CAPSTONE PROJECT

RESTUARANT BOT

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OUTLINE

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- **Proposed System/Solution**

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- **Algorithm & Deployment**

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- **Future Scope**

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PROBLEM STATEMENT

Accurately interpreting diverse customer queries and commands related to menu items, order specifications, booking details, and preferences. Handling complex order scenarios, including modifications, cancellations, and special requests, while ensuring accurate order transmission to the kitchen. Efficiently managing table bookings, considering factors like party size, availability, and customer preferences, while minimizing wait times. Seamlessly integrating the chatbot with existing restaurant systems (POS, reservation system, kitchen display system) for real-time data exchange and order fulfillment. Providing timely and helpful responses to customer inquiries, resolving issues, and maintaining a positive customer experience.

PROPOSED SOLUTION

Order Taking

Menu Structure: Organize the menu in a logical and intuitive manner with clear categories and subcategories.

Visual Menu: Incorporate high-quality images of dishes to enhance the ordering experience.

Customization Options: Provide flexible customization options for dishes, such as specifying preferences for spice levels, allergies, or dietary restrictions.

Order Confirmation: Send detailed order confirmations, including itemization, totals, and estimated wait times.

Table Booking

Availability Calendar: Implement a dynamic availability calendar that updates in real-time based on bookings and cancellations.

Party Size Accommodations: Allow customers to specify party size and preferences (indoor/outdoor seating, smoking/non-smoking).

Waitlist Management: Manage a waitlist efficiently, offering estimated wait times and sending notifications when tables become available.

Reservation Reminders: Send automated reminders to customers before their reservation time.

Flexible Booking Options: Offer options for walk-in reservations, online bookings, and phone reservations.

SYSTEM APPROACH

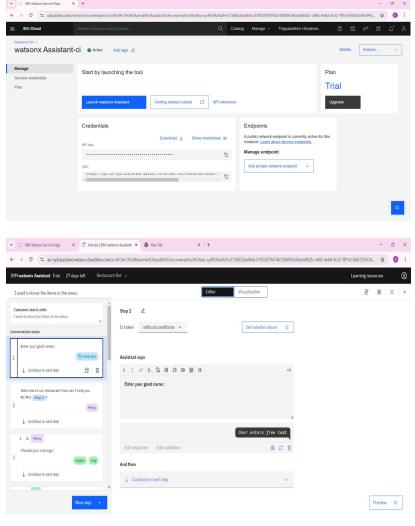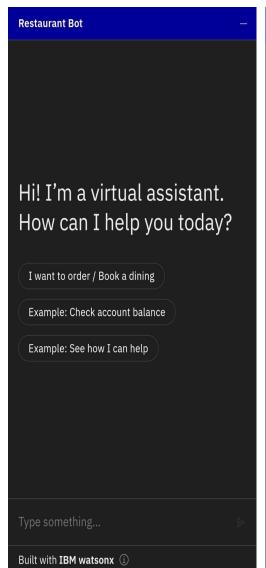Elements required to build this chatbot

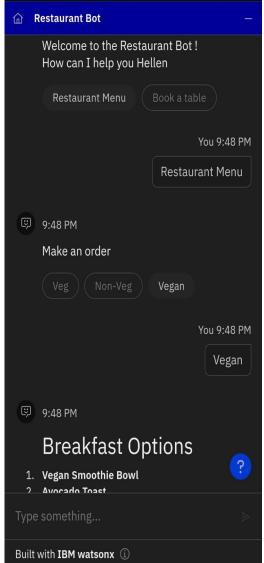- IBM Cloud

- IBM Watsonx Assistent

ALGORITHM & DEPLOYMENT

- Step 1 - Start

- Step 2 - Open The website 'IBM Cloud'

- Step 3 - Search a Resource Watsonx Assistant

- Step 4 - Open the resource page

- Step 5 - Launch the Watsonx Assistant on cloud

- Step 6 - Create the Restaurant chatbot file

- Step 7 - Customise the bot of your style

- Step 8 - Create conversation steps and preview to test

- step 9 - We can visualize our conversations

- Step 10 - Then Publish

- Step 11 - End

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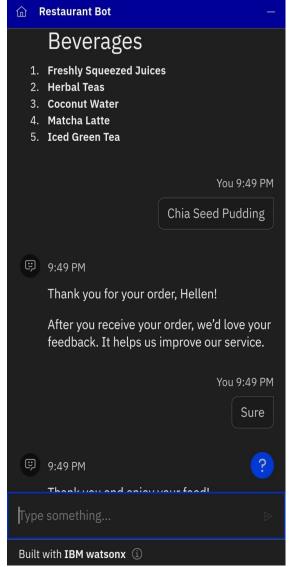# RESULT

CONCLUSION

- While building a restaurant chatbot without coding is possible, it's essential to understand the limitations of no-code platforms. For complex functionalities or large-scale deployments, coding might be necessary. However, by effectively utilizing no-code tools and integrating them with your restaurant systems, you can create a valuable chatbot that improves customer satisfaction and operational efficiency.

- It gives an overview of visualization for an developer to cross check and verify.

FUTURE SCOPE

- Personalized Recommendations: Leveraging AI and machine learning, chatbots can analyze customer preferences and dietary restrictions to suggest dishes tailored to individual tastes.

- Virtual Dining Guides: Offering interactive menu exploration with virtual reality or augmented reality, allowing customers to visualize dishes and ingredients.

- Sensory Experiences: Providing immersive dining experiences by incorporating sound and smell into the chatbot interaction.

- Dialogue Management: Improving conversation flow and efficiency through reinforcement learning.

- Error Correction: Identifying and correcting chatbot errors based on user feedback.

- Sentiment Analysis: Analyzing customer sentiment to identify areas for improvement.

FUTURE SCOPE

- Sentiment Analysis: Analyzing customer sentiment to identify areas for improvement.

- Customer Profiling: Creating customer segments based on demographics, preferences, and behavior.

- Targeted Marketing: Developing tailored marketing campaigns for different customer segments.

- Menu Optimization: Analyzing customer feedback and order data to identify popular and unpopular menu items, leading to menu modifications.

- Demand Forecasting: Predicting customer traffic based on historical data, weather conditions, and events to optimize staffing levels.

- Personalized Recommendations: Suggesting dishes based on customer preferences, allergies, and dietary restrictions.

- Chatbot Improvement: Using reinforcement learning to optimize chatbot responses and improve user satisfaction.

REFERENCES

- IBM Watson Assistant: This is the core service for building conversational AI applications.

- IBM Cloud Functions: For serverless computing to handle integration with external systems.

- Link of Restuarant Bot : https://web-chat.global.assistant.watson.appdomain.cloud/preview.html?backgroundImageURL=https%3A%2F%2Fau-syd.assistant.watson.cloud.ibm.com%2Fpublic%2Fimages%2Fupx-0a3e802b-c480-4e8d-8c32-ff91e184b335%3A%3A960a1eb3-8db2-43f3-b236-e6c34420e6a6&integrationID=144284bf-9463-43bc-bb9c-014ea81daf9f&region=au-syd&serviceInstanceID=0a3e802b-c480-4e8d-8c32-ff91e184b335

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