***Abstract***

*The (title) is basically for reducing the communication gap between the person who is impaired i.e. can’t listen as well as speak. For instance, the communication will occur in two perspective speech to sign – in which speaking person speak and his speech is converted to sign which can be easily understood by impaired one. The second perspective is text to speech –in which the impaired one talk to the normal person by typing his word and then these words are converted to speech. This website has also a focus on those people who don’t know about sign language so a learning system is also introduced in which a registered user can search and learn the sign that they want. Also, quiz option is available so one can be evaluated by asking questions by giving the specific sign and one has to be select the correct sign into specified time because quiz is on timely basses and also evaluated on the basses of scores. The website also provides our registered user to contribute to our sign language (ASL) database by uploading their respective image or video with the description which is then picked by admin to allow to the general public so our database is also growing as our user grows. If a user wants to give their feedback they can also do by well-known social website Facebook.*

1. **Introduction:**

Sign language is the source of conveying the message for those peoples who can’t communicate because of any natural reason, psychological reason or due to some disease. There are round about 70-80 million people depend on sign languages to communicate with one another but can’t communicate to those people who don’t know anything about sign language. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) report, only 5% of deaf children who have attended any special school for their education and other children which are approximately 950,000 have no access to special schools. According to UNESCO’s 2018 report 1.4 million Pakistani’s disables has no access to special schools. So they face many problems into their daily life while they want to communicate. [1]

In the past few years, there has been increased interest shown by the researchers toward the reduction of communication gap between impaired and normal ones. For communication of special people to normal people, there is the number of electronic devices is introduced. These methods are distributed under two broad categories wearable communication devices and Sensor based communication devices.

Glove base method –is the most famous method in which the special person wears the glove and his movement of hands are translated by the system that what he wants to say.[2] Google a well-known organization also proposed a Wrist base communication system for special peoples which is just proposed concept till now which will translate the muscle movement into speak via android device.[3] Toshiba is also trying to make a sign language base robot who can reduce the barrier between the normal and special people.[4] WI-see Technology this concept introduced a wireless non-instrumental technology work on the Wi-Fi signals. The WIFI signal is deflected through the motion of hands in the air then different antennas receive the deflected frequency and in response system gives the description of sign that is received in a text as well as in speech synthesis.[5]

Our proposed system will have two perspectives first perspective is to deal with the communication issue between the normal and special persons and second perspective’s focus on the learning i.e. the person who doesn’t know about the sign language can also learn the signs.

To reduce communication issue it will provide two interfaces.

• Speech to Sign

• Text to Speech

**Speech to sign:**

This interface provides the facility for the normal person to communicate with the special persons. For communication person will speak his spoken words are then converted into specific American sign language sign(ASL) so the impaired person can understand that what normal person want to tell to him. If normal person speak a single word our system will show the picture if he use to speak a sentence then system will show the relevant video

**Text to Speech:**

This interface will provide the facility to speech impaired people so to communicate with normal one should have to write text in the English language then system will convert it to the speech so in this way the normal person can hear the speech impaired person.

For learning, we will also include following two interfaces.

* Learning
* Evaluation

**Learning:**

Learning interface will provide learning for those who don’t know sign language so the person who wants to know the specific sign have to write that specific word or sentence and system will search the database and provide the relevant sign relevant to input the learner had entered.so in this way one can easily learn the sign language without going to any specialized institution or taking any special classes.

**Evaluation:**

The evaluation section will include the Quiz section so the person who had learned the different sign can evaluate his self by giving a quiz. Quiz includes multiple choice question (MCQs) in which different pictures of different ASL signs are given and the learner has to select the correct one. Quiz also includes a timer so learner should have to complete his/ her quiz in proper given time. And this section will also apply the scoring system so one can be evaluated on the basses of right or wrong answers that have been selected by the user.

Speech to sign and text to speech features are for the general public but above-mentioned features e.g. learning and evaluation will also for the general public user have to register him/herself to access these features. Registration includes username email-ID password. After registration one can log in and can access the learning and evaluation facilities. The basic purpose of registration is to basically tack the record of user’s activity because we will also provide our user the contribution option-in which our registered user can upload a video or image to our database so by increasing number of a user also increase our database if our user does the contribution.

**Admin:**

We will also define admin panel so admin can manage the records of a user and can oversee their activities for example if any malicious user tries to upload abusive or wrong signs these type of data are filtered by admin and then allow to the general public. And admin can also cancel the registration of that specific user.

**Feed Back:**

If any user/visitor want to give feedback for this the website will also provide the option for feedback using Facebook any visitor of our website gives his/her feedback independently under the Facebook’s term and services.

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References

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