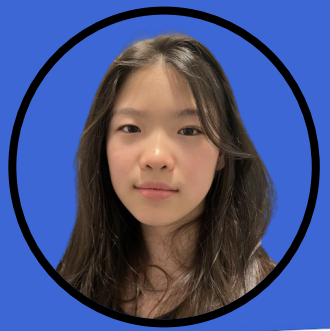
MIT APP INVENTOR

SWIFTSPEAK

swiftspeak

By: The SwiftSpeak Squad (Henry Huang, Daniel Chang, Jenay Han)



SUMMER APPATHON

OVERVIEW

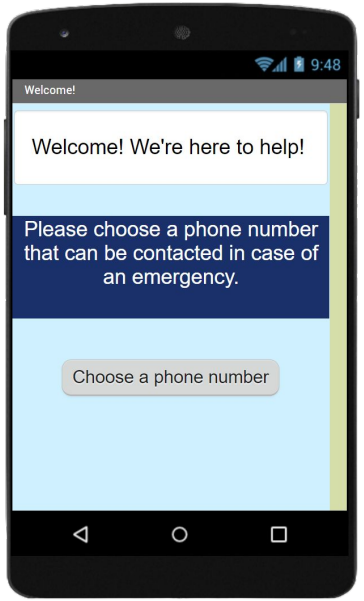
- **App Name:** Swiftspeak
- **App Description:** Swiftspeak app allows patients who suffer from stroke with conditions like expressive aphasia to convey their emotional and physical urges. Users can choose from a multitude of buttons that depict their needs through both words and pictures, creating a string of words that ultimately leads to sentence formation. Once chosen, hospital staff, caregivers, and family members will be able to listen to the playback of this sentence string and help assist the user. These audio playbacks will also promote the formation of new synapses between neurons to overcome neurological deficits. Through this, patients will be able to learn to speak again more swiftly in the long term. In more urgent situations, alert messages can be sent out through one of the button options to the caregiver's phone number for immediate help.
- **Track:** Youth Team
- **Category:** Mental Health and Well-Being

THEME

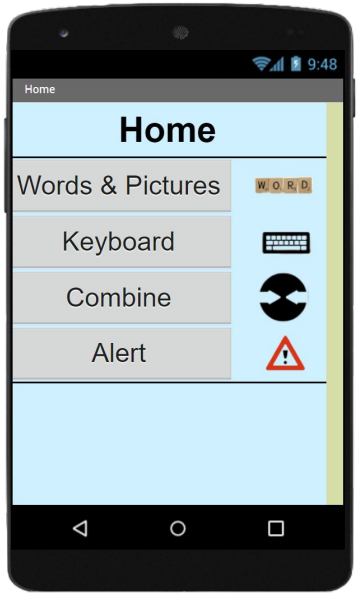
In 100 words or less, describe the problem that you chose to address, and why you were interested in solving it. Please note that this portion of your submission will be published if you are selected as a finalist or winner.

Just a year ago, our teammate's grandmother experienced a life threatening stroke. As a result, she lost her ability to speak. Her story is a part of the over 260,000 individuals who lose their ability to communicate basic necessities post-stroke in just America alone. Which results in a strained relationship between caretakers, family members, and hospital workers, exacerbating communication errors that can be detrimental to a recovering patient's mental and physical health. In fact, 45% of these patients reported that they felt utterly abandoned in their recovery. Inspired by this impactful story, our app will help all patients who have lost their ability to communicate to convey their needs to those caring for them, decrease medical mistakes resulting from miscommunication, and strengthen patient-caretaker relationships.

