TWO-WAY SIGN LANGUAGE CONVERTER

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OVERVIEW

Background

Literature Survey

Proposed System

Design of the System

Result

Conclusion & Future Scope

BACKGROUND

68 PERCENT OF PEOPLE WITH HEARING LOSS FEEL ISOLATED AT WORK AS A RESULT OF NOT BEING ABLE TO COMMUNICATE

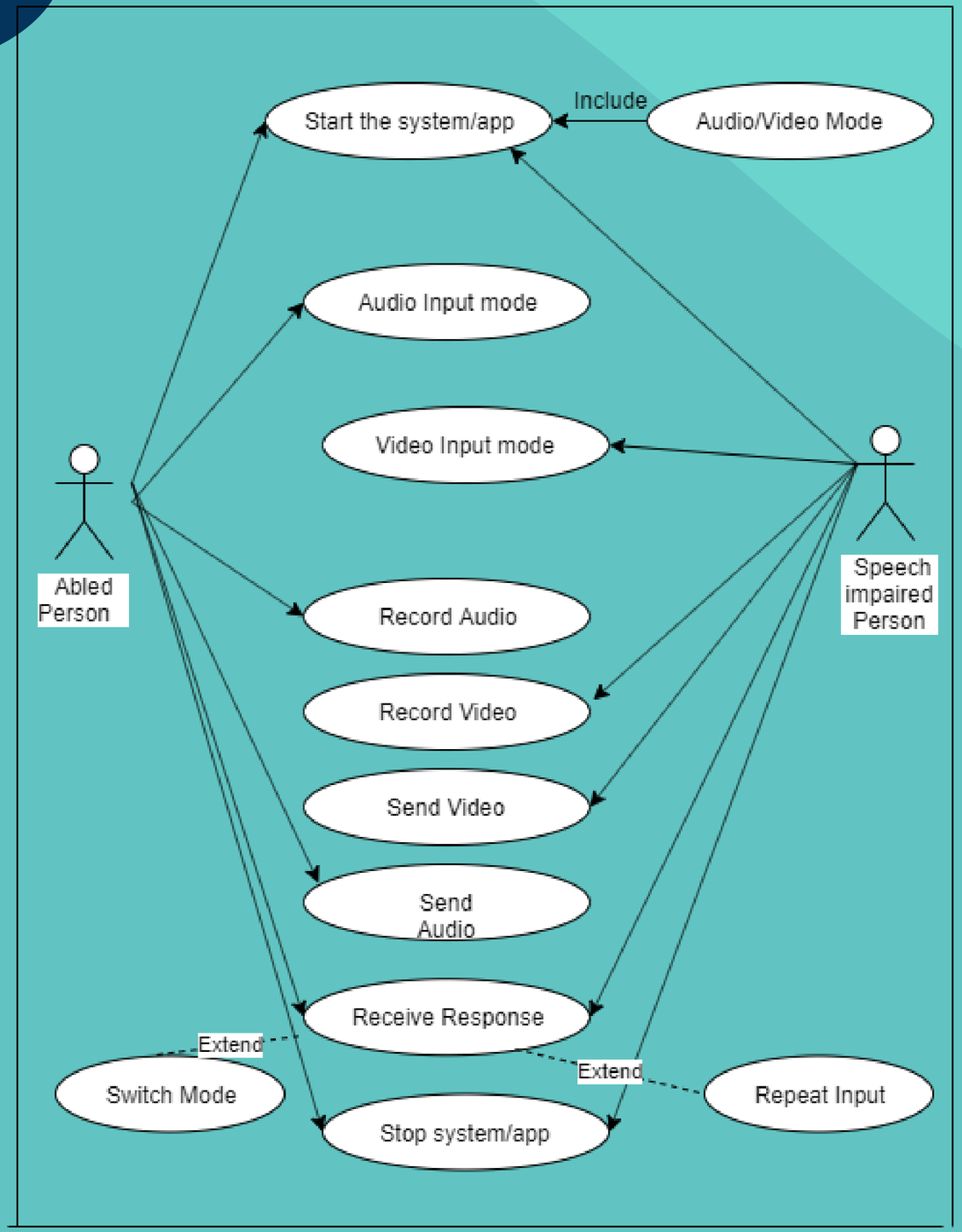
31 PERCENT OF PEOPLE FEEL THEY ARE TREATED DIFFERENTLY BECAUSE OF THEIR DEAFNESS

