Smart Assistant for Public Parks Using IBM Watson

N Vinod Kumar[1], C Padma[2]

[1]Assistant Professor, Dept of ECE, Ashoka Womens Engineering College, Affiliated to JNTUA, Kurnool, A.P, India.
[2] Assistant Professor, Dept of ECE, Ashoka Womens Engineering College, Affiliated to JNTUA, Kurnool, A.P, India.

ABSTRACT

In recent times the concept of Assistant for Public Parks Using IBM Watson have gained grate popularity. Consistent efforts are being made in the field of IoT in order to maximize the productivity and reliability of urban infrastructure. Problems such as busy scheduled ,limited car parking facilities and road safety are being addressed by IoT .In this paper, we present an IoT based cloud integrated smart assistant for park system. They can also help customers to get instant information related to their queries. The chatbots can ease and provide accurate information of facilities and timings and gives the customers a human-like experience during communication over the website or a mobile application. Our project aims at providing such a virtual smart assistant cum guide.Who would guide us not only to the directions to reach a specified destination but also about the infrastructure and history of that Public Park.

Keywords: **carriers Node RED, IoT, IBM Watson**

1.   Introduction

Smart Assistant is a software agent that is used to perform tasks or services for individuals. Sometimes the term 'Chabot's' is used to refer to a smart assistant, which is a new technology that would be harnessed to create an intelligent smart personal assistant which focuses on user based information. The software focuses on smart assistant and structural elements of a smart assistant system. In this software we tried to study virtual Environment and smart Assistant. It will be a look-at example of intelligent programs with English language that are readily available. Chatbots are just another kind of software generally used as information acquisition interfaces. Chatbots are conversational agents powered by artificial intelligence that can interact with users in a conversational manner using natural language processing. They are automated programs that simulate conversation with users and usually respond with a singleline response. Chatbots are virtual advisors, assistants or agents that let users interact with services and brands using their favorite messaging apps. Chatbots are generally used by organization for product marketing, brand engagement, product assistance, sales, and support conversations. They play a fundamental role in customer service, wherein they are used as a medium to facilitate interaction between a human and a machine via text or text-to-speech. Chatbots can assume the function of a live human agent and provide the users with required assistant in finding information regarding products or services

2.   Literature Survey

Smart Personal Assistant The Smart Personal Assistant enables users to access e-mail and calendar notifications using natural language speaking through a PDA interface. The user must present the system and enable the user to conduct a dialogue in which it is affable to operate between these domains. The SPA is applied to an agent platform and includes a special PDA controller with plans for coordinating the accused assistants and for encoding the systems speak model. The agent based dialogue model is at an upper level of abstraction, enabling the domain free plans in the dialogue model to be reused in alter SPA systems. REFERENCE : Yogendra Kumar Sharma, Neeraj Sharma

 Google assistant controlled home automation The idea behind Google assistant-controlled Home automation is to control home devices with voice. On the market there are many devices available to do that, but making our own is awesome. In this project, the Google assistant requires voice commands. Adafruit account which is a cloud based free IoT web server used to create virtual switches, is linking to IFTTT website abbreviated as "If This Then That" which is used to create if-else conditional statements. The voice commands for Google assistant have been added through IFTTT website. In this home automation, as the user gives commands to the Google assistant, Home appliances like Bulb, Fan and Motor etc., can be controlled accordingly. The commands given through the Google assistant are decoded and then sent to the microcontroller, the microcontroller in turn controls the relays connected to it. The device connected to the respective relay can be turned On or OFF as per the users request to the Google Assistant. The microcontroller used is Node MCU (ESP8266) and the communication between the microcontroller and the application is established via Wi-Fi (Internet).

