

Though this game is intended for visually impaired individuals, a minimal amount of visual information is left for development purposes and to orient users with normal or partial vision. However, the game is designed to be played with all visuals turned off. This is expected to provide improved echolocation training by nearly equating the cues available to sighted and visually impaired individuals.

4. EVALUATION AND CONCLUSION

Survey data from 6 sighted participants using a beta version of the game indicated that it was initially well liked. After 15 hours of game play, participants were, on average, neutral about how fun it was and uniformly said that they would prefer not to continue playing the game. Data regarding the improvement of these individuals on the game and on a natural echolocation task are reported elsewhere in these proceedings [10]. All participants responded that they understood how to play the game and did not find the game frustrating. The control gestures were rated moderately easy to use.

Additionally, 8 visually impaired participants used an early version of the app for 5-10 minutes and provided survey data on their experience. On average, these users would play the game on their own (5.3 out of 7) and said it was fun (5.1 out of 7). They also provided qualitative feedback about that version of the game, which we took into consideration while making the current version. In combination with the ratings from the sighted users, these responses suggest that although the game could be made more engaging, it has promise as a convenient resource for supplemental echolocation training.

In conclusion, EchoExplorerTM is an app in development that has the potential to be an easy, accessible way for people to increase their awareness of echo cues. Future versions of the app may incorporate scoring or more complex obstacles to increase users' enjoyment of the game, as well as improve its compatibility with accessibility applications. If users find the game fun, they may use it for longer than they would a more boring training task. We hope to make future versions of this game useful to individuals who want to use echoes to be more aware of their environment for the purposes of navigation.

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