

# Price Comparison Website for Online Shopping

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**Abstract-** Price comparison sites are designed to compare the price of goods and services from a range of providers, which will help consumers in making decision to choose products that will save their money through online. Considering the customers' busy lifestyle especially those who are living in the city area, most of the consumers prefer to buy their needs through the internet because it saves their time. Besides, consumers always go for the cheaper price in purchasing products therefore by using price comparison website, customers do not have to travel from shop to shop only to survey the price offered by different shops for the same product. They can just check it from the price comparison website itself and decide where they should buy the products they need. This project, named as Price4You is the place where shoppers could find the great deals on the products. The best deals will be clearly highlighted. To obtain best deals from Price comparison websites web crawlers 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.

**Keywords-** web scrapper, e-commerce, web crawler, Django, Price comparison

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) Python:

Python is a broadly useful deciphered, intelligent, object-situated, and significant level programming language. It gives special importance to code legibility and makes the computer specialist tasks easy by writing code in a small number of lines.

### 4) Django Web Framework:

Django is an elevated level Python Web structure that empowers fast improvement and spotless plan. Worked by experienced designers, it deals with a significant part of the problem of Web advancement, so you can concentrate on composing your application without expecting to waste time. It is free and open source.

Django's essential objective is to facilitate the making of complex, database-driven websites. Django underlines reusability and "pluggability" of parts, fast improvement, and the standard of do not rehash yourself. Python is utilized all through, in any event, for settings documents and information models.

## I. INTRODUCTION

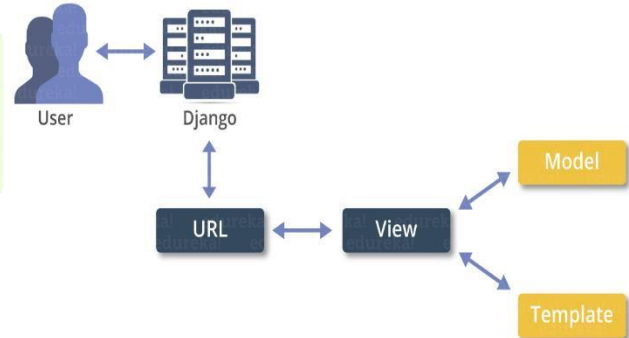
In the current era of online business, ecommerce has become a huge market for the people to buy goods online. Increasing use of smart devices and other mediums has paved the way for users to buy products almost from anywhere. This has increased involvement of online buyers evolving e-commerce business. These large numbers of ecommerce websites put users in turmoil to search and choose to buy a single product from multiple ecommerce websites. The proposed solution helps online users to grab best deal for their product from multiple ecommerce websites on single web interface. This will in turn save users time, money, and efforts to find the same product prices on different ecommerce websites. Proposed system uses web scraping technique to extract data from ecommerce web pages and web crawler to links for products. Additionally, this page contains the feature of price alert, which user can set, to get notified by the website whenever the suitable price comes up. This system uses the following technologies:

### 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 URLs are sent to scrapper for scrapping process.

### 2) Web Scrapper:

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



## II. SYSTEM ARCHITECTURE

Figure 1 describes system architecture and its detailed working procedure. 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 then displayed on website. 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 is price alert, which user can set, to get notified by the website whenever the suitable price comes up.

