A Seminar on

CHATBOT IN DIALOGFLOW

Team Details

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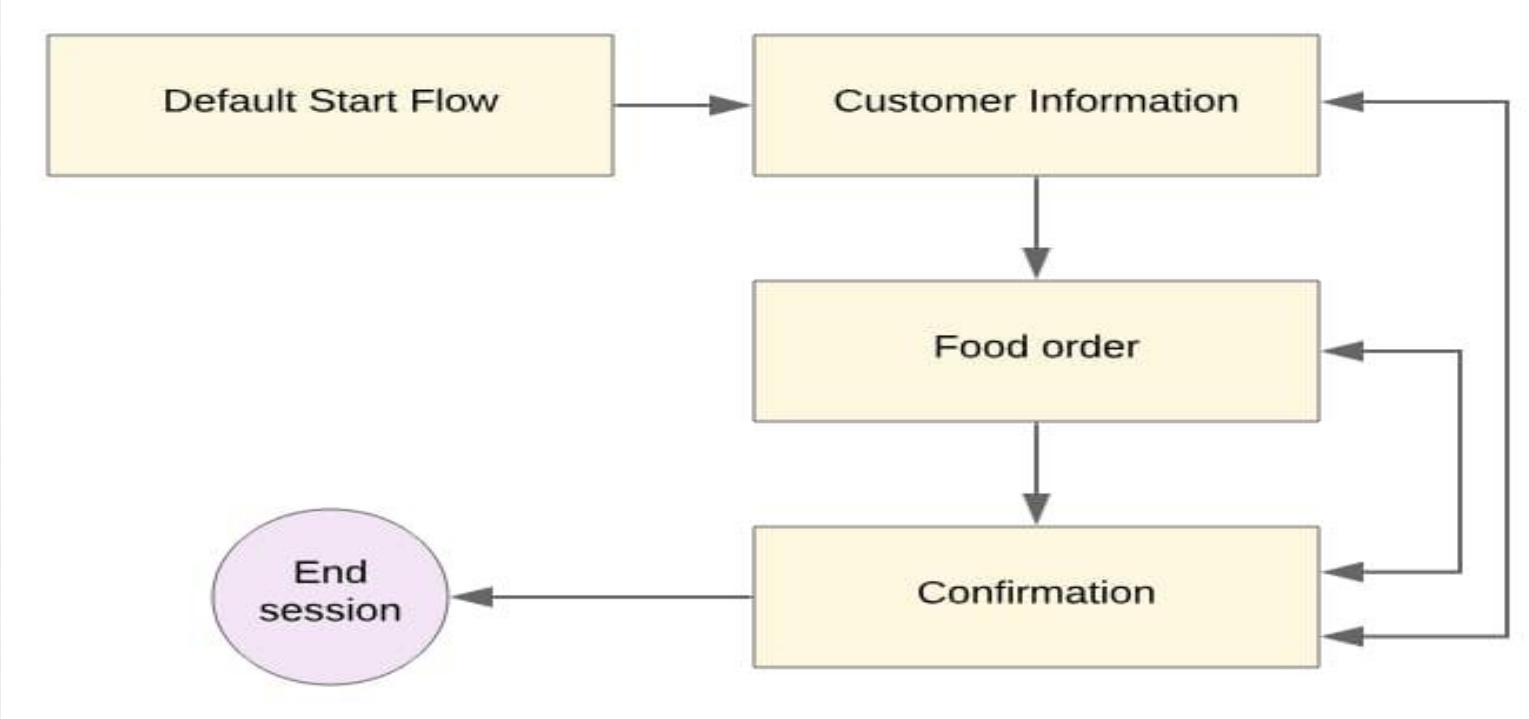
Introduction

Chatbots have become an integral part of the digital landscape, enhancing user interactions and providing efficient and personalized services. Dialogflow, a powerful natural language processing (NLP) platform developed by Google, allows developers to create intelligent chatbots that can understand and respond to user inputs in a conversational manner.

In the context of the food industry, a Dialogflow chatbot can be designed to assist users with various tasks related to food ordering, recommendations, menu inquiries, and more.

Current food delivery applications may present challenges such as cumbersome navigation, limited personalization, and a lack of interactive assistance. Users often face difficulties in expressing their food preferences, finding.

Concept Tree



Literature

Author(s)	Method	Advantages	Disadvantages
Smith and Johnson	Investigated the impact of natural language processing techniques on chatbot performance.	1. Cost Efficiency. **2.** Consistency in Responses. 3. Data Collection and Analysis.	1. Lack of Emotional Intelligence. 2. Limited Context Understanding. 3. Security Concerns.
Patel and Gupta	Examined the integration of sentiment analysis in chatbot interactions.	1. Scalability. 2. Accessibility. 3. Enhanced User Engagement.	1. Impact on Employment. 2. Dependency on Technology. 3. Ethical Issues and Bias.

