Procuring Software Development through E-Commerce Website

Project Report

Submitted in fulfillment of the requirement for The Major Project (8th Semester) In Computer Science and Engineering and Information Technology

By
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To

Department of Computer Science & Engineering and Information Technology

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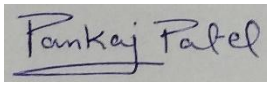
Candidate's Declaration

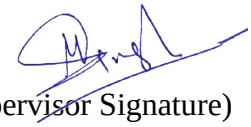
I hereby declare that the work presented in this report entitled "E-CommerceWebsite" in partial fulfillment of the requirements for the Major Project(8^{th} Semester) in Computer Science and Engineering submitted in the department of Computer Science &Engineering and Information Technology, Jaypee University of Information Technology, Waknaghat is an authentic record of my own work carried out over a period from Feb 2021to May2021under the supervision of Dr. Mrityunjay Singh.



(Student Signature)

Pankaj Patel(171204)

This is to certify that the above statement made by the candidate is true to the best of my knowledge.



(Supervisor Signature)
Supervisor Name: Dr.Mrityunjay Singh
Department name: Computer Science & Engineering

Dated:

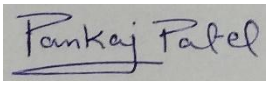
PROJECT REPORT UNDERTAKING

I, Mr.Pankaj Patel, Roll No.171204, Branch - Computer Science and Engineering is doing my internship with Cognizant from 06-03-21 to 16-08-21.

As per procedure I have to submit my project report to the university related to my work that I have done during this internship.

I have compiled my project report. But due to COVID-19 situation my project mentor in the company is not able to sign my project report.

So, I hereby declare that the project report is fully designed/developed by me and no part of the work is borrowed or purchased from any agency. And I'll produce a certificate/document of my internship completion with the company to TnP Cell whenever COVID-19 situation gets normal.



Signature

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Date: 21-05-2021

ACKNOWLEDGEMENT

This is a matter of pleasure for me to acknowledge my deep sense of gratitude to Jaypee University and my college, Jaypee university of information technology for giving me an opportunity to explore my abilities via this internship program. I would like to express my sincere gratitude to our TnP officer, Mr. Pankaj Kumar and our faculty Coordinator, Dr. Nafis U Khan for this opportunity. I also wish to express my gratitude to my internship supervisor, for their valuable guidance and advice in completing this project.

I wouldliketorecordmysincereappreciationandgratitudetowardsalltheofficials and employees of cognizant, without whose kind assistance, my internship program would not have succeeded. The facts and other vital information provided by them have contributed towards making this report as comprehensive as possible. I am indeed thankful to them.

Last but not the least, I would like to express my sincere thanks to all my family members, friends and well-wishers for their immense support and best wishes throughout the internship duration and the preparation of this report.

Ibelievethatthisreportwillbeavaluableassetnotonlyforacademicinstitution, but will also be useful for all those who are interested to learn about internship experience sin auditing and consulting firm.

Pankaj Patel

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ABSTRACT

The need of online shopping portals has increased during the pandemic. The basic idea of choosing this as the major projectwas to contribute to the society by implementing such projectsas during thecovid -19 people generally prefer to stay home, this gives them an opportunity to shop from home. People can purchase various items from the site with discounts. We haveimplemented this using jsp and servlets, connected to the databaseusingmyconnection class. It contains various options for billing and the cart where you can add the items, scratch cards, price range etc. That is the main reason it is beneficial in these times. The important feature of this is the security as the security is essential in this case so we have used a feature of google recaptcha which shows the various attempts by the users who have logged into the website so the security feature is the one of the most important features of this website. Sowe have implemented this project and it's the majorproject.

1.0 INTRODUCTION

1.1 Objective

The need of the ecommerce website is Lowupkeepcost,OnlineShoppingisasignificant benefit driver for business. A large portion of the things in online store are programmed. Costs caused in everything from stock, client subtleties, installment subtleties to item choice and the executives of clients' interests are lower than conventional tradecosts.

When the user joins the website, he or she will see the things he or she wants to order. There's a login and registration option where he can register on the web himself. He is routed to the loginand register page if he or she clicks on purchase now. He or she has to first register on the websiteto buy something. He or she can purchase theitems in theshoppingcartafter registering.

* Saving Expenses:-

Nothing other than cost savings is one of the key goals behind the creation of e-commerce and mobile app production. You do not need to buy or lease a spot to open your shop, unlike a brick and mortar store. Similarly, unlike a brick and mortar shop, you still do not have to recruit, look after, handle and pay staff in a virtualstore.

* Available all time:-

Unlike a brick and mortar store which may operate for certain hours or may be off for certain days, the ecommerce websites in India operate 24/7 which means that no matter whether or not you are there your business is running generating revenue and accumulating profits foryou.

* Simplicity, usability and comfort:-

Your consumers may be dying to shop from your store or buy your item, but let's look at it this way, even if they're dying, they may not have the time to drive to your store with themeans.

While, after a time of yearning, consumers may wait to get hold of your goods, they may turn to competing products and check them out as they are at least readily available.

You generated all the interest and raised all the visibility in this way, but who got the profit from it none other than your rival brand and why? Only because they had stuff you weren't able toaccess.

* Improve the scope of your company:-

In Indian and Ecommerce Website Growth India, this is one of the ultimate aims behind the development of mobile applications,i.e. it lets you improve your market presence. This suggests that it will help you improve your marketshare.

Its various types are:

a. Company to Company:-

There are transfers from business to company. The businesses do business with each other here. It is not the final user who is concerned. Therefore, internet sales include only suppliers, wholesalers, sellers,etc.

b. Company to Customer:-

Company to User. Here the organization will specifically market its products and/or services to the customer. Consumers will visit their websites to look at items, videos, reviews, and read them. They then put their order and the company directly delivers the goods tothem.

c. Consumer Against Consumer:-

Market to consumer, where the consumer is in close communication with the consumer. There is no corporation involved. It lets individuals directly market their personal products and belongings to an interested party. Traded products are typically vehicles, motorcycles, electronics,etc.

d. User to business:-

This is the opposite of B2C, it's a business to business client. So, the customer provides the business with a good or other service. Say for instance, an IT freelancer who demonstrates and sells his software to a corporation. It will be a trade involvingC2B.

E-commerce and e-business have rapidly been a critical component of business planning in the new digital economy and a significant driver for economic growth. In industry, the integration of information and communication technology (ICT) has revolutionized relationships within organizations and between organizations and people, and betweenthem.

1.2 ProblemStatement

E-commerce is a convenient means to sell a wide consumer base of goods. There's a lot of rivalry between different e-commerce sites, though. They hope to discover what they are searching for instantly and conveniently as consumers land on an e-commerce platform. Often, consumers are not sure about the labels or the particular items they wish to buy. They've got a really broad understanding of what they want to purchase. Instead of visiting unique e-commerce pages, more consumers nowadays browse for their items on Google. They think they're going to take Google to the e-commerce pages that have their product.The aim ofevery website for e-commerce is to help clients narrow down their large ideas and allow them to finalize thegoods.

1.3 Objective

By extending consumer reach, reducing cost-to-serve, and buildingdistinctcustomer interactions, “E-Commerce” drives sustainable growth. For business-to-business businesses, using this influential instrument carefully has become eminently necessary. “E-Commerce” has proved to be a destructive power, looking at the present climate. A large part of the shopping process online is being pushed by more and more firms, and these customers are gradually expecting a similar “e-Commerce” experience ascustomers.

1.4 Methodology

We have implemented the ecommerce website by using the technology jsp and servlets through which we have connected the data to the database using HTML, CSS, and bootstrap we have built the front end of the website and also have used the jQuery for the functionality for e.g. The price range selector in which we can select the range of the price in which we want to purchase an item there is a cart in which we can add the items in that which also has the functionality of the scratch card through which the person can avail the discount. We have also added some other functionalities for the security purposes such as the google captcha which helps in finding out the customers with their attempts to login and how many times it has been successful and how many times it has not been successful. The design of the site is made with the help of html, css andbootstrap

1.5 Organization

1.51 Description

1.) Online shopping provides various facilities for ecommerce which eventually saves time.
2.) The user can login through theportal.
3.) The anonymous users can only see theproducts
4.) The user has to login if he/she wants to buy any item.
5.) The system has been built using jsp, servlets,sql.

1.52 FeasibilityStudy

In order to measure the system, the feasibility study is done on the system which tell about whether the system be feasible or not, it measures the results of the analysis and on the basis of the technology for the results and how it has beenimplemented.

The feasibility of the system is of three types mainly:

- Money Feasibility: This shows that whether the system is feasible with the current budget. With the improvement of the technology it also increases the money associated with it for the enhancement of the system and their performance. Not only justthe

performance but also the error associated with that, this may reduce the errors associated with it and this website is also online so it may also result in the lesser cost of capital.

- Working Feasibility: This is based on the various operations on the system.Although the front end of the website may be good but when it is operated it may not be that good. Therefore, having an in-depth knowledge of these things is very important. But all the working of this project has been done efficiently. It is built with the help of the cohesive approach.
- Technical Feasibility: This mainly focusses on the technicalaspects ofthe system whether the system be in the mode to be technically feasible or not or it has some vulnerabilities with respect to the security and how the security of the system is enhanced and how to work on that efficiently with the lesser cost of capital and the maximum output of the system. The same has been done to our system efficiently which has made our website the most feasiblewebsite.

- Implementationplan

  The implementation of the website is done with the help of many phases:

  1.) For the Frontend.
  2.) For the connection to the database
  3.) For the backend of theproject
  4.) Otherfunctionalities.

- Front end: We have developed the front end of the website using the HTML, CSS which are the technologies which are used the frontend of the website is highly attractive with the different functionalities Lot of the functionalities such as the UI of the website with the different items in that and also the click here to buy options etc. usingjQuery.

- For the connection of the database: For the connection of the database we have used my connection class which helps in the connection with the database. Using the MySQL connector and the myconnection class we have connected to the database we connectto

thedatabase by creating theobject of themyconnection class and using prepared statement, prepared statement has a class associated with it and it is used to pass the query in it. The query is passed in it and then we can use the other variables associated withit.

- For the backend of the project: We have used the technologies such as jsp (java server pages and the Servlets) with the help of jsp and servlets we have implemented the other functionalities of the project jsp is basically the java code in the HTML written with the help of scriplet tags whereas the servlets are written in the scriplet tags and the HTML code is also written inside that. So the disadvantages and advantages of using both of them is that it takes more time to compiler(jsp) as it is the HTML and in servlets we write the java code so it is much more faster than theothers.

- Other Functionalities: We have used other functionalities like google captcha and other things like scratch card etc. and this has resulted in the enhancement of the security we can easily detect who is trying to get through the system easily and that is the real advantage of the system. We have implemented all this using the jQuery codes that were available tous.

2.0 LITERATURE SURVEY

The accomplishment of the project is based on the sources from which we have taken the help and also the institutions which have helped to make this project successful. Now a days the online shopping websiteare crucial and playing an importantrolein the countries which are either developed or developing. This also invokes accuracy in the business. Internet nowadays has become a crucial part of our lives and the online shopping websites success depends on the reach of theinternetthroughout theworld. This currentinvestigation'sdesignphilosophy furnishes specialists with experiences into key possibility and primary contemplations and their interrelationships, just as attainable setup arrangements under certain limit conditions. The reformulated data helps these prescriptive models in their last-mile conveyance design to teach professionals. Last-mile dissemination has been an indispensable wellspringof market separation, provoking makers to put resources into a huge number of client satisfaction advancements, for example, online get available, self-sufficient conveyance arrangements, storage spaces, and ensured conveyance at least requestedges

There is anyway an absence of consciousness of how best to fabricate last-mile conveyance models with retailers going to tests that regularly draw analysis from market spectators. The integrative writing survey approach utilized in this exploration was(Torraco).

Theharmony between less formal unmistakable writingisevaluatedbyintegrativewritingAudits and more formal orderly surveys of writing (Birmingham, 2000). This, this, method is a sort of exploration that audits, scrutinizes and blends delegate research “In an interconnected way, writing regarding a matter so that new structures and perspectives regarding amatter.

Weasel organized writing audit model was routinely embraced to incorporate further changes.

Also, we have used various sources such as

WIKIPEDIA

W3Schools

TUTORIALSPOINT

Anything you do around a sale is untarnished, whether you buy in a supermarket or purchase online: the basic exchanging of cash for goods or services. You just take your new jeans to the counter, offer some money and leave the shop along with your buy in a bag during a real-world supermarket, which is a transaction. When you buy online, it operates in a similar manner, but there is one crucial difference: you never even get to touch (or even see the goods until theyhit

your home later one day.

