

Voice Assistant Application for a college Website

Deny Nancy, Sumithra Praveen, Anushria Sai, M.Ganga, R.S. Abisree

Abstract : *In the Modern Era of fast moving technology we can do things which we never thought we could do before but, to achieve and accomplish these thoughts there is a need for a platform which can automate all our tasks with ease and comfort. Thus we humans developed applications like Personal Voice Assistant having the ability to interact with the surroundings just by one of the materialistic form of human interaction i.e. HUMANVOICE. The most famous application of android mobile phone is "Google Assistant", "Google Voice Search" which is developed by the Google. Various applications like Microsoft Cortana, Amazon Alexa is also used as a voice assistant. The voice application of iPhone is "SIRI" which helps the end user to communicate end-user mobile with voice and it also responds to the voice commands of the user. We are going to develop a web application where the voice assistant would be available for a particular website. In this proposed system we have taken a college website as an example. It can change the way of interactions between end user and the website. The Application is being designed in such a way that all the services provided by the website are accessible by the end user on the user's voice commands.*

Index terms: Voice Search, Voice Assistant, Website, College.

I. INTRODUCTION

Nowadays the Mobile Technology is being very famous for the User Experience, because it is very easy to access the applications and services from any where of your Geolocation. Android, Apple (IOS), Windows, Blackberry OS, etc. are various famous and commonly used Mobile Operating Systems. All the Operating Systems provide plenty of applications and services for users. For an instance, the Contacts Applications is used to store the contact details of the user's contact and also helps user to connect a call or send an SMS to the person using the contents stored in this application. We can get similar types of application all around the world via Apple Store, Play Store, etc. All this features gives birth to various kinds of Sensors or functionalities to be implemented in the mobile devices. The Most famous application of iPhone is "SIRI" which helps the end user to communicate end user to mobile with voice

Revised Manuscript Received on December 22, 2018

Deny Nancy, Assistant Professor, Department of Computer Science and Engineering, SNS College of Technology, Coimbatore, Tamil Nadu, India.

Sumithra Praveen, Assistant Professor, Department of Computer Science and Engineering, SNS College of Technology, Coimbatore, Tamil Nadu, India.

Anushria Sai, UG Scholar, Department of Computer Science and Engineering, SNS College of Technology, Coimbatore, Tamil Nadu, India.

M.Ganga, UG Scholar, Department of Computer Science and Engineering, SNS College of Technology, Coimbatore, Tamil Nadu, India.

R.S. Abisree, UG Scholar, Department of Computer Science and Engineering, SNS College of Technology, Coimbatore, Tamil Nadu, India.

And it also responds to the voice commands of the user. Same kind of application is also developed by the Google that is "Google Voice Search" which is used for in Android Phones. Also we have similar applications like Bixby (personnel assistant which is only available in Samsung devices), Cortana, and Google Assistant. We are going to develop a web application where the voice assistant would be available for a particular website. In this proposed system we have taken a college website as an example. It can change the way of interactions between end user and the website. The Application is being designed in such a way that all the services provided by the website are accessible by the end user on the user's voice commands. A user can find his expected search results just by voice command. He can get information or results regarding admission details, courses available, rules and regulations followed in the college, exam schedules, upcoming events, scholars and achievers of the college, department details, department event details, faculty details, syllabus, regularly updated notes, department toppers and all round performers' details, filling out forms, etc. In that particular college's website.

II. EXISTING SYSTEM

We are still far away from understanding the genuine capability of speech recognition technology. This applies both to the refinement of the innovation itself and to its coordination into our lives. The current digital assistants can decipher discourse great, yet they are not the conversational interfaces that the innovation suppliers need them to be. Besides, speech recognition stays constrained to few items. Voice recognition technology was around some time before Apple's Siri appeared in 2011. At the Seattle World's fair in 1962, IBM presented a device called Shoebox. It was the size of a shoebox and could perform scientific functions and perceive 16 spoken words as well as digits 0-9. Mozilla are working on foundations for open, public voice services. Training a voice assistant takes a lot of data though: 10,000 hours of recordings. To put that in context, the total of all of the TED talks out there comes to about 100 hours: still 2 orders of magnitude away! That's why Mozilla have opened up Project Common Voice to allow the public to lend their own voices. They created an experiment called Voice Fill to allow you to search via voice on Google, Yahoo and DuckDuckGo. And they have been starting to explore the idea of open voice service registration under a preliminary name of Voice HTML.

