

Android Application to get Word Meaning through Voice.

Miss. Priyanka V. Mhamunkar, Mr. Krishna S. Bansode and Prof. Laxman S. Naik

Abstract— The mobile phone users are increasing day by day and everyone wants to develop new things which are improved version of existing one. The user might want the faster technology which can give the word-meaning by giving input and getting output in the form of voice. This project deals with the easy to use and time saving feature and providing the easy search facility.

In this technology, there will be voice-to-text and text-to-voice interaction between the user and the server. Here first voice is converted into text and this text is searched in the dictionary residing in application itself and extracts its meaning, then this meaning will be converted into voice. If word is not found in mobile-dictionary then it will sent over Wikipedia to extract its meaning and gets converted into voice. Finally the client will be getting a word meaning in the form of a voice for the searched result.

Keywords: Speech-to-text conversion (STT), Text-to-speech conversion (TTS)

I. INTRODUCTION

People love their mobile phones because they can actually stay in touch wherever they are. That means not just for talking, but e-mailing, texting, and so on. We are constructing with the growth of mobile phone technology. As per the users are increase day by day, facilities are also increasing. Let's start with simple regular handsets which were used just for making phone calls, mobiles have changed our lives and have become part of it. Now a day's mobile phones are not use for making calls but they have innumerable uses and can be used as a Camera, Music player, Tablet PC, T.V. ,Web browser etc. And with the new technologies, new software and operating systems are required.

In recent years, smart phones have placed an increasing emphasis on bringing speech technologies into mainstream usage. This focus has led to products such as Speech server, which is used to implement speech-enabled telephony systems. Now let's limit our focus towards applications of android mobile phones. Mobile dictionary is the most widely used data

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application in the world, with 2.4 billion active users. But instead of searching the word meaning by typing, we just give input in the form of voice by just speaking the word of which we required meaning and also getting its meaning in form of voice itself minimizing the work.

II. AIM AND OBJECTIVE

The main goal of our project is to develop android application for getting word meaning by giving input as well as getting output in the form of voice.

Objective includes

A. Speech to text conversion

This will include the conversion of speech into text by matching appropriate peach and frequencies, which is done by servers holding large database regarding possible different peach and frequencies of a person's voice. This server is already built by Google

B. Searching mechanism

After converting speech into text the searching mechanism is performed which include searching of that text in the dictionary residing in application itself and extracting its meaning.

C. Connecting to Wikipedia via internet

If the desired text does not match with any word in dictionary then it will search that word over Wikipedia through internet.

D. Text to speech conversion

If the word is found then it will be converted into voice as an output of our application.

III. EXISTING SYSTEM

Whenever we want to get meaning of any word we need to perform searching task in the huge dictionary thus wasting lot of time. In case of mobile phones dictionary is present but we need to type the whole word to get its meaning. This process involves considerable wastage of time as it is not always possible to type word or not to read its meaning. The process requires human interaction at each state and takes a lot of time. Briefly we can summarise the drawback as:

A. Manually typing of word

In the existing system, whenever you want to find the word

meaning from mobile phone you need to type whole word manually.

B. Less Efficient

The existing system is less efficient as it may not give meaning of the every word as the mobile dictionary is static in nature and having limited words.

C. Time Consuming

As each and every time we need to type whole word, search accordingly and also need to read its meaning thus wasting lot of time.

IV. PROBLEM STATEMENT

User gives input in the form of voice, this voice is converted into text and this text is searched in the dictionary residing in application itself and extracts its meaning, then this meaning will be converted into voice. If word is not found in mobile-dictionary then it will be sent over Wikipedia to extract its meaning and gets converted into voice. Finally the client will be getting a word meaning in the form of a voice for the searched result.

V. IMPLEMENTATION

Here we are using eclipse for writing android source code for designing interface and creating various processes included in application. We begin with the conversion of the voice into text, this is performed by matching the person's voice peach and frequency then finding the appropriate word, this task is performed by Google servers having huge database regarding different peach and frequencies [4]. then the resultant text is searched in the dictionary through searching technique and if the word is found its corresponding meaning is extracted and given as input to the another process where this text is converted into voice, the text to voice conversion takes place internally and we are getting output as voice saying the meaning of the word which we have spoken as input.

If the word is not found in the dictionary then it is sent over the Wikipedia to search the word, the first paragraph after that word is extracted and stored in the temporary storage space and also given for further processing where it actually gets converted into voice as final output.

