WIZARD-OF-OZ TESTING

RESULTS AND FINDINGS

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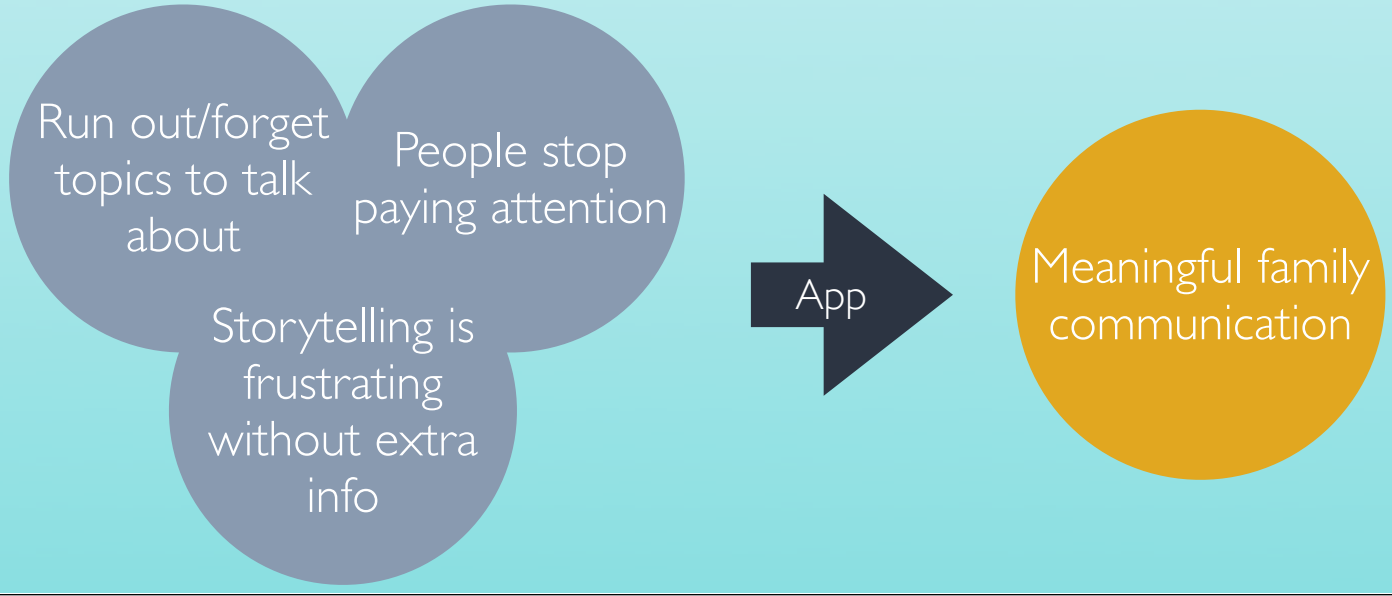
IDEA 1: FAMILY COMMUNICATION

- Original storyboarded idea: not feasible
  - Did not meet requirements, not novel, impossible to implement in 5 weeks, etc.
- New idea: Transform mundane/unproductive conversations to more engaging ones



