

Conversation Cloud

Summary Report

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1. Objective

Research, prototype and evaluate a software tool that listens to conversations, then produces a visual souvenir of that conversation, which could help in recalling the conversation in the future.

2. Initial Evaluation/ Research

We did thorough literature review on existing techniques for generating visual mementos, pervasive computing, video summarization and memory recall. After brainstorming, we narrowed down the following desirable properties which such a device/ souvenir must have:

1. Evoke Familiarity – For instance, location and/or time of day
2. Obscure Sensitive Data – for instance age or financial data
3. Expressing Subjectivity – Allow for customizable/interactive visuals (proven to aid recall)
4. Split the (long) conversations into episodes (inspired from video summarization)
5. Automatic identification of actors (speaker recognition)
6. Auto and/or manual tagging of visual(s)
For organization/navigation of/through the conversations

3. Prototype

Our research and client's feedback led us to the development of the following prototypes.

3.1 Sketch Prototypes

We came up with two alternative sketch prototypes, to be able to clearly draw a comparison and identify the desirable features of such a prototype.

Conversation Topic: Good Night Sleep

Speakers: Mother and Lori (her daughter)

Transcript link: [Click to view transcript](#)

Transcript Summary (possible episodes):

- Some family members are too tired due to a lot of travel, but pretending to watch TV at night
- How sometimes people are at parties late night, wanting to sleep but cannot escape
- Sleeping on time vs sleeping late. Effect of drinking/ eating food before sleeping
- Getting up at mid night and using restroom or starting their coffee maker

3.1.1 Prototype 1 (Episode approach)

In this approach, we break down the conversation into logical episodes (not necessarily the same length) and have a one to one mapping between each episode and visual image. Refer appendix A

3.1.2 Prototype 2

In this approach, we use a single visual and a graph-edge representation to denote the speaker and associated images. This prototype also features a dashboard which shows informative statistics such as how active speakers have been, the length of the conversation in minutes, time and location of conversation, etc. Refer appendix B.

3.2 Interface prototype

We developed a prototype for an application which would allow storing and browsing through such conversation summaries. Refer appendix C.

4. Final Evaluation

We conducted two surveys, as described below:

- 4.1 **Sketch comparison survey:** Through several questions (detailed in the final presentation.ppt), we found that subjects rated prototype 2 higher in visual appeal and found it better to trigger recall of the actual conversation. Both prototypes were rated the same for representing the entire conversation.
- 4.2 **App Interface Survey:** Through several questions (detailed in the final presentation.ppt), we found that subjects found our interface visually appealing. 2 subjects who thought they would not use such app in daily life, after using the prototype, admitted that they would actually want to use such an app. None of the subjects who thought the app was useful prior to using it, changed their minds.

5. Prototype Performance

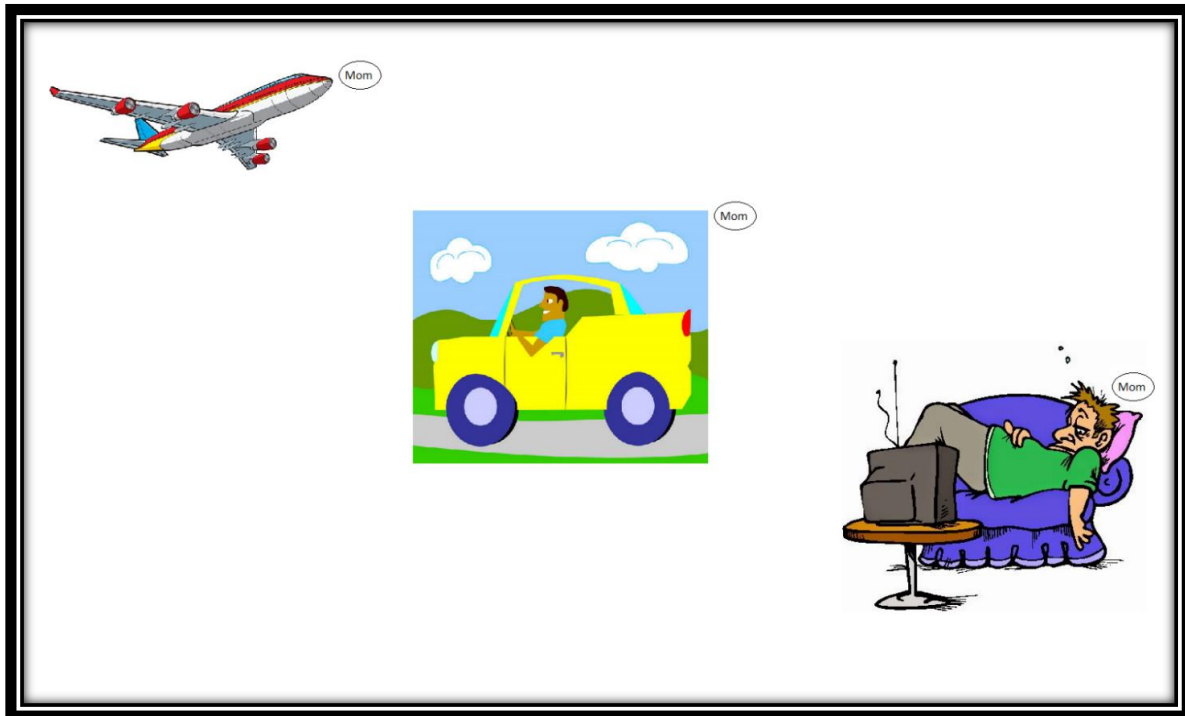
- 5.1 Our sketch prototypes were effective in triggering recall of the conversation, as evident from the survey results. The sketch prototype 2 received better ratings for visual appeal and ability to trigger recall. 100% of the participants were able to recall the conversation using that prototype.
- 5.2 Our interface prototype was found appealing by subjects. They were able to use it without any help. As pointed above, two subjects changed their opinion in the favor of using the application after using our prototype, which we feel is a great compliment for us.