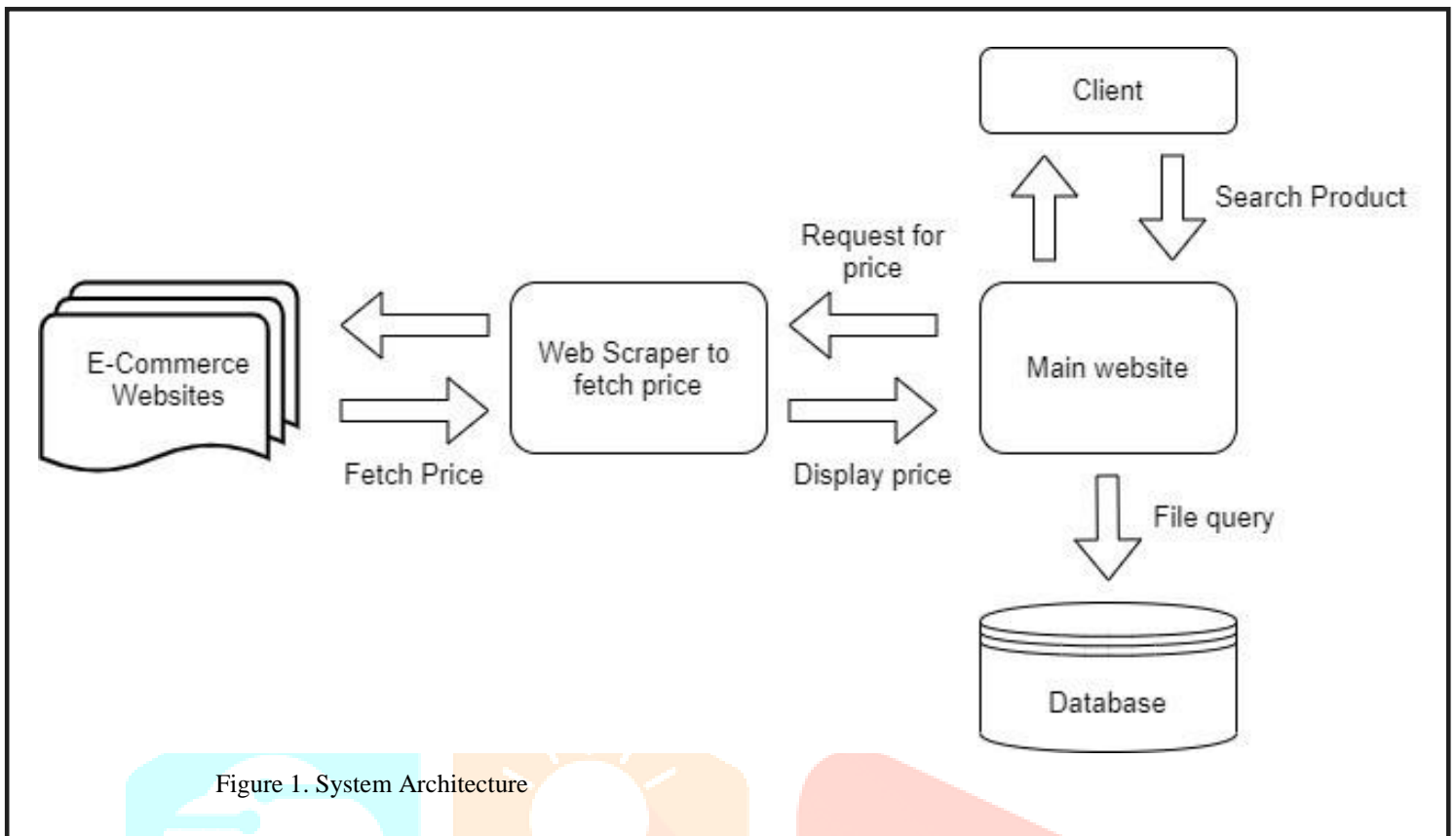


Figure 1. System Architecture

### III. IMPLEMENTATION

Working of the proposed system is as follows: The backend system consists of two important techniques web crawling and web scrapping. Web scrapping is a technique that is used to extract information in the human readable format and display it on destination terminal. But before scrapping the output, Web Crawlers are responsible to navigate to the destination once the crawler reaches the correct page and matches up with the products, scrapping process starts. Web scrapping essentially consists of two tasks: first is to load the desired web page and second is to parse HTML information of the page to locate intended information. In this system Scrapping is done using python as it provides rich set of libraries to address these tasks. "requests" is used to load the URLs and "Beautiful soup" library is used to parse the web page. After scrapping the products information from different e-commerce websites, the data is displayed on the website. The front end consists of Main website. The client searches for the required product in search bar and query is fired in local database i.e., sqlite3. The website is designed using Django web framework which is written in python. Required results are retrieved and displayed on Main website. The client can then compare prices of products that are available on e-commerce websites. A soon as client selects on best deal according to him, he will be redirected to the original e-commerce website. Another feature provided is price alert, which user can set, to get notified by the website whenever the suitable price comes up.

### IV. RESULT

Comparison of product prices from different ecommerce websites and result is displayed on single web interface. This website aims at providing the best possible deal to the users for the required product by comparing the product price and displaying the minimum price from various E-commerce websites such as Amazon, Flipkart and Croma, which are leading and some of the best websites to shop. 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. Thus, website serves as a time - saving tool for frequent online buyers as they can compare the prices at one - stop instead of searching for the same product on various websites. Following images show how product analysis and comparison of e-commerce sites is done.

