

A

PROJECT REPORT

ON

MULTI-AGENT SHOPPING SYSTEM

SUBMITTED BY

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UNDER THE GUIDENCE OF

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EXAMINATION BSC.IT, SEMESTER

University of Mumbai



UNIVERSITY OF MUMBAI

DEPARTMENT OF INFORMATION TECHNOLOGY

GHANSHYAMDAS SARAF COLLEGE OF ARTS AND COMMERCE

(Affiliated to university of Mumbai)

MUMBAI 400064

MAHARASHTRA

MULTI-AGENT SHOPPING SYSTEM

A Project Report

Submitted in partial fulfillment of the

Requirements for the award of the Degree of

BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)

 $\mathbf{B}\mathbf{y}$

Sheetal Gupta Roll No. 10

Under the esteemed guidance of **Prof. Niyati Kalyanpur**



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MAHARASHTRA

2020-2021

DEPARTMENT OF INFORMATION TECHNOLOGY GHANSHYAMDAS SARAF COLLEGE OF ARTS AND COMMERCE

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CERTIFICATE

This is to certify that the project entitled, "Multi-Agent Shopping System", is bonafied work of Sheetal Gupta bearing Seat No: (10) submitted in partial fulfilment of the requirements for the award of degree of BACHELOR OF SCIENCE in INFORMATION TECHNOLOGY from University of Mumbai.

Internal Guide Coordinator

External Examiner

Date:	College Seal

ABSTRACT

A Multi-Agent shopping system that permits a customer to submit online orders for items and/or services from a store that serves both walk-in customers and online customers. The Multi-Agent shopping system presents an online display of an order cut off time and an associated delivery window for items selected by the customer. The system accepts the customer's submission of a purchase order for the item in response to a time of submission being before the order cut off time. The Multi-Agent shopping system does not settle with a credit supplier of the customer until the item selected by the customer is picked from inventory but before it is delivered. Therefore, the customer can go online and make changes to the order. In addition, available service windows are presented to the customer as a function of customer selected order and service types and further, the order picking is assigned in accordance with a picker's preference. When ordering goods, many shopping systems provide a virtual shopping cart for holding items selected for purchase. Successive items selected for purchase are placed into the virtual shopping cart until a customer completes their shopping trip. Virtual shopping carts may be examined at any time, and their contents can be edited or deleted at the option of the customer. Once the customer decides to submit a purchase order, the customer may print the contents of the virtual shopping basket in order to obtain a hard copy record of the transaction.

ACKNOWLEDGEMENT

We take this opportunity to express our profound gratitude and indebtedness to our project guides Prof. Niyati Kalyanpur for giving us the opportunity to accomplish this project.
We are very much thankful to Prof. Niyati Kalyanpur for being very much resourceful, kind and helpful. Her positive attitude, unassailable optimism and unawaring faith in us assured that we came out of problems whenever we encountered difficulties.
Finally, we wish to thank all my friends and IT department to directly or indirectly helped us in the completion of this project. Last but not the least we would thank our family without whose support, motivation and encouragement this would not have been possible.

DECLARATION

We hereby declare that the project entitled, "Multi-Agent Shopping System" done at Malad, has not been in any case duplicated to submit to any other university for the award of any degree. To the best of our knowledge other than us, no one has submitted to any other university.

The project is done in partial fulfillment of the requirements for the award of degree of **BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)** to be submitted as final semester project as part of our curriculum.

Sheetal Gupta

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Chapter 1

Introduction

1.1 Background

E-shopping is defined as the use of computers and electronic networks to organize shopping with customers over the internet or any other electronic network.

Online shopping has grown in popularity over the years, mainly because people find it convenient and easy to buy various items comfortably from their office or home. One of the most advantages of online shopping, particularly during a holiday season, is that it eliminates the need to wait in long lines or search from store to store for a particular item.

The unpredictable growth of the Internet users in the world opened a new business opportunity to the whole world. Shopping activities over the internet have been growing in an exponential manner over the last few years. One of such environments in which there is a prominent job for the agents would be e-shopping in which a user is able to give those agents the responsibility of buying and selling, instead of searching the e-shopping himself. There are no proper mechanisms to facilitate electronic transactions and automate the shopping process on behalf of customers. So, a human buyer is still responsible for gathering commodity information from multiple suppliers on the Internet, making decisions about each commodity, then making the best possible selection, and ultimately performing the e-payment. So, it takes a lot of time to buy things over the Internet. Hence, to reduce the time and to enhance the automation of the e-shopping system a multi agent environment is used.

1.2 Objectives

- Multi-agent shopping system whose aim is to present optimal solutions to enhance and facilitate e-commerce transactions.
- Easy to use because it's familiar to all.
- to busy person because we don't need to go to the shop and purchase that's why it saves the time
- User can register/login then user can order the product
- User can easily search the product what they what
- User can make a transaction from debit/credit card or cash on delivery
- User can easily order while he/she is at new place

1.3Purpose and Scope

1.3.1 Purpose

- It saves the time, because we don't need to go anywhere
- It saves us from travelling, so we can do another work in that time
- while going to shop we have to remember that what we have to buy but, in the website, we don't need to remember as well as not ask for price of the product
- while we go to the shop by vehicles, it saves the fuel
- It decreases pollution because individual is going to buy the needed products and they go by there own vehicles that's why pollution is increase while using this there is person who take an all product of one area
- it's helps in making digital India

1.3.2 Scope

- To reduce the time the e-shopping system a multi agent environment is used.
- The objective of this project is to develop a general-purpose e-commerce store where products are bought from the comfort of home through the Internet
- The system comes up with a list of items best suited for user needs.
- The system suggests items which are likely to be bought by the user based on his previous requirements.
- The user can add the product in cart then place the order.

1.4 Applicability

- Any member can view the product without register
- Only registered members can purchase multiple products regardless of quantity
- It applicable only if the supplier made through such products
- When delivery charges are high then user can avoid to buy those product

1.5 Organization of Report

The subsequent chapters of the project report will focus on the survey of different technologies which includes comparison of different platforms, languages, front- end, back-end, hardware etc. the survey is followed by the analysis of requirements resulting in generation of requirement specification and schedule of activities. It also includes the conceptual design that visualizes the features and operations that can be performed on the system. The final chapter of the project report includes the system design that describes desired features and operations in detail, including screen layouts, business rules, process diagrams, pseudo code and other documentation.

Chapter 2 Survey of technologies

2.1 Software

To developed a website, we can use Sublime Text or Notepad++.

Sublime Text: -

Sublime Text is a shareware cross-platform source code editor with a Python application programming interface. It natively supports many programming languages and markup languages, and functions can be added by users with plugins, typically community-built and maintained under free-software licenses.

Sublime Text has got to be one of the most popular text editors out there for coding. Although still in beta, Sublime Text 3 is a relatively stable and very usable.

Sublime Text is not quite an IDE (Integrated Development Environment), but with the installation of a handful of packages/plugins you can really make it the ideal editor for developing PHP in.

There are some great packages out there for Sublime Text to help PHP developers improve quality of code and workflow.

Notepad++:-

Notepad++ is a text and source code editor for use with Microsoft Windows. It supports tabbed editing, which allows working with multiple open files in a single window. The project's name comes from the C increment operator. Notepad++ is distributed as free software.

Reason to choose Sublime text: -

Sublime Text is a proprietary, cross-platform code editor, initially released in 2008. Sublime Text is the third-most popular code editor, used by 28.9% of respondents in the 2018.

Sublime Text offers a more traditional code editing experience that emphasizes simplicity and ease of use. Unlike VS Code, the out-of-the-box setup does not include an integrated terminal, debugger, or source control. And if you're not willing to pay for the \$80 license, Sublime frequently reminds you to purchase one, a nuisance in a world with plenty of free editors.

2.2 Front end Technology

HTML, CSS, JavaScript, Sublime Text

HTML: -

HTML stands for Hyper Text Markup Language. It is used to design web pages using markup language. HTML is the combination of Hypertext and Markup language. Hypertext defines the link between the web pages. Markup language is used to define the text document within a tag which defines the structure of web pages. HTML is a markup language used by the browser to manipulate text, images and other content, in order to display it in the required format.

CSS:-

Cascading Style Sheets, fondly referred to as CSS, is a simply designed language intended to simplify the process of making web pages presentable. CSS allows you to apply styles to web pages. More importantly, CSS enables you to do this independent of the HTML that makes up each web page.

CSS is easy to learn and understood but it provides powerful control over the presentation of an HTML document.

WHY CSS?

CSS saves time: You can write CSS once and reuse the same sheet in multiple HTML pages.

Easy Maintenance: To make a global change simply change the style, and all elements in all the webpages will be updated automatically.