Literature(cont..)

selected strategy:

Author(s)	Method	Advantages	Disadvantages
Aliv Faizal Muhammad And Dwi Susanto	Explored the use of algorithms in chatbot development.	1. Improved Customer Service. 2. provides instant responses 3. enhance customer support	1. Lack of Emotional Intelligence. 2. Understanding and responding to human emotions. 3. Maintenance Costs

Problem Statement

The food delivery industry is a dynamic and rapidly evolving sector that relies heavily on technology to enhance user convenience. While many food delivery platforms exist, the user experience often involves navigating through complex interfaces and menus, leading to potential frustration and inefficiency. There is a compelling need for an intelligent and user-friendly chatbot solution to simplify the food ordering process, provide personalized recommendations, and create a seamless interaction between users and the food delivery service.

The primary objective is to develop a Chatbot using Dialogflow that can serve as an efficient intermediary between users and the food delivery service. The Chatbot should be capable of understanding natural language queries, assisting users in finding suitable restaurants, providing menu information, handling order customization, and ultimately facilitating a smooth and personalized food ordering experience.

Problem Illustration

A chatbot in Dialogflow designed for a food service can perform a variety of tasks to enhance the user experience and streamline interactions related to food ordering and information retrieval and allow users to place food orders through natural language commands, Respond to user queries about the menu, including available dishes, ingredients, prices, and any ongoing promotions, Offer recommendations based on user preferences or popular items.

Utilize geolocation to recommend nearby restaurants or provide information about delivery areas.

Calculate estimated delivery times based on the user's location and Enable users to track their order history and reorder favorite items easily.

Proposed Method

Chatbot is designed to facilitate food ordering, tracking, and customization through an intuitive and user-friendly interface. Users can effortlessly place new orders, modify existing ones, track their order status, and interact with the chatbot in a conversational manner. Leveraging the power of Dialogflow, the chatbot comprehends user queries, extracts relevant information, and seamlessly integrates with a backend system to process orders and manage user data.

Connect to SQL Database:

Set up database connections in the backend to interact with the SQL database.

Use an ORM(Object-Relational Mapping) library if needed.

Implement CRUD Operations:

Implement Create, Read, Update, and Delete (CRUD) operations in the backend to manage data in the SQL database.

Proposed Method Illustration

Frontend Development:

1.Define Frontend Architecture:

Decide on the frontend architecture

2. Set Up Development Environment:

Install necessary development tools and dependencies for your chosen frontend framework.

3.Create User Interface (UI):

Design and implement the user interface for the chatbot, incorporating input fields for user queries and space to display chatbot responses.

Backend Development:

1.Database Design:

Design the SQL database schema to store user information, order details, and any other relevant data.

2.Implement Dialogflow Integration:

Develop backend logic to handle Dialogflow interactions, including sending queries to Dialogflow and processing intent responses

Parameter

Cuisine Type: Represents the type of cuisine the user is interested in, such as Italian, Chinese, Mexican, etc. This helps the chatbot provide relevant menu suggestions and recommendations.

Dish Name: Identifies the specific dish the user wants to inquire about or order. For example, "pizza," "sushi," or "burger."

Food Preferences: Captures any specific preferences the user may have, such as vegetarian, vegan, gluten-free, or spicy. This information helps tailor menu recommendations accordingly.

1.Evaluate how accurately the chatbot processes and places user orders.

2.Assess the chatbot's ability to comprehend and navigate through the menu.

Experiment Environment

1.Development language and framework:
-Natural Language processing
-Python
-Express.js

2.Database:
-MySql database

3.Tools:
-jira
-asana
-notion

4.front-end
-Dialogflow API
User Interface

Project status

S.No	Functionality	Status (Completed /in-progress/Not started)
1	Research and analysis	In-progress
2	Implementing generic algorthims	In-progress
3	Back-end	In-progress
4	Front-end	Not started

References

- [1] Google Cloud provides code labs that offer hands-on, step-by-step tutorials for building applications with Dialogflow.
- [2] The official documentation is a comprehensive resource covering all aspects of Dialogflow, from getting started to advanced features. It includes guides, tutorials, and reference materials.
- [3] Numerous tech blogs and websites publish articles, case studies, and tutorials related to Dialogflow and chatbot development. These resources often provide insights into specific features, integrations, and best practices.

Thank you

Project seminar–I Evaluation

S.No	Rubrics	Marks
1	Concept Introduction	4
2	Literature and Parameter	5
3	Problem and Problem Illustration	8
4	Proposed Method and Illustration	8
Total		25