

**A  
Minor Project-I Report  
On**

**“PRICE COMPARATOR FOR ONLINE  
SHOPPING”**

**Submitted in partial fulfillment of  
The requirements for the 5<sup>th</sup> Semester Sessional  
Examination of**

**BACHELOR OF TECHNOLOGY  
*IN*  
COMPUTER SCIENCE & ENGINEERING**

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**GIET UNIVERSITY, GUNUPUR  
2022 – 23**



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## Department of Computer Science & Engineering

### **CERTIFICATE**

*This is to certify that the project work entitled **PRICE COMPARATOR FOR ONLINE SHOPPING** is done by Name- **DEBASIS RATH, SUBHAM KUMAR PADHY, SD. HASNAIN ALLI**, Regd.No.-20UG010324, 20UG010339, 20UG01LE25 in partial fulfillment of the requirements for the 5<sup>th</sup> Semester Sessional Examination of Bachelor of Technology in **Computer Science and Engineering** during the academic year 2022-23. This work is submitted to the department as a part of evaluation of 5<sup>th</sup> Semester Minor Project-I.*

*Project Supervisor*

*Class Teacher*

*Project Coordinator, 3rd Year*

*HoD, CSE, 3rd Year*

## **ACKNOWLEDGEMENT**

I would like to thank my supervisor MR. MURALI KR. SENAPATY for his supporting in the development of our project.

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Thanks to friends who suggested me to do this project.

## **Name of Students**

DEBASIS RATH  
SUBHAM KUMAR PADHY  
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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 save their time. Besides, consumers always go for the cheaper price in purchasing products therefore by using price comparison website, customers don't 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 is the place where shoppers could find the great deals on the home groceries products. The best deals will be clearly highlighted. Even though not all consumers are buying online, but it is one of the ways to help consumers increase their price awareness. Consumers have the right to know whether the price they are seeing in the shops are good deals as it is claimed or not. Thus it is an advantage for the consumers who are always aware about the current price of a certain product so that they are not cheated by the big words advertised by the shops. The website also beneficial to the sellers/retailers as they will be able to advertise their products and promote their shops at the same time. Unlike the giant supermarkets that have their own website, most of the owners of small groceries shop do not have the skills to get their own website or blog to promote their business online. Thus, with this website, the chances are open for the interested groceries shop owners to advertise their products in the website. They just need to provide the price information regularly and the admin of the website will do the rest.

## **INTRODUCTION:-**

A price comparison website acts as a platform or medium between the consumers and the sellers. It allows consumers to see different lists of prices for the product chosen by user and it helps consumers to make an informed decision about which to choose in order to save money. It also act as a tool to help consumers increase their price consciousness so that they will not feel cheated by the advertisement from the retailers that claimed they are offering the cheapest price but the reality happened to be otherwise.

Unlike other comparison sites this project will focus on providing list of prices of products and others. Due to vast increase of people who are online, This will be a great help for those who are stuck with loads of work in the office and don't have much time to check on the current price of different products. According to research of Social, Digital and Mobile in Malaysia made by We Are Social, the internet penetration for Malaysia is 59% and the average hour's Malaysian netizens spend using the internet every week is 19.8 hours. Meanwhile 21% of Malaysian internet users access the web via mobile devices which means they have internet accessibility anywhere with their smart phones. 77% of Malaysian web users have shared their thoughts on a brand via social media during this research was made in the year 2011. The research shows that how Malaysian people are attached to the internet.

## **PURPOSE:-**

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.

## **SCOPE:-**

The objective of this project is to develop a price comparison website that will have the following functions:

- ❖ To provide customers with a list of price comparison and highlight the cheapest price specifically in home groceries products.
- ❖ To increase price consciousness among consumers.
- ❖ To ensure that the price database is updated regularly so that customers will be able to get accurate results.
- ❖ To provide service for users to find the product's price.
- ❖ To provide platform for retailers to promote their products and promotion for free.

## **FEATURES:-**

- ❖ This Project can be used to compare variety of things form different e commerce website.
- ❖ Have simple and easy steps.
- ❖ Clean and minimalistic User Interface.
- ❖ Once can track the price of selected product using this project.



