

CollabAll - Survey Results

Introduction

This document provides details on the results of surveys conducted during the process of designing and implementing CollabAll. Participants involved in Participatory Design and Focus Group studies were interviewed using a post questionnaire. Results of the survey are available in the Appendix.

Participatory Design

We employed a participatory design (PD) approach involving a team of D/HH consultants. The primary participants in this PD session were members of NTID's Research Center for Teaching and Learning (RCfTL). The D/HH consultants comprised of students and faculty members with different levels of hearing impairments. Additionally, ASL interpreters and captionists were invited to the PD session.

Focus Group

We conducted Focus Group (FG) studies with students of Rochester Institute of Technology. Two researchers monitored the study, observed the group, and took notes. Meetings took place in a meeting room that had a whiteboard and projector.

Our study involved having each FG discuss predefined topics and perform tasks associated with these topics. An ASL interpreter was recruited to facilitate communication. We started the study by introducing CollabAll to the participants. We gave them five minutes to familiarize themselves with the system. We then asked them to perform 3 tasks, one after another. The tasks were:

- Scheduling a meeting - Each participant was provided with a unique schedule and they had to agree on a common day and time to meet based on their schedule availability.
- Reading Comprehension 01 - All participants were provided with a same reading passage (Flesch-Kincaid Grade Level 0.8) and had to discuss and provide answers to two open-ended questions
- Reading Comprehension 02 - All participants were provided with a same reading passage (Flesch-Kincaid Grade Level 9.5) and had to discuss and provide answers to two open-ended questions

A breakdown on the average duration taken to complete the tasks is provided in Table 1.

Focus Group Activity	Average Activity Completion Time
Scheduling a meeting	3 minutes
Reading Comprehension 01	5 minutes
Reading Comprehension 02	10 minutes

Table 1: Focus Group Activities

Observations

The participants took turns smoothly and used interjections to convey need for talking, agreeing, and disagreeing. All participants were engaged in discussing the article and answering the questions. Reading comprehension activity resulted in participants discussing their personal opinions about the facts mentioned in the article.

Even though CollabAll supports mobile devices, participants preferred to use their laptop; participants also preferred to issue interjections via clicking buttons over tilting their mobile devices. Interestingly, even though participants rated the effectiveness of the "Card" feature as high, they did not utilize this feature as much as they did for the others. A possible explanation for this, is that the participants were interacting with CollabAll for the first time and hence require more time to get familiar with all features of the system. Another interesting point to note, is that some participants used interjections such as ``Don't Understand" and ``Question" when reading articles related to the topic being discussed (i.e. they did not limit the use of interjections to the person communicating). The hearing participants, on occasions, forgot to click the "Communicate" interjection button when they started talking. However, this behavior was not observed from the D/HH participants.

A summary of the survey results is provided in Table 2. The detailed survey results are provided in the Appendix.

Survey Question	Average Score
Ease of navigation	3.9
Effectiveness of "Card" feature	3.9
Effectiveness of "MeetNow" feature	4.1
Effectiveness of "Interjections" feature	4.1
Intuitive icons and images	3.9
Overall benefit/effectiveness of the app	4.1
Willingness to recommend the app	4.0

Table 2: Average Survey Score

Appendix A

Survey Participant Demography

Person ID	Age	Gender	Hearing Impairment	Role	Study
Person 01	58	M	Deaf	Faculty	PD
Person 02	20	M	Deaf	Student	PD
Person 03	20	F	Hard-of-Hearing	Student	PD
Person 04	21	M	Deaf	Student	PD
Person 05	22	M	Deaf	Student	PD
Person 06	20	F	Hard-of-Hearing	Student	PD
Person 07	21	M	Deaf	Student	FG
Person 08	25	M	Deaf	Student	FG
Person 09	26	M	None	Student	FG
Person 10	25	M	None	Student	FG
Person 11	27	M	None	Student	FG
Person 12	26	M	None	Student	FG
Person 13	22	F	None	Student	FG

PD = Participatory Design

FG = Focus Group

Appendix B

Survey Results – Qualitative Feedback

Person ID	Feedback	Feedback Type	Area
Person 02	"Deaf people like me can easily follow along and see who is speaking without feeling lost/confused"	Satisfaction	General
Person 05	"I love the idea of using the phone!...I'm looking forward to using the app!"	Satisfaction	General
Person 04	"Change the color slowdown to yellow. Add 'proceed' button after stop (communicating)"	Improvement	Interject
Person 05	"I think there should be some kind of features for interpreters. They might need to interrupt the discussion"	Improvement	Interject
Person 06	"Provide the ability to modify the interjections, where students can change the colors and icons"	Improvement	Interject

Appendix C

Survey Results

Results are based on a 5-Point Likert scale (with 5 being extremely positive)

Person ID	I like the colors used in the application	The actions associated with the icons/images used in the application are intuitive	I find the navigation of the application easy and intuitive	The “Card” feature of the application is effective	The “Meet Now” feature of the application is effective	The set of “Interjections” currently available in the application are appropriate and effective	I believe that this application will be beneficial to D/HH and Non-D/HH students in meetings	I will recommend/encourage students to utilize this application
Person 01	3	5	4	4	4	5	4	4
Person 02	5	5	4	5	4	5	5	4
Person 03	4	5	5	4	5	5	5	5
Person 04	4	3	4	3	4	4	4	4
Person 05	5	4	4	4	5	5	5	5
Person 06	4	4	3	4	4	4	4	3
Person 07	4	4	2	3	3	2	1	2
Person 08	4	3	4	2	4	4	4	4
Person 09	3	3	4	2	4	4	4	4
Person 10	3	2	4	4	4	3	4	4
Person 11	4	4	4	3	4	4	4	4
Person 12	4	5	5	3	3	3	4	4
Person 13	4	4	4	3	5	5	5	5