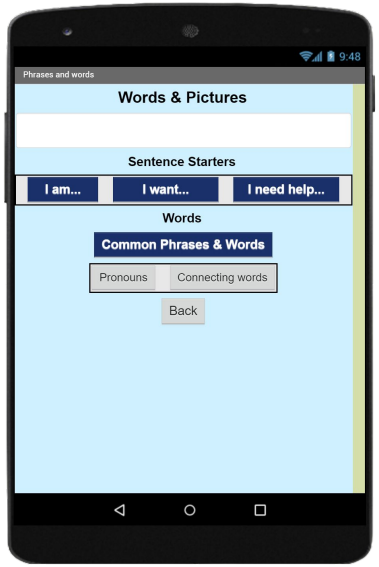
INSTRUCTIONS



Step 1: Add your caregiver's phone number to be your emergency contact

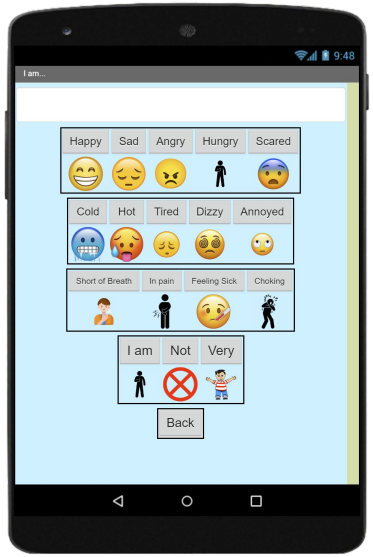


Step 2: Access the homepage to use three features to communicate and one to alert your caregiver.

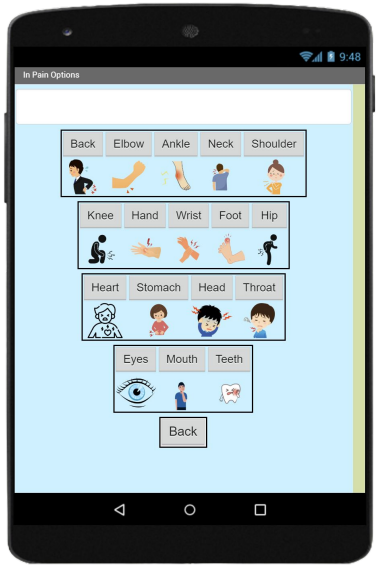


Step 3: Use Sentence Starters to begin, common phrases & words for everyday sayings, & pronouns and connecting words to further enhance your sentences.

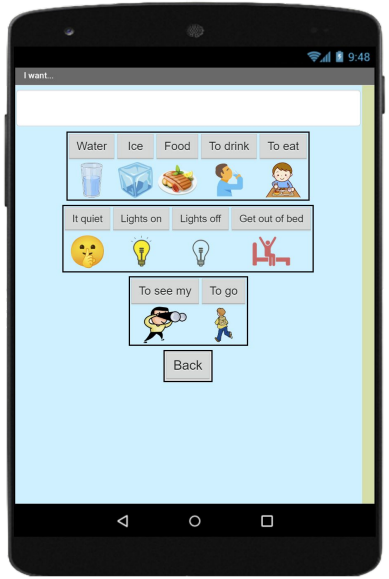
INSTRUCTIONS



Step 4: Use the “I am” Sentence Starter and words to express how you’re feeling

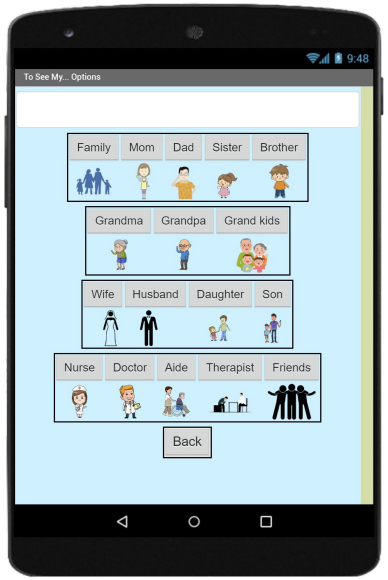


Step 5: Within the “I am” Sentence Starter, there is “I am in pain in my...”