## **SYSTEM ANALYSIS:-**

### **HARDWARE REQUIREMENTS:-**

**Processor:** Intel Core i3 or higher

**RAM:** 2 GB or higher

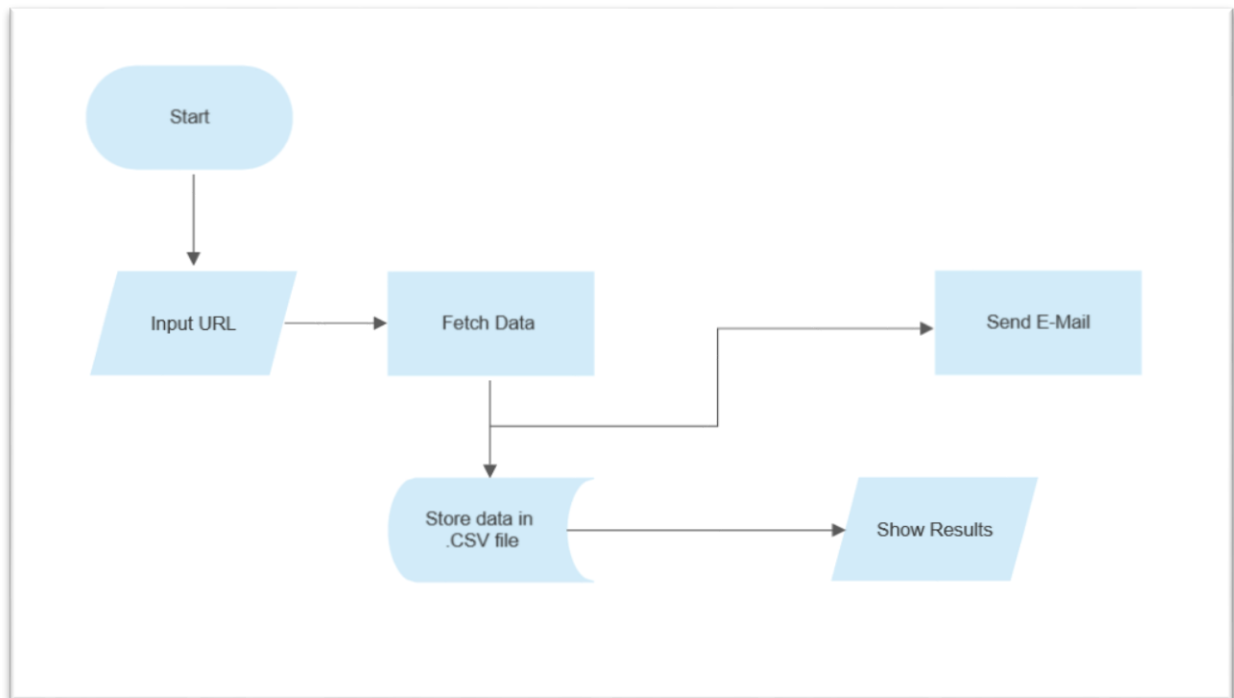
**Graphic card:** Intel® UHD Graphics

### **SOFTWARE REQUIREMENTS:-**

**Operating System:** Windows-7 or any higher version

**Software Required:** Google, Mozilla Firefox, Python IDLE

## **SYSTEM FLOWCHAT:-**



## **SOURCE CODE:-**

### **Editor Code:**

```
import tkinter as tk
from tkinter.filedialog import askopenfilename, asksaveasfilename
import sys
import os
from tkinter import *
import os.path

def open_file():
    """Open a file for editing."""
    filepath = askopenfilename(
        filetypes=[("Text Files", "*.txt"), ("All Files", "*.*)"]
    )
    if not filepath:
        return
    txt_edit.delete(1.0, tk.END)
    with open(filepath, "r") as input_file:
        text = input_file.read()
        txt_edit.insert(tk.END, text)
    window.title(f"Text Editor Application - {filepath}")

def save_file():
    """Save the current file as a new file."""
    filepath = asksaveasfilename(
        defaultextension="txt",
        filetypes=[("Text Files", "*.txt"), ("All Files", "*.*)"],
    )
    if not filepath:
        return
    with open(filepath, "w") as output_file:
        text = txt_edit.get(1.0, tk.END)
        output_file.write(text)
    window.title(f"Text Editor Application - {filepath}")

def run():
    os.system('project.py')

window = tk.Tk()
window.title("Text Editor Application")
window.rowconfigure(0, minsize=800, weight=1)
window.columnconfigure(1, minsize=800, weight=1)

txt_edit = tk.Text(window)
fr_buttons = tk.Frame(window, relief=tk.RAISED, bd=2)
btn_open = tk.Button(fr_buttons, text="Open", command=open_file)
btn_save = tk.Button(fr_buttons, text="Save As...", command=save_file)
```

```
btn_open.grid(row=0, column=0, sticky="ew", padx=5, pady=5)
btn_save.grid(row=1, column=0, sticky="ew", padx=5)
```

```
fr_buttons.grid(row=0, column=0, sticky="ns")
txt_edit.grid(row=0, column=1, sticky="nsew")
```

```
btn = Button(window, text="Run", fg="black", command=run)
btn.grid(column=0, row=0, sticky="ew", padx=5, pady=5)
