

# SHOPBOT FOR ELECTRONIC GADGETS

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**Abstract :** Shopping patterns of the customers around the world are evolving due to the fact that world is moving towards digitization. People prefer shopping online to grab best deals on different e-commerce websites. When it comes to electronic gadgets, customers prefer comparing prices of gadgets available on various websites before buying. Shopping robot which is termed as a Shopbot in short, is an intelligent software agent that automatically search a large number of online websites for a specific product. Shopbots assists the customers to make a comparison shopping by displaying the features of a product along with the prices on a single page offered by different vendors.

**IndexTerms - Shopbot,intelligent software agent, e-commerce, price.**

## I. INTRODUCTION

Over the past few years it has been observed that a large number of people are giving priority to on-line shopping over the traditional shopping. Customers who use internet and wants to buy electronic gadgets online search for best quality gadget at the lowest possible price. Different brands sport different features and specifications which makes it difficult to make a simple price comparison. Due to this it becomes confusing for the customer to make the right buying decision. Very often, all products are not available on all the e-commerce sites requiring multiple searches not only to different e-commerce sites but even to the same one. At some point in time, we all get tired, give up and order something only to find that our purchase is not suited to our budget and needs. This is where comparison shopping comes in. It allows buyers to view different features of different products simultaneously in a user friendly format which assists in decision making and also makes the entire shopping experience easy and pleasurable.

## II. PROPOSED METHODOLOGY

In the age of internet there are many e-commerce websites available for shopping. We have developed a web application where customer will get the prices of the electronic gadget from various e-commerce sites. This web application has a user friendly GUI where the customer can easily access the products on the basis of category of the electronic gadget like smartphone, laptop, refrigerator and television. We have used web scraper-chrome extension for scraping the data of gadgets from e-commerce website. For scrapping the data of a particular gadget, we have created sitemap for every gadget. This scrapped data is further stored into the XAMPP Maria DB database. Finally we have displayed prices of gadgets from websites like Amazon.in, Flipkart.com and TataCliq.com fetched from the stored database.

### A. Web Scarper

Web scraping is defined as a technique of extracting HTML data from the URLs and then using this data for personal purposes. After fetching the URLs, the actual task is to get the information that is abstracted within the URL. For example the mentioned URL contains information such as the name of the product, the price and the other related information on the link. This information is to be extracted for the purpose of comparison of prices and features. On the basis of the tags, the scrapper scrapes the information on this page. In this way the information can be extracted that are abstracted within the URLs. The extracted information is then stored in the database in the unstructured format.

### B. System Architecture

Figure 1 describes system architecture design and its detailed working procedure. The front end of the system provides a graphical user interface (GUI) in the form of a website where customers can interact with the system whereas the backend consists of web scraping techniques in order to extract product information from different e-commerce websites. The extracted information of e-commerce products is stored in Maria DB database. Customer requests for a desired product from main website and query is fired in local database. Product information is displayed on the webpage. Client can check prices of required product at one place that are actually fetched from different e-commerce sites.

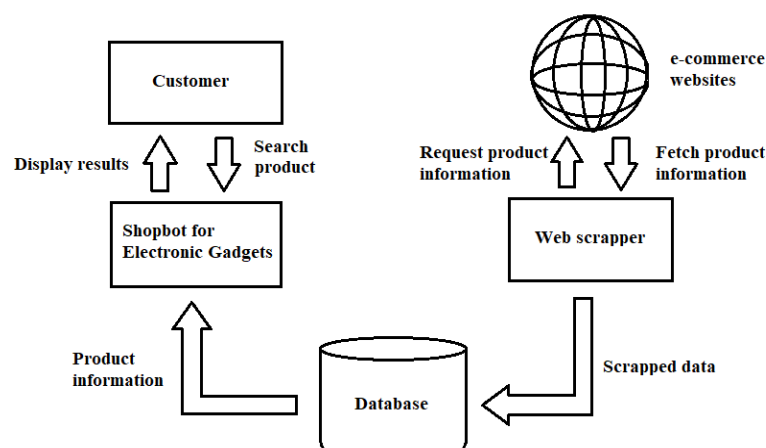


Fig. 1 System Design

### III. RESULTS

We are comparing prices of electronic gadget from three e-commerce websites i.e. Amazon.in, Flipkart.com and TataCliq.com. The web scrapper fetches the prices from these e-commerce websites. Example, the below Figure 2 shows the scrapped data of various products.

