

University Intractive Virtual Assistant (UIVA)

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Abstract—Every year hundreds of students need counseling for admission for higher education. They need counselors for better opportunities in best university. A proper counselor is needed for a better future option in any area. It's a big challenge in front of universities to have best counselors in there university which not only give proper guidance to the students but also have to give right decision to give shape to future to students.

To overcome such problem UIVA is designed this tool is specifically designed for SAGE University as a virtual assistant.

UIVA talks with students and students ask questions like about institute's, course, specialization, fees, placements, intakes, eligibility criteria, Hostel fees AC/NON-AC, Mess facilities, bus facilities sport facilities library facilities, lab facilities, affiliation, about internship, scope etc. Many students and parents come to university on holiday because free time to explore there is no staff available in campus on holidays but UIVA available 24*7. A university so many course and program runs counselors not expert and aware about course and programs but UIVA is one expert available all time. UIVA is the need during pandemics.

Index Terms— Speech recognition, voice recognition, Human Talks, Smart devices, virtual counselor, voice assistant, intelligent assistant, virtual academic counselor.

Objective— The main object to UIVA' system was to help students and parents and peoples to get information about university and impaired people to get required / desired information by giving input in speech format

I. INTRODUCTION

Education is one of the most important aspects of human development/revolution, greatly influencing the goal of professional development and success. The increasing need for training at the higher-education level, that contributes to the scientific, Medical and technological qualification of youth and adults, the admission of students is first process with all information, with different motivations in academic and social background. A student encouraging in higher education in academic is a big responsibility for academic staff to place students at the center of their thinking and help them to manage their expectations concise and constructive design in their learning goals throughout their higher education is a big challenge today.

Various Virtual Assistants are currently available such as Google virtual assistant. But it is not specifically design to solve university information, Cortana is a virtual assistant in which the commands are typed system not depend on voice commands, Siri runs on IOS.

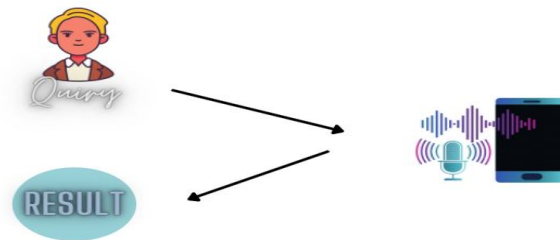
This system is specifically designed to resolve queries of student are related to before taking admission into the university. This may include questions like fees, placement, teaching methods, corporate information, workshops and trainings.

This paper discusses the implementation of the ‘UIVA’ aimed to help the normal human being and students and parents to access online facilities. Through voice commands the system uses speech or text to communicate with the user. Speech recognition uses to convert the speech/voice input into text format. Then given converted input is parsed by the system and tokens are generated using algorithms and built in APIs which generates desired output in speech or text format. In addition, though speech recognition systems have greatly improved in recent years, achievement is far from perfect, so dialogue model must be built to include mechanisms for recovery from speech recognition mistakes. Speech is the most basic and important form of communication for interaction with anyone. Thus, to interact with computers via speech, rather than using the general devices is what one looks for. This can be accomplished by developing a Speech Recognition Application which allows a computer and mobile to identify the words likes “hi virtual assistant” that a person speaks into a microphone and convert it into written text.

II. LITERATURE SURVEY

Various works has done before this work. The object includes speech/text content that converted to voice output [1]. They envisioned that someday computer software will recognize original language and count on what we need, give desired result. However, speech recognition and machine getting to know the input format and based on the input it will gives desired result through in build packages and APIs. As computer systems turn out to be smaller and greater ubiquitous [2]. This paper presents, a usability off our Virtual assistant voice-based “Next-Generation of Virtual Personal Assistants “Published in 2018, This paper gives us knowledge about the uses of the multimodal dialogue systems.[3] Sumit Kumar Sarda, “VPA : Virtual Personal Assistant” Published in 2017. This paper describes the approach to develop a personal assistant that reduces the utilization of input devices like key board and mouse on our Personal Computer. This paper gives idea about using personal assistant in our day-to-day life rather than using personal computers. [4] Advance Personal Assistant:-Watson is a type of question answering computing system that IBM is able to apply advanced simple language processing, tiding reprocessing, cognition delegacy, automated reasoning, and machine learning technologies to the field of open domain answering the questions. The main difference between QA technology and document search is that document search under takes a keyword query and results in a list of documents, ranked according to the relevance of the query.

III. PROPOSED SOLUTION



An University interactive virtual assistant UIVA is a software agent .The result was Speech to Text, speech recognition, text to speech.

III. METHODOLOGY

In this paper we have considered different methodology such as Speech to Text, speech recognition, text to speech. This virtual system will give information of sage university to get information about institute’s, course,

specialization, fees, placements, intakes, eligibility criteria, Hostel fees Ac/Non-Ac, Mess facilities, bus facilities sport facilities library facilities, lab facilities etc, Most of the authors presented their approach either as a flow diagram of the input and output processes that their interfaces followed or from the point of view of the software architecture they developed.

This serves to highlight certain specific characteristics of their virtual assistant that make them unique. Some of these features were the following: using APIs to extend the static knowledge base, However, the process of developing virtual assistant can also be enhanced by structures that encapsulate these frameworks into a system where development insights and results can be easily transmitted to educators trying to create their own virtual assistant. The analysis around this study to answers the question: How can teachers build their own implementations and communicate results in a structured manner or improve over the original version we hypothesize that it can be achieved by finding an empirical structure for communicating results. To support these claims, we propose a case study of our most recent implementations of virtual assistant for diploma, undergraduate and post graduate courses.