```

```
window.mainloop()
```

### **Amazon Code:**

```
from bs4 import BeautifulSoup
import requests

def main(URL):
    File = open("out.csv", "a")

    HEADERS = ({'User-Agent': 'Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:105.0) Gecko/20100101 Firefox/105.0', 'Accept-Language': 'en-US, en;q=0.5'})

    webpage = requests.get(URL, headers=HEADERS)
    soup = BeautifulSoup(webpage.content, "lxml")

    # title
    try:
        title = soup.find("span", attrs={"id": 'productTitle'})
        title_value = title.string
        title_string = title_value.strip().replace(',', '')

    except AttributeError:
        title_string = "NA"

    print("product Title = ", title_string)
    File.write(f'{title_string},')

    # price
    try:
        price = soup.find("span", attrs={'class': 'a-offscreen'}).string.strip().replace(',', '')
    except AttributeError:
        price = "NA"

    print("Products price = ", price)
    File.write(f'{price.replace('₹', 'Rs.')} ,')

    # rating
    try:
        rating = soup.find("i", attrs={'class': 'a-icon a-icon-star a-star-4-5'}).string.strip().replace(',', '')
    except AttributeError:
        try:
            rating = soup.find("span", attrs={'class': 'a-icon-alt'}).string.strip().replace(',', '')
        except:
            rating = "NA"

    print("Overall rating = ", rating)
    File.write(f'{rating},')
```

```

    try:
        review_count = soup.find("span", attrs={'id':
'acrCustomerReviewText'}).string.strip().replace(',', ' ')

    except AttributeError:
        review_count = "NA"

    print("Total reviews = ", review_count)
    File.write(f"{review_count},")

# availability
    try:
        available = soup.find("div", attrs={'id': 'availability'})
        available = available.find("span").string.strip().replace(',', ' ')

    except AttributeError:
        available = "NA"

    print("Availability = ", available)
    File.write(f"{available},\n")

    print("\n-----\n")

    File.close()

if __name__ == '__main__':
    file = open("url.txt", "r")

    for links in file.readlines():
        main(links)

