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Speech Recognition using Android

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Abstract - *This project presents an extremely on-demand, fast and user-friendly Android Application for voice recognition. This app helps to convert voice to text and vice versa. Instead of typing on a keyboard, the speech or any kind of voice can be converted into text. In this app, any kind of voice message can be given as the input and the corresponding text will appear on the screen. Modern algorithms and methods can process speech signals efficiently and can easily generate the text. The recognized text can be stored in a file with GUI/Voice command. This application is useful for people with physical disabilities like deaf or physically handicapped users, who are often difficult, painful or impossible to type. A Speech Recognition System can also improve system approachable by providing data entry modules for deaf or physically handicapped users.*

***Key Words*: Speech Recognition, Speech to text, Android OS, HMM, Android Development, RecognizerIntent, TextToSpeech**

1. INTRODUCTION

Nowadays people use their mobile phones because they can actually stay in touch wherever they are. That means not just for talking with someone, but e-mailing, texting, and so on. The mobile operating system has improved a lot in the last decade. Starting from Motorola DynaTAC 800xs to recent Smartphones. In considering the growth of mobile phone technology, Android is the most widely used cellular OS in the world these days. According to the recent movement Android covers nearly 85% of the whole Smartphone market. The Android IDE provides a set of core libraries which enable developers to write Android applications using standard Java, Kotlin programming language.

Fig-1: Speech Recognizer App

At present there is a Smartphone user who may look for a new application dedicated to the user's need. Android Makes it simpler for consumers to get and use new content and applications on their mobile. This application provides a really on-demand, fast and user-friendly Android Application for voice recognition, i.e. by using this application It will achieve more work with less time and do much at that time. We are developing such an application which is wholly useful for users such as giving input as speech and converting it into text (STT). As well as written Spelled word is converted into speech (TTS) [4]. The recognized text can be stored in a file, shareable on social platforms, and on the text can perform a particular operation with GUI/Voice command. This is very useful for the user for making many works at a time and your time will be saved with more output. As well as it is very helpful for the deaf, handicap person.

2. LITERATURE SURVEY

In this situation Android is the most popular cellular OS in the world nowadays. According to the recent movement Android capture nearly 85% of the whole smartphone market. Nowadays there is a Smartphone user who may look for a new application dedicated to the user's need. Increased growth in Speech recognition technology contributes more to organization in reducing organizational costs, providing benefits to users. Hence this project implementing in Android for compatibility, user friendliness to convert STT and performs operation based on GUI/Voice command to perform access.

2.1 Existing System

In the past, managing large amounts of data or typing the text was very time consuming. These Existing systems are compatible for desktop, laptops, partially based on hardware module, Smart phones which works as Different system for Different modules without Support voice command (Fully GUI). The existing system has some accuracy issues and is also unable to perform operations on it.

2.2 Proposed System

In the proposed system a speech to text and text to speech in Android is implemented by using the Android studio. By using that we can achieve more work at a minimum time in a faster way. Every day a Smartphone users may look for a new application dedicated to the user's need. Android platform makes it simple for users to use and get new content and applications on their device. The system will provide runtime, user-friendly application for communication. It just needs to talk in front of a mobile and the voice converted into text. It introduces voice command features and provides conversion between voice and text. It can also provide the facilities to Handle converted text with file handling and shareable on other applications.

3. METHODOLOGY

Fig-2: Speech to Text

Android Speech API provides access to the Speech Recognizer service, which converts speech into the text. We need to start Intent (RecognizerIntent. ACTION_RECOGNIZE_SPEECH) which recognizes speech through a mic dialog box. This activity converts speech into text and provides result to the calling activity.

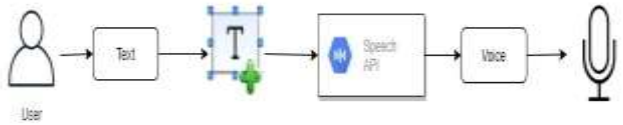

Fig-3: Text To Speech

In addition, android. speech.tts. Text To Speech provides access to Text To Speech service, which converts synthesized speech from the text for immediate playback. Users need to talk in front of the device. Voice is given as input through the mic and it converts into text by the API. Generated text available for shareable on social platforms. It is also stored on device storage on application storage or in File system.

4. CONCLUSION

This Paper work of speech recognition, we started with a brief introduction to android technology. At the later stage discussed tools ie Android Studio for bringing that idea into practical work. Here the android application is built in a way that every user can use. After the end of development of the application we tested it and it is capable of handling file manipulation, writing spells.

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