VOIZE
Mobile application for speech impaired people

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Abstract: People with physical disabilities are prevalent in society. People who are deaf or have speech impairments have contact problems. They use sign language to interact with the outside world. Every time they engage with civilization, they are afraid. The mobile application (VOIZE) is made up of a number of modules that help people who have trouble speaking engage with others and express themselves boldly. Each section has a unique attribute. The user can learn sign language and assess their degree of confidence using the app's e-learning module. The sections accessible through the app are, Training, Confidence Level, Virtual Boards, Text-to-sign, Sign-to-text, ASL keyboard.

Keywords: Speech Impaired, Voize, communication, mobile app.

INTRODUCTION

VOIZE is a mobile application designed to assist individuals with communication difficulties, such as those who are deaf or have speech impairments. The app features several modules that provide unique attributes to aid in communication. The E-learning module enables users to learn sign language at their own pace through interactive videos, quizzes, and exercises. The Confidence Level module assesses the user's confidence in using sign language and provides feedback to help build their confidence.

The Virtual Boards module represents text using images, making it easier for illiterate individuals to understand, while the Text-to-Sign module converts written text to sign language, and the Sign-to-Text module transcribes sign language into written text. The ASL Keyboard module provides a sign language keyboard for users to type out messages using sign language symbols.

Overall, VOIZE is a comprehensive tool designed to empower individuals with communication difficulties to communicate confidently with the outside world. By leveraging technology and a range of different modules, VOIZE seeks to make communication more accessible and inclusive for everyone.,

Problems trying to address:

A variety of obstacles affect speech-impaired people's ability to communicate successfully. They struggle to communicate their ideas in a manner that others can understand. This results in Frustration and social seclusion. Speech-impaired people are at risk of having their messages misunderstood by others because they have trouble speaking properly and the ignorance of sign language in the society. Miscommunication and further annoyance may result from this. Through our mobile software, we are attempting to address these issues that speech-impaired people frequently encounter. We are attempting to alleviate fear and give hope to speech impaired people to communicate effectively in society.

Objective:

The primary objective of VOIZE is to assist individuals with communication difficulties, such as those who are deaf or have speech impairments, in engaging confidently with the outside world. Communication is a fundamental human need, and those with communication difficulties often face significant challenges in accessing and participating in society. VOIZE seeks to address this by providing a comprehensive set of modules that cater to different aspects of communication.

The E-learning module is designed to help users learn sign language, which is a critical means of communication for the deaf community. Through interactive videos, quizzes, and exercises, users can build their skills and learn at their own pace.

The Confidence Level module is designed to assess the user's confidence in using sign language, identifying areas where more practice is needed and providing feedback to help build confidence.

The Virtual Boards module is particularly useful for illiterate individuals, representing text using images to make it easier to understand. The Text-to-Sign module converts written text to sign language, while the Sign-to-Text module transcribes sign language into written text, making communication more accessible to a wider audience. Finally, the ASL Keyboard module provides a sign language keyboard, enabling users to type out messages using sign language symbols.

By providing a range of different modules, VOIZE seeks to make communication more accessible and inclusive for everyone. The app aims to empower individuals with communication difficulties to interact confidently with others and express themselves boldly, thereby breaking down communication barriers and fostering greater understanding and inclusion in society. Overall, the objective of VOIZE is to promote greater accessibility, inclusivity, and empowerment for those with communication difficulties.

Modules:

4.1 Training:

This module provides an interactive way for users to learn sign language. Through videos, quizzes, and interactive exercises, users can build their sign language skills at their own pace. The module is designed to be accessible to all users, regardless of their level of experience with sign language

4.2 Confidence level:

This module includes a series of questions that assess the user's confidence in their ability to communicate using sign language. The results of the assessment can help users identify areas where they may need more practice and provide feedback to help them build confidence in their communication skills.

4.3 Virtual Boards:

This module allows users to represent text using images. The virtual boards feature a collection of commonly used phrases and expressions, making it easier for users to communicate with others, even if they are illiterate or have difficulty reading.

4.4 Text-to-sign:

This module converts written text into sign language. Users can type out a message, and the app will translate it into sign language, which can be displayed on the screen or played back as a video.

