VIZHI, AN AI ASSISTANT

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Abstract - **Artificial Intelligence's main goal is to make Human interaction with computers and other electronic devices much easier and practical. Nowadays Personal assistants who can carry out tasks required for daily needs with just a meaningful phrase is a fast growing area. Virtual assistants are able to interpret human speech and respond via synthesized voices. Many companies have used the dialogue systems technology to establish various kinds of Virtual Personal Assistants (VPAs) based on their applications and areas, such as Microsoft's Cortana, Apple's Siri, Amazon Alexa and Google Assistant. Users can ask their assistants questions and media playback via voice, and manage other basic tasks such as message, to-do lists, and etc. but they mainly respond in online mode and our Proposed System has capability to work with and without Internet Connectivity. So meet, Vizhi (An AI Assistant) with Voice Recognition Intelligence, which takes the user input in form of voice or text and process it and returns the output in various forms like action to be performed to the end user.**

Index Terms - **Virtual Personal Assistant, Artificial Intelligence, Natural Language Understanding, Offline Assistant.**

INTRODUCTION

In the current era, people are stressed out from their fast-living stereo typical lives. People these days do not have enough time for themselves, having too many responsibilities at work, spending much time traveling, shopping. The goal of this era is to make everything more efficient, more straightforward, faster. People might have just become lazy over time, but why would we do something if we can make something do it for us. Thanks to that and IT progress we have many virtual assistant implementations available.

Vizhi is more than just a virtual assistant. You can share about your day, write to your journal, remind you of things and even brighten your day with supportive messages and cheesy jokes. Interactive jovial talks can be relaxing and remedy for many ailments. The experience is like using a messaging app to chat with your best friend.

Usually, user needs to manually manage multiple sets of applications to complete one task. There is need of a system that can manage tasks effortlessly. We already have multiple virtual assistants. But we hardly use it. There are number of people who have issues in voice recognition. These systems can understand English phrases but they fail to recognize in our accent. Our way of pronunciation is way distinct from theirs. Also, they are easy to use on mobile devices than desktop systems. There is need of a virtual assistant that can understand English in different accents to suite the user needs and to work in offline modes. They require large amount of information to be fed in order for it to work efficiently.

- It's individually different from the popular assistant apps. While, others take a few seconds to respond, Vizhi is literally instant.
- Besides to that, unlike other virtual assistants – it even can work in offline; saving your data.
- •Vizhi integrates seamlessly with your existing apps and services.
- •Similar to Google Assistant, you engage it with a simple command: "Hey Vizhi" or "Hey" or whatever you can set as key phrase too.

UNIQUE IN VIZHI:
- Seamless integration.
- Accents changeable.
- Replies instantly.
- Guides you with some tips to recovery and experts contact when you are feeling sick & depressed.

- Allows people who are blind to interact with voice (only limited aspects).
- Easy User Interface.
- Offline, Journal Features.

II. LITERATURE REVIEW

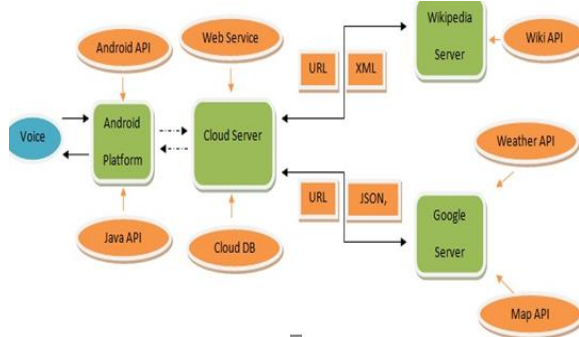Insights of VPA's: Overview of working of the VPA's have been explained in the following steps:

Fig 1. Overview of VPA's

1.Voice Recognition:
- The voice input will be firstly recorded by the Android phone. [1]
- Whenever a person commands through his/her natural voice, the assistant must be able to convert that analog signal to digital so that it can then understand‟ what was being said after concatenating the keywords altogether, and finally fixing/obeying the issue/command.

2.Understand what the statement implies
3.Action based on what was commanded

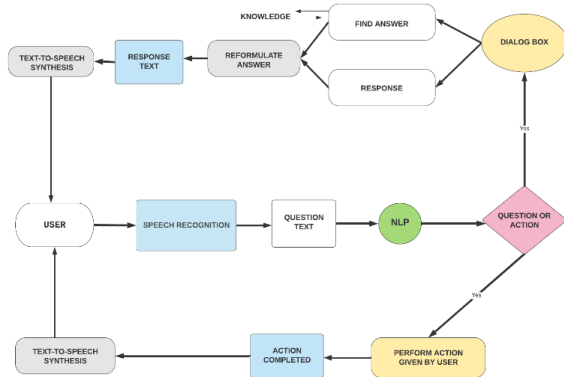## III. SYSTEM DESIGN AND IMPLEMENTATION BLOCK DIAGRAM:

Fig 2. System Implementation

- The model consists of user input through microphone to accept commands from the user.
- These commands are then go through Speech Recognition, it is the ability of a machine or program to identify words and phrases in spoken languages and convert them to a machine-readable format.
- On these input Natural Language Processing is applied, it is a field which is created by amalgamating computer science and artificial intelligence. Using NLP, we are concerned with interactions between computers and human natural languages.
- Then Vizhi check whether it is a question or an action, if it is an action than the action is performed by the voice assistant and acknowledgment is given to the user via a synthesis voice or if it is a question than it is search in dialog box or knowledge base and then response via a synthesis voice to the user.
- Our Voice assistant uses google text-to-speech API to understand all the words spoken by the user, and based on certain conditions that satisfy being a command the voice assistant sends responses to the user.
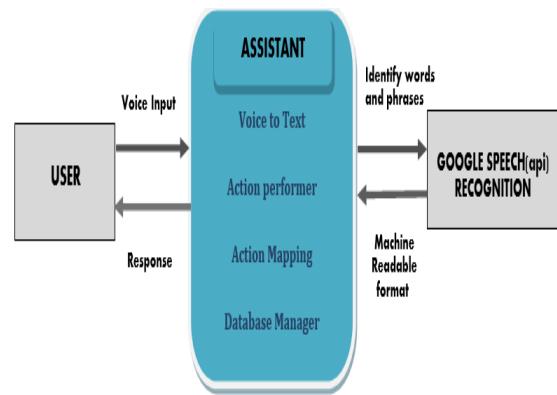
IV. DATA FLOW DIAGRAM

Fig 3. Flow of virtual Assistant

- The user gives the input in the form of voice; this voice command is recognized by the application.
- Then it will check whether it is the authorized user, then action is performed as per the command given by the user.
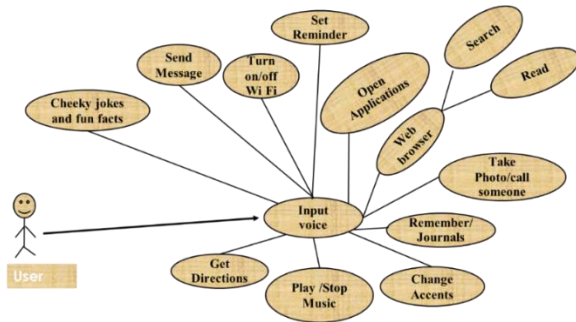
V. USE CASE DIAGRAM

Fig 4. Use cases of vizhi

VI. APP USAGE

Entertainment 🎶
- play [song/video/playlist]
- pause/resume the music
- tell me a joke
- recite a poem tell me a story

Productivity ✔
- check my schedule
- send message to [name] saying [message] translate [phrase] to [language]
- weather forecast
- send WhatsApp to [name] saying [message]
- search [whatever]

Reminders ⏰
- remind me at [time] on [day] to [reminder]
- remember [something] what do you remember?
- forget what I asked you to remember
- read/write to my journal clear my journal
- set an alarm

Navigation 🌍
- call an Uber to [destination]
- I'm hungry directions to [destination]

Device functions 📱
- take a photo
- enable/disable Bluetooth open [app]
- turn WiFi on/off what's the time/date?
- call [name]

