GingerT
A Voice Recognition Application

Introduction

Phones in this era have a lot going on for them. Google Assistant blazes through the context based queries and performs one of the best context switching. Google has developed an open source operating system called Android, which allows a user to perform voice commands such as: send text messages, listen to music, get directions, call businesses, call contacts, send email, view a map, go to websites, write a note, and search Google, we are using that to implement our application.

Features:

- **Application recognition**
- **Simple data entry**
- **Recognizing the speech rather than recognizing the speaker**
- **Pronunciation evaluation in computer aided language learning apps**

TYPES OF VOICE RECOGNITION

There are two types of Voice recognition :-

- **Speaker-dependent application is commonly used for dictation software, while speaker-independent application is more commonly found in telephone applications. It works by learning the unique characteristics of a single person's voice, in a way similar to voice recognition. New users must first "train" the application by speaking to it, so the phone can analyze how the person talks. This often means users have to**

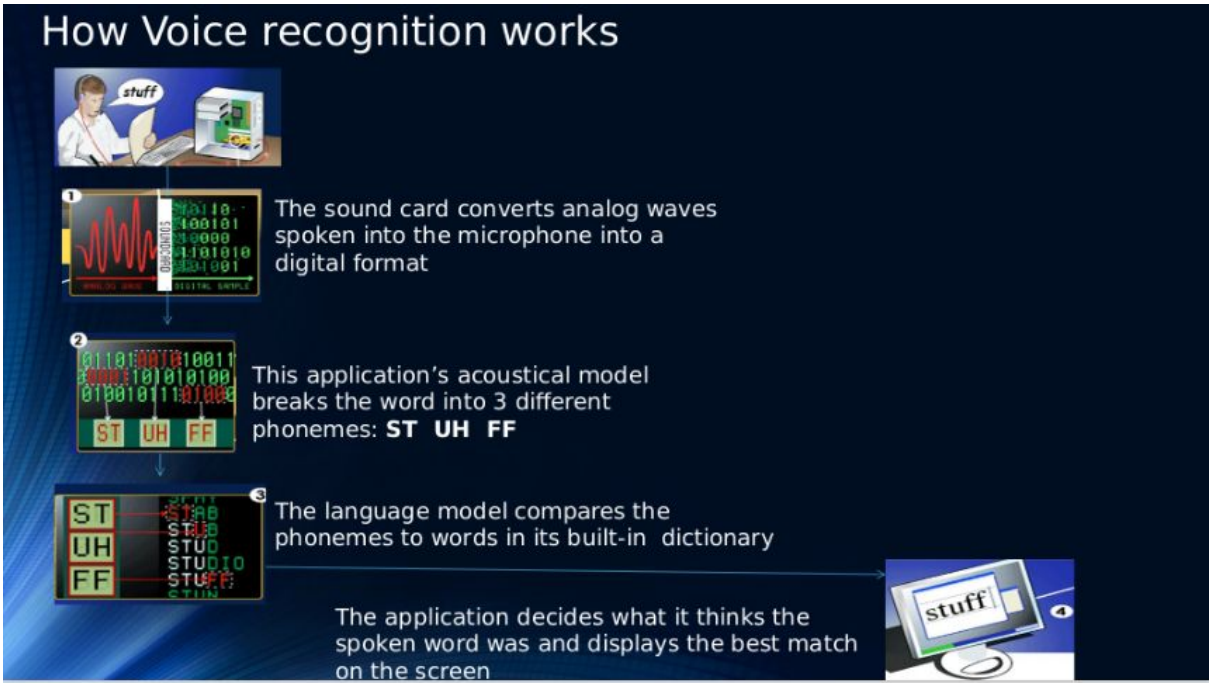
read a few pages of text to the phone before they can use the speech recognition application.

