Report On

Chat Bot Using Dialogflow

Submitted in partial fulfillment of the requirements of the Course project in Semester IV of Final Year Computer Science and Data Science

By

Janhavi chavan(06)

Chetana Manjarekar (Rollvno-70)

Paritosh Khanwe (Roll no-72)

Vaishnavi Saindane (Roll no-74)

Supervisor

Dr. Tatwardarshi P.N

University of Mumbai

Vidyavardhini's College of Engineering & Technology

Department of Computer Science and Data Science

(2023-24)

Vidyavardhini's College of Engineering & Technology
Department of Computer Science and Data Science

CERTIFICATE

This is to certify that the project entitled “Chatbot using dialogflow” is a bonafide work of "(janhavi Chavan 06)(Chetana Manjarekar 70), (Paritosh Khanwe 72), (Vaishnavi Saindane 74), submitted to the University of Mumbai in partial fulfillment of the requirement for the Course project in semester VII of Final Year Computer science and Data Science engineering.

Supervisor

Dr, Tatwadarshi P.N

Dr. Vikas Gupta
Head of Department

Table of Contents

Chapter No		Title	Page No.
1		**Abstract**	**1**
2		**Introduction**	2
	2.1	Introduction	
	2.2	Problem Statement	
	2.3	Objective	
3		**Proposed System**	**3**
	3.1	Introduction	
	3.2	Details of Hardware and Software	
	3.3	Result	
	3,4	Conclusion	**4**

Chapter 1: Abstract

In the dynamic landscape of the modern restaurant industry, the integration of artificial intelligence and natural language processing (NLP) technologies has become imperative to enhance customer engagement and streamline the ordering process. This project introduces a sophisticated chatbot solution developed using Google's Dialogflow that empowers a restaurant to provide efficient and user-friendly responses while performing various critical tasks.

Chapter 2: Introduction

2.1 Introduction

Imagine a dining companion that is always ready to assist you, seamlessly integrating technology with your gastronomic journey. Our Chatbot is here to provide not only quick and efficient responses but also perform various tasks that will make your dining experience more enjoyable and hassle-free. Whether you're perusing the menu, customizing your order, tracking your meal's progress, or finalizing your bill, this Chatbot has got you covered.

In this project, we will delve into the creation and deployment of our restaurant-centric Chatbot using Dialogflow, Google's natural language understanding and conversation management tool. With a focus on providing a seamless dining experience, our Chatbot will be capable of displaying the menu, adding and removing items from your order, completing your order, and tracking its progress from the kitchen to your table.

Join us on this exciting journey as we explore the intricacies of building a chatbot tailored to the unique requirements of the restaurant industry. We aim to not only enhance the customer experience but also streamline restaurant operations, making dining out more enjoyable for both our patrons and staff. Let's embark on this journey to create a smart, interactive, and efficient restaurant Chatbot that will revolutionize the way you dine.

2.2 Problem Statement:

This project aims to develop a chatbot using Dialogflow that can provide responsive and versatile interactions to facilitate the following key tasks:

1. Menu Display: The chatbot should be capable of displaying the restaurant's menu to customers, presenting items with descriptions, prices, and availability. Customers should be able to view the menu effortlessly and make informed choices.

2. Add to Order: Customers should have the ability to interact with the chatbot to add items to their order. The chatbot must accurately process these additions, including specifying item quantities and any customizations or special requests.

3. Remove from Order: It should be possible for customers to modify their orders by removing items or adjusting quantities. The chatbot needs to efficiently manage these updates while keeping the order accurate and up-to-date.

4. Complete Order: Once a customer is ready to finalize their order, they should be able to use the chatbot to complete the order process. This involves verifying the items in the order, confirming delivery or pickup details, and providing an order summary.

5. Track Order: The chatbot must provide real-time order tracking functionality. It should allow customers to inquire about the status of their order, estimated delivery or pickup times, and any relevant updates, thus enhancing transparency and reducing customer anxiety.

2.3 Objectives

1.Develop a User-Friendly Interface: Create a chatbot using Dialogflow that offers a user-friendly and intuitive interface, enabling customers to interact naturally and comfortably with the chatbot.

2. Menu Presentation: Implement a feature that allows the chatbot to effectively display the restaurant's menu, providing item details, prices, and availability to assist customers in making informed choices.

3. Add to Order Functionality: Enable customers to add items to their orders through the chatbot, with options to specify quantities and customize orders according to their preferences.

4. Remove from Order Capability: Develop a system for customers to modify their orders by removing items or adjusting quantities, ensuring the chatbot maintains an accurate and up-to-date order record.