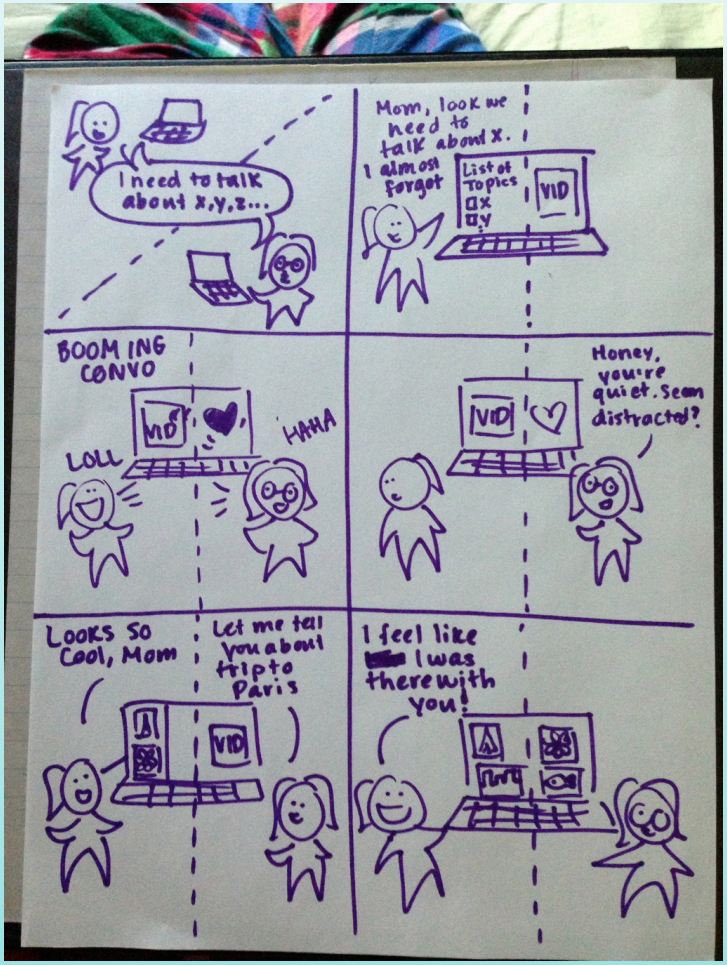
TASK FLOW/STORYBOARD

Ask both participants individually what they wanted to talk about in the conversation

When conversation starts, both users see checklist of conversation topics from above and a heart that fills based on conversation engagement

Hearts would change based on how much the participants were talking and making eye contact

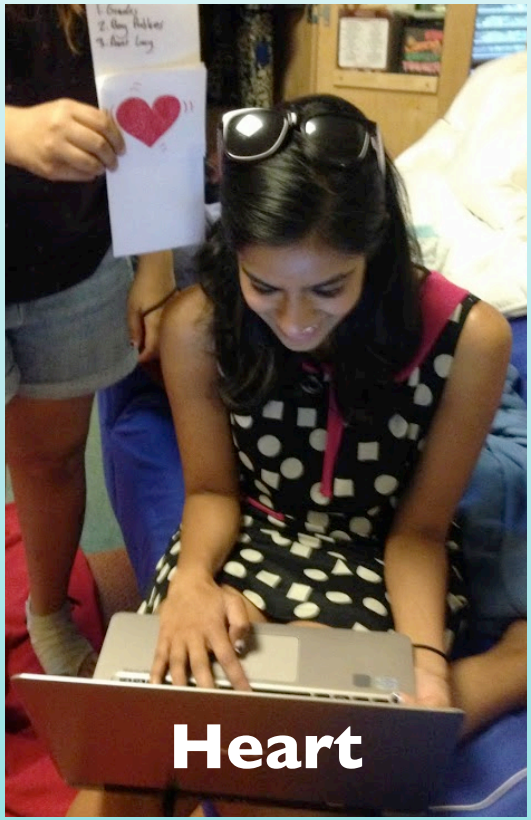
After the end of the conversation, participants would see summary of conversation engagement



SETUP

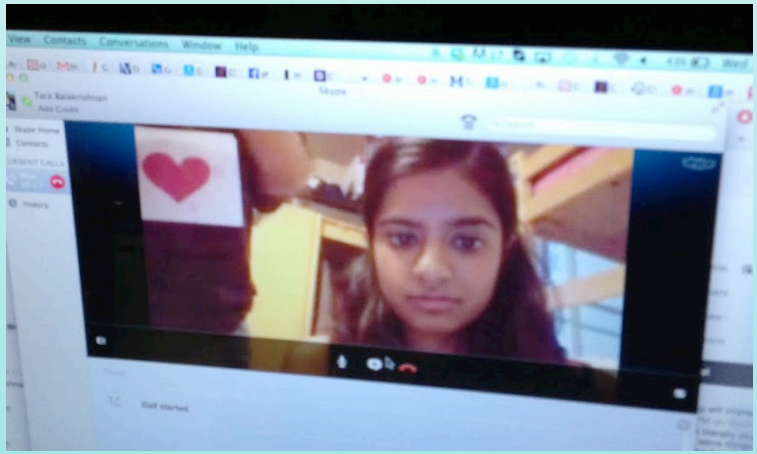
(3rd user in later slides)

Checklist, filling heart, and story images held up and manipulated by wizard



User on our end sees other side of the paper with same heart/checklist

What remote end would look like:



TASKS OBSERVED/DATA

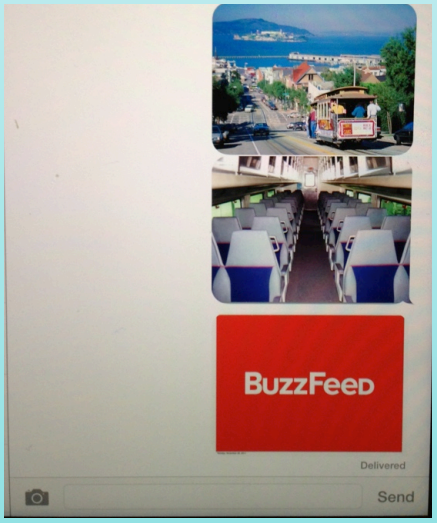
1: Having everyday conversations with checklist