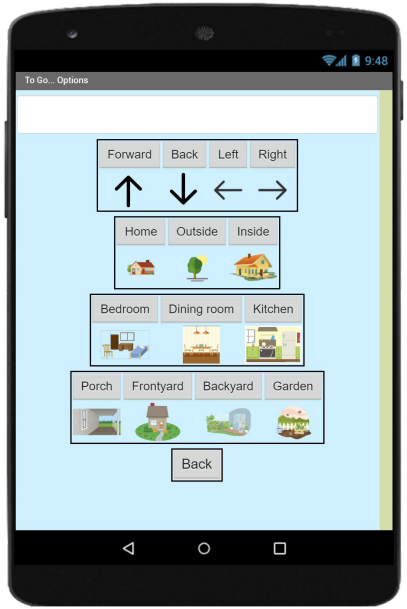


Step 6: Use the “I want ” Sentence Starter and words to express what you want

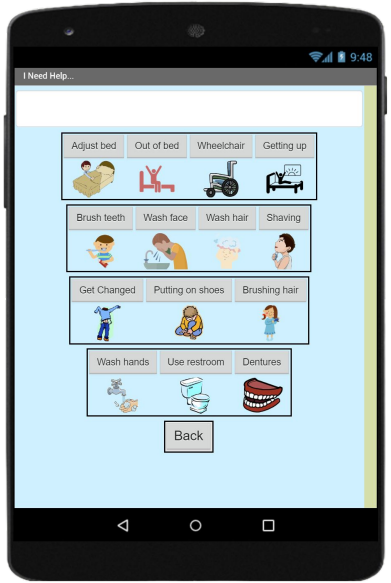
INSTRUCTIONS



Step 7: Within the “I want” Sentence Starter, there is “I want to see my...”



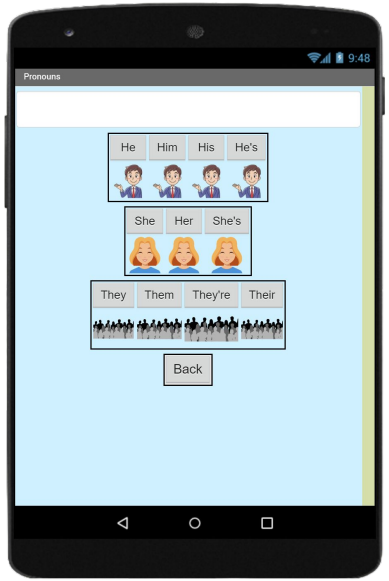
Step 8: Within the “I want” Sentence Starter, there is “I want to go...”



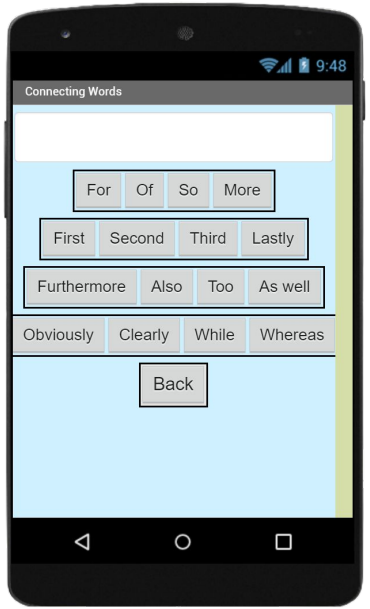
Step 9: Use the “I need help ” Sentence Starter and words to express want you need help with

INSTRUCTIONS

Step 10: Additionally, there are common phrases to say common sayings in your everyday life

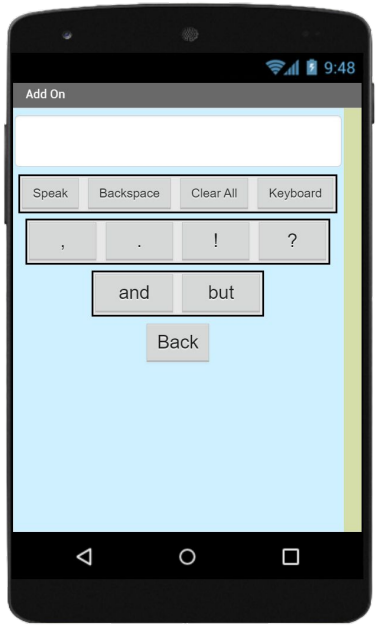


Step 11: Pronouns can be used to refer to someone or some people

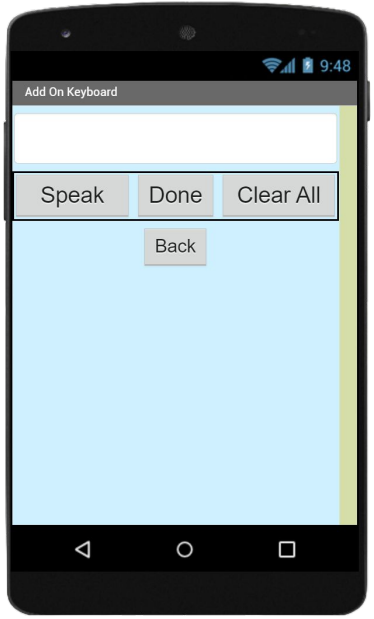


Step 12: Connecting Words are used as transitions words to enhance your sentences

