

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELAGAVI, KARNATAKA**



A Mini Project Report

(Seventh semester)

on

“E-Commerce Website”

Submitted in the partial fulfillment for the requirements for the WEB Laboratory with Mini

Project(17CSL77)

in

INFORMATION SCIENCE AND ENGINEERING

By

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Under the guidance of

Bhavya G.
Assistant Professor



BMS INSTITUTE OF TECHNOLOGY & MANAGEMENT
YELAHANKA, BENGALURU-560064
DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING



2020-2021

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CERTIFICATE

This is to certify that the Mini Project (Seventh Semester) entitled “**E-Commerce Website**” is a bonafide work carried out by **Mr. Sanjay Paudel(1BY17IS068)**, **Mr. Sushan Prajapati(1BY17IS069)**, **Mr. Suyes Sapkota(1BY17IS070)**, in partial fulfillment of WEB Laboratory with Mini Project(17CSL77) for the award of **Bachelor of Engineering Degree in Information Science and Engineering** of the Visvesvaraya Technological University, Belagavi during the year 2020-21. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in this report. The mini project report has been approved as it satisfies the academic requirements with respect to mini project work for the B.E Degree.

Signature of the Guide
Bhavya G.

Signature of the HOD
Dr. Pushpa S.K

External Examiners

Name of Examiners

Signature with Date

- 1.
- 2.

ACKNOWLEDGEMENT

We are happy to present this Mini Project after completing it successfully. This Mini Project would not have been possible without the guidance, assistance and suggestions of many individuals. We would like to express our deep sense of gratitude and indebtedness to each and everyone who has helped us make this Mini Project a success.

We heartily thank our **Principal, Dr. Mohan Babu G.N, BMS Institute of Technology & Management** for his constant encouragement and inspiration in taking up this Mini Project.

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Special thanks to all the staff members of Information Science Department for their help and kind co-operation.

Lastly I would like to thank my parents and friends for their encouragement and support given to us in order to finish this precious work.

By,

**Sanjay Paudel
Sushan Prajapati
Suyes Sapkota**



Declaration

We, hereby declare that the Mini Project titled “E-Commerce Website” is a record of original Mini Project work undertaken for the award of the degree Bachelor of Engineering in Information Science and Engineering of the Visvesvaraya Technological University, Belagavi during the year 2020-21. We have completed this Mini Project work under the guidance of **Bhavya G. Assistant Professor.**

I also declare that this Mini Project report has not been submitted for the award of any degree, diploma, associate ship, fellowship or other title anywhere else.

Student Photo

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ABSTRACT

The aim of the project is to develop a system where people can buy the products from the site and they need not to visit the shop and lost their time much. Now everything on the world has become digital in this era. E-Commerce is fast gaining ground as an accepted and used business paradigm.

Our proposed project aims to build and manage a database that can be very beneficial for an Costumer as well as the seller. The E-commerce web needs to keep track of all the details of its target costumer as well as the new people to its sites. In the project, we intend to use the concepts involved in handling the data acquired from seller as well as costumer as consumer using MySQL and PHP. The database will include multiple tables which will be managed efficiently. Some functions will run which would classify the policies based on their status. According to those classifications, different tables are created in database and according to functions, records are grouped in respective tables.

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Chapter 1

Introduction

1.1 Brief Introduction

Electronic commerce refers to the buying and selling of products or services over electronic systems such as the Internet and other computer networks. The Shopping Cart is very important feature used in e-commerce to assist people making purchases products online. It also includes the entire online process of developing, marketing, selling, delivering, servicing and paying for products and services. In order to purchase a shopping cart is provided to the user. The amount of trade conducted electronically has grown extraordinarily with widespread Internet usage. The use of commerce is conducted in this way, spurring and drawing on innovations in electronic funds transfer, supply chain management, Internet marketing, online transaction processing, electronic data interchange (EDI), inventory management systems, and automated data collection systems. The eCommerce site will let customers to view and order products online from any part of the world.

1.2 Motivation and Scope

Seeing all this things, making the manual system into computerized system would be an interesting task so I took this chance to develop the E-Commerce website for the simple and betterment for user.

This project provides complete details about things needed for the costumers. This software is based on the general requirements of users. Any costumer can easily adopt this software with minor or no changes. Use of this application will reduce the user to go shop and select the things and need not to loose the time. This project has a lot of scope.

1.3 Objectives

The few objectives of ecommerce:

1. Reduce management costs

Businesses aim at reducing the costs incurred for the betterment of their revenue. Automating the ecommerce business can help in reducing the management cost significantly. Moreover, the right use of digital marketing can help in reducing the cost spent on driving customers to such an extent that businesses can bring customers for free of cost.

2. Developing business relations

With ecommerce as the primary use, business development can be easily achieved. The direct communication between a company and the customer, the business relationship can be boosted. Eventually, the ecommerce market shall be expanded.

3. Providing a unique customer experience

Uncountable ecommerce businesses are functioning out there in the market. When a customer searches for a certain product (for instance, shampoo), they will probably click on the first three links that are shown on the Google Search Engine Results Page. All the rest links are either avoided, never seen, or are visited by a few. This itself shows the competition in the ecommerce market. One of the best ways to stand out from the crowd is by providing a unique customer experience. This includes giving a personalized experience to each customer or visitor of your online store, website, or mobile app. Some other pointers to consider are round the clock customer service, immediate responses to the queries rose, engaging with the customers, and so on.

4. Increasing the number of loyal customers

Customers are the core of all business strategies. Therefore, ensuring the great customer experience is of prime importance for the growth of the business. You need to meet your customers where they spend their time. More than 60% of consumers look for purchasing goods and services online. If you meet your customers where they are already active, the

chances of them, interacting with your business increases two folds. You can increase the number of loyal customers by giving the best experience to your already existing customers as well as bring in newer customers.

5. Boosting the efficiency of services

With the continually evolving technology, you need to enhance the efficiency of your services. By choosing an online ecommerce platform to create an online store, you can efficiently reduce the cost of managing and selling online. You have various opportunities to boost the efficiency of your service that eventually enhances the revenue earned. By reducing the delivery time, you can witness happy customers getting back to your business two times faster. Another way is to provide your customers with automated services such as status update, invoice creating, chat support, etc. When you update your efficiency of delivering products or services to your customers, you are creating a strong online presence that helps you sell more.

