

Intelligent Shopping Agent

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Abstract— Intelligent Shopping Agent is an Agent which helps user to browse online shops, compare prices and order merchandise sitting at home on their PC and get suggestions on what products are best suitable for them to buy and buy it at one click with an opportunity where the intelligent agents adds the products directly to the user cart. The interesting feature this website provides is price comparison and allowing the user to go buy goods from other website as well, without redirection this intern profits the user as they do not have to surf multiple website to find the best deal and the owner is profited as the users buy the products using their referral code.

Keywords—Intelligent; Shopping Agent; Smart; E-commerce; Intelligent System, recommendation ,online shopping,

I. INTRODUCTION

Many of the E-commerce websites provide users with the option to compare the products and buy them at the rates they provide. Some of them allow them to compare the products from different E-commerce website and they do not track the shopping pattern of the users.

Creating a website that tracks the user buying history and automatically adding it to the users cart in fixed intervals and comparing the rates of the product from different websites and allowing the users to buy the product at the cheapest rates without redirecting them to different websites. Essentially creating a central engine to buy the products may it be Groceries or any other category of products, the users may not go to different websites to buy but from our Intelligent Shopping Agent that shops for our users. Creating a Revolutionary Ecommerce website which uses Pattern Search algorithm to find the pattern in users buying history and find the products related to pattern and also the best part of this automated Agent is if the patten in very common with a particular product and the user this product is added to the users cart directly so that the next time user logs in on a particular date or time he will see the product stocked up in his cart and he is allowed to check out directly. The E-commerce website that are available in today's world has many features like E-wallet Verified Sellers etc but lacks the capability to reduce the customer efforts by allowing them to buy the product that the user is interested in. The users as well as the company can be profitable to this agent as it will increase the sales as the products are directly getting added to the cart and user buys it as he sees the product in the cart and if the user decides to buy it from another website he is redirected there using our referral links which earns the company some great money.

II. NEED OF PRODUCT

Many Ecommerce websites are available online which focuses mainly on providing Products to the user at much cheaper rate than in the market and while doing that lacks the ability to understand user needs and in turn reduces the number of visits to the website. To avoid such cases the most innovative method is to provide the user which what they want and by decreasing the response time. Many of the Ecommerce websites are available which provides users with the product at a cheaper rate and also there are many websites that allows the user to compare the products online. The comparison is done on both specification and Pricing.

Taking in to consideration the trend none of the website actually interacts with the user in a way that it understands the needs of the user and also does not literally focus on what measures are to be taken to retain the user. Intelligent agent solves this problem as it uses Pattern Search algorithm and mine the data, that is the users buying history throughout the month and shows them the most relevant Recommended products that they can buy depend on the products they purchased on that day earlier that week or a month ago.

Intelligent Agent unlike others allows the user to compare the prices online from different Ecommerce websites or different vendors and also finds the best deal for the same and people interested in buying the goods from affiliated website are redirected there using the referral link provided by the Intelligent Agent which in turn brings in the profit to the user as well as the owner. Intelligent Agent is most innovative way to find the things that are required by each of the customer and providing them with the recommended list on the basis of their buying history and to find the pattern and adding products directly to the cart which

cannot be done in the currently available system as it lacks of the algorithm which uses basics of Artificial Intelligence.

III. LITERATURE SURVEY

We have referred the following papers for our project:

1. They present the design and implementation of an interdisciplinary research project involving an intelligent agent-based framework for collaborative e-commerce applications. A multi-agent system (MAS) architecture for large collaborative e-commerce environments is designed and developed, where a number of geographically dispersed users (customers/merchants) can participate. This architecture not only applies agent technologies in e-commerce system in novel manners, but also incorporates privacy law and legislation into its technical design, and in that respect it is different from other existing e-commerce systems.[1]
2. Knowledge management has become increasingly critical for the success of companies in this emerging era of e-commerce. As commercial activities tend to conduct on the Internet, the challenge facing corporate management is maintaining competitive edge by building strong relationship with employees, customers and suppliers. A good knowledge management strategy can help achieve this goal. Like any new dynamic field, e-commerce is full of confusion and lacks coherence; traditional knowledge management technologies cannot suit this situation. Most experts agree that the biggest challenges of knowledge management are not technological but human-oriented or behavioral challenges. This paper addresses these problems by capabilities and advantages offered by agent methodology and technologies. In this paper, we introduce relationship between knowledge management and e-commerce, with emphasis on challenges of KM in e-commerce and sources of issues, and clarify the agent technology and roles of KM in e-commerce. Finally, we construct the framework of agent-based KM application in e-commerce, and describe in detail with components of this application.[2]
3. E-commerce is becoming more widespread as its ability being recognize to rapidly respond to requests and as more products and services become available. At the present time, only human beings are able to understand the services and product information published online. This cause unnecessary delay in decision making and increase the efforts of humans. In current e-World agents

are replacing humans to perform the same tasks in much smarter ways. They negotiate, decide and perform on behalf of humans. Nevertheless, price is the one of the major criterion by which agents are created. This factor is easy to measure and automate. In this paper, we present an agent based model for B2C e-commerce, which deploys intelligent agents to facilitate autonomous and automatic on-line searching by intelligent agents which quickly responds to customers requests. System rests on 3-tier application and ontology of books and implementation of searching and comparison module to gain the deep perspective of domain. Implementing the architecture for online services, that is, searching the product from online web sites and comparing that product amongst different web sites and getting the result of cheapest price at the run time is our main objective. We analyzed the effectiveness of the model by customer-driven web site which provided information about products in an efficient way. The basic purpose was to satisfy our customers and search the product in cheapest price.[3]

