
AI CHATBOT TO ANSWER FAQs FOR VISA ENQUIRIES

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ABSTRACT

There have always been queries of people, tourist and travelling enthusiast about getting visa of different countries and other support documents, much of which is quite a hectic process: to stand in queues getting the right information. In order to make this process fast FAQs can be answered using latest AI technologies like Dialogflow based on Natural Language Processing. Also, every new question can be stored thus improving the database for better answers.

Keywords: Chatbot, Dialogflow, Natural Language Processing, FAQ.

I. INTRODUCTION

With the advent of computer everyone's life getting easier. Today's generation computer have cognitive technologies, they too provide automation which ultimately saves time. A FAQ chatbot is a program which answers common questions. Dialogflow translates end-user text or audio during a conversation to structured data that your apps and services can understand. You design and build a Dialogflow agent to handle the types of conversations required for your system. A Dialogflow agent is like a human call center agent.

II. EXISTING SYSTEM

There are various systems currently available which uses Rule-Based chatbot, Natural Language Processing chatbot and hybrid chatbot. Artificial Linguistic Internet Computer Entity (A.L.I.C.E.) is a universal language processing chatbot that uses heuristic pattern matching to carry conversations. Siri was formed by Apple for iOS; it is an intelligent personal assistant and learning navigator that uses a natural language UI. Cortana was first demonstrated by Microsoft which uses voice recognition and relevant algorithms to get and respond to voice commands.

III. OBJECTIVE

Our objective is to design and prototype a smart FAQ chatbot which can respond to all support related enquiries 24x7 based on FAQ database effectively for visa applicants and travel guides. The main goal is to design a website which uses Dialogflow to answer all questions and stores the new questions in database.

IV. SCOPE

Chatbots are based on artificial intelligent systems which basically works by interacting with users via text and speech. Chatbots now-a-days is an essential need for every industry, be it marketing, finance, health, or any tech-support company. Today people want 24 hour assistance, thanks to chatbot which provides 24x7 service at extremely low cost. Dialogflow works like call center agent and hence its demands are increasing rapidly.

V. REQUIREMENT ANALYSIS

- A Computer, mobile or any device
- Web browser
- Stable internet connection

VI. FLOW DIAGRAM

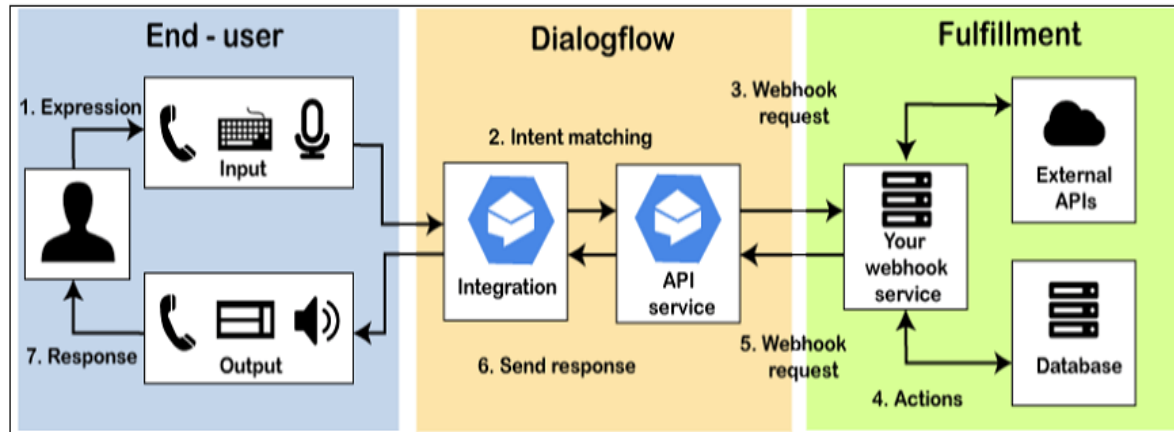


Fig 1: Working of Dialogflow

VII. PROJECT DESCRIPTION

In our project, the method of creating a chatbot is quite simple. First, a list of questions are stored in the Dialogflow agent with multiple similar questions linked together. This way when the user visits the website, it does not have the hassle to search for questions. The user is greeted with a "Hello!" message. Further, user is allowed to type any desired question, if the question is one that matches in the existing database, then that question is popped up on the user screen, although if the question is not previously stored in the database, the database gets updated with the new question which is then answered by a person operating Dialogflow at the backend.

VIII. METHODOLOGY

Step by step tutorial for setting up Dialogflow:

- Create an agent
 - Open Dialogflow console and then sign in to your account.
 - In the console, from the left pane, click Create new agent.
 - Type the name of the new agent. Under the Google Project section, associate an existing Google project to the Dialogflow agent. If you leave the Google Project field empty, Dialogflow V2 automatically create a Google project.
 - Click Create to create the Dialogflow V2 agent.
- Import the Dialogflow agent
 - In the Dialogflow console, click the Settings icon and then click Export and Import.
 - Click Import from Zip to import your bot to the Dialogflow console.
 - Click the downloaded NLP bot. The Upload agent dialog box opens.
 - Type Import in the specified field, and then click Import.
 - Click Done to complete the importing process.
 - To verify whether the bot has been successfully imported, go to the left pane, and click the Intents tab. Check whether the required sample intents have been added to the agent.
- Create a Google service account and private key
 - In the Dialogflow console, open the Settings menu and click the Service Account link associated with the Dialogflow agent. The Google Cloud Platform console appears.
 - In the console, from the left pane, click Service Accounts and then click Create Service Account to create a new service account.
 - Under the Service Account Details, add a name and description for the created service account.
 - Click Create to create the service account.

- After service account has been created, you must grant the service account access to your project. Under the Service Accounts Permissions section, click the select a role drop-down list box and then select the Dialogflow API Admin option.
- Click Continue
- Under the Create key section, click + Create Key to create a new private key. This private key enables you to access the Dialogflow agent from the chatbot framework.
- Select JSON as the key type, and then click Create to download and save the private key to your computer. A dialog box shows up confirming that the private key has been downloaded, click Close.
- Click Done save the service account changes in your console. The download file contains information about the service account and private key.

Further, JavaScript is used along with Node.js to integrate the Dialogflow agent to front-end page.

IX. CONCLUSION

The designed FAQ chatbot is very simple and easy to use and is user-friendly. It is not very complicated like other chatbots. The working of the Chatbot is straightforward and can be easily understood. This FAQ Chatbot uses simple pattern matching to represent the input and output whereas other Chatbots uses input rules, keyword patterns and output rules to generate a response.

X. REFERENCES

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