6. Developing relevant target

Developing relevant traffic for an ecommerce business is a common objective. Whether an ecommerce website or an online store, building traffic is one of the most important objectives. However, you should know that not all traffic is useful for your business. If you are successfully creating traffic for your ecommerce site or store, but most of the people in the traffic do not require the products or services you provide, the traffic is not causing any good to your business. For instance, your marketing strategies were attractive enough for teenagers; your business would not be receiving any boost in sales. Therefore, along with boosting your traffic, you need to analyze your traffic. Here comes the need for collecting customer data. Collecting customer data include demographics such as age, location, and gender, customer interests, browsing history, browser history, and so on. By saving these data, you can aim in targeting the relevant market.

7. Making responsive ecommerce website

With the increasing use of smartphones for shopping online, it has become more than mandatory for ecommerce businesses to go mobile. Apart from creating a native mobile app,

like the one offered from Builderfly, you need to create a responsive e-commerce website. It is one of the major objectives of all leading ecommerce businesses. By responsive, it means to create a website that can be viewed from any devices of varying screen size, equally. Studies say that Google may next rank a website based on its mobile website. It means that any website that has a responsive design would be ranked on top of the website that does not have one. Making your ecommerce website responsive can help you optimize it. A mobile-friendly website earns more traffic than the rest.

8. Increasing sales

The objective of increasing sales will always remain continuous and constant for an ecommerce business. In order to thrive in the ecommerce industry, you need to boost your sales, constantly. All other objectives are zeroed down to make this objective happen. However, you also need to look into your past store analytics and figure out the marketing tactics that have worked well for you to increase sales. Although these objectives could help you in gaining sales, nothing can beat the tried and tested marketing tactics for your business. For instance, the products that are sold the most, ideally the best seller can be used for remarketing and grab more attention. Any marketing strategy you used earlier including the email targeting and traffic boosting tactics must be revisited and worked upon to increase sales. Based on the above-mentioned objectives and the marketing tactics that actually worked for you, you need to design your marketing plan. Only you can decide what is perfect for your business and what is not. Every business is unique, and so is yours!

1.4 Problem Statements

This projects aims to develop an online shopping for customers with the goal so that it is very easy to shop your loved things from a extensive number of online shopping sites available on the web. With the help of this you can carry out an online shopping from your home. Here is no compelling reason to go to the crowded stores or shopping centers during festival seasons. You simply require a PC or a laptop and one important payment sending option to shop online. To get to this online shopping system all the customers will need to have a email and password to login and proceed your shopping . The login credentials for an online shopping system are under high security and nobody will have the capacity to crack it

easily. Upon successful login the customers can purchase a wide range of things such as mobiles, books, apparel, jewellery, infant care, gifts, tools, etc. can be dispatched using online shopping system. Not just these, you can also purchase from outside nations by few clicks on your mouse. And of course you will get your requested ordered items at your door step. It is simple. You will pick your favourite items from variety of online shopping sites looking at cost and quality. No need to go physical shops with this you will have more time to spend with your family. It just needs a computer and a payment making options like net banking, credit card, debit card or paypal. Almost a wide range of things can be brought through online shopping system. You can purchase goods from foreign places from your bedroom and you will get your goods at your home. It is extremely secure. Customer service is accessible.

1.5 Problem in Existing System

In the existing Life Insurance Management System, the work is done by hand. All the details for the insurance such as cash information or age related important information was collected into the hard copy and by chance if any of the document get missed up or get harmed then whole of the information will be missed, resulted into the major loss for the user.

Also adding all the details manually will take a lot of time and also a lot more chances of entering the information wrong. And also sending details from one place to another will not be any task because in case while sending one important document from one place to another, it get lost, then also it will proved to a great loss both for the user as well as for the organization.

In current system any customer who wants to buy any life insurance policy has to contact Insurance Agent or visit the company directly. It will takes lots of extra time of customer. If customer wants to compare two policies than he has to one by one compare the details of policy manually and then decide which policy to buy. Customer has to maintain record of each and every policy owned by him manually or enter the details in excel sheet. It is very tedious task for the customer to remember on which month he has to pay policy premium and on which date his policy ends. Life Insurance Company also has to give advertisement about new policy plans either in News Paper or in TV channels. So it is very costly for the Life

Insurance Company. Customer has to pay policy premium by visiting branch office or contacting insurance agent. Following are disadvantages of Existing System after studying existing system we found following problems and weaknesses in the system:

- 1) Current system is manual.
- 2) It is time consuming because it takes lots of time in searching accurate detail about various life insurance policy plans.
- 3) It is very difficult to locate the agents in order to buy policy.
- 4) Customer has to maintain the records of policy hold by them manually. It is very difficult for the customer to remember when he has to pay policy premium and what the date of his policy maturity is.
- 5) Online Policy Premium Payment is not possible.
- 6) It is costly in terms of advertisement and marketing for Life insurance Company.

Chapter 2

Requirements Specification

2.1 Functional Requirements

Admin:

Admin can manage customer and the things. He can add or remove any costumer from the system. S/he controls all the activities need to be handled in it.

Customer Registration:

Customer are the most important side of the E-commerce Management. They are as the customer of this system. Admin can add the new Customeras well as the things to his new system as regarding the new customer.

2.2 Non-Functional Requirements

The different non-functional requirements for the system include:

1. Security:

The database should be secured. No other user other than the admin should be allowed to access the database and make changes to the database. The login details should be hidden from unwanted people to improve the security of the database. Security of the database is an important non-functional requirement because if the security is not available then the data present in the records can be copied or deleted if it falls in the wrong hands.

2. Reliability:

The database should be reliable and be trusted by everyone i.e. the guides as well as the customer. If the database is not reliable then it will be useless and will be discarded immediately. Reliability in the sense it should not stop working suddenly without warning because if it happens then the data present in the database cannot be accessed.

3. Backup and Recovery:

There should be backup and recovery facility of the database because if the data gets lost then creating such huge database with these many values will take a lot of time. So, if in case the data present in the database is lost it can be recovered if a good backup system is established.

