

Artificial Intelligence Based Career Counselling Chatbot A System for counselling

Danyal Zaidi

CSE(Galgotias University)
Greater Noida, India
zaidi.danyal12@gmail.com

Sahil Raza

CSE(Galgotias University)
Greater Noida, India
razasahil263@gmail.com

Lalit Sharma

SCSE(Galgotias University)
Greater Noida, India
lalit.sharma@galgotiasuniversity.edu.in

Abstract:

The chatbot is a software application which is used to conduct a conversation using text or conversation with users. It can exactly behave as a person as a conversational partner. Bots require training, testing and implementation before deployment. Let us know what a bot actually is? Bots are Artificial-Intelligence based software which behaves like humans and is more efficient and faster than human beings. Bots make Conversation easy and efficient as bots have answers to questions which will be asked from bots fast and efficiently in less time. There are different-different types of Bots which include bots like chatbots, Social bots, Spider-bots and Bad bots. All the bots have their own different functionality. Chatbots is a software application which is used to conduct conversation using text or speech like human beings. Spiderbot are bots which browse through the World Wide Web(www). Social bots are bots that work on social media platforms and bad bots are bots that are not useful and contain spam. The career counselling chatbots help those students who are facing difficulty while choosing a career. Nowadays, there are many websites that provide information about various activities that require information but many readers have to wait in response to career counselors answering their questions. This will help students to choose their future and guidance which helps to improve their future for getting perfect guidance.

Keyword- Chatbot, NLP, Artificial intelligence, DialogFlow, Text-to-Speech, api.ai.

1. Introduction

A chatbot is an application which is used to interact with users as humans in an interactive way without any cost. It is always available for the users as it is always present 24/7. The chatbots are working on Artificial Intelligence which is used to analyze query and answer it according to it. Machine learning models are used for the training purpose and to store data. Machine Learning will train chatbot model in training period. The career counselling chatbots are designed in such a way if user make any mistake in typing or spelling mistake chatbot will understand what user want to ask. The user does not need to follow any pattern while asking question if user say "hello" then chatbot will reply "hello", if user say "Good morning" chatbot will reply "good morning", if user just want to ask question it will reply to that question it does not need to follow any pattern. Here Artificial Intelligence is used to react according to situation. Limited Memory AI relies on a database to learn from recent experience making decisions. Mind AI theory, able to understand conversational speech, emotions, wordless signals, and other examples you know. Self-Aware AI contains a person's level of awareness of his or her desires, goals, and objectives. Indigenous Language processing is a way of processing and analyzing the data. This chatbot helps students to reach their passion with the proper guidance this will help users to get most appropriate information which best for them to achieve their future goals. For example, chatbots will help in information searching tasks [1]. The decision making process to satisfy the needs of users. [2].

2. Literature Survey

2.1 Existing System

There are various chatbots and websites which are available nowadays and they are providing these types of services. but there are not any chatbots which are available that can help for counselling. Most of the student do not have an idea of choosing a career path, they are confused. Hence the application is developed that will help students to have professional advice to make their work and future brighter but most websites require a specific subscription or charge a fee to engage with experts who may not be expensive for all students. In this case, the student will risk his or her career and will join in any course [4].

2.2 Natural Language Processing

Natural language processing (NLP) is an artificial intelligence based technology that can refer to the way we humans interact with each other, either with speech or with text. NLP is defined as automatic change of natural language by software, which is concerned with the interactions between computers and human (natural) languages [5].

3. Proposed System

In the proposed program we have created a chatbot that answers users' questions about different types of problems, confusion and further studies related to queries. We have selected this chatbot for helping many students that are facing confusion about selecting their career related problems. This system is having knowledge about various technologies and solutions to career related questions, where the user asks questions by text or speech (speaking/voice) as they are suitable. This system is voice enabled so that it will make more attractive and help user in any way either with speech or text it will reply in anyway. [6]

Advantages

- This helps to resolve career related queries.
- Users do not need to follow any certain pattern.
- The AI based will help to carry out all the processing to give suitable answers to the user.
- In the future we will help in more than one language.

4. Implementation

Here we use DialogFlow as a platform for implementation.

