

COMMODITY SEARCH USING WEB BROWSER EXTENSION

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Abstract

There are so many e-commerce websites available now that the user gets confused as to which site will get them the best deal. Presently, there are websites which compare the prices but not the sentiments of the products. The user has to open the site, then input the product details and the price comparison lists thus get displayed. The proposed web browser extension presents a price comparison of all the online products to show us all the best possible prices for the products. We will extract the product information from URL using Pattern matching algorithm. The technology used for the system are Node.js, Angular.js and Mongo dB (No SQL database) Web scraping and Web Crawler. The web scraping and crawler are used to extract the raw data from e-commerce websites pages. This web browser extension will allow a simple and good experience of shopping products online.

Keywords: *URL, Pattern matching algorithm, Node.js, Angular.js, Web scraping and Web Crawler.*

Introduction

One of the traditional approaches, being online, wherein consumers can visit each website, manually enters the product's name and gather the prices and sentiments information respectively. Similarly, a decade ago, the orthodox technique was to just visit ten different shops, bargain and later finalize it from the cheapest deal offered by the storekeeper. Initially, there were very few e-commerce websites which used to sell products online and the consumers had to purchase the products from them only and no other options were available to the consumers, but the shopping preferences have drastically changed nowadays as the customers don't have much time, so they want everything on the go.

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Price comparison can be done in multiple ways. Hence, these price comparison sites have made the shopping experience far easier and customer friendly in all aspects whether it may be payment, returns or any further queries. They are also satisfied with the prices and the deals they get online. The online retailers too, maintain a good relationship with the customers, treating them equally. It has become a trend nowadays that, some of the big electronic firms launch their products directly on the e-commerce websites, because of a large number of consumers shopping/buying products online and trusting the brand. Moreover, there are systems, extensions available they have shopping assistance which helps you suggests the best products but are not likely to compare the prices from all other e-commerce websites.

The proposed system displays the best deals at that instance and notifies the consumer about the prices. It depends on the consumer if they want to buy the product immediately or else, they can add the product to their shopping cart and get notified whenever there are price drops of that product, either on that specific site or the other.

Mongo dB stores the data in the very flexible manner and it is mainly used for a large amount of unstructured data It is NoSQL database. Cheerio is a JavaScript library, it parses markup and also provides application package interface for managing the concluded data structure. It does not adapt the output of a web browser which do it.

Particularly, Cheerio does not produce a viewable performance, apply cascading style sheet, loading and executing the JavaScript. The system deals with price comparison engine. The first thing required is to gather a 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. All gathered data will be stored in Mongoddb database.

System Architecture

The front end system gives graphical user interface (GUI) in the form of a browser extension. The clients interact with the system where backend include web scraping and crawling. The web scraping and crawling are responsible for extracting information from different e-commerce database. The extracted information like title, size, color, and price is stored in MongoDB database. When the user/ client visits products on the e-commerce websites then current page will scrap and store details of that product and query is fired on MongoDB database. The client gets notification of the price of that product without visiting these e-commerce websites. Another

feature--> when the client adds the product to his/her shopping cart then the client will get the notification of that product.

Proposed System

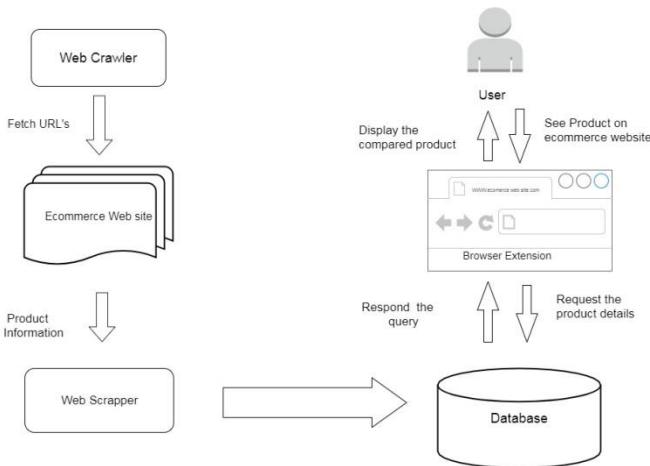


Fig. Architecture Diagram

In this paper, the back end consists of two techniques i.e. web crawling and scrapping. A web crawler is a technique that extracts details which is in human-readable form. But before scrapping, the page crawler is responsible for navigating the destination which matches the description that and starts the scrapping process. Crawler also checks the updates for information. If the updates are available then the system changes required field. Web scrapping is a technique which scraps the particular web page with parse HTML information. In this system, web scrapping is done using JavaScript and "Cheerio" library which help us traverse the DOM and extract the data. When a client visits particular product page then page

Scrap's and based on that details system fires query on MongoDB database. In the front end, it shows compared product in the notification form and user also add the product to their shopping cart option to get notification until the client cannot delete the product from the database. The GUI is made up of HTML, angular.js and CSS.

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Conclusion

The Existing systems provide good functionalities, but they have certain drawbacks too. The current existing systems generate more traffic because the technique used by them is web crawling. The immense popularity of the price comparison systems means that these sites are here for long and continue providing amazing cost savings to consumers on the e-commerce ecosystem. Our price comparison extension will be very useful to consumers/users which will enhance their shopping experience which is done online.

References

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