2.3 Domain Constraints

A domain is defined as the set of all unique values permitted for an attribute. For example, a domain of date is the set of all possible valid dates, a domain of integer is all possible whole numbers and a domain of day-of-week is Monday, Tuesday ... Sunday. The values violating one's domain is not allowed in DBMS.

This in effect is defining rules for a particular attribute. If it is determined that an attribute is a date then it should be implemented in the database to prevent invalid dates being entered.

A classic example of this is where the data from a legacy system is loaded into a newly designed database. The new system is well designed. Columns that hold dates are defined as such whereas, in the old system, they were held as character strings. If the system supports domain constraints then this invalid data would not have stored in the first place. Overall, the integrity of the database is being preserved.

Chapter 3

System/Requirements Analysis

3.1 Overall System Description

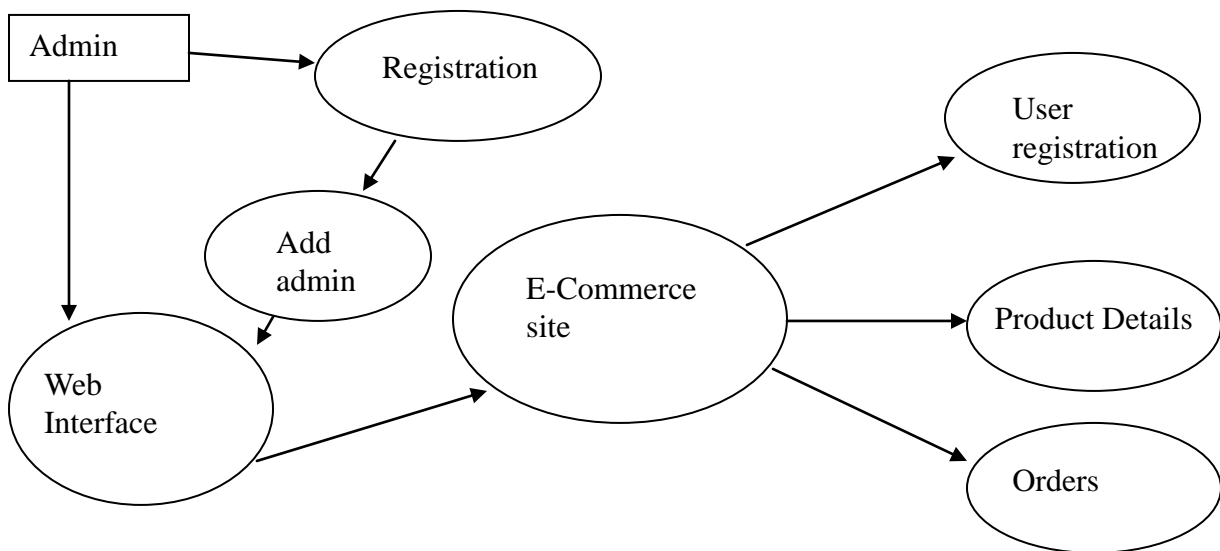


Fig. 3.1.: Overall System Design

The front end of the project is done using HTML/CSS/JAVASCRIPT and the backend is done using PHP/MySQL control panel. The front end contains different buttons and other option such as registration of admin registration. In the backend all the data related to the Customer & their details is stored in a systematic format.

The other option is to manage the database which can be accessed only by the admin. The users don't have the privilege to update the back end of the data, they can only view the data. The admin logs on to the manage database by entering the username and password which will be hidden from other users. In this option the admin can make changes in the database if required. The admin can perform the task like updating the records present in the inventory and deleting the data. So, the admin manages all this updating and deleting process in the database.

3.2 Hardware Requirements

- Processor :Atleast 2.0 GHZ
- RAM : At least 2 GB

3.3 Software Requirements

- Operating System : Windows
- Front-End : HTML/CSS/JAVASCRIPT
- Back-End : MySQL/PHP
- Editor Tools : Brackets/Sublime/Dreamweaver/VisualStudio
- Web Browser : Google Chrome/Firefox/Opera

3.4 Mapping of requirements to the subsystems or modules chosen

I divided the project into 2 main part: front end and back end. The front end I divided into 4 module. First module is Admin registration, where admin has their respective user name/mail-id and details as mentioned. Second module is the Customer registration. Third module is Product Details. Fourth module is Customer Order.

Next part is Back end, which is lined to the front end. It holds the data added from the front end.

3.5 Project Develop Languages

Basically, there are two kind of languages that I have used in preparing this project “E-Commerce Website”. One is Programming language and the other one is Database Language. For the front-end development, I have used JAVASCRIPT, HTML, CSS and for the backend development or say, connecting the front-end to the back-end, I have used PHP and similarly, for storing the data, I have used MySQL.

- Programming Language & Markup Language: PHP/JAVASCRIPT/HTML
- Color Script Language: CSS
- Database Language: MySQL

Chapter 4

Implementation

4.1 Description of Database Used

The database language used to create the DBMS used in the project is the SQL (Structured Query Language). It is a domain-specific language used in programming and designed for managing data held in a Relational Database Management System (RDBMS), or for stream processing in a Relational Data Stream Management System (RDSMS). In comparison to older read/write APIs like ISAM or VSAM, SQL offers two main advantages: first, it introduced the concept of accessing many records with one single command; and second, it eliminates the need to specify how to reach a record, e.g. with or without an index.

Originally based upon relational algebra and tuple relational calculus, SQL consists of a data definition language, data manipulation language, and data control language. The scope of SQL includes data insert, query, update and delete, schema creation and modification, and data access control. Although SQL is often described as, and to a great extent is, a declarative language (4GL), it also includes procedural elements.

SQL was one of the first commercial languages for Edgar F. Codd's relational model, as described in his influential 1970 paper, "A Relational Model of Data for Large Shared Data Banks". Despite not entirely adhering to the relational model as described by Codd, it became the most widely used database language. SQL became a standard of the American National Standards Institute (ANSI) in 1986, and of the International Organization for Standardization (ISO) in 1987. Since then, the standard has been revised to include a larger set of features. Despite the existence of such standards, most SQL code is not completely portable among different database systems without adjustments.