5. Complete Order Process: Implement a feature that guides customers through the order completion process, allowing them to confirm their orders, verify delivery or pickup details, and receive an order summary.

6. Real-Time Order Tracking: Enable customers to inquire about the status of their orders and receive real-time updates on estimated delivery or pickup times through the chatbot.

7.Efficient Order Management: Develop a robust backend system to process and manage customer orders efficiently, ensuring accuracy and reducing errors in order processing.

8. Natural Language Understanding: Train the chatbot to comprehend and respond to a wide range of customer queries and requests using natural language processing, enhancing the overall conversational experience.

Chapter 3:Proposed system

3.1 introduction

The proposed system is an innovative solution designed to transform the customer experience at our restaurant by implementing a conversational chatbot using Dialogflow. This chatbot will serve as a virtual assistant, capable of understanding and responding to customer inquiries, as well as facilitating various tasks, such as displaying the menu, adding items to orders, removing items from orders, completing orders, and tracking the status of orders. By harnessing the power of natural language processing, this chatbot will provide a seamless and efficient way for customers to interact with our restaurant, ultimately leading to improved customer satisfaction, streamlined operations, and reduced staff workload.

The implementation of this project will involve several key steps and technologies to create a functional and user-friendly chatbot for our restaurant:

1. Chatbot Development with Dialogflow: We will leverage Dialogflow, a powerful natural language processing platform, to develop the chatbot's conversational interface. Dialogflow's capabilities in understanding and responding to natural language will be fundamental to the project's success.

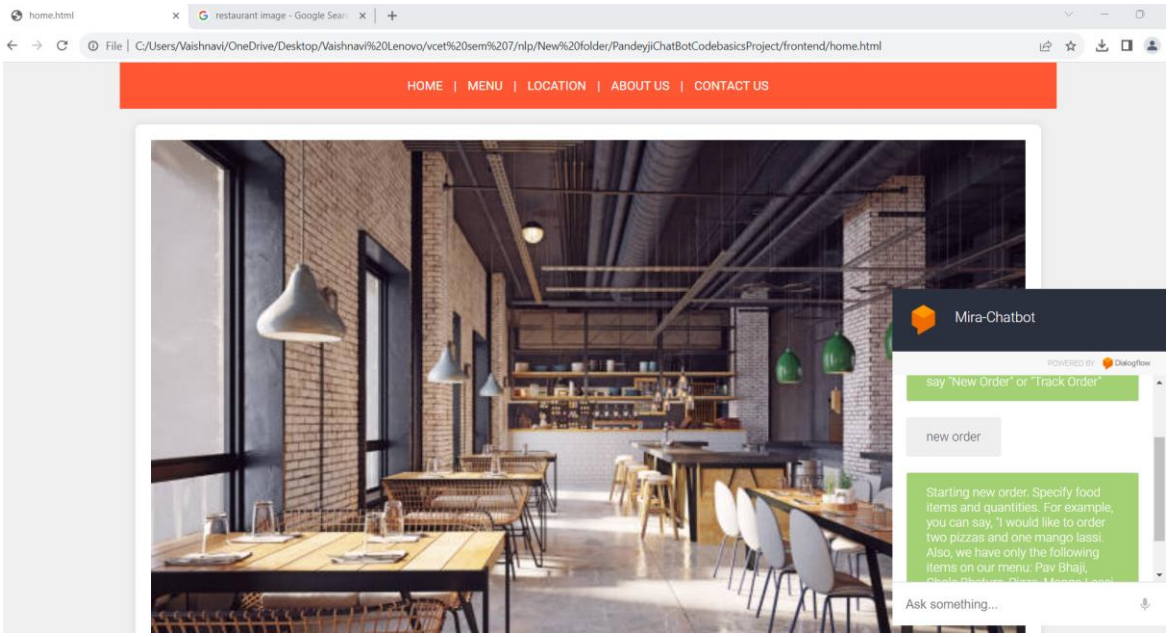
2. Menu Integration: Our restaurant's menu will be integrated into the chatbot, allowing it to access and display the menu items, including descriptions, prices, and availability, in response to customer queries.

