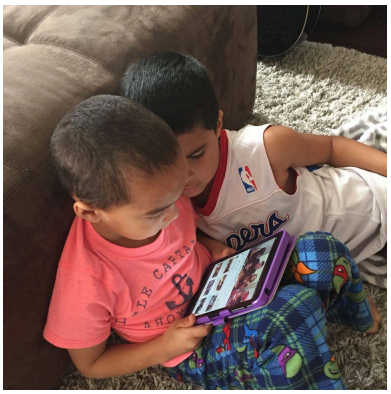

Figure 6. Julian, age 4, and Roman, age 7, using a Samsung tablet

"Julian is 4 and still not reading. He goes off of stuff by pictures. Roman is 7. But Julian uses the tablet more." – Lauren, age 34, the boys' mother

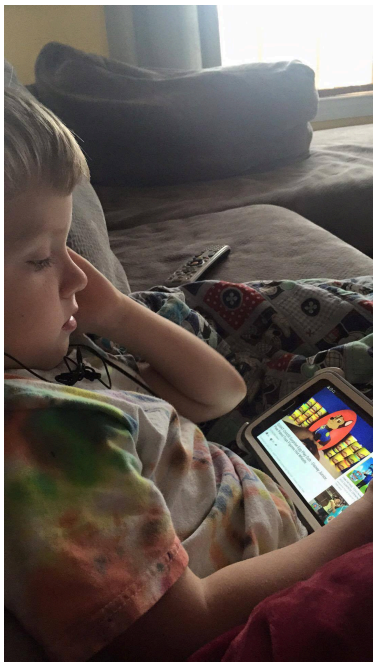

Figure 5. Levi, age 6, using a Samsung tablet with earphones

"Levi likes to play games and watch YouTube videos and Netflix." – Claire, age 35, Levi's mother

Active Adults

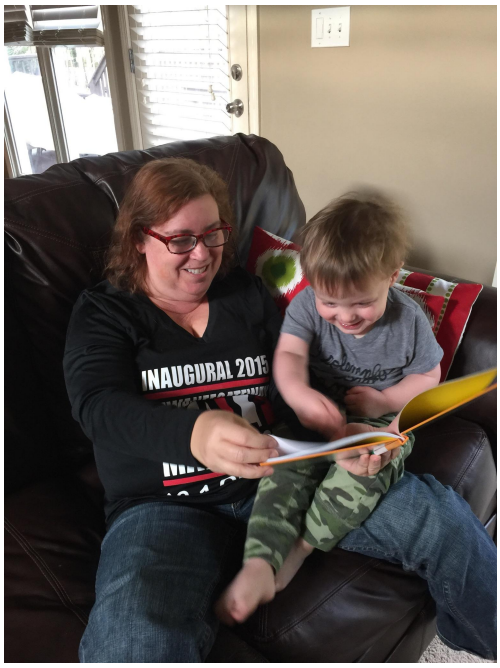

Figure 7. Linda, age 55

Linda lives alone, though she has family close by, including aging parents. She has one grandchild a few hours away that she gets to see often, though not on many of the family occasions associated with gift giving. She likes the concept of being able to give a personalized gift on those occasions where she can't be there in person.

Inactive Adults

Figure 8. Alicelee, age 77

Alicelee lives independently, but experiences moderate isolation from her family and friends. The photo above was taken by her using her laptop computer.

She is very excited about the *Tele-Story* concept and provided this insightful input, *"I don't use touch screen. I don't have it because I don't want it. I've gotten used to mouse and keyboard and that will do. If I had to use a touchscreen, I would not use this program. Aside from being a Luddite, vision on a touchscreen …I have to hold it up to my face…I have a 40 inch screen."*

Analysis

Vetting the Concept

When the idea for designing an application for creating and sharing personalized recordings of a storybook first occurred to me, I reached out to close family and friends I regarded as potential users to vet the concept. I also wanted to find out if they were already using anything similar. All participants responded that the concept is worthwhile and expressed excitement.

