A PRIVATE ASSISTANT FOR COLLEGE MANAGEMENT SYSTEM

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Abstract— an assistant is a program which helps to simplify numerous tasks and make them easier to accomplish. This paper provides an approach to integrate the assistant with third party messenger applications. The paper also explains how an assistant can be integrated for an organizations benefit. It also enables the organization to maintain the database in order to extend the reach of organization to their consumers'. In this paper, we developed a Private assistant. The commands are given to the model of assistant, by using voice or typing. The voice commands are processed in real-time with the help of online cloud server. The signal commands are converted to suitable form are communicated over a network. Possible improvements are also discussed towards potential applications in various Colleges, Universities, etc.

Keywords — Artificial intelligence, Machine Learning, Natural Language Processing, Ontology, Personal assistant

I. INTRODUCTION

In the past efforts were developed largely in the field of artificial intelligence and have focused on expert systems in relatively limited domains. Our primary goal in this work was to explore the design and feasibility of building an intelligent virtual assistant for a highly technically-focused task.

The earlier works described so far are those which implements the selected set of operations based on the algorithms for the highest level key-word found in an input text or voice and attempts to match that text according to that implemented intelligent algorithm and if the input does not make some match, selects the Next reassembly rule associated with the matching algorithm and applies it. To generate an output text.

We have presented Assistant, a proof-of-concept Question Answering virtual assistant. We have been able to explore a number of aspects of building a virtual assistant for a Complex technical domain. This has provided useful insight into ontology construction, issues with user dialog management and user interface development. It is, in other words, a system which, for the highest ranking keyword of a text, select a specific decomposition and reassembly rule to be used ill forming the output message. Some of the projects built so far uses artificial algorithms that analyze user's queries and understand user's message. This System is a web application which gives the answer to the query of the student. Students only having a query through the assistants which is used for chatting. Users can interact using any format there is no any specified or prescribed format the user has to follow. The System uses built-in artificial intelligence to answer the query. A background research took place, which included an overview of the conversation procedure and any relevant assistants available. A database will be developed, which will store Information about questions, answers, keywords, logs and feedback messages. A usable system will be designed, developed and deployed to the web servers. The projects aim is to create a virtual assistant based interactive question-answering system capable of pronominal anaphora in a user-driven dialogue. The intention is that a user will be able to collect data on a given subject faster. The answers are appropriate what the user queries. The User can query any college-related activities through the system. This reduces the efforts of students to go to the college personally and provide the reliable information on the few attempts of queries. The user does not have to personally go to the college for inquiry. The System analyses the question and then answers to the user.

II. LITERATURE REVIEW

Personal Assistant apps haven't been around for a while. Virtual assistants and everyday artificial intelligence a little over a year ago this technology was in its infancy, but in recent months a push by Google, Amazon and other tech giants has propelled smart home devices into the mainstream. However, it wasn't until Siri that they became a really big deal.

We now have tons of options in the space, including offerings from Microsoft, and Cortana, among others. It's an interesting space to be in right now. [1] More recently, the advent of scalable cloud computing and improvements in natural language processing, voice recognition, and voice synthesis as well as ontology-based reasoning systems has led to ubiquitous access to such systems as Siri, Cortana, Alexa and Google Now. These newer technologies enable conversational access to so-called virtual assistants for answering simple day-to-day questions or performing various actions [2]. While these systems are engaging, their usefulness to-date has been primarily limited to answering direct questions for information retrieval or invoking specific commands.

An investment firm Mizuho says that Echo & Alexa's revenue could exceed $11 billion by 2020. The firm reckons that $4 billion of that would come from the sales of the Echo device itself (including the Tap and Dot), while the other $7 billion would be belonging to the all online transactions carried online to Amazon.com.

The Amazon's voice-controlled device called Echo allows to play music, read books and shop something online by passing some simple commands. The reasoning systems of virtual assistants and conversational agents [4] The Alexa carries the potential to implement get collaborated with wide varieties of other peripherals such as TV, AC, Ovens, etc.

The net revenues from such intelligent artificial assistants have the potential to hike form current value $2.5 billion by 2022.

