

E-MART WITH AI RESPONDER

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Abstract : AI responders have the potential to save any individual's time and hassle. The idea about this application is that it will help user to interact with the E-commerce engine through an Intelligent Assistant. The application offers the exhilarating experience of placing the orders on the E-commerce site according to his/her needs and viewing the previously placed orders anytime the user wants. The user can ask queries to AI bot regarding any product details and the AI bot will return the query result in form of text to speech. An account has to be linked to the device, thus allowing you to back up your history in case of device malfunction or any other unfortunate activity.

IndexTerms - Intelligent Assistant, AI bot, Malfunction, E-commerce.

I. INTRODUCTION

E-commerce stands for electronic commerce and caters to trading in goods and services through the electronic medium such as internet, mobile or any other computer network. It involves the use of Information and Communication Technology (ICT) and Electronic Funds Transfer (EFT) in making commerce between consumers and organizations, organization and organization or consumer and consumer. The application helps to build the prolific virtual internet bazaar inside the digital world.

This application deals with B2C E-commerce type. It is more commonly known as online retailing and involves customers purchasing goods and services online. It has reduced transaction costs by increasing consumers' access to information thereby easing the whole procedure of buying and selling goods and services. Consumers can now easily compare various features offered by different brands over the same product and add genuineness to their decision.

Another feature that the application contains is the AI responder which is a computer program that simulates conversation with human users to complete some sort of service which implements Natural Language Processing (NLP). NLP is an area of computer science and artificial intelligence concerned with the interactions between computers and human (natural) languages, in particular how to program computers to process and analyse large amounts of natural language data. The responder uses AI to create a valuable, individualized shopping experience. Having an AI responder on one's e-commerce, it website will certainly add to the company's popularity, public relations and will retain current users by turning them into even more proactive content consumers. One can use them from answering customer's questions all the way to the delivery of the products.

AI responders have the potential to save any individual's time and hassle. The idea about this application is that it will help user to interact with the E-commerce engine through an Intelligent Assistant. The application offers the exhilarating experience of placing the orders on the E-commerce site according to his/her needs and viewing the previously placed orders anytime the user wants. The user can ask queries to AI bot regarding any product details and the AI bot will return the query result in form of text to speech. An account has to be linked to the device, thus allowing you to back up your history in case of device malfunction or any other unfortunate activity.

II. Objective

The objective of our project is to increase the availability of the products at the customer's place and make the system capable of answering customer's query through AI bot.

III. Literature Review

Today E-Commerce applications contain a wide range of products in each of its category which results in a vast and complex database. These products are spread across numerous amount of pages and categorized according to their type. Navigating through these pages to locate relevant results, according to the user specifications, can be non-intuitive, time consuming and exasperating. A user visiting an E-commerce may look for a specific product, or generally browse the application. The search tools use keyword matching to display multiple results to the user's query. Out of these results, some might be relevant to the user or the results might be inconclusive. This will lead to an unpleasant user experience. The search tools fail to deliver relevant results when ambiguous and imprecise words are used to describe a

product. The system may not display a relevant product. Also in case a user does not have much knowledge about the product he/she intends to buy, conventional systems do not help such a user in any way.

The existing system is automated systems. But they are found to be inefficient in meeting the growing demands of population. Customer can register, view and purchase the products and add them to the cart. Sellers from big and registered industry can upload their products with limited control. Customer can solve their queries through emails.

IV. Proposed System

This project deals with developing an E-commerce application with automated chat support system. It provides the user with a catalogue of different products available for purchase in the store.

