A

Major Project report

BEST CALCULATED PRICE

submitted to the Jawaharlal Nehru Technological University Hyderabad in

Partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology
in

Computer Science and Engineering

Submitted By

SHAIK SABIHA NAZREEN	**(17R91A05D9)**
RAMYA NADUKUDA	**(17R91A05D2)**
PRASHANTH TUMMALA	**(17R91A05E5)**
HARSHITHRAJ UPPULA	**(17R91A05E6)**

Under the Esteemed Guidance

Of

A. SRINIVASA REDDY

Asst.Professor

Department of Computer Science and Engineering

TEEGALA KRISHNA REDDY ENGINEERING COLLEGE

(Affiliated to JNTUH, Hyderabad, Approved by AICTE, Accredited by NBA & NAAC with 'A' Grade)

Medbowli, Meerpet, Saroornagar, Hyderabad– 500097.

2017-2021

ACKNOWLEDGEMENT

The satisfaction and euphoria that accompanies the successful completion of any task would be incomplete without the mention of the people who made it possible and whose encouragement and guidance have crowned our efforts with success.

We extend my deep sense of gratitude to Principal Dr.K.VENKATA MURALI MOHAN, Teegala Krishna Reddy Engineering College, Meerpet, for permitting us to undertake this project.

We indebted to Dr.Ch.V.PHANI KRISHNA, Professor and Head of the Department, Computer Science and Engineering, Teegala Krishna Reddy Engineering College, Meerpet, for his support and guidance throughout our project.

We indebted to our guide, A.SRINIVASA REDDY, Asst.Professor, Department of Computer Science, Teegala Krishna Reddy Engineering College, Meerpet, for his constant support and guidance throughout our project.

We indebted to the project coordinators,Mr.PV.RAMA GOPAL RAO Asst.Professor,Computer Science Engineering, Teegala Krishna Reddy Engineering College, Meerpet for their support and guidance throughout our project.

Finally, we express thanks to one and all who have helped us in successfully completing this project report. Furthermore, we would like thank my family and friends for their moral support and encouragement.

By

SHAIK SABIHA NAZREEN (17R91A05D9)

RAMYA NADUKUDA (17R91A05D2)

PRASHANTH TUMMALA (17R91A05E5)

HARSHITH RAJ UPPULA (17R91A05E6)

CONTENTS

LIST OF FIGURES

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, named as BEST CALCULATED PRICE is the place where customer could find best product at best price. 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. Thus, with this website, searching time is decreased and it saves money.

INTRODUCTION

1.INTRODUCTION

1.1 MOTIVATION

When we want buy a product through online**,** first we will visit a website and search for a product and see the feature ,price etc. Inorder to compare the price of product among different website it takes lot of time. To avoid this problem we developed a website "BEST CALCULATED PRICE". One of the advantage is the obvious one of saving time in getting the best possible price for products one means to buy.

1.2 PROBLEM DEFINITION

Compared to other countries, in Malaysia there is only few price comparison website that is accessible until now. Most of them is comparing price for hotel's rate, holiday's package, mobile phone and others.

It is important for a web comparison website to return results with the low prices as what the customers want but accurate results also important so that customers can get what they really want. It also depends on how regular the database is being updated otherwise customers will be confused when they compared it from other site.

Most of the working people do not have time to compare the price of product for long time. However, to check on price offered by each website is time consuming and due to limited time that they have, they are not able to compare the prices and end up buying certain product with higher price.

So, to overcome this problem we developed a project i.e,"BEST CALCULATED PRICE",it is used to compare the price of product among selected websites and it displays best reasonable price .

Our goal is to reduce searching time of online shopping and to give best product at best price.

1.3 OBJECTIVE OF PROJECT

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

To provide best product at best reasonable price.

- To meet the current trending technologies integrated chat bot is provided.
- The proposed system is flexible.
- Faster information retrieval.
- Customers can save money.
- Time efficient and convenient

LITERATURE SURVEY

2.LITERATURE SURVEY

2.1 INTRODUCTION

As online shopping increases in popularity, PCSs have become one of the most important Web-based business intermediaries for both merchants and online shoppers.

Typically, comparison sites gather information on products and their prices and enable online shoppers to select products and website. It is well known that such Web sites can dramatically reduce the search cost during online shopping, which has led many online shoppers to begin their purchasing procedure by visiting a PCS such as Nextag.com, PriceGrabber.com, or Bizrate.com.

2.1.1 PURPOSE OF THE LITERATURE SURVEY

- Identifies gaps in current knowledge.
- Helps you to avoid reinventing the wheel by discovering the research already conducted on a topic.
- Sets the background on what has been explored on a topic so far.
- Increases your breadth of knowledge in your area of research.
- Helps you identify seminal works in your area.
- Allows you to provide the intellectual context for your work and position your research with other, related research.
- Provides you with opposing viewpoints.
- Helps you to discover research methods which may be applicable to your work.

2.2 EXISTING SYSTEM

In this era of online shopping when more and more buyers are going online to make purchases, price comparison sites have really proved their worth.

Studies show that more and more buyers use price comparison websites to compare the prices and features before making the purchase. Existing systems allows you to shop across sellers, easily compare products and prices and help us to

choose the best products .They have also provided categories to make your search easy.

2.3 LIMITATIONS OF EXISTING SYSTEM

- Less user interaction
- Do not meet current trending technologies.

2.4PROPOSED SYSTEM

The BEST CALCULATED PRICES is applied for comparing the price among all the available websites and displaying the best reasonable price for the specified item which are available both online .

This project mainly focuses on giving the best product @ best price. The ultimate goal is to reduce the searching time of online shopping and integrated virtual chat bot for best user experience and high interactivity.

2.5 MERITS OF PROPOSED SYSTEM

- Faster information Retrieval.
- To meet the current trending technologies integrated chat bot is provided.
- The proposed system is flexible enough.
- You can save money, Convenient and time-efficient and Wide variety and choice

2.6 FEASIBILITY STUDY

Feasibility study is an analysis of the viability idea. The studies provide thorough analysis of the system. The outcome of the feasibility studies will indicate whether can proceed or not to develop the system.

Technical Feasibility

A large part of determining resources has to do with assessing technical feasibility. It considers the technical requirements of the proposed project.The technical requirements are then compared to the technical capability of organisation.The systems project is considered technically feasible if the internal technical capability is sufficient to support the project requirements.

The tools that will use for this system are:

- Python as the main development platform.

- MySQL as database platform
- Another language such as CSS and JavaScript,HTML,Bootstrap.

Operational Feasibility

Operational feasibility is dependent on human resources available for the project and involves projecting whether the system will be used if it is developed and implemented.

Operational feasibility is a measure of how well a proposed system solves the problems,and takes advantage of the opportunities identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of system development.

Economic Feasibility:

To decide whether a project is economically feasible, we have to consider various factors as:

- Cost benefit analysis
- Long-term returns
- Maintenance costs

A system can be developed technically and that will be used if installed must still be a good investment for the organization. In the economical feasibility, the development cost in creating the system is evaluated against the ultimate benefit derived from the new systems. Financial benefits must equal or exceed the costs. The system is economically feasible.

SOFTWARE DEVELOPMENT LIFE CYCLE

3. SOFTWARE DEVELOPMENT LIFE CYCLE

Software Development Life Cycle (SDLC) is a process used by the software industry to design, develop and test high quality software. The SDLC aims to produce a high-quality software that meets or exceeds customer expectations, reaches completion within times and cost estimates.

- SDLC is the acronym of Software Development Life Cycle.
- It is also called as Software Development Process.
- SDLC is a framework defining tasks performed at each step in the software development process.
- ISO/IEC 12207 is an international standard for software life-cycle processes. It aims to be the standard that defines all the tasks required for developing and maintaining software.

Fig. 3.0: Software Development Life Cycle

SDLC is a process followed for a software project, within a software organization. It consists of a detailed plan describing how to develop, maintain, replace and alter or enhance specific software. The life cycle defines a methodology for improving the quality of software and the overall development process.

The following figure is a graphical representation of the various stages of a typical SDLC.

A typical Software Development Life Cycle consists of the following stages:

Stage 1: Planning and Requirement Analysis

Requirement analysis is the most important and fundamental stage in SDLC. It is performed by the senior members of the team with inputs from the customer, the sales department, market surveys and domain experts in the industry. This information is then used to plan the basic project approach and to conduct product feasibility study in the economical, operational and technical areas.

Planning for the quality assurance requirements and identification of the risks associated with the project is also done in the planning stage. The outcome of the technical feasibility study is to define the various technical approaches that can be followed to implement the project successfully with minimum risks.

Stage 2: Defining Requirements

Once the requirement analysis is done the next step is to clearly define and document the product requirements and get them approved from the customer or the market analysts. This is done through an SRS (Software Requirement Specification) document which consists of all the product requirements to be designed and developed during the project life cycle.

Stage 3: Designing the Product Architecture

SRS is the reference for product architects to come out with the best architecture for the product to be developed. Based on the requirements specified in SRS, usually more than one design approach for the product architecture is proposed and documented in a DDS - Design Document Specification.

This DDS is reviewed by all the important stakeholders and based on various parameters as risk assessment, product robustness, design modularity, budget and time constraints, the best design approach is selected for the product.

A design approach clearly defines all the architectural modules of the product along with its communication and data flow representation with the external and

third party modules (if any). The internal design of all the modules of the proposed architecture should be clearly defined with the minutest of the details in DDS.

Stage 4: Building or Developing the Product

In this stage of SDLC the actual development starts and the product is built. The programming
code is generated as per DDS during this stage. If the design is performed in a detailed and organized manner, code generation can be accomplished without much hassle.

Developers must follow the coding guidelines defined by their organization and programming tools like compilers, interpreters, debuggers, etc. are used to generate the code. Different high-level programming languages such as C, C++, Pascal, Java and PHP are used for coding. The programming language is chosen with respect to the type of software being developed.

Stage 5: Testing the Product

This stage is usually a subset of all the stages as in the modern SDLC models, the testing activities are mostly involved in all the stages of SDLC. However, this stage refers to the testing only stage of the product where product defects are reported, tracked, fixed and retested, until the product reaches the quality standards defined in the SRS.

