

# E commerce products comparison website (using web scrapping)

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**Abstract** - Online shoppers can select things that will save them money by using price comparison websites, which are made to compare the costs of goods and services from various suppliers. Because it saves them time, most customers choose to purchase their necessities online due to their busy lifestyles, especially those who live in urban areas. Additionally, as buyers are usually looking for the best deal when making purchases, shoppers can save having to visit many stores to compare prices for the same item by using price comparison websites. They can simply verify it on the price comparison website and determine where to get the necessary goods. Customers can discover the best prices on home grocery products via this effort, called Web Scrapping. The best offers will be prominently displayed. Although not all customers purchase online, it is one technique to assist customers in becoming more price aware. Customers have a right to know if the prices they are seeing in stores are indeed as excellent as advertised.

The system will then compute the total cost of each shopping center and provide the best results, allowing the customer to decide which is more worthwhile. Following that, customers can use the program to track their decision-making process and then visit the shopping center to make their purchase. In addition, the shopping application can assist the customer in comparing products by allowing them to view product details such as size, brand, and quantity. The software program may compute the vehicle's fuel and compare it to the shopping center's distance, allowing the user to make further decisions. Customers can use this shopping application to compare prices and determine which shopping centers are offering products at reduced prices. The consumer makes decisions based on product prices; they look for the goods with the best deal. Without requiring the user to search for it, the software will show the item with the lowest price in each shopping center.

**Key Words:** Price Comparison Website, Price Comparison Model, Web Scrapping, Price Comparison

## 1. INTRODUCTION

A price comparison website functions as a platform or mediator between the consumers and the sellers. Customers can view various price lists for the product they have selected, which enables them to make an informed decision on which to select in order to save money. Additionally, it serves as a tool to assist customers become more price conscious so they won't feel duped by advertisements from merchants who falsely claim to be delivering the best deal when, in fact, they are not. A Shopping application for decision assistance is a tool designed to assist customers in making decisions about what to buy for themselves (Heijden, 2005). It can assist the customer in selecting the less expensive product after doing a product comparison. It assists the customer in comparing the product's price, size, and brand at two or three shopping centers in the Kampar area to determine which product is more worthy of their attention. The application system then makes a decision for the customer after computing the total price of the product list. Customers can choose which product they wish to buy and two or three shopping centers from the application system.



Fig 1. System Architecture Design

## 2. LITERATURE WORK

PCs are becoming one of the most important online business intermediates for both retailers and online buyers as the quality of online searches continues to rise. Comparison websites typically compile product and price information required by various retailers, allowing online shoppers to select products and retailers to make informed purchasing decisions. It is acknowledged that these websites would significantly reduce the search price during online searching, which has encouraged some customers to begin their purchasing process by visiting a PCS like Nextag.com, PriceGrabber.com, or Bizrate.com.

1. Smith MD, Tang Z Researchers and practitioners have given PCSs a great lot of attention due to their ubiquitous use. Finding the simplest bourgeois quoting the lowest value for a certain product is typically the responsibility of a PCS. In light of this, a number of earlier studies have tackled the use of PCSs from social and economic perspectives.

2. Thompson S. and Haynes M. Accordingly, a number of research have indicated that a PCS's cheap search price will help prices for similar goods to converge.

3. Liao K, Ma Z, and Lee JJ-Y (2010) However, there is still value dispersion, and some research has indicated that a number of characteristics, like the goods class, diversity of sellers, and defects in the market, may also have an impact on how much of this value dispersion there is.

4. In line with Pedersen's letter, user behavior and industrial factors on PCSs that facilitate bottom-of-the-barrier accessibility have also been highlighted and thoroughly investigated. Numerous research have been conducted on PCSs' purchase-decision help.

5. According to Yuan-S, finding recommended products is inexpensive. He also designed an intelligent comparison-shopping agent that provides online shoppers with personalized product rankings created by applying reinforcement learning to product/merchant information and customer behavior/preferences.

