E-COMMERCE PRICE COMPARISON WITH REVIEW SENTIMENTAL ANALYSIS

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ABSTRACT: Price evaluation websites are designed to evaluate the rate of products and offerings from a number of providers so that it will assist clients in making choices to pick merchandise a good way to store their cash online. Considering the clients' busy way of life especially individuals who are dwelling with inside the metropolis area, a maximum of the clients decides to shop for their desires thru the net as it stores their time. Besides, clients usually pass for the inexpensive rate in shopping merchandise consequently through the usage of rate evaluation internet site, clients don't should journey from saving to save simplest to survey the rate provided through one-of-a-kind stores for the equal product. They can simply test it from the rate evaluation internet site itself and determine wherein they can purchase the goods they need. This project, named Click & Find.com is the vicinity wherein buyers may want to discover the incredible offers on the house groceries merchandise. The satisfactory offers could be in reality highlighted. Even though now no longer all clients are shopping online, however, it's miles one of the approaches to assist clients to boom their rate awareness. Consumers have the proper to recognize whether or not the rate they may be seeing with inside the stores are excellent offers as its miles claimed or now no longer.

Keywords: Artificial Intelligence, Sentimental Analysis, Machine learning, Web Scrapping, Web Mining.

I.   INTRODUCTION

A price comparison website acts as a platform or medium between consumers and sellers. It allows the consumers to view different price lists for the product chosen by the user and helps the consumers to make an informed decision on which one to choose in order to save money. It also serves as a tool to help consumers increase their price awareness so they don't feel misled by advertisements from retailers who claim they offer the lowest price, but the reality is different.

Unlike other comparison sites, Click & Find.com (the name of this project) will focus on providing a price list of household groceries such as onions, chili peppers, garlic, potatoes, fish, chicken and others. Due to the huge increase in online users, Click & Find.com will be of great help to those who have busy office work and don't have much time to check the current prices of home grocery products. According to Social, Digital and Mobile in India research by We Are Social, internet penetration in India is 59% and the average number of hours Indian internet users spend using the internet each week is 19.8 hours. Meanwhile, 21% of Indian internet users access the internet via mobile devices, which means that they can access the internet anywhere with their smartphones. 77% of Indian internet users shared their thoughts about a brand via social media during this study conducted in 2019. The study shows how connected people in India are to the Internet.
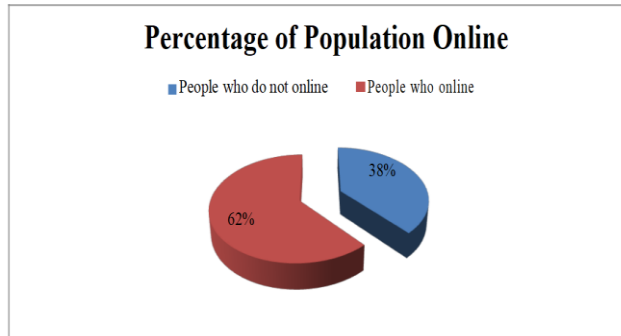

Figure – More people are likely to use comparison sites than they trust (Source: FRS, February 2019)

As mentioned above, a price comparison website acts as a medium between customers and retailers to allow customers to shop online at specific retailers to shop that offer such services. In other words, the price comparison website also has the function of promoting the retailer/store/hypermarket/supermarket to customers. Time and money pressures, especially in today's economy where the cost of living is rising and there is little time for home shopping, a price comparison site like PriceWar.com is sure to be of great help to consumers. In addition, today's users are very comfortable with the Internet having developed a greater variety of applications. of networking and now provide users with various references.

Compared to other countries, only a few price comparison sites are accessible in India. Most of them compare the price of hotel tariff, holiday package, mobile phone and others. It is important that a comparison website provides results with low prices that match what customers want, but accurate results are also important so that customers get what they really want. It also depends on how often the database is updated; Otherwise, customers will get confused when they compare it with another website. Most workers do not have time to shop for household groceries. As a consumer, you have the right to choose which store offers the best price for specific products that interest you. To the price offered by any business, however, requires a lot of time and due to a limited time, you have, you cannot compare prices and exit the purchase of certain products at a higher price. With a catalog that published online, sellers can save costs and support the green campaign. Increase the price awareness among consumers.

