**Prototype Assignment Document**

**NLP Chatbot Development using Dialogflow**

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https://github.com/ABDULLAHYZ/Mr\_Ray--FoodChatbot.git

**Chatbot Prototype for Restaurant**

**1. Purpose & Scope**

**Purpose**

This document outlines the prototype implementation of the chatbot integrated into the restaurant’s website and mobile application. The chatbot is designed to enhance customer service by handling inquiries, managing orders, and providing technical support.

**Scope**

* **Functionalities Implemented:**
  + **Order Handling:** Order placement, status tracking, and updates.
  + **Product FAQs:** Answering common questions about menu items, availability, and pricing.
  + **Technical Support:** Troubleshooting and support ticket creation.
  + **Conversation Closure:** Ensuring a smooth end to user interactions.
* **Channels:**
  + Web Chat Interface (Accessible via website)
  + Mobile App Chat (Integrated into the restaurant’s mobile app)
* **Audience:**
  + Internal Development Team (Developers, designers, and product managers)
  + Business Stakeholders (Customer service managers, marketing teams, and leadership)

**2. Chatbot Dialog Flow**

**2.1 Greeting & Onboarding**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | **Step** | **User Input** | **Chatbot Response** | **Logic** | | --- | --- | --- | --- | | 1 | “Hello”, “Hi” | “Hello! Welcome to [Restaurant Name]. How can I assist you today?” | If user greeting is detected, initiate conversation. | |

**2.2 Main Menu / Intent Identification**

| **Step** | **User Input** | **Chatbot Response** | **Logic** |
| --- | --- | --- | --- |
| 2 | “Check my order” | “Sure! Please provide your Order ID or email address.” | Route to order status flow. |
| 2 | “Menu options” | “Here is our menu. What would you like to order?” | Route to product inquiry flow. |
| 2 | “Help with login” | “I can assist you with login issues. Are you experiencing a password issue or account access problem?” | Route to technical support flow. |
| 2 | “Goodbye” | “Thank you for visiting! Have a great day.” | End conversation. |

**2.3 Order Management**

| **Step** | **User Input** | **Chatbot Response** | **Logic** |
| --- | --- | --- | --- |
| 1 | Order ID | “Your order is being prepared and will arrive by [time].” | Fetch order status from the database. |
| 2 | “Cancel order” | “Are you sure? Confirm with ‘Yes’ or ‘No’.” | Validate order cancellation policy. |
| 3 | “Modify order” | “Which item would you like to change?” | Fetch current order details and allow modifications. |

**2.4 Product FAQs**

| **Step** | **User Input** | **Chatbot Response** | **Logic** |
| --- | --- | --- | --- |
| 1 | “Is [Product] available?” | “Yes/No, the item is available/out of stock.” | Check inventory database. |
| 2 | “What’s the price of [Product]?” | “The price of [Product] is [Amount].” | Fetch pricing data. |

**2.5 Technical Support**

| **Step** | **User Input** | **Chatbot Response** | **Logic** |
| --- | --- | --- | --- |
| 1 | |  |  | | --- | --- | |  | “Order issue” | | “Are you experiencing a missing item or incorrect order?” | Route to appropriate support path. |
| 2 | “Device issue” | “Try restarting your device. Did this resolve the problem?” | Provide troubleshooting steps. |
| 3 | “Still not working” | “I’ll create a support ticket. Please provide your email.” | Escalate issue and create ticket. |

**2.6 Conversation Closure**

| **Step** | **User Input** | **Chatbot Response** | **Logic** |
| --- | --- | --- | --- |
| 1 | “Bye”, “Thanks” | “Thank you for chatting with us today! Have a great day.” | Close interaction gracefully. |

**3. Database Schema & Integration**

* **Orders Table:** Tracks order details, status, and timestamps.
* **Products Table:** Contains menu items, stock levels, and prices.
* **Support Tickets Table:** Stores customer support inquiries and resolutions.

**4. Intent & Entity Design**

* **Defined Intents:**
  + greeting\_intent: Handles greetings.
  + order\_status\_intent: Manages order tracking.
  + menu\_intent: Provides menu details.
  + support\_intent: Addresses technical issues.
  + closing\_intent: Ends the conversation.
* **Entities:**
  + order\_id: Extracts order numbers.
  + product\_name: Identifies menu items.
  + issue\_type: Recognizes support queries.

**5. Error Handling & Fallbacks**

* **Unrecognized Input:** “I’m sorry, I didn’t understand that. Could you rephrase?”
* **Multiple Intents Detected:** “I see you asked about multiple things. Could you clarify what you need first?”
* **Invalid Input:** “Sorry, that doesn’t seem correct. Please try again.”