For storing the dictionary and creating temporary storage space the database is required. For this purpose we are using SQLite database which is very simple and suitable mini database system. Separate space as temporary storage has to be made to store the word and its meaning which is not found in the dictionary but searched over the Wikipedia, this word along with its meaning is stored in the temporary storage for quick accessing of word meaning instead of again searching it over the Wikipedia.

The block diagram of the whole system shows in the fig VI.

VI. FUNCTIONAL FLOW

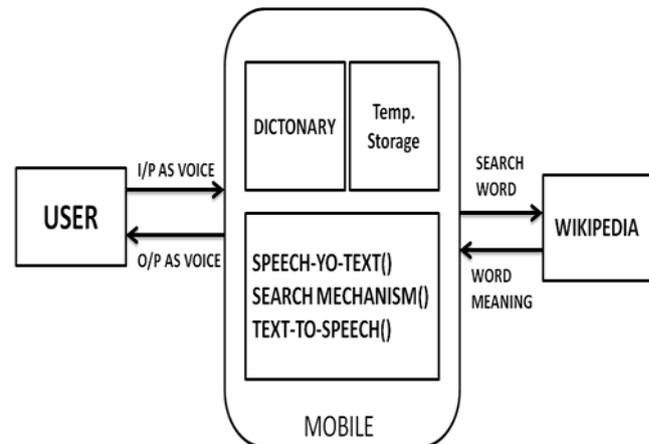


Fig.1. Block diagram

VII. UNITS

A. speech-to-text conversion

The main requirement of every speech to text conversion system is a database which will compare peach with frequencies. If we develop the system which will convert the speech into text globally that is for any user it is very difficult job because the frequency of giving input of any user is different as that of other user. If the system is global hence we are creating it for the mobile user means our job is very much difficult there are millions and billions mobile users and sound frequency and peach comparison is again difficult. Hence we need to use database which is already provided by "Google" [4].

If we try to create the database manually it will create time and space problem. To create such a huge database lot of time will west and this project is for mobile users whose internal memory of mobile is generally low and the database for this is system is very much huge. Instead of creating a database for this system we need to use existing database which is available at the web server.

The speech input is collected in the container and the send it to the peach and frequency comparison there cognition take place. To get correct text which is spoken we need training on input file and the output is collected in the text file.

The fig A. shows the overall process of speech-to-text conversion.

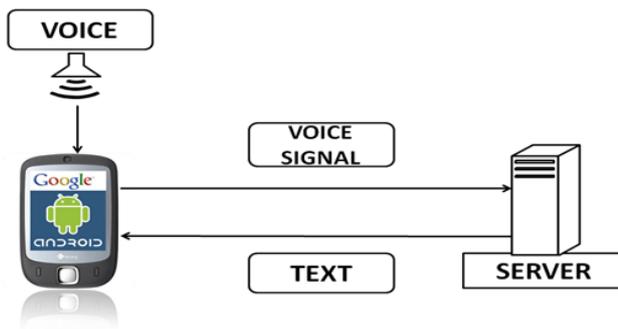


Fig 2. Speech-to-text conversion

B. SEARCHING MECHANISM

The system includes three searching mechanisms are as listed below:

i. Searching in dictionary

After converting the speech into the text the searching mechanism search the text meaning in the dictionary residing in mobile itself and extract the meaning of the text. If the text meaning is not found in the dictionary then it searches in the temporary storage.

ii. Searching in temporary storage

In this it searches the text meaning in the temporary storage and extracts the meaning of the text. This searching mechanism stores the text meaning for a particular slot of time. If the text meaning is not found in the temporary storage then it will be searched over Wikipedia.

iii. Searching over Wikipedia

Wikipedia search the meaning of given text and extract the Meaning of it. This extracted text meaning is stored in temporary Storage for some period of time.

C. TEXT-TO-SPEECH

Text to speech synthesis is converting the text to the synthetic speech that is as close to real speech as possible according to the pronunciation norms of special language. Such systems are called text to speech (TTS) systems. Input element of TTS system is a text, output element is synthetic speech. where the actual conversion is done by storing some rules regarding text analyzing like saving pronunciation of each alphabets with some exceptions, taking pause whenever space is been encountered while actual converting text into speech and so on.

VIII. DETAILS OF SOFTWARE AND HARDWARE.

A. Software Requirements

Operating System:-Android operating system.

B. Hardware Requirements

Mobile phone with specification.

- Android operating system (version 2.3).
- 650 MHz processor.
- 512 MB RAM.

IX. CONCLUSION

This paper will demonstrate the plan and implementation of building an application which will give word meaning in the form of voice having user friendly interface and useful in day to day life for many users for finding the word meaning. This will also overcome on various disadvantages found in existing system thus making it more efficient and reliable.

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