Superior styles to HTML, CSS have a much wider array of attributes than HTML, so you can give a far better look to your HTML page in comparison to HTML attributes.

Offline Browsing: CSS can store web applications locally with the help of offline cache. Using of this we can view offline websites.

JavaScript :-

JavaScript is a programming language commonly used in web development. It was originally developed by Netscape as a means to add dynamic and interactive elements to websites. While JavaScript is influenced by Java, the syntax is more similar to C and is based on ECMAScript, a scripting language developed by Sun Microsystems.

JavaScript is a client-side scripting language, which means the source code is processed by the client's web browser rather than on the web server. This means JavaScript functions can run after a webpage has loaded without communicating with the server. For example, a JavaScript function may check a web form before it is

submitted to make sure all the required fields have been filled out. The JavaScript code can produce an error message before any information is actually transmitted to the server.

Like server-side scripting languages, such as PHP and ASP, JavaScript code can be inserted anywhere within the HTML of a webpage. However, only the output of server-side code is displayed in the HTML, while JavaScript code remains fully visible in the source of the webpage. It can also be referenced in a separate .JS file, which may also be viewed in a browser. JavaScript functions can be called within <script> tags or when specific events take place. Examples include onClick, onMouseDown, onMouseUp, onKeyDown, onKeyUp, onFocus, onBlur, onSubmit, and many others. While standard JavaScript is still used for performing basic client-side functions, many web developers now prefer to use JavaScript libraries like jQuery to add more advanced dynamic elements to websites

PHP:-

Stands for "Hypertext Preprocessor." PHP is an HTML-embedded Web scripting language. This means PHP code can be inserted into the HTML of a Web page. When a PHP page is accessed, the PHP code is read or "parsed" by the server the page resides on. The output from the PHP functions on the page are typically returned as HTML code, which can be read by the browser. Because the PHP code is transformed into HTML before the page is loaded, users cannot view the PHP code on a page. This make PHP pages secure enough to access databases and other secure information.

A lot of the syntax of PHP is borrowed from other languages such as C, Java and Perl. However, PHP has a number of unique features and specific functions as well. The goal of the language is to allow Web developers to write dynamically generated pages quickly and easily. PHP is also great for creating database-driven Web sites. If you would like to learn more about PHP, the official site is PHP.net.

2.3 Back-end Technology

In back-end technology we can use SQL, MySQL and SQL server.

MySQL

The back end is implemented using MySQL which is used to design the databases.

MySQL is the world's second most widely used open-source relational database management system (RDBMS). The SQL phrase stands for Structured Query Language.

SQL Server

SQL Server is owned and developed by Microsoft Corporation. The primary function of SQL Server is the storage and access of data as it is required by other applications, whether they are running on other computers that are connected to a network, or the computer on which the server is stored.

Differences between MySQL and SQL Server

MySQL and SQL Server, both are relational database management systems or RDBMS.

MySQL is open source and is free to use whereas SQL Server is a licensed product of Microsoft

Storage Space:-

MySQL needs less amount of operational storage space.

SQL Server needs a large amount of operational storage space.

Cost: -

MySQL is free to use.

SQL Server is costly.

Reason to choose MySQL: -

MySQL is a free-to-use, open-source database that facilitates effective management of databases by connecting them to the software. It is a stable, reliable and powerful solution with advanced features like the following:

- Data Security
- High Performance

2.4 Languages

To develop a website, we can use PHP and Java languages.

Differences between PHP and JAVA

PHP:-

PHP is another top programming language used by web developers. This language provides a number of benefits including:

- Easy to Learn
- Open Source
- Efficient Coding Language
- Plenty of Support

Just as Java is very easy to learn, so is PHP. It becomes even easier to learn if you're familiar with syntax or have experience with Pearl and C.

Along with being easy to learn PHP is an open-source coding language, which means you gain access to a huge community for support. It's also provided free of cost because of the open-source feature.

If you write the code properly, PHP becomes one of the most efficient web languages you can use. It provides plenty of scalability and gives developers the ability to create applications easily.

Java:-

Java provides many benefits as a programming language. Some of the key benefits include:

- Easy to learn
- Object Oriented
- Platform Independence

These three benefits provide more than you might think. If you're new to programming, Java is easy to learn, write, compile and debug compared to other programming languages.

Along with Java providing an easy programming language to learn, it also allows you to create reusable code and modular programs. Java also provides the most significant benefit of being platform-independent. This means the language can be moved from one computer system to another easily. You can run the same program on many different systems, which provides plenty of flexibility.

Reason to choose PHP:-

PHP and Java are both very similar when it comes to the benefits provided, but they are both very different. PHP is a server-side scripting language, while Java is a client-side choice.

When you use PHP code, you will execute it in the actual server, while Java will be executed on your client's computer. This means, if you use Java and the client doesn't have the right program, such as Java Runtime Environment, your webpage won't show up. With PHP, this isn't an issue.

Chapter 3 Requirement and analysis

3.1 Problem Definition

Online shopping is a process that has been well known only in the last few years to be precise. However, it focuses on consumers choosing their products and buying them online.

The entire process is virtually done and there is no need for the person to be physically present at the place at the moment. It is an extensively fuss-free process which has saved a lot of precious time of people who are busy with their daily life.

Online shopping projects deal with all these online shopping sites and their proper functioning such that people can access it easily. However online shopping poses different problems.

The quality of the product which we see online and the product we receive is often different. This creates a bad impression for the consumer. Also, delivery time may vary in the case of online shopping.

3.2 Requirement Specification

3.2.1 Non-Functional Requirement

i. EFFICIENCY REQUIREMENT

When an online shopping cart is implemented, customers can purchase products in an efficient manner.

ii. RELIABILITY REQUIREMENT

The system should provide a reliable environment to both customers and owner. All orders should be reaching the admin without any errors.

iii. USABILITY REQUIREMENT

The website is designed for a user-friendly environment and ease of use.

iv. IMPLEMENTATION REQUIREMENT

Implementation of the system using CSS and in front end with java as back end and it will be used for database connectivity. And the database part is developed by MySQL.

3.2.2 Functional Requirement

• USER

> USER LOGIN

Description of feature

This feature is used by the user to login into the system. A user must login with his username and password to the system after registration. If they are invalid, the user is not allowed to buy any product.

Functional Requirement

- Username and password will be provided after user registration is confirmed.
- Password should be hidden from others while typing it in the field

> REGISTER NEW USER

Description of feature

A new user will have to register in the system by providing essential details to order the products in the system. Functional requirement

- System must be able to verify and validate information.

> PURCHASING AN ITEM

Description of feature

The user can add the desired product into his cart by clicking the add to cart option on the product. He can view his cart by clicking on the cart button. All products added by cart can be viewed in the cart. Users can remove an item from the cart by clicking remove. After confirming the items in the cart, the user can submit the cart by providing a delivery address.

Functional requirement

- System must ensure that only a registered customer can purchase items.

• ADMIN

> MANAGE USER

Description of feature

The administrator can add user, delete user and view user.

> MANAGE PRODUCTS

Description of feature

The administrator can add product, delete product and view product.

> MANAGE ORDERS

Description of feature

The administrator can view orders and delete orders.

Functional requirements

-The system must identify the login of the admin.

Admin account should be secured so that only owner can access that account

3.3 Planning and Scheduling

Gantt chart:-

ID	Task Name	Start	End	Duration	Complete	01 07 20	20 08 20	09 10 20	28 11 20	17 01 21	08 03 21	27 04
1	selection of project	01-07-20	08-07-20	7	100%	Selection of project						
2	requirement and gathering	09-07-20	09-08-20	31	100%	Requirement and Gathering						
3	requirement analysis	10-08-20	10-09-20	31	100%	Requirement analysis						
4	system analysis	11-09-20	11-11-20	61	100%	System analysis						
5	documentation	12-10-20	01-11-20	20	100%	Documentation						
6	designing	13-11-20	30-12-20	47	100%	Designing						
7	coding/implementation	01-01-21	23-03-21	81	95%	Coding/mplementation						
8	testing	24-03-21	28-03-21	4	95%	Testing						
9	deployment	29-03-21	05-04-21	7	95%	Deployment						

FIG 3.3 1 Gantt Chart

Pert chart:-

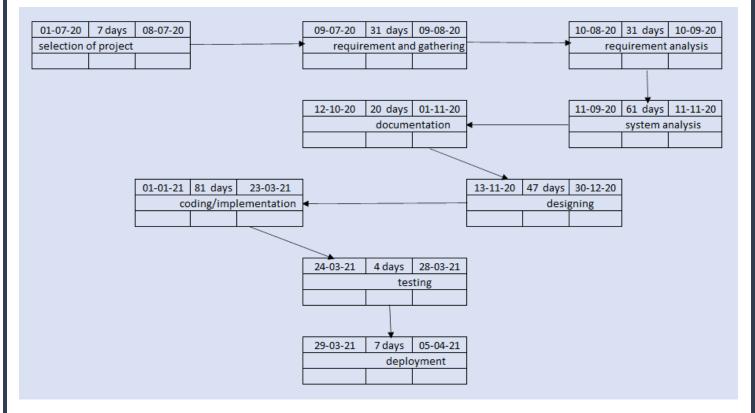


FIG 3.3 2 Pert Chart

3.4 Software and Hardware Requirement

3.4.1 Software Requirement

For development:-

Operating system:-

Windows 10

Software:-

Sublime Text, XAMMP

Front End:-

HTML, CSS, JavaScript, PHP

Back End:-

MySQL

3.4.2 hardware requirement

For development:-

Processor - i3

Memory - 4GB RAM

3.5 Preliminary Description

- User can see homepage without register/login
- After registration they can add the product in cart
- After selecting the product, they can order the products
- After order they can pay the amount of money throw debit/credit card as well as cash on delivery (COD).