33 PERCENT OF PEOPLE WHO ARE DEAF AVOID SOCIAL SITUATIONS BECAUSE THEY FIND IT DIFFICULT TO COMMUNICATE

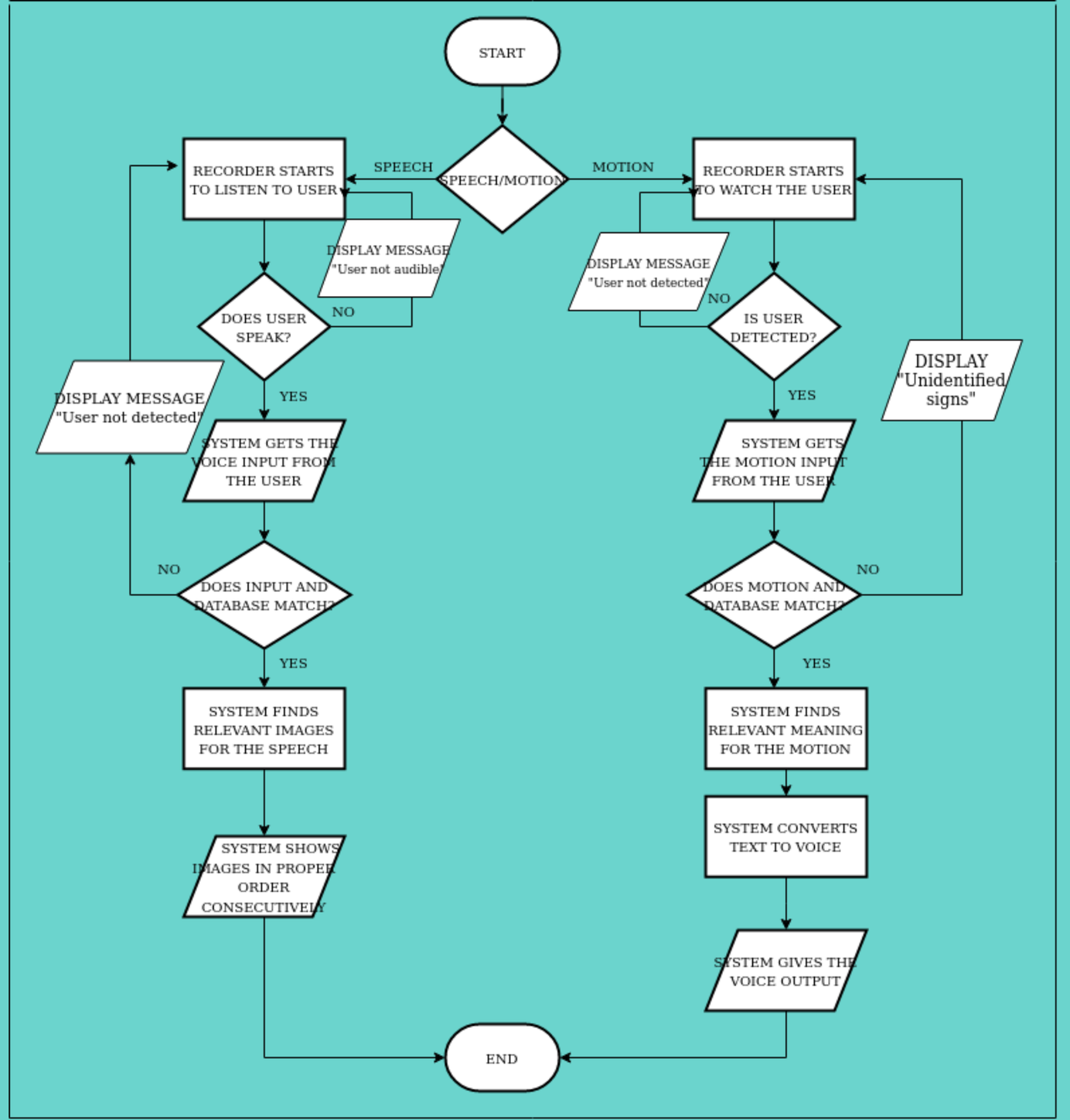
LITERATURE SURVEY

Sr.no	Paper	I/p and o/p Algorithm used	Accuracy Issues
1	**Corneliu Lungociu,*Real Time Sign Language Recognition Using Artificial Neural Networks*, Studia Univ. Babes_Bolyai, Informatica, Volume LVI, Number 2011.**	A neural network-based approach for the sign language recognition with recognition	The accuracy achieved is 80%.
2	**Kanchan Dabre, Surekha Dholay. *Machine Learning Model for Sign Language Interpretation using Webcam Images*. 2014 International Conference on Circuits, Systems, Communication and Information Technology Applications (CSCITA).**	-Haar Cascade classifier for classification. -Microsoft .NET framework for speech synthesis.	The speech synthesis phase of sign recognition process sometimes gives delayed response.
3	**Hasan, M., Sajib, T. H., & Dey, M. (2016). *A machine learning based approach for the detection and recognition of Bangla sign language*. 2016 International Conference on Medical Engineering, Health Informatics and Technology (MediTec).**	-Hand Gesture recognition is performed using HOG (Histogram of Oriented Gradients). -SVM (Support Vector Machine) used as classifier.	86.53% accuracy for only 16 predefined static gestures.
4	**Rajaganapathy, S., Aravind, B., Keerthana, B., & Sivagami, M. (2015). *Conversation of Sign Language to Speech with Human Gestures. Procedia Computer Science, 50, 10–15.***	Microsoft's Kinect sensor with program developed on .NET platform.	-The gesture tracking is limited only to 2 individuals. -The sensor cannot recognize the human objects beyond 40cm to 4m range.