For e-commerce, only thecore of these three structures is strictly required.Withouteither complex databases or dispatch processes, often effective individuals operate small-scale internet stores: they essentially provide a platform to market their company and receive orders, and then they handle stock storage and dispatch in additional conventional forms. This is generally added as an example by small traders who sell stuff on the auction website eBay. Their "databases" are in their heads; just a trip to the native post office is their "dispatchsystem".

It is likewise critical to control how you carry your merchandise to your clients: you simply need to take a gander at survey input on spots like eBaytoconfirmthatclientsappreciate speedy conveyance. Anyway that doesn't recommend that you need your stockroom and an armada of conveyance trucks. Organizations, for example, Amazon have produced for their utilizations an inventive and exceptionally cheap distribution center and dispatch foundation, which they right now urge others to use also. Getting another person to store the product, get it, and disseminate it to your clients overall is called conveyance, and it guarantees that even independent ventures (or one individual working an organization from their extra room) can perform arranges as effectively and expertly as a lot biggergathering.

There's a great deal of money to be made on the web, in any case, not the entirety of this includes promoting items in the conventional manner. A few online organizations endeavor to bring in cash by giving a blend of free and premium administrations. Yahoo (Which initially represented one more hierarchic Impertinent Prophet), is possibly the known illustration of a site this way. Made as a thorough catalog of elective sites, it transformed into a web index thus an entryway, offering passage to all or any stylesof otherpremium administrations. An assortment of other showcasing abilities that boost theproductivity and consequence ofthis training are to supplement the advanced mediaactivity.

In their work, Porter and Millar (1985) relate the advantages of knowledge technology to the ability to achieve and maintain a competitive advantage for an organization, one in each of the most goals of each company. One main feature, though that they don't thoroughly take guidance from is creativity. Allowing entrepreneurship and creative innovations to succeed is part of the essence of these developments. Through information technology and particularly throughe-

Business, it is therefore different to gain competitive advantage. For thiscause,thisproject focuses on workable holes within theassociate degree in the IT jobs industry providingan ambitious market strategy that could allow theultimatee-Businessproducttohave a competitive edge. However this trade-off appears to be removed by the advent and exponential development of troubled innovations that have utterly revolutionized normal norms of communication. The net deconstructs the new channels, transferring rich information only to a limited audience. All will connect and exchange rich-content knowledge with everyone else at this moment. That threatens all markets with the prospect of the sharing of so much richer information.

We have used the Java Server Pages which stands for Java Server Pages, it's a server side programming language which helps in the dynamic creation for Web based applications. JSP page consists of HTML & JSP tags. JSP is the extension of the servlet. But in the practical world, we use JSP rather than servlets due to some of its features like in JSP we have predefined tags, implicit objects,expressionlanguage, etctheseadditionsmakeJSPdevelopment easy. Actually, JSP pages are easy to develop compare to Servlets as in Java Server Pages the presentation logic and business logic are separated but in servlet, we mixed these twologics.

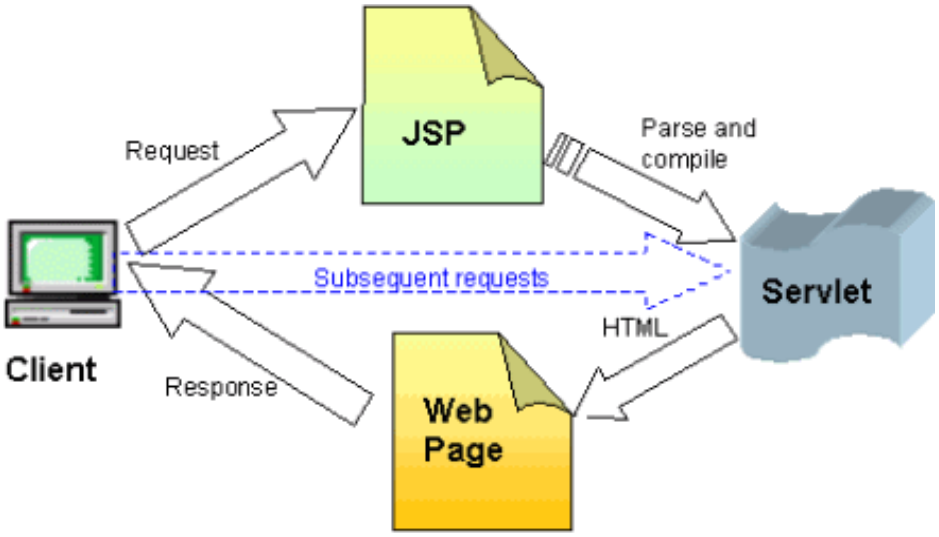


Figure 1 Java Server Page

Servlets :- Servlet is a Java application that operates on a Web server within a JVM. It is used for the creation of dynamic mobile apps. Servlets have, without the performance constraints of CGI systems, a component-based, platform-independent approach for developing Web-based applications. To link business databases, Servlets provide access to the full Java Apis family, as well as the JDBC API. In easy and simple steps, this guide will show you ways to use Java Servletsto build your mostly net-based applications. Using Servlets, youcangatheruser feedback via website forms, gift records from a data or other supply, and dynamically build pages.

The server-side extensions measure nothing but the techniques that square measure can not create complex web content. In reality, web traffic would like aninstrumentationorinternet server to create the functionality of interactive webcontent.

Advantages of Servlets :-

- Secure :- because it uses javalanguage
- Betterperformance:-becauseitcreatesathreadforeachrequest,notprocess.
- Extensible :- Servletswritten inJavacanbe generalized and polymorphized into artifacts that suit the specifications of theconsumer.

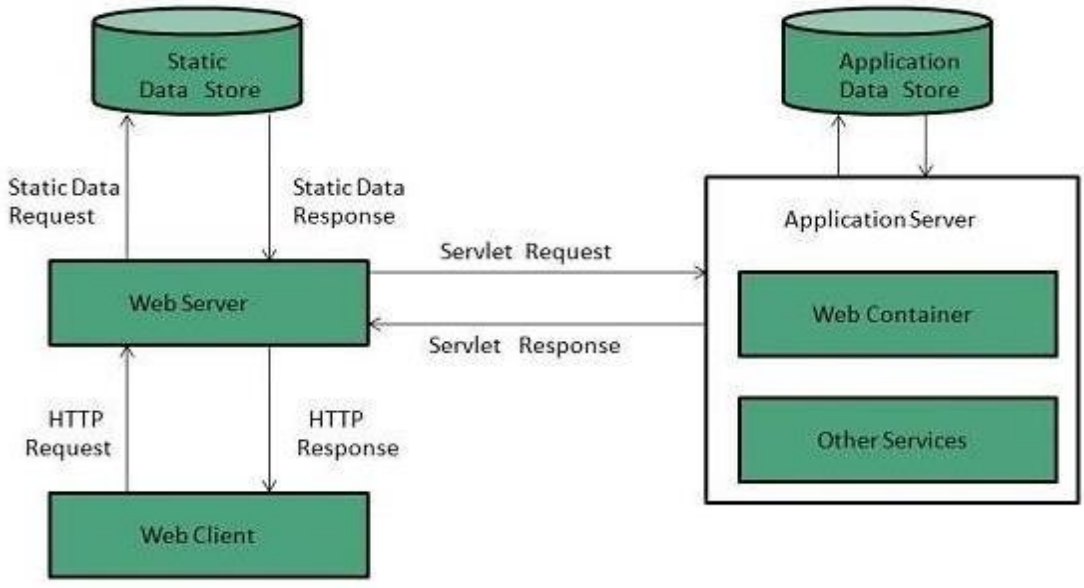


Figure 2 Functioningof Servlet

We have used Java Mail Api for the OTP &authentication. JavaMail is an API for composing, publishing and reading electronic messages (emails). The JavaMail API offers a collection of object-defining abstract classes that form a mail structure. The Java Mail Architecture consists of different modules. One such feature used by developers to render mail applications is the JavaMailAPI.

Protocols Used in Java Mail Api :-

- SMTP
- MIME
- IMAP
- POP andothers

SMTP :- It stands for Simple Mail Transfer Protocol, it is part of the application layer of the TCP/IP protocol. SMTP includes a series of codes to facilitate correspondence between email servers for emailmessages.

MIME :- It stands for Multiple Internet Mail Extension,it is a standard which was proposed by Bell Communications. It helps users to share various forms of Internet data files: audio, video, photos, and software programs.

IMAP :- It stands for Internet Message Access Protocol. This offers space for multiple mailboxes for each user, in addition to multiple users exchanging mailboxes.

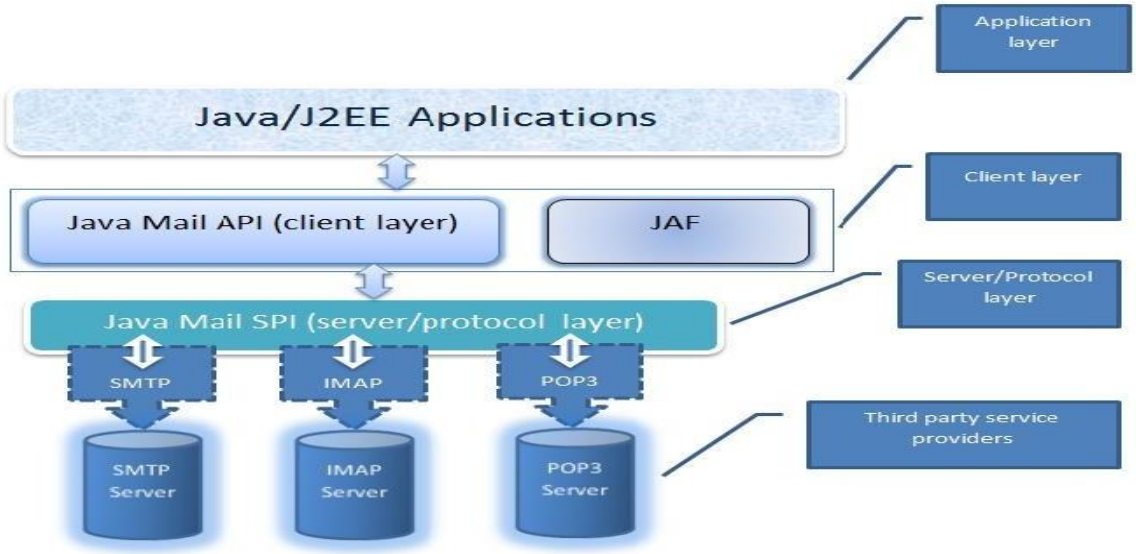


Figure 3 Java Mail Api

3.0 SYSTEMDEVELOPEMENT

3.1 Analysis

3.11 SystemAnalysis

Current System

The current scheme require a lot of space to collect the data nowadays. It is thereby necessary for the system to manage the data efficiently. The project has been connected to the database where all the details will bepresent.

Drawbacks of the current system:

The drawbacks of the current system are as follows :-

- It is vey hard to store thedata.
- A lot of time isrequired
- Holding valuable knowledge in books ischallenging.
- This is difficult to handle historical data that needs a lot of room to store allthe
- ledgers, books etc. of the previousyears.

3.12 ProposedSystem

Themanagement of historical database data is quite straightforward.In order tousethisprogram, the distributors do not require comprehensive training. We can use the tool efficiently, which decreases theexpense of working hours on ordinary goods and thereby improves productivity. It is very easy to monitor online transfers and order information in thedatabases.

3.13 Objective ofSystem

The main issue of the mind is user comfort, and so this tool provides users with the convenience of experience. Thus it is both an important tool and a successful tool forconsumers.

3.14 HardwareRequirements

I3

256 MB Ram

1 MB Cache Memory

A 20 GB of Hard disk space

3.15 SoftwareRequirements

Web Technologies : HTML, CSS, JavaScript

Language : AdvanceJava

Database : SQLSERVER

WebServer : XAMPP

Operating System : WINDOWSXP

3.2 Design

3.21 DesignIntroduction

Design of such techniques and principles that are meant to explain a product, process or system in sufficient detail to make its realistic realization can be the first stage in the development phase.

When the software requirements have been assessed and the program architecture has been identified three technical tasks are required to build and verify the program: planning, scripting, implementation, and checking.

In this phase, development activities are of significant importance, as decisions are made in this phase that ultimately influence the efficiency of the software rollout and its ease of maintenance. These analyses rely to a large degree on the reliability and longevity of the device. So we may assume that the first priority or the first step for effectively completing the project will be to plan or build theproject.

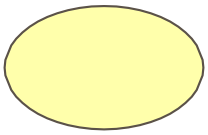
3.22 UMLDiagram

Actor:

A coherent series of functions played by app usage cases while dealing with clientcases.