Most of the running human beings do now no longer have time to do looking for their domestic groceries. As consumers, they've the proper to pick which keep is presenting the great fee for a sure merchandise that they're involved in. However, to test on fee supplied with the aid of using every keep is time eating and because of restricted time that they've, they're now no longer capable of evaluate the fees and become shopping for sure product with better fee. Typical mind-set of clients nowadays, they see Tesco because the companies for the most inexpensive product however the truth is, now no longer each merchandise in Tesco supplied on the most inexpensive fee. Sometimes, the smaller keep with-inside the neighborhood provide less expensive fee.

II.   LITERATURE REVIEW

1.   The research article was written by Moraga Gonzalez JL and Wildebeest MR and published in July 2018.

"The research focused on price comparison sites and their importance for market efficiency and price competition. Price comparison sites attract all stakeholders, regardless of suppliers or consumers, to their platform as it has become an aggregator of product information. Nowadays people generally first research on the internet regarding a specific product or service they want, which is very convenient compared to what consumers have to do when there is no internet. Back then, consumers had to consult books, magazines, newspapers, encyclopedias, and other media to find the information they needed, while the yellow pages, directories, advertisements, and others were helpful in finding companies and their products. Everything has to be done manually and it takes a lot of time, energy and resources to find information without the help of the internet. Comparison sites are known as the second type of search technology as they help users to find products and services of user's choice. Help consumers easily compare alternatives. available on the market and at the same time reduces the consumer's search costs. Compared to the price comparison sites that have been functioning as online classifieds since their inception, today comparison sites can do many things such as: For example, they can calculate the cost of products, crawl websites, and give them much greater control over users with today's technology. It collects and aggregates prices, products and other relevant information from third parties and presents it to consumers in their own way".

2.   The studies entitled 'The Use of Price Comparison Sites with inside the UK General Insurance Market' which written with the aid of using Emily Knight,

A strategist for Consumer Intelligence has mentioned the present-day overall performance, media coverage, utilization and advertising interest of fee contrast web sites with inside the UK General Insurance sector. The outcomes indicates that there's improved at the marketing and marketing spend and opposition and it offers destructive impact at the economic overall performance in the direction of the fee contrast web sites. Meanwhile the wide variety of customers the usage of fee contrast web sites for rates has stays excessive and its common wide variety of web sites used are growing over time. Based at the studies, eight out of 10 human beings are in all likelihood to get rates from the fee contrast web sites with inside the destiny which display precise signal of fee contrast web sites to live in commercial enterprise in destiny. To compete with different manufacturers thru the internet, huge manufacturers typically should face huge marketing and marketing spends. The quantity of spend had to compete with the huge participant with the huge call has make it difficult for different competition except they've a terrific advertising budget. Some of the contrast web sites have released diverse campaigns to sell their web sites and get extra site visitors for example 'Compare the Market' that creates a character designed to attraction to customers and enhance their impact in the direction of the logo on the identical time boom its internet site visitors and increase conversion rates.

3.   This article became written through Reuther T. – Senior Editor of internetretailer.com, a portal associated with e trade. It is primarily based totally at the findings of a survey made through Exploited LLP,

Concludes that a 5th of on-line customers plans to behavior greater net studies this year (2019). The end result indicates that a 3rd of the mother and father who answered plan to go to e-trade sites, retail blogs and different net places to research earlier than shopping for the items. Not most effective that, the survey additionally resulted that 57% of the respondents owned clever telephones and use it as purchasing

equipment for in search of fee records with 63%, getting coupons and reductions with 45%, and locating keep places with 38% had been the various maximum famous cellular purchasing activities. From this end result, it indicates that there's huge range of those who are the usage of clever telecommunications to test at the fee records of a positive product. Therefore, primarily based totally in this article, it is able to be finish that maximum of the clients, in addition to capacity clients of a product will make a few studies on line earlier than creating a purchase.