- Creating the checklist
  - Freeform entry of topics had mixed reactions; although some users liked being able to enter in topics and had some in mind, some users were very confused and had nothing to contribute when asked
- Noticing the checklist
  - Both subjects, especially the family end (the one seeing checklist via webcam) would rely on the checklist to provide conversation starters
  - Would put an unnatural break in conversations when both parties were deciding which topic to talk about
- Utilizing the checklist
  - Users were confused about checking action items off
  - Users were confused about the priority of conversation topics for the other end
- Insights: Checklists are a great way to keep track of conversation topics that both users wanted to talk about. A more helpful checklist would allow prioritizing these topics.

TASKS OBSERVED/DATA

2: Telling a story with supplemented information

- Clarity of information
  - Users found information to be distracting and unorganized
- Use of information
  - Users said it felt awkward to read the information by yourself without relying on the other to explain
  - By the time the user had read the supplemented data, the other had already explained it
- Insights: Family members often don't need an additional information sidebar as they are already comfortable with expressing confusion or requesting clarification verbally.

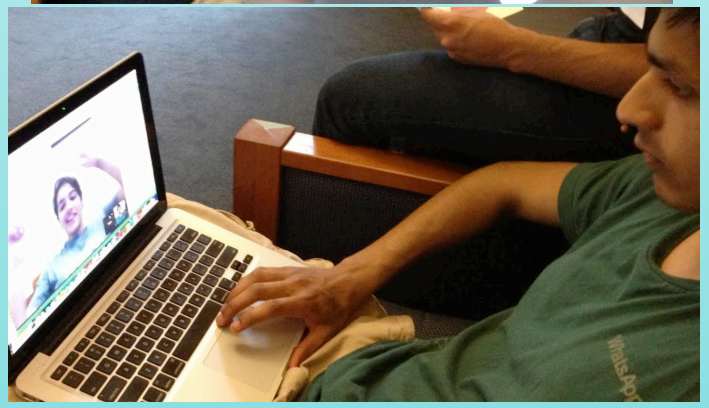


← Visuals supplement storytelling

TASKS OBSERVED/DATA

3: Responding to the 'engagement meter' heart

- Understanding the purpose of the heart
  - Users were initially confused
  - Some picked up that it reflected conversation engagement, although they were unclear on the criterion
  - Once users understood its purpose, would respond to the heart and talk more to increase the fill proportion
- Connotations of heart symbol
  - One user commented that the heart was too romantic to reflect a family conversation
- Insights: Some symbol (not necessarily a heart) is a good way to keep people in conversations engaged, as it allows for communication over a shared activity.



DESIGN IMPLICATIONS

Key Insight	Design
• Users want to understand the priority of the potential conversation topics	Add a way for each user to quickly tag priority (scale of 1-5) when filling out the topics they want to talk about
• Users do not need any textual supplemental information, as they will just ask each other in person	Remove the story-telling supplement idea
• Users are unclear and uncomfortable with how the heart works	Display a brief explanation of the heart Add sub-meters for each criteria used to judge engagement
• Any non-video element is unnatural to direct attention to while already in a video conversation	Make the non-video elements (the heart, checklist, etc.) as noninvasive as possible; the heart can be smaller and the checklist can only show up on user command