The project will be developed in Android with SQLITE as a back end. Four entities will have the access to the system:

1. The admin
2. User/Customer
3. AI Responder
4. Seller

Module No. 1 – Admin

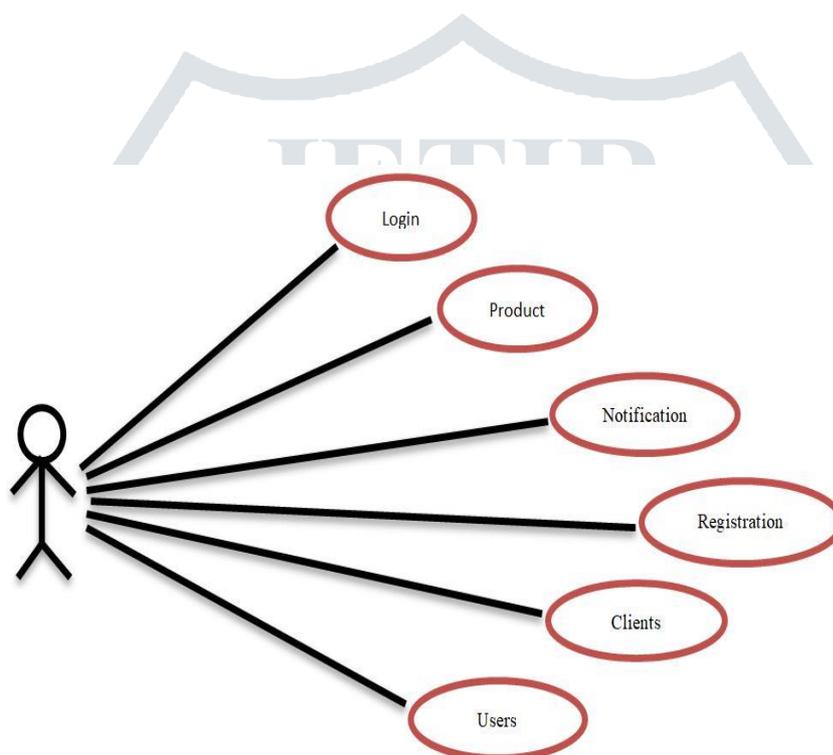


Fig.1: Use case diagram for admin module

- Admin is the first module, which is having access of all the activities taking place in the entire application.
- Admin will give permission for the product whether it should be uploaded and will be visible to the end user or not.
- Admin can also view and edit the product information whenever required.
- Admin can view all the order details and can also view the sales of the products.
- Admin modules are able to generate the different types of notifications such as offer notification, instructions, etc.
- Admin can generate the reports such as sales report, stock, etc.
- Admin can also overlook on the complaints stated by seller, employees and customers.
- Admin can create communication with direct sellers and customers.
- Admin have the authority to give the permission to the client and employee to get registered in the application.