3.6 Conceptual Model

The Conceptual Models includes Diagrams such as

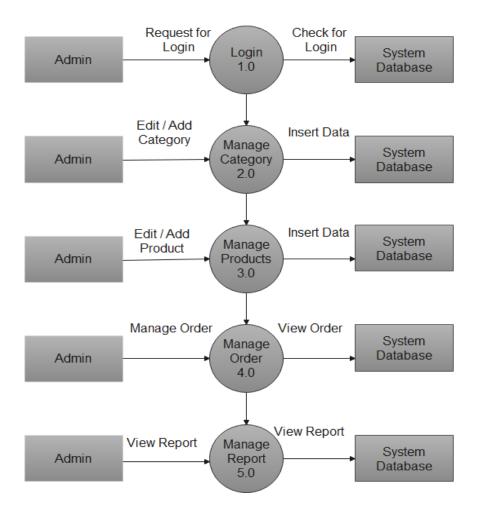
- 1. Data Flow Diagram
- 2. Use Case Diagram
- 3. Activity Diagram
- 4. Sequence Diagram
- 5. Class Diagram
- 6. Event Table

3.6.1 Data Flow Diagram

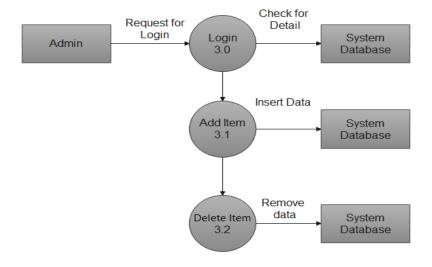
DFD Level 0



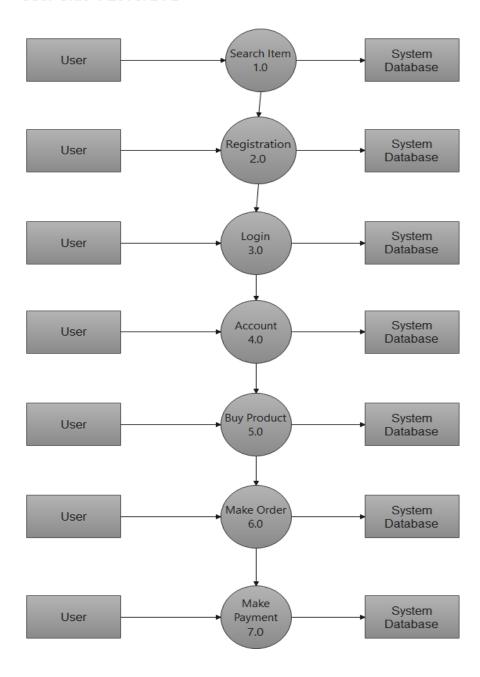
Admin Side DFD Level 1



Admin Side DFD 2nd Level (3.0)



User Side 1 Level DFD



User Side 2nd Level DFD (5.0)

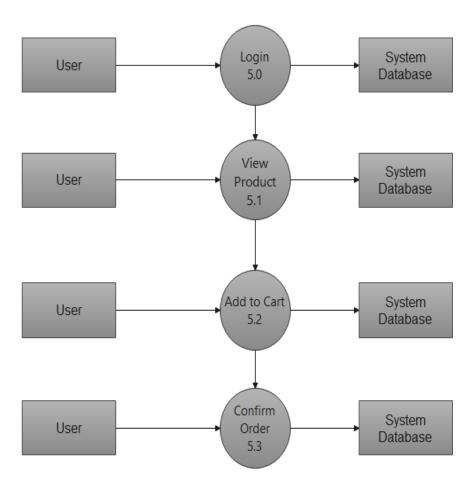


FIG 3.6 1 Data Flow Diagram

3.6.2 Use Case Diagram

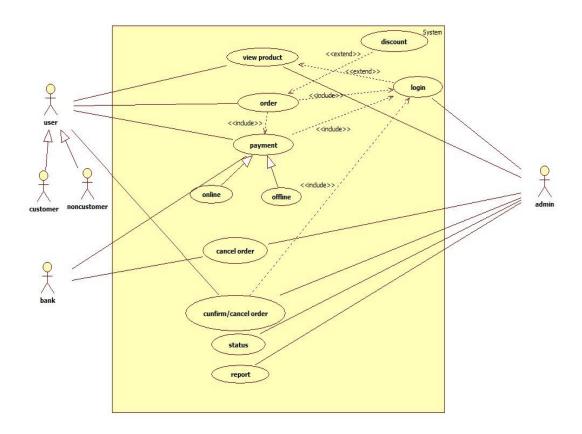


FIG 3.6 2 Use Case Diagram

3.6.3 Activity Diagram

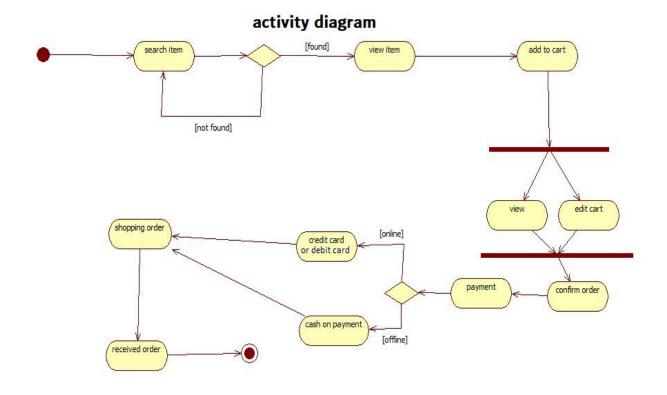


FIG 3.6 3 Activity Diagram

3.6.4 Sequence Diagram

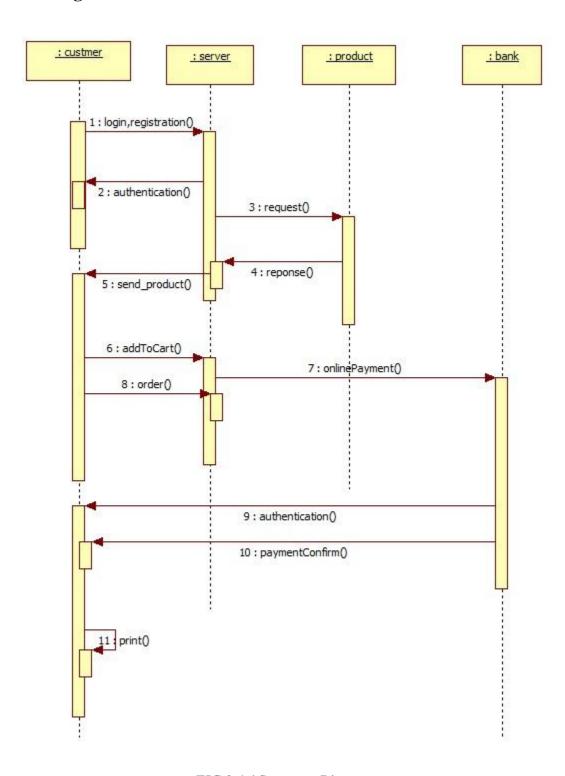


FIG 3.6 4 Sequence Diagram

3.6.5 Class Diagram customer admin -id: number +a_id: number -c_name: string -c_pass: string +a_name: string -c_address: string +a_pass: string 1...* 1 -phone: number +a_phone: number +a_email: string -emai: string +add_product(): void +view_product(): void +manage_order(): void +add_to_cart(): void +manage_product(): void +order(): void +login(): void +payment(): void +login(): void +registration(): void 1 1...* 1...* 1...* product order +p_name: string 1...* +p_id: number 1...* +o_id: number +o_status: boolean +P_price: number +o_date: string +available_stock(): void +find_detail(): detail +get_product(): void 1...* payment +amount: number +date: string +payment_num: number +payment_detail(): void +slip_generation(): void 1...* cart +cart_id: number +date: string 1 +delete_cart(): void +update_cart(): void online payment offline payment +card_no: number +a/c_no: number