III. METHODOLOGY

1.1   PROPOSED WORK

Stage 1: Project Planning

This is the degree wherein the hassle associated with the assignment is recognized and the importance of the have a look at is determined. The goal and additionally scope of have a look at are mentioned and the feasibility of the assignment paintings is ensured to be advanced in the time body given. The technique to the hassle announcement is studied and the kinds of machine to be broaden and gear used for growing the machine also are recognized thru literature reviews.

Stage 2: Data Gathering and Analysis

Series of research has been achieved to advantage similarly information at the strength and power consumption. Also, readings turned into achieved to get higher know-how on what assessment web web page is all about, the way it enables humans to clear up hassle earlier than shopping for domestic groceries product, and instance of present assessment web sites to test at the competitors. The statistics concerning preceding researches are gained from studies papers written with the aid of using pupils and were defined in info with inside the literature evaluate phase earlier. Meanwhile the statistics concerning customers had been acquired thru survey and interview that made on line in addition to assembly the respondents (save proprietors in Perak's area) face to face.

Stage 3: Research on any Existing Similar Systems

Next is the have a look at achieved to test if any comparable machine exists. The major goal of doing studies on comparable present machine is to recognize the way it works, what idea is being carried out with inside the machine, what's being computed with the aid of using the machine and the way the machine enables fixing the hassle.

Stage 4: Drafting the Main Components of the System

After the studies on comparable present systems, the subsequent step wanted is to become aware of what is going to be the primary thing that made up the machine to be advanced. In order for the traffic of this internet site to apply it services, they should sign in with their fundamental records including name, email, etc. The registered customers might be subscribed mechanically to this internet site's newsletter. The customers will be capable of pick out product and associated records might be displayed. Other than that, customers can also additionally upload preferred merchandise into their profile so the present-day fee for the favorite gadgets might be dispatch individually to the consumer apart from each day mail concerning the merchandising for the day. Therefore, consumer might be capable of get without delay the records that they're involved in. The major additives of this machine are: Database to save merchandise and customers' records User capable of seek the product that they're involved in.

Stage 5: Develop System Architecture

The subsequent section to broaden the structure on how the machine will works. This will supply the clean photograph and know-how on how the machine will function and to keep away from growing a machine that doesn't fix the hassle it meant to clear up.

Web Crawler: The gadget offers with fee evaluation engine. The first aspect required are to accumulate huge quantity of statistics from one-of-a-kind ecommerce websites. It isn't viable to manually acquire the statistics from websites. Hence the fine manner is to create an internet crawler so as to navigate to those e-trade websites. The fetched URLs are ship to scraper for scrapping process.

Web Scrapper: Web Scraping is used to extract HTML statistics from URL's and use it for non-public purpose. As that is fee evaluation internet site, statistics is scrapped from more than one e-trade websites. In this gadget, Scrapping is achieved the use of python libraries like requests and beautifulsoup4. Beautifulsoup4 is a python library that is used for parsing html pages. Using these, product facts from one-of-a-kind e-trade web sites are scrapped and saved in database.

Flask is a python internet framework: Comparison of E-trade merchandise the use of internet mining is product and fee evaluation internet site that is created the use of Flask framework. Products which might be been asked through person are queried in square database the use of an item relational mapper square. Admissions in reputed varsity. Now, right here we enlist the validated steps to put up the studies paper in a journal.
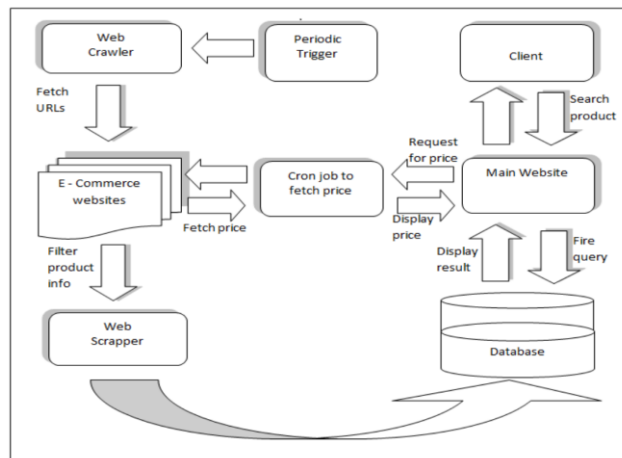