4.1.1 PHP

PHP (Hypertext Pre-processor) is a server side language designed for Web development, and also used as a general-purpose programming language. It was originally created by Rasmus Lerdorf in 1994 the PHP reference implementation is now produced by The PHP Group. PHP originally stood for Personal Home Page but it now stands for the recursive initialize PHP: Hypertext Pre-processor.

PHP code may be embedded into HTML code, or it can be used in combination with various web template systems, web content management systems, and web frameworks. PHP code is usually processed by a PHP interpreter implemented as a module in the web server or as a Common Gateway Interface (CGI) executable. The web server combines the results of the interpreted and executed PHP code, which may be any type of data, including images, with the generated web page. PHP code may also be executed with a command-line interface (CLI) and can be used to implement standalone graphical applications.

The standard PHP interpreter, powered by the Zend Engine, is free software released under the PHP License. PHP has been widely ported and can be deployed on most web servers on almost every operating system and platform, free of charge.

4.1.2 XAMPP

XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server possible.

XAMPP's ease of deployment means a WAMP or LAMP stack can be installed quickly and simply on an operating system by a developer, with the advantage a number of

common add-in applications such as Word press and Joomla! Can also be installed with similar ease using Bitnami.

XAMPP requires only one zip, tar, 7z, or exe file to be downloaded and run, and little or no configuration of the various components that make up the web server is required. The Windows' version of XAMPP requires Microsoft Visual C++ 2017 Redistributable.

XAMPP is regularly updated to the latest releases of Apache, MariaDB, PHP and Perl. It also comes with a number of other modules including OpenSSL, PHPMyAdmin, MediaWiki, Joomla, Word Press and more. Self-contained, multiple instances of XAMPP can exist on a single computer, and any given instance can be copied from one computer to another. XAMPP is offered in both a full and a standard version.

The latest version of the XAMPP used in the project is XAMPP Control Panel v3.2.1.