Use case:

A description of a series of actions, including variations, carried out by a process that generates an observable effect in the interest of anactor.



UML stands for Universal Modeling Languages. For computer architecture, simulation, and documentation, UML is a script. It should be the first step after review, when any product is being produced. The goal of this is to create a blueprint that would need to be built later for the organizations participating in the project. The picture of the individuals tobeusedinthecommodity being produced is necessary toformulate.

Software design has different kinds of methods:

They are as follows:

- Use caseDiagram
- SequenceDiagram
- CollaborationDiagram
- ActivityDiagram
- State chatDiagram

3.23 Use CaseDiagram

Use case diagrams model actions in a program to help developersunderstand theuser's requirements. The guy with the stick portrays what is considered an actor.

Use case analysis will be helpful to provide a machine summary to explain who should do something, and most specifically, what they can'tdo.

Use case diagram consists of use cases and performers and demonstrates how the use case communicates with the participant

- The goal is to show the relation between the case of use and theperformer.
- The end user of the system or the external system may be anactor.

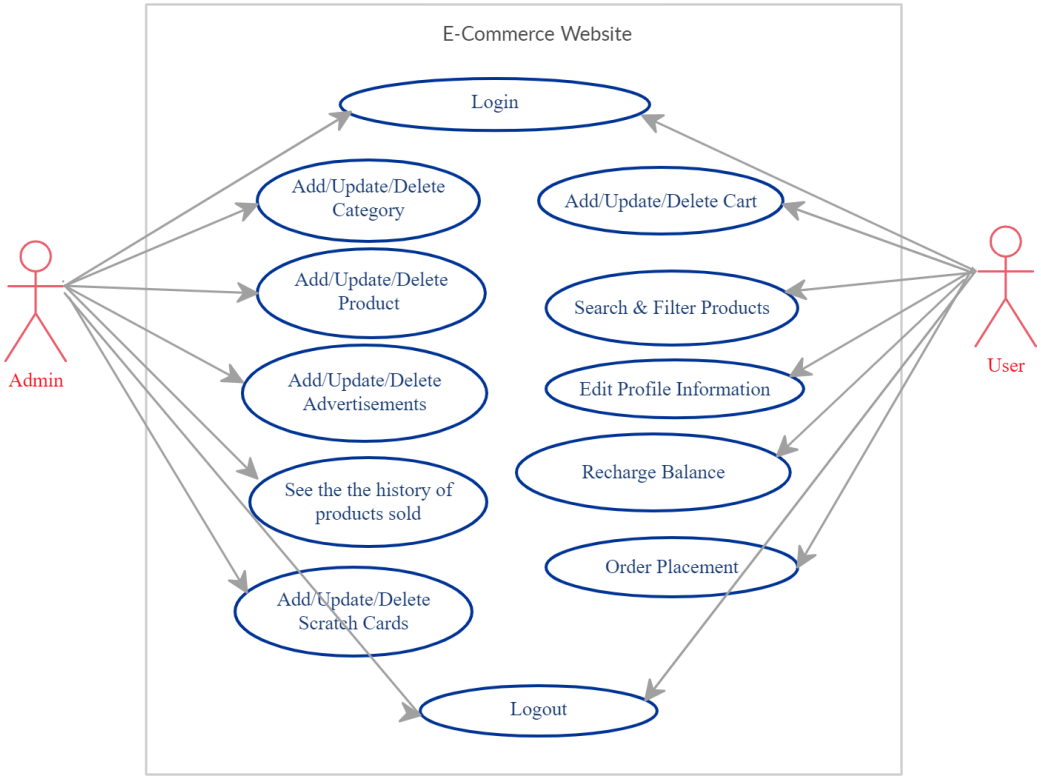


Figure 4 Use Case Diagram

3.24 SequenceDiagram

An INTERACTION DIAGRAM is often referred to as a sequence diagram. An interaction diagram represents a relationship composed of a set of objects and their relations, and themessages that can be exchanged between them.

A graphical series diagram is a table displaying items grouped over the X-axis and messages organized along the Y-axis in. time

In the Logical View of the device under construction, sequence diagrams are usually correlated with use case realizations. Sequence diagrams are also known as case diagrams or simulations forevents.

Purpose of a Sequence Diagram :-

- To model high-level interaction within a system among activeobjects.
- Models certain instances ofinteraction

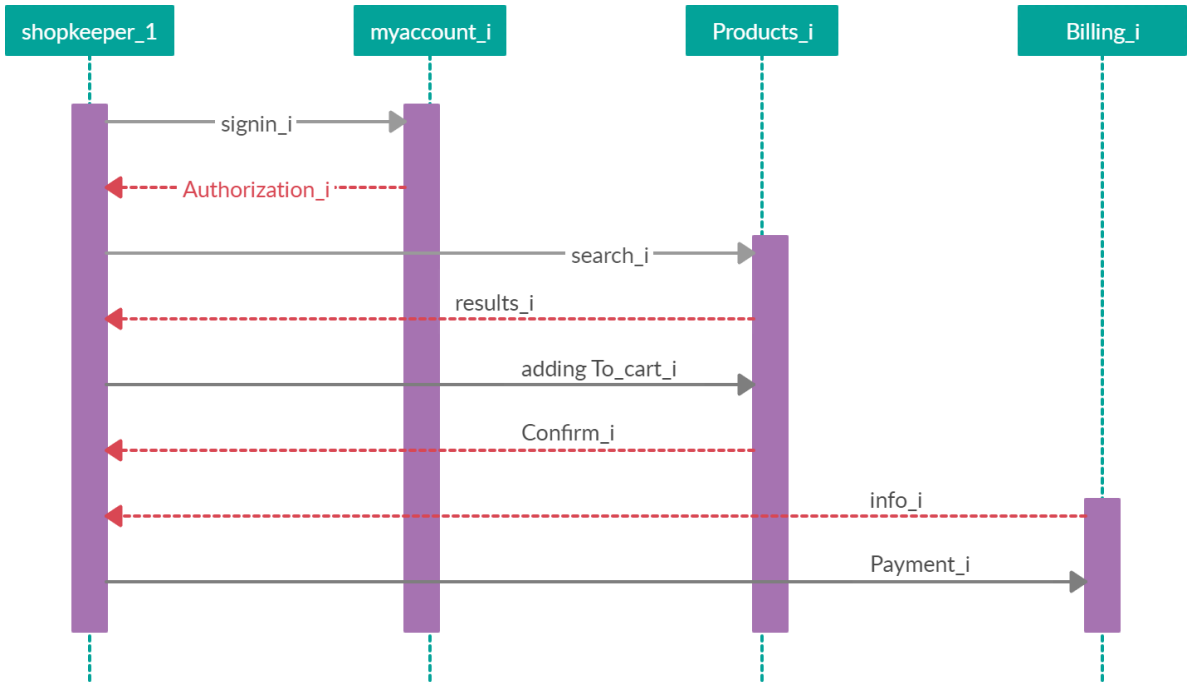


Figure 5 Sequence Diagram

3.25 CollaborationDiagram

A group diagram or collaboration diagram is an overview diagram showing thehierarchical structure of artifacts transmitting and receiving messages. A group or collaboration diagram is graphically a set of vertices and arcs. A coordination diagram is analogous to a flow map but often represents thefunctions, practicality, and actions of individual objects because of thesystem's overall real-timeoperation.

When to use a collaboration diagram :-

- Providing a description within an object-oriented framework of interactingobjects.
- Capturing the passage between items ofknowledge.
- To model multiple situations, including a partnership between many objects and relations within the use case oroperation
- To model the process within the system's architecturalarchitecture.

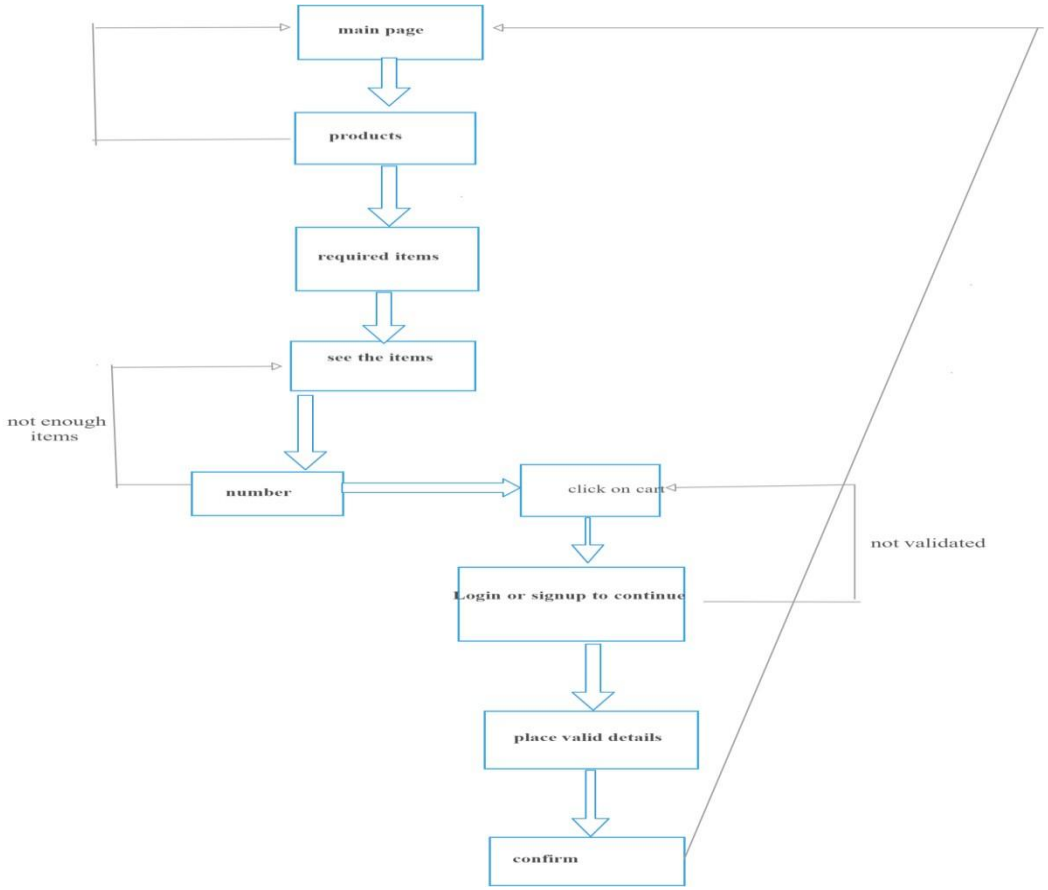


Figure 6 Collaboration Diagram

3.26 ClassDiagram

Class is nothing but a structure which contains variables as well as methods. The class diagramdisplays a series of groups, frameworks, and alliances and the ships they refer to. Modeling the object-oriented structures is the most common model that is used to provide the static view of a program. This demonstrates how heavy the groups that can be included in our program are.