```

## **Flipkart Code:**

```
from bs4 import BeautifulSoup
import requests
```

```
def main(URL):
```

```
    File = open("out.csv", "a")
```

```
    HEADERS = ({'User-Agent':'Mozilla/5.0 (Windows NT 10.0; Win64; x64)
AppleWebKit/537.36 (KHTML, like Gecko) Chrome/105.0.0.0 Safari/537.36','Accept-
Language': 'en-US, en;q=0.5'})
```

```
    webpage = requests.get(URL, headers=HEADERS)
```

```
    soup = BeautifulSoup(webpage.content, "lxml")
```

```
# title
```

```
    try:
```

```
        title = soup.find("span",attrs={"class": 'B_NuCI'})
```

```
        title = str(title)
```

```
        title = title.replace('<span class="B_NuCI">', '')
```

```
        title = title.replace('</span>', '')
```

```
        title = title.replace('<!-- -->', '')
```

```
        title_string = title
```

```
    except AttributeError:
```

```
        title_string = "NA"
```

```
    print("product Title = ", title_string)
```

```
    File.write(f"{title_string},")
```

```
# price
```

```
    try:
```

```
        price = soup.find("div", attrs={'class': '_30jeq3
_16Jk6d'}).string.strip().replace(',', '')
```

```
    except AttributeError:
```

```
        price = "NA"
```

```
    print("Products price = ", price)
```

```
    File.write(f"{price.replace('₹', 'Rs.')},")
```

```
# rating
```

```
    try:
```

```
        rating = soup.find("div", attrs={'class': '_2d4LTz'}).string.strip().replace(',', '')
```

```
    except AttributeError:
```

```
        try:
```

```
            rating = soup.find("span", attrs={'class': 'a-icon-
alt'}).string.strip().replace(',', '')
```

```
        except:
```

```
            rating = "NA"
```

```
    print("Overall rating = ", rating)
```

```

File.write(f"{rating},")

''' review
    try:
        review_count = soup.find('div',class_="col-12-12", 'span') #soup.find("span",
attrs={'id': 'acrCustomerReviewText'}).string.strip().replace(',', ' ')

    except AttributeError:
        review_count = "NA"

    print("Total reviews = ", review_count)
    File.write(f"{review_count},")

# availablility
    try:
        available = soup.find("div", attrs={'id': 'availability'})
        available = available.find("span").string.strip().replace(',', ' ')

    except AttributeError:
        available = "NA"

    print("Availability = ", available)
    File.write(f"{available},\n")'''

print("\n-----\n")
File.close()

if __name__ == '__main__':
    file = open("url.txt", "r")

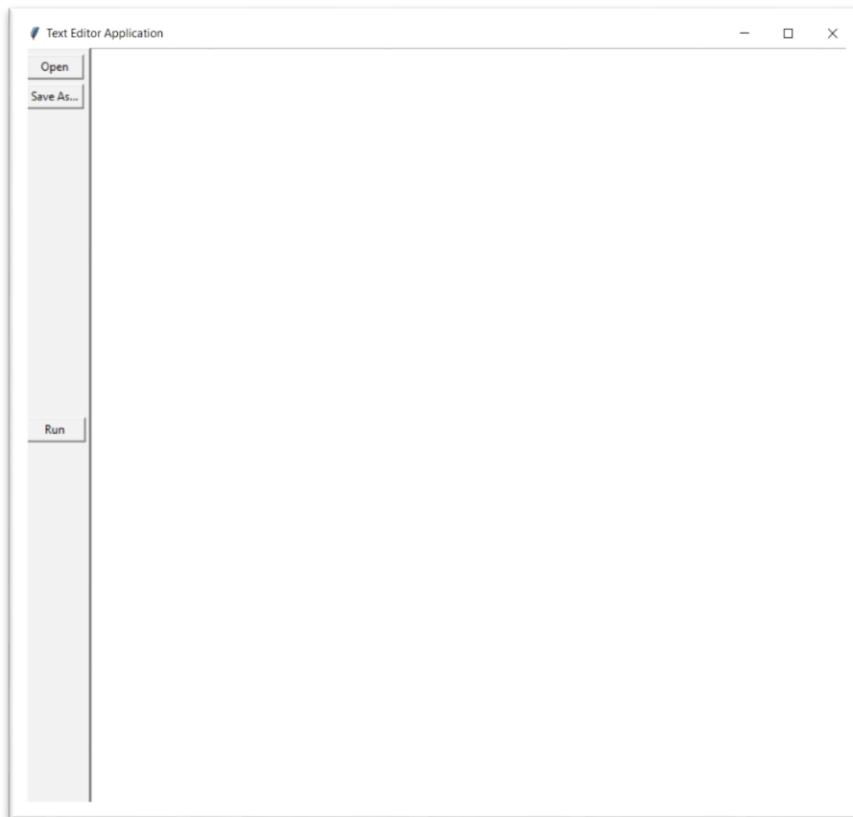
    for links in file.readlines():
        main(links)

