Development of a Virtual Assistant for Hospitality Services

Speaker 1 (00:01)
So this is my second project at constant global solutions the second project was to build Virtual assistant And this was mostly towards the hospitality

Speaker 2 (00:27)
And

Speaker 1 (00:28)
The features of the waiter was basically to greet the customers you know in a warm in friendly way like our real waiter would do and then you know take their order Place an order you know if they want to do some table bookings you know make sure that they are able to book their tables as well customers can basically log in complaints or share their feedback through the virtual assistant they can also make general inquiries you know through the virtual assistant so these were the functionalities of the virtual assistant so basically

Speaker 1 (01:35)
Successfully plays food orders that is a customer can browse through the menu they can through different ways they can browse it using semantic search they can browse it through a structured drill down you know like menosection categories you know and so on and then they can add so we had a very good cot management system where they could add items to their card they could remove modify update the

quantity so and you know we also considered for race conditions handle that through redce cash and so on that was one of the major feature which is to order food so you can browse the menu you can manage the cart and then you can proceed to check out and it would go app to payment and once the payment is done you know it would also share pushed the order to the kitchen so we had integrated this with the third party pos system called pet Puja and the order was being pushed to the kitchen you know and there was also live tracking of the order The next feature table booking we were able to you know

Speaker 1 (02:47)
Understand the national language from customer and you know make sure that they were able to Book table successfully so they could you know give When which day exactly so our system will basically do an availability check receive tables are available at that particular time at that on that particular day if they're open right all these kind of checks and then help the customer book a table and this table once it's booked then we had a back office system it would reflect on that for the restaurant manager to assign tables to the customs uh also we had a fully working system where people can log in complaints so they don't have to tell it as a complaint it will automatically identify it as a complaint understand the sentiment decide if it's a complaint if it's a feedback if it needs more clarity get more gets more clarity it segregates the complaints and the feedbacks into was it about the food was it about the staff and so on and then it would you know create a ticket and also escalated to

the

Speaker 1 (04:15)
respective you know manager or over supposed to handle the complete if it was a feedback we were converting the feedback into an customer satisfaction score to basically show a BI you know BI report to the Manager or the restaurant you know whichever stakeholder was inverse interested in that information so these were some of the features now there was an entire back in the technical part there was an entire back engine that was built a fast API back and engine so there was a postdress db there was also a mongo db I will explain why the mongo Deb was for then there was reddis on top of this we had the escal L in the orm layer basically and then on top of that we had validation layer using pidentic V-2 which went in hand with the APIs we are creating so these APIs were basically created to be used as tools now for the virtual assistant specifically we were using an agent framework using the Lang chain Lang graph langsmet ecosystem and Using this you know we created a react agents so the overall

Speaker 1 (05:45)
structure was there was a main orchestrator which identified the intention managed the state the overall state you know for proper data propagation between sub agents and then you know we had multiple sub agents so the orpest domain orchestrator would identify the overall intent and then you know route it to the correct sub agent ordering was stable booking and was a general query or you know was it You

know customer feedback right so it would redirect route there and from there you know the every sub agent had their own intent classification because they had to understand you know is they use it trying to order the food I mean browse the venue or in case of food ordering there is they useer trying to browse the venue or was the user trying to you know complete the order or just you know manage the card modify the card or something like that so yeah this was the second product as That was that I managed and kind of led the development on at constant and we managed to finish the basic features

Speaker 1 (07:08)
of course the bigger idea was with customer data create more personalization you know where the assistin would know you or understand know your browsing patterns what you like what you don't like so make recommendations suggestions and also upselling according to that according to you know both restaurant information and the customer information so yeah this was the product and it was tested where you could you know simultaneously concurrently 40 to 50 users can use the platform I use the chat assistant you know simultaneously which is not a small feature

Speaker 2 (07:56)
To A

Speaker 1 (07:57)
Yes so this was a production ready and it was deployed in one clients this one for Beta testing and yeah that was the

second project that I worked on in constant