

Conversational e-commerce - An Approach to Find Best Quotes: Survey

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Abstract – Negotiation is the term where the interaction or discussion in between two parties results to get the mutual solution which is beneficial for both the parties. Chatbot have proved themselves as a strong tool to consumer satisfaction and an unmatched resource for the enterprises serving to them save loads of your time and money. Implementing chatbot in rapidly growing e-commerce field can boost the customer service. To date, different automated negotiation agents have been developed. Negotiation is a combination of both, linguistic and reasoning problems. It requires an intention for something which needs to be verbalized. Dialogue rollout is a concept defined by FAIR researchers for developing long term planning dialogue agents.

Key Word: SVM - Support Vector Machine, NLP - Natural Language Processing, Chatbot, Negotiation, E-Commerce Field.

I. INTRODUCTION

Human-computer interaction (HCI) is a technology that allows communication between users and computers using natural language. Negotiation is a major part of real life transactions. From major business deals to buying vegetables it acts as one of key the elements of cracking the deal. Price Negotiator E commerce Chat Bot System introduced a system that makes the e-commerce sites to have their works in efficient manner. This E commerce Chat Bot System project would help to automate the online selling and negotiation based on price of product. Customer satisfaction is the major concern for all the web based applications and chatbots helps them work this major concern as customers do not need wait for customer executives to solve their queries. Chatbots can solve most of the customer queries without the interference of customer executives. Thus, if a chatbot is able to implement negotiation then e-commerce websites will attract a lot of new consumers because of the features.

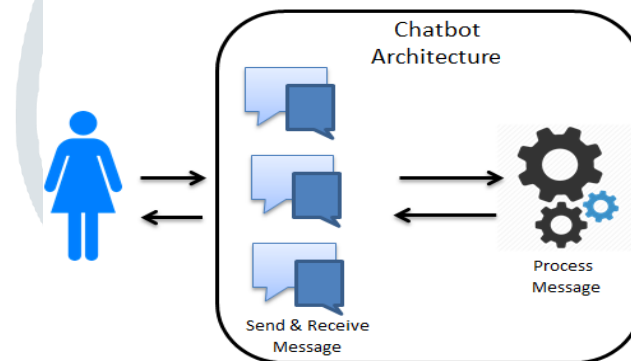


Figure: - Chatbot Architecture.

E-commerce websites have been developed and act as an emerging technique in this current world. People made their purchasing after the introduction of e-commerce websites in an efficient manner. But while coming to an online purchase, the quality and price of the product are very important. Even though things we want are getting easier, still all people are very conscious about quality and rate of the particular product. Having a best price which is not a fixed one will increase the payoff among sellers and buyers. Thus, an automated agent for negotiation has been designed in order to maintain a flexible and considerable price instead of a fixed price. Chatbots are mainly used to provide conversation between both human and machine. Admin feeds some knowledge to the machine so that the machine can identify the sentences and take a decision itself as a response to answer a question [1].

Negotiation is the process of exchange that provides the highest likelihood of satisfying the needs of both parties. Negotiation covers many aspects of our lives and has led to extensive research in the area of automated negotiators [2]. The E-Negotiator Chatbot helps the user to solve queries and provide a negotiation mode if dissatisfied with the price. Such a system will help users to freely interact with the software and upload their product-related queries and budget and get the response related to the query. Just like retail and logistics companies use data to plot the most efficient route to deliver goods.

We are providing the Negotiation mode in the proposed system so that user can use this particular mode if he/she is not happy with the price. When it comes to shopping negotiation is major component which impacts the deal. The process of satisfying the requirements of two or more parties in presence is called E – commerce negotiation which is a decision-making process of limited information and conflicting preferences.

II. LITERATURE REVIEW

Jinsoo Park et al.[1] proposed a new offer strategy that combines two elements in negotiation; (1) tactic of multiple equivalent simultaneous offers, and (2) strategy of argumentation-based negotiation for an automated negotiation agent to reach an integrative settlement (win-win situation). Author offer strategy, that attempted to answer two questions: (1) “Does the approach of MESOArgN strategy enhance the persuasiveness of an offer?” and (2) “Will the approach of MESOArgN strategy enhance the negotiation outcome?”.

A chatbot for selling physical and digital goods was introduced by Amir Reza Asadi [4]. This chatbot is implemented for telegram and uses its API. This chatbot is basically designed for order taking with minimal user input and suggested for target markets that costumers have little knowledge of about it. [5] Presents brief review of applications that are used AIML chatbot for their conversational service. These applications are related to cultural heritage, e-learning, e-government, web base model, dialog model, semantic analysis framework, interaction framework, humorist expert, network management and adaptive modular architecture. Such application an help to the peoples providing useful services but also interact with customers and provide solution of their queries through AIML chatbot instead of human beings.

First step towards moving the problem of automated negotiation towards natural language interfaces was provided by Inon Zuckerman [3]. The paper explained how the current state-of-the-art automated negotiator would perform when paired against chat-based interface. This paper extended the GENIUS negotiation system.

A General Environment for Negotiation with Intelligent multi-purpose Usage Simulation (GENIUS) [2] enables alleviation of the difficulties in the design process of general automated negotiators. It is freely available for participants to develop and test their agent. It’s easy to use agent skeleton makes it a suitable platform for negotiating agent development.