Timeline of Mainstream Voice Assistants



There are various voice assistant applications developed and used in day to day life as mobile applications. Few of these voice assistants are:

A. Google Allo:

Google Allo is essentially an informing application. Clients can straightforwardly consolidate Google Assistant into their own visit or assembling discussion by simply utilizing @Google in it and welcome the best of both informing and voice look collaborator. Brilliant Reply proposes programmed reactions to content and photographs. You can doodle on or add content to pictures to portray them before sending. It incorporate Google Assistant in the discussion to request help. Aides in finding close-by found spots like lodgings, bars, eateries, and so forth. It use Google hunt to find voice-based solutions. It setups an update, plan messages and part more.

B. Alice:

Alice is an astonishingly special voice associate look application for Android clients with dependable help available. With capacity to learn and know new things through perception, Alice is savvy enough to see something other than directions. The Voice-engaged requests to dispatch explicit applications and hunt things. It answers the solicitations with respect to atmosphere, time, scores and that is just a hint of a greater challenge. The clients can characterize their own directions. It makes a fine daily agenda, calendars, cautions and updates. It collaborates with versatile functionalities like SMS, Calls, and so on. Aides in ascertaining maths issues in only a couple of moments.

C. Voice search- UX Apps:

UX Apps is an astoundingly obliging and free application for Android contraption clients. Its present adaptation is 3.2.1 and has gotten stunning reactions in Google Play store. It has a wonderful ability to empower you to pick right choices from voice confirmation. Clients don't need to investigate phone contacts as they can talk the name and it will appear. The voice look fortify changed vernaculars. Pushed voice duty for dynamically cleaned client experience is open. It picks the correct consequences of voice attestation. Voice-based solicitation is available to search for through the telephone contact list. By talking the name of the application it opens it. Joining with web look devices like youtube, Google, and so on is finished. In-created

contraption on home screen for savvy get to are given. Application can be balanced.

D. Prometheus interactive:

Prometheus Interactive is another basic free Android application that claims bewildering evaluations for its exciting voice search for purpose of restriction. The most recent translation is 2.0.13. The application remains in movement that it gives you exact, in every way that really matters trademark voice insistence experience and can daze you with its vigilant reaction potential. It has stunning precision in voice insistence. It can deal with a wide degree of solicitation and questions. It keeps the history log as of late voyages. It has completely flexible application contraption. Impeccable client experience is obliged look handiness searchers.

E. Bing:

Microsoft's Bing search engine has voice-pulled in assertion limit and can impersonate its adversary Google from various perspectives possible. For likely the first occasion when, it has liquid, ordinary and exquisite user interface that helps users find what they need in style. It has smooth, drawing in and focused interface. Smart voice search affirmation supports this system. It delivers versatile searches like desktop Decision Engine. It is a user-obliging, simple and straightforward assistance. It can answer an assortment of queries and on-request requirements.

F. Magdalm- App search by Voice:

Magdalm is a price unfastened voice appearance application for Android clients moved in 2018. It has carried out four.2 out of 5 examinations and its maximum recent trade is 1.8.0. The standard paintings of Magdalm App search is to enable clients to discover utility they require through structures for voice demand. It has intending with glass to take a gander at names and bundles. Expelled up interface are fit empowered help. A vertical bar is setup for customers to investigate matters in simple methodologies request. Moved channel to look by way of programs, structure and extra is given.

G. Hound Voice search and Assistant:

Created by Sound Hound, Hound is any other brilliant free voice search and private assistant application for Android smartphones which become at the start reachable for america citizens. Along basics, it has numerous propelled features to take assistance to next size. The voice seek of Hound has magnificent 5 megastar scores as nicely. It can make phone calls and ship immediate messages the usage of voice instructions. Subtle voice search experience is accommodated fast, strong help. It has propelled settlement adding device. Immediately weather projection and news signals are advised. Games along with Executioner are available for regularly interactive revel in. It's miles incorporated with Expedia assist for inn booking. Sound Hound presently enables sing/hum track seek.

