Indian Language Translator

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Abstract- *Indian Language Translator is speech to speech translation application for android mobile phone, which translates one Indian local language's speech to another language's speech and vice versa. Voice Translator has three modules, Speech Recognition, Machine Translation and Speech Synthesis. Voice Recognition module captures the voice from the mobile user through speaker, it recognizes and identifies the speech then converts it into text. Then the converted text sends to Machine Translation for further process. Machine Translation module does the process of translation that is this module consists of dataset for both language and when text is received by this module, it converts the text of one language to another as per user choice and thus it sends the translated text to last module. Speech Synthesis module acts as the text to speech translator that is when it gets the translated text. This module (text to speech) processes on translated text which converts it into speech and then makes it as user output. Thus, Voice Translation application works by integrating all these three modules and gives the user best output.*

Keywords- Speech,Speech Recognition, Machine Translation, Speech Synthesis.

I. INTRODUCTION

Speech translation is a process that takes the interlocutory speech phrase in one language as an input and translated speech phrases in another language as the output. The three components of SPEECH-TO-SPEECH Translation (S2ST) are connected in a sequential order. ASR converts the spoken phrases of source language to the text in the same language followed by machine translation which translates the source language text to target language text. Finally the speech synthesizer is credible for text to speech conversion of target language. SPEECH-TO-SPEECH Translation is a pipe dream for human being that enables communication among people speaking in different languages. Since our world is becoming border less day by day, the importance of S2ST technology has been increasing. ATR began its S2ST research in order to overcome the language barrier problem in 1986. So far, we have been working on modules speech recognition, machine translation, speech synthesis, and integration for a Speech-to-Speech Translation system. The history of our Speech-to-Speech Translation research can be divided into three phrases. The first phase focused on a feasibility study of S2ST that only allowed limited vocabulary and clear read-style speech. In the second phase, we focused on to extend the technology to handle "natural" conversations in a limited domain.

II. PROBLEM STATEMENT

As India is a "Multi-Regional" country so the languages spoken in our country differs from region to region. It is very difficult for a person to know all languages of all the states. As language barrier has always been one of the most serious problems. In the world of globalization this barrier should be eliminated. So to solve this problem we have decided to develop an android language translation application for Indian languages. This will help in business, travelling and tourism, language learning etc. Indian Language Translator is an android speech to speech translation application for smartphones, which takes the speech of one language as input and translates it into the speech of another language and vice versa.

Goals and Objectives:

a. Better understanding of Indian languages.
b. Reducing the language barrier.
c. Helps in learning new languages.
d. Better interaction between people.
e. Improved recognition quality of lower quality speech recordings (above all speech recorded through the phone).
f. Better handling of speakers with accent.

III. LITERATURE REVIEW

Mahak Dureja, Sumanlata Gautam**"Speech-to-Speech Translation: A Review".** This paper reviews the technology used in Speech-to-Speech Translation i.e. the phrases spoken in one language are immediately spoken in another language by the device. Speech-to-Speech Translation is a three step process which includes Automatic speech Recognition, voice synthesis and Machine Translation. This paper includes the major speech translation projects using different methods for speech recognition, translation and text to speech synthesis which highlight the major pros and cons for the approach being used.

Umeaz Kheradia, Abha Kondwilkar**"Speech To Speech Language Translator".** In the nascent stage of developing a personalized interpreter, we develop a prototype which uses an online translator and speech processing hardware to provide the user with real time translation. Speech processing hardware works on the principle of 'compare and forward', i.e., a database is already stored in the unit which is used for comparing with the input speech and the result is forwarded for further processing. The need arises from the inability of dictionaries and human translators to suit our needs for better communication. In this situation the prototype proposed will suffice the purpose reasonably well and minimize the communication inefficiencies.

Karunesh Arora, Sunita Arora, Mukund Kumar Roy**"Speech to speech translation: a communication boon"**. This paper describes a major international effort in this direction—in which an attempt is being made to automate speech translation among 23 Asian, Middle East and European languages including Hindi through a consortium project. The three key modules namely Speech Recognition, Language Translation and Speech Synthesis required for Hindi are being designed and implemented by CDAC, Noida as Indian counterpart in the project.

IV. PROPOSED SYSTEM

The speech to speech conversion System is a new self-contained software product which will be produced by the project team in order to overcome the problems that have occurred because of the current manual system. The newly developed system will provide an easy access to the system and it will contain user friendly functions and services with attractive interfaces. The system will give better options for the problem of handling system, for the errors occurring in calculations and all the other necessary tasks that have been specified by the client. The final outcome of this project will increase the efficiency of speech to speech translation system.

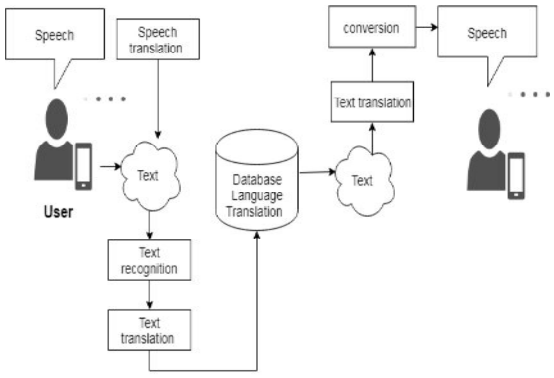

Figure 1.Block diagram of system

V. CONCLUSION

We have maintained a multilingual corpora and designed machine learning algorithms for speech recognition, speech synthesis and machine translation. The results ensured us that our strategy is a viable way to build a high-quality Speech-to-Speech Translation system. The current translation system needs improvement in translation of longer sentences that are generally found in natural dialogs therefore, we are studying a method to split longer sentences into shorter ones and translate them. It is also weak in translating variations often found in natural dialogs; therefore, we are studying anapproach to normalize a variation in dialog into a stereotypical one found by automatic paraphrasing. Finally, a confidence measure for translation is now being pursued and it will be incorporated to reject erroneous translations.

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