- **Speaker-independent application is designed to recognize anyone's voice, so no training is involved. This means it is the only real option for applications such as interactive voice response systems — where businesses can't ask callers to read pages of text before using the system. The downside is that speaker-independent application is generally less accurate than speaker-dependent application.**

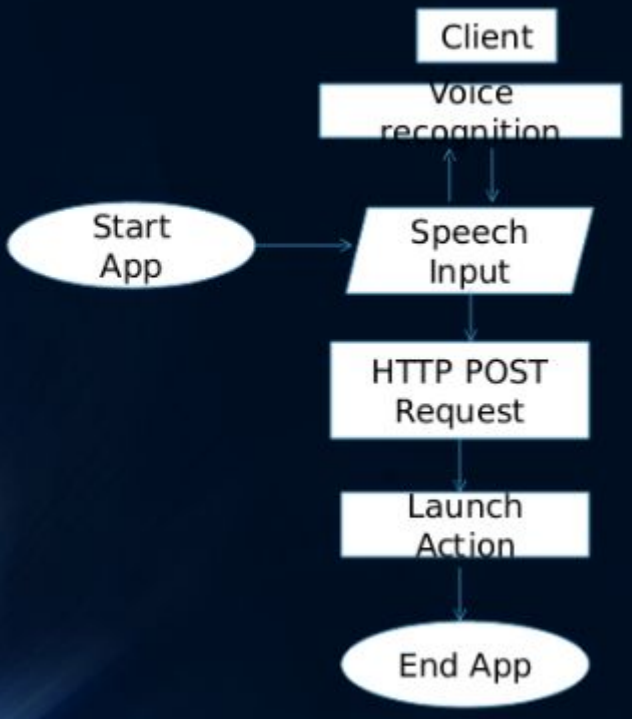
- **Our application over here is going to comply a preliminary section where one would not need to train the application to suitably avail all the prodigies of our application but at the same time this application is going to work with a voice-independent http post request model.**

Diagrams explaining the process flow:

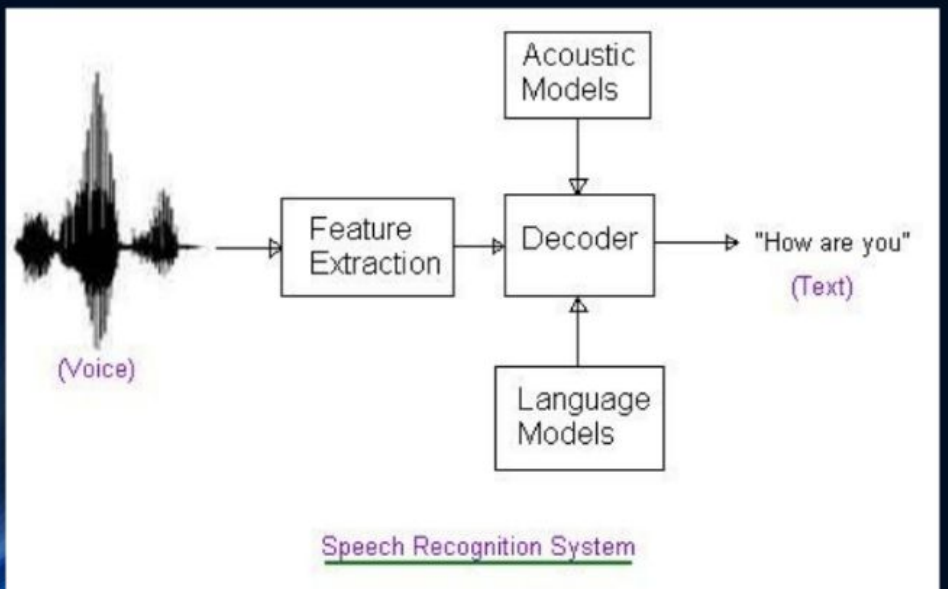
The following diagrams give in-depth information about the project:

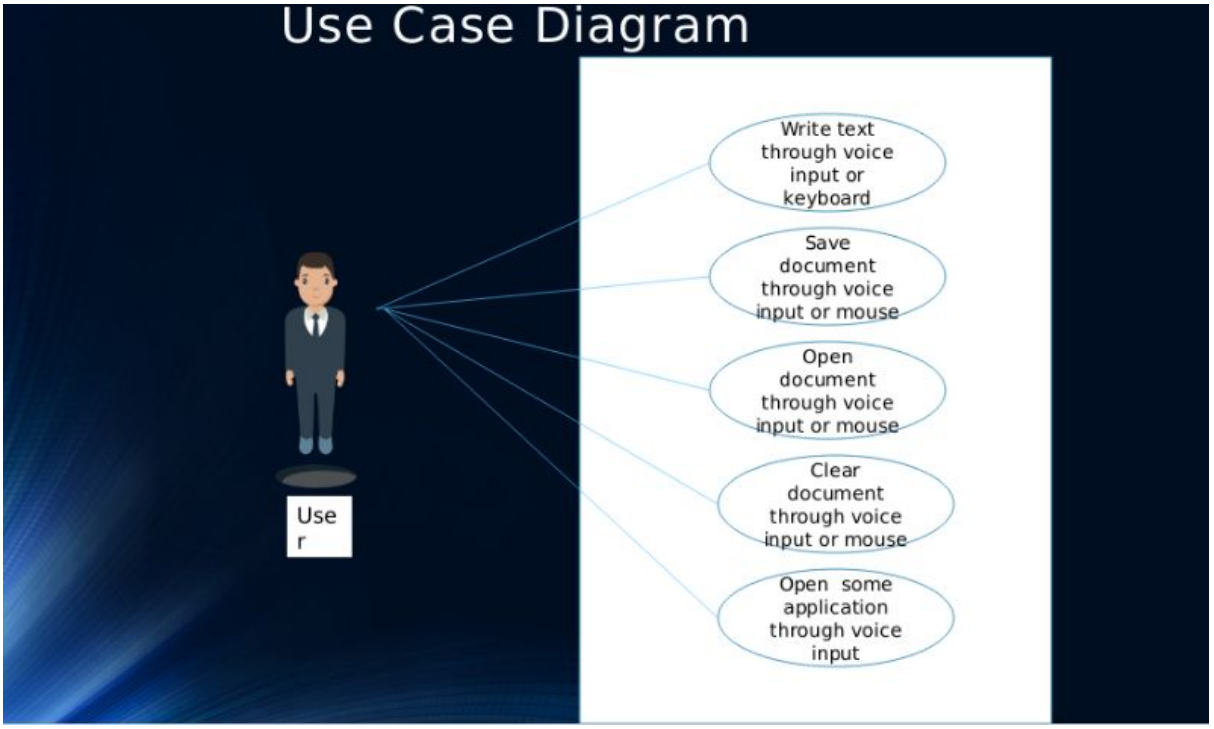


Architecture Diagram



Block diagram





DIFFERENT PROCESSES INVOLVED

- **Digitization**

– Converting analogue signal into digital representation

- **Signal processing**

– Separating speech from background noise

- **Phonetics**

– Variability in human speech

- **Phonology**

– Recognizing individual sound distinctions (similar phonemes) is the systematic use of sound to encode meaning in any spoken human language

- **Lexicology and syntax**

– Lexicology is that part of linguistics which studies words, their nature and meaning, words' elements, relations between words, words groups and the whole lexicon

- **Semantics and pragmatics**

1. **Semantics tells about the meaning**

2. **Pragmatics is concerned with bridging the explanatory gap between sentence meaning and speaker's meaning.**

System’s minimum requirements:

•Android application platform
•Microphone
•Sound card
•High quality microphones

Conclusion

We tried and developed a simple voice recognition application which easily handle simple voice Queries. While making it efficient to handle context based queries and performs context switching.