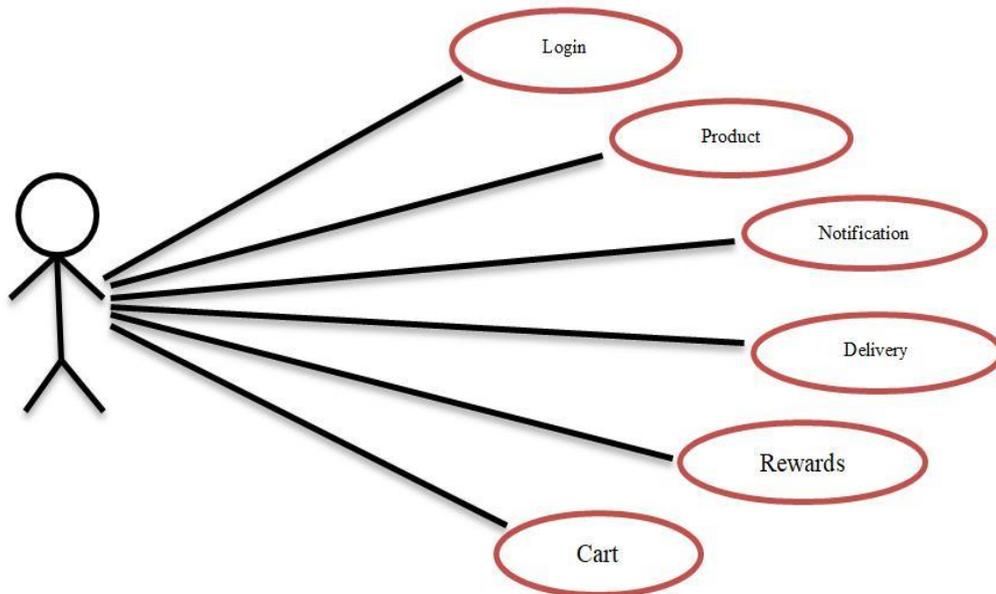


Fig.2: Use case diagram for customer module

- Customers have to compulsorily sign in/login to the application with the help of a specifically generated ID and password.
- Customer can see or check product details they wish.
- They can add product to cart.
- They provide the facility of AI Responder (AI chatbot).
- User will be able to see notifications provided by admins.
- User will be able to track details about their product purchased.
- Customer can keep a check over their previous record using history which automatically gets update after each and every purchase.
- Customer can complain in the complaint box if he finds anything inconvenient.
- Customer gets the time to time update about the rewards and offers.
- Customer can add the product of their interest to the Wish list for future purchase.

Module No.3- AI Responder

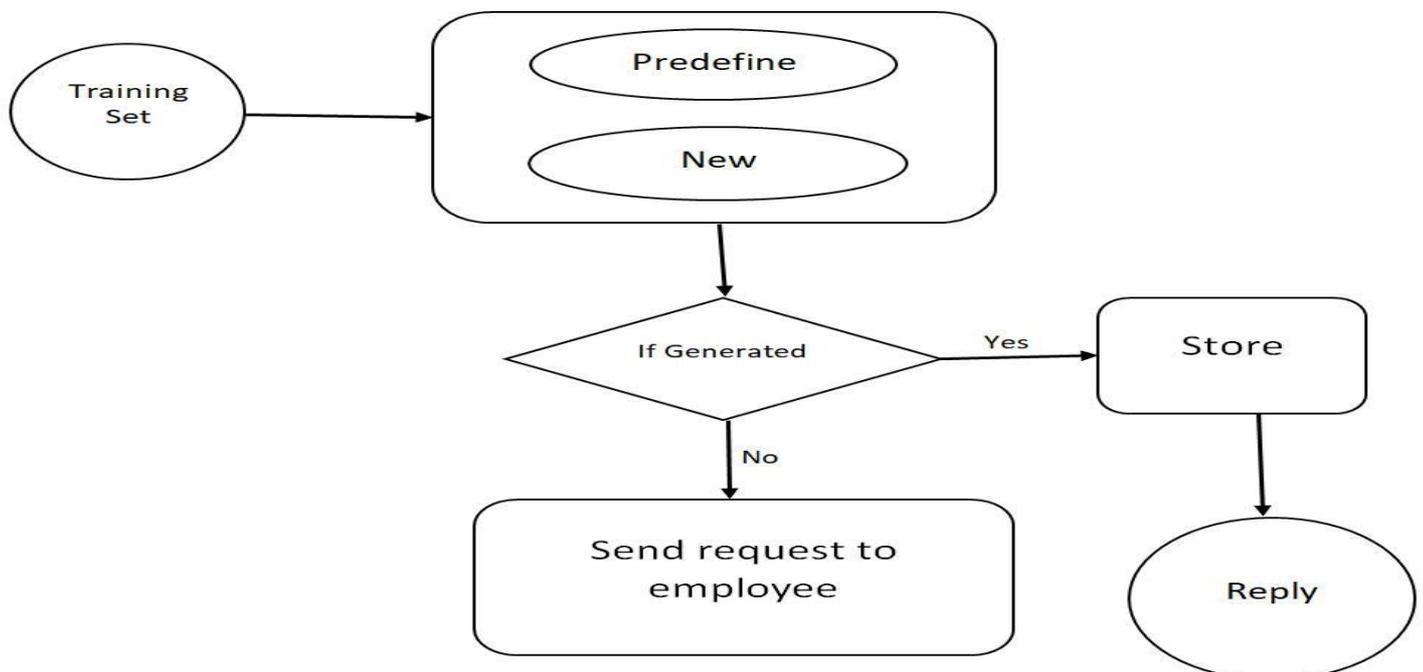


Fig.3: Flow Diagram for AI module

- AI is used for communicating with user/customer.
- Text blob algorithm is used in the AI module for various AI working.
- AI will therefore have the authority of supporting only.
- Text blob Algorithm