6. A recommendation system that incorporates an integer-programming model and allows users to select the most straightforward product while accounting for cost savings through product bundling was created by Garfinkel et al. The rule-based comparison-shopping architecture that Lim et al. developed victimizes the protrusive To find the best bourgeois, Rule Mark-up Language design calculates the exact bespoke delivery price.

### 3. OBJECTIVE

1. To suggest a website that assists consumers in finding the best deal on a product.
2. To create and launch a website that allows users to compare prices of {many distinct types of assorted} products from several websites.
3. To examine and evaluate the website's performance and efficacy from the standpoint of the user.

### 4 .PROPOSED METHOD

The Rapid Application Development (RAD) approach is the most appropriate technique given the time

constraints to finish this project on schedule. In RAD, there is a set of management strategies that are speed-optimized and include.

- Prototyping - is a method that involves producing a tangible outcome as soon as feasible and making adjustments based on how the prototype functions, regardless of whether it yields the intended outcome or not.
- Iteration - is the process of developing anything incrementally through refinement.

- **Design Analysis**

This stage, which involved converting goals into specified functions and operating the proposed online system, was addressed during the FYPI. This phase also featured the website's layout designs, process diagrams, and other documentation.

- **Prototype Development**

There are three primary categories in this phase: build, demonstrate, and refine.

The construction of the system is the first of these three processes, which are completed in cycle order. The system is now being developed piece by piece. The HTML for the website was created first, following the chosen layout for its primary user interface. Subsequently, the HTML will be integrated with the PHP programming language and the MySQL database to house all the data, particularly that related to the products. The functioning of each finished component is subsequently tested through a demonstration. The information will be filtered based on the users' selected location, and it must be ordered by price, with the least expensive items at the top, so that the results match the expected results. The system will be improved and the building process will restart from the point where it was initially finished if any new requirements or features are found. These three procedures are repeated until the functionality is satisfied.

- **Testing Phase**

This Phase checks for error , bugs and functionality of the website. There are five types of testing which are :regression testing , internal testing, unit testing , application testing and stress testing.

- **Deployment Phase**

The system is prepared for deployment once all testing has been carried out and verified. Web Scrapping has gotten good feedback and will probably be used in the near future. Being the last stage of system development, it is anticipated that the system will operate exactly as designed.

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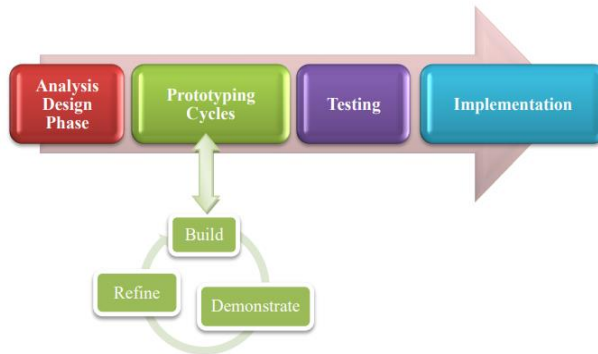


Fig 2 : Rapid Application Development Cycle

## 5. COMPARISON WEBSITE

Price comparison websites will get information straight from retailers. Retailers who are required to list their products on the website then submit their own lists of products and prices, which are compared to the initial data. Fuzzy logic, information extraction, and human labor can all be used to accomplish this.

Searching the web for prices is an additional strategy. This suggests that rather than waiting for the stores to provide the prices, the comparison service searches retail websites for them. 'Scraping' information is another common term for this approach. Some freelance websites, which are often smaller in size, exclusively employ this technique to get fees straight from the websites they are comparing.