Chapter 5

System Design

5.1 Entity Relationship Diagram

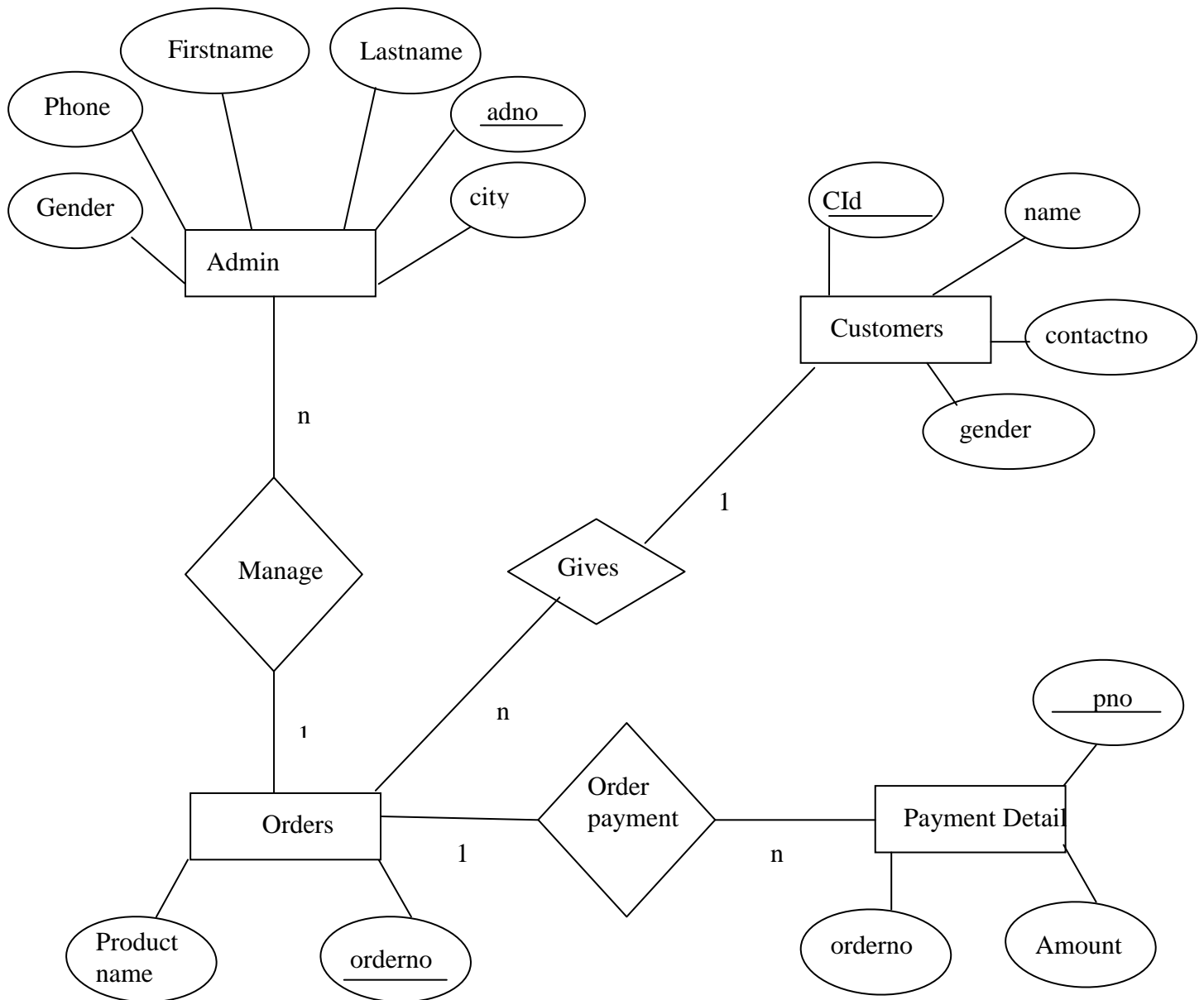


Fig. 5.1: ER Diagram

5.2 Usecase Diagram

5.2.: Admin

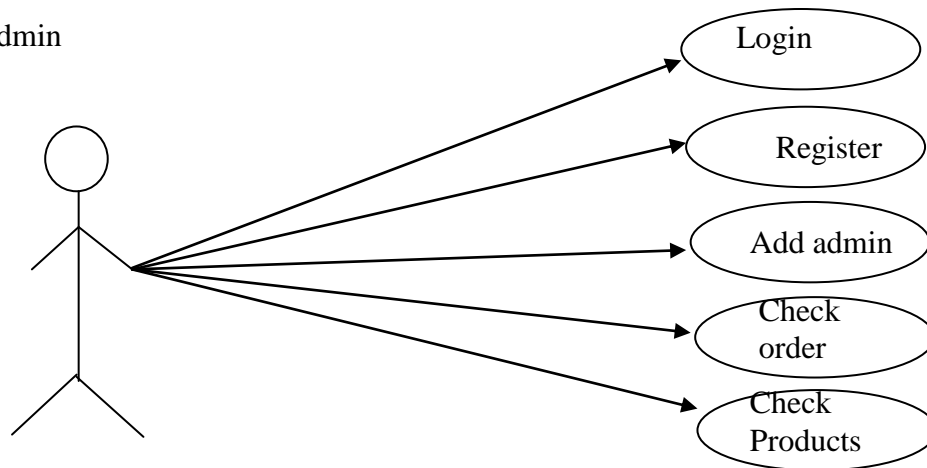


Fig. 5.2: AdminUsecase Diagram

5.3: user

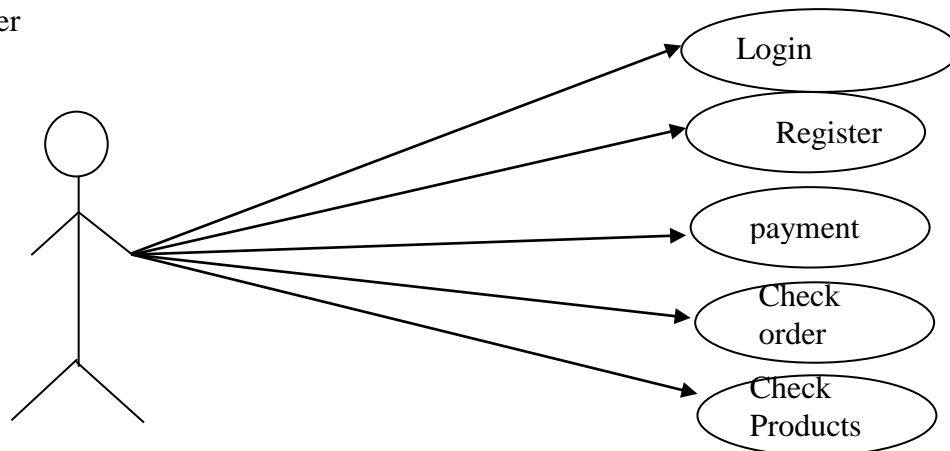


Fig. 5.3: User Usecase Diagram

Chapter 6

Interpretation of Results

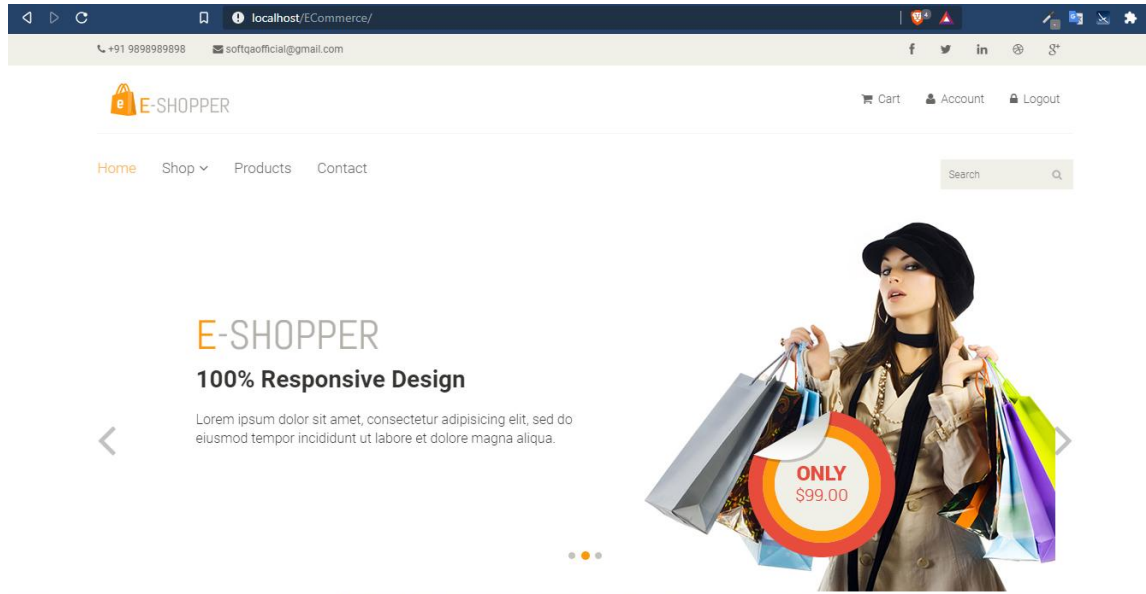


Fig. 6.1: Main Interface