Thechoice of viewpoint dependsvery much on youbeinginside the method of creation, though. For eg, you barely step beyond the abstract perspectiveintheformulationofasite model. Typically, research models may contain a combination of abstract and specification views

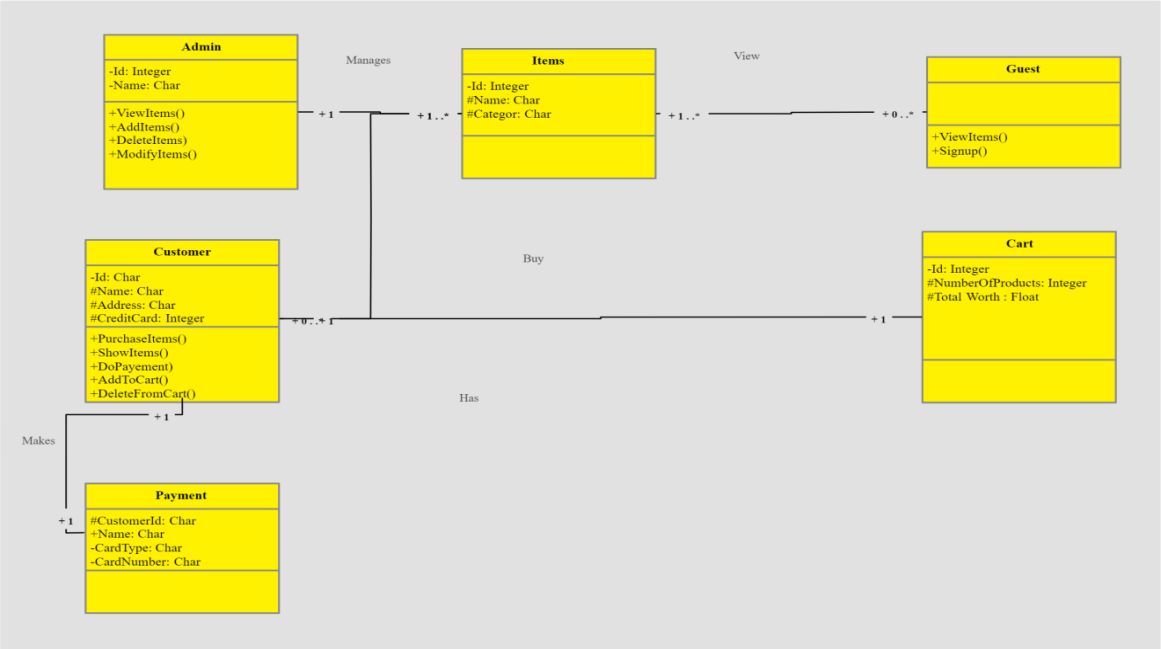
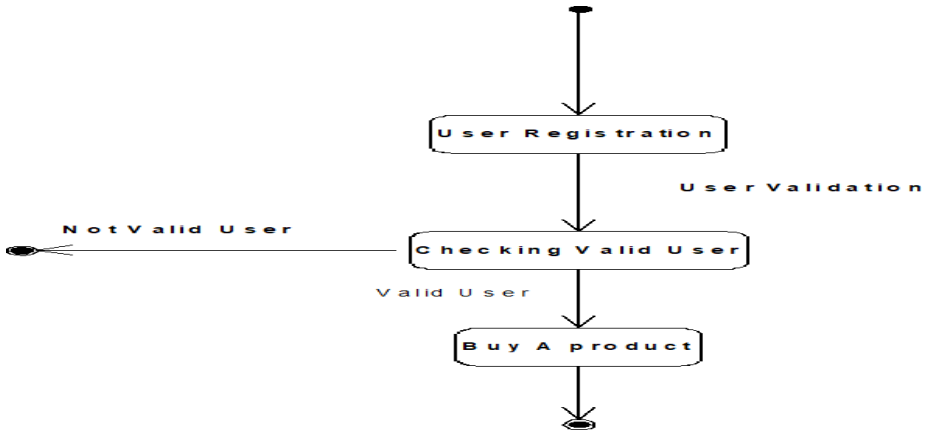


Figure 7 Class Diagram

3.27 StatechartDiagram

Statechart diagram is one of five UML diagrams that are used to model a system's complex existence. Over their lifespan they describe various states of an entity and these states are modified by happenings. Statechart schemes are important for modeling the reactive structures. One may describe reactive systems as a device that reacts to external or internalevents.



3.28 E-RDiagram

- Peter first developed the paradigm of the relationship between individuals as a way of unifying network and table database interactions. A data model that considers them as individuals and partnershipsis explicitly specified.Therelationshipdiagram isthe primary or significant function of the model and it is used to visually represent data and objects. For the database, the reason that a designer requires thisis:
- The model of interaction is well known. With ease, the constructs used in the ER model can be translated into relationaltables.
- It's short and easy to learn with a minimum of planning. The platform will then be used by the database designer to relay the specification to the enduser.
- Therefore, the concept will be viewed by the database creator as a design method to incorporate a data model in a particular program for databasemanagement.

ER Notation

For defining the data objects, there is no pattern in ER diagrams. Each modeling style utilizes its own notation. Chen's original language is widely used in scholarly texts and papers, but is rarely used either in CASE materials or in reviews by non-academics. Among the most common ones, there are a range of notations used today, including Bachman, crow's foot, and IDEFIX.

Both notation styles represent persons as rectangular boxes, and relationships as lines of box connection. Each style represents a relationship's cardinality, using a particular set of symbols. The notation that this text uses is fromMartin.

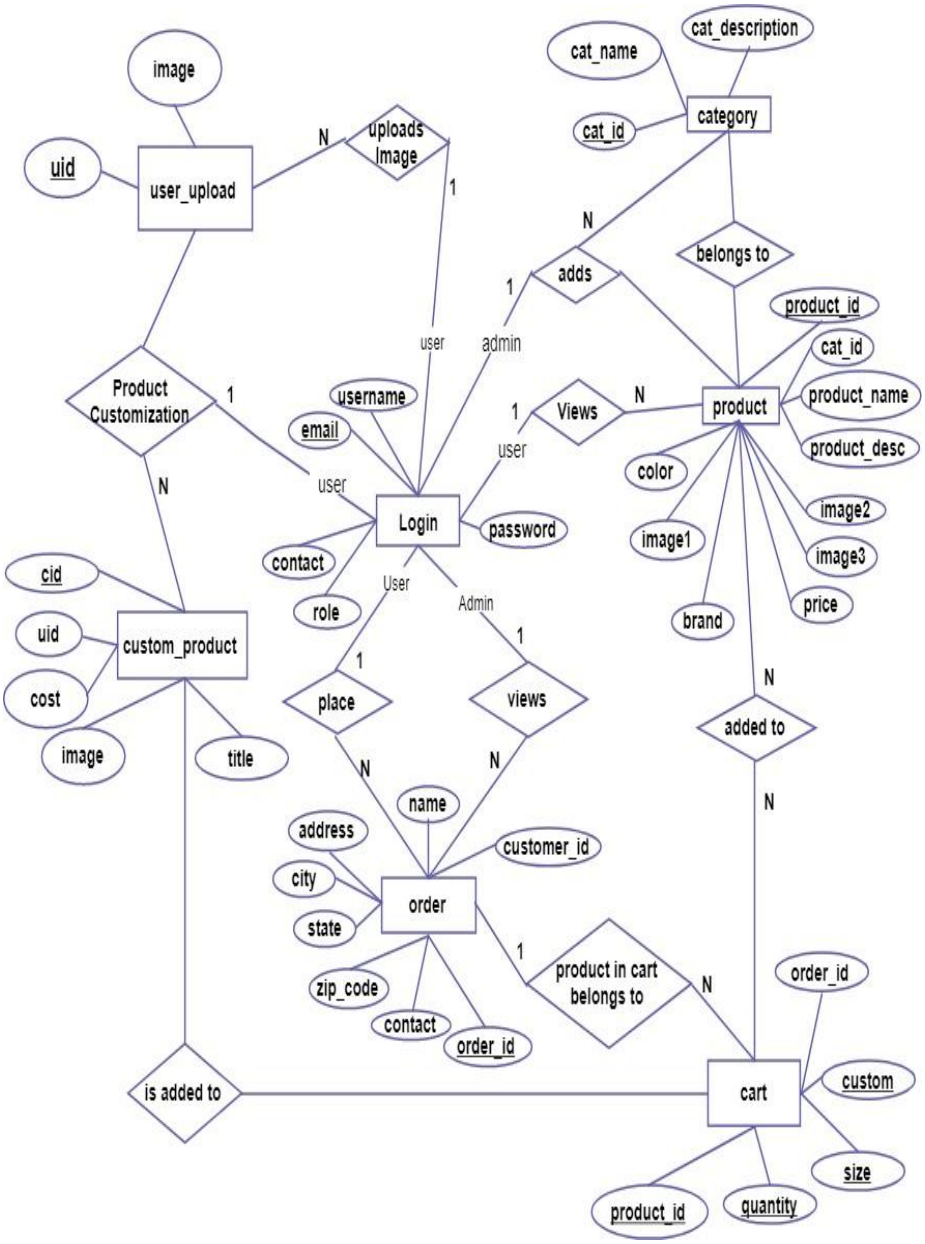


Figure 8 E-R Diagram

3.3 Modules

3.31 ProjectModule

MODULES : This project contains 3 Major Modules, those are

- **Admin**
- **Products**
- **User**

3.32 ModuleIllustration

Admin:-

After signing in, he noticed the customer's folder, which implies how many customers are registered on this platform and how many consumers are beingtransacted on a regular basis, how new things are being put intomerchandise.

Products:-

This module includes the name and associated picture of the product and its quality. Including dolls, books, chairs, pieces of gold etc. Everything the consumer needs from thetruck.

User:-

User entered with his username and password, knowing what things are accessible today, this service is essential for this web, as he entered into this. Picked specific products from the website are shipped via thedoor.

3.32 DatabaseTables

Ads :

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	id	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary Unique Index More
2	image	varchar(200)			No	None		Change Drop Primary Unique Index More
3	url	varchar(100)			No	None		Change Drop Primary Unique Index More

Fig 4.1

Cart :

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	id	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary Unique Index More
2	user_id	int(11)			No	None		Change Drop Primary Unique Index More
3	product_id	int(11)			No	None		Change Drop Primary Unique Index More
4	quantity	int(11)			No	None		Change Drop Primary Unique Index More

Fig 4.2

Category :

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	id	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary Unique Index More
2	name	varchar(25)			No	None		Change Drop Primary Unique Index More

Fig 4.3

History :

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	id	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary Unique More
2	user_id	int(11)			No	None		Change Drop Primary Unique More
3	product_id	int(11)			No	None		Change Drop Primary Unique More
4	date	varchar(25)			No	None		Change Drop Primary Unique More
5	quantity	int(11)			No	None		Change Drop Primary Unique More

Fig 4.4

Product :

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	id	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary More
2	name	varchar(50)			No	None		Change Drop Primary More
3	price	double			No	None		Change Drop Primary More
4	quantity	int(11)			No	None		Change Drop Primary More
5	model	varchar(50)			Yes	NULL		Change Drop Primary More
6	descriptin	text			Yes	NULL		Change Drop Primary More
7	date	varchar(20)			No	None		Change Drop Primary More
8	photo	varchar(100)			Yes	upload/yourCart.png		Change Drop Primary More
9	category_id	int(11)			No	None		Change Drop Primary More

Fig 4.5

Slides :

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	id	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary Unique More
2	title	varchar(100)			No	None		Change Drop Primary Unique More
3	subtitle	varchar(100)			No	None		Change Drop Primary Unique More
4	description	text			No	None		Change Drop Primary Unique More
5	image	varchar(200)			No	None		Change Drop Primary Unique More
6	product_id	int(11)			No	None		Change Drop Primary Unique More

Fig 4.6

Charge :

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	id	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary Unique Index More
2	card_number	tinytext			No	None		Change Drop Primary Unique Index More
3	value	int(11)			No	None		Change Drop Primary Unique Index More
4	used	tinyint(1)			No	None		Change Drop Primary Unique Index More
5	taken	tinyint(1)			No	None		Change Drop Primary Unique Index More

Fig 4.7

Users :

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	id	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary More
2	username	varchar(50)			No	None		Change Drop Primary More
3	email	varchar(50)			No	None		Change Drop Primary More
4	address	varchar(50)			No	None		Change Drop Primary More
5	job	varchar(20)			No	None		Change Drop Primary More
6	password	varchar(200)			No	None		Change Drop Primary More
7	creaditCard	varchar(50)			No	None		Change Drop Primary More
8	cash	double			No	None		Change Drop Primary More
9	role	varchar(50)			No	None		Change Drop Primary More
10	photo	varchar(200)			No	upload/profile.jpg		Change Drop Primary More

