International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 04 Issue: 05 | May -2020 ISSN: 2582-3930

Comparewala an Online Product Comparison Platform

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Abstract-Many strategies have been developed by analyzing customer's behavior so as to attract more business and participation of people. As there are many e-commerce websites available it becomes difficult for users to choose best deal for desired product amongst these websites. Comparison of E-commerce products using web mining enables users to analyze prices and get desired product at minimum price. Users can also select multiple products that belong to same category for comparing its features. To obtain best deals from e-commerce websites API (Application Programming Interface) and web scrapping techniques are used to fetch detailed information. This way, paper aims to provide solution for online customers to buy products at good deal and save their valuable time, effort and money.

Keyword- *Ecommerce, API access, Product Comparison, web crawling.*

I. INTRODUCTION

Online shopping provides an emerging trend in business revolution. In this way the buyer can purchase or buy products directly from seller. Online products will come to buyer home. The buyer can relive from rush compare traditional shopping. Online shopping has provided a convenience way to purchase goods or services from anywhere at any time in recent years globally. In this online shopping, so many factors are influencing to shop online. The information technology such as computers and internet becomes more common in our lives. New technology arrival has led to significant changes in our lives .The internet resulted to online retailing, a new and increasingly popular way of selling products for most organizations in the twenty-first century (Mukherjee and Nath, 2007). Lee (2007), suggests that virtual stores have many advantages, such as: ower operational costs, 24-h service all year round, greater product diversity, and the ability to reach distant customers. Electronic commerce (e-commerce) is a fairly new idea, and it is very common practice nowadays for businesses to conduct trade over the Internet. There are various advantages to e-commerce (e.g., lower cost, convenience). E-commerce can simply be defined as buying and selling merchandise or services online. Most successful businesses today have their own websites. Today, it is possible to conduct business nationally and globally with a click of a fingertip due to the worldwide use of the Internet. To be successful in the global marketplace, businesses need to develop culturally friendly e-commerce websites. When conducting business online, factors such as region and culture, web content accessibility, ease of use, secure authentication, payment, fraud detection, performance, trust, stability, technology, and convenience are vital to the businesses' and consumers' satisfaction and interest. This is a less focused research area and needs.

1.) Web Crawler- The system deals with price comparison engine .The first thing required are to gather large amount of data from different e-commerce websites. It is not possible to manually collect the data from websites. Hence the best way is to create a web crawler that will navigate to these e-commerce websites. The fetched URL's are sending to scrapper for scrapping process.

2.) Web Scrapping- Web Scrapping is used to extract HTML data from URL's and use it for personal purpose. As this is price comparison website, data is scrapped from multiple e-commerce websites. In this system, Scrapping is done using python libraries like requests and beautifulsoup4. Beautifulsoup4 is a python library which is used for parsing html pages. Using these, product information from different e-commerce sites is scrapped and stored in database.

3.) Mongo DB- is classified as NoSQL database which is a document oriented database. As system deals with large amount of unstructured data, it is flexible to use mongodb as database. Data extracted from scrapper is stored in MongoDB database. MongoDB is designed to meet the demands of modern apps with a technology foundation that enables you through. With these capabilities, you can build an Intelligent Operational Data Platform, underpinned by MongoDB.

II. SYSTEM ARCHITECTURE

In this system first user will visit on the comparewala.inand in the search bar they will type the particular product name.

After entering clicking on the search icon user will get the proposed product from various ecommerce websites and there the user will select on which platform they are getting the low price. After clicking on the product users will be redirected top the concern website. Proposed system uses API access technique to extract data from ecommerce web pages and also web crawler to links for products. This will also allow users to analyses prices and select products from same category for comparing its features. Demands of modern apps with a technology foundation that enables you through. With these capabilities, you can build an Intelligent Operational Data Platform, underpinned by MongoDB.