Miscellaneous 🗒🎲
- tell me a fact another one

- flip a coin
- do it again
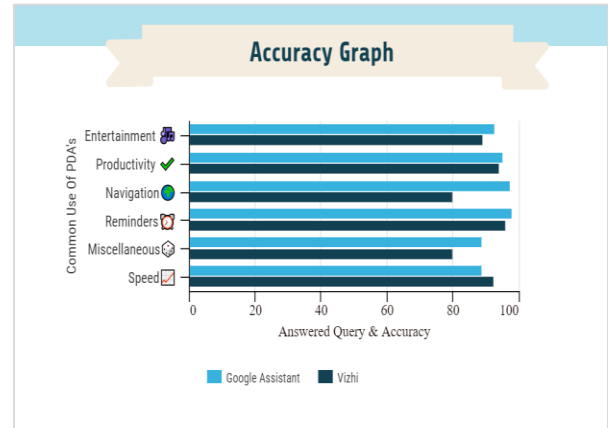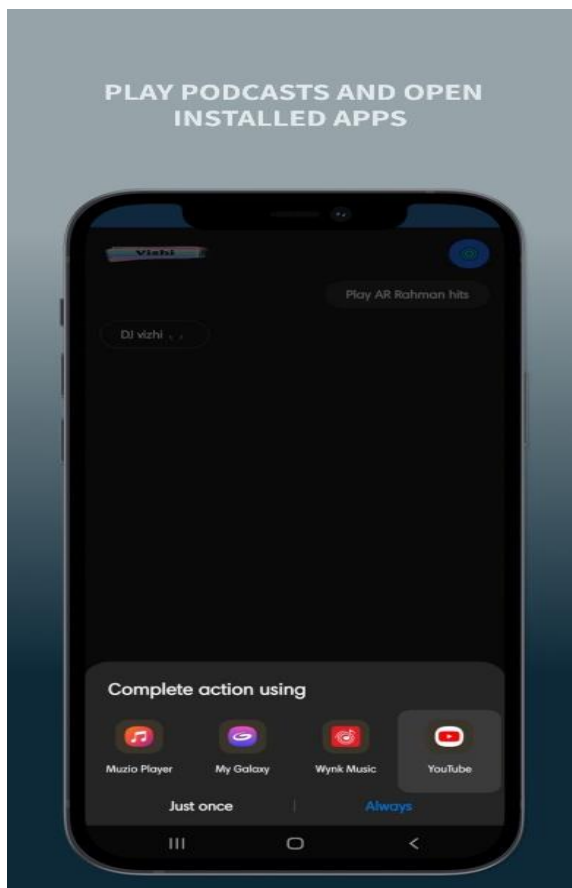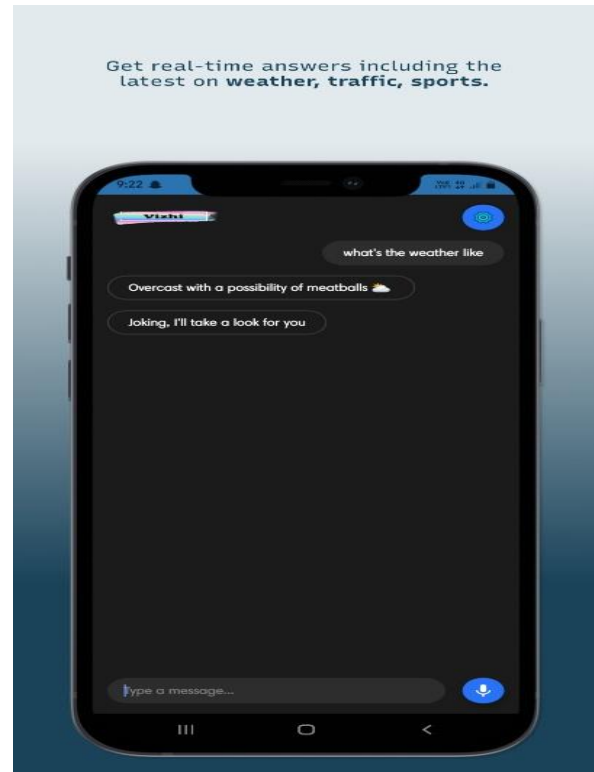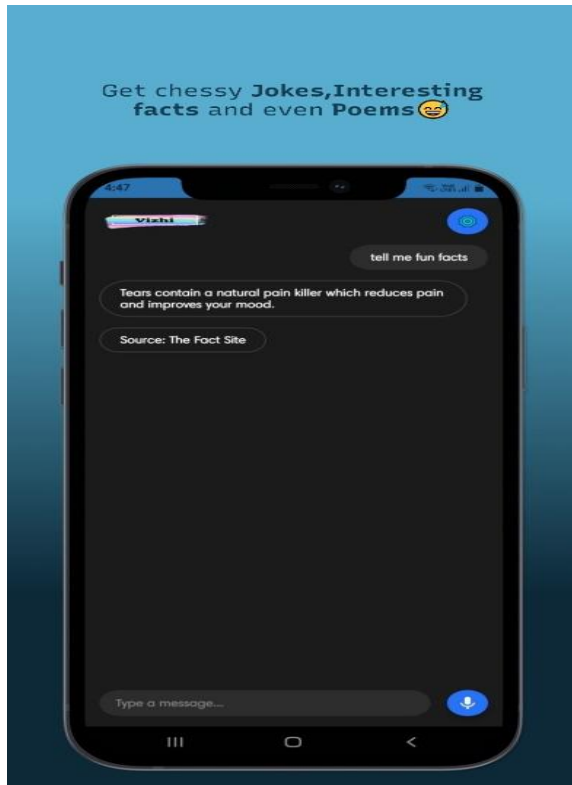- say [what you want said]
- change your accent

Fig 5. Accuracy

VII. RESULTS

VIII. MERITS AND DEMERITS

MERITS*:*
- Works will in Offline as well as in Online.
- Use to easy and can easily accessed by all age groups.
- Accents changeable.
- Replies instantly
- Brand new cheesy fun facts and jokes.
- Open your existing apps.
- Low data usage than other VPA's.

DEMERITS
- Only English language is supported.
- More voice interactions than graphic interfaces.

CONCLUSION AND FUTURE SCOPE

Vizhi will be your forever companion and makes you feel little stress-free assistant. Nevertheless, the program will certainly be improved and be more user-friendly if there can be more readable commands, more humanized structure and more intelligent response. In future we will be adding more conversational languages other than English.

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