	A	C	E	G	H	I	J	K	L	M
1	web-scra-pper-order	paginat	items	fprice	aprice	tprice	screen	processor	memory	hdd
2	1584537354-287		Acer Nitro 5 AN515-42 (UN.Q3RSI.001) G	₹46,490	null	null	15.6 inch	AMD Ryze 8	8 GB Mem	1 TB HDD
3	1584537796-420		Acer Swift 3 SF315-51G (UN.GSJSI.001) L	null	null	null	15.6 inch	Intel Core 8	8 GB Mem	1 TB HDD
4	1584537448-316	Last	Acer Aspire 3 A315-21 (NX.GNVSI.035) L	null	₹20,890	null	15.6 inch	AMD Dual 4	4 GB Mem	1 TB HDD
5	1584537585-350		Acer Aspire 5 A515-52G (NX.H5LSI.001) L	null	₹60,299	null	15.6 inch	Intel Core 8	8 GB Mem	1 TB HDD
6	1584537411-306		Acer One 14 Z476 (UN.431SI.043) Laptop	null	₹24,000	null	14 inch Sci	Intel Core 4	4 GB Mem	1 TB HDD
7	1584537289-266		Acer Gateway NE46Rs1 (UN.Y52SI.004) N	null	null	null	14 inch Sci	Intel Pent 2	2 GB Mem	320 GB HD
8	1584537627-365		Acer Nitro 5 AN515-52 Laptop	null	₹89,800	null	15.6 inch	Intel Core 8	8 GB Mem	1 TB HDD
9	1584537518-330	Last	Acer Nitro 5 AN515-43 (UN.Q5XSI.001) G	₹44,990	null	null	15.6 inch	AMD Ryze 8	8 GB Mem	1 TB HDD
10	1584537799-421		Acer Aspire A515-51G (UN.GWJSI.006) L	null	null	null	15.6 inch	Intel Core 8	8 GB Mem	1 TB HDD
11	1584537726-397		Acer ES1-572 (UN.GKQSI.003) Notebook	null	₹26,999	null	15.6 inch	Intel Core 4	4 GB Mem	500 GB HD
12	1584537616-361		Acer Nitro 5 AN515-54 (NH.Q5BSI.002) G	₹84,990	null	null	null	null	null	null
13	1584537525-332	Last	Acer SF313-51 (NX.H3YSI.002) Laptop	₹45,990	null	null	13.3 inch	Intel Core 4	4 GB Mem	256 GB SS
14	1584537583-349		Acer Swift 3 SF313-51 (NX.H3YSI.005) Lay	₹59,990	null	null	13.3 inch	Intel Core 8	8 GB Mem	256 GB SS
15	1584537777-414		Acer Aspire 5 (NX.GWJSI.003) Laptop	null	null	null	15.6 inch	Intel Core 4	4 GB Mem	1 TB HDD
16	1584537291-267		Acer Aspire 3 (NX.GNTSI.003) Laptop	₹16,490	null	null	null	null	null	null
17	1584537600-355		Acer Nitro AN517-51-53JG (NH.Q5ESI.00	₹69,990	null	null	null	null	null	null
18	1584537392-300		Acer Swift 3 (SF315-41) UN.GV7SI.001 La	₹39,990	null	null	15.6 inch	AMD Ryze 8	8 GB Mem	1 TB HDD
19	1584537368-292		Acer Aspire E5-576 (UN.GRSSI.005) Laptc	null	₹29,700	null	15.6 inch	Intel Core 4	4 GB Mem	1 TB HDD
20	1584537340-283		Acer Switch SW512-52 Laptop	null	₹79,990	null	12 inch Sci	Intel Core 8	8 GB Mem	256 GB SS
21	1584537501-324	Last	Acer Aspire 3 A315-53 (NX.H38SI.002) La	null	₹28,990	null	15.6 inch	Intel Core 4	4 GB Mem	1 TB HDD
22	1584537822-429		Acer Nitro 5 Spin (NP-515-51) Laptop	null	₹69,490	null	15.6 inch	Intel Core 8	8 GB Mem	1 TB HDD
23	1584537540-336	Last	Acer Nitro 5 AN515-54 (NH.Q5ASI.006) G	₹49,990	null	null	15.6 inch	Intel Core 8	8 GB Mem	1 TB HDD
24	1584537762-409		Acer Aspire E5-575 (NX.GE6SI.016) Note	null	₹39,016	null	15.6 inch	Intel Core 4	4 GB Mem	1 TB HDD
25	1584537829-431		Acer Swift 3 SF314-51 (NX.GKKS1.002) La	null	₹71,990	₹71,292	14 inch Sci	Intel Core 8	8 GB Mem	256 GB SS

