Mr. Blue The REVA's Smart Virtual Assistant

Mr.Blue is Developed for Betterment of Mankind

Amareshwar Karatagi[1], Nitha Shekar[2], Adish H S[3], Dr. Manjula R B[4]

***Abstract*—Humans are designing new gadgets so as to bring down the physical labor done by them. This leads to growth in the country's economic development as well as human standards. Hence, we are contriving a virtual assistant termed Mr. Blue which comprises natural language processing and machine learning concepts to process data comparison and provides voice as output. The input data is fed with a user audio signal which is then converted to digital data by several different technologies like voice recognition, voice analysis, language processing. The input data is then compared with the data which is fed, if the intent matches then it will provide a default response to the user accordingly. Mr. Blue accommodates all the information regarding the REVA University. It aids parents, visitors as well as freshers to review the college before admissions and also works as an advertising promoter for any organization.**

Keywords— Virtual Assistant; Machine Learning; Natural Language Processing; Chat Bot; Telephony Call;

I. INTRODUCTION

Technology is moving faster than expected and now we have the world's knowledge at our fingertips. The key to greater productivity is to work smarter, not harder. Advanced systems that assist us to perform particular tasks are termed Virtual Assistant, dependent on upcoming technology, such as natural language processing[1]. The Virtual Assistant contains speech recognition, speech synthesis, and dialog management systems.[3].

Virtual Assistants are taking up the lead in this new era leading to decreased human labor, which then leads to an increase in productivity. A salient feature of virtual assistants is that they customize to the distinct commands of their owner and steadily pay attention to her/his choices and assigned tasks[4]. They work 24*7 devoid of delay while responding to the user, by using ML and NLP it will provide instant response to the user according to the query asked. The human voice commands are given to the assistant remotely. The voice commands are processed in real-time, using an online cloud server. Our project has been particularly implemented for parents, visitors as well as freshers to overcome queries they acquire in regards to the University. There are several students who are going to pursue higher education and it's difficult to tutor and support every individual by a human. In this scenario, the virtual assistant can help organize the study process and provide important information to the user. We do have a telephone number assigned, as when the user calls that number it will direct to the virtual assistant and it will respond to the user queries by voice. It can also be used to schedule appointments, alert the owner regarding any of the deadlines specified and also perform the task provided by the owner before the deadline. It also helps in the organization of any event and works as an advertising promoter regarding the organization providing the necessary details and hence reducing the workload of humans.

II. LITERATURE SURVEY

Implementation of an intelligent personal assistant consists of input by a user and an application program. Queries asked by the user are extracted from the received input and are processed to produce a quick response by the intelligent personal assistant. This also includes the conversion of textual content to voice output[5].

The most prominent application which helps the end-user to communicate through voice and also responds to the user through voice commands, SIRI on the iPhone. A similar kind of application has been built for android devices by Google called "Google Voice Search". These applications mostly work when a device has Internet Connectivity. An advanced system has been developed in which a personal assistant has the potential to work with access or without access to the Internet. The user input may either be provided with voice or text and the system will respond to the user in various forms. This way the advanced system can differ in the way of interaction between the user and the device[6].

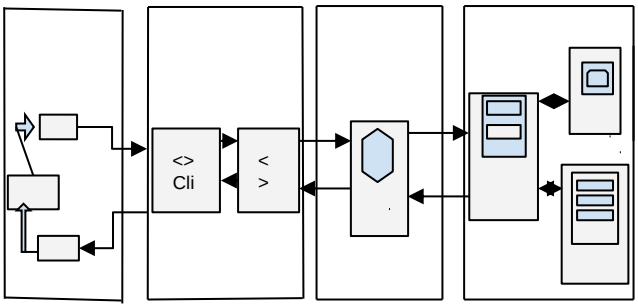
This paper put forward an illustration of the VPA application and upcoming designs. It also proposes the importance of entreaty and client accessibility. VPA is an upcoming era in today's world. It is believed to be the improvement of administrations to look over the dilate demands by the clients for portability and network. The VPA manages the phone calls, meetings, and different tasks[7].