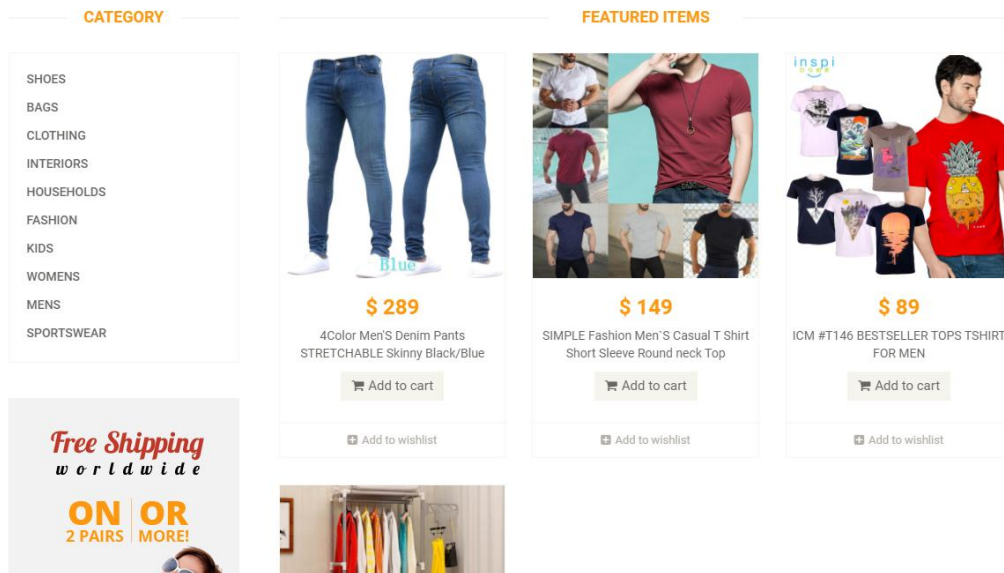
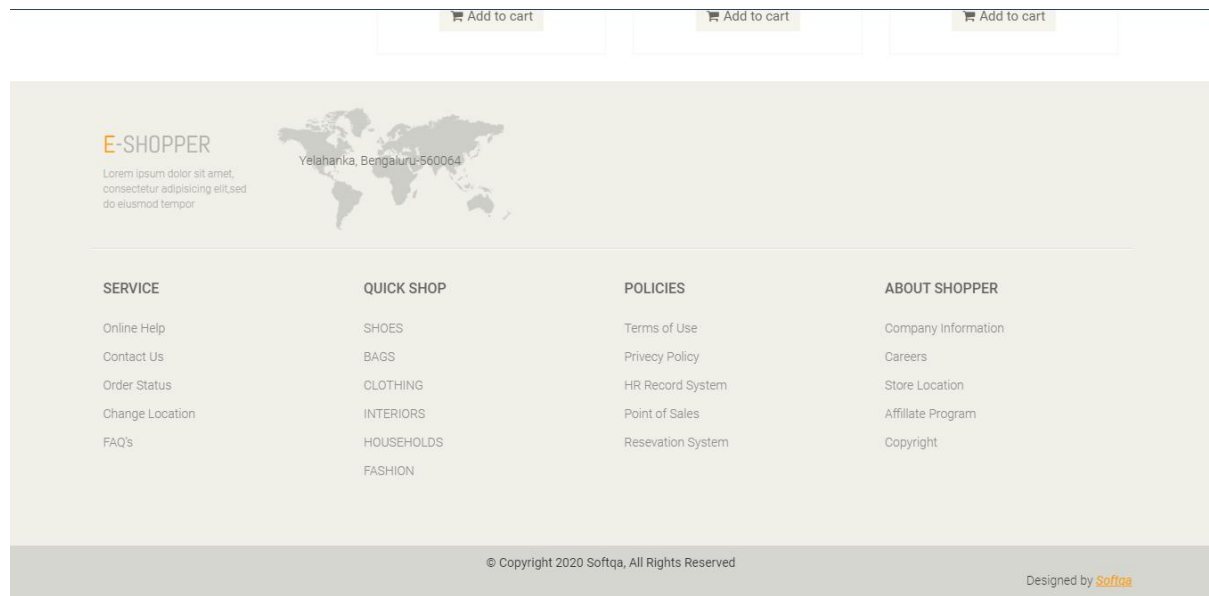
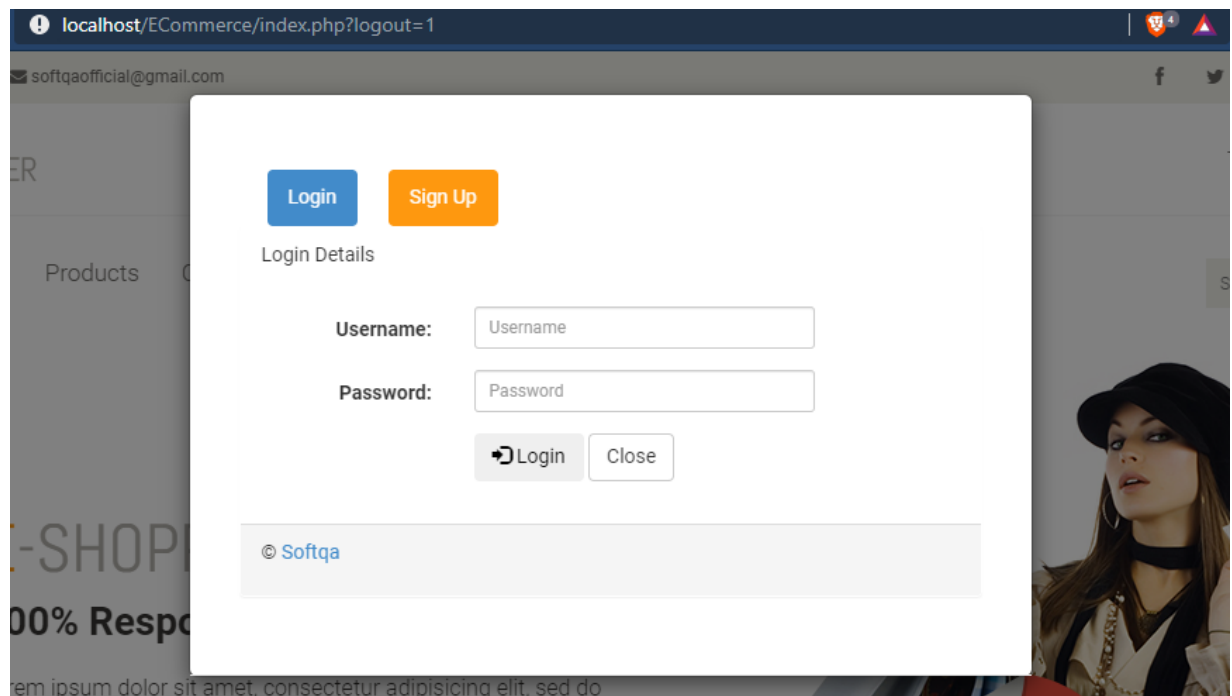


Fig. 6.2: Products


**Fig. 6.3:Footer****Fig. 6.4:Login Page**

+91 9898989898 softqaofficial@gmail.com f t in + S+

E-SHOPPER Cart Account Logout

Home Shop ▾ Products Contact Search

Home ▾ Profile

 profile image

Real name Sanjay Paudel
Change Password

LIST OF ORDERS UPDATE ACCOUNT WISHLIST

Search:

#	Order#	Date Oredred	TotalPrice	PaymentMethod	Status	Remarks
No data available in table						

Showing 0 to 0 of 0 entries PREVIOUS NEXT

Fig. 6.5:Customer Order




+91 9898989898 softqaofficial@gmail.com f t in + S+

E-SHOPPER Cart Account Logout

Home Shop ▾ Products Contact Search

Home ▾ Shopping Cart

1 Item added in the cart.

Product	Description	Price	Quantity	Total
	4Color Men'S Denim Pants STRETCHABLE Skinny Black/Blue	\$ 289	1  	\$ 289
				Total \$289.00

Add to wishlist

Fig. 6.6:Costumer order cart

localhost/ECommerce/index.php?logout=1

softqaofficial@gmail

PPER

p v Products C

E-SHO

Free Eco

Lorem ipsum d

eiusmod temp

Customer Details

First Name:

Last Name:

Gender: ☒ Male ☐ Female

Municipality/City:

Username:

Password:

Note

Password must be atleast 8 to 15 characters. Only letter, numeric digits, underscore and first character must be a letter.

Contact Number:

I ☐ Agree with the [TERMS AND CONDITION](#)

Sign Up Close

ONLY \$99.00

Fig. 6.7:customer addition

Name: Sanjay Paudel Order Number :099

Address: Pokhara

Product	Description	Quantity	Price	Total
	4Color Men'S Denim Pants STRETCHABLE Skinny Black/Blue	1	\$ 289	\$ 289

Total Price : \$ 289.00
Delivery Fee : \$ 70
Overall Price : \$ 359.00

What would you like to do next?

Choose if you have a discount code or reward points you want to use or would like to estimate your delivery cost.

Payment Method :

☒ Cash on Delivery

Address where to deliver

Place(Brgy/City):

[← View Cart](#) [Submit Order →](#)

Fig. 6.8:Delivery details

[LIST OF ORDERS](#)
[UPDATE ACCOUNT](#)
[WISHLIST](#)

Order created successfully!

Search:

#	Order#	Date Oredred	TotalPrice	PaymentMethod	Status	Remarks	
1	99	Jan/10/2021 12:14:10	\$ 359	Cash on Delivery	Pending	Your order is on process.	i

Showing 1 to 1 of 1 entries

PREVIOUS
1
NEXT

Fig. 6.9:Payment Details

E-Commerce [+ New](#) [Howdy, Sanjay pro!](#)

[Products](#)
[Orders \(2\)](#)
[Categories](#)
[Setting](#)
[Users](#)
[Report](#)

Orders /

List of Orders

Show entries
Search

#	Order#	Customer	DateOrdered	Price	PaymentMethod	Status	Action
1	99	Sanjay Paudel	Jan/10/2021 12:14:10	\$ 359.00	Cash on Delivery	Pending	Cancel Confirm
2	98	Suyes Sapkota	Jan/05/2021 11:30:25	\$ 308.00	Cash on Delivery	Confirmed	Confirmed
3	97	Suyes Sapkota	Nov/24/2020 08:40:19	\$ 595.00	Cash on Delivery	Cancelled	Cancelled

Showing 1 to 3 of 3 entries
[Previous](#)[Next](#)

Fig. 6.10:Order Cart

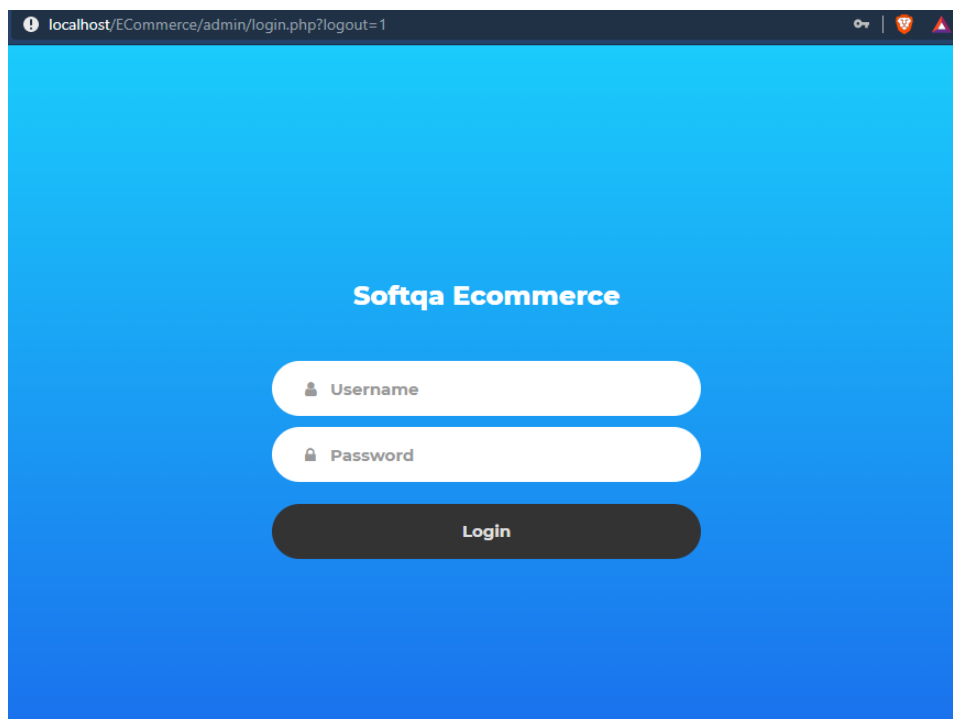


Fig. 6.11:Admin Login

E-Commerce + New ▾ Howdy, Sushan prot

- Products
- Orders (1)
- Categories
- Setting
- Users
- Report

Products /

List of Products + New

Show 10 entries Search

#	Image	Product	Description	Price	Discount%	Discounted Price	Quantity
<input type="checkbox"/>		CLOTHING	KILY Korean Casual Sleeveless Dress Printed Dress 5a0019	\$ 119.00	\$ 0	\$ 119.00	0
<input type="checkbox"/>		MENS	4Color Men'S Denim Pants STRETCHABLE Skinny Black/Blue	\$ 289.00	\$ 0	\$ 289.00	3
<input type="checkbox"/>		MENS	SIMPLE Fashion Men'S Casual T Shirt Short Sleeve Round neck Top	\$ 149.00	\$ 0	\$ 149.00	1
<input type="checkbox"/>		MENS	ICM #T146 BESTSELLER TOPS TSHIRT FOR MEN	\$ 89.00	\$ 0	\$ 89.00	4
<input type="checkbox"/>		HOUSEHOLDS	CJY-001 Coat Rack Creative Simple CoatRack Bedroom Wardrobe (Gray)	\$ 287.00	\$ 0	\$ 287.00	3