FIG 3.6 5 Class Diagram

+bank_authentication(): void

+sipping_add: string

3.6.6 Entity Relationship Diagram

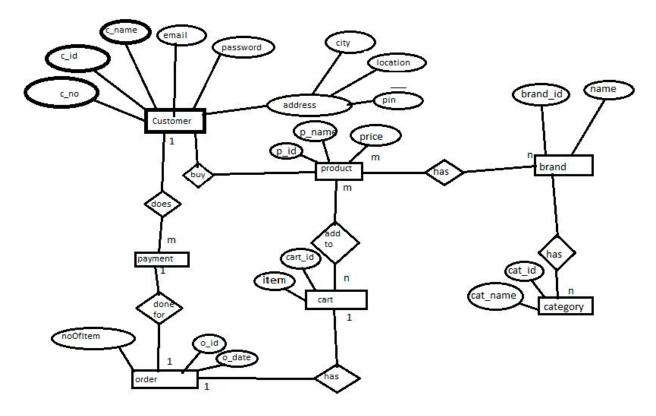


FIG 3.6 6 Entity Relationship Diagram

3.6.7 Event Table

Event To	rigger	Source	Activity	Response	Destination
----------	--------	--------	----------	----------	-------------

Login	To buy or	User	Enter	Home page	User
	Add the		Email ID		
	products		and		
	into Cart		Password		
Register	To buy or	User	Enter First	Home page	User
	Add the		Name, Last		
	products		Name,		
	into Cart		Email ID		
			and		
			Password		
Add to Cart	Proceed to	User	Click on	Payment	Database
	checkout		Proceed to	Option	
			checkout		
Remove	Remove	User	Click on	Cart Page	Database
	unwanted		Remove		
	products		button		
	from Cart				
Payment	Select	User	Select the	Order	User
	Payment		Payment	placed	
	option		option		
			which you		
			want		
		W + D T E 0 < E	1 Event Table		

TABLE 3.6.7 1 Event Table

Chapter 4 System Design

4.1 Basic Module

User Registration: Users can register on the system and get his online account on site.

User Login: Users can login to the system and check various product data online.

Multi Agent Support: The multi agent guides (recommended) and supports the user through his entire shopping experience and sorts out products as per user preference.

Product Categories: The products are arranged and can be viewed in categories.

Add to cart: Users can add products to cart.

Custom Search: Users may do a custom search. System takes user requirements and shows products matching it.

Related products: System also shows related products likely to be bought by the user.

Credit/debit card payment: After the total bill is calculated the user can pay via credit/debit card online.

4.2 Data Design

4.2.1 Schema Design

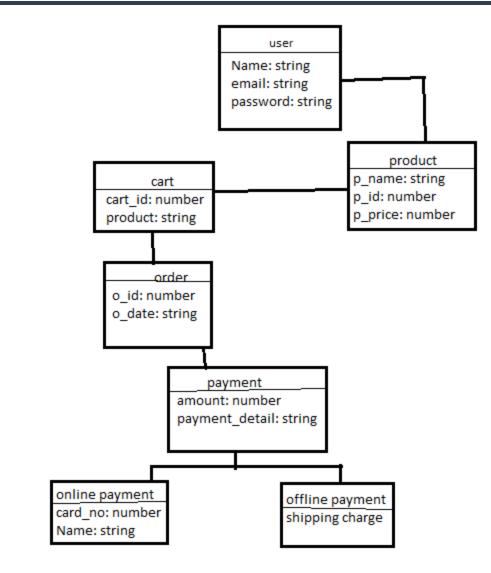


FIG 4.2. 1 Schema Diagram

4.2.2 Data Integrity

> User Table

Field	Type	Null	
Name	Varchar (255)	No	
Email	Varchar (255)	No	
Contactno	Int (10)	No	
Password	Varchar (255)	No	
shippingAddress	longtext	No	
shippingState	Varchar (255)	No	

shippingCity	Varchar (255)	No
shippingPincode	Int (11)	No
billingAddress	Longtext	No
billingState	Varchar (255)	No
billingCity	Varchar (255)	No
billingPincode	Int (11)	No

TABLE 4.2.2 1 User Table

> Product Table

Field	Type	Null
id	INT (11)	No
category	Int (11)	No
subCategory	Int (11)	No
productName	Varchar (255)	No
productCompany	Varchar (255)	No
productPrice	Int (11)	No
productPriceBeforeDiscount	Int (11)	No
productDescription	Longtext	No
productImage1	Varchar (255)	No
productImage2	Varchar (255)	No
productImage3	Varchar (255)	No
shippingCharge	Int (11)	No
productAvailability	Varchar (255	No
postingDate	Timestamp	No
updationDate	varchar(255)	No

TABLE 4.2.2 2 Product Table

> Subcategory Table

Field	Type	Null
id	INT(11)	No
categoryid	int(11)	No
creationDate	Timpstamp	No
updationDate	varchar(255)	No

TABLE 4.2.2 3 Subcategory Table

> Wishlist Table

Field	Туре	Null
id	INT(11)	No
userid	Int(11)	No
productId	Int(11)	No
postingDate	Timestamp	No

TABLE 4.2.2 4 Wishlist Table

> Order Table

Field	Type	Null
id	INT(11)	No
userId	Int(11)	No
productId	varchar(255)	No
quantity	Int(11)	No
orderDate	Timestamp	no
paymentMethod	varchar(50)	No
orderStatus	varchar(55)	

TABLE 4.2.2 5 Order Table

> Category Table

Field	Type	Null
id	INT(11)	No
categoryName	Varchar (255)	No
creationDate	Timpstamp	No
updationDate		No

TABLE 4.2.2 6 Category Table

> Admin Table

Field	Type	Null
id	INT(11)	No
username	Varchar (255)	No
password	varchar(255)	No
creationDate	Timestamp	No
updationDate	varchar(255)	No

TABLE 4.2.2 7 Admin Table

> Productreviews

Field	Type	Null
id	Int (11)	No
productId	Int (11)	No
price	Int (11)	No
value	Int (11)	No
name	Varchar (255)	No
summary	Varchar (255)	No
review	Longtext	No

TABLE 4.2.2 8 Productreviews Table

> Userlog Table

Field	Туре	Null
id	INT(11)	No
userEmail	Varchar (255)	No
productId	Varchar (255)	No
userip	Binary (16)	No
loginTime	Timestamp	No
logout	Varchar (255)	No
status	Int (11)	No

TABLE 4.2.2 9 Userlog Table

4.3 Procedure Design

4.3.1 Flow Chart

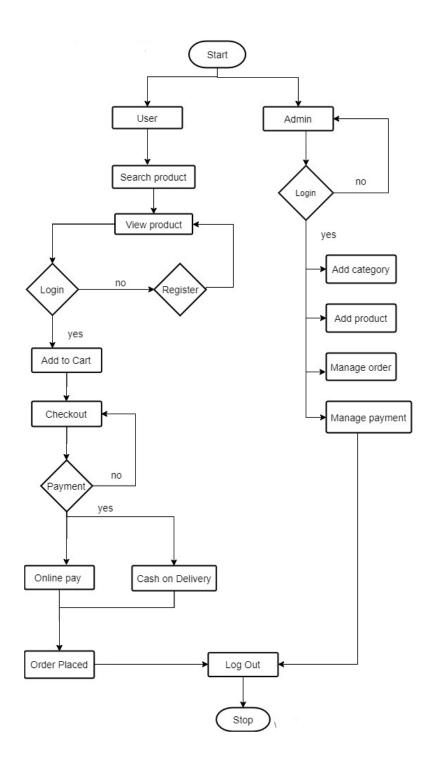


FIG 4.3 1 Flow Chart

4.4 Algorithm Design

Step 1: start

Step 2: homepage

Step 3: user can login

Else: user can register themselves

Step 4: user can select the product and add them into the cart

Step 5: check the products into the cart

Else: remove unwanted products from the cart

Step 6: proceed to order

Step 7: pay via online (debit/credit card)

Else: pay via offline (COD)

Step 8: logout Step 9: stop

4.5 UI design







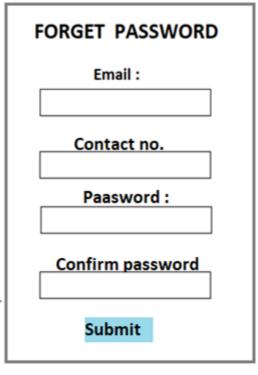


FIG 4.5 1 UI Design

4.6 Test Case Design

Test Case	Description	Input Data	Expected Result		
				Actual Result	Result
TC_1	Login	Enter Email	Open Home		
	Login into the System by	id and	Page		
	entering correct details	password			
TC_2	Register To create an account in the system	Enter First Name, Last Name, Email ID and Password	Login page		

TC_3	Forgot Password To enter the new password and login Again	Enter new Password	Forget password page
TC_4	Add to Cart To add the product for order	Click on Add to Cart	Product Added into Cart
TC_4.1	Remove To remove unwanted products	Click on Remove	Product Remove from Cart
TC_4.2	Proceed To order the products	Click on Proceed	View Payment Option
TC_5	Payment Payment can be done via Offline (COD) or Online	Choose payment option	Order placed

TABLE 4.6 1 Test Case Design

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation Approaches Scrum

Scrum methodology was chosen to manage the project cycle. Scrum Methodology follow the agile development principle which is an iterative development methodology. However, scrum methodology was not followed to its full potential. The overall project was not managed as it should be, the prototype iterations were completed with success. The whole cycle of choosing the priority features and implementing a working version allowed quick progress in implementing the features. Also, the nature of the iterative approach allowed easy adaption of changing requirements during the project.