4.5 Sign-to-text:

This module converts sign language into written text. Users can record themselves signing a message, and the app will transcribe it into written text, which can be displayed on the screen or saved as a text file.

4.6 ASL keyboard:

This module provides users with a sign language keyboard, allowing them to type out messages using sign language symbols rather than traditional keyboard letters. This feature can be particularly useful for users who are more comfortable with sign language than with written text.

Uniqueness:

The main goal of the mobile application is to help people with speech impairments overcome their fear and communicate effectively in society. The e-learning module teaches them sign language, and the other modules help them communicate with the people around them. They don't need a partner to explain their ideas to their society when they're using this app. Despite the fact that many ideas were presented, our app will stand out by providing a variety of unique modules for the communication of speech impaired people and the smart glove makes the people to communicate more effectively.

Socio-economic Importance:

Speech-impaired people can communicate more effectively and expand their social and economic opportunities by using our mobile application. Clear communication is essential in many situations, including education, employment, healthcare, and social interactions. The app can help speech-impaired people become more independent and self-sufficient by providing a means of communication. This has the potential to improve their quality of life and reduce their reliance on others for basic necessities. The app can help speech-impaired individuals feel more included in social settings by improving communication abilities, thereby reducing the stigma associated with speech impairments.

Beneficiaries:

Those who have difficulty communicating due to speech impairments are the primary beneficiaries of a project app for speech-impaired individuals. The app can help people with speech impairments of all ages, including children, teenagers, and adults. Children with speech impairments may struggle academically and socially, and the app can help them communicate more effectively with their peers and teachers. Teenagers and adults with speech impairments may face barriers to employment and social opportunities, and the app can help to overcome these obstacles.

The app is useful not only for people with speech disabilities themselves, but also for family members, friends, caregivers, and others who have trouble understanding and communicating with people with speech disabilities. By providing a means of communication, apps can improve relationships and reduce frustration and anxiety for everyone involved. Speech-language pathologists and other health professionals who work with people with speech disorders can also benefit from the app as they can provide additional resources to support their care and treatment. Overall, the beneficiaries of the project app for people with speech disorders are diverse, and the app has the potential to improve the lives of many people who have communication difficulties due to speech disorders.