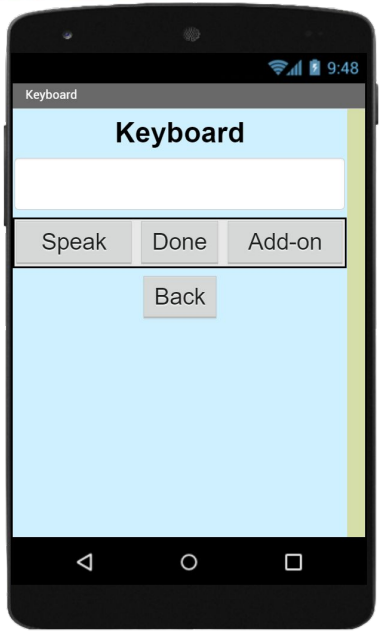
INSTRUCTIONS



Step 13: Use this to add on a conjunction, or punctuation, or additional words

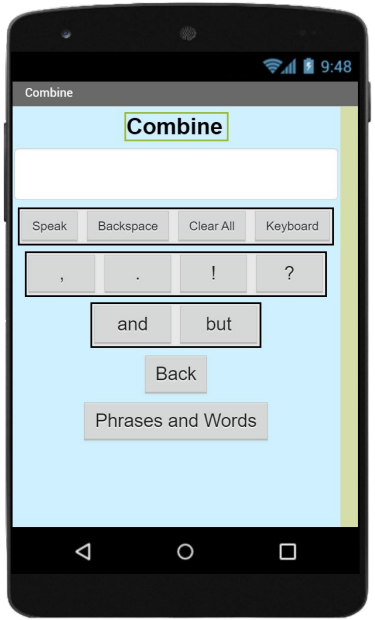


Step 14: Within the Add On Page previous, you can use the add-on keyboard to type out customs words not included

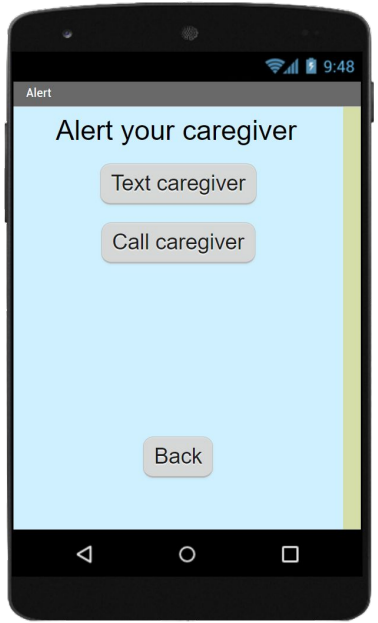


Step 15: The keyboard from the Homepage also allows users to write customs words, but may be easier to access

INSTRUCTIONS



Step 15: The Combine button from the Homepage has the same functions as the Add-on page, but more easier to access



Step 16: This feature allows users to quickly text or call your caregiver with the saved phone number in case of emergency

ACKNOWLEDGEMENTS

Please list the names of anyone who helped you with developing your app, and describe what type of help they provided.

- The SwiftSpeak Squad
- Special thanks to: Dr. Meng for giving us feedback on the technical aspects of our app, Our Parents for their moral support and mentorship, Dr. Brian Chang DO for providing medical advice, Celine Chang, and the forums that helped us to make this app function

LIMITATIONS

In 100 words or less, describe the limitations of your app and what people should carefully consider when using it.

Although we've tried our best to be comprehensive to all patients, there are still some limitations to our app. First, Swiftspeak does not encompass wear os. This means that it makes it difficult for patients who are in a situation where they may not have access to a mobile device but do have access to a digital watch. Moreover, not all patients speak the same language. Since the app is coded in English, it makes it difficult for patients from other countries because of the language barrier. Furthermore, our app currently requires patients to have a fair amount of comprehension. For example, the app requires fundamental vocabulary comprehension, barring patients that have lower levels of comprehension from accessing the app. Although our app lacks these abilities, we are still working to continue to improve so that patients can use it alongside their long-term recovery process.

