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VIZHI, An AI Assistant

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ABSTRACT

The main aim of artificial intelligence is to allowassignation with electronic devices and computer in a simple and practical way. Personal assistant which can do any task just by listening a phrase is trending now a days. A virtual assistant is able to understand and give reply to human commands using synthesized voices. Many organization have created Virtual Personal Assistants (VPAs) based on their requirement and domains, such as Cortina which is made by microst,Siri which is made by apple, Alexa by amazon, and Google Assistant by Google, using dialogue systems technology. User can give commands to perform task such as play the music , as well as can do the basic tasks like messages, to-do lists, and so onHowever, the generally works online but our research work can do the work in both mode online as well as offline. So here we introduce Vizhi (An AI Assistant) with Voice Commands Intelligence, who receives the user command in the form of voice or text thenvisit process it and give the output such as the task which is said to be completed.

Keywords— *Natural Language Understanding, Artificial Intelligence, Application Program Interface, Virtual Personal Assistant, User Interface.*

I. INTRODUCTION

People in today's world are worried out as a result of their fast-paced, stereotyped lives. Peoples is not having a much time for themselves because of daily routine work for that they travel a lot, and buy a lot. The purpose of this epoch is to make everything more efficient, simple, and quick. People may have simply gotten lazy through time, but why do anything when we can have something else do it for us? As a result of this, as well as technological advancements, several virtual assistant implementations are now accessible.

A virtual assistant, also known as a digital assistant or an AI helper, is a piece of software or an application program that can converse with the user in common language and comprehend

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what he says. A virtual assistant, also known as a digital assistant or an AI helper, is a piece of software or an application program that can converse with the user in common language and comprehend what he says.

Speech-to-text and text-to-speech transformations are vital for the process, as are several AI systems based on machine learning, deep learning, and neural networks, which act as a brain for these assistants.

- Vichy isn't simply another virtual assistant. You may journal, discuss your day, remind yourself of tasks, and even lighten your day with encouraging remarks and corny jokes.
- Interactive lighthearted conversations may be calming and beneficial for a variety of conditions. It's like chatting with your best buddy through a texting app.

In most cases, a user must manually manage many sets of programs in order to execute a single operation. A system that can effortlessly handle chores is required. We already have a number of virtual assistants on staff. However, we barely ever utilize it. A large proportion of people struggle with speech recognition. These systems are capable of understanding they can understand English sentences, but not our accent. Our way of speaking is different from there. They are easy to use on smartphones compared to desktop. A virtual assistant is able to understand English in different accents and work without internet connection is required to meet the demands of users. In order for them to function well, they must be given a tremendous volume of data.

- It stands out from the crowd of popular helper applications. Others may take a few seconds to answer, but Valhi responds instantly. Furthermore, unlike other virtual assistants, it may run in offline mode, conserving your data.
- Vichy works in tandem with your other applications and services.
- You activate it with a simple command, similar to Google Assistant: "Hey Valhi" or "Hey," or any phrase you choose to use as a key word.

DISTINCTIVE IN VIZHI:

- Absolute integration.
- Accents varying.
- Quick response.

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- When you are unwell or sad, it provides you with some recovery tips and professionals to call.
- Permit the blind propel to engage (only limited aspects).
- Simple User Interface
- Offline features for journals.

The Android application, which implements and displays all of the functionality, is built in Eclipse using Android development tools.To capture incoming requests, the application uses speech recognition. Creating the main activity and each of the functions, as well as applying the logic to put the entire program together. Furthermore, the command may be examined with the database storage by querying the web service on firebase; relevant replies will be directed to certain functions in the application.

II. LITERATUREREVIEW

UNDERSTANDING OF VPA'S: VPA working is described in the figure below.