Figure: System Architecture

2.2 TEHCNIQUES USED

HARDWARE REQUIREMENTS:

System   : Pentium IV 2.4 GHz.
Hard Disk   : 40 GB.
Floppy Drive   : 1.44 Mb.
Monitor   : 15 VGA Color.
Mouse   : Logitech.
Ram   : 2 GB

SOFTWARE REQUIREMENTS:

Operating system	: Windows XP/7.
Coding Language	: Python, Flask
Front End	: HTML, CSS, Tkinter
Data Base	: SqlLIte3

IV. MODULES

1.Login module

In this module user will able to login into system and search the product.

2.Admin Panel

From this module user having some admin access in module user will able to add new products details and respective URLs of e commerce sites.

3.Live Product Price comparison

In this module user will able to perform the comparison of product from different sites such as Amazon, Flipkart, Snapdeal, etc.

4.Sentimental analysis on reviews using Machine Learning

In this module, integrate the machine leaning algorithm to check the sentimental status of product review.

5.Sellers/Retailers

Any parties that would like to join and become partner with PriceWar.com. Their roles are to submit the price lists to the admin of PriceWar.com. They are also responsible to inform the admin if they want to advertise the new products and also if there are sales and promotion being held at the shop.

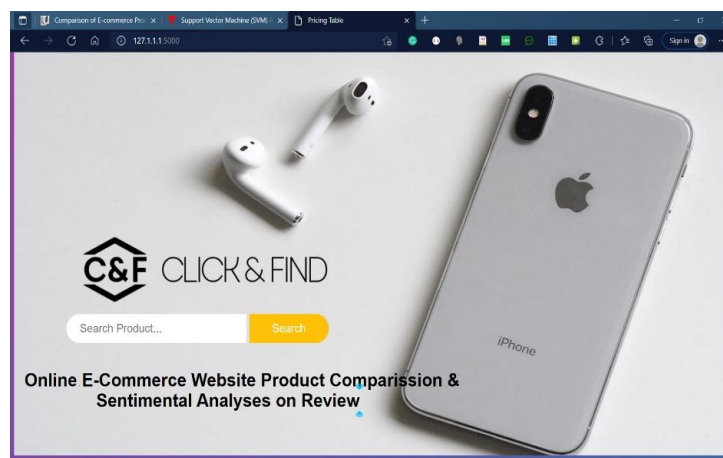## V. RESULT AND DISCUSSION

1. Login Window

Figure 6.1: Login

2. **Search Product**

Figure 6.2: Search Product
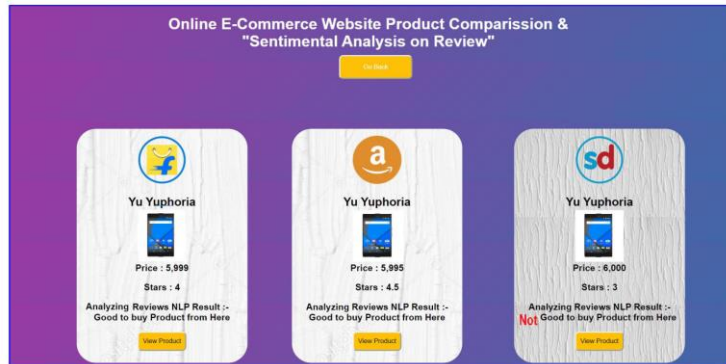
3. **Live Product Price comparison**

Figure 6.3: Live Prediction and comparison

VI.   CONCLUSION

It is usually recommended to have extra studies in this mission and decide what may be stepped forward from the present contrast site. One of the features that would be covered into PriceWar.com is via way of means of permitting customers to set rate cause alert wherein via way of means of purchaser can have the capacity to set a sure rate for a specific object, and as soon as there's vendor gives the rate in shape with the parameter set via way of means of the consumer, PriceWar.com will ship a notification alert thru electronic mail announcing that the product's present-day rate has precipitated the alert. This sort of alert is broadly being utilized by the web sites that offer gear and steering for inventory change business. When the rate of a sure inventory has reached a sure cost set via way of means of the consumer, it's going to cause the alert and notify the consumer.

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