Images:
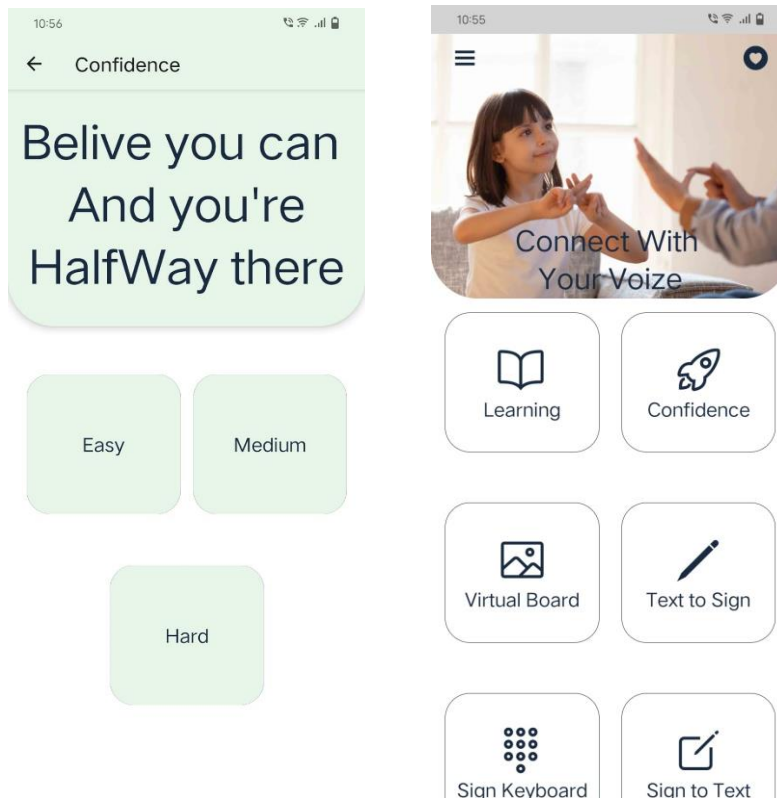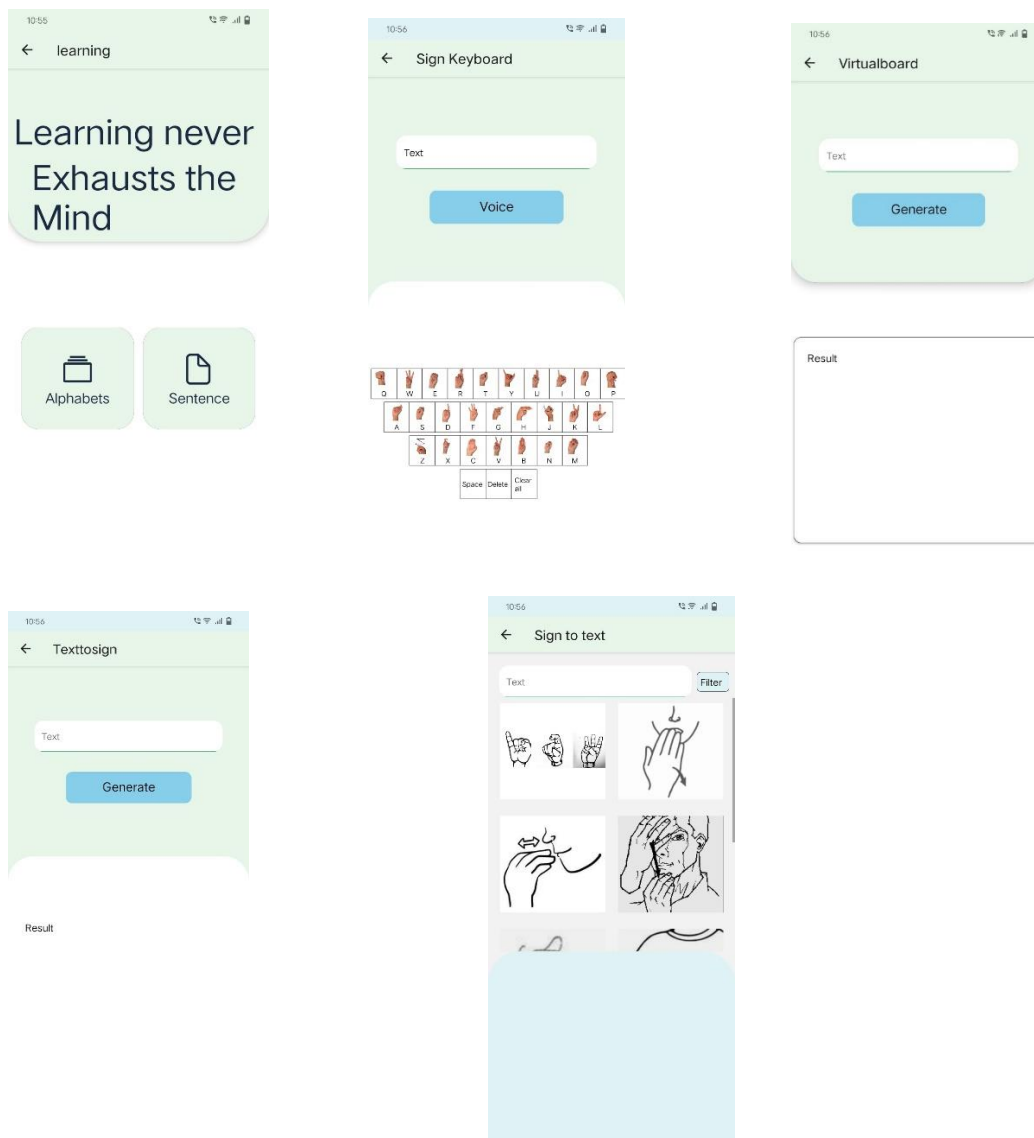
CONCLUSION

VOIZE empowers individuals with physical disabilities to communicate boldly and confidently, facilitating their inclusion in society and ensuring that they can interact with others without fear or limitations. By offering a range of accessible and innovative features, the app promotes inclusivity, understanding, and equal opportunities for all individuals, regardless of their communication needs.

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