

“I Can Hear and Speak” A Software for Deaf and Dump

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Abstract – About 1 lakh people in our country are deaf and dump. How often we came across this people communicating with the normal world? The communication between deaf and dump with the normal person is to be a serious problem compared to communication between blind and normal visual person. Sign language is the nonverbal form. Our basic idea is to convert a sign language (image) to voice (audio) and to convert voice (audio) to sign language (image) as per Indian standard signs. This can be satisfied by means of tools like image processing or java [1].

Keywords: Android Application, Deaf and Dumb, Sign Language.

I INTRODUCTION

Our basic idea is to help the dump and deaf people. Like us (normal people) in dump and deaf people also there will be educated and uneducated people. So there are lots and lots of techniques have been achieved successfully for educated people (deaf and dump people), so in our idea we are going to create an application which will be helpful for both the educated and uneducated people [2]. Here we are using Indian sign language because we need to utilize this in India.

One of the most popular handicaps is the deaf and dumb type, which prevent person from listening and number of deaf and dumb in the world continuously increasing and they are introverted closed society.

Therefore, Deaf-Dumb people do not have normal opportunities for learning. Uneducated Deaf- Dumb people face serious problem in communication with normal people in their society. It is notable, however, that most available application focus only on learning or recognition of sign language [3].

This work is integrated system that can easily solved most of their problem in one application. Therefore, the present work aim to:

- i) Help deaf and dumb to interact more with normal people.
- ii) Offer a great tool for parents to teach their deaf and dumb people.
- iii) Introduce the sign language application.

iv) Introduce quizzes and games for training deaf and dumb to identify English and tamil words.

Hoping this application can give a hand to uneducated deaf and dump people who could not read and write Tamil and English language to communicate with others, to learn and entertain [5].

The present application was implemented on android operating system which an operating system for mobile devices such as smart phones and tablet computers [4]. The advantage of this operating system is providing access to a wide range of useful libraries and tools that can be used to build rich applications.

Why was the idea created?

Our idea was created because to help the deaf and dump and uneducated deaf and dump people.

Cost of the work

To implement our idea it costs about 5000 to 6000 rupees. To reach the application to people it cost about 300 rupees for each installation.

II DRAWBACKS OF THE EXISTING SYSTEM

- i) Main drawback of the system is uneducated people cannot get access through the system.
- ii) And also language is the major problem for the educated people.
- iii) In the “an android application to aid uneducated deaf and people” they used only key board specification, quizzes for the uneducated people, but this won’t be useful for the people who doesn’t now the basic hand sign language.

III EXPLANATION OF EXISTING SYSTEM

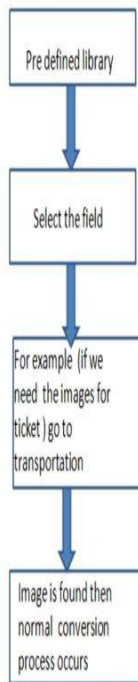
One important issue in any application is to know the importance of this work in the society. Therefore, we designed the questionnaire in Arabic language. This questionnaire was uploaded on este by an website. Also this questionnaire was distributed between 50 deaf and dumb persons in Saudi Arabia with help of expert in sign language to explain every question to them. The present application was implemented on android operating system which an operating system for mobile devices such as smart phones and tablet computers. The advantage of this operating system is providing access to a

wide range of useful libraries and tools that can be used to build rich applications.

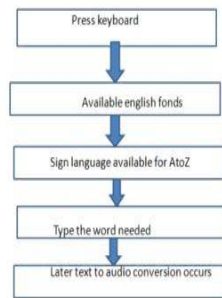
IV CENSUS ABOUT DEAF AND MUTE

- i) Total deaf and dump living in India is 776,507 peoples up to 2016.
- ii) Uneducated deaf and dump is about 69.38% are living in India.
- iii) Educated deaf and dump is about 30.3%.

IF SOME HAND SIGNS ARE NOT FOUND ON GALLERY:



IF THE PERSON WHO IS DEAF AND DUMP IS EDUCATED:



THE PROCESS INSIDE THE LIBRARY:

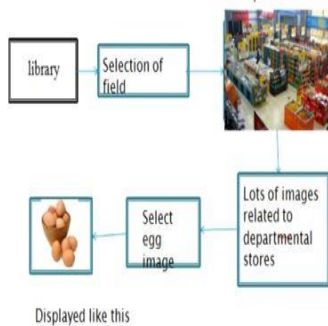


Figure 1:Workflow

V EXPLANATION OF OUR IDEA

So in our idea we are going to convert images like Indian hand signs to voice (image to voice) and voice to Indian hand sign (voice to image). The main and most important advantages of our idea is easy conversation for deaf and dump with the normal person. We also going to include a lot of images other than that of Indian hand sign images which will help the person (deaf and dump) who not even knows the Indian hand sign as well as uneducated people.