Fig 4.8

3.4 ModelDevelopement

3.41 AnonymousHomepage

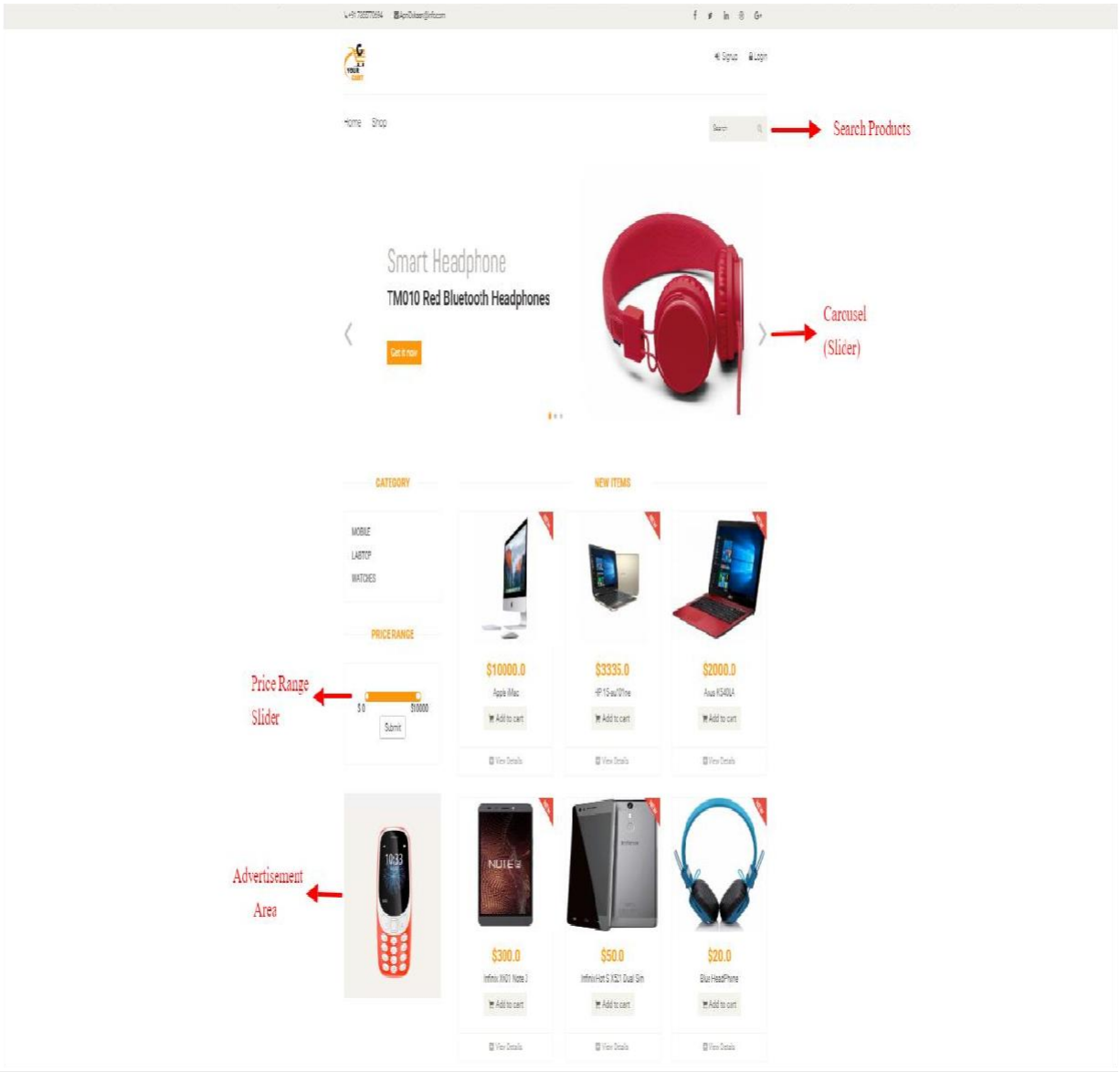


Figure 9 Anonymous Homepage

The above page is for the anonymous user with some limitations and restrictions. The purpose of creating this page is to increase the reach of the website to other users. By increasing the reachability of theproducts and offers to other people, admin can generate more andmore

revenue. People can see the products and offer details even without login and register to this website. There are following features in this page :-

- **Search Bar :-** This feature is introduced to save the time of customers, within a large varieties of products customer need not to visit pages and pages to find an item. He/She can easily search theitem.
- **Price Range Slider :-** This is another feature provided for sorting the products based on their price. Customer can easily filter their items with respect to their budget. There is no need to visit all theitems.
- **Category :-** Category section is another feature which lets customer to select the products based on thecategory.
- **Bootstrap Carousel Slider :-** This area is reserved for the latest products, in this area admin can put thelatest products or offers in this slider fromhisadminpanel.Itis possible with Expression Language feature inJSP.
- **Advertisement Area :-** This area is provided so that admin can make more money from advertising brands within advertisementarea.

3.42 RegisteredHomepage

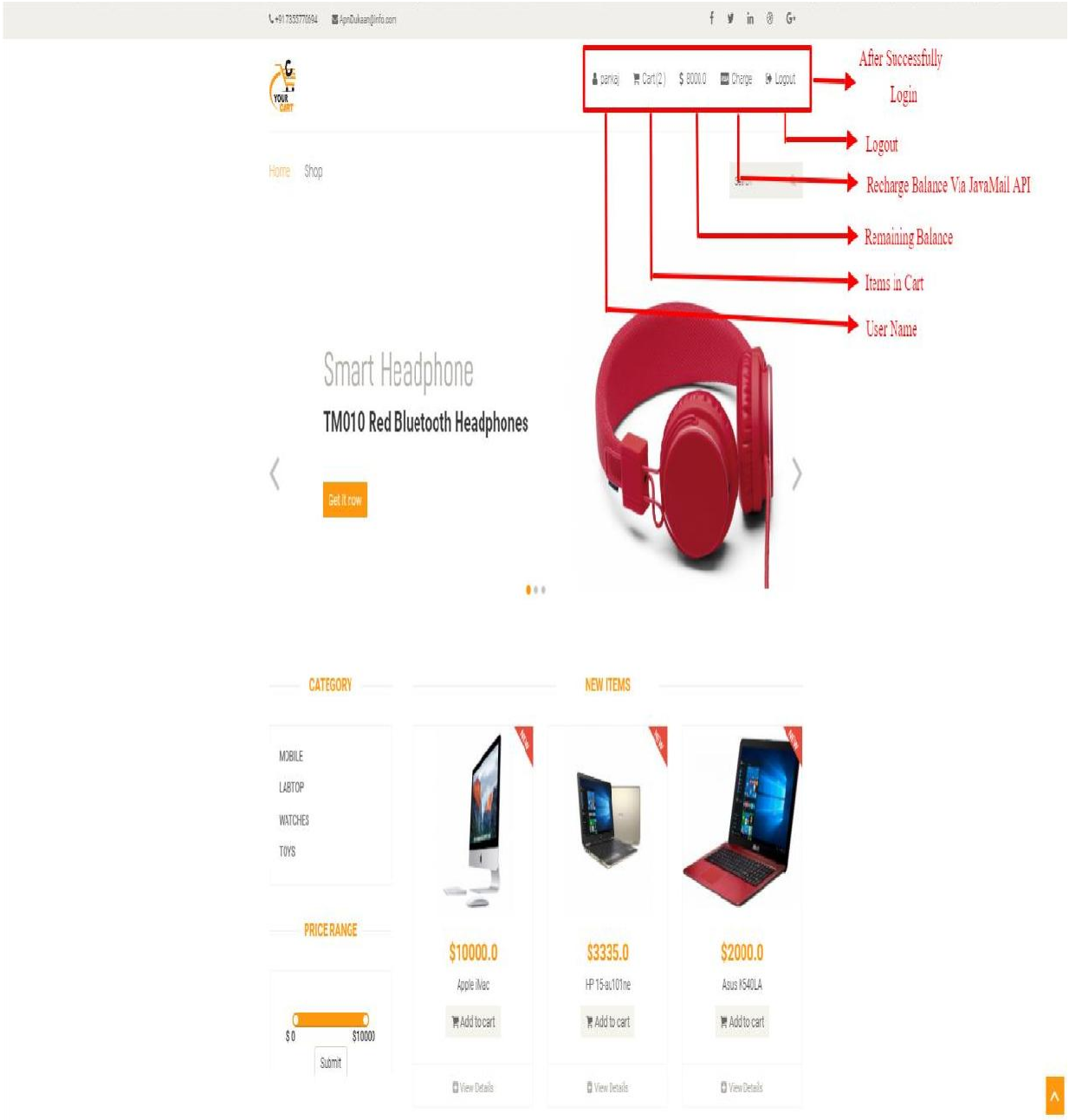


Figure 10 Registered Homepage

After logging in the website user is able to access the profile settings, total number of items in the cart, remaining balance in the account, recharge balance via JavaMail API, logout. He must havelogin to access these options. We introduced a slider toshowthe latestortrending products that admin wants to showcase on thewebsite.

User Icon :- From this icon user can able to see his details like name, address, credit card number, etc. & user can able to change the details aswell.

Cart :- Using cart table in the database for each user as a primary key, we are able to fetch cart details for each user.

Remaining Balance &Charge :- User can see his remaining balance and if he needs to recharge his balance, admin provide each user a specific no. of Scratch Cards where he can apply for a card then he gets a random 12 digit hexadecimal code in his registered email id. This can be done with the help of SMTPprotocol.

3.43 Login &SignupPage

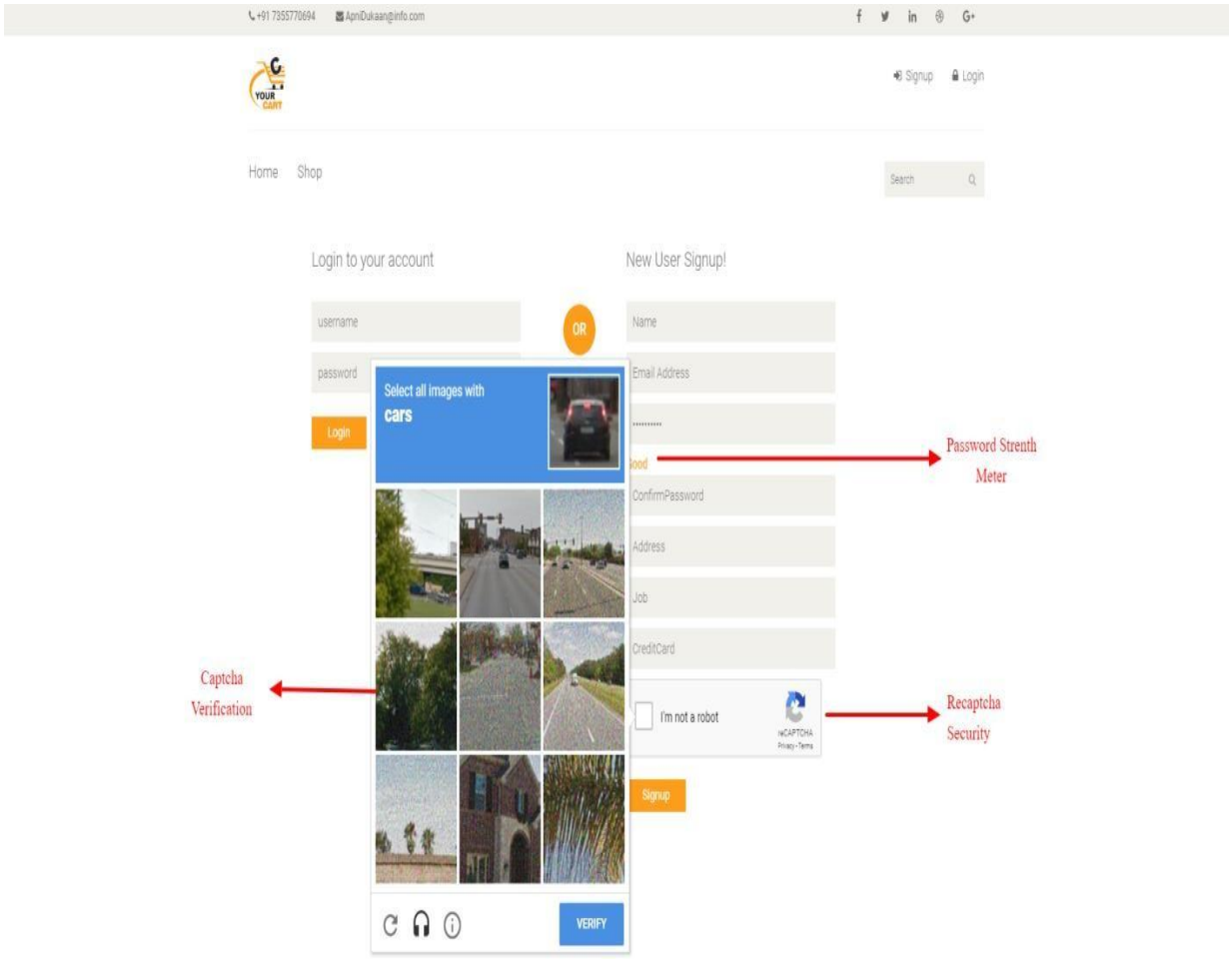


Figure 11 Login&Signup Page

In the login and signup page we introduced password strength meter so that the user who is registering himself on the website understands the importance of having a good password. The header and footer section will always be there in whole website so if the user wants to go homepage he can directly go the particular page without anyproblem.

Admin and Registered Users both can login through same login page. This is possible by adding a column name “Role” in user table. The Role column is used to distinguish between customers and admin. If (LoginUser.role ==='user') then login page redirects to User page and if (LoginUser.role ==='admin') then login page redirects to admin page.

- **Password Strength Meter :-** This field helps users to make their password strong. Using javascript we are able to add thisfeature.
- **Google Recaptcha API :-** Security is one of the significant factor for a website, so to keep this in mind we add Google Recaptcha API that helps to protect websites from spam 5 | P a g e and abuse. A “CAPTCHA” is a turing test to tell human and bots apart. It is easy for humans to solve, but hard for “bots” and other malicious software to figure out. By adding reCAPTCHA to a site, you can block automated software while helping your welcome users to enter withease.

