

# SPEECH INTERACTIVE SYSTEM

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**Abstract—** : Computer is playing very important role in our life , Computer users are increasing day by day . Computer can be used for many purpose like Entertaining it include listen songs , watch movie , play games etc. Internet also very important in our day to day life , Internet is a media by which people can exchange their ideas , people can communicate with each other from any place of the world to any place of the world. In this paper we have developed a speech based system to use operating system and web related application. The main aim to provide these service is to make more efficiency to use an operating system and web application. The idea is to incorporate several applications like Email Reader, News, Reader, Web Content, Blog, RSS Reader, Local System File Reader, Text/Document Reader, and Voice Command System. The proposed system develops the ability to handle web applications along with the O.S, mouse and keyboard control through Speech

**Index Terms—**About four key words or phrases in alphabetical order, separated by commas.

## I. INTRODUCTION

People always with their computer/laptop (Internet) because they have a lot of work related to computer (Internet) not only for their business purpose but also for emailing , entertaining , texting and so on. Now a days very new technologies Establishing and updating. So now it has become challenging to prepare a system that is unique and should have portable . It would be very boring in a situation when you are tired and you want to use the computer system , listen songs , check news , check email . Imagine just by saying ‘VLC’ , the VLC player will open , by saying ‘Play’ , songs will start , just by saying ‘Download’ , the mail will download and system is going to read. Thus we are providing a speech based system which will work according to user just by speech.

There are many speech based application are available in the market with operating system , Mouse , Keyboard control . but the that system are unable to operate all operating system like We can use Operating system through speech in Windows 7 but in Windows Xp we cant do that , so our system is portable , it can be used on Windows 7 as well as Windows Xp. The proposed system not only handle the Operating System but main is to provide web application using Rss Aggregator ( Rich Site Summary) through use of

speech . Taking into consideration the growing demand for speech enabled system this proposed work will help tremendously to access web. The user will say a command through the microphone , this command will be converted into text with the help of Microsoft JSAPI (Java Speech Application Programming Interface). Then command will be mapped with database information and the appropriate actions will be taken . It further converts this available text into speech which may be heard by the user.

## II. MOTIVATION :

In today’s world we are getting a lot of thing just by an order . As like this windows provide a technology by which we can use the operating system through our speech. But it does not faciliated with other operating system like windows xp and It does not provide use of Web application through speech . The main motivation of the system is to address this issues.

The Objective of designing speech based system is to develop a framework , by which we can access mail , RSS news reader , play songs , operate keyboard and mouse through voice commands , and output should be in Speech , Text form.

## III. COMPARISON WITH OLD SYSTEM :

In last years there are many system are developed for increasing efficiency to use computer but they not supported to OS windows xp ,they only support Windows 7 and some software like Speakonia , CoolSpeech , Dragon – Naturally speaking , Readplease , E-speaking were designed to perform some limited function which are mentioned as bellow :

- ✓ Speech Input method
- ✓ Voice Feedback
- ✓ Text to Speech
- ✓ Text Extraction and Filtering

In Comparison with the above software the present system will provide :

- ✓ Speech Input
- ✓ Text to Speech and Speech to Text
- ✓ RSS Aggregation for Web
- ✓ Email Handling Through Speech
- ✓ OS interface through Speech

✓ Browsing Web content

Our system will handle OS interface very efficiently and our system should have portable which can run on both Windows XP and Windows 7 which are most popular OS now a days. The main difference of our system to compare with previous software is that interaction of web application through speech command.

**4.Related Concept :**

**4.1 Speech Synthesizers and Speech Recognizers:** The technology used for Speech Recognition and Speech synthesis is JSAPI which provide API that makes task easier . The Java Speech API (JSAPI) is an application programming interface for cross-platform support of command and control recognizers , dictation system , and synthesizers.

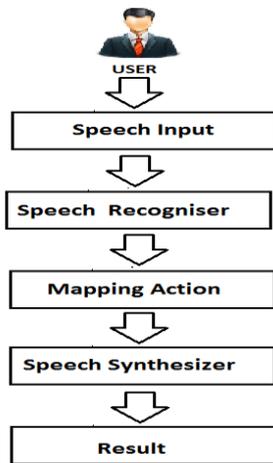


Fig. SAPI flow

**4.2 Speech Recognition :** Speech Recognition is the translation of spoken words into text . it is also known as “automatic speech recognition”, “computer speech recognition” or “Speech to Text”. Speech recognition provides computers with the ability to listen to spoken language and determine what has been said . In other words , it processes audio input containing speech by converting it to Text. A grammar is an object in the Java speech API that indicates what words a user is expected to say and in what pattern those words may occur. Grammar are important to speech recognizers because they constrain the recognition process. These constraints make recognition faster and more accurate because the recognizer does not have to check for bizarre sentences.

**4.3 Speech synthesis :** Speech synthesis is the artificial production of human speech . A computer system used for this purpose is called a speech Synthesizer . the term Speech synthesis is used for text to speech conversion process . A text to speech system converts normal language text into speech . we have used open source speech synthesis system known as Free TTS . It is entirely in Java programming language . FreeTTS is an implementation of Sun’s Java speech API.

