Interaction based Expert System

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Abstract - The emergence of chat-based interaction is not new rhetoric, but a venture in the right direction so as to fragment humanlike inhibition. The Expert System (ES), fragments the response in the client level and finds the perfect setting that the user is expecting. Here, the ES is based on a cuisine based dataset that concludes with various other parameters. These parameters include Country, City and most importantly the timing and the budget that the user responds well with.

Furthermore, here the textual analysis is done with the coupling of lambda function which integrates the analysis with what the ES questions for the same. There are companies like Swiggy and Zomato constantly trying to implement this facility in their app for the ease of both the client and the company, but they have only been able to introduce a customer service agent, our team, on the other hand, have attempted to broaden the feature with the redirection the order in the ES itself.

I.INTRODUCTION

Interaction Based Expert System (IBES) like OneRemission, Foodie, Zomato and Swiggy attempt to broaden the service industry by downscaling the human resource and upscaling the system used to purpose these deterred jobs. The OneRemission app is web-based which provides interaction-based results where it asks few questions and based on the questioning various other datasets are traversed so as to lead to a single result. This app is curated for the cancer patient with which the user will be able to calculate the diagnosis by staying at home. Swiggy, on the other hand, has redirected the users seeking customers seeking solutions such as delay in the delivery, payment related queries and beyond. Similar to these online solutions, IBES seeks to profound the industry with the application to curate, address and finalise the query in form of dialogues then further leading them to the ordering stage. This not only saves time for the user, but also gives them a hint of surprise element, for they will be able to visit restaurants and try dishes they never would have thought of trying.

II. RELATED WORK

Various ES have been developed in various fields. Here are a few related works.

Nitiraj Singh Sandu and Ergun Gide [1]

Today, every organisation depends on Information and Communication Technology (ICT) for the efficient service delivery and cost-effective application of technological resources. With growing preference towards faster services and acceptance of Artificial Intelligence (AI) based tools in business operations globally as well as in India, the global Chatbot market is going to accelerate in the next decade. In the era of AI, the Chatbot market is witnessing extraordinary growth with the increased demand for smartphones and increased use of messaging applications. In the past few years, the food delivery business, finance and the E-commerce industry have embraced Chatbot technology. One of the industries which can really benefit from using this technology is the educational sector. Education can benefit from Chatbot development. It can improve productivity, communication, learning, efficient teaching assistance, and minimize ambiguity from interaction. A new education platform can solve next-level problems in education using this technology as the engagement tool. The aim of this research paper is to find out the factors which affect the adoption of Chatbot technology in order to enhance the student learning experience in the Indian higher education sector. In this research, a Quantitative method is used through data collection from surveys of some of the prominent higher education institutes using Chatbot technology in India. It is expected that the research outcome will help Chatbot developers and higher education providers to better understand the requirements of students while providing an interactive learning and communication platform for them.

III. SYSTEM DESIGN

Fig. 1. Architectural diagram

Fig.1 Demonstrates the process involved in developing the model. The diagram represents the key steps involved in the development of the proposed model. Once the message is in from the user, it goes to the interpreter and the LF-0 module searches for the query, then further LF-1 module is called for, then a response is sent back with a reply. further LF-3 optimizes the results and further questions are asked for and related queries are asked.

IV. METHODOLOGY

A. Data Extraction Module

Firstly, the react app: app.js is rendered on to the browser, further, hello.js module is called back which extracts data from the user and a collective response is The chatbot bot interleaves the modules so as to finalise the result that is to book a table as well as the restaurant in accordance to the cuisine requirements.

The UI and JSON handling is benefited with the framework components of react.js.

The backend terminal level management is done with the help of node modules.

B. Lexical Validation (lambda)

The lambda module comprises 3 lambda sub functions, LF-0, LF-1, Lf-2. These interleaves multilevel validation of the user such as the name, email and phone numbers. Further, the validation is bootstrapped into other parameters such as the country, cuisine, budget and the dates the user is trying to get his/her food at. The restaurant recommendation. This is an interaction based expert system.

C. User Interface

The user will be landed into this page which asks for the user's response. The expected response can be as basic as 'Hi', herein the lexical validation occurs further leading to other questionnaires that can result to an go through ordering based on the place and the cuisine.

Fig. 4. User Interface that shows that the this is the landing page

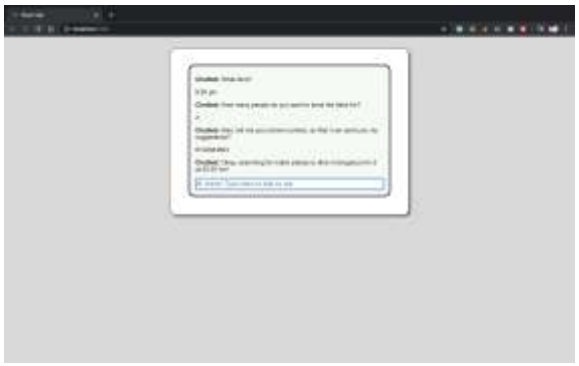

Fig. 5. User Interface that shows that the table is booked.

V. Results

In this project, the need to have an human-like intervention has been successfully implemented using a conversational ES. Further dealt with various other features that just helps the user to find restaurants, areas and cuisines to be opted from with ease. In the system level, the management of data is optimised as well. The name, the email, the cusine and the data of the user, their likes and dislikes can be used to recommend them with a better place the next time they order. The react based application is also optimised such that it can be loaded on any updated browsers. With the use of reacts lazy load feature, the site optimises and renders event handlers with page level requests. The node.js queries are rendered in an optimised passion so as to further mitigate the response time in the user level which is a constant problem faced by every user.

VI. CONCLUSION AND FUTURE

WORK

Managing reservations and taking orders from customers can be a time-extensive task, especially as the rich choice of online takeaway choices making the process more

complicated. Human error means orders can, and will, go wrong from time to time.

But with a chatbot deployed on your website, app, social media accounts, or a phone system, you'll be able to interact with customers quickly. Chatbots can perform these tedious tasks with the guarantee that orders will be 100% accurate. Minimizing human error will build customer trust and loyalty.It's highly likely you've been to a restaurant where your waiter or waitress seemingly forgot about you, giving you a long wait for your food. But with chatbots deployed that frustration can be eliminated, ensuring every customer gets a good experience and is served in a timely manner. A chatbot can take your email list that's been gathering dust and bring it to life. For example, it can engage customers that haven't visited you for a while with new deals and special offers. Chatbots are also able to recognize regular customers and encourage them to keep coming back for more by sending them special offers either via email, Facebook Messenger, or text message. The art of knowing your customers is essential to building trust and loyalty. This is particularly true with younger generations, who expect brands to understand their preferences and aren't afraid to share their disapproval when these expectations aren't met.

Understanding a customer's food and drink preferences and using them to make personalized recommendations could, therefore, be a vital tool in delighting your customers. Chatbots can be a better solution than instructing your employees to learn your menu inside-out and gain a deep understanding of all your customers to make these recommendations. By using previous purchase information, a chatbot can advise customers of dishes they may not know about or advise them on the best drink to match their preferred meal. All of which builds their affinity with your restaurant.

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