5.2 Coding Details and Code Efficiency 5.2.1 Coding

```
Login.php

if(isset($_POST['submit']))
{
    $name=$_POST['fullname'];
    $email=$_POST['emailid'];
    $contactno=$_POST['contactno'];
    $password=md5($_POST['password']);
    $query=mysqli_query($con,"insert into users(name,email,contactno,password)
    values('$name','$email','$contactno','$password')");
    if($query)
    {
        echo "<script>alert('You are successfully register');</script>";
}
else{
    echo "<script>alert('Not register something went worng');</script>";
```

```
}
}
// Code for User login
if(isset($_POST['login']))
 $email=$_POST['email'];
 $password=md5($_POST['password']);
$query=mysqli_query($con,"SELECT * FROM users WHERE email='$email' and password='$password'");
$num=mysqli_fetch_array($query);
if($num>0)
$extra="my-cart.php";
$_SESSION['login']=$_POST['email'];
$_SESSION['id']=$num['id'];
$_SESSION['username']=$num['name'];
$uip=$_SERVER['REMOTE_ADDR'];
$status=1;
$log=mysqli_query($con,"insert into userlog(userEmail,userip,status) values("".$_SESSION['login']."','$uip','$status')");
$host=$_SERVER['HTTP_HOST'];
$uri=rtrim(dirname($_SERVER['PHP_SELF']),'/\\');
header("location:http://$host$uri/$extra");
exit();
}
else
$extra="login.php";
$email=$_POST['email'];
$uip=$_SERVER['REMOTE_ADDR'];
$status=0;
$log=mysqli_query($con,"insert into userlog(userEmail,userip,status) values('$email','$uip','$status')");
$host = $_SERVER['HTTP_HOST'];
```

```
$uri = rtrim(dirname($_SERVER['PHP_SELF']),'/\\');
header("location:http://$host$uri/$extra");
$_SESSION['errmsg']="Invalid email id or Password";
exit();
}
?>
Forget-password.php
div class="body-content outer-top-bd">
       <div class="container">
              <div class="sign-in-page inner-bottom-sm">
                      <div class="row">
                             <!-- Sign-in -->
<div class="col-md-6 col-sm-6 sign-in">
       <h4 class="">Forgot password</h4>
       <form class="register-form outer-top-xs" name="register" method="post">
       <span style="color:red;" >
<?php
echo htmlentities($_SESSION['errmsg']);
?>
<?php
echo htmlentities($_SESSION['errmsg']="");
?>
       </span>
```

```
<div class="form-group">
                 <label class="info-title" for="exampleInputEmail1">Email Address <span>*</span></label>
                 <input type="email" name="email" class="form-control unicase-form-control text-input"</pre>
id="exampleInputEmail1" required >
              </div>
              <div class="form-group">
                 <label class="info-title" for="exampleInputPassword1">Contact no <span>*</span></label>
               <input type="text" name="contact" class="form-control unicase-form-control text-input"</pre>
id="contact" required>
              </div>
<div class="form-group">
              <label class="info-title" for="password">Password. <span>*</span></label>
              <input type="password" class="form-control unicase-form-control text-input" id="password"</pre>
name="password" required >
              </div>
<div class="form-group">
              <label class="info-title" for="confirmpassword">Confirm Password. <span>*</span></label>
              <input type="password" class="form-control unicase-form-control text-input"</pre>
id="confirmpassword" name="confirmpassword" required >
              </div>
              <button type="submit" class="btn-upper btn btn-primary checkout-page-button"
name="change">Change</button>
       </form>
</div>
```

```
Mycart,php
<?php
session_start();
error_reporting(0);
include('includes/config.php');
if(isset($_POST['submit'])){
              if(!empty($_SESSION['cart'])){
              foreach($_POST['quantity'] as $key => $val){
                     if($val==0){
                             unset($_SESSION['cart'][$key]);
                      }else{
                             $_SESSION['cart'][$key]['quantity']=$val;
              }
                     echo "<script>alert('Your Cart hasbeen Updated');</script>";
              }
       }
// Code for Remove a Product from Cart
if(isset($_POST['remove_code']))
if(!empty($_SESSION['cart'])){
              foreach($_POST['remove_code'] as $key){
```

```
unset($_SESSION['cart'][$key]);
              }
                      echo "<script>alert('Your Cart has been Updated');</script>";
// code for insert product in order table
if(isset($_POST['ordersubmit']))
if(strlen($_SESSION['login'])==0)
  {
header('location:login.php');
}
else{
       $quantity=$_POST['quantity'];
       $pdd=$_SESSION['pid'];
       $value=array_combine($pdd,$quantity);
              foreach($value as $qty=> $val34){
mysqli_query($con,"insert into orders(userId,productId,quantity) values("".$_SESSION['id']."','$qty','$val34')");
header('location:payment-method.php');
}
Logout.php
```

```
<?php
session_start();
include("includes/config.php");
$_SESSION['login']=="";
date_default_timezone_set('Asia/Kolkata');
$ldate=date('d-m-Y h:i:s A', time());
mysqli_query($con,"UPDATE userlog SET logout = '$ldate' WHERE userEmail = '".$_SESSION['login']."'
ORDER BY id DESC LIMIT 1");
session_unset();
$_SESSION['errmsg']="You have successfully logout";
?>
<script language="javascript">
document.location="index.php";
</script>
Config.php
      <?php
      define('DB_SERVER','localhost
       '); define('DB_USER','root');
      define('DB_PASS' ,");
      define('DB_NAME', 'shopping');
      $con = mysqli_connect(DB_SERVER,DB_USER,DB_PASS,DB_NAME);
      // Check connection
      if (mysqli_connect_errno())
       echo "Failed to connect to MySQL: " . mysqli_connect_error();
       ?>
```

5.2.2 Code Efficiency

Overview of the Project

Shopping file

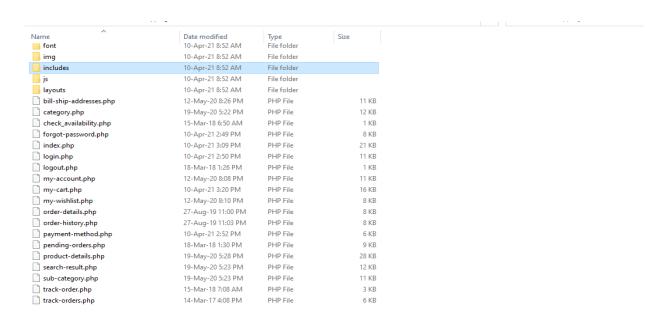


Fig 5.2.2 1 Shopping File

Include file

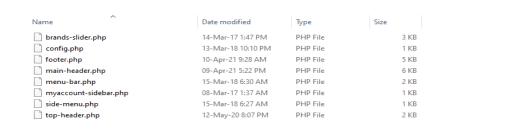


Fig 5.2.2 2 Include File

Admin (php files)

productimages	10-Apr-21 8:52 AM	File folder	
scripts	10-Apr-21 8:52 AM	File folder	
acategory.php	13-Mar-18 10:21 PM	PHP File	6 KB
change-password.php	10-Apr-21 2:41 PM	PHP File	5 KB
delivered-orders.php	14-Jul-19 2:49 PM	PHP File	6 KB
dit-category.php	13-Mar-18 10:22 PM	PHP File	5 KB
edit-products.php	14-Mar-18 7:14 AM	PHP File	10 KB
edit-subcategory.php	13-Mar-18 11:10 PM	PHP File	5 KB
get_subcat.php	14-Mar-18 7:29 AM	PHP File	1 KB
index.php	09-Apr-21 12:16 PM	PHP File	4 KB
insert-product.php	14-Jul-19 2:47 PM	PHP File	9 KB
logout.php	25-Jan-17 12:12 AM	PHP File	1 KB
manage-products.php	14-Mar-18 7:04 AM	PHP File	5 KB
manage-users.php	15-Mar-18 6:14 AM	PHP File	5 KB
nicEdit	04-Oct-15 5:26 PM	JavaScript File	32 KB
nicEditorIcons	04-Oct-15 5:26 PM	GIF File	4 KB
pending-orders.php	14-Jul-19 2:48 PM	PHP File	6 KB
subcategory.php	13-Mar-18 10:25 PM	PHP File	6 KB
todays-orders.php	14-Jul-19 2:48 PM	PHP File	6 KB
update-image1.php	14-Mar-18 7:21 AM	PHP File	5 KB
update-image2.php	14-Mar-18 7:23 AM	PHP File	5 KB
update-image3.php	14-Mar-18 7:28 AM	PHP File	5 KB
updateorder.php	13-Mar-18 10:17 PM	PHP File	4 KB
user-logs.php	15-Mar-18 6:14 AM	PHP File	4 KB