Stage 6: Deployment in the Market and Maintenance

Once the product is tested and ready to be deployed it is released formally in the appropriate market. Sometimes product deployment happens in stages as per the business strategy of that organization. The product may first be released in a limited segment and tested in the real business environment (UAT- User acceptance testing).

Then based on the feedback, the product may be released as it is or with suggested enhancements in the targeting market segment. After the product is released in the market, its maintenance is done for the existing customer base.

SDLC Models

There are various software development life cycle models defined and designed which are followed during the software development process. These models are also referred as Software Development Process Models". Each process model follows a Series of steps unique to its type to ensure success in the process of software development.

Following are the most important and popular SDLC models followed in the industry:

- Waterfall Model
- Iterative Model
- Spiral Model
- V-Model
- Big Bang Model

Other related methodologies are Agile Model, RAD Model, Rapid Application Development and Prototyping Models.

3.1 SOFTWARE PROCESS MODEL

A software process model is a simplified representation of a software process. Each model represents a process from a specific perspective.These generic models are abstractions of the process that can be used to explain different approaches to the software development. They can be adapted and extended to create more specific processes.

3.1.1 Waterfall Model

Description:

The Waterfall Model is a linear sequential flow in which progress is seen as flowing steadily downwards (like a waterfall) through the phases of software

implementation. This means that any phase in the development process begins only if the previous phase is complete.

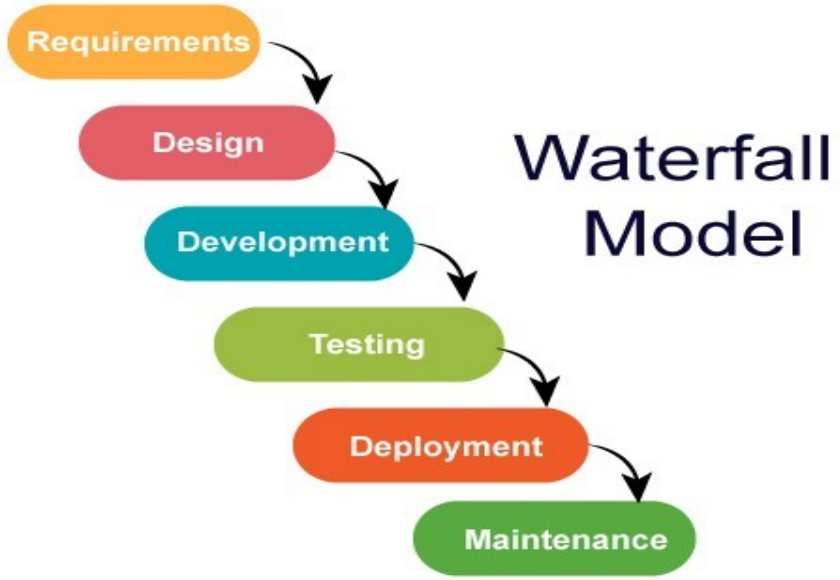


Fig. 3.1.1: Waterfall Model

The waterfall approach is the earliest approach and most widely known that was used for software development.

- Easy to explain to the users.
- Structures approach.
- Stages and activities are well defined.
- Helps to plan and schedule the project.
- Verification at each stage ensures early detection of errors/misunderstanding.
- Each phase has specific deliverables.

Requirements: This project requires the python language and flask frame work.

Design: This Project makes use of the HTML,CSS,JS for the designing purpose.

Execution: This project can be executed with the help of FLASK Frame Work.

Testing: This project had successfully overcome all the testing scenarios. Release: This project can be deployed into the cloud for better understanding of corporate actions.

SYSTEM ANALYSIS

4. SYSTEM ANALYSIS

4.1 REQUIREMENTS

Requirements analysis is done in order to understand the problem the software system is to solve. The problem could be automating an existing manual process, developing a new automated system, or a combination of the two. For large systems that have many features, and that need to perform many different tasks, understanding the requirements of the system is a major task. The emphasis in requirements analysis is on identifying what is needed from the system, not how the system will achieve its goals. This task is complicated by the fact that there are often at least two parties involved in software development-a client and a developer. The developer usually does not understand the client's problem domain and the client does not understand the issues involved in the system software systems developed by the developers. Hence causes a communication gap between them.

4.2 FUNCTIONAL REQUIREMENTS

Functional Requirements are the functions that define the system. Functional Requirements are captured in use cases. Functional Requirements of the system for those requirements which are expressed in the natural language style.Functional Requirements are those which represent what are the project functions about. Some of the functional requirements are as follows:

- Build accurate, and complete data from conflicting data retrieved from multiple sources.
- For every search robot looks for new data available for relevant corporate action.

Corporate Actions: Jarvis will scrap the corporate actions from different available sources and displays.

Graphical Analysis: User can have different perspectives of the Graphical Analysis for understanding the impact of corporate actions with stock market and the graphical data can be downloaded.

Upcoming Corporate Actions: Jarvis will scrap the upcoming corporate actions from different available sources and displays.

Download: The scraped data is available for downloading.

4.3 NON-FUNCTIONAL REQUIREMENTS

- Security
- Performance
- Accuracy
- efficiency
- User interface

4.4 SOFTWARE REQUIREMENTS

- Operating System: Windows 10
- Frontend : HTML,CSS, Java Script , Boot Strap
- Backend : Python 3.7.4
- Web Server : Glass Fish Server 4.0/TOMCAT
- Database : MySQL

4.5 HARDWARE REQUIREMENTS

- Processor : Intel Based Systems.
- Hard Disk : 500 GB.
- RAM : 4 GB.