To implement our idea basic tools like image processing, MATLAB are used. Soft wares like Java, C++ can be used. So the cost of our project is also less and then mainly it will be very useful for both the educated and uneducated peoples. Main concept of our project is image to voice and voice to image conversion. A small example for the understanding process if a deaf and dump person is going to a bank it is difficult for him to communicate with the normal person.so our idea will give them a clear solution.

By using our app he or she (deaf and dump people) can press the Indian hand sign what is he needed. If the sign is not present he or she (deaf and dump people) can go to library which is an inbuilt function system after he or she (deaf and

dump people) pressing the image is converted to voice and the device speaks aloud (it is just like an mobile phone application) and the bank manager can get the need of the he or she (deaf and dump people) and after that he will just convey the voice and the voice will be converted to image. The time duration of the normal people and he or she (deaf and dump people) is very less amount and will be very easy. We can use this application with the mobile phone like an application or as an individual device.

Our idea is clearly explained in the following block diagrams, the various block diagrams are

1. Image to Voice Conversion Process
2. Voice to Image Conversion Process
3. Pre-Defined Library Process
4. Key Board Options
5. Process for Uneducated Deaf and Dump

1. Image to Voice Conversion Process:

In this method, image to voice conversion process is explained. The user should select the image which is already in our application as library. For example if the user should say the word brother. The Indian hand sign for brother is already present in library. The user press the brother image then the image goes to image to text converter then later user to press the text which is displayed on the screen the text to text to voice converter and brother a word is played as audio.

2. Voice to Image Conversion Process:

In this method, reverse process of image to voice conversion and the process is explained. The voice is given as input by normal person and it goes to voice to text converter then later the text will be displayed on the screen. The user should press the text and text to image conversion takes place and image (Indian hand sign language) is displayed on the screen.

3. Pre-Defined Library Process:

Pre-defined library is nothing but it consists of more than 350 Indian hand sign's and pictures of several house hold articles, fruits, hospitals, accessories, stationary item sand transportation like rail way, high way, road way, ships, air ways and basic things like tickets. Food items etc. based on serval categories the user should press the image which they needed.

4. Key Board Options:

For the educated deaf and dump here we are using special kind of key boards consists of a to z of Indian hand signs the user should press the key board letters to form the word which they need to say to the oppnent person.

5. Process for Uneducated Deaf and Dump:

If the uneducated deaf and dump people they not even know the Indian hand signs, then there will be a difficult in this operation. To overcome this problem we have already introduced lots of images on the library options the person who doesn't know the hand signs shall move to library options and they should select the category, the category will also appears

as image. The user should press the category which they needed and they should find the image in that particular category. If they press the image it is displayed on the screen latter it is converted in to voice which reaches to their opponents.

i) The uneducated people who knows hand sign can operate easily.

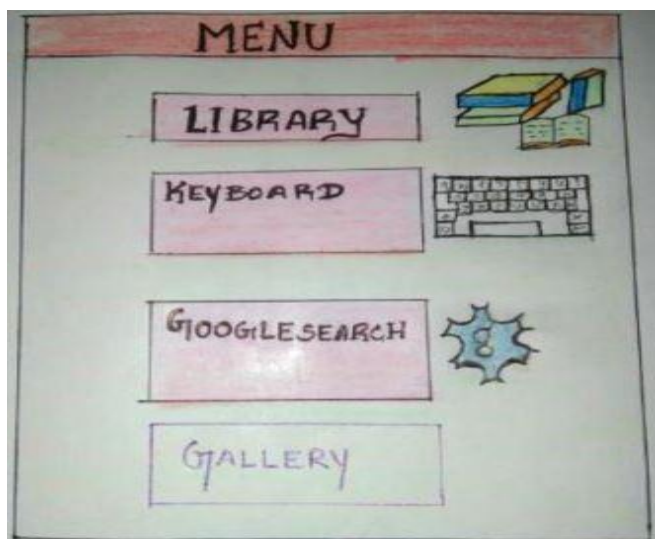
ii) The uneducated people who doesn't know the basic hand sign can also operate easily by means in built library.