### V. CONCLUSION

The website provides users with useful information that will help them making informed decision. With this price comparison website, it solves the problems of the working people to check on the price before buying products. 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. 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.

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-----searching in amazon-----
total results: 19
Description: Redmi 9 (Sky Blue, 4GB RAM, 64GB Storage)| 5000 mAh| 2.3GHz Mediatek Helio G35 Octa
core Processor
Price on amazon: ₹ 8799
Link: https://www.amazon.in/Redmi-Sky-Blue-64GB-Storage/dp/B08697N43N/ref=sr_1_1?dchild=1&keywords
=redmi+mobile&qid=1623942097&sr=8-1
Imaga URL: https://m.media-amazon.com/images/I/71A9Vo1BatL._AC_UY218_.jpg

-----searching in cromax-----
total results: 20
Description: Redmi 9 (64GB ROM, 4GB RAM, MZB07RMIN, Sky Blue)
Link: https://www.cromax.com/redmi-9-64gb-rom-4gb-ram-mzb07rmin-sky-blue-/p/228935
Price on cromax: ₹ 8999.0

-----searching in flipkart-----
total results: 31
Description: Redmi 9 (Sky Blue, 128 GB)
Price on flipkart: ₹ 10928
Link: https://www.flipkart.com/redmi-9-sky-blue-128-gb/p/itm4fb151383983b?pid=MOBFV5FPGQPG9CEZ&lid=LSTM0BFV5FPGQPG9CEZURGBPI&marketplace=FLIPKART&q
=redmi+mobile&store=tyy%2F4io&srno=s_1_1&otracker=search&otracker1=search&fm=organic&iid=aa8c94eb-dbaa-478d-ab46-ee19f2125aa0.MOBFV5FPGQPG9CEZ.SEAR
CH&ppt=None&ppn=None&ssid=rw2t7rude80000001623942120897&qH=32cc053b9c6a5ba2
PS C:\Users\Rajendhar Shamirpet\OneDrive\Desktop\Major Project\Group7-E-commerce-Price-Comparison-main\Project_Work\priccomparison>
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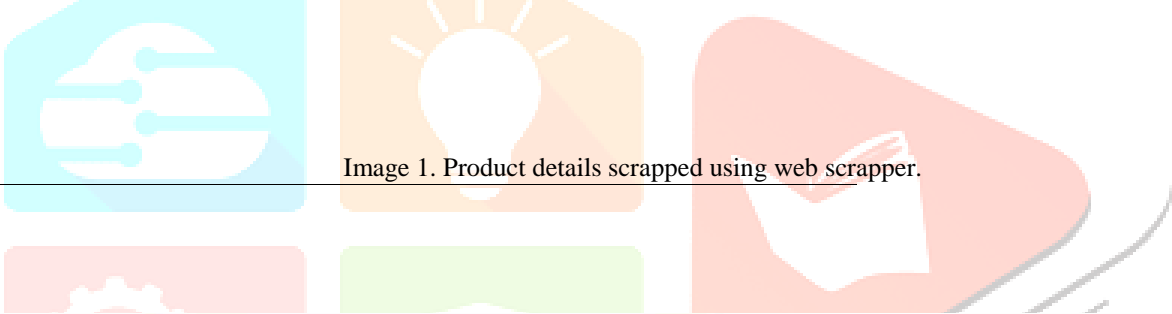


Image 1. Product details scrapped using web scrapper.