3. Existing Method

Google Assistant is Google's voice assistant. Google Assistant is a virtual assistant software application developed by Google that is primarily available on mobile and home automation devices. Based on artificial intelligence, Google Assistant can engage in two-way conversations, unlike the company's previous virtual assistant, Google Now. Google has long killed Google Now, but Assistant lives in the same space, fusing these personalized elements with a wide-range of voice control. Google Assistant supports both text or voice entry and it will follow the conversation which ever entry method you're using. Since we are giving our information to the assistant it might later turn out to be a sci-fi horror movie. Privacy advocates even raised concerns about the millions of vocal samples being recorded and used as feedback for virtual assistants. It makes AI even smarter and disadvantageous for us. Users primarily interact with the Google Assistant through natural voice, though keyboard input is also supported. Assistant is able to answer questions, schedule events and alarms, adjust hardware settings on the user's device, show information from the user's Google account, play games, and more. Google has also announced that Assistant will be able to identify objects and gather visual information through the device's camera, and support purchasing products and sending money. Google Assistant Speakers are great in design. It is small in size and is customizable. These Speakers have a color variance that matches your decor and also doesn't stand out or look like just a speaker. The minimalist design of Google Assistant Speaker is surprisingly attractive and beautiful. Since it is in-built with an interactive voice response technology, Google Assistant Speakers make calls to any number you would want to call if it's in your Google contact. It just needs a voice command then the job gets done.
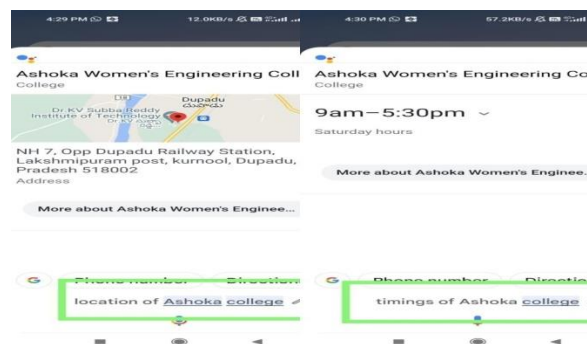

Figure1: Goggle assistant

4. Proposed System

IBM Watson Assistant is an AI-powered virtual agent designed to provide customers with fast, consistent and accurate answers across any messaging platform, application, device or channel. Using artificial intelligence and natural language processing, Watson Assistant learns from customer conversations, improving its ability to resolve issues the first time while removing the frustration of long wait times, tedious searches and unhelpful Chatbots. Most chatbots try to mimic human interactions, frustrating customers when a misunderstanding arises.Watson Assistant is more than a Chabot. It knows when to search for an answer from a knowledge base, when to ask for clarity and when to direct users to a human agent for more assistance. And since it can be deployed in any cloud or on-premises environment – smarter AI is available wherever the user needs it.

Step-1:Login to cloud.ibm.com with reference Id and password

Step-2:Create and install text to speech, Watson Assistant and Node-red in Services and software

Step-3:Launch Watson Assistant

Step-4:Train the Question and Answers in Watson IBM Assistant

Step-5:Publish the Questions and Answers in Watson Assistant

Step-6:Connect all the nodes in the Node-red

Step-7:Install the Node-red Dashboard and deploy it.

Step-8:Output is obtained in Dashboard

5. Software Tools

NODE-RED

Node-RED is a programming tool for wiring together hardware devices, APIs and online services in new and interesting ways. It provides a browser-based editor.

Since early 2014, the mobile has overtaken the personal computer (desktop/laptop) as the leading device used to navigate the Net. Along with the mobile, a number of other portable devices that connect to the Internet have also started proliferating at a very quick rate.

The Dashboard Layout

Open another tab in your browser to access Node-RED with Scroll down on the nodes section. You'll see you have a set of nodes called dashboard as shown in the following below figure
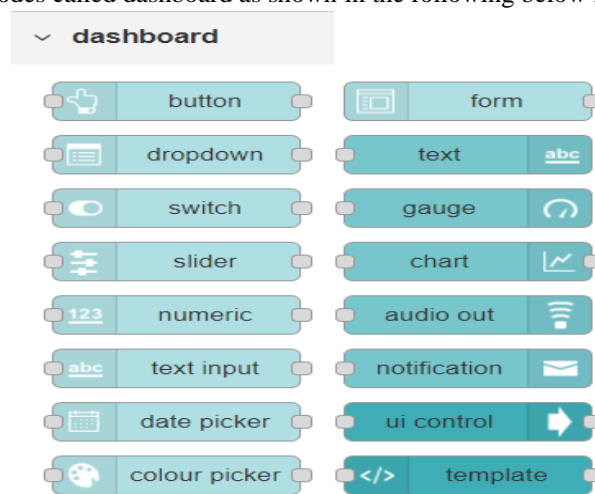

Figure 2: Dashboard layout

The user interface is organized in tabs and groups. Tabs are different pages on your user interface, like several tabs in a browser. Inside each tab you have groups that divide the tabs in different sections so that you can organize your widgets. Every widget should have an associated group that determines where the widget should appear on the user interface.