Natural Language Processing (NLP) is an area of growing attention due to increasing number of applications like chatbot, machine translation etc. In some ways, the entire revolution of intelligent machines is based on the ability to understand and interact with humans.

Text Blob is built on the shoulders of NLTK and Pattern. A big advantage of this is, it is easy to learn and offers a lot of features like sentiment analysis, pos-tagging, noun phrase extraction, etc. It has now become my go-to library for performing NLP tasks. On a side note, there is spacy, which is widely recognized as one of the powerful and advanced library used to implement NLP tasks. Text Blob is the perfect library for you to get hands-on with.

Module No.4-Seller

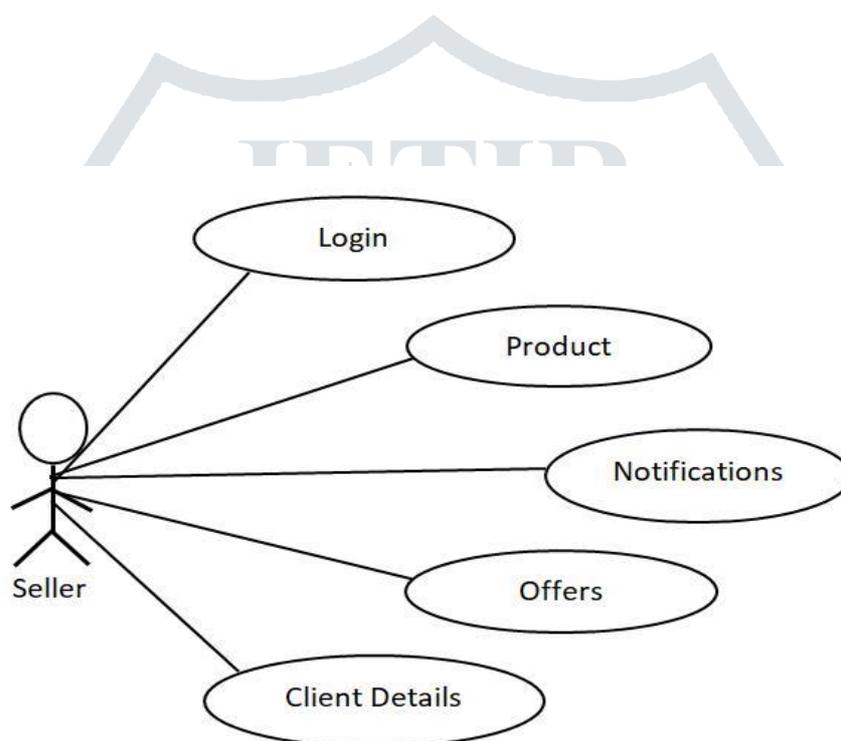


Fig.4: Use case diagram for seller module

- Seller will be able to add or remove products. They can therefore have complete and detailed information about the products.
- They will also have product details like its warranty, delivery, return, etc.
- They can also set discount offers.
- Sellers have to sign in/login the application first.
- They have detailed personal information of their customers.
- They can generate notification related to their product.