```



# SCREENSHOT:-

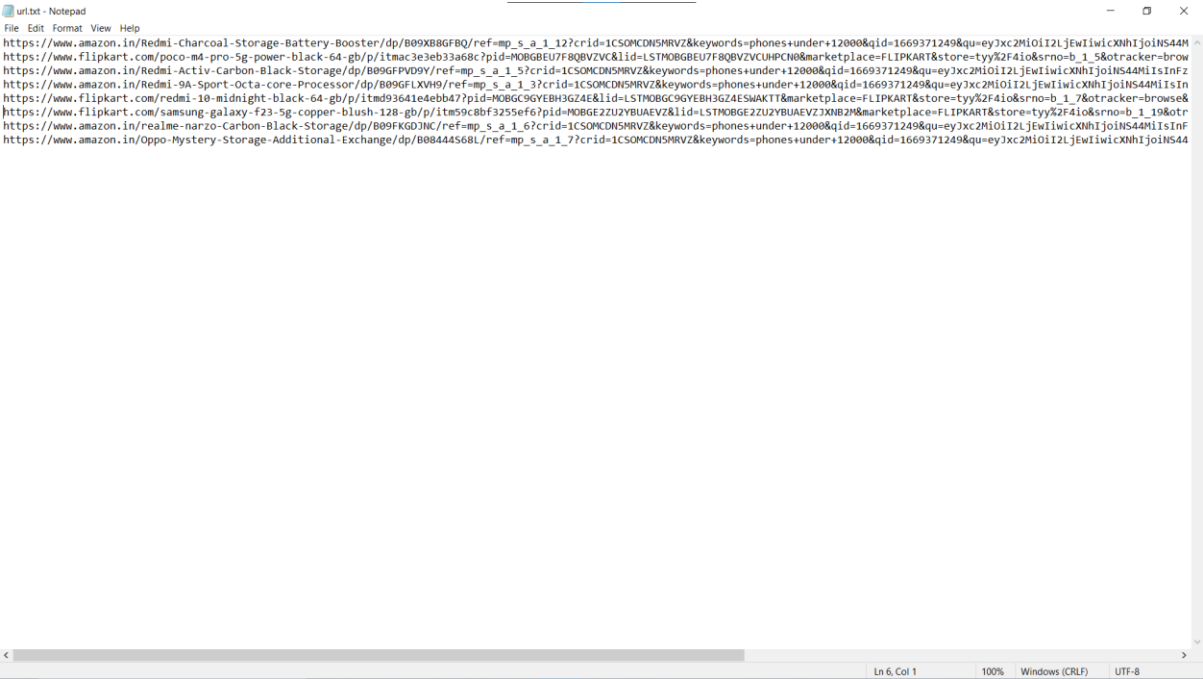
## URL Editor Window



## Comparison Window



# Input File



# Output File

G23							
	A	B	C	D	E	F	G
1	Redmi 10A (Charcoal Black 4GB RAM 64GB Storage)   2 Ghz Octa Core Helio G25   5000 mAh Battery   Finger Print Sensor   Upto 5GB RAM with RAM Booster	Rs.8999.00	3.9 out of 5 stars	9900 ratings	NA		
2	Redmi 9 Activ (Carbon Black 4GB RAM 64GB Storage)   Octa-core Helio G35   5000 mAh Battery	Rs.7999.00	4.2 out of 5 stars	306713 ratings	In stock		
3	Redmi 9A Sport (Coral Green 2GB RAM 32GB Storage)   2GHz Octa-core Helio G25 Processor   5000 mAh Battery	Rs.6999.00	4.2 out of 5 stars	306713 ratings	In stock		
4	realme narzo 50i (Carbon Black 2GB RAM+32GB Storage) Octa Core Processor   6.5" Inch Large Display	Rs.7499.00	4.0 out of 5 stars	28545 ratings	NA		
5	OPPO A31 (Mystery Black 6GB RAM 128GB Storage) with No Cost EMI/Additional Exchange Offers	Rs.11990.00	4.2 out of 5 stars	57775 ratings	NA		
6	Redmi 10A (Charcoal Black 4GB RAM 64GB Storage)   2 Ghz Octa Core Helio G25   5000 mAh Battery   Finger Print Sensor   Upto 5GB RAM with RAM Booster	Rs.8999.00	3.9 out of 5 stars	9900 ratings	In stock		
7	Redmi 9 Activ (Carbon Black 4GB RAM 64GB Storage)   Octa-core Helio G35   5000 mAh Battery	Rs.7999.00	4.2 out of 5 stars	306713 ratings	In stock		
8	Redmi 9A Sport (Coral Green 2GB RAM 32GB Storage)   2GHz Octa-core Helio G25 Processor   5000 mAh Battery	Rs.6999.00	4.2 out of 5 stars	306713 ratings	NA		
9	realme narzo 50i (Carbon Black 2GB RAM+32GB Storage) Octa Core Processor   6.5" Inch Large Display	Rs.7499.00	4.0 out of 5 stars	28545 ratings	In stock		
10	OPPO A31 (Mystery Black 6GB RAM 128GB Storage) with No Cost EMI/Additional Exchange Offers	Rs.11990.00	4.2 out of 5 stars	57775 ratings	In stock		
11	Redmi 10A (Charcoal Black 4GB RAM 64GB Storage)   2 Ghz Octa Core Helio G25   5000 mAh Battery   Finger Print Sensor   Upto 5GB RAM with RAM Booster	Rs.8999.00	3.9 out of 5 stars	9900 ratings	In stock		
12	Redmi 9 Activ (Carbon Black 4GB RAM 64GB Storage)   Octa-core Helio G35   5000 mAh Battery	Rs.7999.00	4.2 out of 5 stars	306712 ratings	In stock		
13	Redmi 9A Sport (Coral Green 2GB RAM 32GB Storage)   2GHz Octa-core Helio G25 Processor   5000 mAh Battery	Rs.6999.00	4.2 out of 5 stars	306712 ratings	In stock		
14	realme narzo 50i (Carbon Black 2GB RAM+32GB Storage) Octa Core Processor   6.5" Inch Large Display	Rs.7499.00	4.0 out of 5 stars	28545 ratings	NA		
15	OPPO A31 (Mystery Black 6GB RAM 128GB Storage) with No Cost EMI/Additional Exchange Offers	Rs.11990.00	4.2 out of 5 stars	57775 ratings	In stock		