3.44 RecaptchaReports

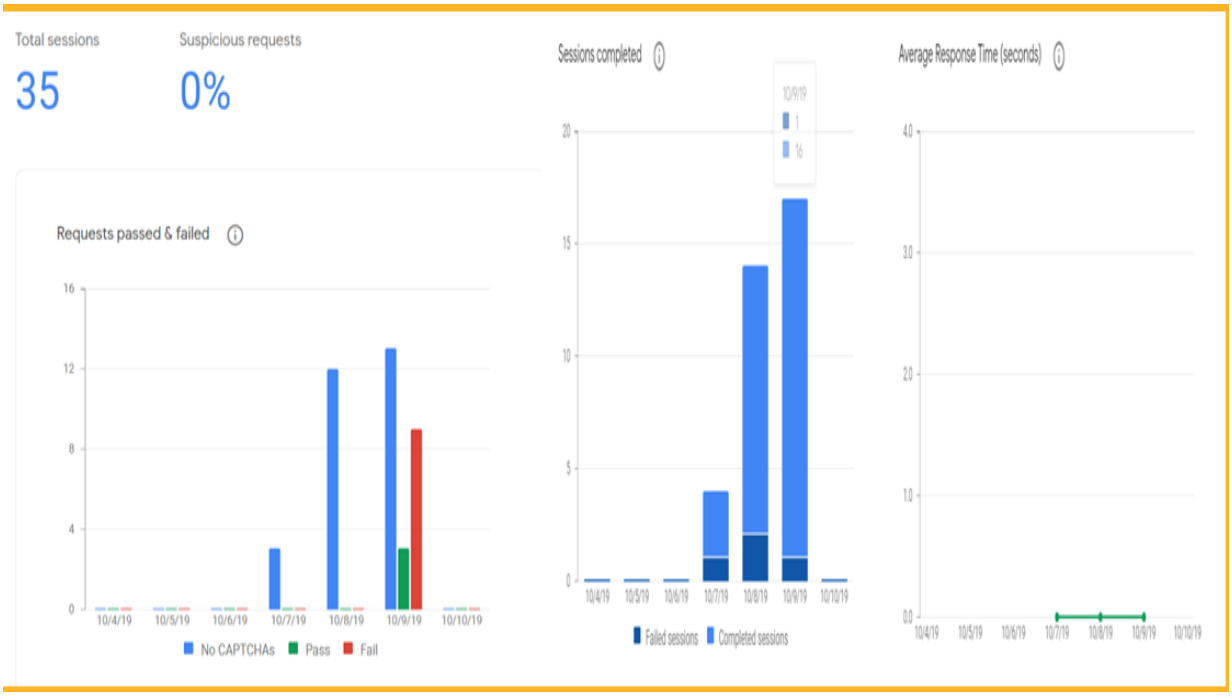


Figure 12 Recaptcha Reports

:- Safety and security must be the top criteria in the online website. So keeping this in mind we establish Google reCAPTCHA, In today's world hackers can spam online website easily with the help of machine learning, so our website can tackle these type of malpractices and secure the website. Admin can see the statistics of total number of fail attempts and pass attempts and also he can monitor the average response time and total number of sessioncompleted.

3.45 CheckoutPage

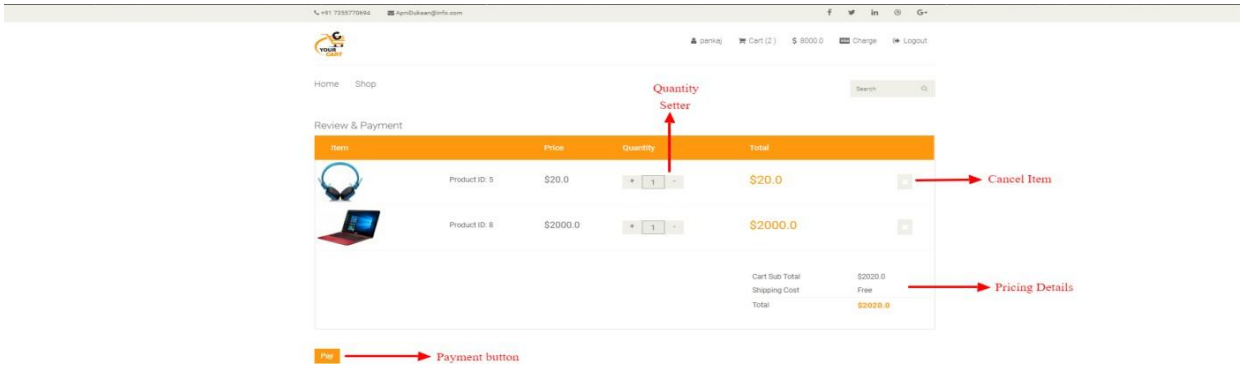


Figure 13 Checkout Page

In the checkout page user can change the quantity of an item by quantity setter tool. User can cancel any products he does not wish to checkout. A dynamic pricing detail of products is available, it changes as user modifies the quantityof the product.And finallya paymentbutton is introduced to go the the paymenttab.

Users Can store their products in the cart, if they do not want to buy products right now. This can be done by creating cart table in the database with primary key as user id.

Quantity Setter :- User can increase or decrease the quantity of the particular item. And simultaneously Total price change in pricing details section.

Cancel an Item :- User can delete the product, if he change his mind.

	id	user_id	product_id	quantity
Edit Copy Delete	1	10	5	2
Edit Copy Delete	2	9	9	2
Edit Copy Delete	3	9	8	1
Edit Copy Delete	4	9	6	1

In the process of creating cart table, as there can be multi-valued attribute (multiple products). So, I had to decompose it to First Normal Form. To overcome this problem I added an extra column named as id(act as primary key), Now whenever user adds any product in cart a new tuple is added with same user_id but different primaryid.

3.46 UpdateProfile

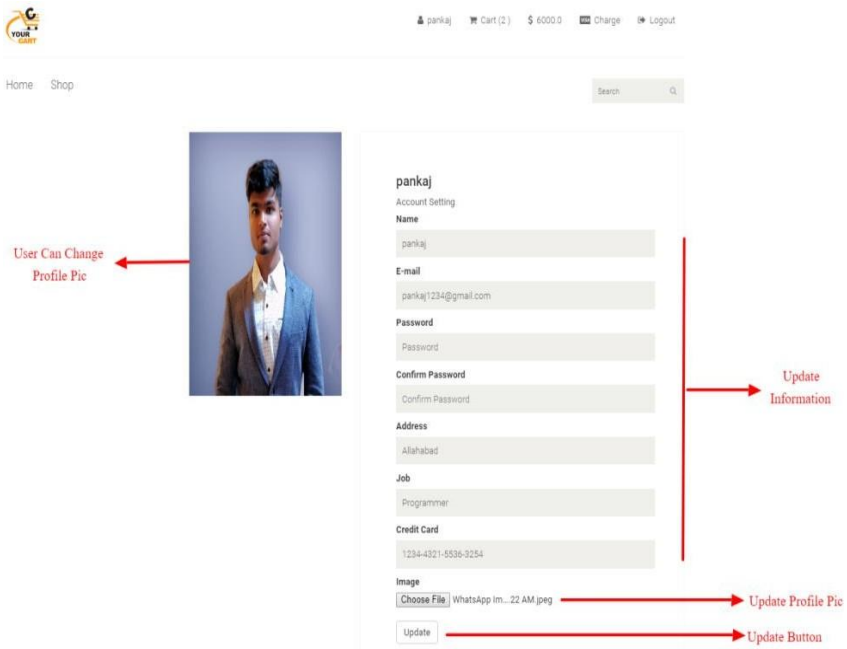


Figure 14 Update ProfilePage

:- The following features included in this page are as follows:-

- User can change his E-mailId
- User can change thepassword
- User can change the address of thehouse
- User can upload the profilepic

3.47 ScratchCards

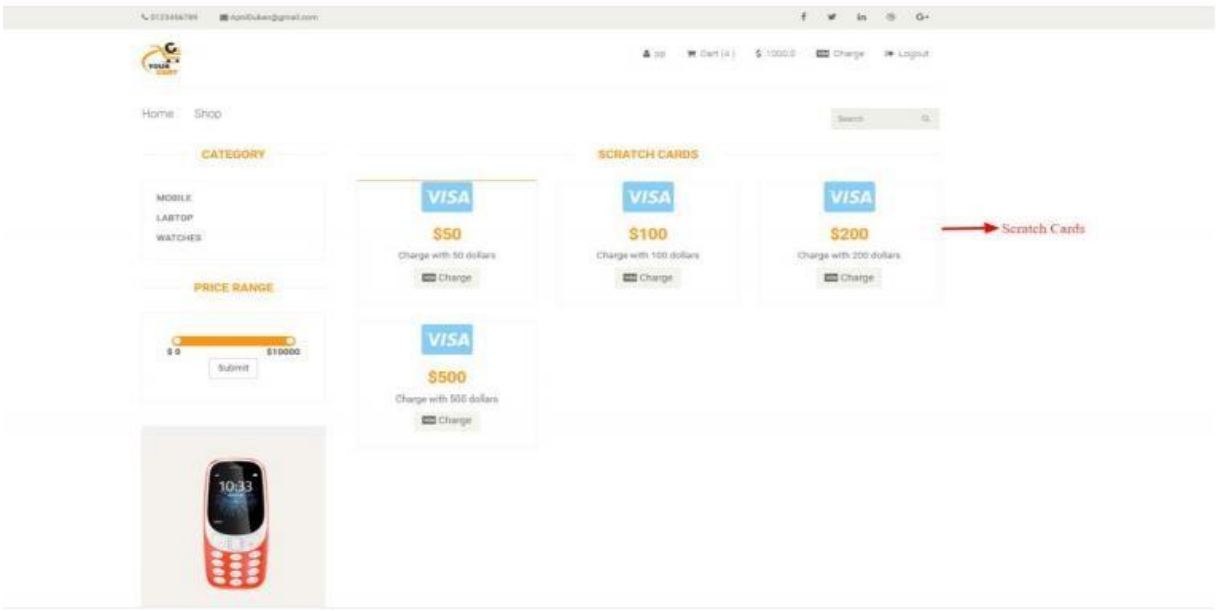


Figure 15 Scratch Cards

- Admin provides a limited number of scratch cards for the users. User can recharge their balance using thisfeature.

- Using SMTP protocol, we are able to send a 16-digit hexadecimal code to user on their email id(Java Mail API), all the codes will store in the table named as charge &using this table we will able to verify the authenticity of scratch cardcodes.

	id	card_number	value	used	taken
Edit Copy Delete	1	665029584d93a21c	500	1	1
Edit Copy Delete	2	48424c8427501939	500	1	1
Edit Copy Delete	3	a72d551f697f7936	50	0	1

3.48 AdminPanel

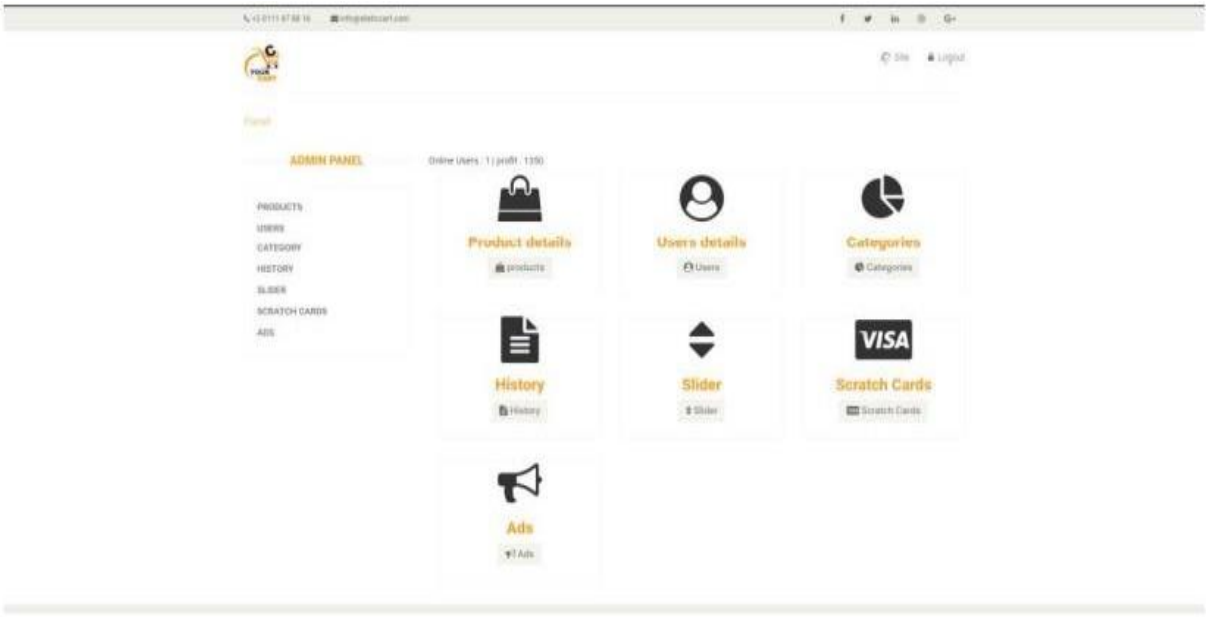


Figure 16 Admin Panel

:- Above screenshot is what we say as admin panel. Here, in our website admin has some significant features. From the help of this panel, admin can monitor the active users & total profit at thetop leftcorner (see above output). We haveusedtheattractiveiconsfrom bootstrap. As this website is made to keep in mind of admin perspective also, so we put a lot of work in thispanel.

