A project report

on

CHATBOT (VCHAT)

Submitted by

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Abstract

Vchat is a smart chatbot that can reply to your questions. Vchat can also act like a mini search engine by creating a bridge between the user and various platforms like google,youtube and wikipedia all within the same interface. Vchat also consists of a healthbot that can provide various suggestions based on user input. We used python, flask, html, Heroku, Git and Gunicorn to make this chatbot. Every user has to register before accessing the Vchat Chatbot. All the user details will be stores in a txt file. Once any user registers, the only way to delete the user details is by changing it in the txt file. This chatbot has many features.Vchat can reply to normal conversations and can tell jokes or stories also. Use the Vchat code word "play or youtube" to search across and open user queries with youtube. Use the Vchat code word "google" to search across and open user queries with google. Use the Vchat code word "wikipedia" to search across and open user queries with Wikipedia. Any user query which isn't understood by the chatbot will be opened with google. The same applies for Wikipedia. VChat chatbot consists of a feature called motivation where the chatbot displays and quote out of the many present in the quotes_data.csv file. Quotes can be added or deleted by the user in the quotes_data.csv file. Run the main.py file to run the Vchat-Chatbot on your localhost. The port number used for this is 5000. But it can be changed into any available port by the user. Vchat is meant to act like a friend to the user as it can figure out the emotions of the user and can respond accordingly. Errors will be displayed in the webpage (localhost if you are running it through python or website if you opened Vchat chatbot website) user can check the errors and rectify them. Healthbot is a feature of chatbot that can be used for healthcare. It can store various values that the user enters and can suggest various health tips. These values can be changed through the website or localhost or can be changed by directly entering the new values into the records.csv file. Vchat consists of a fun game called flappybird. Flappybird is a single player game. Use the space bar button to start and to control the bird. Flappy bird game also displays your high score. Use the .exit option to exit the game.

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1) Introduction

With the steady rise in the use of technology and the corresponding growth in the field of AI, the concept of a chatbot is not foreign to most people. Almost everybody has interacted with a bot at some point in their life. It makes the most sense that a student trying to make space for themselves in this world be aware of the workings behind a basic chatbot. With this intent to learn in our minds our group came to the decision of working and creating a chatbot of our own.

Authentication is the very first aspect we had to code in. The very first thing a user needs to do is login, of course. To be able to facilitate the same, we had to find a way to store all login related details, in an accessible database from where the details can verified or modified. This aspect alone paved open a great deal of learning.

Students often struggle with motivation, and the lack of motivation only leads to increased unproductivity. It is extremely difficult to find the means to get motivated in such situations. In an attempt to provide a solution to this very common problem, the bot we programmed has a motivational section, which only returns motivational statements that could have a larger impact that one may seem to think.

Another common problem is the lack of importance we give our health. Health and fitness should be of utmost priority as all other aspects of life follow only when we are in a good physical state. The bot created also helps monitor daily or weekly health related details and provides useful suggestions based on the progress of the user. We also decided to add in the option of setting certain daily or weekly goals to keep a person motivated to accomplish a certain number of steps in a day.

2) Report

2.1) Authentication

Authentication of every user is done with the class Authenticator. All other classes are subclasses of the Authenticator class. Every user is supposed to register and login to use the chatbot, health Bot or to play flappy bird. The authenticator class has two instances username and password, two functions register and login. Username and password are taken from the html page of the website. The register function takes in the username first and searches if the given username already exists in the database or not. If the given username already exists then it will show an error “Username already exists” and if the username doesn’t exist in the database (Userdetails.txt is the file used to store all usernames and passwords and it is our database) the given username and password are written into the file using the .write method and then the database is closed. The login function takes in username, password and first searches for the username in the file. Once the username is found it checks whether the given password and the password stored in the database for the corresponding username is same or not. If the password is same, it logs the user into html website for using the chatbot, healthbot and to play flappy bird. None of the features of VChat can be used without logging in.