ELIZA, a program that works in the MAC system of MIT that produces a certain type of conversation between man and machine through natural language. Input texts are scrutinized based on decomposition rules and accordingly output responses are produced [10].

This paper includes sensor techniques in the development of smart assistant that is used for shopping. This allows the consumers to comfortably shop and locate the products. This results that data collected from end-users are provided with the necessary information so as to amend business models[11].

III. METHODOLOGY

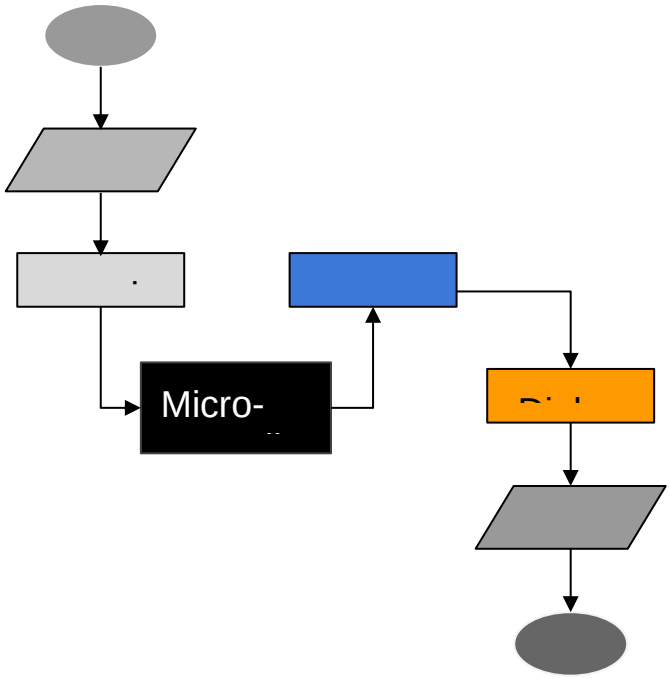
A. Block Diagram



1. End-user input is when a user types or speaks anything.
2. In a detect intent request, your user interface or integration system gets the input and sends it to the Dialog Flow API.
3. The detect intent request is received by the Dialog Flow API. It compares the input to an intent or form parameter, adjusts the parameters as needed, and saves the session state. It sends a webhook request to your webhook service if it needs to contact a webhook-enabled fulfillment; otherwise, proceed to step 6.
4. The webhook request is received by your webhook service. Your service performs any necessary activities, such as calling external APIs, accessing or updating a database, and so on.
5. Your webhook service creates a response and sends it back to Dialog Flow as a webhook response.
6. Your webhook service creates a response and sends it back to Dialog Flow as a webhook response.
7. The detect intent response is received by your user interface or integration system, which then sends the text or voice response to the end-user.
8. The answer is visible or audible to the end-user.

B. Flow Chart

Multiple discussion topics are common in complex dialogues.A pizza delivery agent, for example, may have three separate topics: food order, client information, and confirmation. For an agent to obtain the essential information from the end-user, each topic necessitates numerous conversational rounds.Flows are utilised to specify these subjects and the conversational pathways that go with them. The Default Start Flow is the default flow for each agent. For a simple agent, this single flow may be sufficient. More complex agents may necessitate additional flows, which can be built and maintained by various members of the development team.



Int the First Module Of start Voice has an input, from the mic Voice is taken has an input from the device. Micro-Controller acts has a Controlling unit of this system, the microcontroller processor processes the input voice to Google Cloud, Where Google Cloud Enables the storage a all input data given by the user throw mic, once the data is stored in google Cloud, later next step comes Dialog Flow. The Dialog Flow Basic It is the Combination of Machine Learning (ML) And Artificial Intelligence (AI). All required Prerequisite data will be stored in Dialog Flow, and mainly Dialog Flow Acts has My core Sector of this project. Moreover after the Dialog Flow Compiles the data it sends related data to the user throw Speaker. Where speaker is output and there it ends paths of two Way communication from User and Virtually From Bot (Mr.Blue)

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