V. Design Methodology

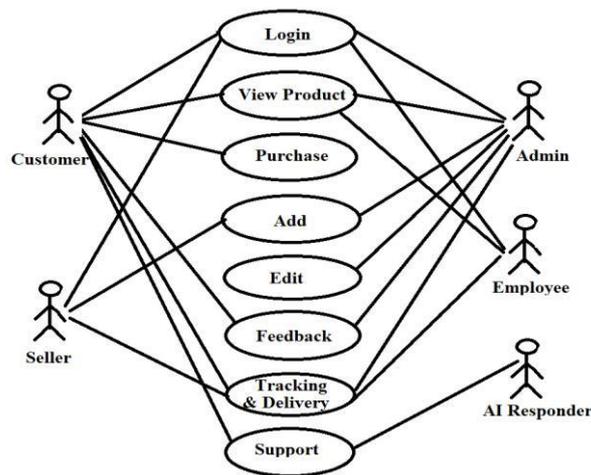


Fig.5: Use case diagram of e-mart with AI responder

- Four entities will have the access to the system. One is the admin, second is the seller, third one will be the registered user/customer, fourth is the employee and last one is the AI responder.
- Seller will add the product with its details such as product name, description, features, warranty; add on product and delivery date.
- Admin will give permission for the product whether it should be uploaded and will be visible to the end user or not.
- Admin can also view and edit the product information whenever required.
- Admin can view all the order details and can also view the sales of the products.
- User need to register with basic registration details to generate a valid username and password with OTP send on his mobile.
- After login, user can view all the recommended products on the home page.
- User can select the desired product, view its details and add to cart if the user wishes to buy the product.
- User can also ask queries to the AI Chatbot regarding any products detail and the AI Chabot will return the query result in form of text to speech.
- After selecting the project, user can do payment for the particular product online.
- Users can view their order history of their purchased product.

VI. Traditional Marketing

Traditional marketing is the regular mode of marketing which is used over years, in the field of marketing and advertisements. This typically constitute of Televisions, Radio, Billboards, Newspapers, Magazines and so on.

VII. Online Marketing

The term online marketing is also referred to as net marketing or internet marketing or online advertising which is any tool, strategy or concept of getting the company name to the local people. It is the way used to promote business in simpler ways. In simpler languages, it is the way used to emerge the particular company's name, its brands, products or services to the public. Basically, the methods used in online marketing include email, social networking sites or media, search engine optimization, and many more.

VII. A Overview Analysis of Online Marketing over Traditional Marketing

Online marketing differs from traditional marketing which has historically included historical mediums like television and radio advertisements.

Before online marketing came into existence, the cost to market products or services was much expensive, and also difficult to purchase and buy. Today using online marketing buying and selling of products and services have become much simpler than the ones used in traditional marketing. Besides, companies anyone who is interested in marketing can start their own setup using online marketing by creating their own websites and applications. The main important thing about online marketing is that anyone can visit and see different products and services by sitting at home instead of visiting the shops and wasting time. Advantages of using online marketing over traditional marketing is reduced cost, real timing results, brand development, quick and fast publicity, easy analytics and many more.

VIII. Conclusion & Future Scope

More than just buying and selling products online Electronic Commerce (e-commerce) also includes the complete process of developing, marketing, selling, delivering, servicing, and paying for products and services. Interestingly, India has shown a tremendous development and growth in the field of e-commerce segments, which has an almost over 300 million internet user base. Beside, India has second largest number of internet population after US & China.

Innovation is another reason of increased online shopping, which is required in every step of our life. Innovation is the important thing which is required to survive in any field and the same plays an important role in the field of e-commerce too. In order to keep the buyers or customers or end users satisfied and happy with the products and services, the entrepreneurs are always in the search of new e-commerce sites and applications which are safe for them to maintain the stability and keep their online stores updated all the time. Scope of e-commerce is an interesting topic in the near future because most of the people across the globe are preferring online products specially in the field of electronics and garments which has now also expanded to buying and selling of grocery and food items too. So we can expect a huge market growth in e-commerce field in near future.

From the entire study and research, we can conclude that e-commerce is a revolution and is increasing its applications in various fields across the globe. E-commerce is not just conducting business transactions online through the internet but it also has its far reaching results in different fields like marketing, development, etc. This is because the revolution in the field of information technology, and the new age of global e-commerce is creating entirely new economy, which is tremendously changing our lifestyle and is also reshaping the definition of business activities.

X. References

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