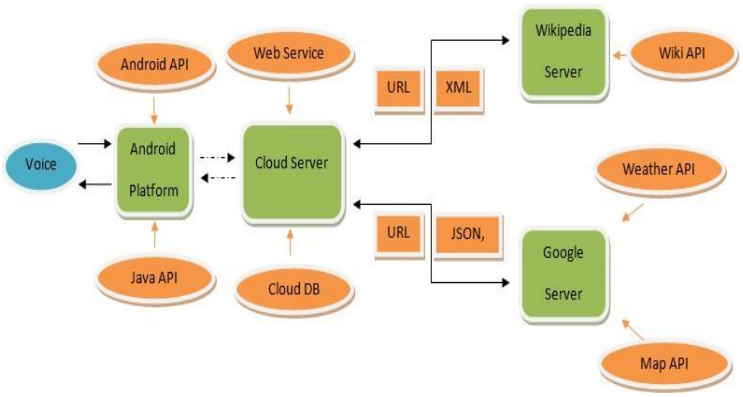

Fig.1 VPA

Voice Recognition:

- The android phone will record the voice input in the first step.**[1]**
- Whenever the people will say anything in their voice which is natural, the assistant will be able to transform the analog signal into the digital signal, and then combine all after arranging them in proper keywords and then giving the result after following the user commands.

Understand what the statement implies:

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- People enjoy playing with new things, so it's no surprise that they'll say anything that comes to mind.
- As a result, AI assistants are able to analyses the context of a statement using Automatic Speech Recognition (ASR), Natural Language Processing (NLP), Desired business logic through hooks, and Text To Speech (TTS) and process them appropriately. [1]
- • Android applications will identify the voice utilizing the Android API and Java API. A recorded text will be made and transferred to the cloud server or Android applications, depending on the instruction.

Action based on what was commanded:

- Using the Java API, references, and a preconfigured database, the cloud server (Fire base) will decode the incoming text **[9]**, then determine which of the following steps should be carried out**.**The cloud server will convert a command into a URL and send it to the appropriate server (Google server, Wikipedia server).
- The server that receives the request will create the answer in XML or JSON format using the Wikipedia API or Google API.
- Convert to a particular answer that will be directed to the Android app.

The Android programmer will create the audio output, which will be communicated to the user via the mobile speaker. The development of voice recognition technology has had a long and tortuous path. Nonetheless, without the early pioneers who led the way, today's voice systems such as Google Voice, Amazon Alexa, Microsoft Cortana, and Apple's Sire [3] would not be where they are today.

These speech systems have increased their capacity to 'hear' and comprehend a greater range of words, languages, and accents as a result of the integration of new technologies such as cloud-based processing and continuing data gathering programmers.

This project focuses on Android voice control (recognition, generation and analysis of corresponding commands, intelligent responses automatically), Google products and relevant APIs (Google map, Google weather, Google search, and so on), Wikipedia API, and mobile device references ranging from Speech-To-Text, Text-To-Speech technology, and camera; Vichy will be able to relate words to one another in terms of adjective, verb, noun and with full sentence. All of the project's functions and services have been discussed.

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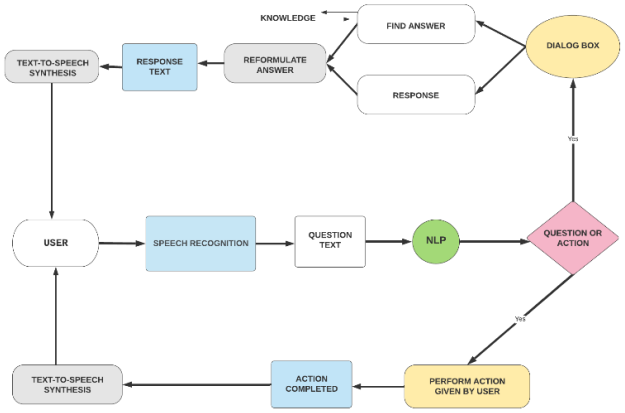

Fig.2 Action Diagram of VPA

III. SYSTEM DESIGN AND IMPLEMENTATIONBLOCK DIAGRAM:

- To take orders from the user, the model uses human input through microphone.
- After that, these directives go via the potential of computer and program to understand the spoken words and translate them machine understandable format which is known as speech recognition.
- Natural Language Processing is used on these inputs; it is a field that combines computer science and artificial intelligence. We are using Natural Language Processing (NLP) to concern with interactions between computers and human natural languages.
- If it's a question, Vizhi determines if the statement is an inquiry or an action. If it's an action, the voice assistant will carry it out, and the user will be notified via synthetic voice. If you have a question, Vizhi searches the dialogue box or knowledge base and responds to the user via a synthesis voice.
- Our voice assistant analyzes all of the user's utterances using the Google Text-to-Speech API, and then provides replies based on particular situations that qualify as a directive to the user.