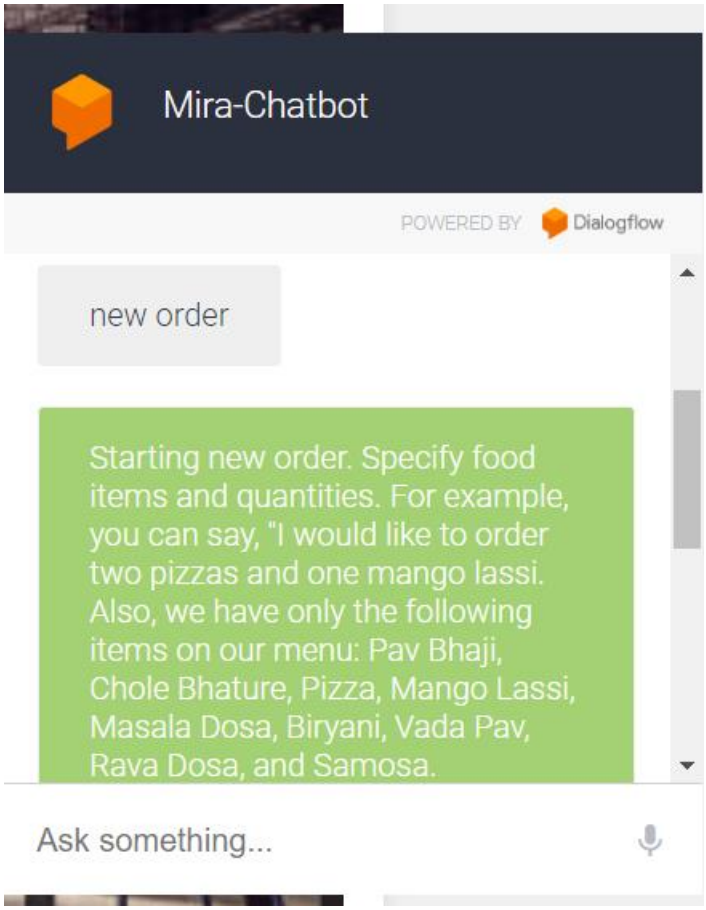
3. Order Management System Integration: To ensure that orders are accurately processed and updated, we will integrate the chatbot with the restaurant's order management and POS systems. This will enable real-time order tracking, as well as the ability to add, remove, and complete orders seamlessly.

3.2 Details of Hardware and Software

- Dialogflow ,Html, CSS
- 8 Gb Ram
- Ryzen 5 processor

3.3 Results


home.html
restaurant image - Google Sear
File | C:/Users/Vaishnavi/OneDrive/Desktop/Vaishnavi%20Lenovo/vcet%20sem%207/nlp/New%20folder/PandeyjiChatBotCodebasicsProject/frontend/home.html
HOME | MENU | LOCATION | ABOUT US | CONTACT US
Mira-Chatbot
POWERED BY Dialogflow
say "New Order" or "Track Order"
new order
Starting new order. Specify food items and quantities. For example, you can say, "I would like to order two pizzas and one mango lassi. Also, we have only the following items on our menu: Pav Bhaji,
Ask something...


Mira-Chatbot
POWERED BY Dialogflow
new order
Starting new order. Specify food items and quantities. For example, you can say, "I would like to order two pizzas and one mango lassi. Also, we have only the following items on our menu: Pav Bhaji, Chole Bhature, Pizza, Mango Lassi, Masala Dosa, Biryani, Vada Pav, Rava Dosa, and Samosa.
Ask something...

3.4 Conclusion

In conclusion, the introduction of our Dialogflow-based chatbot represents a significant step towards improving customer experience and operational efficiency at our restaurant. By offering a user-friendly interface, streamlined order management, real-time order tracking, and a focus on data security, we aim to enhance customer satisfaction and reduce staff workload. We are committed to continuous improvement and customer feedback, and we anticipate that this innovative solution will reinforce our restaurant's reputation for excellence in service.

References:

[1] C. Olson and J. Levy, “city car run”, Applied Marketing Analytics, Volume 3 / Number 4, U.K. Henry Stewart Publications, 2018, pp. 291-297

[2] A. S. Al-Sukkar, A. M. M. Abu Hussein and M. M. Abu Jalil, “3d car city racing”, International Journal of Applied Science and Technology, Jordan, Global Society of Scientifi c Research and Researchers (GSSRR), 2013.

[3] G. Stalidisa, D. Karapistolisa and A. Vafeiadisa, “car racing 3d simulator”, presented at: International Conference on Strategic Innovative Marketing, IC-SIM 2014, September 1-4, 2014, Madrid, Spain [20] T. Guarda, M. Santos, F. Pinto, C. Silva and J. Lourenço,

[4] Thacker, C., McCreight, E., Lampson, B., Sproull, R. and Boggs, D. (1979). Alto: A personal computer. Computer Structures: Principles and Examples, second edition, pp.549-572.

[5] Stoakley, R., Conway, M., Pausch, R. (1995). Virtual Reality on a WIM: Interactive Worlds in Miniature. University of Virginia. [4] Shibata, T. (2002). Head Mounted Display. Displays. 23. pp. 57-64.