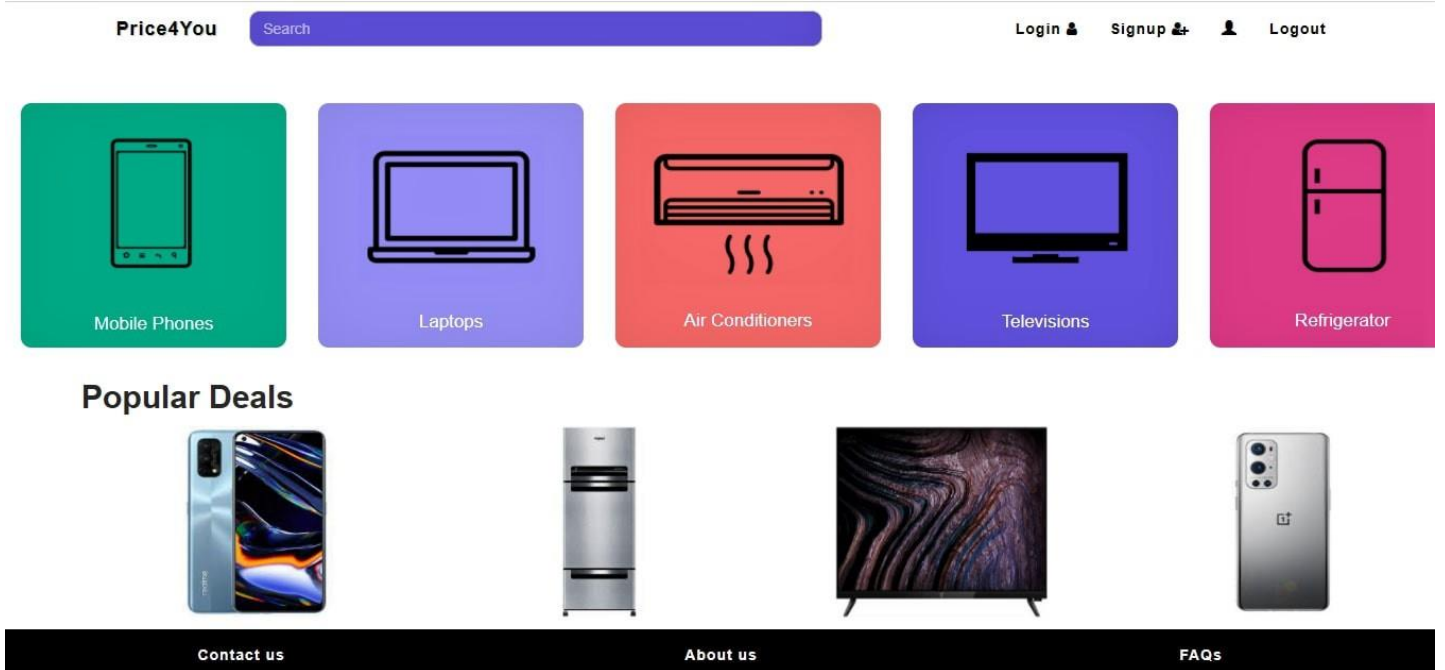


Image 2. Home page

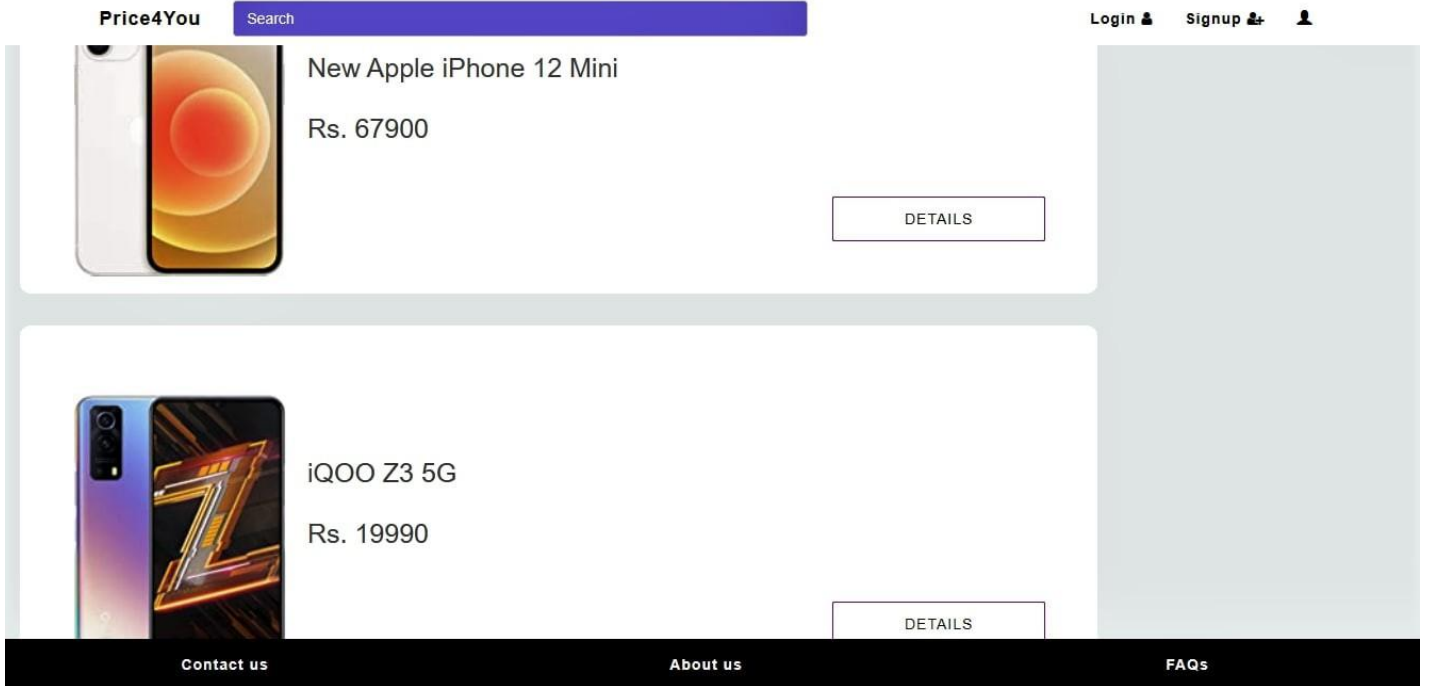


Image 3. Product List

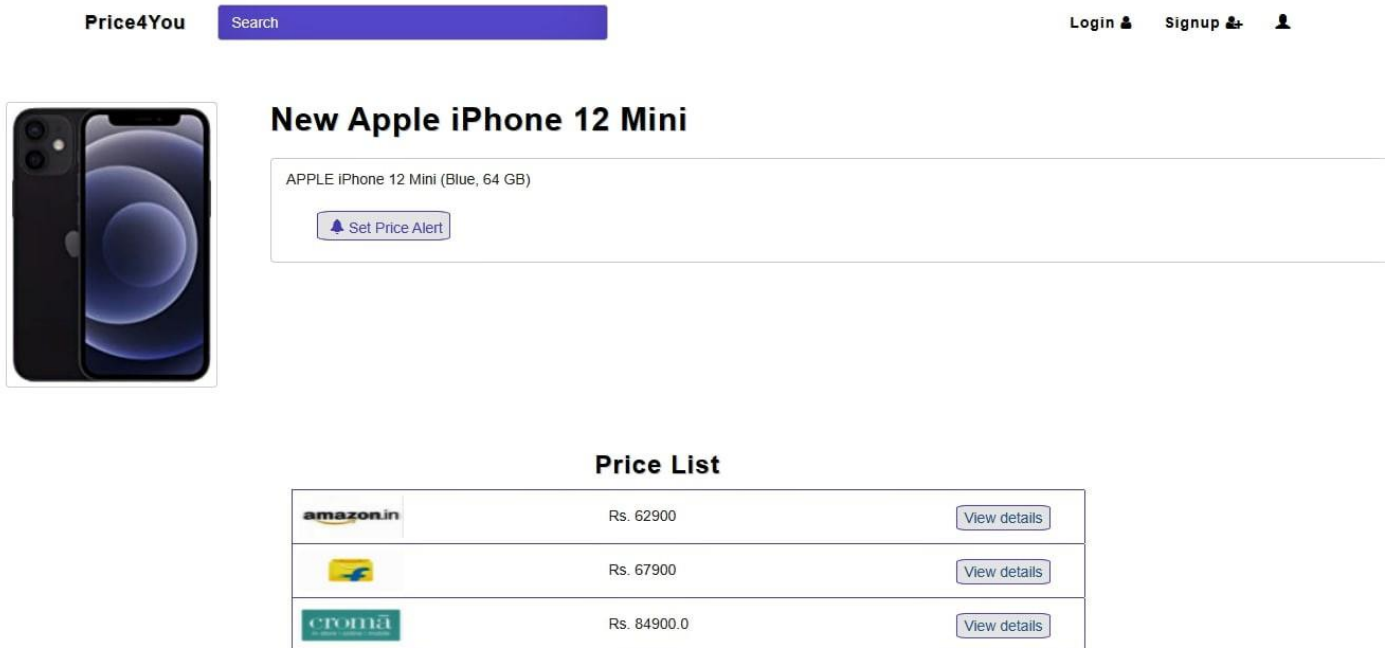


Image 4. User can compare prices of a product that are present on different e-commerce sites.

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