VIRTUAL PERSONAL ASSISTANT WITH CHATBOT

Authors

Ravindhar N V¹, Bharathiraja N², Rohith B³, Sathish Kumar N⁴ and Sai Sowmya S⁵

¹,²Assistant Professors / CSE, Saveetha Engineering College, Anna University Chennai.
²,³UG Students / CSE, Saveetha Engineering college, Anna University Chennai
*rajamesoft@gmail.com

ABSTRACT

The paper focuses on voice-based software application for controlling the computer system. The user can control the computer system by using their voice command. The software application recognizes the voice command given by the user and the required action is taken for the command provided by the user. Other software applications in the system can be launched and closed using the software proposed in this paper. Text to Speech concept is used for the recognition of voice of the user and is converted to text and then the text is used for executing the required action by the software application. The major module of the application focuses on launching and closing of the pre-installed software applications in the system. The next module is used for taking short notes in the system using the speech to text concept. The notepad in the system is opened and then notes required by the user is taken by recognizing the voice command by the user. The last module is for preparing a chatbot system for conversing with the system vocally. The overall concept of the software application which is developed is that to make the usage of physical keys lesser and the usage of voice-based command more which makes the user comfortable in accessing the system.

Keywords: Virtual, Voice Control, Speech to Text, Personal Assistant, Chatbot.

1. INTRODUCTION

This paper is about voice recognition system. Opening of software application and controlling it with user’s voice is the main theme of this paper. By implementing this, we can able to reduce the utilization input devices in this modern world. User will give his/her commands through voice instead of clicking on it. The additional features added in this system: One is taking notes in notepad through voice speech and another is Chatbot. In notepad we can save the notes by just speaking to personal computer. It will convert speech to text and display in the screen that can be saved for future use. Next is chatbot, live chat is possible with our system. These features make our personal computer still more user friendly and makes the user’s work easier and faster.

A virtual assistant is the software program which helps the user to perform various tasks and services. It provides information about weather, facts, to set an alarm and to show our shopping lists also. To play music this is controlled by voice of the user. A chatbot is the computer program which establishes a conversation between user and the system. It accepts both audio and textual methods. Chatbot is also called as dialogue system; it provides services to customer services and information acquisition. Some chatbots are natural language processing systems. Instead of typing in keyboard, it is easier to speak our language in messaging platforms.

2. RELATED WORK
The virtual personal assistant is nothing but an implementation of assistance virtually on the user’s PC. In addition to that, open end-to-end IPA web service applications are also generated in form of queries. In previous work, ARS engine embedded on PDA which will support various languages and it contains one-stage searching technology. It also indicates notifications about new emails, messages, new reports. Graphical user interface is used to give outputs and process the given commands. The system will be user interactive and provides artificial intelligence. There are several modules like alarm, search, time. This software works via voice, inputs in keyboard and also by internet as remote control.

The intelligent bot Siri is a standard of apple mobile devices. Siri is a personal assistant to process the natural language to answer the questions, it also provides web services. Zabaware created the chatbot HAL. It is to function as a processing algorithm to take notes from the user. The role this chatbot to provide customer support and answer the user queries which was frequently asked. The system communicates with the user in similar natural language. Another device chatbot Kari is introduced, which functions as virtual girlfriend assistant. This system communicates with the user using similar methods of natural language processing and tries to improve social conversation with the user. Personal companionship and duplicate human interaction are accurate in this system.

This personal assistant is a point of reference to explore functionality, capability and potential of the project. In this context, capability refers to deconstruct inputs, store any new data, and create metadata by appropriate output. Data are given in different ways to the program. This system should be paired with learning algorithm and natural language processing capabilities, with imitation of engagement of emotion to that of Kari’s where key words are identified using patterns between data. These patterns formed between data helps the user in each program to react differently to different inputs. The curiosity of the program creates demand for attention that provokes the user into actively using this system.

3. PROPOSED ARCHITECTURE

This refers the simple flow diagram of virtual personal assistant using chatbot. At initial step, user gives the input to the system through voice. The voice of the user is captured by microphone. Microphone passes that input to the special tool which converts speech to text. Now voice input is converted to text input. The software with contains various files and functions will process the input and generate the required output. That output is again processed to tool which changes text to speech and produces voice output. At final stage, output is shown to user either in screen or by voice message.
User gives text or voice input commands are converted to text through speech API. Text input is simply stored in the database for further process. It is recognised and matched with the commands available in the database. Once the command is found, its respective task is executed as voice, text or through user interface as output. It can also be in the form of application execution. The microphone is used in the first step of the process to record the voice. Then the speech to text engine is used to convert the text for the computer to process. The text that is generated is given into the software for comparison of the program interpretation. Then if the output is to be given in the voice format the text to speech engine is used for the given conversion. The audio or the display device is used to give the output to the user.

4. IMPLEMENTATION AND RESULTS

This system is implemented using visual studio development environment. A form is created using c sharp and system.speech library is included for recognizing voice input.
The initial screen allows the user to speak. Microphone device captures the voice of the user and get the input from user as voice input. The software processes the user’s voice and compare with the files and functions to produce the required output.

Process the input into the software. The tool will convert text output into voice output and display the output on the screen.
Opening Notepad through voice command and taking notes in the file instead of typing with keyboard. It works in the principle of voice recognition system. Voice notes are converted to text noted which makes the user’s work easier.

Voice command to open Notepad. When user gives the input as “open notepad”, System will search for the command and command is executed.
Figure 6: user commands in screen

User’s command is displayed. It helps user to conform his/her query. The rechecking of previous used query is done through this window.

Figure 7: weather forecasting screen

This screen displays weather report to the user. When speaker gives command like “forecast weather to me”, it process it, the present weather of the surrounding.

5. CONCLUSION & FUTURE WORK

Thus this paper makes user to use their systems in more efficient manner. The use of input devices will be reduced and technology will be improved for the future generation to finish the work in smarter way. The future work of this paper is to extend the voice control technology in commanding every action of particular software applications. Executing every action through voice recognition technology.
Though many assistants are available in markets, it is not popular in our country. This will be easier to spread in our country to do more work in less efforts.

6. REFERENCES