Fig. 2 Scrapped Data

Then the scrapped data is stored in XAMPP Maria DB database. Once we have all the product information including prices from different e-commerce websites, we can compare the products. The below Figure 3 shows the products displayed after applying the required filters by the customer. Each product details and prices from three websites are displayed on the webpage which assists the customer to make correct buying decision.

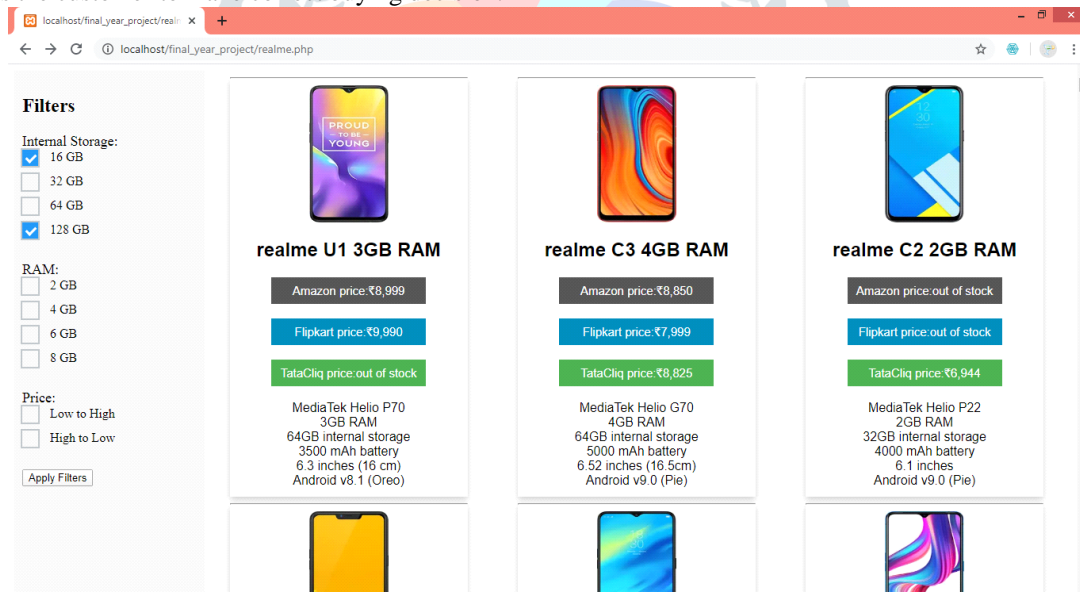


Fig. 3 Product page after applying filters

### IV. CONCLUSION

Shopbot for electronic gadgets is a price comparison web application that aims to provide a platform for buyers to compare price of a particular product on different e-commerce websites. This way, the buyer has more power in his/her hands and can take better decision in searching the electronic gadget on the basis of various features and then comparing their prices. Thus this will save buyers efforts, time and money. Hence buyer can also avoid visiting each and every e-commerce website.

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