4.6 SAMPLE CODE

```
from bs4 import BeautifulSoup
import requests
import time
headers = {'User-Agent': 'Mozilla/5.0 (Windows NT 10.0; Win64; x64)
AppleWebKit/537.36 (KHTML, like Gecko) Chrome/58.0.3029.110 Safari/537.3'}
flipkart=''
ebay=''
croma=''
amazon=''
olx=''
def flipkart(name):
    try:
        global flipkart
        name1 = name.replace(" ","+")   #iphone x  -> iphone+x

flipkart=f'https://www.flipkart.com/search?q={name1}&otracker=search&otracker1=
search&marketplace=FLIPKART&as-show=off&as=off'
        res =
requests.get(f'https://www.flipkart.com/search?q={name1}&otracker=search&otracke
r1=search&marketplace=FLIPKART&as-show=off&as=off',headers=headers)

        print("\nSearching in flipkart....")
        soup = BeautifulSoup(res.text,'html.parser')
```

```
        flipkart_name = soup.select('._3wU53n')[0].getText().strip()
        flipkart_name = soup.select('._4rR01T')[0].getText().strip()  ### New Class For
Product Name
        flipkart_name = flipkart_name.upper()
        if name.upper() in flipkart_name:
            flipkart_price = soup.select('._2rQ-NK')[0].getText().strip()
            flipkart_name = soup.select('._3wU53n')[0].getText().strip()
            flipkart_price = soup.select('._1_WHN1')[0].getText().strip()  ### New Class
For Product Price
            flipkart_name = soup.select('._4rR01T')[0].getText().strip()
            print("Flipkart:")
            print(flipkart_name)
            print(flipkart_price)
            print("-----------------------")
        else:
            print("Flipkart:No product found!")
            print("-----------------------")
            flipkart_price='0'
        return flipkart_price
    except:
        print("Flipkart:No product found!")
        print("-----------------------")
        flipkart_price= '0'
    return flipkart_price
def ebay(name):
    try:
        global ebay
        name1 = name.replace(" ","+")

ebay=f'https://www.ebay.com/sch/i.html?_from=R40&_trksid=m570.l1313&_nkw={
name1}&_sacat=0'
        res =
requests.get(f'https://www.ebay.com/sch/i.html?_from=R40&_trksid=m570.l1313&_
nkw={name1}&_sacat=0',headers=headers)
        print("\nSearching in ebay.....")
        soup = BeautifulSoup(res.text,'html.parser')
        length = soup.select('.s-item__price')
        ebay_page_length=int(len(length))
        for i in range (0,ebay_page_length):
            info = soup.select('.SECONDARY_INFO')[i].getText().strip()
            info = info.upper()
            if info=='BRAND NEW':
                ebay_name = soup.select('.s-item__title')[i].getText().strip()
                name=name.upper()
                ebay_name=ebay_name.upper()
                if name in ebay_name[:25]:
                    ebay_price = soup.select('.s-item__price')[i].getText().strip()
                    ebay_name = soup.select('.s-item__title')[i].getText().strip()
                    print("Ebay:")
                    print(ebay_name)
```

```
                print(ebay_price.replace("INR","₹"))
                ebay_price = ebay_price.replace("INR","₹")
                print(ebay_price)
                print(info)
                print("----------------------")
                ebay_price=ebay_price[0:14]
                break
            else:
                i+=1
                i=int(i)
                if i==ebay_page_length:
                    print("Ebay: No product Found!")
                    print("----------------------")
                    ebay_price = '0'
                    break
        return ebay_price
    except:
        print("Ebay: No product Found!")
        print("----------------------")
        ebay_price = '0'
    return ebay_price
def croma(name):
        try:
        global croma
        name1 = name.replace(" ","+")
        croma=f'https://www.croma.com/search/?text={name1}'
        res =
requests.get(f'https://www.croma.com/search/?text={name1}',headers=headers)
        print("\nSearching in croma.....")
        soup = BeautifulSoup(res.text,'html.parser')
        croma_name = soup.select('h3')
        croma_page_length = int( len(croma_name))
        for i in range (0,croma_page_length):
            name = name.upper()
            croma_name = soup.select('h3')[i].getText().strip().upper()
            if name in croma_name.upper()[:25]:
                croma_name = soup.select('h3')[i].getText().strip().upper()
                croma_price = soup.select('.pdpPrice')[i].getText().strip()
                print(croma_name)
                print(croma_price)
                print("----------------------")
                break
            else:
                i+=1
                i=int(i)
                if i==croma_page_length:
                    print("Croma: No product Found!")
                    print("----------------------")
                    croma_price = '0'
                    break
```

```
        ##print(croma_price)
        return croma_price
    except:
        print("Croma: No product Found!")
        print("----------------------")
        croma_price = '0'
    return croma_price
def amazon(name):
    try:
        global amazon
        name1 = name.replace(" ","-")
        name2 = name.replace(" ","+")
        amazon=f'https://www.amazon.in/{name1}/s?k={name2}'
              res =
requests.get(f'https://www.amazon.in/{name1}/s?k={name2}',headers=headers)
        print("\nSearching in amazon:")
        soup = BeautifulSoup(res.text,'html.parser')
        amazon_page = soup.select('.a-color-base.a-text-normal')
        amazon_page_length = int(len(amazon_page))
        for i in range(0,amazon_page_length):
            name = name.upper()
            amazon_name = soup.select('.a-color-base.a-text-
normal')[i].getText().strip().upper()
            if name in amazon_name[0:20]:
                amazon_name = soup.select('.a-color-base.a-text-
normal')[i].getText().strip().upper()
                amazon_price = soup.select('.a-price-whole')[i].getText().strip().upper()
                print("Amazon:")
                print(amazon_name)
                print("₹"+amazon_price)
                print("----------------------")
                break
            else:
                i+=1
                i=int(i)
                if i==amazon_page_length:
                    print("amazon : No product found!")
                    print("----------------------")
                    amazon_price = '0'
                    break
        return amazon_price
        except:
        print("amazon: No product found!")
        print("----------------------")
        amazon_price = '0'
    return amazon_price
def olx(name):
    try:
        global olx
        name1 = name.replace(" ","-")
```

```
        olx=f'https://www.olx.in/items/q-{name1}?isSearchCall=true'
        res = requests.get(f'https://www.olx.in/items/q-
{name1}?isSearchCall=true',headers=headers)
        print("\nSearching in OLX.....")
        soup = BeautifulSoup(res.text,'html.parser')
        olx_name = soup.select('._2tW1I')
        olx_page_length = len(olx_name)
        for i in range(0,olx_page_length):
            olx_name = soup.select('._2tW1I')[i].getText().strip()
            name = name.upper()
            olx_name = olx_name.upper()
            if name in olx_name:
                olx_price = soup.select('._89yzn')[i].getText().strip()
                olx_name = soup.select('._2tW1I')[i].getText().strip()
                olx_loc = soup.select('.tjgMj')[i].getText().strip()
                try:
                                label = soup.select('._2Vp0i span')[i].getText().strip()
                except:
                    label = "OLD"

                print("Olx:")
                print(label)
                print(olx_name)
                print(olx_price)
                print(olx_loc)
                print("-----------------------")
                break
            else:
                i+=1
                i=int(i)
                if i==olx_page_length:
                    print("Olx: No product Found!")
                    print("-----------------------")
                    olx_price = '0'
                    break
        return olx_price
    except:
        print("Olx: No product found!")
        print("-----------------------")
        olx_price = '0'
    return olx_price
def convert(a):
    b=a.replace(" ","")
    c=b.replace("INR","")
    d=c.replace(",","")
    f=d.replace("₹","")
    g=int(float(f))
    return g
###
```

```
name=input("product name:\n")
# ebay_price=ebay(name)
flipkart_price=flipkart(name)
amazon_price=amazon(name)
# croma_price=croma(name)
olx_price = olx(name)
print("---------------------------------")
if flipkart_price=='0':
   print("No product found!")
   flipkart_price = int(flipkart_price)
else:
   print("\nFLipkart Price:",flipkart_price)
   flipkart_price=convert(flipkart_price)
if amazon_price=='0':
   print("No Product found!")

      amazon_price = int(amazon_price)
else:
   print("\namazon price: ₹",amazon_price)
   amazon_price=convert(amazon_price)
if olx_price =='0':
   print("No product found!")
   olx_price = int(olx_price)
else:
   print("\nOlx Price:",olx_price)
      olx_price=convert(olx_price)
time.sleep(2)
#print(f"{type(ebay_price)} , {type(flipkart_price)} , {type(amazon_price)} ,
{type(croma_price)} , {type(olx_price)} ")


lst = [flipkart_price,amazon_price,olx_price]
#print(lst)
lst2=[]
for j in range(0,len(lst)):
   if lst[j]>0:
      lst2.append(lst[j])
min_price=min(lst2)
if len(lst2)==0:
   print("No relative product find in all websites....")
else:
   min_price=min(lst2)

print("_____")
print("\nMinimun Price: ₹",min_price)
price = {
      f'{amazon_price}':f'{amazon}',
      f'{olx_price}':f"{olx}",
      f'{flipkart_price}':f'{flipkart}'    }
for key, value in price.items():
```

```
    if int(key)==min_price:
      print ('\nurl:', price[key])
      print("\nUrls:\n")
      print("-------------------------------------------------------------------------")
      print(amazon)
      print(olx)
      print(flipkart)
      print("-------------------------------------------------------------------------")
```

URLS.PY

```
from django.contrib import admin
from django.urls import path
from django.views.generic import TemplateView

from PricePredictor.views import find

from PricePredictor.views import login, registration, logout

urlpatterns = [

    path('admin/', admin.site.urls),

    path('',TemplateView.as_view(template_name = 'index.html'),name='login'),
    path('login/',TemplateView.as_view(template_name = 'index.html'),name='login'),
    path('loginaction/',login,name='loginaction'),

    path('registration/',TemplateView.as_view(template_name =
'registration.html'),name='registration'),
    path('regaction/',registration,name='regaction'),

    path('find/',find, name='find'),

    path('logout/',logout,name='logout'),
]
```

HOME.HTML

```
[2:58 PM, 2/22/2021] Sabiha Nazareen: {% load  static%}
<!DOCTYPE HTML>
<html>

<head>
<title>Voidmain</title>
<link rel="stylesheet" type="text/css" href="{% static 'style/style.css'%}" title="style"
/>
</head>

<body>
```

```
<div id="main">
    <div id="header">
        <div id="logo">
            <div id="logo_text">
                <!-- class="logo_colour", allows you to change the colour of the text -->
                <h3>
                    <a href="#"><font color="white">Best Price Finder</font></a>
                </h3>
                <br/><br/>
            </div>
        </div>
        <div id="menubar">
            <ul id="menu">
                <li><a href="http://127.0.0.1:5000/" target="_blank">Voice Chat</a></li>
            </ul>
        </div>
    </div>
    <div id="content_header"></div>
    <div id="site_content">
        <div id="content">
            <form name="form" action="/find">
                <div class="form_settings">
                    <p>
                        <span>Enter Product Name :</span>
                    <input class="contact" type="text" name="product" required/>
                    </p>
                    <p>
                        <span>Select Seller :</span>
                    <select class="contact" required name="sellers" multiple>
                      <option value="flipkart">flipkart</option>
                      <option value="amazon">amazon</option>
                      <option value="olx">olx</option>
                    </select>
                    </p>
                    <p style="padding-top: 15px">

        <span> </span><input class="submit" type="submit" name="contact_submitted" value="Find" />
                    </p>
                </div>
```

```
                                        </form>

            <hr/><hr/><br/>

            {% for key,value in results.items %}
               <p>
                  {{ key }} &amp;nbsp;&amp;nbsp; <a href="{{value}}"
target="_blank">{{value}}</a>
               </p>
            {% endfor %}

                                    </div>
                        </div>
            </div>
</body>
</html>
```

INDEX.HTML

```
[2:58 PM, 2/22/2021] Sabiha Nazareen: {% load  static%}
<!DOCTYPE HTML>
<html>

<head>
<title>Voidmain</title>
<link rel="stylesheet" type="text/css" href="{% static 'style/style.css'%}" title="style"
/>
</head>

<body>
            <div id="main">
                        <div id="header">
                                    <div id="logo">
                                                <div id="logo_text">
                                                            <!-- class="logo_colour", allows you
to change the colour of the text -->
                                                            <h3>
                                                                        <a href="#"><font
color="white">Best Price Finder</font></a>
                                                            </h3>
                                                            <br/><br/>
                                                </div>
                                    </div>
                                    <div id="menubar">
                                                <ul id="menu">
                                                            <li><a href="http://127.0.0.1:5000/"
target="_blank">Voice Chat</a></li>
                                                </ul>
```

```
                    </div>
                </div>
                <div id="content_header"></div>
                <div id="site_content">
                    <div id="content">
                        <form name="form" action="/find">
                            <div class="form_settings">
                                <p>
                                    <span>Enter
Product Name :</span>
                <input class="contact" type="text" name="product" required/>
                                </p>
                                <p>
                                    <span>Select
Seller :</span>
                <select class="contact" required name="sellers" multiple>
                  <option value="flipkart">flipkart</option>
                  <option value="amazon">amazon</option>
                  <option value="olx">olx</option>
                </select>
                                </p>
                                <p style="padding-top:
15px">

            <span> </span><input class="submit" type="submit"
name="contact_submitted" value="Find" />
                                </p>
                            </div>
                        </form>

            <hr/><hr/><br/>

            {% for key,value in results.items %}
              <p>
                {{ key }}    <a href="{{value}}"
target="_blank">{{value}}</a>
              </p>
            {% endfor %}

                    </div>
                </div>
            </div>
</body>
</html>
```

REGISTER.HTML

```
{% load  static%}
<!DOCTYPE HTML>
<html>

<head>
<link rel="stylesheet" type="text/css" href="{% static 'style/style.css'%}" title="style"
/>
</head>

<body>
	<div id="main">
		<div id="header">
			<div id="logo">
				<div id="logo_text">
					<!-- class="logo_colour", allows you
to change the colour of the text -->
					<h3>
						<a href="#"><font
color="white">Best Price Finder</font></a>
					</h3>
					<br/><br/>
				</div>
			</div>
			<div id="menubar">
				<ul id="menu">
					<li><a href="/login">User
Login</a></li>
					<li><a
href="/registration">Registration</a></li>
				</ul>
			</div>
		</div>
		<div id="content_header"></div>
		<div id="site_content">
			<div id="content">

				<h1>Registration Status : {{message}}</h1>

				<form name="form" action="/regaction/"
method="post">
					{% csrf_token %}
					<div class="form_settings">
						<input type="hidden"
name="utype" value="student" />
						<p>
```

```
        <span>Name :</span><input class="contact" type="text" name="name"
value="" />
                                                        </p>

                                                        <p>
                                                                <span>User
Name :</span><input class="contact" type="text" name="username" value="" />
                                                        </p>

                                                        <p>

        <span>Password :</span><input class="contact" type="password"
name="password" value="" />
                                                        </p>

                                                        <p>

        <span>Email :</span><input class="contact" type="text" name="email"
value="" />
                                                        </p>

                                                        <p>

        <span>Mobile :</span><input class="contact" type="text" name="mobile"
value="" />
                                                        </p>

                                                        <p>

        <span>Address :</span><textarea rows="" cols=""
name="address"></textarea>
                                                        </p>

                                                        <p style="padding-top:
15px">

        <span> </span><input class="submit" type="submit"

        name="contact_submitted" value="Register" />
                                                        </p>
                                                </div>
                                        </form>

                                </div>
                        </div>
        </div>
```