Fig 5.2.2 3 Admin file

CSS file

animation	24-Feb-14 10:39 AM	Cascading Style S	2 KB
bootstrap.min	24-Feb-14 10:39 AM	Cascading Style S	18 KB
chosen	24-Feb-14 10:39 AM	Cascading Style S	12 KB
cloud-zoom	24-Feb-14 10:39 AM	Cascading Style S	1 KB
flexslider	24-Feb-14 10:39 AM	Cascading Style S	5 KB
fontello	24-Feb-14 10:39 AM	Cascading Style S	118 KB
fontello-codes	24-Feb-14 10:39 AM	Cascading Style S	117 KB
fontello-embedded	24-Feb-14 10:39 AM	Cascading Style S	1,327 KB
fontello-ie7	24-Feb-14 10:39 AM	Cascading Style S	219 KB
🚮 fontello-ie7-codes	24-Feb-14 10:39 AM	Cascading Style S	219 KB
ie ie	24-Feb-14 10:39 AM	Cascading Style S	2 KB
jquery.fancybox	24-Feb-14 10:39 AM	Cascading Style S	6 KB
jquery.nouislider.min	24-Feb-14 10:39 AM	Cascading Style S	3 KB
owl.carousel	28-Feb-14 4:16 PM	Cascading Style S	2 KB
owl.theme	13-Jan-14 8:16 PM	Cascading Style S	2 KB
owl.transitions	13-Jan-14 8:15 PM	Cascading Style S	5 KB
perfect-scrollbar	24-Feb-14 2:16 PM	Cascading Style S	3 KB
select	24-Feb-14 10:39 AM	Cascading Style S	7 KB
settings	28-Feb-14 8:46 PM	Cascading Style S	38 KB
settings-ie8	24-Feb-14 10:39 AM	Cascading Style S	27 KB
style	10-Apr-21 11:44 AM	Cascading Style S	80 KB

Fig 5.2.2 4 CSS File

5.3 Testing Approaches

5.3.1 Unit Testing

Unit testing deals with testing a unit or module as a whole. This would test the interaction of many functions but, do confine the test within one module.

Login.php (LC_1)

Test Case ID	Input Data	Expected Result	Actual Result	Result
LC_1.1	Enter email id Sheetalgupta789@gmail.com Password sheetal	Process to login	Process to login	Pass
LC_1.2	Enter email id Sheetalgupta78@gmail.com Password sheetal	Invalid email or password	Invalid email or password	Pass
LC_1.3	Enter email id Sheetalgupta789@gmail.com Password Sheetal5	Invalid email or password	Invalid email or password	Pass
LC_1.4	Enter email id Eg. Null Password Eg. Null	Invalid email or password	Invalid email or password	Pass

TABLE 5.3.1 1 Unit Testing login.php

Registration (Login.php (LC_2))

Test Case ID	Input Data	Expected Result	Actual Result	Result
LC_2.1	Full name: Rahul Email rahulgupta29@gmail.com Contact no. 12345678 Password 333 Confirm password 333	Register successful	Register successful	Pass
LC_2.2	Full name: Rahul Email: mahtobabita29@gmail.com	Email already exist	Email already exist	Pass

	Contact no. 12345678 Password 333 Confirm password 333			
LC_2.3	Full name: Rahul Email: rahulgupta29@gmail.com Contact no. 12345678 Password 126 Confirm password 123	Password and confirm password does not match	Password and confirm password field does not match!	pass
LC_2.4	Full name: Rahul Email: rahulgupta29@gmail.com Contact no. null Password 333 Confirm password 333	Please fill out this field	Please fill out this field	pass

TABLE 5.3.1 2 Unit Testing register

Forget-password.php (LC_3)

Test Case ID	Input Data	Expected Result	Actual Result	Result
LC_3.1	Email Sheetalgupta789@gmail.com Contact no. 12345678 Password sheetal2 Confirm password sheetal2	Successfully password change	Successfully password change	Pass
LC_3.2	Email Sheetalgupta789@gmail.com Contact no. 7304058985 Password sheetal2 Confirm password sheetal2	Invalid email id or contact no.	Invalid email id or contact no.	Pass
LC_3.3	Email mahtobabita29@gmail.com Contact no. 12345678 Password sheetal2 Confirm password sheetal2	Invalid email id or contact no.	Invalid email id or contact no.	Pass

TABLE 5.3.1 3 Unit Testing forget-password.php

5.3.2 Integration testing

Integration testing bring all the modules together into a special testing environment, the checks for errors, bugs and interoperability. It deals with tests for the entire application. Application limits and feature are tested here.

Test Case	Description	Input Data	Expected Result	Actual Result	Result
TC_1	Login Into the System by entering correct details	Enter Email id and password	Open Home Page	Open Home Page	Pass
TC_2	Register To create an account in the system	Enter First Name, Last Name, Email ID and Password	Login page	Login page	Pass
TC_3	Forgot Password To enter the new password and login Again	Enter new Password	Forget password page	Forget password page	Pass
TC_4	Add to Cart To add the product for order	Click on Add to Cart	Product Added into Cart	Product Added into Cart	Pass
TC_4.1	Remove To remove unwanted products	Click on Remove	Product Remove from Cart	Product Remove from Cart	Pass
TC_4.2	Proceed To order the products	Click on Proceed	View Payment Option	View Payment Option	Pass
TC_5	Payment Payment can be done via Offline (COD) or Online	Choose payment option	Order placed	Order placed	Pass

TABLE 5.3.2 1 Integration Testing

5.3.3 System Testing

System testing is a level of testing that validates the complete and fully integrated software product.

The purpose of a system test is to evaluate the end-to-end system specifications. Usually, the software is only one element of a larger computer-based system. It includes delay, usability, security.

Delay

- 1. While approving orders it take a little bit time to update on user side
- 2. It take a little bit time to open it is because of network problem

Usability

It is mainly use for shopping. While using this type of website we can save our times as well travelling cost and lots of work

By using this website, we can order of product from home without going anywhere

It decreases pollution because individual is going to buy the needed products and they go by there own vehicles that's why pollution is increase while using this there is person who take an all product of one area It's helps in making digital India

Security

Shopping at a mouse click has become increasingly popular. Conversely, cybersecurity threats have attracted increased attention and made big news. However, more and more people are using their computers to shop even with the increase in cybercrimes. You can order anything online and have it delivered right to your doorsteps whether its household appliances, fashion accessories, food, books, and music.

Online shopping has undeniable advantages, but still, it creates negative headlines repeatedly. Every online company works to build their customer's trust and get loyal buyers. The increasing threat of cybercrime can swiftly untangle the marketing endeavors of any company. With the increase in online sales and discounts, cybercriminals wait in the background to trap customers rushing to get the best deals.

CHAPTER 6 RESULTS AND DISCUSSION

6.1 Test Reports

6.1.1 Informal Testing

Informal Testing is used to see the initial error that was faced was resolved or not There were many problems faced initially some of that are:

- 1. The phone number was accepting less than 10 numbers
- 2. At the time of forget password, if password and confirm password field are different then also it accept a password

6.1.2 Formal Testing

In Formal testing the summary of the test cases is shown in chapter 5.