H.Vlingo:

Vlingo is one most of the people of the additional empowering and for all intents and purposes extraordinary decision among Voice appearance applications for Android 2018. Rich non-open colleagues aren't notable for the blanketed, properly off people considering that telephone clients can likewise use the effect of look for and revel in standard sort of distant. Vlingo has every unapproachable and paid translations with propelled version offering critical limits. It has sincerely one of a sort, addictive and consumer arranged voice notoriety. It is an energetic non-open assist with smooth-to-use interface. It would send brief message or supersede fb notoriety with voice. Voice-engaged web appearance bunches are given. It engages locating preparations and surrenders you with first rate sharp expertise.

I.Indigo:

Indigo appreciates the reputation of being a loosened and smooth-to-utilize humble aide application in Android advance it. Intelligent and positively client obliging, Indigo VA is so common it bodes well as on the off danger that you are definitely having a verbal trade with an agreeable man or lady. From impelling an utility to showing data alarms and atmosphere gauges, she plays every last one of the duties you demand. It safeguard you refreshed with the news all through assorted areas. It can look for the utilization of Google, Bing and Yahoo for any inquiries. Voice-engaged guidelines to control your track player are helpful. It interfaces effectively with internet based life like facebook and Twitter. Atmosphere estimates for any area is given. It goes about as a zone pioneer for exceptional events.

J.Cha Cha Answers:

There are many search engines to reply verbal questions and provide a huge stretch of facts. In any case, on the time of tight, specific questions, you require snappy, directly answers in place of spectacular through special pages of consequences. Cha cha comes in your rescue on the season of pressing want and looks very beneficial. It has easy and straightforward questions and answers provider. It offers fast solutions to urgent questions of specific nature. It saves a top notch deal of time by getting you what you surely anticipate. Is the nice lodge for dire queries. It has a shocking potential to resolves toughest questions.

K.Bixby:

Referred to as the Samsung's non-public assistant utility, Bixby is simply on hand on Samsung devices and isn't always handy at the Google Play shop. The most putting detail of this voice seek is that it activates you to focus on what's important and moreover keeps a tune on your preceding searches and learns about what are your most cherished apps or services. It incorporates out internet searches. It may down load apps from Play keep. It Has direct aid to several apps. It Acts as a smart domestic tech. It understands everyday, the conversational language which makes correspondence less complicated. It is able to perceive voice instructions of languages-English (US), Korean and chinese (Mandarin).

L.Data Bot:

That is a move-degree simulated artificial intelligence supported application that comes with a few fundamental and customized features. Despite the reality that this isn't always excessively commendable like the google assistant or the siri as it comes with certain less complicated and tasty functions. It is able to rapidly recognize matters and show off effects likewise. It is able to make custom designed interactive media displays. We can use it in a workstation, smart cellphone or tablet. It could inform jokes, riddles and other nicely executed that way. The software is unfastened with some discretionary in-software purchases.

M.Dragon Mobile Assistant:

This AI has some fantastic capabilities blanketed and the cutting-edge day update brings in significantly greater skills. Using this, users can dispatch specific apps, set alarms, and play music surely via using speakme to the voice assistant. It could execute numerous instructions at the same time. Clear interface with high-quality voice quick. It collects facts from severa property. It Has the functionality to peruse and reply to without delay messages in using mode. It could set reminders or maybe set appointments.

N.Google Assistant:

Recognized to be the boss of the private assistant utility in Android Google Assistant comes with tons of functions which comprise both basic and propelled size of operating. It may cope with custom ordinary commands. It teaches children manners. It's more and more conversational. The users have the decision to pick out from 8 unique voices. It is able to seek and browse the entirety with out exception for you. It offers personalized user updates beneath 'discover'. On the point while the affiliation is awful it obviously optimizes for better effects.