</body>
</html>

4.7 ALGORITHM:

RSA (Rivest–Shamir–Adleman) is an algorithm used by modern computers to encrypt and decrypt messages. It is an asymmetric cryptographic algorithm. Asymmetric means that there are two different keys. This is also called public key cryptography, because one of the keys can be given to anyone. The other key must be kept private. The algorithm is based on the fact that finding the factors of a large composite number is difficult: when the factors are prime numbers, the problem is called prime factorization. It is also a key pair (public and private key) generator. RSA involves a public key and private key. The public key can be known to everyone- it is used to encrypt messages. Messages encrypted using the public key can only be decrypted with the private key.

5. SYSTEM DESIGN

5. SYSTEM DESIGN

5.1 SYSTEM ARCHITECTURE:

A system architecture is the conceptual model that defines the structure, behavior, and more views of a system. An architecture description is a formal description and representation of a system, organized in a way that supports reasoning about the structures and behaviors of the system.

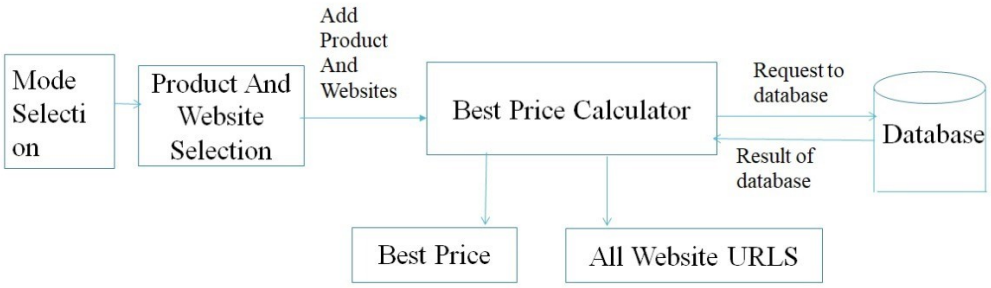


Fig. 5.1: System Architecture

As shown in the figure ,first select product name and website names and price calculator calculates the best reasonable price and gives URLS of websites.

5.2 UML DIAGRAMS:

UML stands for Unified Modeling Language. UML is a standardized general purpose modelling language in the field of object-oriented software engineering. The standard is managed, and was created by, the Object Management Group.

The goal is for UML to become a common language for creating models of object oriented computer software. In its current form UML is comprised of two major components: a Meta-model and a notation. In the future, some form of method or process may also be added to; or associated with, UML.

The Unified Modeling Language is a standard language for specifying, Visualization, Constructing and documenting the artifacts of software system, as well as for business modelling and other non-software systems. The UML represents a collection of best engineering practices that have proven successful in the modelling of large and complex systems.

Goals:

The Primary goals in the design of the UML are as follows:

- Provide users a ready-to-use, expressive visual modelling Language so that they can develop and exchange meaningful models.
- Provide extendibility and specialization mechanisms to extend the core concepts.
- Be independent of particular programming languages and development process.
- Provide a formal basis for understanding the modelling language.
- Encourage the growth of OO tools market.

5.2.1 Class Diagram:

In software engineering, a class diagram in the Unified Modelling Language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes,their attributes,operations(or methods).

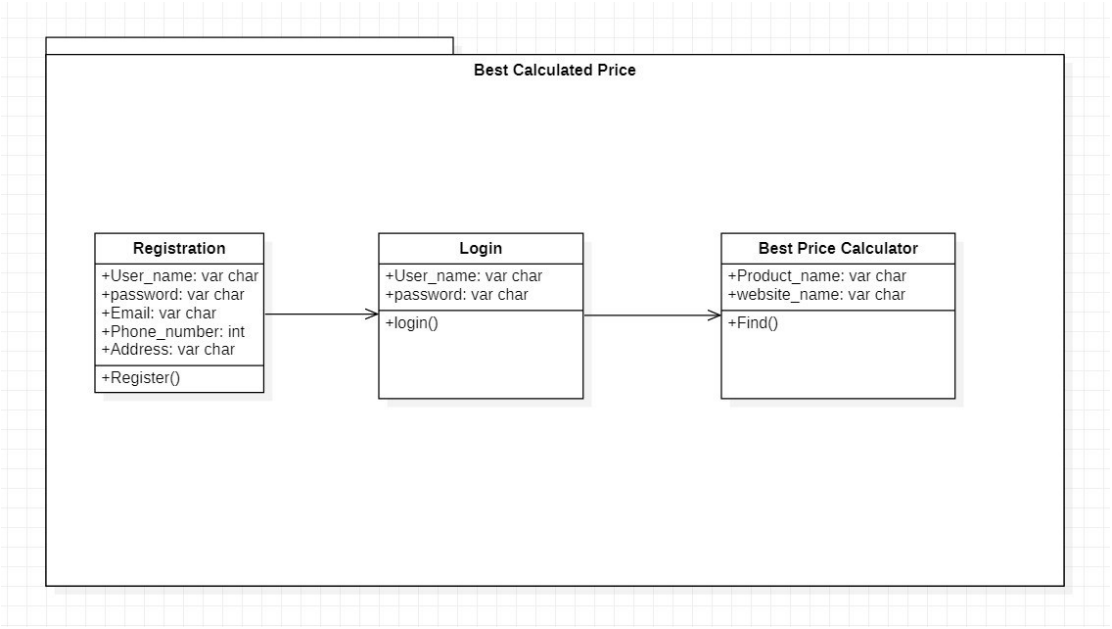


Fig. 5.2.1: class diagram

Class Name:Registration

Attributes:

User_name:The attribute stores the customer username.

Password: The attribute stores the customer password.

Operations:

Submit():username and password is sent to Registration to register.

Class Name:Login

Attributes:

User_name:The attribute stores the customer username.

Password: The attribute stores the customer password.

Submit():username and password is sent to login to login.

Class Name:Best price calculator

Attributes:

Product_name:The attributes stores the product name.

Website_names : The attributes stores the website names.

Operations:

Search(): Productname and website names sent to search to give best reasonable price.

5.2.2 Use Case Diagram:

UML provides the use case diagram to facilitate the process of requirements gathering. The use case diagram models the interactions between the system's external clients and the use cases of the system.

