

Task Title: Restaurant Service Chatbot using CustomTkinter

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Batch: June 2025

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Submission Date: 16/ 06/2025

1. Objective

This is a simple rule-based restaurant-themed chatbot built using **CustomTkinter** in Python. It allows users to ask basic questions about the restaurant, such as the menu, timings, and delivery options. The bot responds with predefined answers based on keyword detection from the user's input.

2. Source Code

```
import customtkinter as ctk
import sys

def chat(): #chatbot logic
    user = entry.get().lower()
    if not user.strip(): #to ignore empty messages and whitespaces
        return
    if "hi" in user or "hello" in user:
        bot.configure(text="BOT: Welcome to our restaurant! How can I assist you today?")
    elif "menu" in user:
        bot.configure(text="BOT: We serve biryani, pizza, pasta, noodles, and desserts.")
    elif "timing" in user:
        bot.configure(text="BOT: We're open from 12 PM to 11 PM, all days of the week.")
    elif "delivery" in user:
        bot.configure(text="BOT: Yes, we deliver through Zomato and Swiggy.")
    elif "thank" in user:
        bot.configure(text="BOT: You're welcome! Let me know if you have any more questions.")
    elif "bye" in user or "exit" in user:
        bot.configure(text="BOT: Thank you for visiting! Have a great day!")
        sys.exit() #program stops
    else:
        bot.configure(text="BOT: I'm sorry, I didn't understand that. Can you ask something else?")
```

```

ctk.set_appearance_mode("System")
ctk.set_default_color_theme("green")

app = ctk.CTk()
app.geometry("500x300")
app.title("ChatBOT")

label = ctk.CTkLabel(app,text="Welcome to Jacob's Restaurant !",font=("Arial",19))
label.pack(pady=30)

user_msg = ctk.CTkLabel(app,text="",font=("Arial",12))
bot = ctk.CTkLabel(app,text="",font=("Arial",16),text_color="green")
user_msg.pack()
bot.pack(pady=10)

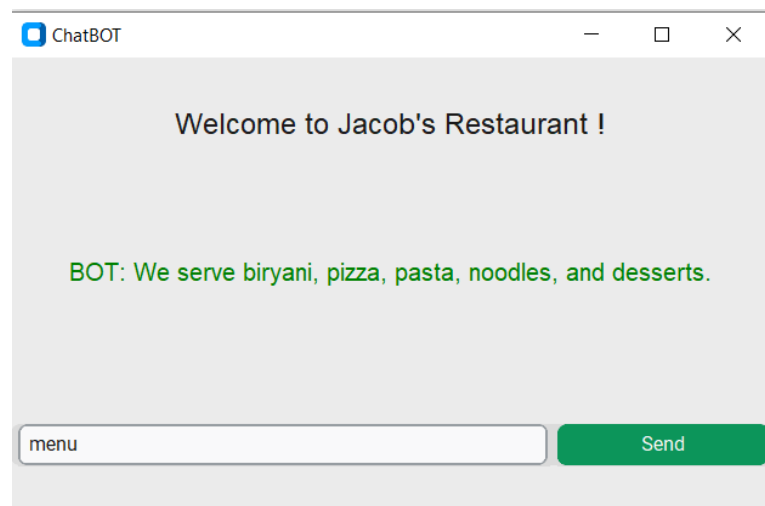
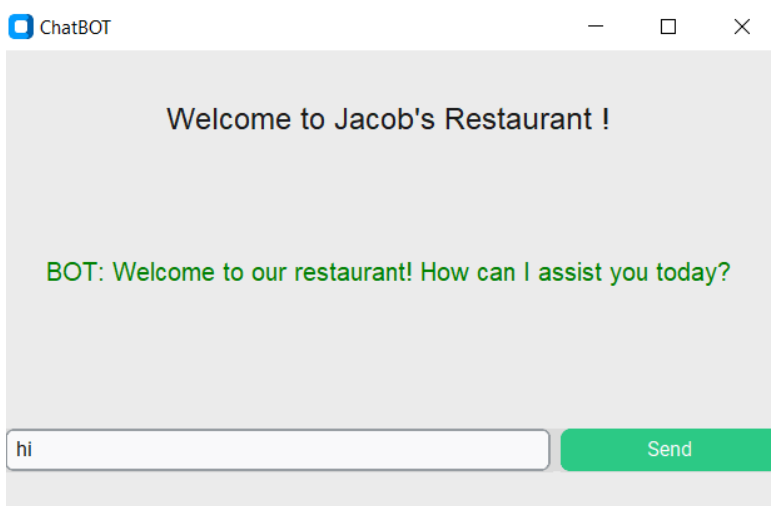
# I grouped entry and button into a frame,to bring it to the bottom together.
bottom_frame = ctk.CTkFrame(app)
bottom_frame.pack(side="bottom", pady=30)

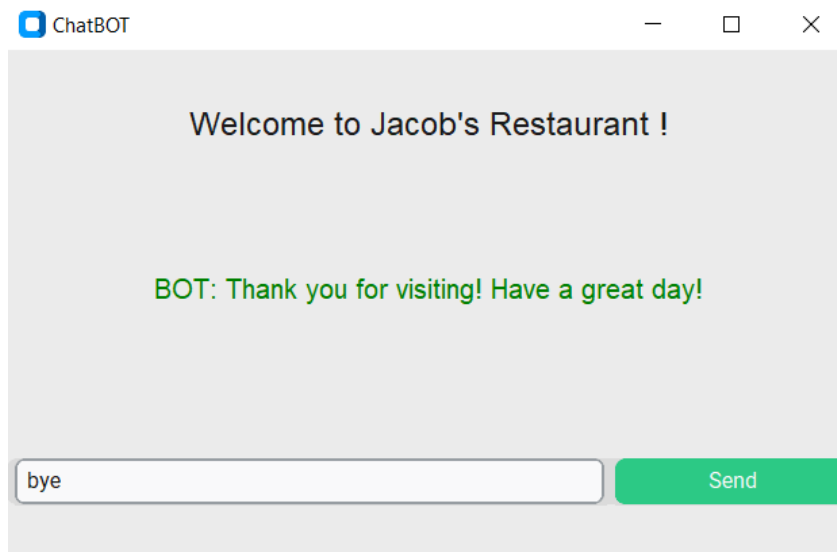
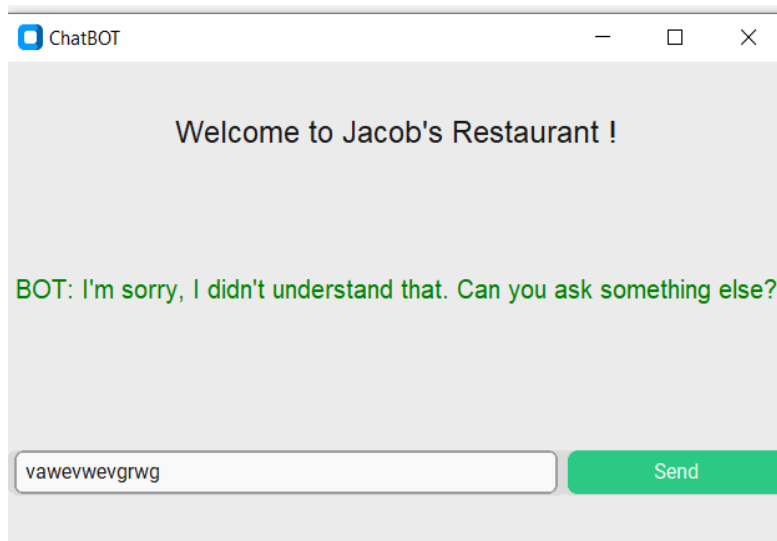
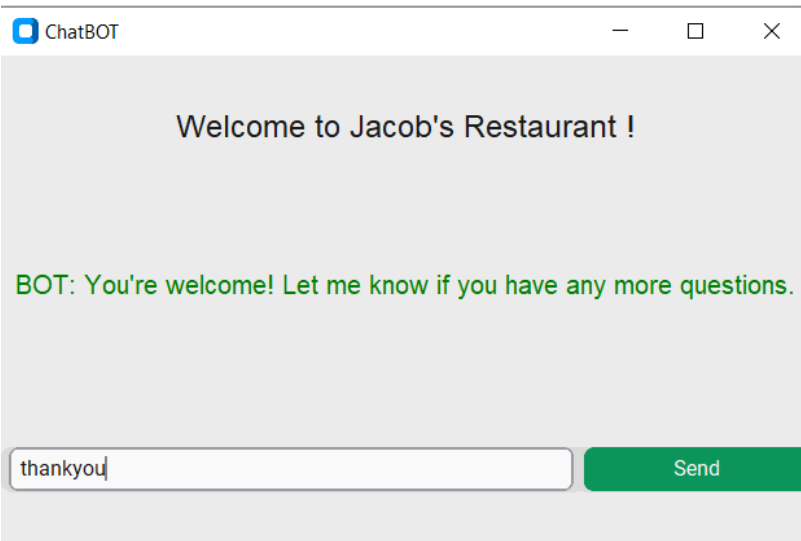
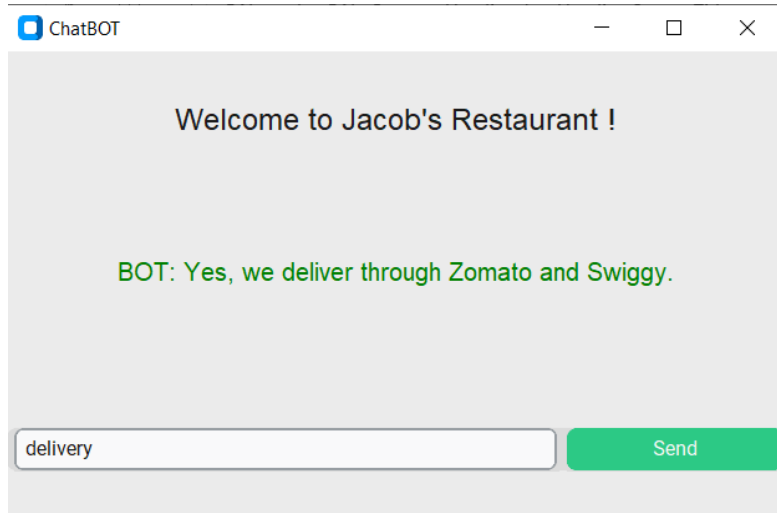
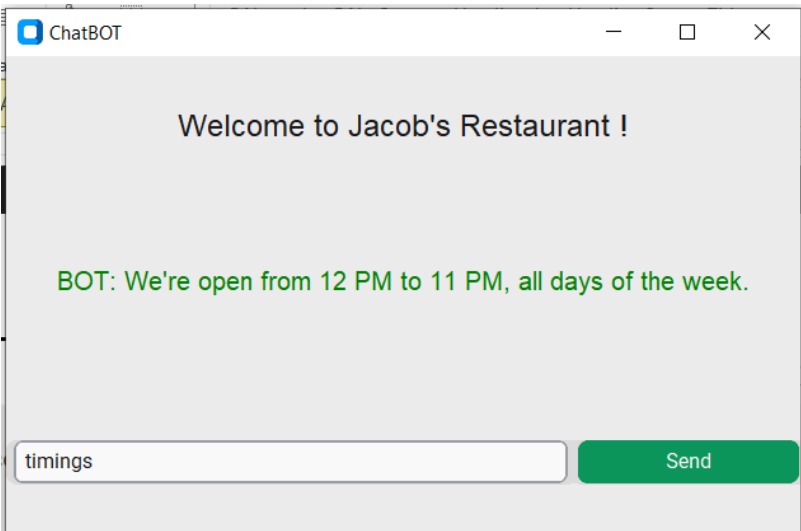
entry = ctk.CTkEntry(bottom_frame, placeholder_text="Enter message..", width=350)
entry.pack(side="left", padx=5)

button = ctk.CTkButton(bottom_frame, text="Send", command=chat)
button.pack(side="right")
app.mainloop()

```

3. Program Output





4 .Code Explanation

The chatbot takes the user's message from the input field when the "Send" button is clicked. It checks if certain keywords like "menu", "timing", or "delivery" are present in the message. Based on these keywords, it displays a relevant response from the bot in the chat area. If no known keywords are found, it shows a default message saying the input wasn't understood.

5. Challenges Faced

1) Issue: Input field and send button were positioned in the middle and were overlapping, reducing user-friendliness.

Fix: Placed the input field and button at the bottom using a CTkFrame, to have a clear chat area.

2) Issue: The chatbot responded to messages with capital letters inconsistently.

Fix: Converted user input to lowercase using `.lower()` to ensure keyword matching works regardless of case.

3) Issue: Bot responded even when the user input was empty or just spaces.

Fix: Added a condition to ignore empty or whitespace-only inputs before processing.

1. Conclusion

This chatbot provides a simple and interactive way for users to inquire about a restaurant's services through a graphical interface. With basic keyword matching and a clean CustomTkinter layout, it simulates a real-time chat experience.