IDEA 2: MUSIC PRACTICE CRITIQUE

Use Flow

Musician *Listener*

Connected with webcam stream

Initiate contact, setup

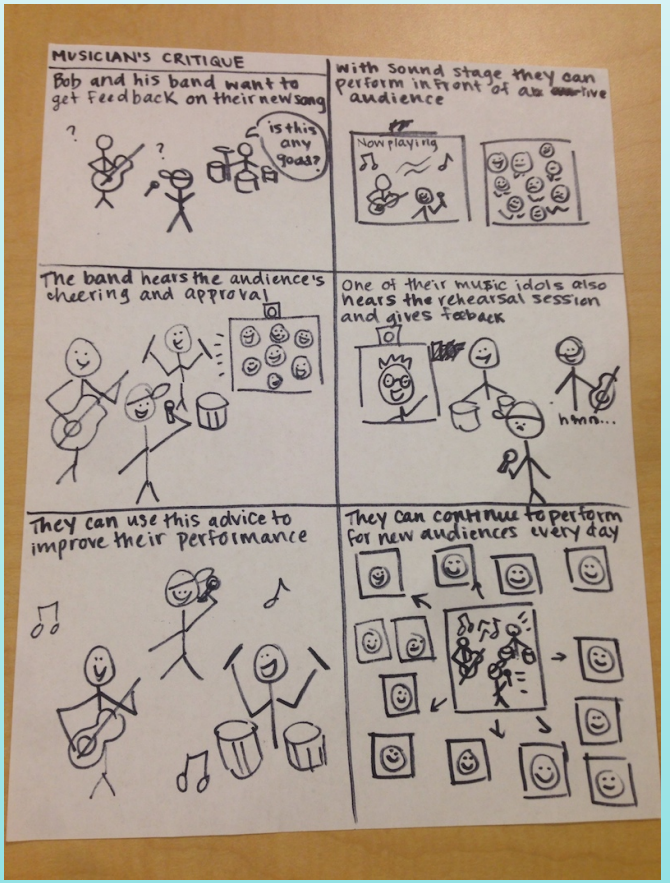
Practices piece

Records feedback in realtime

Rewatch video of practice with critiquer's comments superimposed

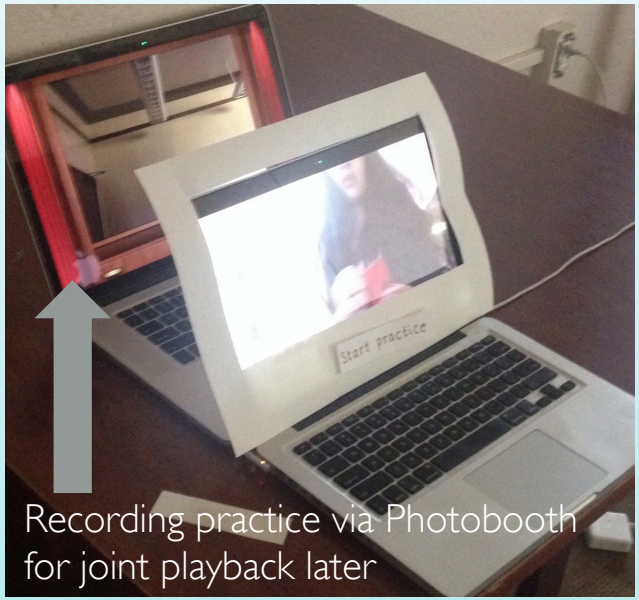
Exchange more in-person feedback

Storyboard

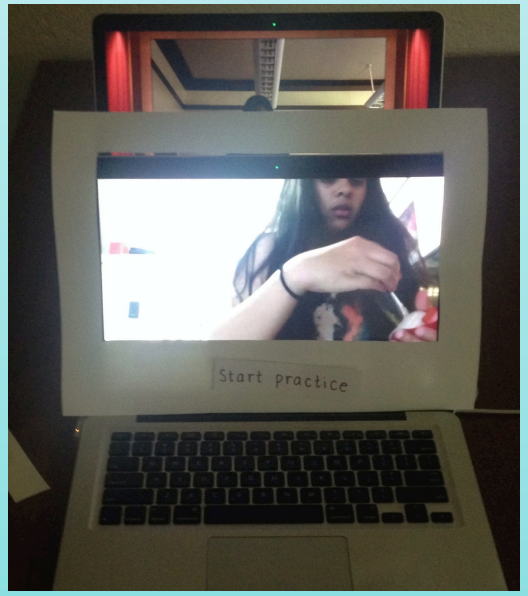


SETUP

Performer interface



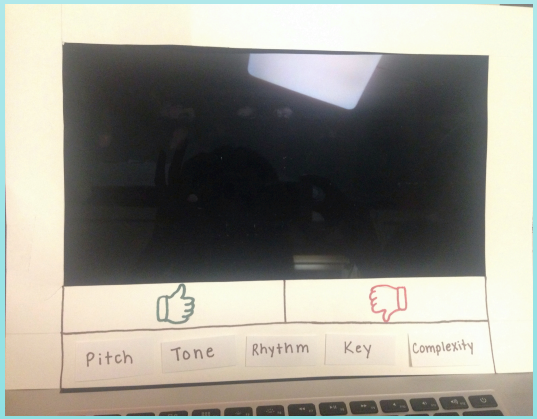
Recording practice via Photobooth for joint playback later