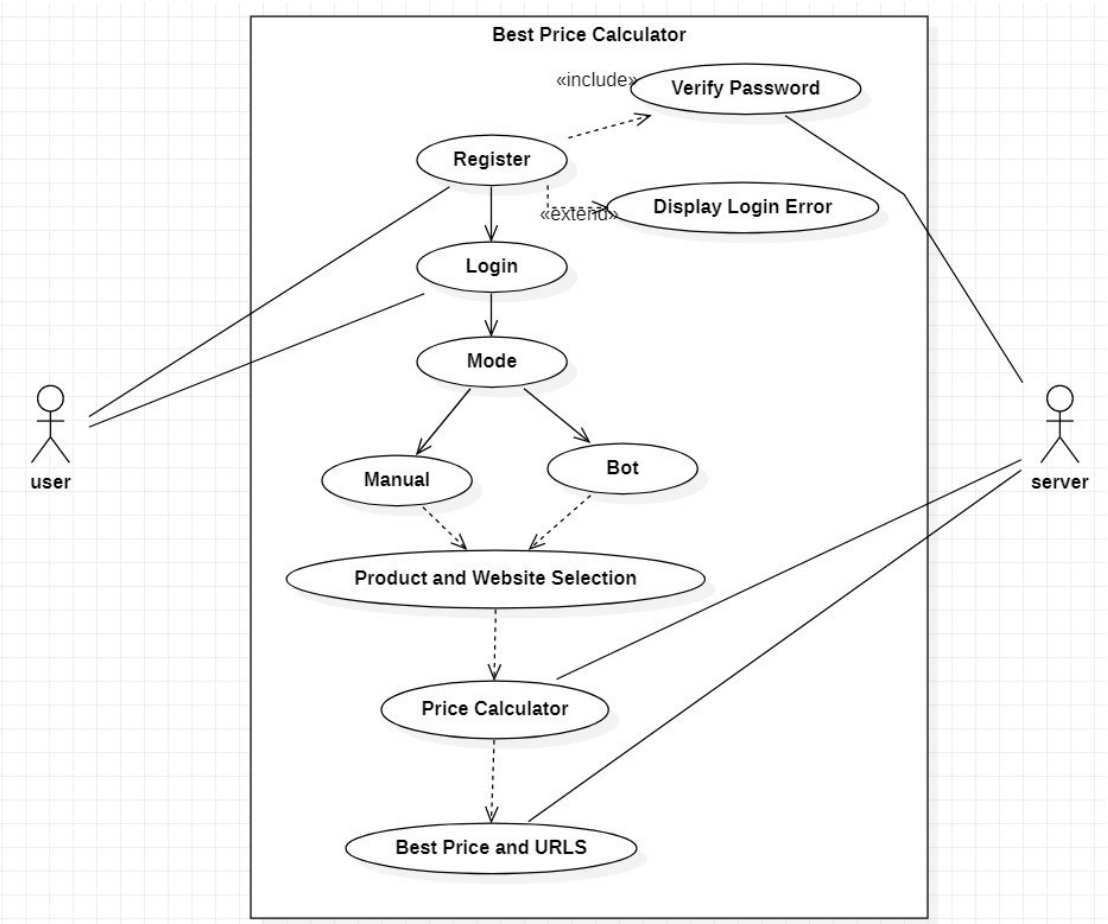


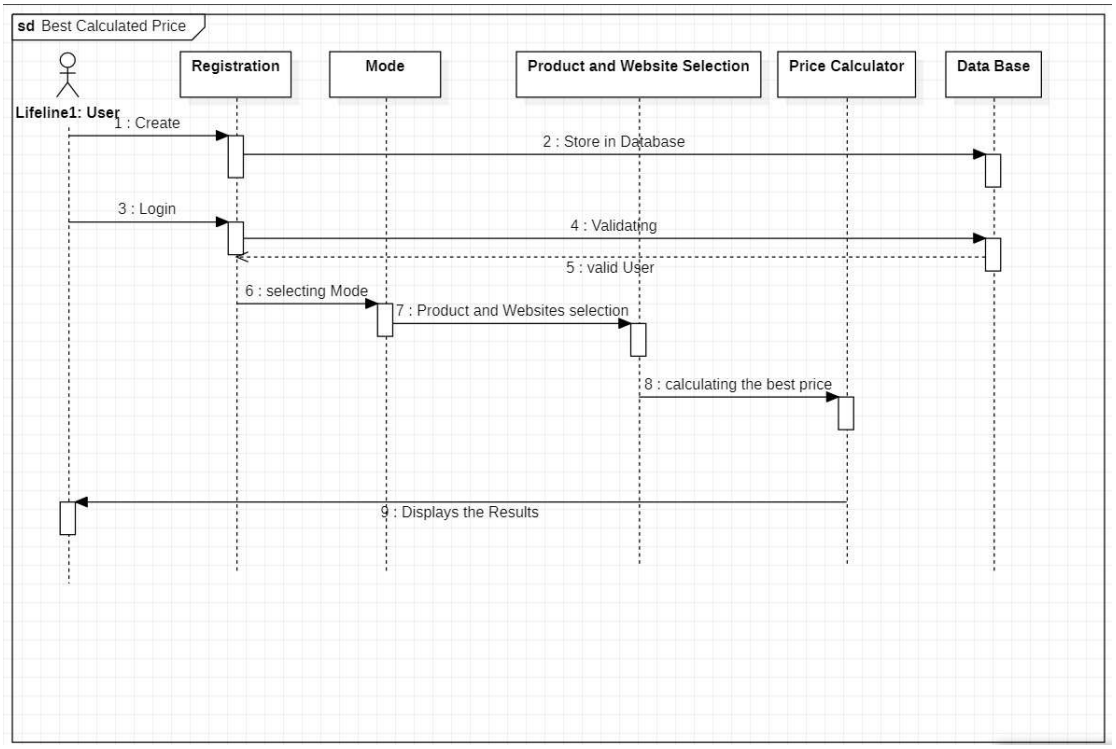
Fig. 5.2.2:use case diagram

Participating Actor: User Events:

- First user create an account with username and password.
- After registration ,login in to website.
- Select productname and website names and price generator generates best reasonable price to selected product.

5.2.3 Sequence Diagram:

A sequence diagram in Unified Modelling Language (UML) is a kind of interaction diagram that shows how processes operate with one another and in what order. It is a construct of a Message Sequence Chart. Sequence diagrams are sometimes called event diagrams, event scenarios, and timing diagrams.



5.2.3 sequence diagram

Case: User Operations on Website.

- User create an account with username and password.
- And credentials stored in to database.
- User login in to website with username and password.
- Select productname and website names and price generator generates best reasonable price to selected product.

5.2.4 Activity Diagram:

Activity diagram is another important behavioral diagram in UML diagram to describe dynamic aspects of the system. Activity diagram is essentially an advanced version of flow chart that modeling the flow from one activity to another activity. Activity Diagrams describe how activities are coordinated to provide a service which can be at different levels of abstraction.

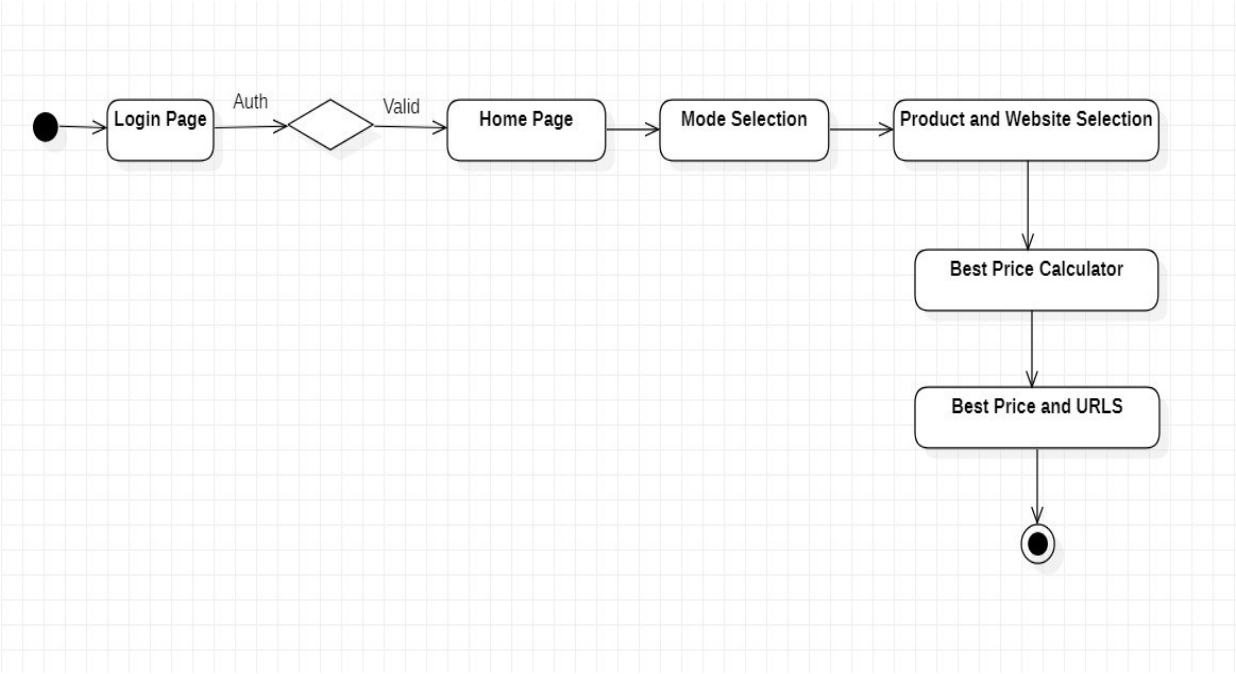
5.2.4 Activity diagram

Activity Diagram cases:

- First user has to register with username and password.
- If user is registered ,user has to login in to login page.
- User need to select product and websites.
- Price calculator gives best price and urls.

5.2.5 State Diagram:

Statechart diagram is one of the five UML diagrams used to model the dynamic nature of a system. They define different states of an object during its lifetime and these states are changed by events. Statechart diagrams are useful to model the reactive systems. Reactive systems can be defined as a system that responds to external or internal events.



5.2.5 State Diagram

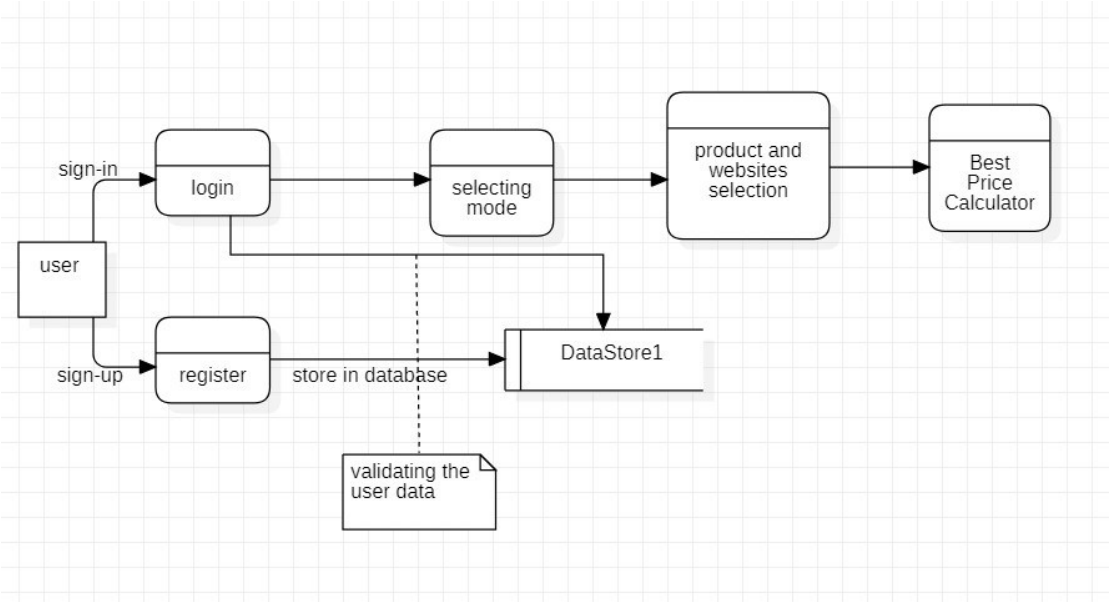
State Diagram cases:

- First user has to login with username and password.
- User has to select mode manual or bot

- Select product name and website names.
- Best price calculator calculates and gives best price and urls.

5.2.6 Data Flow diagram:

A data-flow diagram is a way of representing a flow of a data of a process or a system (usually an information system). The DFD also provides information about the outputs and inputs of each entity and the process itself. A data-flow diagram has no control flow, there are no decision rules and no loops. Specific operations based on the data can be represented by a flowchart .



5.2.6 Data Flow Diagram

Data flow diagram cases:

- First user has to register with username and password.
- If user is registered ,user has to login in to login page.
- User need to select product and websites.
- Price calculator gives best price and urls.

IMPLEMENTATION

6.IMPLEMENTATION

6.1 METHODS OF IMPLEMENTATION

6.1.1 Python

A Brief History of Python:

Python is a widely used general-purpose, high-level programming language. It was initially designed by Guido van Rossum in 1991 and developed by Python Software Foundation. It was mainly developed for emphasis on code readability, and its syntax allows programmers to express concepts in fewer lines of code.