Summary of Unit Testing

File Name	Number of test cases	Success	Failure
Login.php	4	4	0
Register (Login.php)	4	4	0
Forget-password.php	4	4	0

Table 6.1.2 1 Summary of Unit Testing

Summary of Integration Testing

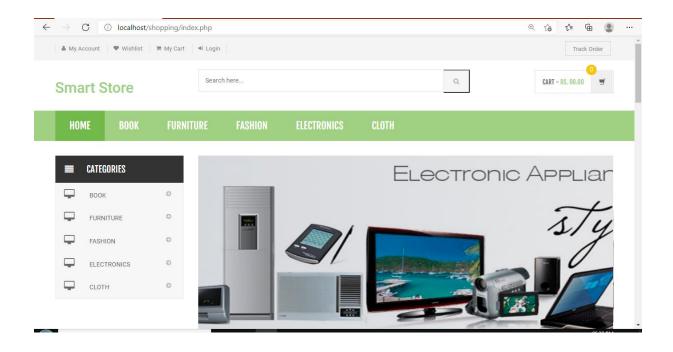
Total number of Files	Number of test case	Success	Failure
5	7	7	0

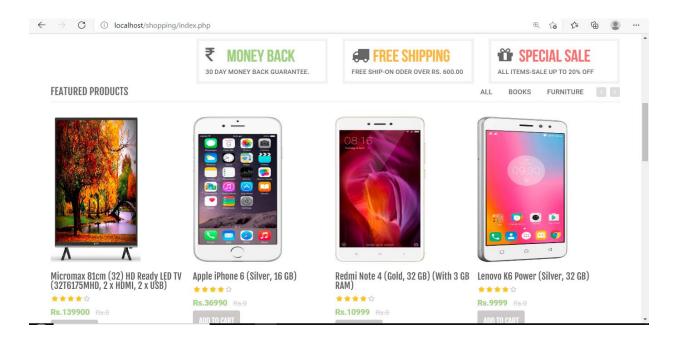
Table 6.1.2 2 Summary of Integration Testing

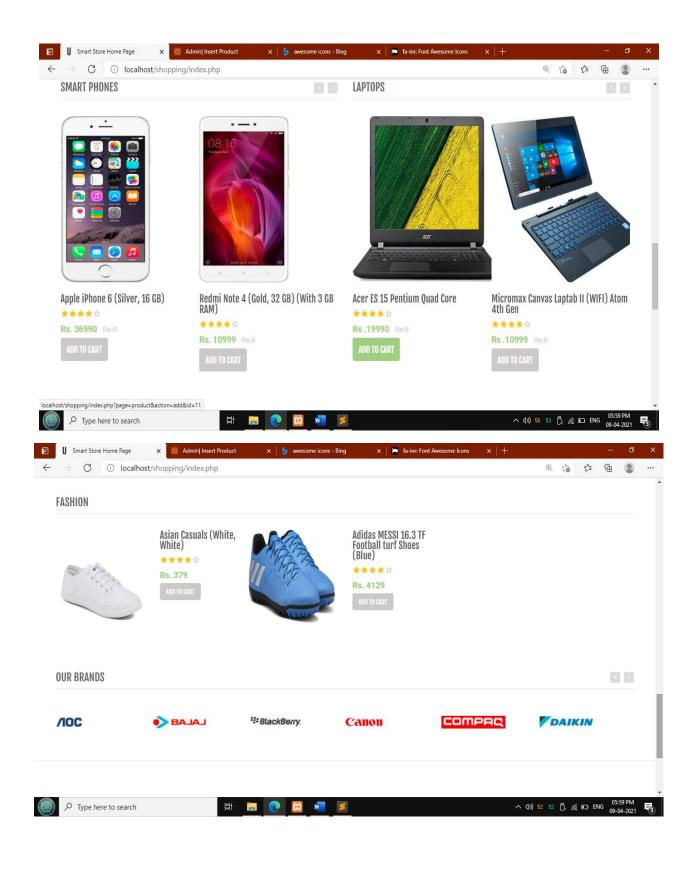
Conclusion of Testing

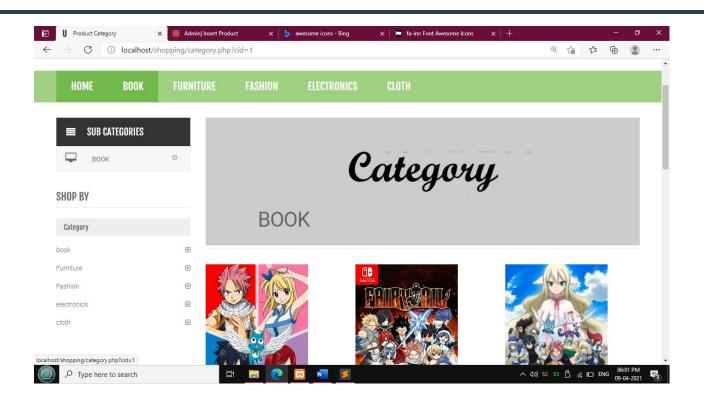
Since the Testing was done manually the testing took more time. If Automatic testing was performed then the time took for testing would have been less. Testcase will be more refined and effective, accurate. The tool will generate the test case automatically and the user does not have to check again and again if there is a change in the code the testing would have been performed by the tool