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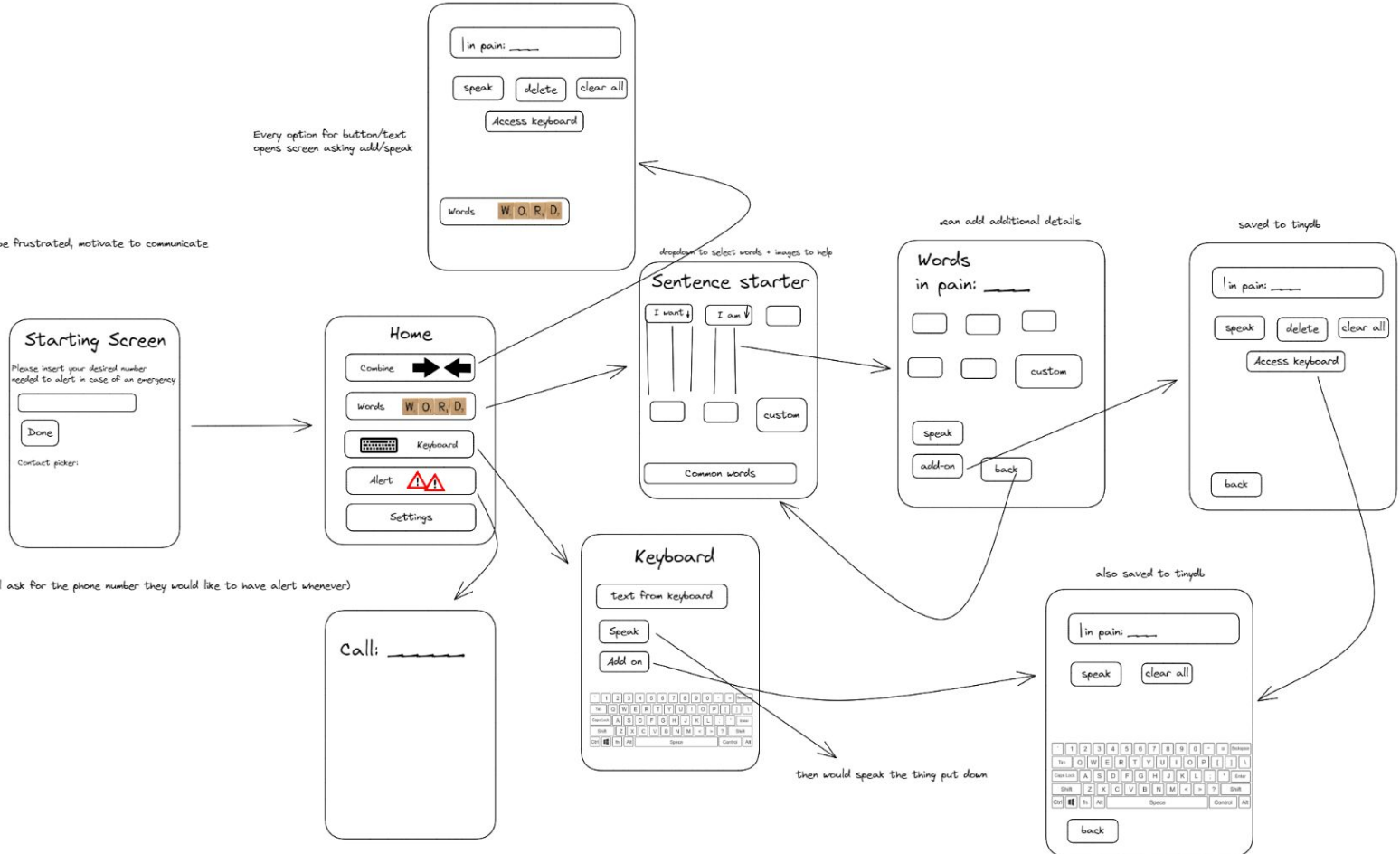
APPENDIX

Link To App Wireframe

Visit next slide for image

Checklist:

- Ability to combine phrases throughout screens
- Comfort/motivation thru audio
- Easily understood thru images
- Variety of words/phrases
- ALL Extensions & more details (maybe)
- Custom phrases/words (maybe)
- Settings screen for customization