O.Robin:

A non-public assistant this is each amusing, useful and continuously learns and adapts to you. Each time you're in need, just tap on the microphone button and it is going to be right there for you. It performs fundamental functions. It is able to respond to calls and messages. It Has the potential to respond to gestures. It gives facts approximately parking spaces, gas fee, traffic statistics and so forth.

P.Proposed system

Our proposed system is to create a web application for particular college website .Where we can search for the information related to college like admission, course details, ,rules and regulations followed in the college, exam schedules, upcoming events, scholars and achievers of the college, department details, department event details, faculty details , syllabus, regularly updated notes, department toppers and all round performers' details, filling out forms ,etc.in that particular college's website

III. OUR WEB APPLICATION WOULD BE A COMBINATION OF THE FOLLOWING:

A. Virtual Digital Assistants:

Those are robotized programming bundles or tiers that help the purchaser thru insights trademark language in every encompassed or spoken form.

B. Chat bot:

Content is the vital technique to get assist from a go to bot. Visit bots can mimic a communicate with a human customer. Numerous businesses use them inside the consumer manipulate location to reply to critical inquiries and associate with a stay character if crucial.

C. Voice Assistant:

The key here is voice. A voice associate is an advanced accomplice that makes use of voice confirmation, talk mix, and everyday language getting geared up (nlp) to offer an enterprise by means of a selected application. Improvement is unremittingly progressing and changing over, and the voice associate market will develop close-with the aid of it. In april 2015, the exam company gartner anticipated that earlier than the of completing of 2020, 50 percentage of affiliation with improvement might be through "talks" with sharp machines, huge amounts of them by means of strategies for voice.

The quantity of humans using voice assistants is depended upon to make bigger. As shown by means of method for the voice bot exquisite speaker buyer adoption file 2018, legitimate around 10% of folks who don't guarantee an energetic speaker plan to look for one. At the off chance that this ultimate parts regular, the purchaser base of great speaker customers will grow 50 price, which implies that a fourth of developed americaa long way and gigantic will guarantee an excited speaker.

We had a few extraordinary, idea-horrifying thoughts, which encompass:

D. Content filtering:

Rather than just perusing some electronic substance to you verbatim, a shrewd aide could adjust it for you, on the off chance that you wish. For instance, it could preclude things that you've requested that it sift through, or supplant hostile words with milder ones.

E. Going hands-free:

Various gatherings talked about helpful sans hands circumstances, for example, cooking, rehearsing medical aid and interpreting your discourse when you're abroad.

IV. TECHNOLOGY USED

A. Dialog flow:

It is a characteristic language handling motor. Dialogflow likewise utilizes information dependent on the experience of client connection. Dialogflow's working guideline is fundamentally the same as the past frameworks; be that as it may, one of its key perspectives that recognize it from other programming is areas. Areas are fundamentally an astoundingly broad accumulation of information and learning utilized by specialists - operators being a product acknowledgment of Dialogflow. Programming created

dependent on Dialogflow can, especially, recognize the contrast between the sentences like "tree's husk" and "pooch's bark." Moreover, applications created with the usage of this API can give a definite response to instructive inquiries because of an extraordinarily immense database of broad data. Due to these highlights, the stage in discourse is a standout amongst the most ordinarily utilized among engineers.

B. Python:

It is an all-around valuable programming language used in Dialogflow. It is used as a base for the most prominent AI-based programming in light of its versatility, straightforwardness and longstanding reputation (it has been in nearness for over 20 years).

C. Jasper:

It is a cloud-based Internet of Things (iot) stage. Jasper is an open source stage for growing dependably on, voice-controlled applications. It utilizes your voice to request data, update informal communities, control your home and that's just the beginning. Jasper is dependably on, continually tuning in for directions, and you can talk from meters away.

D. Wit.ai:

It is the common language interface which is equipped for influencing application to cooperate with people. It is an exceptional stage committed to the individual age of answers to clients' voice demands through its investigative limits and capacity to interface. The framework likewise incorporates a propelled device set for transformation of discourse directions into content.

Wit.ai depends on two interconnected thoughts, the first being the elements. As per the broad information database of engineers' networks, the stage naturally diagrams the main subject of every client's solicitation and bases the application's conduct on it. For instance, the focal subject of the question "Where do koalas live?" is "koalas."

