

Price Comparison for Online Shopping

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Abstract:- Price comparison websites are meant to compare the prices of goods and services from a variety of sources, assisting consumers in making decisions to purchase things that will save them money online. Given their hectic lifestyles, especially those who live in cities, most customers prefer to acquire their necessities online because it saves them time. Furthermore, consumers always look for the lowest price when purchasing things; thus, by utilizing a price comparison website, users do not have to drive from shop to shop only to compare the prices given by different stores for the same product. They may just check it on the price comparison website and select where they should buy the things.

I. INTRODUCTION

In today's digital age, the online marketplace has witnessed tremendous growth, making ecommerce a vast arena for individuals to make purchases over the internet. The widespread adoption of smart devices and diverse platforms has facilitated users in buying products from virtually anywhere. Consequently, this surge in online shopping activity has propelled the expansion of e-commerce enterprises. However, the sheer number of e-commerce websites frequently overwhelms visitors, making it difficult to navigate and select a certain product across many platforms. The proposed resolution aims to streamline this process for online users, enabling them to discover the best deals for their desired products through a unified web interface that consolidates multiple ecommerce platforms. This not only saves customers time, but also allows them to save money by easily comparing product costs across numerous ecommerce websites. The proposed system extracts relevant data from ecommerce web sites using web scraping techniques and gathers product connections using a web crawler.

➤ *Motivation:*

The goal of developing a price comparison website is to make purchasing easier for customers. Users may rapidly evaluate choices and select the most reasonable one by combining costs from numerous retailers. This not only saves time and effort, but also allows users to save money on their purchases.

➤ *Scope:*

The scope of a price comparison website spans across different product categories, including electronics, fashion, home appliances, and more. It strives to give pricing comparisons for a wide range of items in order to meet the different demands and tastes of consumers. Additionally, it may also include other features such as specifications and other details of that product.

➤ *Project Outline:*

The project outline section provides an overview of the key steps involved in developing a price comparison website. It includes tasks such as data collection from retailers, designing an intuitive user interface, and ensuring regular updates of price information. The ultimate goal is to create a user-friendly and reliable platform for comparison shopping

II. LITERATURE SURVEY

[1]- **S. Rajendar, K.Manikanta, M.Mahendar, AssistantProf. (Mrs.) K. Madhav**, proposed a research article on Price Comparison Website for Online Shopping. This was published by International Journal of Environmental Science and Technology (IJEST) in 2021. In this article, the authors used the following methodologies - Web Crawler, Web Scraper, Django. The system is concerned with a pricing comparison engine. The initial step is to collect a significant amount of data from various ecommerce websites.

[2]- **Madhusudhan, Venkatraman Patgar, Bharath S V, Nitin Gopalakrishna**, proposed a research article on E-COMMERCE PRODUCT PRICE TRACKER. This was published by Journal of Emerging Technologies and Innovative Research (JETIR) in 2021. In this article, the authors used the following methodologies - web crawler, dynamic pricing. Because this technology detects pricing discrepancies between websites, the majority of customers will select the service with the lowest price.

[3]- **Ladislav Beranek, Radium Remes**, proposed a research article E-commerce network with price comparator sites. This was published by IEEE Explore (2019). In this article, the authors used the following methodologies - web mining, web crawling. These relative pricing show the price in different shops, but also the assessment of the applicable shop made by guests.

III. SYSTEM STUDY AND ANALYSIS

➤ *Problem Statement:*

In today's digital landscape, consumers prioritize attractive discounts, making price a decisive factor in their purchasing choices. However, individually comparing prices across the multitude of online stores is a daunting task. Enter Price Comparison Websites (PCWs), bridging this gap by collaborating with retailers and offering a centralized platform for effortless price comparisons. For consumers, PCWs deliver unmatched convenience, significant savings, and well-informed decision-making. Shoppers can swiftly pinpoint the best deals, ultimately saving both time and money. Simultaneously, retailers enjoy enhanced visibility, targeted marketing opportunities, and invaluable data-driven insights, enabling them to stay competitive in the market. PCWs have revolutionized online shopping, making it seamless and mutually beneficial for both consumers and retailers.

➤ *Existing System:*

However, despite their advantages, Price Comparison Websites do have their limitations, often lacking a diverse range of features. It's worth noting that the process of logging in and storing data in a database can be complex in certain cases. Retrieving data from a database is another aspect that requires attention, as it involves its own set of intricacies and considerations.