**4.4 Nano XML Parser :**

XML is the extensible mark-up language , which provides a way to mark up text in a structured document. The NanoXML was first released in April 2000 as a spin-off project of the abstract user interface toolkit . It is very small and reasonably fast for xml documents and also it provides the facility of easy to use. Because of its small size , people started to use NanoXML for embedded system (KVM , J2ME).

**4.5 RSS Aggregator :**

RSS (Rich Site Summary) document is also called as “feed”. It is family of web feed formats . It is useful to publish frequently updated works like news , headlines , blogs in standardized form . We cant read this RSS feed using software called RSS Aggregator . The RSS Aggregator can be web based RSS 0.9 , the first version of RSS was created by DanLibby and Ramanathan V. Guha at Netscape

**5.Proposed Architecutre :**

In our proposed architecture the user gives speech input through the microphone to the computer. Microphone accept the speech and processes the audio stream to the Speech Recognition system which will convert a speech signal to a sequence of words in form of digital data which can also be called as command

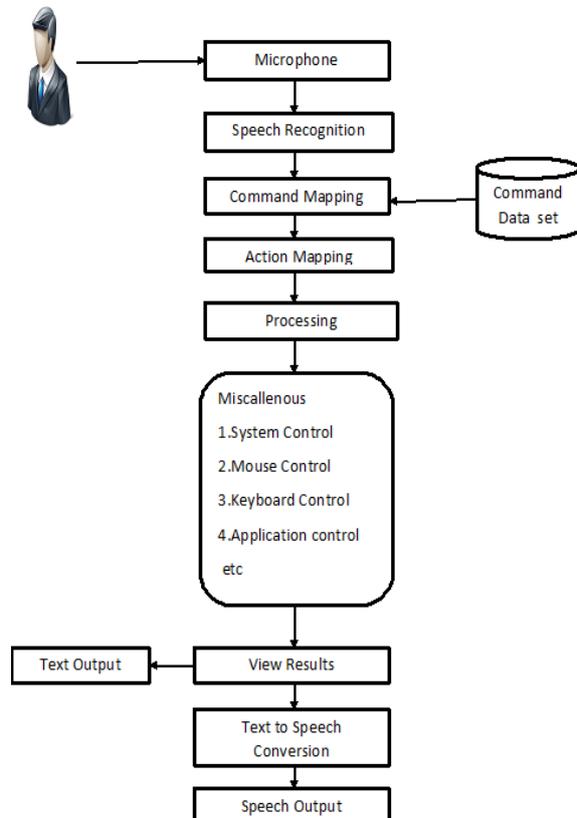


Fig. Speech Interactive dextop Application

In the proposed Architecture user can access the mails through voice. In this process , when session will start it sets Internet Mail Access Protocol or POP 3 client protocol. Then

in the inbox mail get download first and then text mail get read.

In proposed system , we also able to handle the operating system through voice , we have ability to control the mouse operation like its movement , left click , right click , double click totally through voice. Keyboard shortcut can also handled through voice , we also able to add new application shortcut as we needed like windows media player , notepad , paint etc application can open though voice commands. . As mentioned above the SAPI interface will mainly use for conversion of this speech to text.

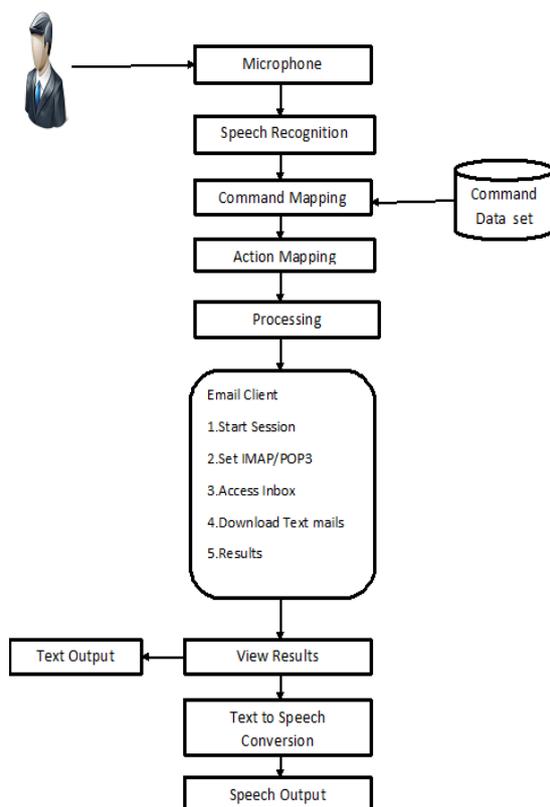


Fig. Speech Interactive Web Application for email

The command generated by a speech recognition system is processed further for context search.

**6.Feature :**

- The system give facility to handle Web application like obtaining information about Current stock , News , wheather etc , accessing mail web content search through speech.
- System is is supportable for both windows XP and Windows 7.
- The system will able to handle operating system with help of speech (voice command)
- The keyboard and Mouse operation are handled through voice command.
- Playing music just by voice command.

- Checking latest update cricket score just by voice command.
- This system can give facility to handle any application like notepad , Microsoft word just by our speech.

The proposal offers a user friendly interface. This software is applicable for any version of Windows operating system. The software proposed may satisfy basic need to access operating system through their voice command which will give qualitative product for avoid time wastage and make computing so easier. It is also helpful for physically handicapped persons and visually handicapped persons for meeting their basic requirements of computing.

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