KBAgent [7] More recent applications include i.e. negotiation history from other users will be used as knowledge based for general modeling which will be used while negotiating by the automated negotiating agent. Experiments conducted with people show that the KB Agent negotiates efficiently with people and even achieves better utility values than another automated negotiator, shown to be efficient in negotiations with people. The paper gives general opponent modeling and proposing offers using a concession method and accepting offers using a sophisticated threshold. The paper shows that KB Agent can achieve significantly higher utility values than the human players.

III. PROPOSED SYSTEM

Whenever the user uses the system, firstly they need to mention their query. From the query the system can extract the tag word. And then according to the question tag system gives the response to user. The system can give the response to the user product queries. User has to type the product type and budget. The chat bot will search the most appropriate products as per user’s budget. Once the products are found matching to users search queries, then the list is returned. User selects a product and starts discussion on the product with chatbot. The agent begins by proposing a full offer, FA, as its anchor. FA is chosen by selecting the values for the highest value within the agents search cluster. It then takes offer from user and compares it with the minimum price. If it is greater than the minimum price then it accepts the deal else it uses the negotiation formula to offer a new reduced price to the user. If new reduced price is less than the minimum value then the chatbot offers the minimum value to the customer which he can accept or reject.

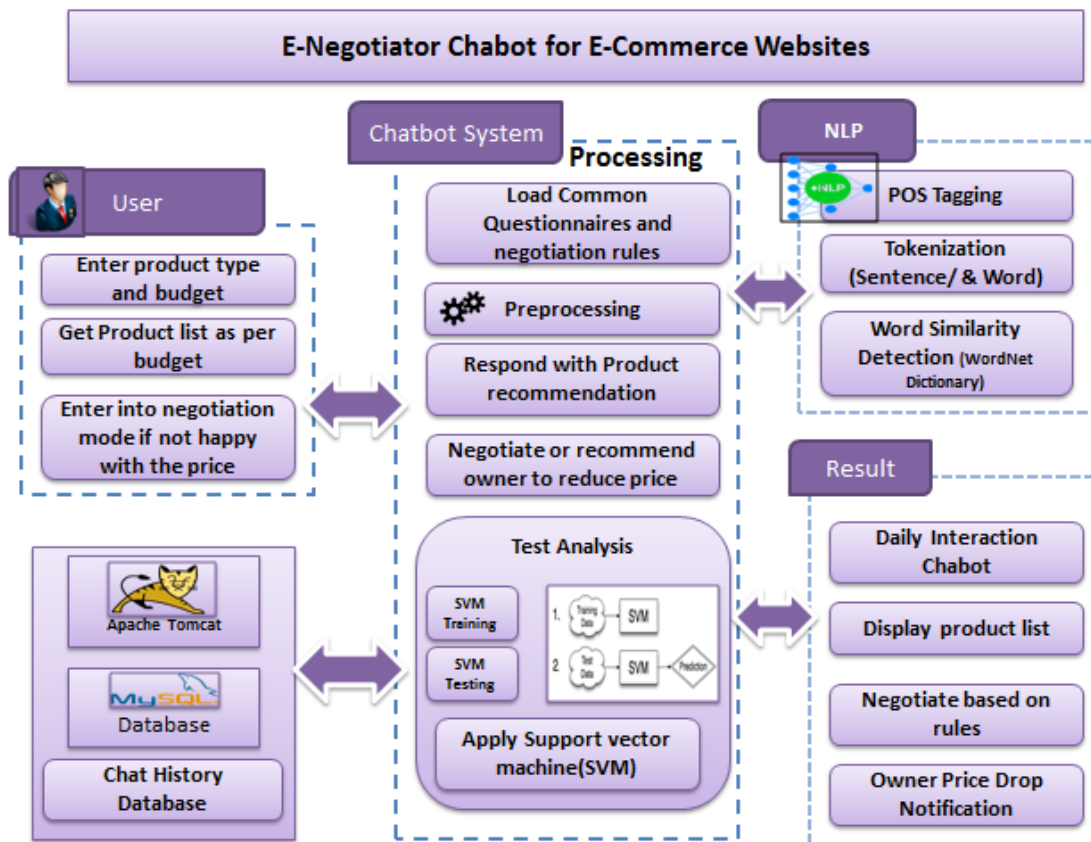


Figure:1 - System Architecture

The figure 1 shows the architecture of the proposed system. Firstly, the system can load the data having questionnaires dataset related to the welcome messages, negotiation messages. While using the system user needs to ask a query. Then by using the tag word from the query system gives the response with the help of Natural Language Processing. If the user is not satisfied with the production budget then the user selects a product and starts a discussion on negotiation on the product with a chatbot.

IV. CONCLUSION

Chat Bots have indeed proven themselves as a powerful tool to customer satisfaction and an unmatched resource for the enterprises helping them save a lot of time and money. To date, different automated negotiation agents have been developed. Negotiation starts when supplier and customer have different expectations about price. Here we represent an E Negotiator chatbot for commercial websites which can help the users to get the product online according to their budget.

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