The system answers to the query as if it is answered by the Person. With the help of artificial intelligence, the system answers the query asked by the students. [5]Frequently these types of systems are built as a dialog system or a conversational agent. Semantic networks, frequently in the form of ontologies, provide many affordances [3] that are often central to the reasoning systems of assistants. The system is capable of answering the quires with the help of various Graphical user interface which percepts to be real person is talking to the user. Each assistant has a few of its

own little quirks, ones that are forgivable but make the experience a little less than seamless. There's a very much scope for improvement in the designs and its implications, and voice control systems is not a big achievement.

III. PLANNING

4.1 EXPERIMENTAL SETUP AND RESULTS

Operating System: Windows, Linux & Mac OS
Platform: API.AI
Technology: Window
Language: JSON
Backend: JavaScript, NodeJS
For Development: DIALOG-FLOW

Flow of work

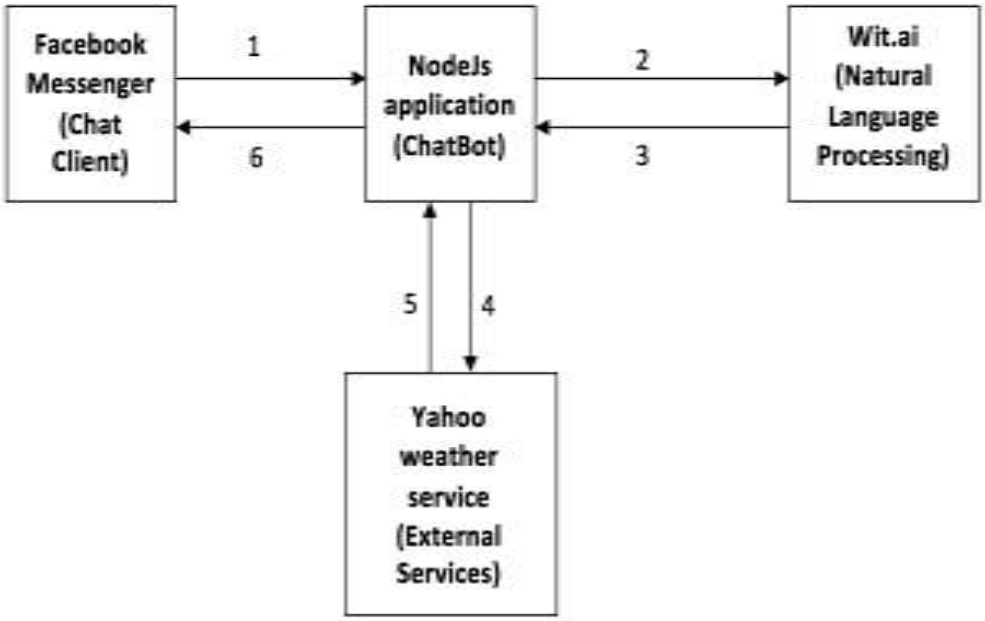

Figure*: 1.1 Architecture flow of operation.*

The architecture flow is explained below.

1. User sends message to assistant from Facebook Messenger (or any other chat client)
2. Assistant sends message to Api.ai (a Machine Learning Natural Language Processing Engine)
3. Api.ai extracts user's intent and entities from message and sends back to Assistant.
4. Intent is used to call upon external data service to find desired data.
5. The data is returned to assistant from external service
6. Assistant builds data into a proper response and sends to Facebook Messenger for display.

IV. ADVANTAGES

1. User does not have to go personally to college office for the enquiry.
2. This application enables the students to be updated with college cultural activities.
3. This application saves time for the student as well as teaching and non-teaching staffs.
4. Pull out Detailed information of Things, places, events etc.
5. Interact Over Facebook messenger or Facebook website
6. Interact with third-party apps like Skype, Google now, etc.
7. Cross-platform Interaction & Understand the context of the question
8. Fast and seamless performance

V. CONCLUSION

A personal assistant is developed in this paper, which is capable of interacting with the user and guiding them to reach up to their goal state. The goal state mentioned here can be the address of a particular web content, getting the required piece of information from the pool of information, suggesting them some of similar contents matching to their queries. These tasks can be carried by the assistant with the help of algorithms which are designed by the assistant itself during the course of training and also some of the algorithms are burnt in it explicitly while designing it. The queries fired at the assistant will be used as a reference for the execution of queries that are going to encounter in the future.

VI. FUTURE SCOPE

The system developed till now is supporting to limited platforms only, but it can be integrated with other multiple hardware sensors and peripherals. It can also be extended to third party applications for various control applications device with the help of input commands in the form of voice or text and also can improve the security of the system.

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