In the late 1980s, history was about to be written. It was that time when working on Python started. Soon after that, Guido Van Rossum began doing its application based work in December of 1989 by at Centrum Wiskunde & Informatica (CWI) which is situated in Netherland. It was started firstly as a hobby project because he was looking for an interesting project to keep him occupied during Christmas. The programming language which Python is said to have succeeded is ABC Programming Language, which had the interfacing with the Amoeba Operating System and had the feature of exception handling. He had already helped to create ABC earlier in his career and he had seen some issues with ABC but liked most of the features. After that what he did as really very clever. He had taken the syntax of ABC, and some of its good features. It came with a lot of complaints too, so he fixed those issues completely and had created a good scripting language which had removed all the flaws. The inspiration for the name came from BBC's TV Show – 'Monty Python's Flying Circus', as he was a big fan of the TV show and also he wanted a short, unique and slightly mysterious name for his invention and hence he named it Python! He was the "Benevolent dictator for life" (BDFL) until he stepped down from the position as the leader on 12th July 2018. For quite some time he used to work for Google, but currently, he is working at Dropbox.

The language was finally released in 1991. When it was released, it used a lot fewer codes to express the concepts, when we compare it with Java, C++ & C. Its design philosophy was quite good too. Its main objective is to provide code readability and advanced developer productivity. When it was released it had more

than enough capability to provide classes with inheritance, several core data types exception handling and functions.

Features of Python:

Python is known for its general purpose nature that makes it applicable in almost each domain of software development. Python as a whole can be used in any sphere of development. Here, we are specifing applications areas where python can be applied.

1) Web Applications

We can use Python to develop web applications. It provides libraries to handle internet protocols such as HTML and XML, JSON, Email processing, request, beautifulSoup, Feedparser etc. It also provides Frameworks such as Django, Pyramid, Flask etc to design and delvelop web based applications. Some important developments are: PythonWikiEngines, Pocoo, PythonBlogSoftware etc.

2) Desktop GUI Applications

Python provides Tk GUI library to develop user interface in python based application. Some other useful toolkits wxWidgets, Kivy, pyqt that are useable on several platforms. The Kivy is popular for writing multitouch applications.

3) Software Development

Python is helpful for software development process. It works as a support language and can be used for build control and management, testing etc.

4) Scientific and Numeric

Python is popular and widely used in scientific and numeric computing. Some useful library and package are SciPy, Pandas, IPython etc. SciPy is group of packages of engineering, science and mathematics.

5) Business Applications

Python is used to build Bussiness applications like ERP and e-commerce systems. Tryton is a high level application platform.

6) Console Based Application

We can use Python to develop console based applications. For example: IPython.

7) Audio or Video based Applications

Python is awesome to perform multiple tasks and can be used to develop multimedia applications. Some of real applications are: TimPlayer, cplay etc.

8) 3D CAD Applications

To create CAD application Fandango is a real application which provides full features of CAD.

9) Enterprise Applications

Python can be used to create applications which can be used within an Enterprise or an Organization. Some real time applications are: OpenErp, Tryton, Picalo etc.

10) Applications for Images

Using Python several application can be developed for image. Applications developed are: VPython, Gogh, imgSeek etc.

6.1.2 Python Flask

Flask is a web framework that provides libraries to build lightweight web applications in python. It is developed by Armin Ronacher who leads an international group of python enthusiasts (POCCO).

What is Flask?

Flask is a web framework that provides libraries to build lightweight web applications in python. It is developed by Armin Ronacher who leads an international group of python enthusiasts (POCCO). It is based on WSGI toolkit and jinja2 template engine.

What is WSGI?

It is an acronym for web server gateway interface which is a standard for python web application development. It is considered as the specification for the universal the web server and web application.

What is Jinja2?

Jinja2 is a web template engine which combines a template with a certain data source to render the dynamic web pages.

Flask Environment Setup

To install flask on the system, we need to have python 2.7 or higher installed on our system. However, we suggest using python 3 for the development in the flask.

Install virtual environment (virtualenv)

virtualenv is considered as the virtual python environment builder which is used to create the multiple python virtual environment side by side. It can be installed by using the following command.

```
$ pip install virtualenv
```

Once it is installed, we can create the new virtual environment into a folder as given below.

```
$ mkdir new
$ cd new
$ virtualenv venv
```

To activate the corresponding environment, use the following command on the Linux operating system.

```
$ venv/bin/activate
```

On windows, use the following command.

$ venv\scripts\activate

We can now install the flask by using the following command.

6.1.3 HTML

HTML, an acronym of Hyper Text Markup Language, is the predominant markup language for web pages. It provides a means to describe the structure of textbased information in a document by denoting certain text as links, headings, paragraphs, lists, and so on and to supplement that text with interactive forms, embedded images, and other objects.

HTML is written in the form of tags, surrounded by angle brackets. HTML can also describe, to some degree, the appearance and semantics of a document, and can include embedded scripting language code (such as JavaScript) which can affect the behaviour of Web browsers and other HTML processors.

Web pages are built with the help of this HTML which are called the Web Documents. We used the following tags in our project.

TABLE:

Tables are so popular with web page authors is that they let you arrange the elements of a web page in such a way that the browser won‘t rearrange them web page authors frequently use tables to structure web pages.

TR:

TR is used to create a row in a table encloses <TH> and <TD> elements. <TR> contain many attributes. Some of them are,

- ALIGN: specifies the horizontal alignment of the text in the table row.
- BGCOLOR: Specifies the background color for the row.
- BORDERCOLOR: Sets the external border color for the row.
- VALIGN: Sets the vertical alignment of the data in this row.

TH:

TH is used to create table heading.

- ALIGN: Sets the horizontal alignment of the content in the table cell. Sets LEFT, RIGHT, CENTER.
- BACKGROUND: Species the background image for the table cell.

- BGCOLOR: Specifies the background color of the table cell.
- VALIGN: Sets the vertical al alignment of the data. Sets to TOP, MIDDLE, BOTTOM or BASELINE.
- WIDTH: Specifies the width of the cell. Set to a pixel width or a percentage of the display area.

TD:

TD is used to create table data that appears in the cells of a table.

- ALIGN: Species the horizontal alignment of content in the table cell

  BGCOLOR: Specifies the background image for the table cell.
- BGCOLOR: sets the background color of the table cells.
- WIDTH: Species the width of the cell.
- alignment of the data. Sets to TOP, MIDDLE, BOTTOM or BASELINE.
- WIDTH: Specifies the width of the cell. Set to a pixel width or a percentage of the display area.
- alignment of the data. Sets to TOP, MIDDLE, BOTTOM or BASELINE.
- WIDTH: Specifies the width of the cell. Set to a pixel width or a percentage of the display area.

FRAMES:

Frames are used for either run off the page or display only small slices of what are supposed to be shown and to configure the frame we can use <FRAMESET>.

There are two important points to consider when working with <FRAMESET>.

- <FRAMESET> element actually takes the place of the <BODY> element in a document.
- Specifying actual pixel dimensions for frames.

<FRAME> Elements are used to create actual frames.

From the frame set point of view dividing the browser into two vertical frames means creating two columns using the <FRAMESET> elements COLS attribute.

The syntax for vertical fragmentation is,

<FRAMESET COLS =‖50%, 50%‖>

</FRAMESET>

Similarly if we replace COLS with ROWS then we get horizontal fragmentation.

The syntax for horizontal fragmentation is:

<FRAMESET ROWS="50%, 50%">

</FRAMESET>

FORM:

The purpose of FORM is to create an HTML form; used to enclose HTML controls, like buttons and text fields.

ATTRIBUTES:

- ACTION: Gives the URL that will handle the form data.
- NAME: Gives the name to the form so you can reference it in code set to an alphanumeric string.
- METHOD: method or protocol is used to sending data to the target action URL. The GET method is the default, it is used to send all form name/value pair information in an URL. Using the POST method, the content of the form are encoded as with the GET method, but are sent in environment variables.

CONTROLS IN HTML

<INPUT TYPE =BUTTON>:

Creates an html button in a form.

Attributes:

- NAME: gives the element a name. Set to alphanumeric characters.
- SIZE: sets the size.
- VALUE: sets the caption of the element.

<INPUT TYPE = PASSWORD>:

Creates a password text field, which makes typed input.

Attributes:

- NAME: gives the element a name, set to alphanumeric characters.
- VALUE: sets the default content of the element.

<INPUT TYPE=RADIO>:

Creates a radio button in a form

Attributes:

- NAME: Gives the element a name. Set to alphanumeric character.
- VALUE: Sets the default content of the element.

➢ <INPUT TYPE=SUBMIT>:

Creates a submit button that the user can click to send data in the form back to the web server.

6.1.4 CSS

CSS tutorial or CSS 3 tutorial provides basic and advanced concepts of CSS technology. Our CSS tutorial is developed for beginners and professionals. The major points of CSS are given below:

- CSS stands for Cascading Style Sheet.
- CSS is used to design HTML tags.
- CSS is a widely used language on the web.
- HTML, CSS and JavaScript are used for web designing. It helps the web designers to apply style on HTML tags.

What is CSS:

It is a style sheet language which is used to describe the look and formatting of a document written in markup language. It provides an additional feature to HTML. It is generally used with HTML to change the style of web pages and user interfaces. It can also be used with any kind of XML documents including plain XML, SVG and XUL. CSS is used along with HTML and JavaScript in most websites to create user interfaces for web applications and user interfaces for many mobile applications.

What does CSS do:

- You can add new looks to your old HTML documents.
- You can completely change the look of your website with only a few changes in CSS code.

Why use CSS

These are the three major benefits of CSS:

1. Solves a big problem

Before CSS, tags like font, color, background style, element alignments, border and size had to be repeated on every web page. This was a very long process. For example: If you are developing a large website where fonts and color information are added on every single page, it will be become a long and expensive process. CSS was created to solve this problem. It was a W3C recommendation.

2. Saves a lot of time

CSS style definitions are saved in external CSS files so it is possible to change the entire website by changing just one file.