6. Implementation and Results

Watson assistant components

Watson Assistant has three components which work together to interact with users; the intents, the entities and the dialog. This is an over-simplification of the Watson Assistant system but it will suffice for this article, where we are examining Watson interactions, not Watson's algorithms.
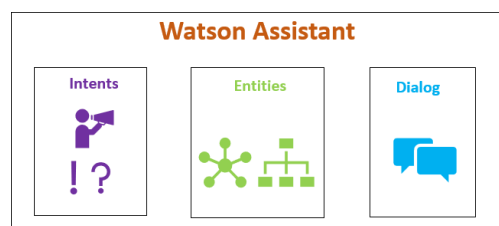

Figure3: Watson Assistant.

INTENTS CREATION

Intents are purposes or goals that are expressed in a customer's input, such as answering a question or processing a bill payment. By recognizing the intent

expressed in a customer's input, the Watson Assistant service can choose the correct dialog flow for responding to it. In Watson syntax, intents always begin with the hashtag ("#") symbol, followed by word(s) in title case (i.e., where the first letter of a word is capitalized, unless it's a preposition like "to" or an article like "the"). Multiple words are separated by underscores ("_")
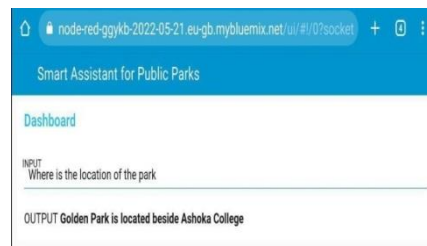

Figure 4: Entry fee
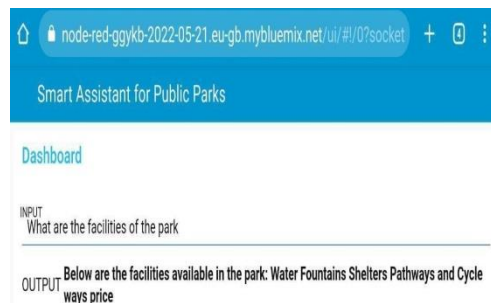

Figure5: Location of the park

Figure 6: Facilities of the park
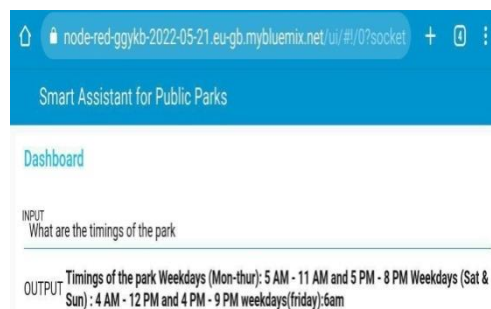
921

Figure 7: car parking space

Figure 8: Rating of the park

7. Conclusion

We are done this project by using the concept of Assistant for Public Parks Using IBM Watson have gained grate popularity. Consistent efforts are being made in the field of IoT in order to maximize the productivity and reliability of urban infrastructure. Problems such as busy scheduled ,limited car parking facilities and road safety are being addressed by IoT .In this paper, we present an IoT based cloud integrated smart assistant for park system. They can also help customers to get instant information related to their queries. The chatbots can ease and provide accurate information of facilities and timings and gives the customers a human-like experience during communication over the website or a mobile application. Our project aims at providing such a virtual smart assistant cum guide.Who would guide us not only to the directions to reach a specified destination but also about the infrastructure and History of that Public Park.

References

[1]. Azvine, B.Djian,D.Tsui, K. C. and Wobcke W. R. 2000.The Smart Assistant: An Overview. In Azvine, B.Azarmi, N. and Nauck, D. D., eds., Intelligent Systems and Soft Computation. Berlin: Springer- Verlag.

[2]. Ho, V. H., Wobcke, W. R. and Compton, P. J. 2003.EMMA: An E- Mail Management Assistant. In minutes of the 2003 IEEE/WIC International Conference on Intelligent Agent Technology, 6774

[3]. Nguyen, A. and Wobcke, W. R. 2005. An Agent-Based Approach to Dialogue Management in Personal Assistants. In Proceedings of the 2005 International Conference on Intelligent User Interfaces, 137 144.

[4]. Internet of things – A Hands-on Approach, Arshdeep Bahga and Vijay Madishetti, University press,2015, ISBN: 9788173719547