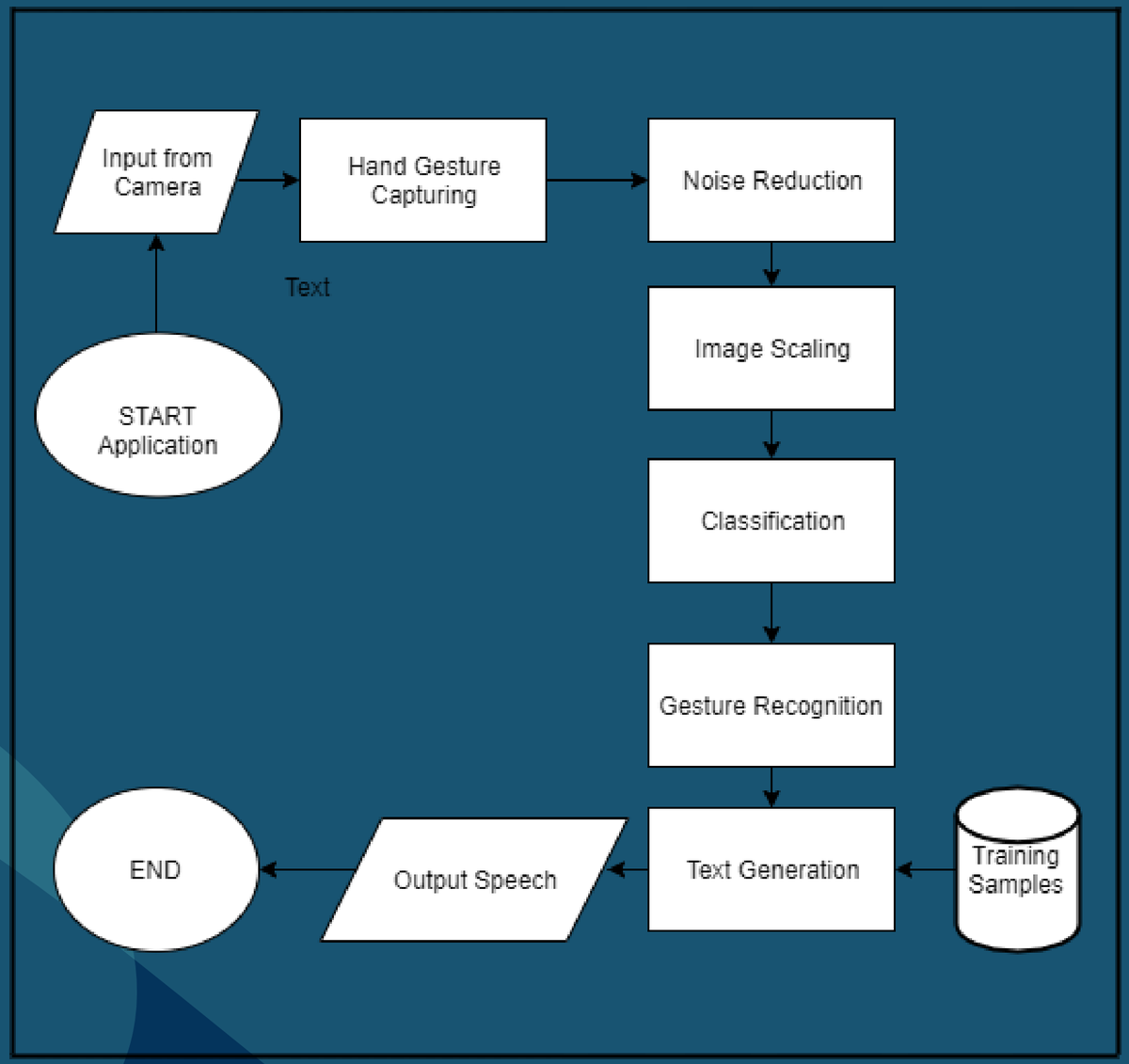
PROPOSED SYSTEM



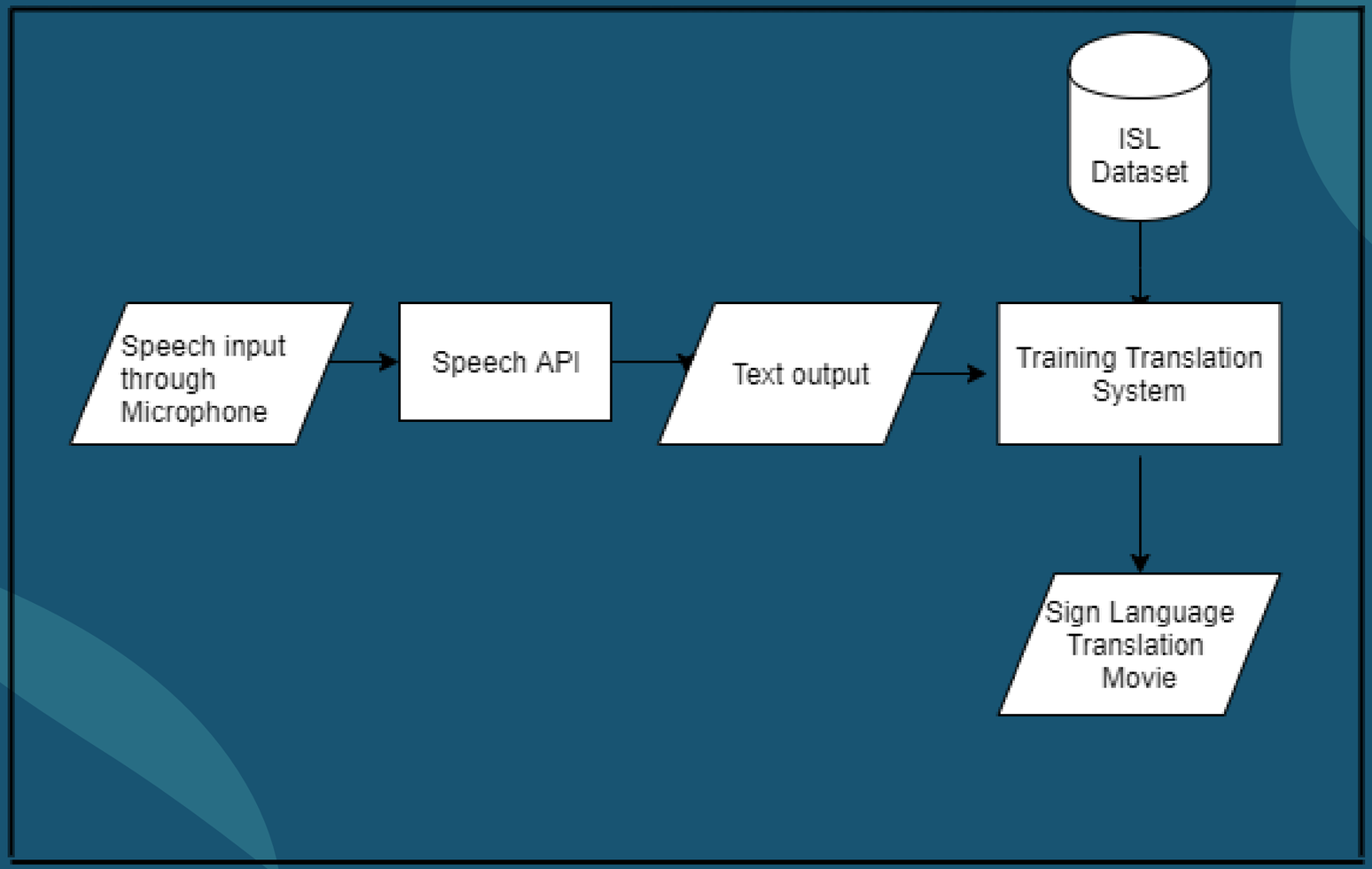
DESIGN OF THE SYSTEM



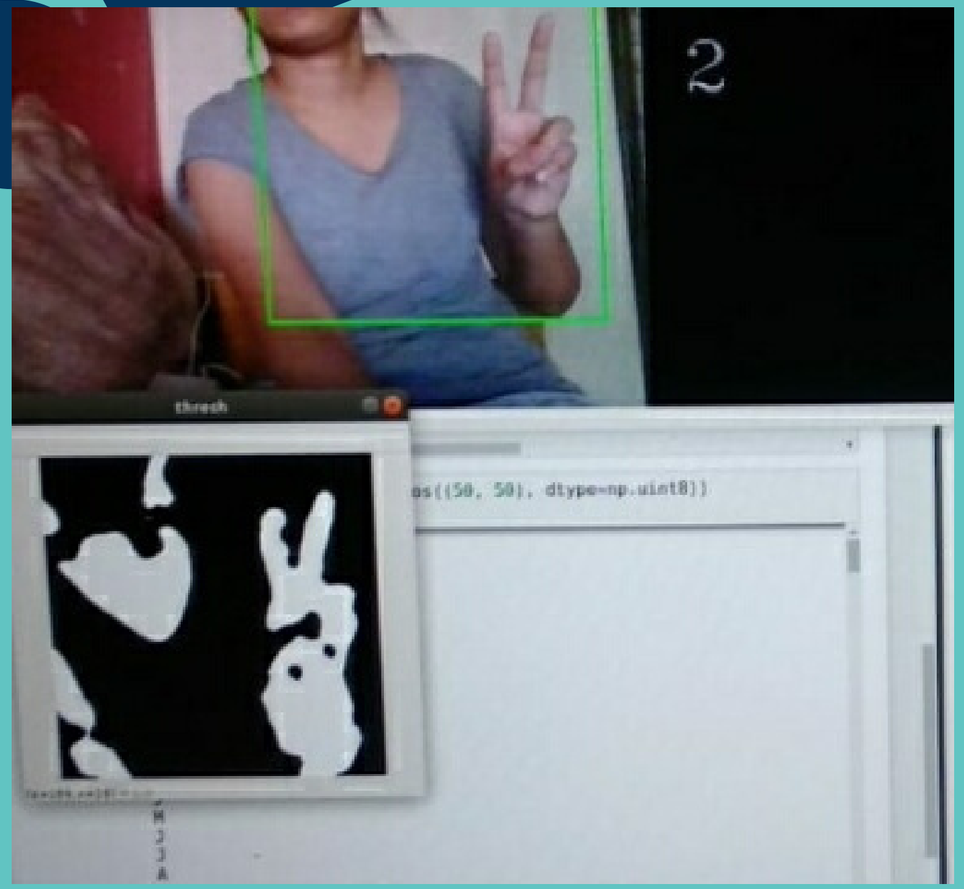
PHASE-I


Input from Camera
Hand Gesture Capturing
Noise Reduction
Text
Image Scaling
START Application
Classification
Gesture Recognition
END
Output Speech
Text Generation
Training Samples

PHASE-II


ISL Dataset
Speech input through Microphone
Speech API
Text output
Training Translation System
Sign Language Translation Movie

RESULTS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Activities
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Abstract
Literacture Survey
Project Report
About Us
Two-Way Sign Language Converter
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CONCLUSION & FUTURE SCOPE

THE PROTOTYPE IS SPECIFICALLY DESIGNED FOR THE SPEECH-IMPAIRED AND SUCCESSFULLY DEMONSTRATES A SOLUTION TO BRIDGE THE COMMUNICATION GAP.

THE PROTOTYPE CAN RECOGNIZE 320+ WORDS AND CONVERT THEM TO HAND GESTURES WITH 90 PERCENT ACCURACY.
THE SYSTEM IS CAPABLE OF RECORDING AND CONVERTING THE SPOKEN STATEMENTS INTO GESTURES.

THE FUTURE SCOPE INCLUDES DEVELOPING A MOBILE APPLICATION FOR THE SAME.

THANK YOU!