3. Provide more attributes

CSS provides more detailed attributes than plain HTML to define the look and feel of the website.

CSS Syntax:

A CSS rule set contains a selector and a declaration block.

Selector: Selector indicates the HTML element you want to style. It could be any tag like <h1>, <title> etc.

Declaration Block: The declaration block can contain one or more declarations separated by a semicolon. For the above example, there are two declarations:

1. color: yellow;
2. font-size: 11 px;

Each declaration contains a property name and value, separated by a colon.

Property: A Property is a type of attribute of HTML element. It could be color, border etc.

Value: Values are assigned to CSS properties. In the above example, value "yellow" is assigned to color property.

JavaScript, users can build modern web applications to interact directly without reloading the page every time. The traditional website uses js to provide several forms of interactivity and simplicity.

6.1.5 Django:

A framework is nothing more than a collection of modules that make development Django is a free and open source web application framework written in Python easier. They are grouped together, and allow you to create applications or websites from an existing source, instead of from scratch.

This is how websites – even simple ones designed by a single person – can still include advanced functionality like authentication support, management and admin panels, contact forms, comment boxes, file upload support, and more. In other words, if you were creating a website from scratch you would need to develop these components yourself. By using a framework instead, these components are already built, you just need to configure them properly to match your site.

The official project site describes Django as "a high-level Python Web framework that encourages rapid development and clean, pragmatic design. Built by experienced developers, it takes care of much of the hassle of Web development, so you can focus on writing your app without needing to reinvent the wheel. It's free and open source."

Django offers a big collection of modules which you can use in your own projects. Primarily, frameworks exist to save developers a lot of wasted time and headaches and Django is no different.

You might also be interested in learning that Django was created with front-end developers in mind. "Django's template language is designed to feel comfortable and easy-to-learn to those used to working with HTML, like designers and front-end developers. But it is also flexible and highly extensible, allowing developers to augment the template language as needed."

If you're going to be working with Python, especially for web applications or web design, you'll want to remember the Django framework.

SYSTEM TESTING

7. SYSTEM TESTING

7.1 INTRODUCTION

Testing is a process, which reveals errors in the program. It is the major quality measure employed during software development. During software development. During testing, the program is executed with a set of test cases and the output of the program for the test cases is evaluated to determine if the program is performing as it is expected to perform.

The following are the Testing Objectives:

- Testing is a process of executing a program with the intent of finding an error.
- A good test has a high probability of finding an as yet undiscovered error.
- A successful test is one that uncovers an as yet undiscovered error.

Each module can be tested using the following two Strategies:

Black Box Testing:

In this strategy some test cases are generated as input conditions that fully execute all functional requirements for the program. This testing has been uses to find errors in the following categories:

- Incorrect or missing functions
- Interface errors
- Errors in data structure or external database access
- Performance errors
- Initialization and termination errors.

White Box testing:

In this the test cases are generated on the logic of each module by drawing flow graphs of that module and logical decisions are tested on all the cases. It has been uses to generate the test cases in the following cases:

- Guarantee that all independent paths have been executed.
- Execute all logical decisions on their true and false Sides.
- Execute internal data structures to ensure their validity.

7.2 DESIGN OF TEST CASES AND 7SCENARIOS

In order to make sure that the system does not have errors, the different levels of testing strategies that are applied at differing phases of software development are:

Unit Testing:

Unit Testing is done on individual modules as they are completed and become executable. It is confined only to the designer's requirements.

- Guarantee that all independent paths have been executed.
- Execute all logical decisions on their true and false Sides.
- Execute all loops at their boundaries and within their operational bounds.
- Execute internal data structures to ensure their validity.

Integrating Testing:

Integration testing ensures that software and subsystems work together a whole. It tests the interface of all the modules to make sure that the modules behave properly when integrated together.

System Testing:

Involves in-house testing of the entire system before delivery to the user. It's aim is to satisfy the user the system meets all requirements of the client's specifications.

Acceptance Testing:

It is a pre-delivery testing in which entire system is tested at client's site on real world data to find errors.

Compile Testing:

It was a good idea to do our stress testing early on, because it gave us time to fix some of the unexpected deadlocks and stability problems that only occurred when components were exposed to very high transaction volumes.

Execution Test:

This program was successfully loaded and executed. Because of good programming there was no execution error.

Output Test:

The successful output screens are placed in the output screens section. Testing is the process of finding differences between the expected behavior specified by system models and the observed behavior of the system.

Testing Approaches:

Testing can be done in two ways:

- Bottom up approach
- Top down approach

Bottom up Approach:

Testing can perform starting from smallest and lowest level modules and proceeding one at a time. For each module in bottom up testing a short program executes the module and provides the needed data so that the module is asked to perform the way it will when embedded within the larger system. When bottom level modules are tested attention turns to those on the next level that use the lower level ones they are tested individually and then linked with the previously examined lower level modules.

Top down approach:

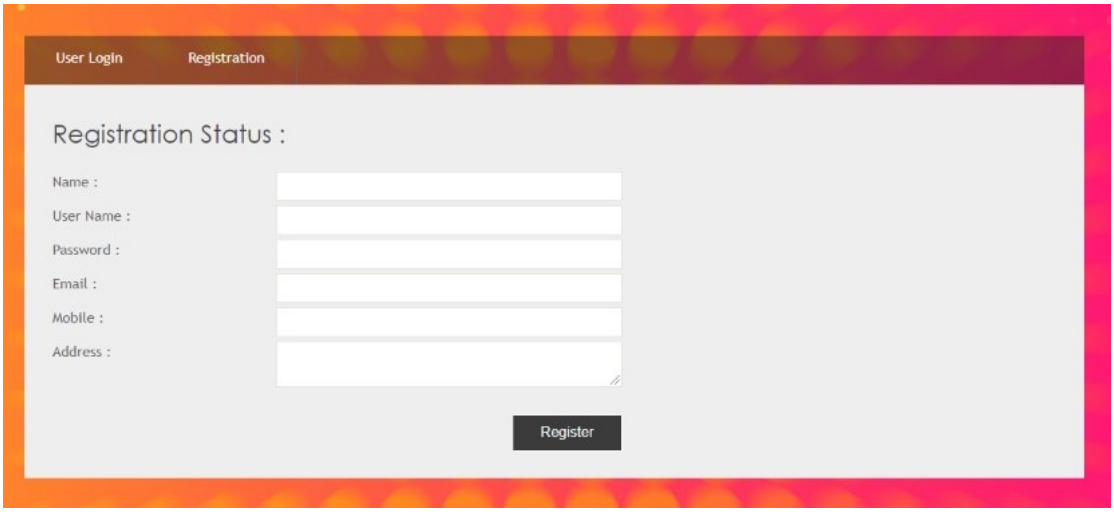
This type of testing starts from upper level modules. Since th the detailed activities usually performed in the lower level routines are not provided stubs are written. A stub is a module shell called by upper level module and that when reached properly will return a message to the calling module indicating that proper

interaction occurred. No attempt is made to verify the correctness of the lower level module.

7.3 VALIDATION

The system has been tested and implemented successfully and thus ensured that all the requirements as listed in the software requirements specification are completely fulfilled. In case of erroneous input corresponding error messages are displayed.

OUTPUT SCREEN



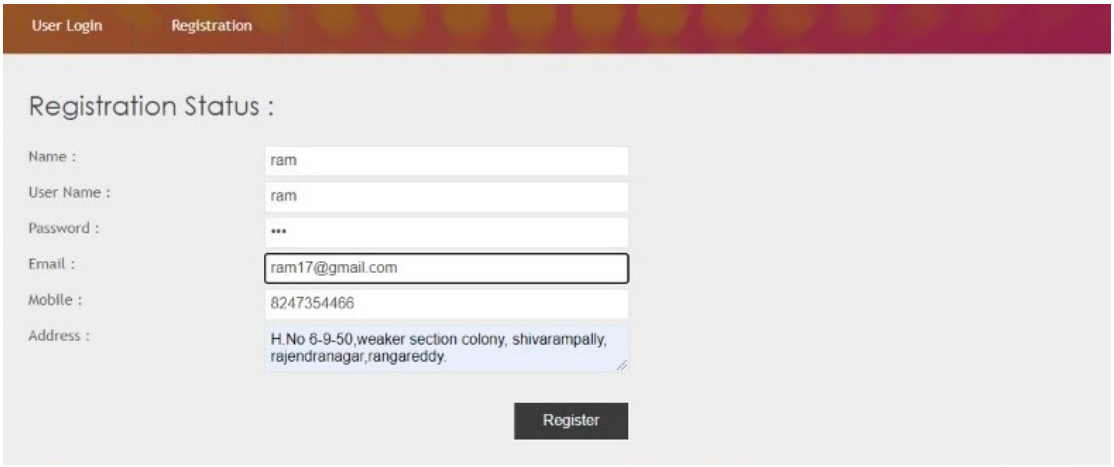
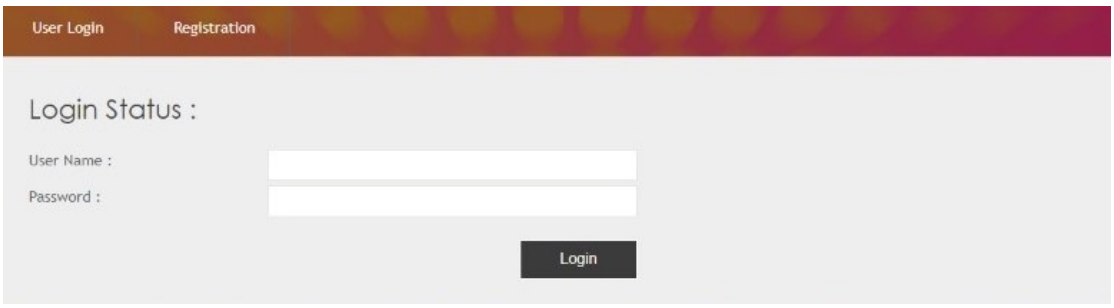


