**Project 1.3**

**Q.** Creating a basic chatbot application to answer frequently asked questions (FAQs) using Visual Studio involves several steps. In this example, we'll use Python, Flask, and OpenAI's GPT-3 for generating responses to user questions. Here's a step-by-step guide:

Prerequisites:

1. Visual Studio installed on computer.

2. Python installed on your computer.

3. OpenAI GPT-3 API credentials.

Step 1 : Setting up the Environment

1. Open Visual Studio and create a new Python project.

2. Create a virtual environment for your project. Open the terminal in Visual Studio and run:

Bash

python -m venv venv

3. Activate the virtual environment:

bash

.\venv\Scripts\Activate.ps1

Step 2 : Install Required Libraries

Install Flask and the OpenAI Python library within your virtual environment. In the terminal, run:

bash

pip install Flask openai

Step 3 : Create a Flask Web Application

1. Create a new Python file in your Visual Studio project and name it app.py. Add the following code to create a Flask application:

**Python code:**

from flask import Flask, request, render\_template

import openai

app = Flask(\_\_name\_\_)

# Set your OpenAI API key here

openai.api\_key = 'YOUR\_API\_KEY'

@app.route('/')

def index():

return render\_template('index.html')

@app.route('/ask', methods=['POST'])

def ask():

user\_question = request.form['question']

response = generate\_response(user\_question)

return response

def generate\_response(question):

# You can customize the prompt to match your specific FAQ topic

prompt = f"Answer the following question: {question}\nAnswer:"

response = openai.Completion.create(

engine="text-davinci-002",

prompt=prompt,

max\_tokens=50

)

return response.choices[0].text.strip()

if \_\_name\_\_ == '\_\_main\_\_':

app.run(debug=True)

1. Next, create a folder named templates in your Visual Studio project. Inside the templates folder, create an HTML file named index.html and add the following content:

**html**

<!DOCTYPE html>

<html>

<head>

<title>FAQ Chatbot</title>

</head>

<body>

<h1>FAQ Chatbot</h1>

<div id="chatbox">

<div id="chatlog"></div>

<input type="text" id="userInput" placeholder="Type your question...">

<button onclick="askQuestion()">Ask</button>

</div>

<script>

function askQuestion() {

var question = document.getElementById("userInput").value;

var chatlog = document.getElementById("chatlog");

chatlog.innerHTML += '<div class="user-msg">User: ' + question + '</div>';

document.getElementById("userInput").value = "";

fetch("/ask", {

method: 'POST',

body: new URLSearchParams({ question: question }),

headers: {

'Content-Type': 'application/x-www-form-urlencoded; charset=UTF-8'

}

})

.then(response => response.text())

.then(data => {

chatlog.innerHTML += '<div class="bot-msg">Bot: ' + data + '</div>';

});

}

</script>

</body>

</html>

Step 4 : Run the Application

Run your Flask application within Visual Studio.

Visit http://localhost:5000 in your web browser to interact with your FAQ chatbot.