Of the 10 people with whom I initially vetted the idea, only one (Linda, age 55, a grandmother), has used a related product. She purchased a Hallmark® recordable children's book equipped with an internal device to hook up to a computer for making a recording as you read the book. Linda expressed that she would prefer a software application solution. She explained that hooking up the book to the laptop and following the instructions to the record the story are simple steps to complete and that she liked the tangible aspect of a hard copy book. Her preference for the *Tele-Story* solution

stems from the concept that all necessary actions to select, record, share, and listen can be performed from a digital environment (no trips to the store or post office). The potential to have online recordings preserved is a compelling feature for Linda.

Similar Technology Concepts

Recordable Children's Books

Hallmark has updated its recordable book technology since Linda's purchase described above. The device is now intact with an embedded recording device so that connecting to a computer is no longer required.

Shortcomings *Tele-Story* will solve: All tasks cannot all be completed in a digital environment.

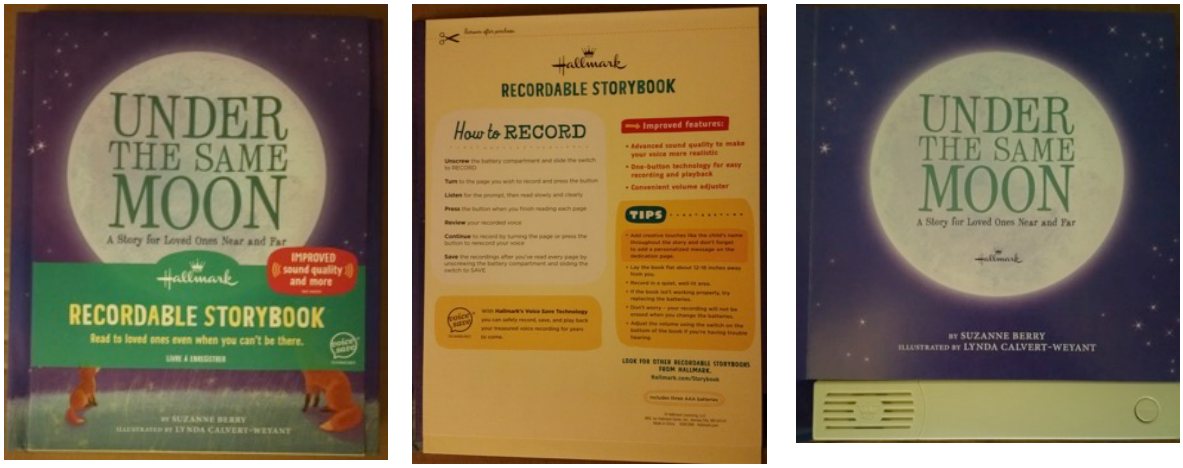

Figure 9. Recordable book, cover sleeve, inside sleeve instructions, recording and listening device (Berry, 2011)

eBooks

Barnes and Nobel bookstore sells children's eBooks for use with their portable reader, *The Nook*. This product supports online purchasing, online storage, and audible feedback. Shortcomings *Tele-Story* will solve: Voice of reader has no personal connection to child.

StoryHome

StoryHome is a venture underway for developing a storytelling device for distanced relatives to connect with children by sharing stories. The device is portable and the stories shared can be books read aloud or anecdotes the storyteller wants to share. The device lights up for visual stimulation. Shortcomings *Tele-Story* will solve: Absence of rich visual experiences relating to the story.

Figure 10. Reader creating a *StoryHome* story

Measures

I intend to use the RITE method to test often and adjust frequently (McGinn & Chang, 2013).

Quantitative data collection during usability test sessions will focus on time to complete tasks and success rate versus errors.

Qualitative assessments will be measured using a rubric designed for assessing the needs of the child user (Brookhart & Association for Supervision and Curriculum Development, 2013) and by post-test interviews of the parents and children.

References

Berry, S. (2011). *Under the Same Moon.* Kansas City, MO: Hallmark.

Brookhart, S. M., & Association for Supervision and Curriculum Development. (2013). *How to create and use rubrics for formative assessment and grading.*

Jarrett, C., Redish, J., Summers, K., Straub, K. (2nd Quarter 2010). Design to Read, Guidelines for People Who Do Not Read Easily. *User Experience*, 9, 10-12

McGinn, J. & Chang, A. (2013). RITE+Krug: A Combination of Usability Test Methods for Agile Design. *Journal of Usability Studies*, 8 (3), 61-68.

StoryHome: The Storytelling Device. (n.d.). Retrieved February 07, 2016, from http://www.storyhome.com/.