Chatbot

A chat bot, also known as chatterbot is a software that uses "instant messaging as the Application Interface".Chatbots are tiny programs that help simulate interactions with customers automatically based on a set of predefined conditions, triggers, and/or events.

Most of the time, customers need to wait online to get a support staff person's answer, which is less effective and difficult to scale up.This wait time can be minimised using chatbots.

Chatterbots are not new programs in the computer world and ELIZA, the first chatbot was released in 1966 by but most of the existing chatbots are mainly for recreational and research purposes.

There are several advantages to using chatbots:

1. They can be proactive or reactive.
2. Their responses are consistent every time.
3. They can respond to customers immediately.
4. They can help you collect important data and also learn from the data collected.
5. Unlike humans,they are accessible at any time.

Nowadays,chatbots became prevalent in may industries such as consumer services, medical and health care,banking,E-commerce,etc.

Necessity and Scope of the system

According to a survey,the top 4 most frustrating things about any given online experience are:

1. Sites hard to navigate (34%).
2. Can't get answers to simple questions (31%)
3. Basic details about a business hard to find (28%).
4. Takes too long to find services (27%).

So, To smoothen this experience and for easy navigation,a chatbot is necessary in every way.

Generally in our Campus,the buying and selling of products especially books are all done using Facebook group of "Buy and Sell".But many users are not proactive on Facebook and also Facebook algorithm preferring one post over other might lead to skipping of the sale of relevant product which ultimately leads to the user not getting his desired product.

So,To rectify these problems and to provide a different solution to this problem,we want to develop a chatbot with many features that will enhance the trading experience of the user and help him/her find the necessary product he/she needs.

Through this Chatbot,we are enabling a campus wide platform where people can easily buy the products they are in need of or can sell off the products they don't need anymore which can be a necessary product for somebody.In our campus,the most bought and sold items are books.So our focus in this system is more on trading of books but other products can also be accessed through this.

Literature Study :

Our problem statement is a bit based out on the situation of various e-commerce websites. The e-commerce sites deal with a lot of traffic while our situation is narrowed down to campus wide traffic.We took a few research papers as reference .They had developed a website along with a chatbot for an e-commerce solution.One of them was using messenger plugin by Facebook to integrate them at one place. It dealt with various products but we narrowed it down to books and other basic products. We also took a few ideas for implementation of chatbots from these papers.
The referred research papers are :

1. An E-Commerce Website based Chatbot by Siddharth Gupta, Deep Borkar, Chevelyn De Mello, Saurabh Patil.
   Link :
   http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.734.8303&rep=rep1&type=pdf
2. Design and Implementation of a chatbot for e-commerce by **Amir Reza Asadi,RezaHemadi.**Link:https://www.researchgate.net/publication/324731232_Design_and_Implementation_of_a_chatbot_for_e-commerce
3. SuperAgent: A Customer Service Chatbot for E-commerce Websites by **Lei Cui,Shaohan Huang,Furu Wei,Chuanqi Tan.**

   Link:https://www.researchgate.net/publication/318738996_SuperAgent_A_Customer_Service_Chatbot_for_E-commerce_Websites

Feasibility report:

As there are many chatbots being used everywhere , the base for developing these kind of bots is totally feasible . Many people have worked in these, laid a strong foundation for the same. This makes it easy for people to develop on it.Coming to solving the problem of buying and selling in campus, the idea of a chatbot relieves a lot of stress on the students who are in dire need of things. With the foundations being laid, and a true motive to do something for the second home of students to strong enough to make this project feasible .

An AI Viewpoint for our solution :

For a person who is not well versed with a website designed for a particular use case(in our case product trading) or might have missed the updates of the listings on facebook (the problem which we are addressing) , a chatbot would relieve much of the stress on the users . The work can be completed by just answering a few queries.

Users can easily access chatbots, it adds intricacy for the application to handle. So how are we going to solve this problem? We are going to preserve a log of discussions (a database) of many students querying the bot for products. Maintain a list of all the products which other students (generally seniors of the institution) who are willing to sell/ share them to juniors / peers respectively .

If a person wants to sell a product,the chatbot then asks him/her about the details of the product and its price and stores them in a database.If a person wants to buy a product, the chatbot will ask them him/her for the details of the product and checks if it present in our database.

To the above job,we can use pattern matching (RegEx), Natural Language Understanding / Processing to understand the intent behind the query of the user . And through a series of API calls , the job can be done.This chatbot is also enabled such that it can answer general queries related to campus.