This application is conducted by using the following software's:

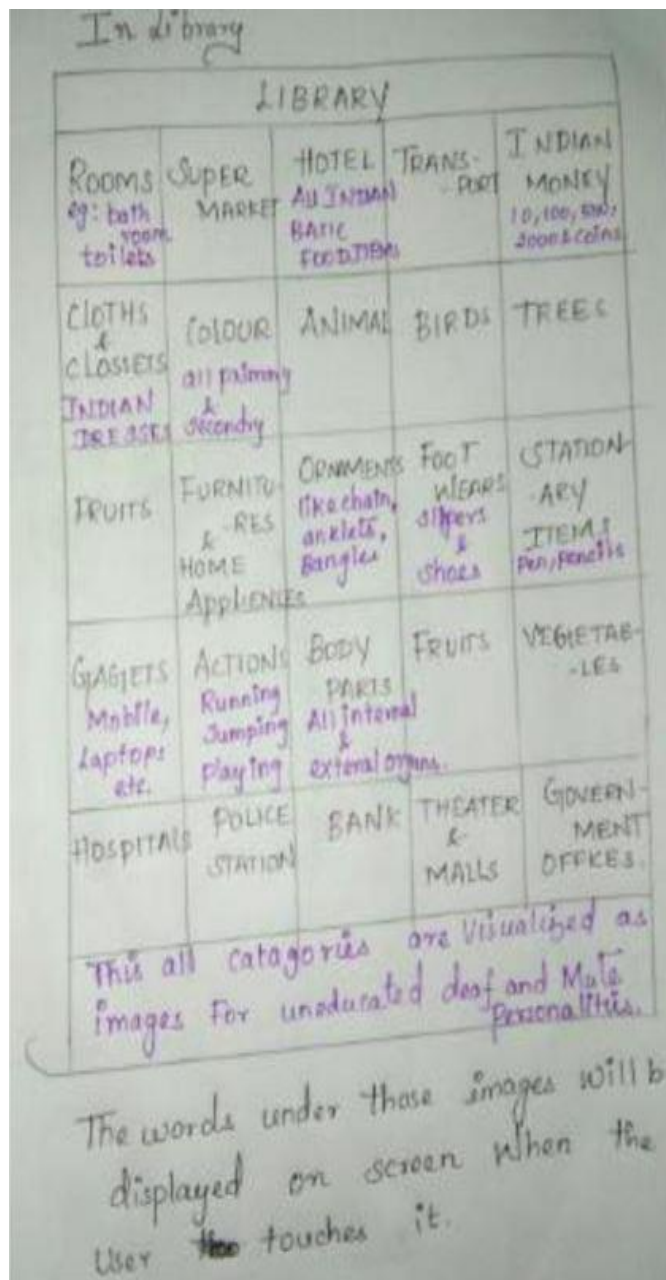
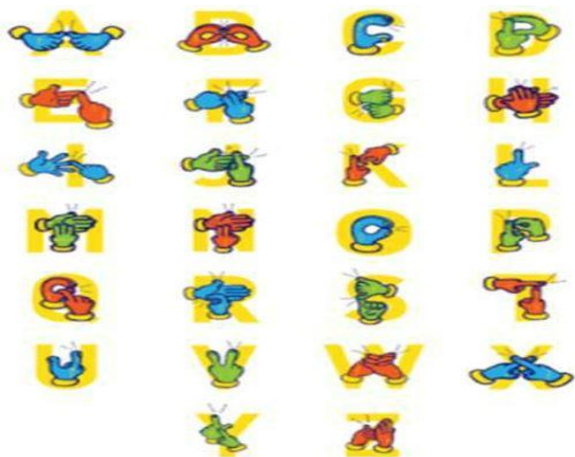
i) SQLite it the most widely deployed database engine, as it is used today by several wide spread browsers, operating systems, and embedded systems among others. SQLite program are used to add and create database.

ii) Java language used to program the application.java is the computer programming language that was developed by James gosling at sun micro systems and released in 1995. We used java because it is platform independent and flexible in nature. The most significant feature of java is to run a program easily from one computer system to another.

Home Screen:



Key Board Option:



What is the need for changing (images to voice) and (voice to images) rather than (text to voice) and (voice to text)?

- i) To help the uneducated deaf and dumb people and to communicate with the normal person.
- ii) To communicate between deaf and dumb with blind people.
- iii) The image tends the deaf and dumb people to understand easily.

VI ADVANTAGES:

- i) The conversation between deaf and dumb with the normal person can be easier.
- ii) The dumb and deaf persons who are uneducated can also access easily.
- iii) And also it has sign keyboard for educated deaf and dumb.
- iv) Time is very important so in our idea time will be saved. (The normal person can easily observe their needs, so time will be saved).



VII CONCLUSION

Thus, in this paper, we present an efficient application for uneducated Deaf-Dumb application. This application aims to help deaf and dumb by providing them with an attractive communication and learning tool. This work introduce a Mobile application that enable communication between uneducated Deaf-Dumb and normal people in our society. It also develop an aid tool for deaf and dumb in many fields like restaurants, Hospitals and transportation. Moreover, this application introduces an easy translator from sign language to English or tamil language and vice versa.

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