Fig.8.1 Registration form



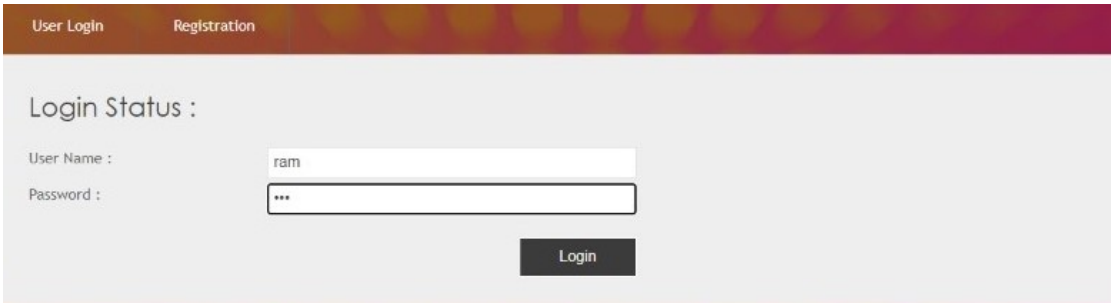


Fig.8.2 Login form

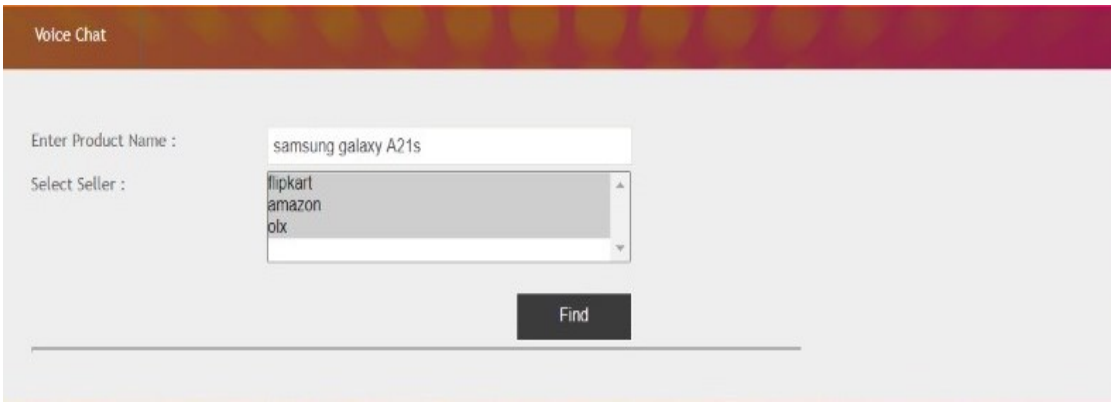


Fig.8.3 Product name and Website selection

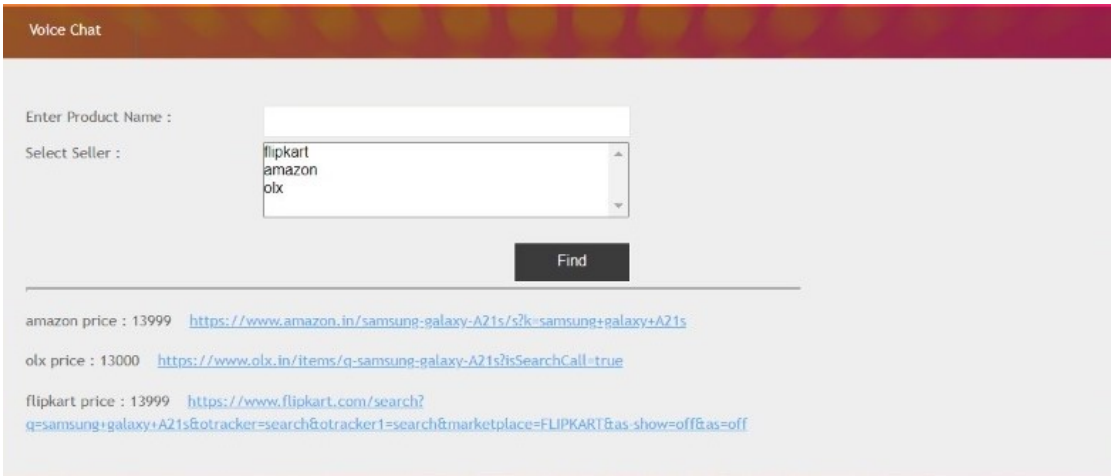


Fig.8.4 Result

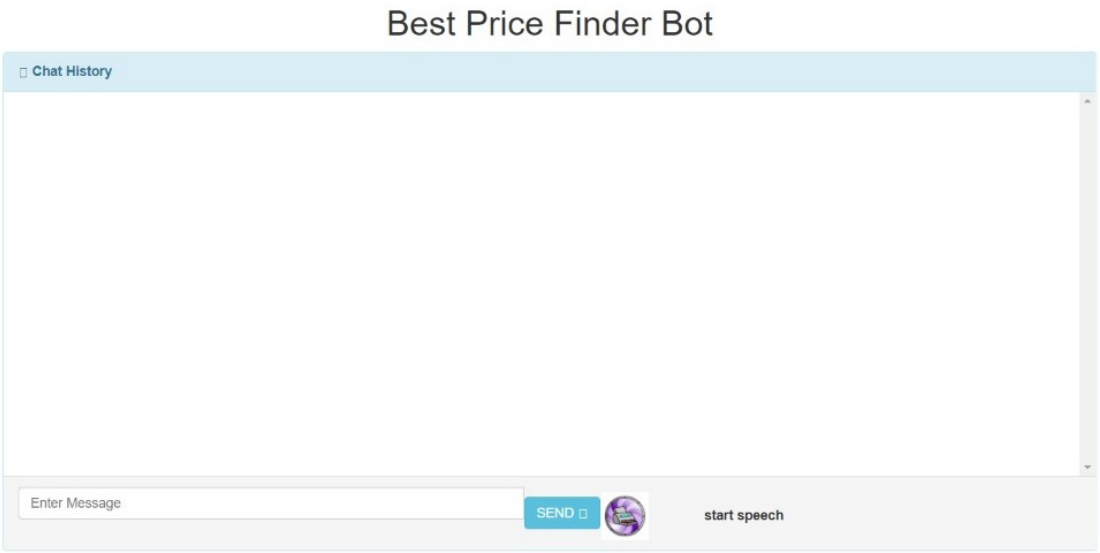


Fig.8.5 Chat bot

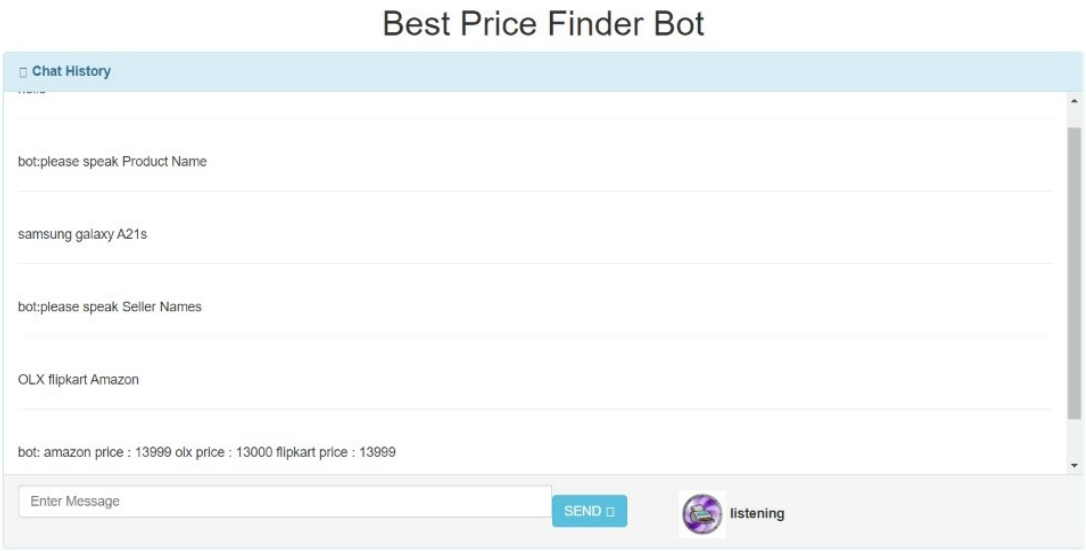


Fig.8.6 chat bot result

CONCLUSION

9. CONCLUSION

- The main objective of this project is to help the user to improve time efficiency and to calculate the best price for the selected

BIBLIOGRAPHY

https://flask.palletsprojects.com/en/1.1.x/

Internetworldstat.com - "*World's Internet Usage Statistics*" [retrieved on June 20, 2012] at http://www.internetworldstats.com/stats.htm
Grant, K.B (2008) [retrieved on June 20, 2012] – "*Which Price Comparison Shopping is The Best?"* at http://www.smartmoney.com/spend/family-money/which comparison-shopping-site-is-best/
Ong K. (2011) : "*Online Shopping Statistics in Malaysia"* [retrieved on June 21, 2012] at http://humanwebsite.com.my/blog/online-shopping-statistics in-malaysia.html
Malaysia Crunch website : *"Malaysia's E-Commerce Statistic"* [retrieved on June 25, 2012] at http://www.malaysiacrunch.com/2009/09/malaysias-e commerce-statistics.html
Donna L. : *"New Website Allow U.S Consumers To Find Local Grocery Deals"*[retrieved on July 5, 2012] at http://couponing.about.com/od/groceryzone/qt/mgdpr.htm
PaySult.com – *"Malaysian Internet Users spend 20 hours a Week Online, 54% Purchase Online"* [retrieved on July 10, 2012] at http://www.paysult.com.my/malaysian-internet users-spend-20-hours-a-week-online-54-purchase-online/
One-minute Marketing - *"Consumer Buying Behavior: Online vs Offline Shopping"* [retrieved on Oct 3, 2012] at http://blog.jbamedia.com/2010/09/13/consumer-buying behavior-online-vs-offline/
Rueter, T , July 31, 2012: *"Consumers Plan More Web*

Research before Buying School Supplies" [retrieved on Oct 4, 2012] at http://www.internetretailer.com/2012/07/31/consumers-plan more-web-research-buying-school-supplies
Olson, M , October 11,2010 : *"Majority of Consumers Research Products Online before Purchase*