➤ *Limitations of the Existing System:*

- **Legality and Terms of Service:** If you scrape content from websites, you can be in violation of their terms of service, which could result in legal problems. Some websites' terms and conditions expressly forbid scraping.
- **With the older existing system relying on web scraping modules for gathering product data, there are occasional challenges. The system encounters obstacles such as being blocked when repeatedly searching for product information. It's essential to note that while web scraping offers convenience, it's not without complexities and requires cautious management.**
- **Structure Changes:** Websites often undergo design modifications, requiring constant adjustments in web scraping techniques. offers a consistent data structure, eliminating the need for frequent adaptations.
- **The main limitation of this price comparison website is mainly focus on price and product details**

IV. PROPOSED SYSTEM

To locate comparable goods across several e-commerce platforms, the customer is asked to provide the desired product name. A simple interface is provided to allow for easy pricing comparison of various items. This envisioned project, a Price Comparison Web Application, adeptly collects and provides product pricing data from different websites to end users. web scraping methods and selenium web automation leveraging Python modules are used seamless data retrieval.

➤ *Advantages of Proposed System:*

- **Accurate and Timely Data:** By employing Selenium, the system can extract precise and real-time price information, enhancing users' shopping experience significantly.
- **Comprehensive Product Catalog:** Selenium's ability to extract detailed product data enables the system to create a comprehensive catalog. Users can explore a wide range of products, including their user ratings, and reviews, empowering them to make informed choices tailored to their preferences and requirements.
- **Web Scraping :** Web scraping involves the extraction of HTML data from various URLs for analysis and usage in non-public scenarios. In this system, Python's Selenium library is utilized for web automation. Selenium streamlines the scraping process by simulating user interactions on web pages. By employing Python alongside Selenium, product details from multiple e-commerce websites are extracted. This automation approach enhances the scraping efficiency, enabling the collection of data for analysis from diverse sources seamlessly.

➤ *Functional Requirements:*

The price comparison website should offer the following functionalities:

- Search and display product prices from multiple online retailers.
- Filter and sort search results based on user preferences.
- Present the top three most relevant results accordingly.

➤ *Non-Functional Requirements:*

- **Performance:** Fast response times and minimal downtime, even during peak usage.
- **User Interface:** Intuitive and user-friendly interface for easy navigation and interaction.

➤ *System Requirements:*

- A reliable internet connection is essential for efficient data retrieval.

➤ *Software Requirements:*

- **Programming Language:** Python version 3 or newer
- **Front End :** HTML, CSS
- **Libraries Utilized:** requests, bs4, scrapy, selenium, web driver
- **Technological Components:** Web, Scraping, Framework: Flask
- **System:** Windows 7 or a later version

➤ *Hardware Requirements:*

- **RAM:** At least 4GB
- **Processor Compatibility:** i3 and above
- **Hard Disk Space:** At least 2GB