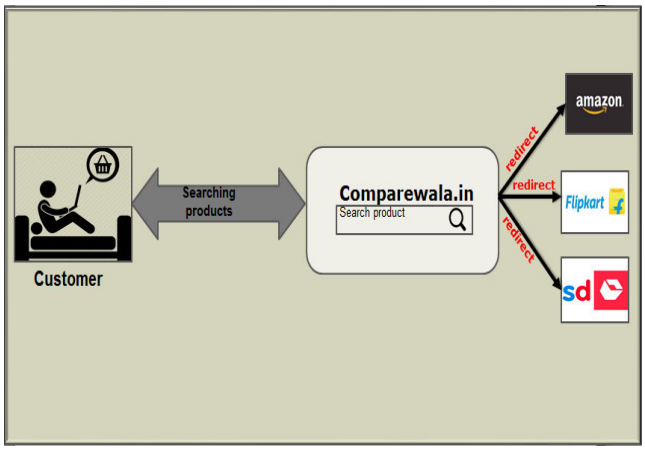

Image 1: System Architecture

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a) API Work function

API stands for application programming interface. The most important part of this name is "interface," because an API essentially talks to a program for you. You still need to know the language to communicate with the program, but without an API, you won't get far. When programmers decide to make some of their data available to the public, they "expose endpoints," meaning they publish a portion of the language they've used to build their program. Other programmers can then pull data from the application by building URLs or using HTTP clients (special programs that build the URLs for you) to request data from those endpoints. Endpoints return text that's meant for computers to read, so it won't make complete sense if you don't understand the computer code used to write it. Consider yourself (the requester) in a flower shop (the database) which has a bunch of different flowers (different tables in a database) and a shopkeeper (API) to serve you. Now, you will request the shopkeeper to take a flower (or a bunch of flowers) and wrap it in a wrapper (and sometimes tag it) and give you. Only the shopkeeper has access to the bunches and once you have payed the money, he starts his task. And only he knows which flower is kept where and the best way to access it. He will wrap it himself and tag it with the name you have provided him. And sometimes he should give it to you, or send it to an address you have provided. Similarly, a program requests some data to an API, passing the filter conditions, and parameters. API goes to the database (read hits the database) with the access credentials known to it (or the shared credentials passed as parameters), fetches the records from the relevant tables in the database.

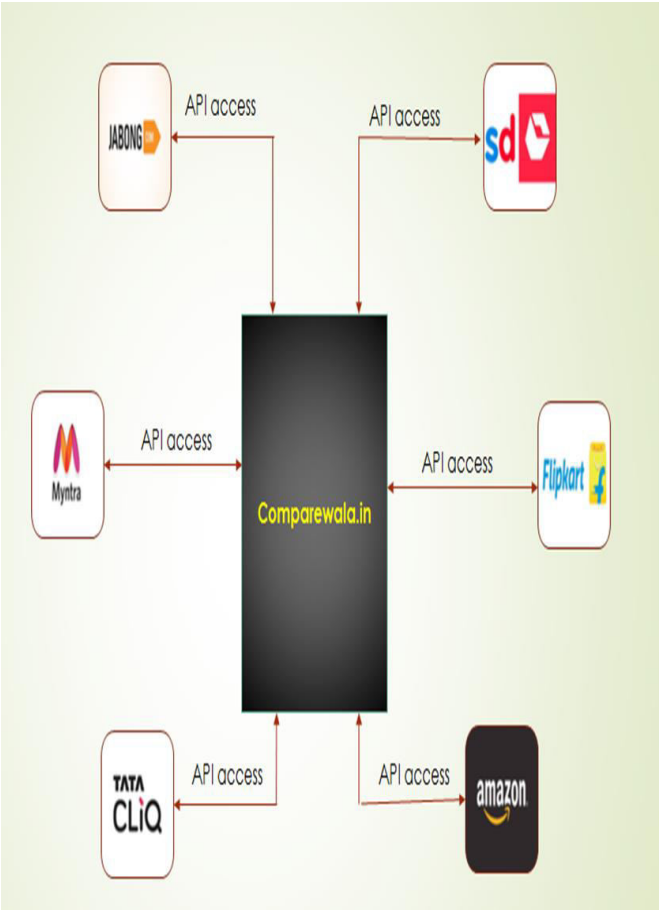

Image 2: API Work Function

III. IMPLEMENTATION

The front end system provides a graphical user interface (GUI) in the form of website where clients interact with the system whereas the backend consists of web crawling and scrapping techniques in order to extract product information from different e-commerce websites. The extracted information of e-commerce products is stored in MongoDB database .Client requests for desired product from main website and query is fired in local database. Product Information is displayed on main web page. Client can see prices of required product at one place present on different E-commerce firms. Another feature is provided

on the website that compares products. User can add products of same the category to compare. User may also analyze the product for its details and specifications.