DialogFlow: A framework that facilitates the development of a closed chatbot domain with friendly features, where a closed domain chatbot is one of the ways to develop a chatbot for a particular activity or activity function. Chatbots always answer correctly as the answer is predefined which always gives the correct reply. Dialog Flow is a Natural Language Processing Platform which is used to build conversational bots without any cost. In this natural language platform used to integrate chat interfaces for mobile apps, web applications, and so on for example we can deploy our chatbots on Google Assistant, Alexa, Slack. As it can easily integrate on other platforms in the integration process. We can integrate our model in Android. In starting Dialog Flow is known as api.ai then Google renamed as Dialog Flow. We can also use Dialog Flow in home automation as DialogFlow can easily interact with IoT. The flow of Dialogs is a Google service that works on Google Cloud, a platform that can take multiple inputs at a time and gives suitable output. Bot will reply according to the input, of what type of input provided that type of output it gives for example if the user gives input as hello then bot will reply as hello if users ask questions to the bot then bot will

reply according to that.[7]

They can use their own language that does not need to follow all the rules of formal language to help the user to communicate with a chatbot successfully. For example, a question can be asked in two or more different ways i.e.

* Which Subject to choose after 10? * What to choose after 12?

* What to choose at graduation?

Here, questions may be different but the answers according to the question will be correct. Let us see how we need to know especially when working through the flow of conversation.

5. Methodology

5.1 Algorithm

- First System Will take input in the form of text or speech.
- Voice format will be converted into text.
- Process received query and search in the database in which intent was added.
- Search for the Answer in Database.
- Display the answer.

5.2 Module

1.Agents: A purpose is a specific action that a user can use by using the words defined in the console. For one thing, you can define multiple purposes, in which the combined purposes can handle the whole conversation. Conversation flow compares the last user expression with a good intention to the agent. The purpose of alignment is known as the objective separation.[8]

2. Intent - Dialogflow matches the end-user expression to the best intent in your agent. Matching an intent is also known as intent.[9]

3.Training Phrases: These are simple phrases that users can say. If anything the user says similar to existing phrases, the flow of conversation is the same as the purpose. It is not necessary to explain everything that is possible for example as a conversation flow built into the machine level.[10]

4.Responses: This can provide storage users with answers; this will give answer to the query.[11]

5.Entities: Entities are well-informed about how data from the end user's statement is extracted. It defines system components that can match the date, time, colors and we can create organizations such as various professional jobs as agents.[12]

6.Context: Using the content, you can control the flow of conversation where the purpose is matched to the setting the content of the release of that purpose becomes a function.[13]

7.Events: Events are used to initiate objectives. Events may not depend on the platform or custom events such as Platform trusted events are caused by the user's activity on the output channel associated with the flowchart.[14]

8.Fulfillment: When a user enables an intentional accomplishment, the flow of conversation responds to that purpose

by calling the service he explains. When the objective is enabled, Dialog Flow sends a request to the

webhook service, information related to the corresponding purpose in which the application can perform any actions and respond to it the flow of conversation with information on how to proceed.[15]

9.Integration: Chat flow is integrated with many popular chat forums such as Google Assistant, Slack and Alexa, etc. [16]

Conclusion

This Research paper provides information on the Chat bot System for Career Counselling , which will help users to choose the right path for the career. As This system is using Artificial Intelligence that's why it will think like a human being. This System will be helpful for the student for reducing stress,help and guide them without any fee as it is 24/7 available on different different platforms students do not need to depend upon one platform. It will provide the most accurate answer as the answers are based on research and most of the answers from the most relevant site.This will help students to choose best for the future and will help them to choose the correct path and will reduce stress.

References

- [1] Chatbots Magazine by sze Tho Changsheng in 2017.
- [2] The Decision Making Process :Natural Language processing(Springer link)
- [3]The Study of the Application of a keywords based Chatbot System on the Teaching of Foreign Languages : Chatbots Magazine
- [4]<https://medium.com>
- [5]<https://ieeexplore.ieee.org/document/5940733>An advanced NLP framework for high-quality Text-to-Speech synthesis : May 2011
- [6] <https://cloud.google.com/text-to-speech>(NLP) Google AI Service.
- [7]<https://cloud.google.com/dialogflow>-Google DialogFlow(Google Cloud)
- [8] <https://cloud.google.com/dialogflow/es/docs/agents-overview>
- [9]<https://cloud.google.com/dialogflow/es/docs/intents-overview>
- [10]How to train a conversational chatbot https://www.intercom.com/blog/how-to-train_a-conversational-chatbot/
- [11]<https://www.chatbot.com/help/bot-responses>From chatbots magazine.
- [12]<https://cloud.google.com/dialogflow/es/docs/entities-overview>
- [13]<https://cloud.google.com/dialogflow/es/docs/contexts-overview>
- [14]<https://cloud.google.com/dialogflow/es/docs/events-overview>
- [15]<https://cloud.google.com/dialogflow/es/docs/fulfillment-overview>
- [16]<https://cloud.google.com/dialogflow/es/docs/integrations>.9Updated