4. E-commerce is a rapidly growing area on the Internet. There are various types of online shopping sites that help consumers find products to purchase. The intelligent agent is among the most promising technologies in recommender systems and CBR (case-based reasoning) is a highly effective mechanism for developing intelligent agents. We introduce an intelligent agent based on CBR that we developed, XMLFinder, which recommends products to users. We describe its three-tier architecture, in which XML documents take a key role in each tier, and a methodology that combines the long-term and short-term user profiles to adjust the weights according to user preferences. In this manner, it allows the efficient determination of products that meet the user's requirements. [4]

With the further expansion of business model, the traditional e-commerce platform can not meet the requirements of the development. Comparing with its own non-flexibility, non-mobility, non-compatibility and non-intelligence, this paper distributed intelligent agent based on the framework for e-commerce platform. According to the functional requirements of e-commerce system, we can identify the agent role in the system, such as customer agents, business agents, business centre agents and payment agents. The roles of these agents are intelligent, active, distributive and collaborative; they are also through the framework of multi-agent communication mechanism and

intelligent decision-making mechanism for better coordination. Therefore, they are providing better information dissemination and transactions for the business; and also providing the real-time and flexible service for the costumers.[5]

IV. INTELLIGENT AGENT

The Agent is built over the traditional Ecommerce website which uses the Artificial Intelligence Technology which finds the best deal for each and every user mines the pattern in users buying history and adds in the products to the cart accordingly. It is fast and mostly accurate and allows the Company to boost sales as most of the work is done on the mechanical side and only a bit on the customer side which is the most amazing thing which attracts the users. The website which provides less human efforts is always in more demand than the traditional ones. This users Pattern Search Algorithms / Pattern Mining Algorithms like K-means K-medoid etc and provides with the most appropriate result to the consumer.

V. METHODOLOGY

User should have access to internet connection with a basic internet knowledge. User is required to sign-in using its email and is eligible for further purchases on the website. User should have an valid email address and a respected internet connection for smooth working of the website. User is required to register only once and is eligible to buy products available on different available website from one single portal.

Scraper

Simple HTML DOM script for scrapping a particular element from affiliated websites.

Recommendation System

Recommendation are given to the user on the basis of the tag cloud attached to the product with compare chart and user is provided with the result on the same basis.

Auto Cart (Intelligent Agent)

The user is provided with the particular product in their cart depending upon the buying history and buying pattern.

Payment Gateway

The user can pay using our own payment gateway using all the available payment modes including net banking and Credit / Debit Cards.

VI. IMPLEMENTATION

Many of the E-commerce websites provide users with the option to compare the products and buy them at the rates they provide. Some of them allow them to compare the products from different E-commerce website and they do not track the shopping pattern of the users. Creating a website that tracks the user buying history and automatically adding it to the users cart in fixed intervals and comparing the rates of the product from different websites and allowing the users to buy the product at the cheapest rates without redirecting them to different websites for just the price of 1% of total amount or user is also redirected if he chooses that option using our referral link. Essentially creating a central engine to buy the products may it be Groceries or any other category of products, the users may not go to different websites to buy but from our Intelligent Shopping Agent that shops for our users.

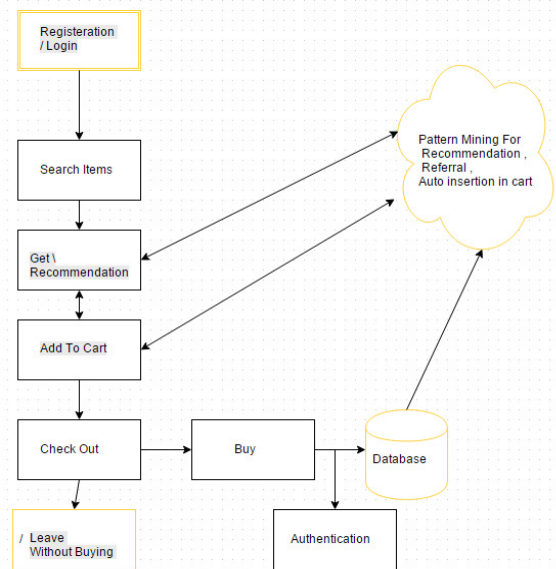


Fig 1. Flow of System

Ecommerce Price Comparator (Heading 6.1)

Price comparison website, comparison shopping agent, shop-bot or comparison shopping engine, is a vertical search engine that shoppers use to filter and compare products based on price, features, and other criteria. Most shopping sites aggregate product listings from many different retailers but do not directly sell their products themselves.

Sports Shoes



Product Code: BOLT1

Description: With a clean vamp, tonal stitch details throughout, and a unique formstripe finish, the all new sports shoes fits the needs of multiple running consumers by offering an athletic and a lifestyle look.

Units Available: 28

Price (Per Unit): ₹5000.00

Price at Flipkart: Rs. 38,999

[Add To Cart](#)

Price at Jabong: 1689

[Add To Cart](#)

Price at Infibeam: 72,000

[Add To Cart](#)

Fig 6.1 Ecommerce Price Comparator

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