SURVEY ON SMART VIRTUAL VOICE ASSISTANT

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Abstract – *In this modern era, day to day life become smarter & interlinked with technology. We already know some voice assistant like google, Siri etc. Now in our voice assistant system, it can act as your smart friend, daily schedule manager, to do writer, calculator & search tool. This project works on speech input & give output through speech &text on screen.*

This assistant attaches with the world wide web to provide result that the user required. Natural language processing algorithm helps machines to engage in communication using natural human language in many forms.

Key Words: Personal Voice Assistants, Speech Recognition, Artificial Intelligence.

1. INTRODUCTION

Virtual assistant is software program that helps you ease your day-to-day tasks, such as showing weather forecasting, listing reminders, creating to do list etc. They can take commands as voice or text. Voice based intelligent assistant need an invoking words or wake words to active the listener, followed by commands. For my project the wake, up word is "MANAV".

Our voice assistant is designed to be used efficiently for all users. This personal assistant software improves users' productivity by managing day to day tasks & providing information from online sources to users.

Voice searches have dominated over text search. Web search can conduct via mobile devices have only just overtaken those carried out using a computer and the analysis are already predicting that 50% of searches will be via voice by 2020.virtual assistant are turning out to be smarter than ever. Permit your brainy subordinate to make email work for you, notice determined, choice out significant statistics, systematize procedure, and distribute modified reply.

1.1 PROBLEM DEFINITION:

User needs to manually accomplish numerous sets of applications to comprehensive single task. We already have multiple voice assistants but there is problem voice reorganization. There is need of a voice assistant that can understand English in Indian accent & work on it.

Voice assistant should e able to model complex tasks, it needs to be tasted for finding optimize path when a task has multiple subtasks & each sub task can have its own sub tasks.

1.2 MOTIVATION:

A voice assistant makes our life easier, saves out time &OneVoice assistant helps user with functions that are the backbone of our day. Someone who talks with you when your alone or feel lonely someone who manager your daily routines take care of your mental & physical health. Main motivation is the voice assistant helps adults & disables people to perform their day-to-day tasks.

2. LITERATURE SURVEY

Voice assistant consume stood the hot topic of AI in fresh studies. We collect a number of papers in order to examine voice assistant and then analyze data.

P. meliorate [1]. A computer mainly grounded method for execution a command through a voice user interface on a subdivision of items. The item contains written contents that's converted to voice output.

A.M Weeretunga [2]. This project is mainly focused to help visually disabled to access social media and other internet-based services, because understanding digital content is an extremely important and hard problem for this user group.

Prajyot Mane [3]. The system enables the user to get fractures provided by different applications on a single platform. The application will world and provide profile management automation. This system performs statically without any human intervention.

Veton Kepuska [4]. The most familiar application of phone is "SIRI" which reasons the end user to inform end user adaptable with voice and it furthermore respond to the voice charge of the client in this scheme open data is assembly consideration for imaginative administrative creation, mainly in the region ancient government, bio science and attached undertaking.

Schlash s [5]. This paper presents a voice associate which apply exposed information as its education foundation.it is highlighted by alteration of exactness as per the user reproaches and procurement of unregistered statistics by the user provision.

3. DESIGN METHODOLOGY

Based on past work and assessment, the project is accomplished with understanding of an intelligent assistant capable of taking user command and analyses it and respond the user by using voice media. Python libraries and speech reorganization APLs are used to integrate the personal voice assistant python speech to text model is used.

3.1 SYSTEM ARCHITECTURE

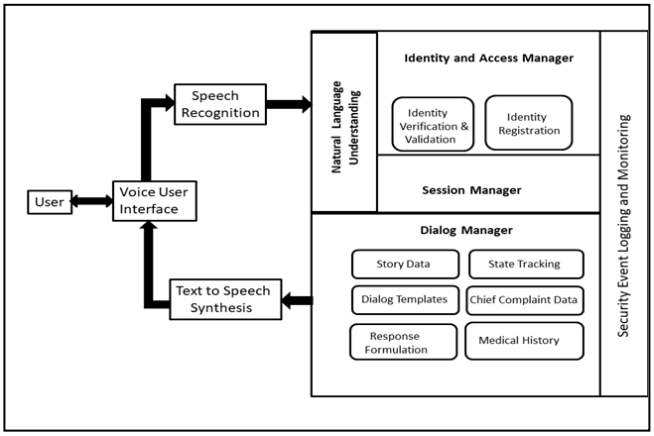

Fig: system Architecture

Speech Recognitions Modules: The system uses speech reorganization module named python-text-to-speech(pyttx3) module. It is used to adapt user input to text. The pyttsx3 component of python has constructed in speech-to-text and text-to-speech machine. It makes system more interactive with the user.

API calls: An API is a package interface that allows dual program to interconnect with one another. In petite API is the connection that directs the demand to the provider and then returns the reply of that demand.