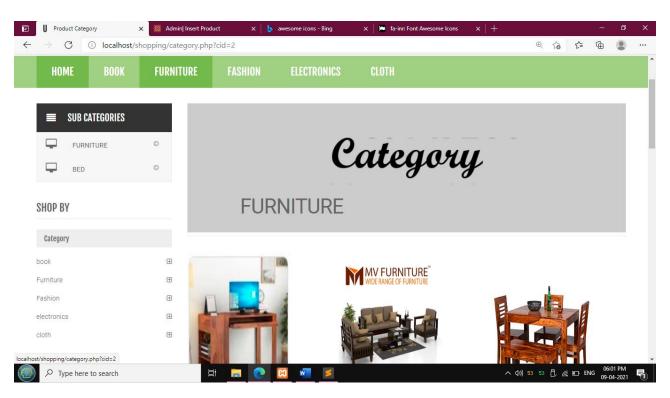
6.2 User Documentation



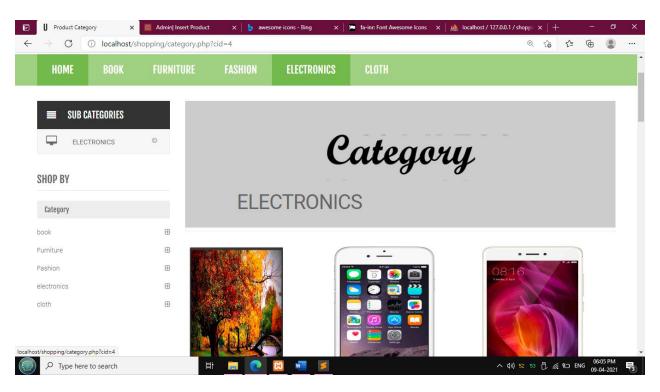


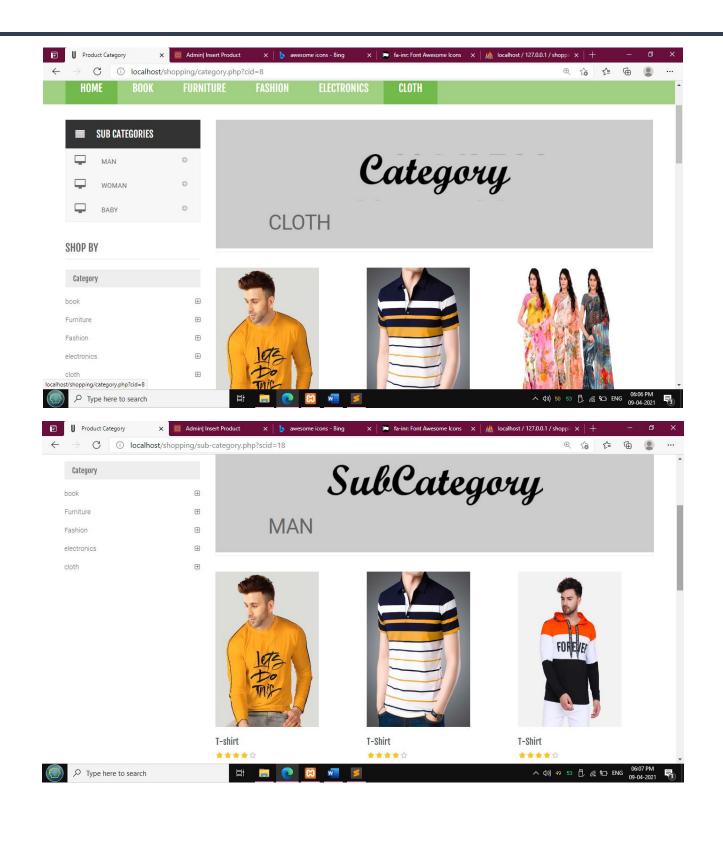


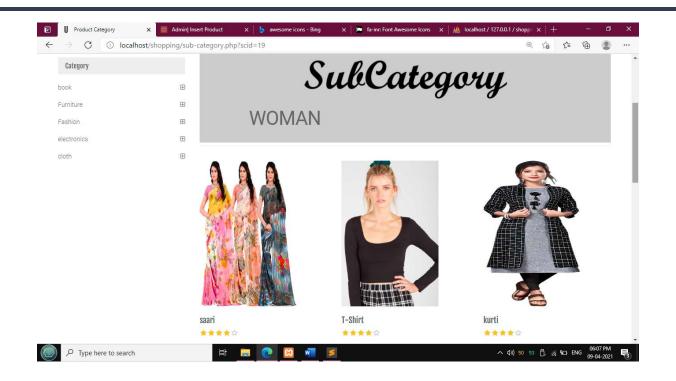


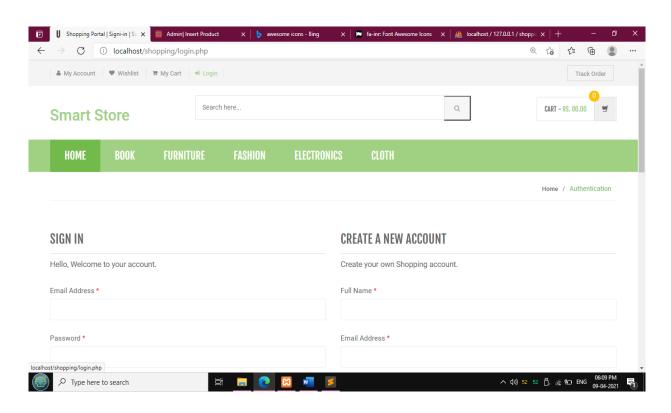


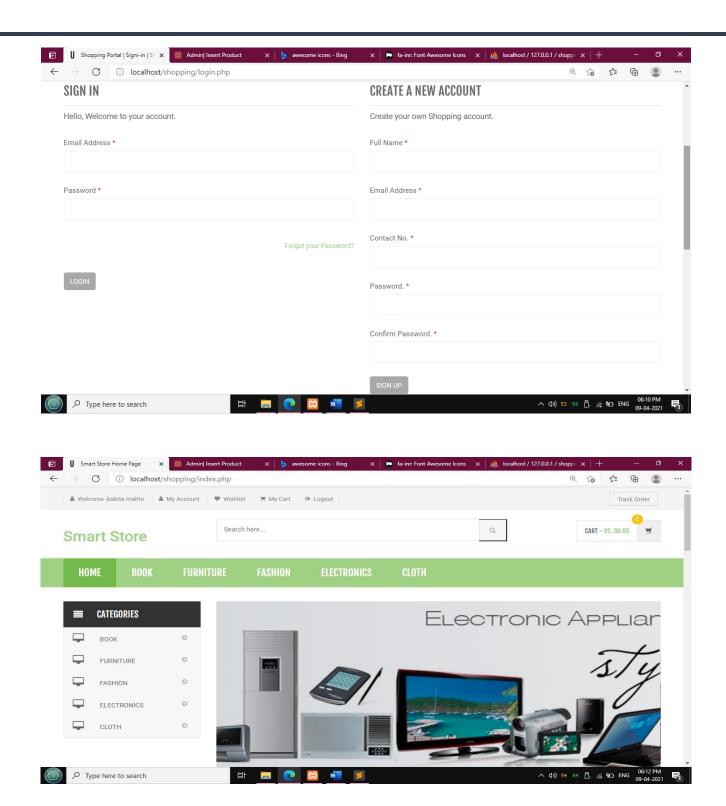


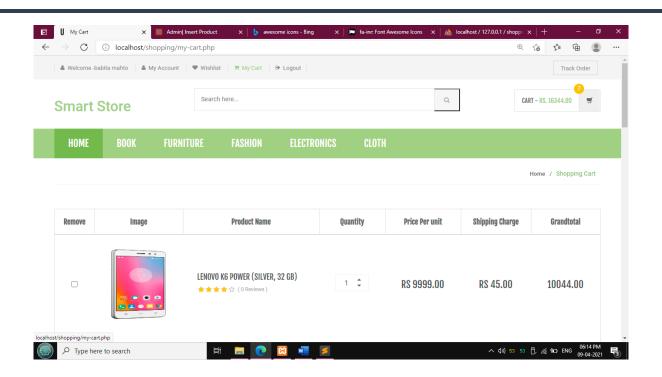


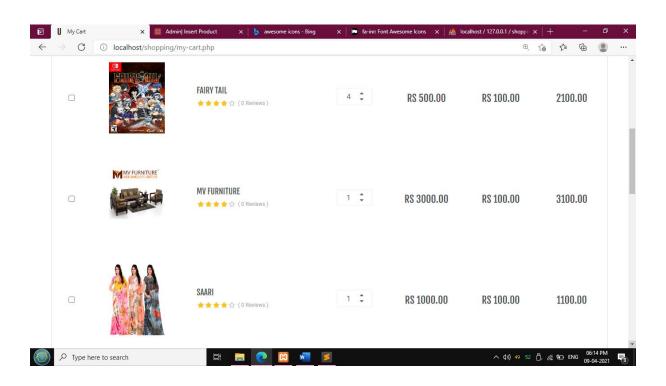


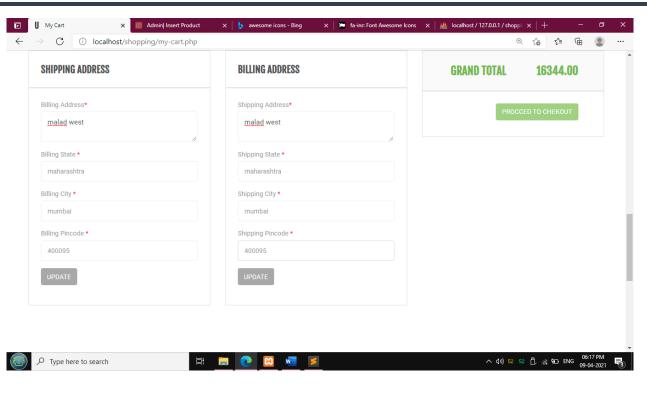


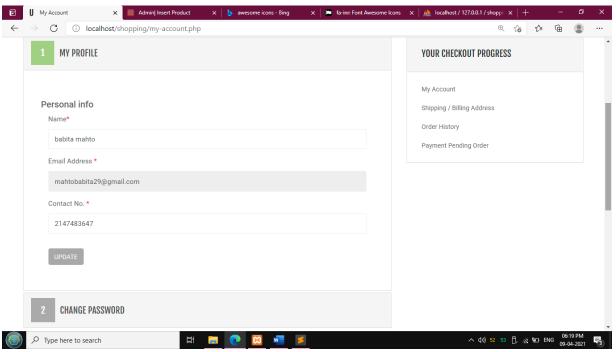












CHAPTER 7 CONCLUSIONS

7.1 Conclusion

I have proposed an agent-based system to automate shopping process. I had identified different scenarios through which, the proposed system will be much more helpful. The success of the system will be to help people save time and effort in dealing with buying and selling operations. I have analyzed and shown some functionalities of Multi-Agent Shopping System. I have also given the sample implementation. We have also presented the background information on the working of this system by software agents and automatic negotiations. The negotiation paradigm presented is based on the Dutch auction mechanisms. Currently, the proposed system is still being implemented and extended. We are converging toward the main goal to make it more intelligent to and strongly capable to handle e-commerce operations.

7.2 Limitations of the System

- After registration system has to go on home page but it remains on login page only
- After click on forget password system has to go on home page but it remains on forget password page only
- Does not specify length of contact no.
- After clicking on online payment option it does not show card detail

7.3 Future Scope of the Project

The rapid development of the Internet and e-commerce including online shopping made it important that the need to automate shopping process on Internet and provide more personalized information services for customers. The above analysis suggests that the agent based e-shopping system performs better than the e-shopping system which is not based on the agent technology. It out performs the general web-based e-shopping system in terms of execution time. In future, an intelligent shopping system can be developed.

In this work, a multi-agent system to provide shopping service for the commodities that a consumer does not buy frequently. The system integrates built-in expert knowledge and the customer's current needs, and recommends optimal products based on multi-attribute decision making method. To reduce the effort of system-customer interactions, the system utilizes customer-based collaboration filtering approach to recommend the products. Besides, in order to maintain a semantic conversation with sellers, the commodity ontology is also utilized to support sharable information format and representation.	

REFERENCES
back-end:
youtube.com/watch?v=G6ye0tyHMjc
https://www.youtube.com/watch?v=OMNYgoViRDc
database:
https://www.youtube.com/watch?v=QsAVoLPqkRQ