

Usability Testing of ASR App

—
Memorial Presentation for Abigail Spring
Rochester Institute of Technology
Rochester, New York

R·I·T | NATIONAL TECHNICAL
INSTITUTE FOR THE DEAF



32nd CSUN AT Conference
Feb. 28 – Mar. 4, 2017
San Diego, California

Introduction

- Automatic Speech Recognition (ASR)
 - What is it?

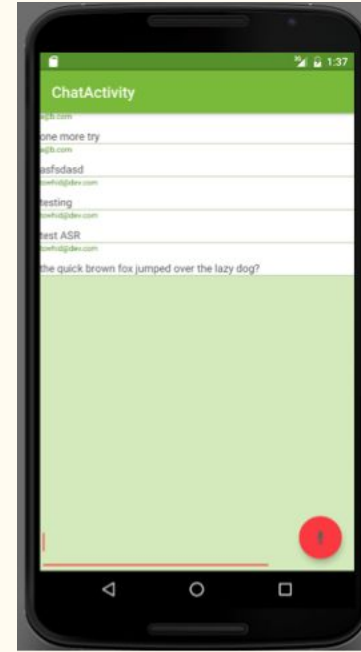
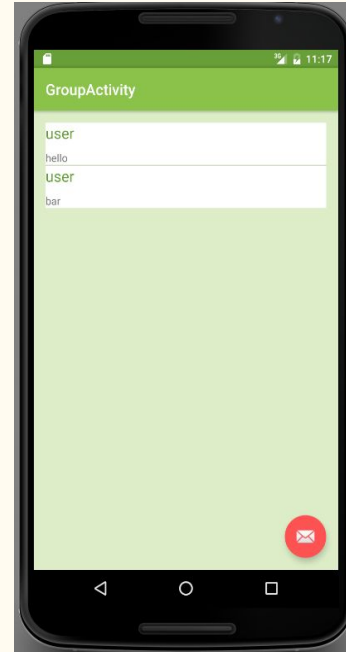
- ASR App
 - Basic functions
 - Do deaf/hard of hearing (DHH) people and hearing people think it's usable?

Purpose

- Why usability testing?
 - to give the developer the user's perspective/experience
 - to make app easier for user

App Description

- A microphone button is pressed to speak, then the text transcription is shown on the screen and sent
- Users can either speak or type back to respond.



Methodology

- Participants were observed by the app developer in an usability lab with a 1 way mirror
- 2 participants
 - One hearing (using the ASR) and one DHH (typing)
- Described the app to the participants and what they will be doing more in depth

Procedure

- Gave participants list of tasks to do
 - Open the app and log in/create an account
 - Join a group to talk to
 - Have them talk back and forth for 5-10 minutes
 - Logout and exit the app

Evaluation

- Before the experiment
 - Filled out demographics/background info
 - Age, gender, education level
 - Their previous use of ASR capable apps/technologies and what they liked about them
 - Their everyday technology use
- After the experiment
 - Participants were given the app questionnaire
 - How they liked/disliked each aspect of the app
 - If they found any particular area harder to figure out than the others
 - Likert scale and open ended questions

Results

- ASR is not easy to use
 - Not 100% accurate
 - Time consuming
 - Doesn't always recognize your voice/command, especially for those with accents
 - Not able to customize it
- People like having things be obvious to them
 - Sending messages and joining a chat room were hard and/or confusing for participants
 - Messages: Participants couldn't figure out how to send their messages.
 - Chat rooms: Participants were not sure what chat room they were in. Suggestions included the ability to add chat rooms and change between them.

Results cont.

- Very bright future for this app
 - Participants generally agree that this app is good for others and the future
 - Participants both can and cannot see themselves using this app
 - Bridges the communication barrier
 - Easy enough to use with very little training
 - Can add people to a group
 - Texting is faster/more accurate
 - Already know enough sign language

Conclusion/Future Work

Participants liked the potential of the app in what it allowed them to do.

With the improvements recommended along with the potential addition of the word accuracy markup for the spoken messages there is a very bright future for this app.