V. SYSTEM DESIGN

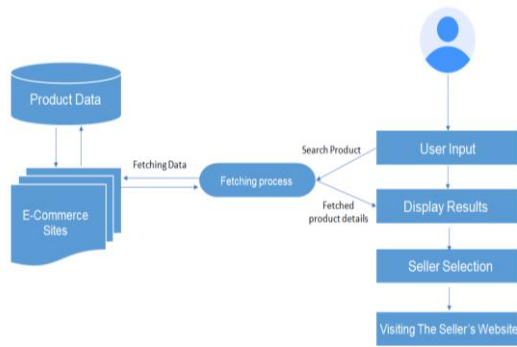


Fig-1 System Design

VI. RESULTS

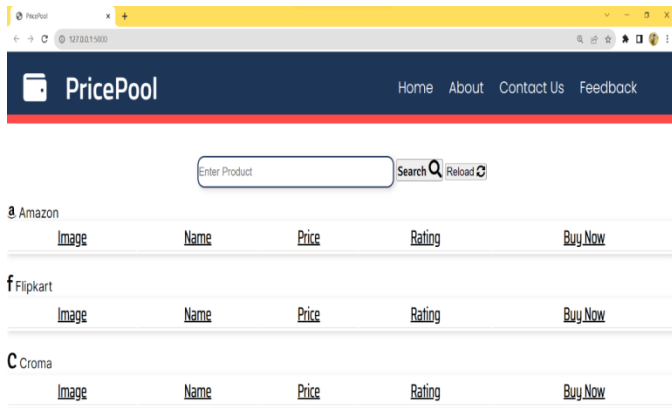


Fig-2 Home Page

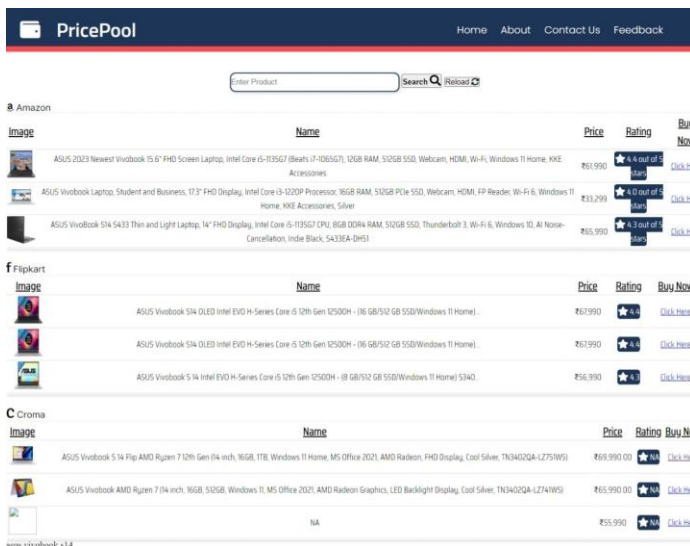


Fig-3 Search result

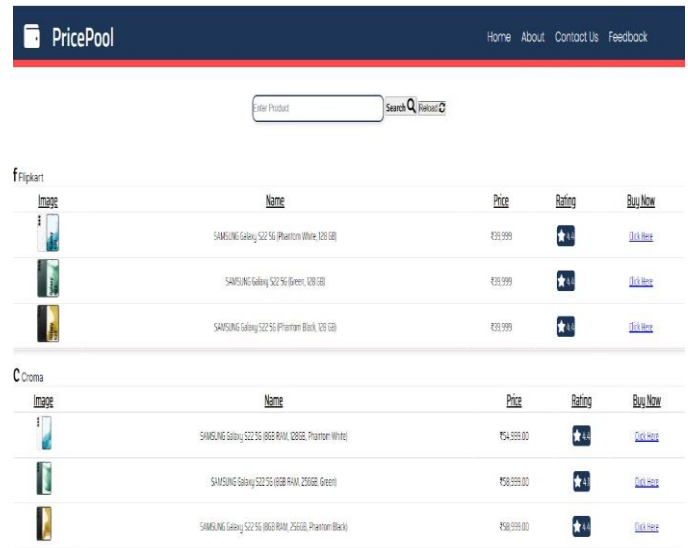


Fig-4 Search result

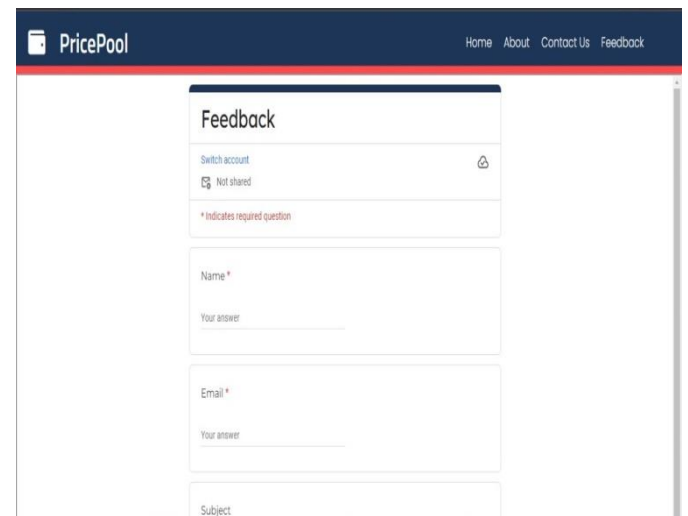


Fig-5 Feedback Page

VII. CONCLUSION

The website provides users with useful data that will help them make educated decisions. This price comparison site deals with the issue of people who work checking prices before making purchases. This website will allow users to compare prices on numerous e-commerce shopping websites in order to locate the best deal on a product. This will undoubtedly save buyers time and effort. Finally, this will bring collectively the best methods, offers, and deals from all major e-commerce companies, making it easier for users to purchase online. Price comparison websites have altered the way we shop by offering ease, savings, and better transparency. Customers should expect a more personalized and efficient online experience as these systems evolve.

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