Python Backend: the python backend receives the users query in the form of text and determine if the query is an API call or data extraction then result is sent back to python backend, at any point of time, this system is able to react with an appropriate response.

Data Extraction: It is the procedure of mining systematized statistics from the chaotic machine-readable documents. In our proposed system, we have extracted the relevant data that has been asked by user.

Text-To-Speech Module: this component is tremendously useful to persons who have trouble in interpretation. Text-to-speech engine can be implemented in a variety of languages, dialects, and advanced vasculatures by using third party libraries.

4. WORKING

Python -we are using python 3.7 and 3.9 versions not working well with TensorFlow module currently,3.7 is more stable version of python.

TensorFlow-This is an endwise open-source stage for machine learning .it is comprehensive, stretchy environment of tools, lending library and public properties that lets investigate drive the state of the art in machine learning and developers' informal figure and organize machine learning motorized application.

4.1 data flow diagram:

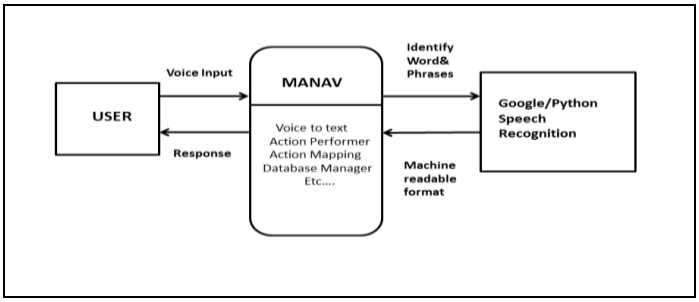

Fig: DFD level0

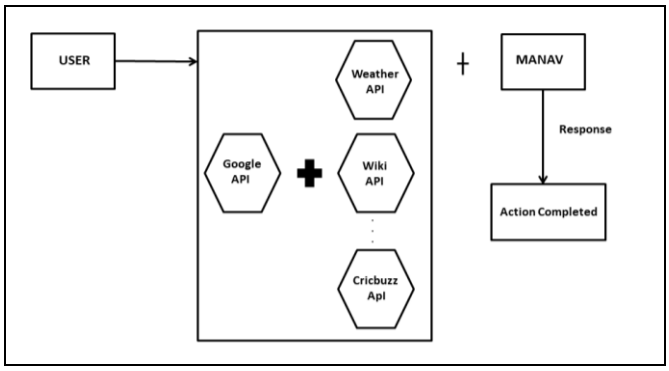

Fig-DFD level 01

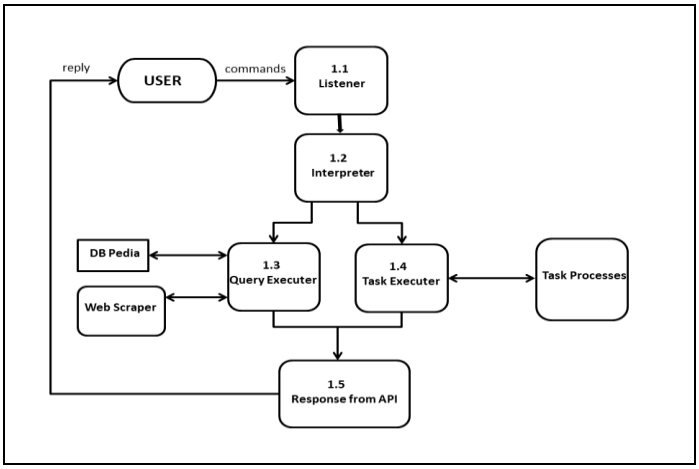

Fig: DFD level 02

5. SCOPE OF SYSTEM

Voice assistant will remain to proposal additional distinct involvement as they get improved at distinguishing amongst speech. however, it's not just developers that need to address the complexity of developing for voice as brand also need to understand the capabilities of each device and integration and if it makes sense for their specific brand. They will also need to focus on minting a user experience that is consistent within the coming year as complexity becomes more concern. This is because the graphic interface with voice subordinate is absent user basically cannot realize or touch a voice assistant interface.

5.1 ADVANTAGES

- A voice assistant makes your life easier.
- It can be an expert in any field.
- A voice assistant allows you to provide more coverage in all kinds of different technologies.
- You have a smart and intelligent friend always with you.

5.2 LIMITATION:

- Requires internet connection.
- Mediocre sound quality
- Accent and speech reorganization.
- Background noise interface

5.3 APPLICATIOONs:

- Voice tech in healthcare
- Mobile app integration
- Disabled's helping guide
- Adults helping hand.

6. CONCLUSIONS

Through this voice assistant we have automated various services using a single line command it ease most of the tasks of the users like searching the web, retrieving weather forecast details daily news and medical related queries.

We mainly aim to make this project a complete server assistant and make it smart enough to act as a replacement for a general server administration. This system is designed to minimize the human efforts and control the device with just human voice.

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