:- Admin has the following features :-

- Admin can add/delete/modify the productdetails
- Admin can see the userdetails
- Admin can add/delete/modify the categorysection
- Admin can see history of item sold &which user purchased which item and in what quantity with time of purchasealso.
- Admin can showcase the latest products in the bootstrap carousel using the slidericon
- Admin can add/delete/modify the scratch cardquantity
- And we haveintroduced theadvertisement area so that admin whogeneratesthe revenue from the products, he can generate the revenue from advertisement aswell.

3.49 ProductDetails

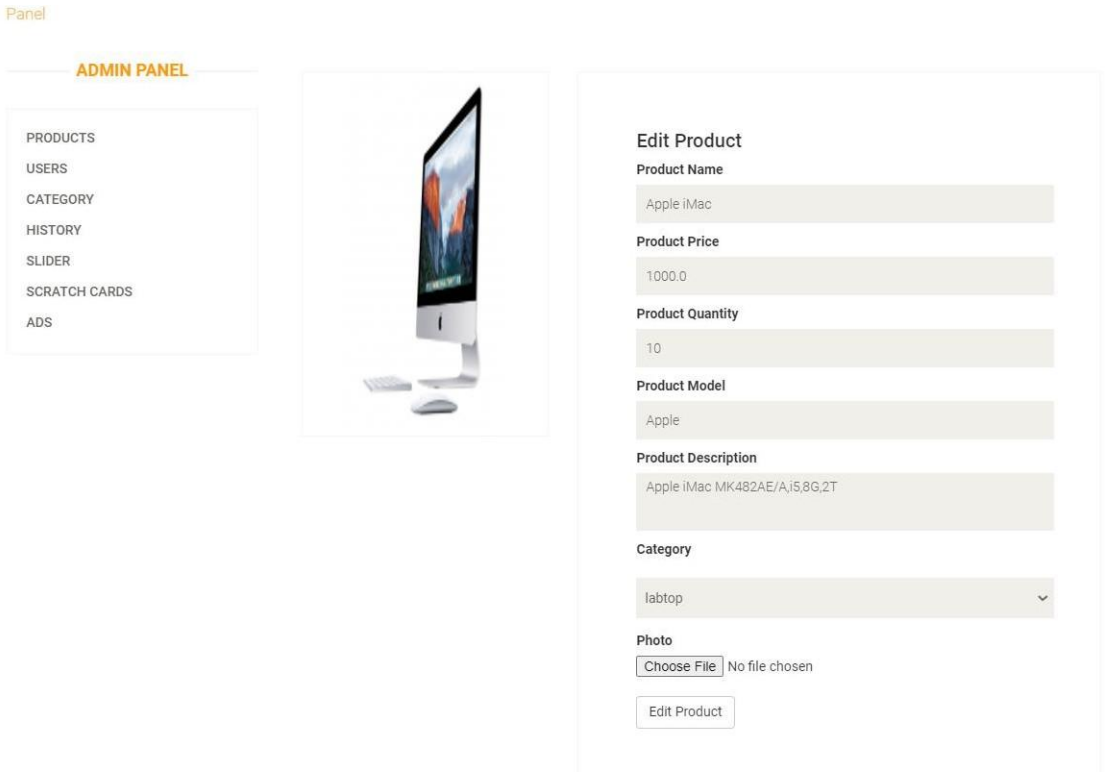


Figure 17 Product Details

:- In the product details section, admin has the ability to change the details of product as he want it to be. As the quantity of the product will be changing as per the demand admin have to change the quantity of the product from the panel. So that if the product goes out of stock then user can know this fact and their order will not be placed.

In this section admin has some crucial features, he can modify :-

- Productname
- Productprice
- ProductQuantity
- ProductModel
- Product Description
- Category
- Upload ProductImage

4.0 PERFORMANCEANALYSIS

The creation of e-commerce systems typically starts with the idea of project objectives. The role of every triple-crown initiative is to provide facilities at the time of start-up andstart-up.
Subsequent tasks during the whole duration of machine operation:

- The system's essential functionality and its level of adaptation to changing working conditions
- The system's fail-safe functioning within the desired mode, in numerous words, the readiness and handiness of the system for user queryprocessing
- Easy Machine Operation andMaintenance
- Security

Customers define general framework criteria, such as company affiliation and business space, the preliminary features of the target cluster, and expected sources of financial benefit, at the formation stage of the overall e-commerce systemspecifications.
The customer jointly announces the restrictions of thisprominent
Step, synonymous with this infrastructure's functionality, specificity of service, scheduling specifications, and monetary capability.
The next step includes performing the analysis of competition, evaluating analogues, and thus testing the target audience, in addition to identifying a category of market and sales characteristics of the designed audience.
E-commerce system, which forms the basis of the e-commerce system's technological requirements.
The created web site would continue to expand and evolve with the correct approach to business growth, assisted by the jobs of the network. Thus when summarizing the project's key findings on theproject,
It is important to monitor the priorities and goals of the creation of the net website. This also includes successively revising the issues of the promotion scheme introduced at the primary level.

4.1 WebsiteUsage

A common approach for the use of internet operations is to perform analysis and query visitors about their skills. This related strategy is often costly and time-consuming (Spiliopoulou and Pohle 2006, Weischedel andHuizingh).

Alternatively, statistics on site visitors that enable homeowners to blend information and presumably determine the efficacy of their website are also manually gathered (Schonberg et al. 2000; Spiliopoulou and Pohle 2001). On-line infrastructure is ready to collect vast volumes of cautious traveler traffic information and website operations. These knowledgeoffers an overflow of metrics for organizations to rigorously pick indicators for particularfunctions.)

If you own an e-commerce firm with an associate degree, it is easy to trace the sales from entirely separate purchases. You will monitor the single page area unit using a custom code inserted in your go-cart, resulting in the primary conversions and the way users reach these pages. If you have received this material, you will then allocate pricing for different pages and you will perceive that pages have to be more tailored forconversions.

Google Analytics targets help you quantify visitors returning to your website by splitting the amount of cash you raise by the amount of specific guests returning to your platform. It makes you understand what a guest is worth. After you prioritize entirely {new|completely different promotions or work to make improvements to different parts of the website in an effort to spice up conversions, understanding the calculable benefit per visit will helpyou.

It’s vital to grasp what number people- new guests and returning guests alike, ar returning to your web site overall. whether or not they enter on your home page, a novel landing page, or maybe a journal post, knowing the quantity of individuals visiting every page helps offer you an enormous image understanding of however well bound campaigns ar serving to to drive traffic to your web site. you'll use the whole variety of sessions or visits to yourpage to assist you higher perceive what proportion of your guestschanging.

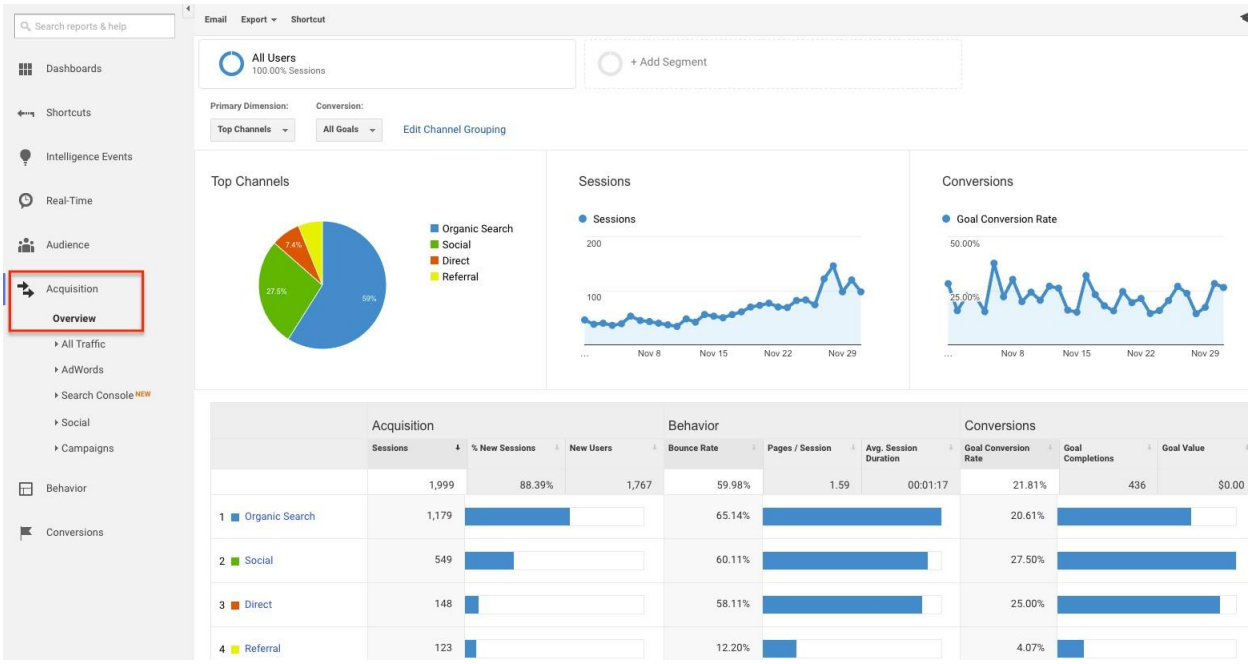


Figure 18 Google Analytics

For most healthy and effective campaigns, you'll see steady growth within the varietyof sessions from every referral supply. If you notice that the quantity of sessions starts to drop, then you'll go back the referral supply to spot problems. for instance, if you see that sessions from Facebook begin to drop off, you may think about adjusting yourapproach.

4.2 Testing

It is really important to run or operate without any flaw in our system, so checking plays an important role in detecting the defect. It is a very critical element in the estimation of project efficiency, and essentially provides specification and codingappraisal.

Testing can be manual testing and automatic testing in two ways. Manual testing relies mainly on human power i.e. the project test cases are prepared by a software tester and turned off to senior personnel. Whereas this method ID competed with the assistance of electronic equipment instead of manual staff in automatedtesting.

Device checking is a big step. Testing is an interesting tech phenomenon. Therefore, before the framework is prepared for a customer compliance check, a series of testsforthe current program will beperformed.

4.21 TestingObjectives

Testing is used to search error in the program.