Listener interface

Skype conversation with performer

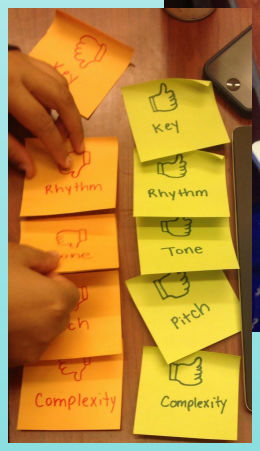
iPad logging their critiques and button presses via iMessage



Joint critique session interface

Curtain to simulate separate rooms

Participants continue Skype & watch performance together



Wizard posts feedback during playback

TASKS OBSERVED/DATA

1: Practicing in front of virtual audience (musician)

- Initiating practice session
  - Data: Musicians didn't notice paper-prototyped buttons and were confused about how to start and end practice sessions
    - Insight: Clarify correlation between thumbs and musically-labeled buttons
- Performing over video chat
  - Data: Musicians paid little to no attention to the video chat while practicing; almost never looked up from instruments
    - Insight: Participants are somewhat detached from one another during the actual performance phase
  - Data: One of the three musicians tested noted that live feedback during the practice could be distracting for more experienced musicians but more helpful for novices
    - Insight: More experienced musicians would appreciate live feedback, while it make serve as a hindrance to novices.
  - Data: 1/3 musicians stopped playing in the middle of piece due to embarrassment
    - Insight: Some performers expressed that they prefer practicing in front of friends/family while others would appreciate the objectivity of a musician they didn't know personally

TASKS OBSERVED/DATA

2: Critiquing performance in real-time (audience)

- Using the thumbs up/down and key word buttons
  - Data: 1/3 observers quickly utilized the thumbs up/down feature, 1/3 did eventually, 1/3 didn't use buttons at all
    - Insight: Feedback mode should adapt to experience level of both the observer and performer;
  - Data: Button functionality wasn't clear; users were hesitant to engage them but used them more frequently once they figured out what they did
    - Insight: Buttons should change depending on the instrument being played

- Adding personal text comments
  - Data: 2/3 observers used most text comments, 1/3 made no comments at all
    - Insight: observer and performer should play the same instrument so that feedback is valuable
    - Insight: Users liked freedom of not being limited to commentary available through buttons
  - Data: Observers wished they could have commented final thoughts at end of practice session
    - Insight: Can't accomplish everything in real time, need chance to gather thoughts to give valuable feedback

TASKS OBSERVED/DATA

3: Reviewing comments and performance (both)

- Re-watching recorded performance together
  - Data: Participants had mixed feelings about who controls video playback
    - Insight: More experienced musicians would want to be in control of playback vs. novices would like remote instructor to control comment review
  - Data: All of the 3 performers remarked that they had never watched themselves perform; recorded performance allowed for new self-reflection
- Review comments which appear in real time over video
  - Data: Observer was able to notice new things about performance and ask questions to the performer
    - Insight: Value in watching things multiple times
  - Data: Performers liked getting feedback immediately while performance still fresh in mind; could point out specifics
    - Insight: Participants would like some way of jumping to specific points in playback;
  - Data: Performer and musician discussing music and playing in general
    - Insight: Commentary conversation can spin off into a jam session

DESIGN IMPLICATIONS

Key Insight	Design
• Buttons for listener are confusing, and some criteria miss their mark	Update buttons for each instrument with specific criteria instead of overall criteria Add use instructions to buttons initially
• Want the more skilled player to have control over replay video	Default video controls to the listener, with option to give control to the performer
• Users were unclear on when to start/ end the practice/review phases	Add clear identification of which review phase they are in
• The stream quality was bad so couldn't give accurate feedback on some criteria	Use a better microphone Display warning when sound quality is poor
• Users wanted to exchange criticism with those on the same level, or receive feedback from those with more skill	Require users to post video of their playing in profile/evaluate their skill level with questionnaire

FUTURE DIRECTION

Musician critique idea will be more successful because:

- Implementation idea is much more clear and detailed after WoZ testing on both ends of communication link
- Users were more excited about the idea, and communicated an actual need for this new experience
- There is more potential to work with rich media in new ways, such as the playback video and the live critique mechanism
- There are more identifiable tasks that can be evaluated concretely (i.e. not evaluating abstract engagement in conversation)
- We will have more/faster access to users on both ends of the communication link to test in future iterations
- …and it was also the one that excited us most while testing.