Crowdsourcing is yet another method of information gathering. Because of this, the worth comparison engine can gather information from almost any source without having to deal with the difficulties of developing a crawler or adding knowledge feeds at the penalty of less comprehensive coverage. Websites that employ this technique have faith in the wisdom of guests who contribute to the review process. Value comparison websites that employ this methodology combine knowledge with related inputs and add it to the maximum amount of information through cooperative filtering, artificial intelligence, or human labor, in contrast to discussion forums that also gather traveler feedback. Contributors of knowledge are also compensated for their trouble with awards, money, or other forms of societal incentives.

## 6. WORKING

Since it's a type of service, we will analyze the value of the product across multiple retailers. These websites for

worth comparison occasionally function similarly to search engines. We'll browse through particular classes or conduct a product name search. Further sophisticated websites that compare worth will use particular criteria. The worth comparison website allows you to enter certain criteria or a name and see store names and prices wherever the product is sold. Remember that practically all worth comparison websites display the offers of the retailers who have joined them by sharing their inventory. It costs money to have a store included on these worth comparison websites. After the data is obtained from websites like Amazon and Flipkart, it is filtered to remove unnecessary information and leave just relevant information.

The website is powered by API integration and data scraping from other domains. Thanks to the ability to obtain current, relevant information about goods and services directly from retailers, this is both legal and normal. The system will produce all the data for your database by sending calls to an online API. Naturally, there are known issues when trying to enter data into a single database from several separate websites. However, there are typically guidelines for data types so that each segment has almost the same fields and characteristics.

Information about the products and their prices will be updated immediately. With this approach, we build a crawler, also known as a spider, that goes to pre-specified websites and extracts any relevant information, such as product features, prices, contact details, etc. After that, the database automatically stores this data. It is employed when we require data from websites that do not offer affiliate marketing in order to expand our database and make comparisons with other websites.

## 7. BUSINESS MODEL

Users of price comparison websites typically don't pay anything to use the positioning. On the other hand, {they square measure they're} gets paid by retailers who are listed on the positioning. Retailers either pay a flat fee to be included on the positioning, pay a fee when a user clicks through to the merchandiser information processing system, or pay when a user completes a similar action—for instance, after they purchase an item or register with their email address—depending on the actual business model of the comparison searching website. Large product information feeds covering a wide range of shops are provided to comparison search sites by affiliate networks such as Commission Junction and LinkShare.

Certain companies specialize in consolidating knowledge feeds to compare values, and they charge users for access to this information. When products from these feeds are shown on their websites and a customer clicks through to the merchant's website to make a purchase, the merchant

gets paid. The amount of payments collected from the merchants listed on the website is another factor used to filter search results. Numerous websites that compare values. Some websites compare the prices of services like insurance, credit cards, phone bills, and cash transfers in addition to the prices of tangible goods.

## 8. Conclusion

The method is inexpensive and requires less time, and it has been carefully designed to ensure that there are no errors.

This project's goal was to create a website that allows users to compare the costs of various items. Through this project, we were able to learn useful and applicable knowledge on a variety of subjects, including the use of responsive templates and HTML and CSS for web page design and styling. We gained knowledge about the software development life cycle and the event phase of the project thanks to this project. We gained knowledge on how to test various project features. Our particular delight from this project comes from creating a website that can help save time and money. Our project has a tremendous deal of room for further development. Offering classes to consumers was a feature we wanted to develop and execute so that various offers could be made to various classes. The system may maintain a record of every customer's transactions and offer different recommendations based on the user's past purchases.

## 9. FUTURE SCOPE

Global e-commerce trade is expanding quickly, and it is expected to continue rising at a rapid pace for years to come. An increasing number of people are now looking to online stores as a feasible option for making their purchases. Furthermore, it's abundantly evident that the quantity of e-commerce websites {also square measure} growing daily, and that the prices and deals provided by each of them are entirely distinct. Taking into account that consumers are highly sensitive to value, value is an extremely important factor. Additionally, given the sheer diversity and quantity of e-commerce websites available, customers do require a platform that allows them to evaluate product prices across all websites and choose the most affordable option with appropriate customer support. Therefore, I believe that value comparison websites have a bright future ahead of them.

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