A successful test case is one that has the probability of discovering an mistake yet to be discovered

A positive examination, which shows an undiscovered error

4.22 TestingPrinciple

- All assessments will be traceable to the specifications of endusers
- Reports will be planned well before workbegins
- Training will begin on a limited scale and move towards broadtests
- Research can not berigorous

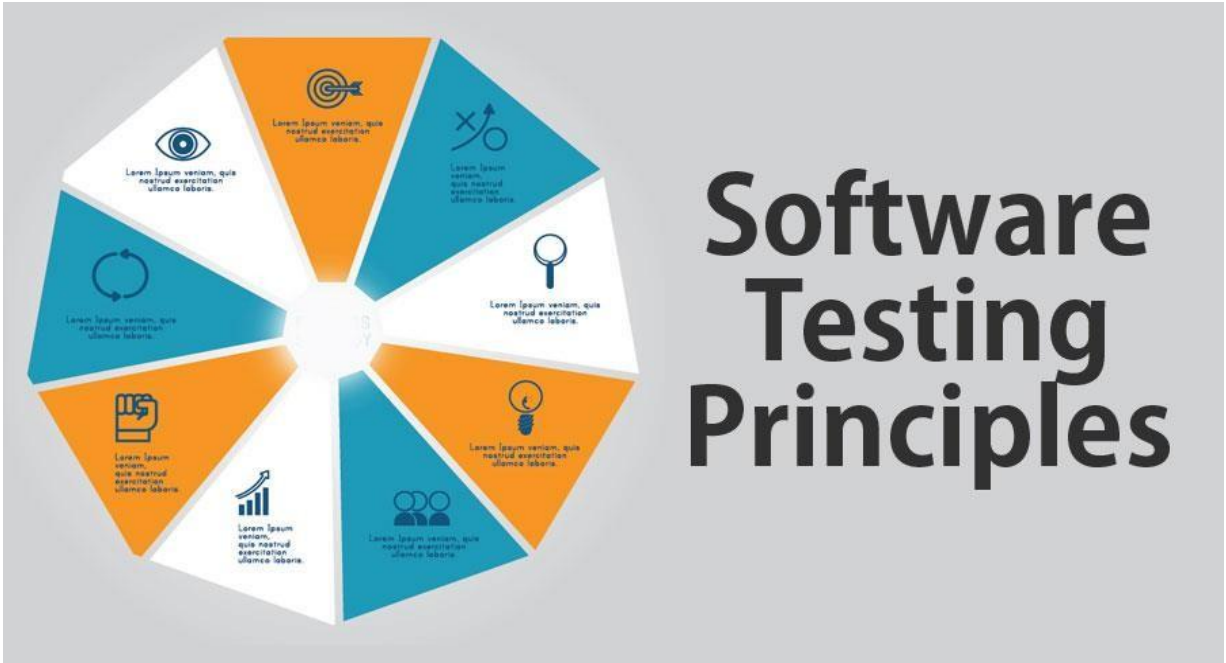


Figure 19 Testing Principle

The thing with the testing is to remove the inconsistencies from the program. They are used for the better performance of the system and better results of thecode.

They are :-

Black box testing.

White box testing.

Black Box Testing :- A tester has little knowledge about the inner function of the program in Black-box checking. Testing of recording equipment can beahighdegreeoftestingthatreflects on the software package's actions. It requires testing from an external or end-user viewpoint associated with it. Testing of recording equipment is extended at just about any stage of testing of the software package: device, integration, framework andapproval.

Therefore, as a consequence of the coding scheme, this method is called, within the eyes of the tester, is kind of a black box; within that one can not see. This approach aims to check for mistakes within the followingcategories:

- Initialization and terminationerrors
- Interfaceerrors
- Errors in actions oroutput

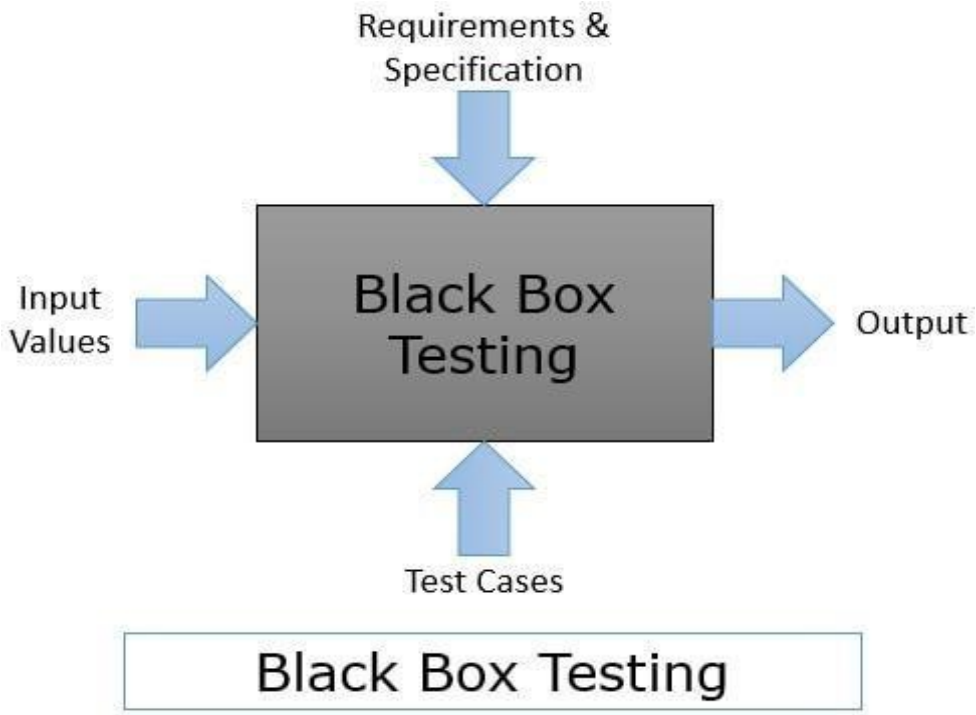


Figure 20 Black Box Testing

White Box Testing :- Instead of only the practicality of recording system testing, white box testing approaches examine the inner configurations of the used information structures, internal style, code layout and even the function of the kit. It is also known as testing for glass boxes , testing for transparent boxes or structuralchecks.

The tester selects inputs to exercise techniques via the code during White Box Testing and decides the appropriate outputs. It is necessary to have programming power and thus the implementation details. White box research is testing the software on the far side and into a system's nub. As a consequence of the software framework program, this technique is named, within the eyes of the tester, is kind of a white/transparent box; within that one obviously sees..

Advantages are as follows :-

- Efficient in identifying faults andconcerns
- Allows Secret Errors to bedetected
- It is possible to delete extra lines of code that can put in secretflaws.

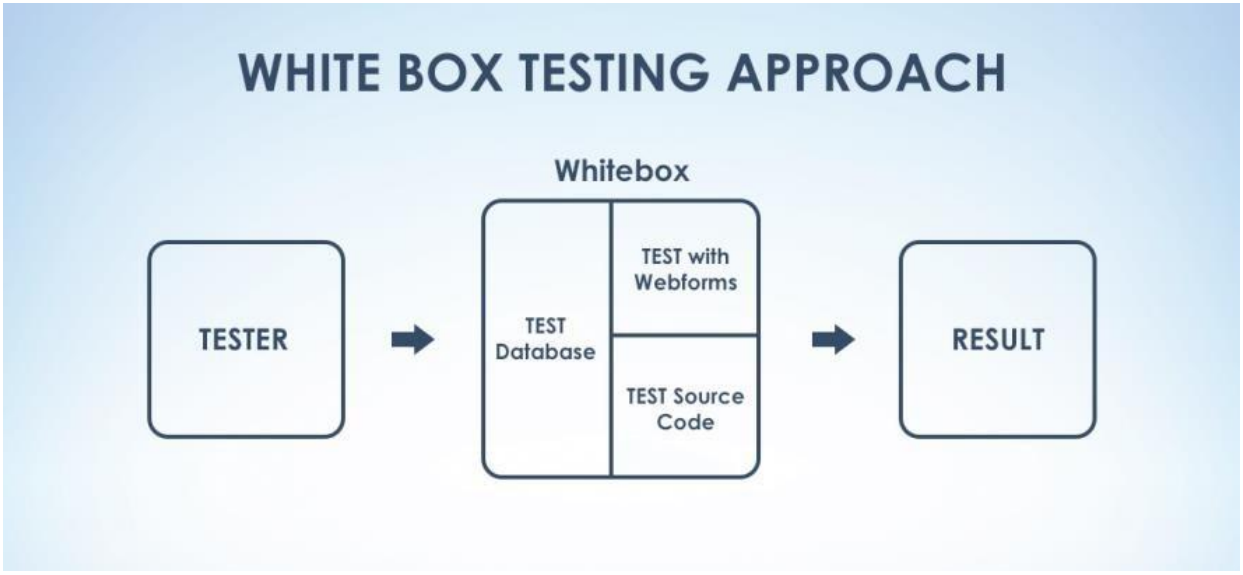


Figure 21 WhiteBox Testing

5.0 CONCLUSION

5.1 Conclusions

The conclusion of the website is that during the pandemic the work of online shopping websites has increased, the hidden idea of picking this was to add to society by presenting such activities as during covid -19 individuals regularly decide to remain at home during the Coronavirus, this allows them to purchase from home. With limits, individuals can purchase various items from the stage. Utilizing jsp and servlets, connected to the information base utilizing my connection class, we have presented this. This gives different charging and truck decisions where you can introduce items, scratch cards, estimating focuses, and so forth. In nowadays, it is the essential clarification why it is worthwhile. The significant piece of this is verification, as assurance for this situation is critical, so we have utilized a Google Manual human test highlight that shows the various endeavors of the clients who have signed into the site, so the security perspective is one of the main parts of thissite.

The project has been created to make the advancement of future upgrades more straightforward. where the customer is in close correspondence with the purchaser.

There is no enterprise included. It lets people straightforwardly market their own items and possessions to an invested individual. Exchanged items are ordinarily vehicles, cruisers, gadgets, and soon.

There are moves from business to organization. The organizations work with one another here. It isn't thelast client who is concerned. Thusly, webdeals incorporatejustproviders, wholesalers, merchants, and soforth

Hence all of the above prove that the value of the online shopping websites is going to increase and these web applications have a huge futurescope.

Thekit has been designed to makeit easier to create potential changes. The followingconclusions can be inferred from the project'sdevelopment.

- Full machine automation increasesperformance
- It offers a user-friendly graphical interface that is better than the existingsystem.
- This allows the approved users correct access based on theirpermissions.
- It successfully overcomes coordinationgaps.
- Data processing is muchfaster.
- Striking features include device stability, computer protection andreliability.
- The device should have ample room for potential modifications where appropriate.

5.2 FutureEnhancements

Future Scope of this project is immense, the redundant work and the themes that sway it are dispensed with by this program. It's a simple method to get data on the general stores' different item abilities. Well regarding data about the different cases, I and my colleagues endeavored to convey an improved site instead of thecurrent site. All things considered, wefeltthatthe standard could be refined better. This obviously shows when we request data on a specific item, the association, item Id, item name and no. of accessibleamounts.

All these things show that the scope of this is going to increase over the years like we have seen during the covid 19 pandemic the need for the online commodities had increased so duringthe tough times and normal as well these websites turn out to be the saviours of the country both personally and economically this aids in the development of the country and for that the website should be as much as simpler and with that the performance and the security of the website should bemore.

The technologies that we have used has the larger scope in the world. Internet will be spread across every area which it is going to be in modern day most of the people will prefer to buy the things from home as in the modern world people have lesser time to buy the commodities from the store so this will help them to save the time and also the transportation cost is also the factor as the people have to travel to longer places in order to buy different commodities and then it will be beneficial for them to adapt withthat.

In India, people decide to shop online these days as opposed to hitting the actual store. Savvy and safe installment includes just as money on appearance (COD), which makes the installment substantially more secure with inconvenience free bundling, speedy returns andconnect.

The repetitive work and the topics that impact it are eliminated by this program. It's an easy way to obtain information on the supermarkets' separate productskills.

Well in terms of information about the various cases, I and my team mates worked hard to deliver an improved website rather than the present website. Nevertheless, we felt thatthe

principle could be accomplished better. This clearly shows when we ask for information on a particular product, the organization, product I d, product name and no. of available quantities. After obtaining the details, we can access the website of the product provider by clicking on the name of the product.

We will use the search function in the next version. We will scan for a specific product business directly from this site. This are the two modifications we would expect at the moment.
We can bring more power to the admin in the next update, such as the graphical representation of sold and unsold items, and users can even write feedback and ratings of the products they ordered from our online shopping platform. These features would be a landmark for the growth of our website, when individuals normally buy the product, taking into account the product's analysis andscores.

REFRENCES

[1] Ayo,Charles K. (2006). "The Prospects of e-Commerce Implementation inNigeria, Journal of Internet Banking and Commerce", Vol. 11, No.3, pp. 68-75

[2] David W, (2001) "E-Commerce Strategy, Technologies and Applications", Tata McGraw Hill, pp.3-143.

[3] Vivek S, Rajiv S, (2000) "Developing E-Commerce Sites: An IntegratedApproach", Addison-Wesley, pp. 268

[4] Bellman, S., Lohse, G., Johnson, E.J. Predictors of online buying behavior‖, Association for Computing Machinery. Communications of the ACM, 42(12), pp. 32-38,1999.

[5] .D.A. Menascé et al., "A Methodology for Workload Characterization of E-Commerce Sites," Proc. 1999 ACM Conf. Electronic Commerce, ACM Press, New York, 1999, pp. 119–128

[6] A. Odlyzko, "Paris Metro Pricing," Proc. 1999 ACM Conf. Electronic Commerce, ACM Press, New York, 1999, pp.140–147

[7] Munindar P. Singh, An Evolutionary Look at E-Commerce, IEEE Internet Computing, Vol.5, No.2, 2001, pp.6-7.