2.2) Responses

Our chatbot uses a module called Textblob to know the feelings of the user. If the sentiment value of the text the user has written is less than 0 the chatbot knows that the user is sad and will try to lighten up the user’s mood. For normal responses the chatbot uses a module (Training) built by us. That module contains most of the responses and questions. All the questions and responses are stored as arrays using the NumPy module. To display the question or response the random module is used. The function random.randrange is used to select a number (index) in the given range and the corresponding value of that index (question or response) is displayed as output in the html page. The datetime module is used to display the time. The replace method is used to replace certain characters to search across Google, Wikipedia and YouTube. Wikipedia module is used to search across Wikipedia. The function Wikipedia.summary is used to display output and if there is any error in the Wikipedia search it opens with Google (Wikipedia.exceptions.pageerror). The try and except method is used here. Url is predefined with the search engine and only the user query is added to the url. The function webbrowser.get().open(url) of the webbrowser module is used to search across Google, Wikipedia and YouTube. So, our chatbot acts like a search engine also.

2.3) Motivational responses

The chatbot can generate inspirational quotes for the user to ponder on. A crucial component of this feature is the quotes.csv file where random quotes from the internet are stored. Every time the motivational feature is activated the bot randomly selects a line from the file, parses it and returns it as a reply to the user in the chatroom.

2.4) Frontend

To display our python code on the html page the flask library of python is used. Functions of flask library like @app.route, render_template, flash, request.form, request.method(GET,POST) were used. @app.route is used to map specific url with the associated function that is intended to perform some task. Render_template is used to display the template in the specific url. Flash method is used to display various messages from the chatbot to the user on the html page. Request.method is a Boolean value if the current request from a user was performed using the post method the value is true and the template is displayed and the function runs. Request.form is used to get the data given by the user. App =Flask(__name__) is a way to get the import name of the place the app is defined. The data is taken by the name of the given input box in the html page. If __name__=”__main__” sets the special __name__ variable to main and runs only if it’s the main module and it isn’t imported into another module. App.secret_key is a reference fingerprint and can be any value. App.config is used to configure flask and its extensions. App.run is used to run the app and when debug is true it displays errors id any.

3) Results and Conclusion

The bot created works just as intended. On running the main python program, which imports various modules including Flask, random, textblob and many more, the site we linked it to opens up with the background coded in and asks the user to either register or login. All the aspects work just as expected, and every member of the group learnt a lot through the medium of this project.

Appendix I

Statistics

The idea of using human language in communication with machines arose in the early ‘50s. However, at that time, people could not yet imagine the machines that could actually react or work like humans. In the past few decades, though, things have changed significantly. People still have unrealistic expectations about artificial intelligence, but we can say that humanity has moved a step closer to interacting with machines. Today, AI technology is used to provide virtual assistance in a range of different industries, including healthcare, business, education, and finance. Chatbot market statistics show that one of the reasons this technology is becoming more and more popular is that chatbots can answer most questions users might throw at them. In 2017, 34% of consumers preferred to communicate with artificial intelligence in an online retail situation.

With two-thirds of customers having used chatbots in the past year, this technology has become mainstream. As many as 64% of internet users see round-the-clock support as the biggest benefit, according to the newest chatbot industry statistics provided by Drift. Among customers who use chatbots, 37% use them for getting answers in case of an emergency. Customer service trends show that chatbots' benefits are numerous and customers are aware of this. Indeed, using a customer support chatbot gets you instant answers and asks you short, direct follow-up questions that are easy to understand. For speed and convenience, chatbots provide the perfect solution. The top five countries in terms of chatbot use are the USA, India, Germany, the UK, and Brazil. $5 billion will be invested in chatbots by 2021. Customer service organizations are using chatbots more and more every day. This technology helps identify issues, then solve them promptly without human assistance. A growth rate of 136% was predicted for 2019, proving that chatbots will have an even bigger role in the near future.

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