IV. RESULTS

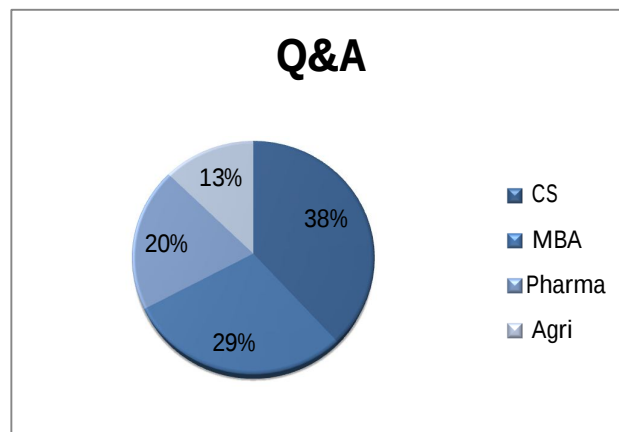
Evaluation results aim to test voice recognition and contextual understanding between users and human free interaction. Question based on University i.e. “How do I get to the “course information” and “Admission process”, our virtual assistant answered more accurately than other virtual assistants. In the next question like gives more accurate result: “fees structure” university interactive virtual assistant. Questions based on email functioning, like “Send an email to Amrita”; “Do I have any email from Amrita” and “Send a text to Amrita”. All three assistants responded to these questions but Google assistant answered more accurately. The question related to sports was answered by all the assistants except Cortana which opened various links. When the questions related to music category were asked all of them answered correctly. When asked tricky questions like Do you know about artificial intelligent? And which course is best? All the assistants except university virtual assistant did answer it but in a sarcastically manner. You can ask video on YouTube, definition on Wikipedia and with this survey came to an end. According to this results sage virtual assistant’s answers were more accurately among all three. In terms of sage university UIVA easily understood voice variations. It also avoids all disturbances and managed to listen the voice.

V. TESTING RESULTS

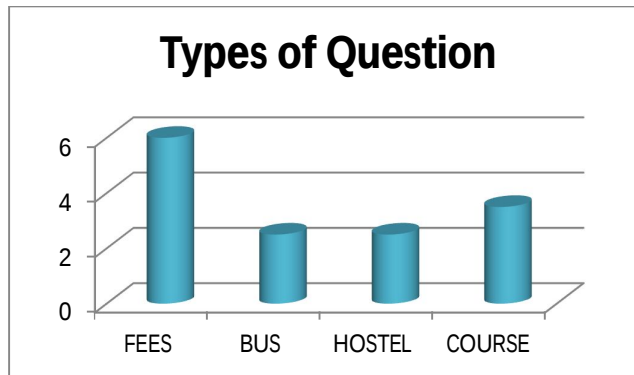
Mostly asked questions to UIVA it’s related to fees structure like what is the fees of cse, what is the fees of mba, what is the fees of pharmacy, what is the fees of agri etc.

VI. TYPES OF QUESTIONS

UIVA Categories the questions like what is the fees structure, what are the bus fees, what are the hostel fees, what are the courses and facilities available.



Questioning Category



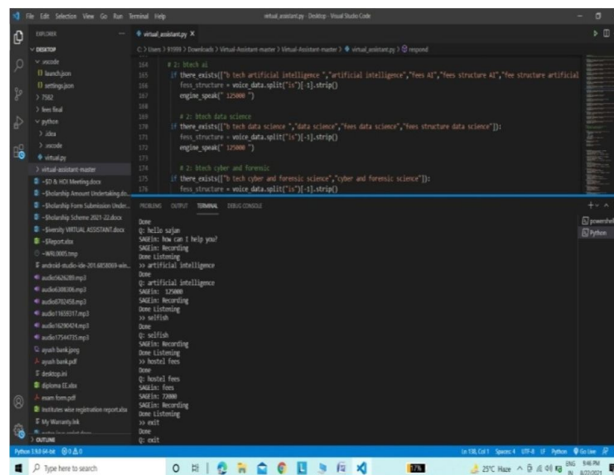
VII. CONCLUSIONS

On the basis of literature survey and by analyzing existing systems, we have come to conclusion that the proposed universities interactive virtual assistant UIVA will not only be economical but will also boost the application domain of current systems available in the market. Automatic assistance provides guidance during this pandemic where infection may cause by touching anything we don't know where infection spread this problem resolve by design UIVA. University interactive virtual assistant will not only guide about University but will also help most of peoples queries solve. UIVA talks with students. students ask questions like about institute's, course, specialization, fees, placements, intakes, eligibility criteria, Hostel fees Ac/Non-Ac, Mess facilities, bus facilities, sport facilities library facilities, lab facilities etc. Virtual assistant available on holiday packages. Virtual Assistant well known and aware about course and programs.

TABLE I. COMPARATIVE STUDY

UIVA	Other Virtual assistant
Query resolved on same platform	Send to another platform
API size less 5.2 MB	API size large 7.6 MB
Response time <30 sec.	Response time >30 sec.
Resolved Query like, fees, bus, hostels, course etc.	Convert website visitors into application
Simple to operate	Integration difficult

Technology/Tools
Python
Visual studio



Snapshot

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SET OF QUESTION

- What is your university fees structure?
- What is fees of M.tech CS, B.tech cs, Diploma CS?
- What is fees of M.tech Automobile, B.tech ME, Diploma ME?
- What is fees of M.tech DC, B.tech EC, diploma EE?
- What is fees of B.tech CE, diploma CE?
- What is fees of M.tech AI, B.tech AI ?
- What is fees of M.tech DS, B.tech DS?
- What is fees of M.tech Cyber & forensic, B.tech Cyber & forensic?
- What is bus fees?
- What is hostel fees?