The second idea depends on jobs. The name of the subject can infer diverse settings in different circumstances and the rundown of the product's conceivable activities stretches out after the solicitation is perceived. Besides, Wit.ai highlights a "History" choice that can hold a straightforward discussion dependent on predefined calculations. It is sheltered to state that the stage has very propelled programming improvement usefulness in its ownership.

E. Melissa:

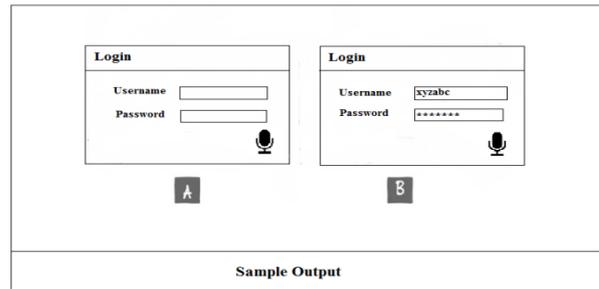
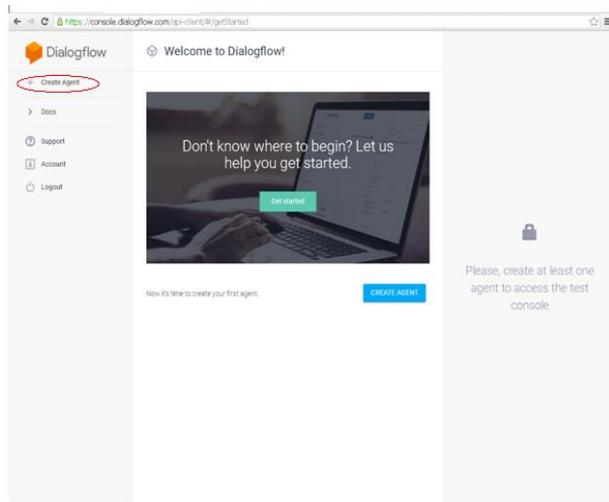
It is a cloud based stage for information stockpiling. Melissa has an open source code and gives the capacity to exclusively make individual virtual AI associates dependent on Python programming language for OS X, Windows and Linux frameworks. This product establishes an incredible framework for the execution of a startup because of various pre-introduced capacities, (for example, task booking, media playback, and so forth.) And shrewd preparing of voice directions

F.Algorithm

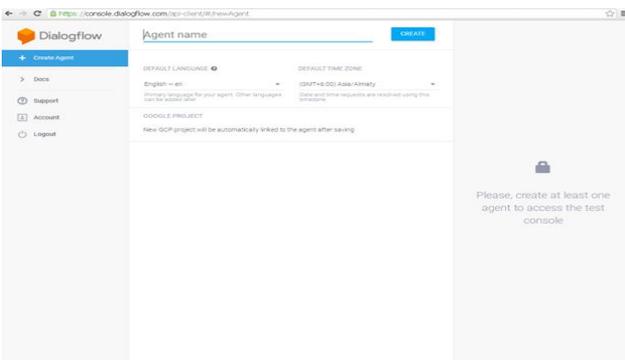
Step1: Create a college website
Step 2: Register in Dialogflow

Step 5: Combine the Technology with your website
Step 6: Get your website working

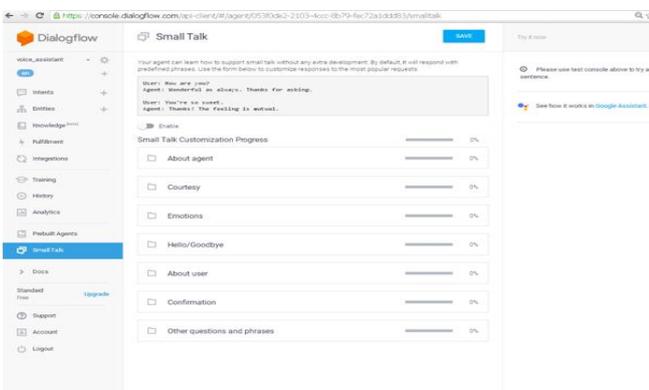
Step 2.1:



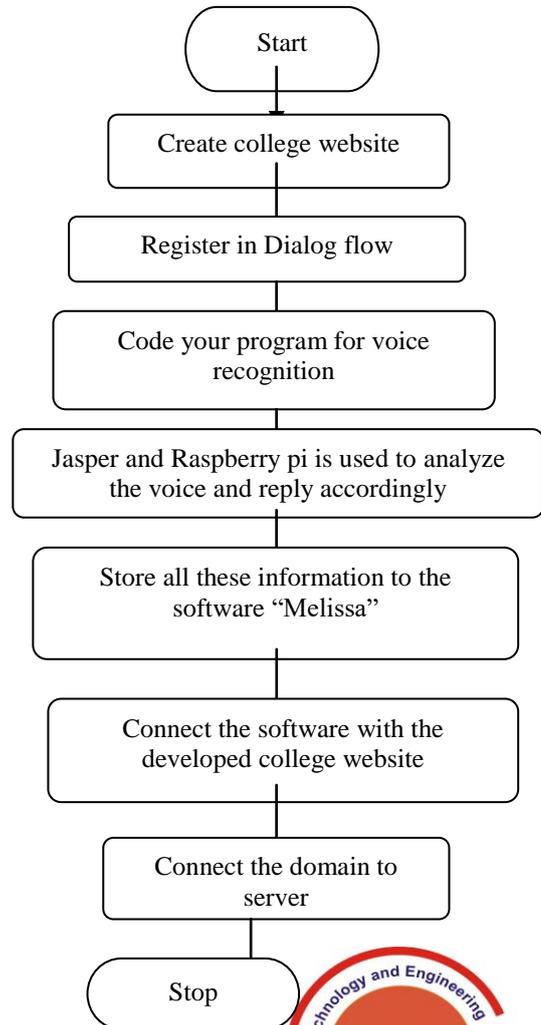
Step 2.2:



Step 2.3:



Flow Chart



Step 3: Code your program in Dialogflow

Python Code + Dialogflow → Understands voice

Step 4: Using Raspberry Pi and Jasper

V. DESCRIPTION

Create a website for a particular college using HTML, CSS and javascript. Enter the information which you required for the college website. Dialogflow is a service created by Google used for Natural Language Processing and speech to text building. You can sign up to this service using your Google account. In this Dialogflow interface you can create a virtual assistant. Each assistant you create and teach specific in it is called an agent in Dialogflow. The name description language and timezone of your work. Write the coding of program in Python language. Now your assistant is ready to answer to the questions which feed in it.

All you need is an internet connected Raspberry Pi with the microphone and speaker simply install Jasper and get started using the built-in function that allows you to interface with your website. It could understand whenever a keyword is given to open up the assistant and would help in analysing the questions and give the answers accordingly. The data sets of the website and the information would be given a using Dialogflow and Jasper connected with Raspberry Pi so that the user would have a user-friendly interaction. Combine the virtual assistant developed using the Dialogflow, Raspberry Pi and Jasper with your website which is created. Check for any errors, if you are satisfied with your virtual assistant and your website get a domain and a server for you website and get started.

VI. CONCLUSION

Voice assistant web app provides hands-free experience to answer the quick queries or find college information or urgent information of a particular website. Thus our web application would be helpful for new users as well as people with hectic schedules. Our web application improves upon the current state of the art by increasing user satisfaction and convenience.

REFERENCES

1. "Accurate and compact large vocabulary speech recognition on mobile devices," in INTERSPEECH. 2013, pp. 662–665, ISCA.
2. "Connectionist temporal classification: Labelling unsegmented sequence data with recurrent neural networks," in ICML, 2006, pp. 369–376.
3. "Lattice-based optimization of sequence classification criteria for neural-network acoustic modeling".
4. <https://quintagroup.com/cms/python/jasper>
5. <https://appliance solutions.com/blog/how-to-build-your-own-artificial-intelligence-assistant>
6. <https://www.theverge.com/2018/5/8/17314524/google-assistant-update-new-features-announced-io-2018>
7. <https://www.smartsheet.com/voice-assistants-artificial-intelligence>