6. Future Directions

We would like to work on the following areas in the future to fully realize the potential of our concept:

1. We would like to conduct the survey on a larger scale to confirm our findings.
2. We would like to explore alternative strategies for sketch prototypes
3. We would like to integrate time representation in the prototype 2
4. We would like to find a way to handle the case when there is a very large number of users. Accommodating each user's avatar on the visual may be challenging or complicate the visual.

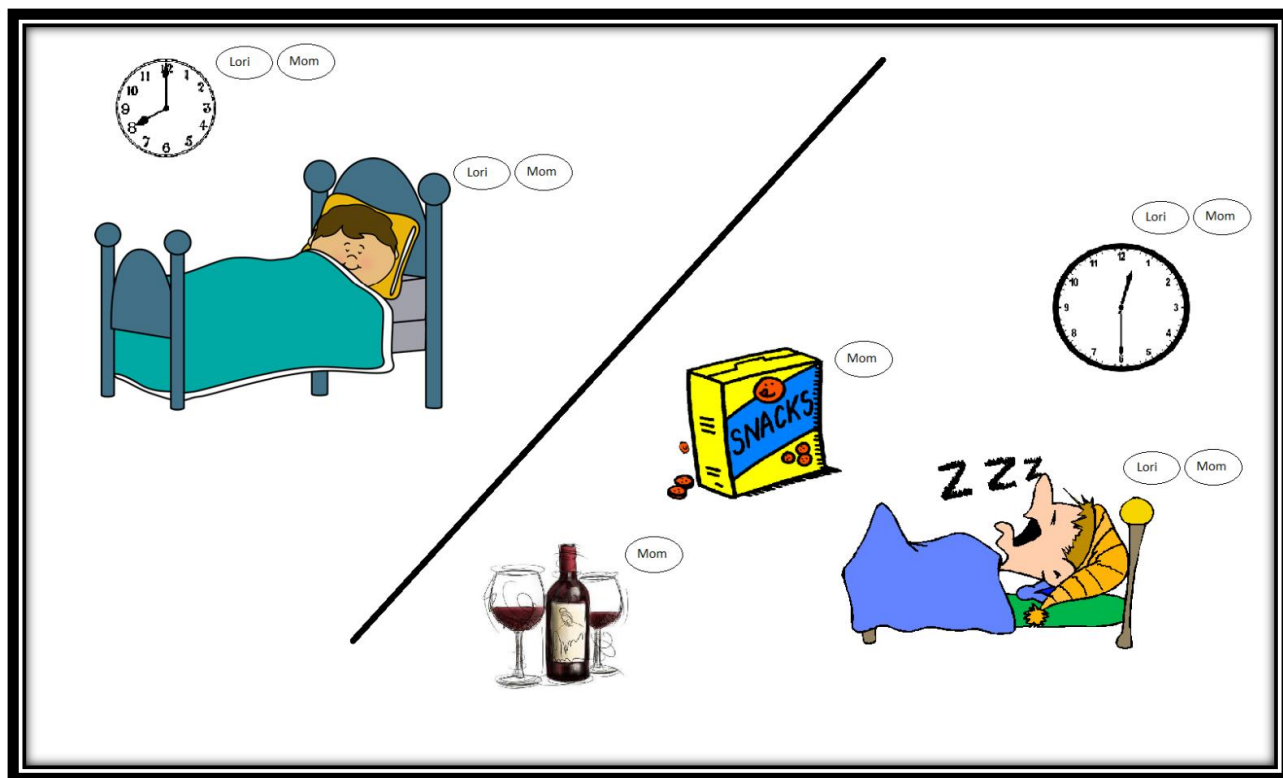
Appendix A



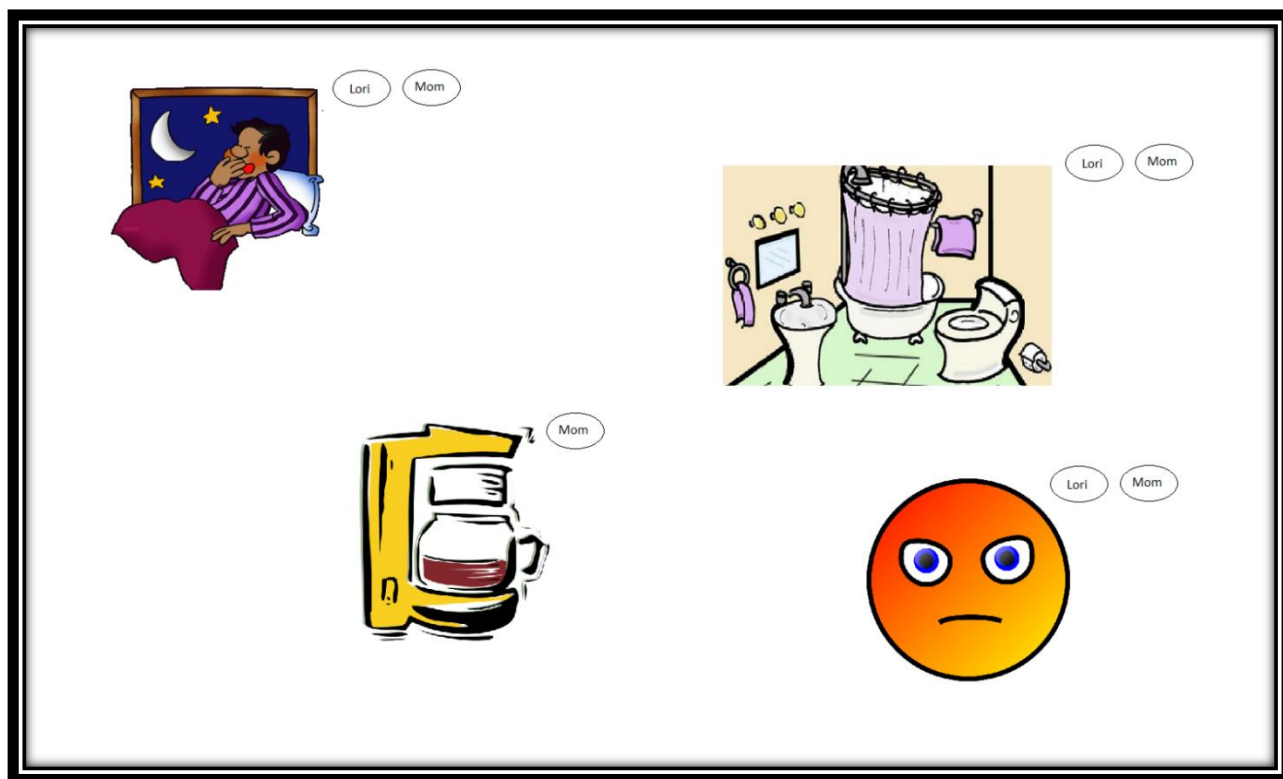
Episode 1



Episode 2

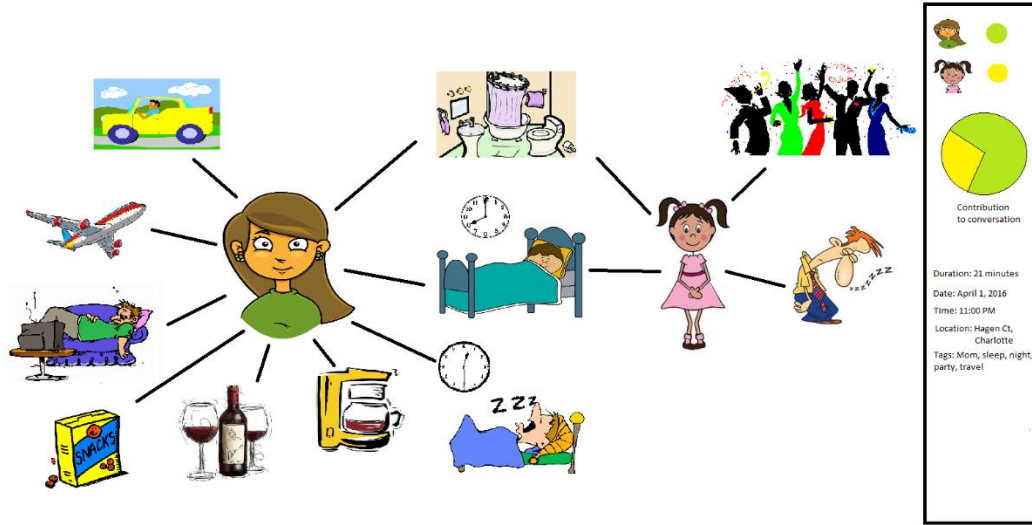


Episode 3



Episode 4

Appendix B



Appendix C