Showing 1 to 5 of 5 entries

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Fig. 6.12:Product Details

Chapter 7

Testing

7.1 Testing Methodology(Types)

Test cases are developed using various test techniques to achieve more effective testing. By this, software completeness is provided and conditions of testing which get the greatest probability of finding errors are chosen. So, testers do not guess which test cases to choose, and test techniques enable them to design testing conditions in a systematic way. Also, if one combines all sorts of existing test techniques, one will obtain better results rather if one uses just one test technique. Software can be tested in two ways, in another words, one can distinguish two different methods:

1. Black box testing
2. White box testing

7.1.1 Unit Testing

Unit testing, also known as component testing, refers to tests that verify the functionality of a specific section of code, usually at the function level. In an object-oriented environment, this is usually at the class level, and the minimal unit tests include the constructors and destructors.

These types of tests are usually written by developers as they work on code (white-box style), to ensure that the specific function is working as expected. One function might have multiple tests, to catch corner cases or other branches in the code. Unit testing alone cannot verify the functionality of a piece of software, but rather is used to assure that the building blocks the software uses work independently of each other.

Unit testing is a software development process that involves synchronized application of a broad spectrum of defect prevention and detection strategies in order to reduce software development risks, time, and costs. It is performed by the software developer or engineer during the construction phase of the software development lifecycle. Rather than replace traditional QA focuses, it augments it. Unit testing aims to eliminate construction errors before code is promoted to QA; this strategy is intended to increase the quality of the

resulting software as well as the efficiency of the overall development and QA process.

Depending on the organization's expectations for software development, unit testing might include static code analysis, data flow analysis metrics analysis, peer code reviews, code coverage analysis and other software verification practices.

7.1.2 Integration Testing

Integration testing is any type of software testing that seeks to verify the interfaces between components against a software design. Software components may be integrated in an iterative way or all together ("big bang"). Normally the former is considered a better practice since it allows interface issues to be located more quickly and fixed. Integration testing works to expose defects in the interfaces and interaction between integrated components (modules). Progressively larger groups of tested software components corresponding to elements of the architectural design are integrated and tested until the software works as a system.

7.1.3 System Testing

System testing, or end-to-end testing, tests a completely integrated system to verify that it meets its requirements. For example, a system test might involve testing a logon interface, then creating and editing an entry, plus sending or printing results, followed by summary processing or deletion (or archiving) of entries, then logoff.

In addition, the software testing should ensure that the program, as well as working as expected, does not also destroy or partially corrupt its operating environment or cause other processes within that environment to become inoperative (this includes not corrupting shared memory, not consuming or locking up excessive resources and leaving any parallel processes unharmed by its presence).

7.2 Alpha/Beta Testing

7.2.1 Alpha Testing

Alpha testing is simulated or actual operational testing by potential users/customers or an independent test team at the developers' site. Alpha testing is often employed for off-

the-shelf software as a form of internal acceptance testing, before the software goes to beta testing. Usually, an alpha testing takes place in the test lab environment on a separate system. In this technique, project manager teams up with the developer to define specific goals for alpha testing, and to integrate the results into evolving project plans.

As such alpha testing is done on a prototype, in-depth reliability testing, installation testing, and documentation testing can be ignored.

7.2.2 Beta Testing

Beta testing comes after alpha testing and can be considered a form of external user acceptance testing. Versions of the software, known as beta versions, are released to a limited audience outside of the programming team. The software is released to groups of people so that further testing can ensure the product has few faults or bugs. Sometimes, beta versions are made available to the open public to increase the feedback field to a maximal number of future users.

7.2.3 White-Box Black Box Testing

White box testing is highly effective in detecting and resolving problems, because bugs (bug or fault is a manifestation of an error in a software) can often be found before they cause trouble. We can shortly define this method as testing software with the knowledge of the internal structure and coding inside the program. White box testing is also called white box analysis, clear box testing or clear box analysis. It is a strategy for software debugging (it is the process of locating and fixing bugs in computer program code or the engineering of a hardware device) in which the tester has excellent knowledge of how the program components interact.

This method can be used for Web services applications, and is rarely practical for debugging in large systems and networks). Besides white box testing is considered as a security testing (the process to determine that an information system protects data and maintains functionality as intended) method that can be used to validate whether code implementation follows intended design, to validate implemented security functionality, and to uncover exploitable vulnerabilities Black box testing is testing software based on output

requirements and without any knowledge of the internal structure or coding in the program.

In another words, a black box is any device whose workings are not understood by or accessible to its user. For example, in telecommunications, it is a resistor connected to a phone line that makes it impossible for the telephone company's equipment to detect when a call has been answered. In data mining, a black box is an algorithm that doesn't provide an explanation of how it works. In film-making, a black box is a dedicated hardware device: equipment that is specifically used for a particular function, but in the financial world, it is a computerized trading system that doesn't make its rules easily available.

Conclusion & Future Enhancement

E-Commerce is not just about conducting business transactions via the Internet. Its impact will be far-reaching, and more prominent than we know currently. This is because the revolution in information technology is happening simultaneously with other developments, especially the globalization of the business. The new age of global e-commerce is creating entirely new economy and that will tremendously change our lives, will reshape the competition in various industries, and alter the economy globally. As companies are gaining high profits, more and more other companies are developing their websites to increase their profits. Since more businesses are being held online resulting in high economy development and emergence of a more innovative and advanced technology. E-commerce is continuously progressing and is becoming more and more important to businesses as technology continues to advance and is something that should be taken advantage of and implemented.

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