

Learning App for Deaf and Mute and sign language-English/Gujarati converter

Description:

Background: "Inclusivity" is the motto of Education department, Government of Gujarat. Opportunity for all is the new slogan and The Indian Government has come up with Indian Sign Language. There has been lot of work in done in American sign language and focusing on interpretation in English. Majority schools in India adopt local language. In Gujarat, the deaf and mute students would be learning Gujarati by sign language. There are two general methods of deaf education are manualism and oralism. The students learn at school but at home if they want to practice material in Digital form is in limited form especially considering Indian Sign Language and Gujarati as local language.

Detailed Description: The proposed comprehensive Mobile Application aims to address the key challenges faced in learning beyond classroom by deaf and mute students. The key features of the application include:

- Interpretation of Alphabets and numbers in Gujarati:** Explaining the alphabets and numbers in Gujarati. The students first should learn and then should get writing pad to practice the writing of alphabets and numbers.
- Words and Sentences:** Explaining the basic words starting from each Gujarati alphabet for example? -???. Writing Exercises based on this
- Mathematics:** Tables. Basic calculation Sum, Subtract, Multiplication, division in Gujarati. Writing problems for assessment of learning.
- Science:** Prepare learning of science principles to sign language tutorials and writing exercises based on this.
- Conversion of Gujarati sentences to Sign Language and vice versa:** If some Gujarati news/ articles are fed, they should be converted to sign language
- Conversion of speech to sign Language and vice versa:** If some Gujarati conversation/addressing is taking place, they should be converted to sign language
- Data Analytics :** Report card of the student to assess his/her learning of Mathematics and Science

The application will cater to various users, including teachers, students, parents and HR(company). By integrating all these functions into a single Application, the application will address the lack of resources and bridge of communication gap.

- Teachers:** Get a platform for teaching and can give repeated exercises to fine tune students with Mathematics and science.
- Students:** Learning platform where they can learn at their own pace and do the exercises.
- Parents:** Helping aid for parents who do not know sign language.
- HR:** Inclusivity is part of company policy also. While interviewing speech to text and text to speech will be helpful.

Expected Solution: The implementation of this comprehensive Mobile application is expected to yield significant positive outcomes:

- Learning of Basic Mathematics and Science:** Establishment of a unified platform where all relevant data is stored, reducing fragmentation and improving data accessibility.
- Increased Communication:** Enhanced transparency in tracking progress and outcomes of various projects, facilitating better oversight and accountability.
- Better Assessment of learning:** More effective allocation and utilization of resources, leading to improved outcomes for research and innovation projects.
- Including especially abled to mainstream:** Conversion of text to sign language, speech to sign language and vice versa will narrow down the communication gap that arises due to non-understanding of sign language.

In summary, the proposed Mobile application aims to create a more efficient and supportive environment for learning to deaf and mute students in Gujarat. By addressing the current challenges and leveraging modern technology, the application will significantly enhance the learning ability of especially abled students.