IV. DATA FLOW DIAGRAM:

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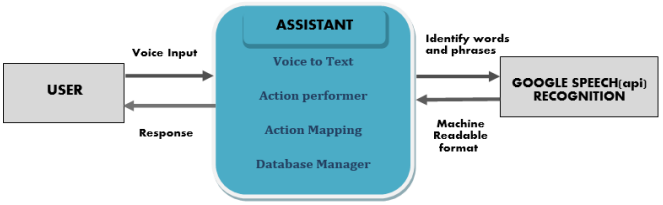

Fig. 3 DFD of VPA

- The user gives the instruction through the voice which the system fetch.
- If it is determined that the user is authorized, action is taken in accordance with the user's instruction.
- The Google Speech API will transform this voice data to text, and the voice assistant will then carry out the instruction given by the user by comparing it to the dialogue box and knowledge base.

V. USE CASE DIAGRAM:

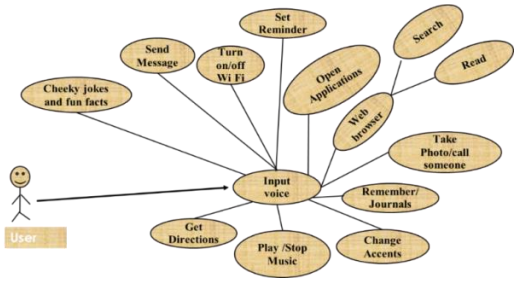

Fig. 4 Use Case of VPA

VI. APP UTILIZATION:

Entertainment♪♪

- Play music
- Stop/start music
- Crack a joke ,

Creativity ✓

- Check my schedule
- Send messages to any one
- weather forecast
- send messages throughWhat Sapp
- Discover(anything)

Checklist⏲

- alert me to [reminder] at [time] on [day]
- Recall [something] So, what do you recall?

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- Forget whatever I told you to remember
- journal reading/writing clean up my journal entry set a timer

Navigation🌍

- To get to [location], call an Uber.
- I'm hungry and need instructions to [location].

Device functions➔📱

- Snap a photo
- On/off Bluetooth
- Wi-Fi on and off
- Call by name

Miscellaneous📈💸

- Tell me some facts
- Toss a coin
- Repeat the process
- express [what you want to be expressed]
- alter your accent