a) ESTABLISHING AN API CONNECTION

Once our two main objects have been created, EWrapper and ESocket Client, the client application can connect via the IBApi. EClient Socket objects:

app.connect ("127.0.0.1", args.port, client ID=0)

EConnect starts by requesting from the operating system that a TCP socket be opened to the specified IP address and socket port. If the socket cannot be opened, the operating system (not TWS) returns an error which is received by the API client as error code 502 to IBApi.EWrapper.error (Note: since this error is not generated by TWS

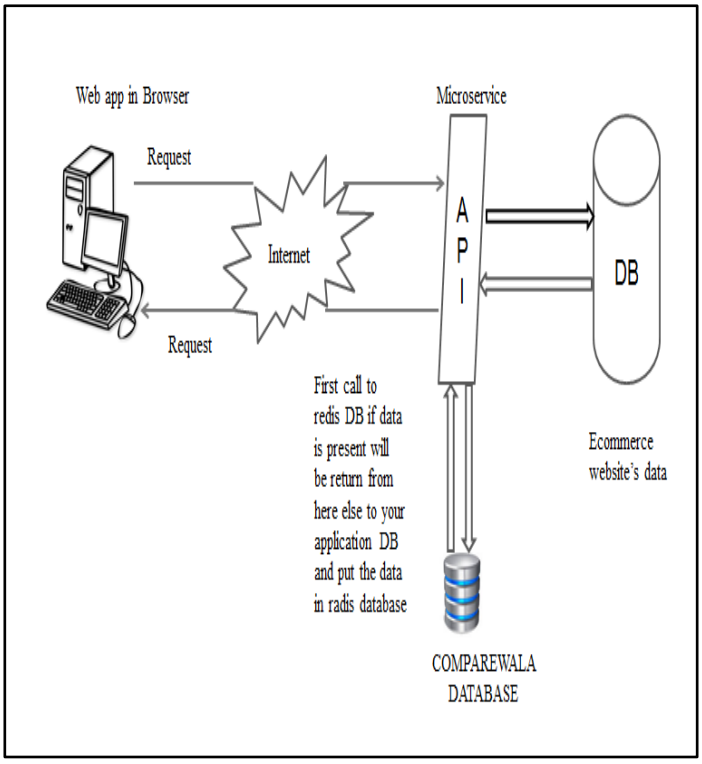

Figure 3: Establishing API connection

IV. RESULT

Comparison of product prices from different ecommerce websites and result is displayed on single web interface.Also systemallowsusertoanalyzeandcompareproductspecifications for maximum four products which lie under same category. To achieve this result web mining is done to fetch the required product details and concept of web crawler and web scraper is used to extract information of these products available on different ecommerce websites.System will allow users to redirect to original website of that specific product selected by the user as a best deal. Following images show how product analysis and comparison of e-commerce sites isdone.