16	Redmi 10A (Charcoal Black 4GB RAM 64GB Storage)   2 Ghz Octa Core Helio G25   5000 mAh Battery   Finger Print Sensor   Upto 5GB RAM with RAM Booster	Rs.8999.00	3.9 out of 5 stars	10879 ratings	In stock		
17	Redmi 9 Activ (Carbon Black 4GB RAM 64GB Storage)   Octa-core Helio G35   5000 mAh Battery	Rs.8499.00	4.2 out of 5 stars	309282 ratings	In stock		
18	Redmi 9A Sport (Coral Green 2GB RAM 32GB Storage)   2GHz Octa-core Helio G25 Processor   5000 mAh Battery	Rs.7499.00	4.2 out of 5 stars	309282 ratings	In stock		
19	realme narzo 50i (Carbon Black 2GB RAM+32GB Storage) Octa Core Processor   6.5" Inch Large Display	Rs.5999.00	4.0 out of 5 stars	29401 ratings	In stock		
20	OPPO A31 (Mystery Black 6GB RAM 128GB Storage) with No Cost EMI/Additional Exchange Offers	Rs.11990.00	4.2 out of 5 stars	58038 ratings	In stock		
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## **LIMITATION:-**

Our project has the following limitations:

1. Visual effect of product during manually purchasing the product is different from viewing the product in your device
2. This application requires active internet connection
3. User need to put correct data or else it behaves abnormally

## **CONCLUSION:-**

This document comprises all details related to the project. The abstract, background and objectives can be considered as the overview of the project meanwhile the methodology part explains in details what is the suitable method chosen for this project to be completed. It is also important to get reference from the previous research paper that is related to the project. The literature review shows the research that has been done previously by other researchers. It is very important to get more knowledge in this topic in order to develop a successful and well functional price comparison website. More research needs to be done in order to get the desired results because different site uses its own formula to determine how, when and from where it gathers prices.

Therefore, it is very important to get the correct way to retrieve the desired data according to what the user wants. In order to differentiate PriceWar.com with other comparison sites in Malaysia, this website will focus on the home groceries products to help people make informed decision before making purchase. 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 groceries products. It provides platform for sellers to promote new products and advertise any promotion or sales going on.

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