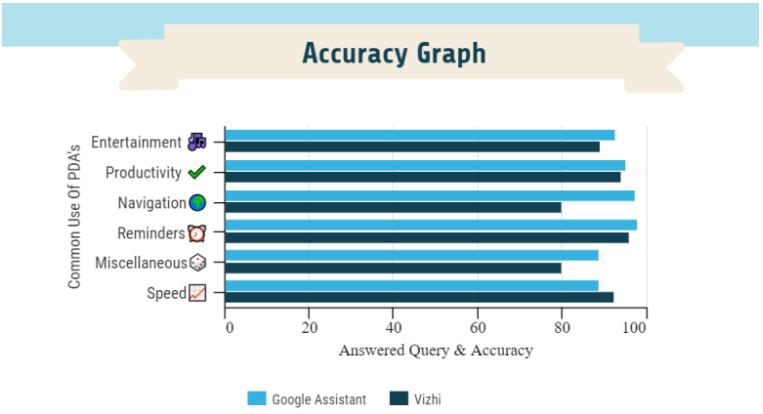

Fig. 5 Accuracy Graph of VPA

VII. RESULTS

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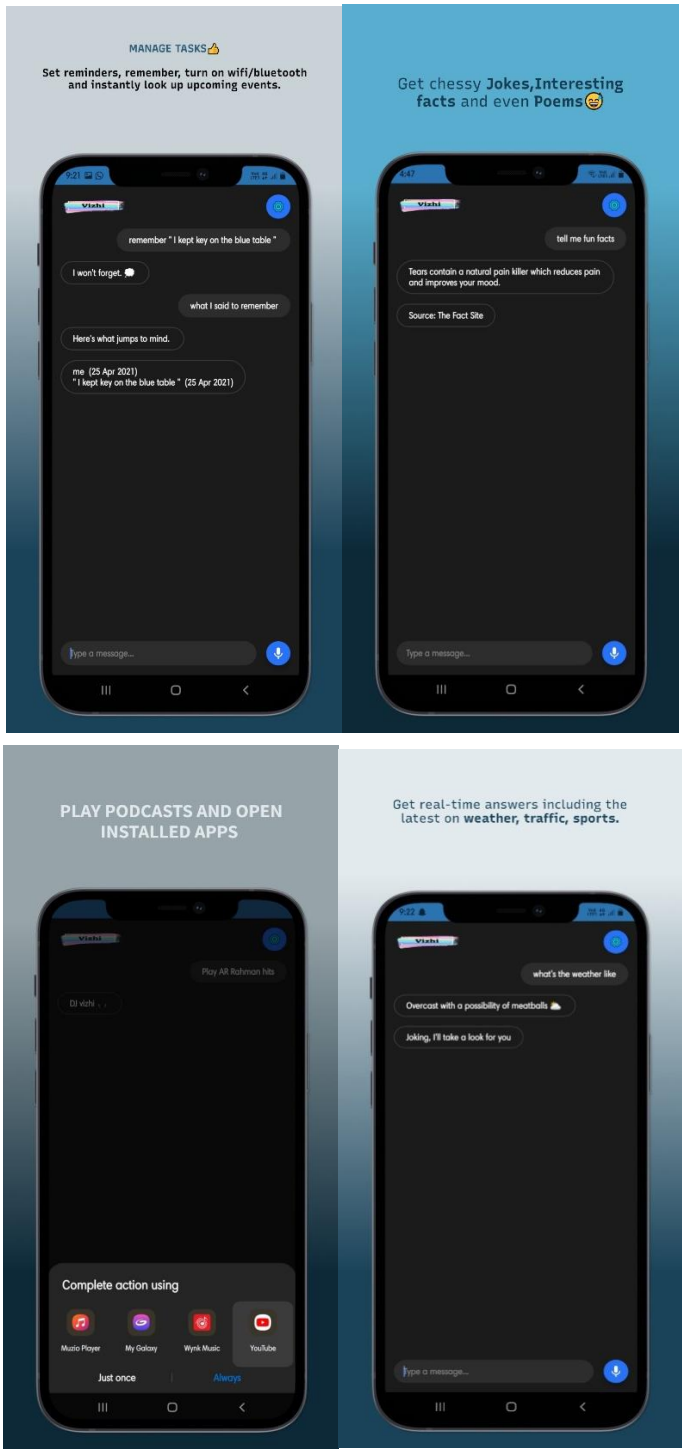

VIII. ADVANTAGES AND DISADVANTAGES

ADVANTAGES

✓ Work will be done both offline and online..

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- ✓ It is simple to use and accessible to people of all ages..
- ✓ Changeable voices.
- ✓ Quick response
- ✓ a new batch of cheesy entertaining facts and jokes.
- ✓ Open your current apps.
- ✓ Compared to other VPAs, it uses less data.

DISADVANTAGES

- ❖ Only the English language is compatible.
- ❖ Voice is more relevant than graphics interface.

IX. CONCLUSION

Vizhi will play an important role and be with you like buddy and stress reliever. Users can understand that, no matter how hard developers strive to add more predefined commands, more reply to them, and evaluate and respond to instructions more intelligently, the software will never be totally comprehensive and encompass all of the conceivable scenarios that users will encounter. However, if there are more understandable instructions, a more humanized structure, and a more intelligent response, the software will undoubtedly improve and become more user-friendly. The interface design now fits the fundamental criteria of presenting everything for this software, and users may interact with it through it, but it will be optimized and more suitably developed in the future.