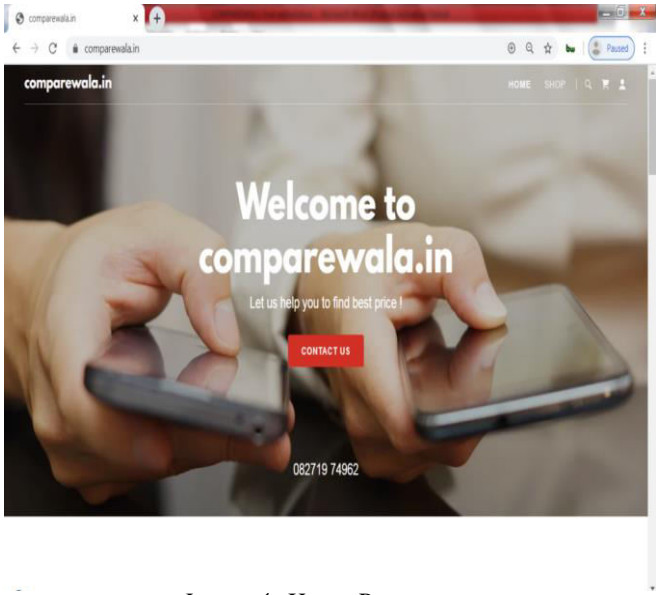

Image 4: Home Page

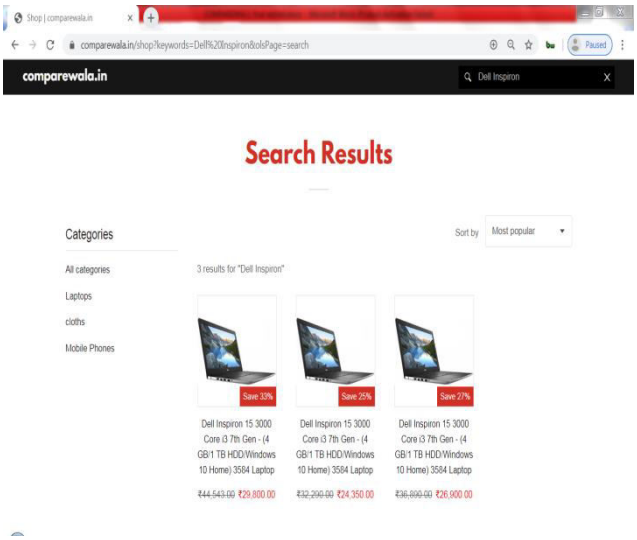

Image 5: Search Result i

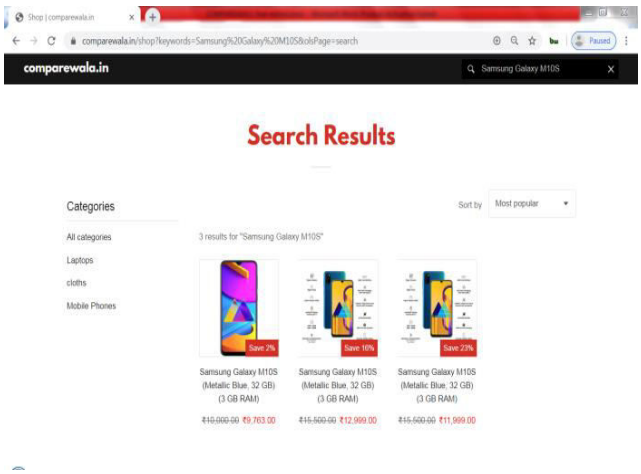

Image 6: Search Result ii

V. CONCLUSION

Comparison of E-commerce products using Application Programming Interface is web based system which will help users in decision making while buying products online. This website will facilitate users to analyze prices that are present on different e-commerce shopping websites so that they get to know the cheapest price of product with best deal. The website will also have the facility of comparing products with all its specifications that belong to same category. This will surely save buyers efforts and valuable time. Ultimately, this will bring together strategies, best offers and deals from all leading online stores and will help buyers to shop online.

VI. ACKNOWLEDGMENT
VII.

It is indeed that a great pleasure and proud privilege to acknowledge the help and support we received from the positive minds around us in making this endeavour a successful one. The spiritual blessing of his holiness ARULTHIRU AMMA and the divine guidance of THIRUMATHI AMMA have undoubtedly taken us to the path of victory in completing this project.The infrastructural support with all kind of lab facilities have been a motivating factor in this completion of the project work all because of our CORRESPONDENT SAKTHI THIRU Dr. G. B. SENTHILKUMAR, with great pleasure I take this opportunity to thank him.From the academic side the constant support from our honorable PRINCIPAL Dr. J.RAJA, Ph.D., has encouraged us to work hard and attain this goal of completing the project. We sincerely thank our motivating and respected DIRECTOR Dr. S. JAYASHRI, Ph.D., and HEAD OF THE DEPARTMENT Dr. C. DHAYA, Ph.D., who have given us both moral and technical support adding experience to the job we have undertaken.We take enormous pleasure in thanking our respected PROJECT COORDINATOR Mr. K. PRASANNA KUMAR, M.E., Assistant Professor, who helped us to accomplish our mission with full support and lead to a successful project work.We sincerely thank our SUPERVISOR Dr. G. PRABHAHARAN, Ph.D. Assistant professor or who helped us in crossing in the path to our glory. We also thanks others staff members, Non-teaching Staff member of Computer Center, Parents and Friends who have given their constant support and motivation in all our endeavors.

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