A Major Project Final Report on

ONLINE SHOPPING SYSTEM (SHOP PRO)

Submitted in Partial Fulfillment of the Requirements for

The Degree of

BACHELOR OF ENGINEERING IN INFORMATION TECHNOLOGY

Under Pokhara University

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this project. We owe special thanks to a number of people who has devoted much of their time

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ABSTRACT

The main purpose of the project ONLINE SHOPPING SYSTEM (SHOP PRO) is to build a platform for user to shop products of their choice just by sitting in front of computer or mobile. Nowadays, people are busy in their professional life so they are not able to give the time they desire to spend in shopping. In the present context, lifestyle of people have changed, they feel uncomfortable and time consuming for going busy markets. So SHOP PRO is here to save your time. One of the main advantage of our project SHOP PRO is that during holidays and festivals it eliminates the need to wait in long lines or search from a store for a particular item. Variety of products are available so user don't need to visit many stores. The software requirements for the project is asp.net for web and android(java) for mobile application. Project will consist of two modules user site and admin site. From the admin site the admin will record the information of products and handles checked out product details. User can login the system to shop the products of their choice and need. The project will use the SQL Server as database. This project will provide recommendation for the users with the products they may like.

Keywords: ASP.NET MVC, Android(java), SQL Server, recommendation, product.

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LIST OF ABBREVIATIONS

DBMS Database Management System

GUI Graphical User Interface

SD Sequence Diagram

SRS System Requirement Specification

SQL Structured Query Language

1. INTRODUCTION

Online Shopping System is a web-based and android based project which is made for shopping through internet. As the technology is being advanced the way of life is changing accordance. Now a day's we can place the order for anything from our home. There is no need to go to the shop of the things we want. The order can be placed online through internet. The payment, the confirmation of purchasing; we can do everything we want. Now we can think that how the days have been changed with time. People had to stand in rows to wait there turns to buy a particular thing from a popular shop. But what is happening now a day's; we can extremely surprise that those things can be available on the door-step in few hours. People had to suffer the rush of the market when they went for shopping. They used to think hundred times to buy anything having the sufficient money for shopping. The problem was the rush; the quarrel at the time of buying the things. But the advancement of technology brought the new way for shopping. The way of shopping was completely changed with the coming of Internet Technology. People have to fill a simple form on the internet to place their order on any popular shop or shopping-mall for the thing they want to buy. Now they can place their order from the home. This project Online Shopping System provides space where the customer can directly buy the products or items through internet connection on mobile or system. This project reduces lot of work for customer and transaction of money is completed in real time system. Buying of products online, customer can choose different products based on categories.

In the present context of Nepal, many people have access to internet so most of them desire to use it for various purposes and one of them is shopping. In this section, problem and motivation, objectives, project scope and limitation will be described in detail.

1.1 PROBLEM STATEMENT

Most shops are experienced some draw back in their operation due to the current shopping system (manual shopping) which are:

- Lack of accuracy in customer's record
- Slow in processing customer's records
- Lack of proper accountability
- It does not give a customer the incredible convenience to shop at any time of the day due to the limited working hours.

There is a need to change from manual way of shopping to a computerized way, where customers can browse through the Internet and the system administrator to approve requests shoppers can buy products anywhere and a database that will maintain the products detail information.

1.2 PROJECT OBJECTIVES

The major objectives of our project SHOP PRO are:

- 1. To create a platform for user to shop just staying in their home with internet access.
- 2. The users can search for products, view a complete description of the products and order the products.
- 3. To reach the products to the customers address with great care and fast.
- 4. The user can easily add a product to or remove a product from the shopping cart...

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1.3 SIGNIFICANCE OF STUDY

The significance of the study is to create an online shopping system that will provide secure services to customers, easy to use and provide management with features of store (products) management. Online shopping help people to get the product easily. They don't need to go so far to get it, only search the internet. Many people nowadays are using the web to shop for a wide variety of items, the significance of online shopping system include the followings:

- Online Shopping System is incredible convenience.
- It is always easy when it comes to accessing of customer review.
- The choice of Online Shopping is infinite.
- It price is always comparision.

1.4 PROJECT SCOPE

The scope of Online Shopping System is to make users easy purchasing and selling products and services over the internet without the need of going physically to the market. Online Shopping is just like a retail store shopping that we do by going to the market, but it is done through the internet. Online Shopping has made shopping painless and added more fun. Online stores offer product description, pictures, comparisons, price and much more. Online Shopping makes use of digital technology for managing the flow of information, products and payment between consumer, site owners and suppliers.

2. LITERATURE REVIEW

This section consists the literature study on the online shopping system. Our project is looking forward to define all the possible services so that there is an intelligent system of online shopping for the required and general services.

2.1 REVIEW

In the section the similar project that is developed by others that provides a platform for buying products of their choices. There are many projects done that provide a platform for buying products and some of them are discussed below:

The first one we received is Alibaba. Alibaba is the world's largest retailer and e-commerce company. This system allows importers and exporters from all over the world to trade and sell products using company profiles and product listings as well as integrated business management software. Alibaba provides free register service for both buyers and suppliers. Alibaba is parent company for different E-commerce sites like daraz which is widely used in Nepal.

Secondly we reviewed amazon which is an American multinational technology company that focuses on e-commerce, cloud computing, digital streaming and artificial intelligence. The company initially started as an online marketplace for books but later expanded to sell electronics, software, video games, food, toys etc. The major strategy of their was focusing on business-to-consumer relationships and its suppliers and then moved to facilitate customer-to-customer.

3. REQUIREMENT ANALYSIS

Requirement analysis, in software engineering encompasses those tasks that go into determining the need and conditions to meet for a new or altered product, taking account of possibly conflicting requirements of the various stakeholders, such as beneficiaries and users. It is the early stage activity of requirement engineering which encompasses all activities concerned with eliciting, analyzing, documenting, validating and managing system requirements.

REQUIREMENT IDENTIFICATION

The requirement is to be collected before starting of the projects' development life cycle. The initial requirement is the one that has start the projects development.

3.1 FUNCTIONAL REQUIREMENT

The system must provide following functionalities:

- Keeping records of customers.
- Keeping the records of products.
- Keeping the daily sell.
- Storing the feedback given by the customer.
- Keeping details about the product it is delivered or not.
- Storing the items selected by the customer in the temporary storage.

3.2 NON FUNCTIONAL REQUIREMENT

- User Interface:
 - The system shall maintain an easy to use interface across all functionality and for all users.
- Scalability:
 - The system will be able to scale based on the number of users using the system.
 - Server will be able to handle all user request and response to them.
- Portability:
 - The system will run on a variety of operating system.
- Maintainability:
 - The system will be able to easy to maintain.
 - There will be clear separation client and server side code.

• Security:

- The system will be protected from unauthorized access.
- The database will be protected from attacks and unauthorized access.
- Secure access of confidential data.

3.3 SOFTWARE REQUIREMENTS

Operating System: Windows 10

Framework: .NET FRAMEWORK

Database: SQL Server 2018

Server : Internet Information Server(IIS)

3.4 TECHNICAL SPECIFICATIONS

- MVC 4 or higher
- SQL Server
- Android studio

4. METHODOLOGY

We have planned to work following these methodologies for the application of knowledge, skills, tools and techniques to a broad range of activities in order to meet the requirements of our project, Online Shopping System(SHOP PRO). This section presents a detailed information about the software development process, project approach and the tool that we used for our project.

4.1 SOFTWARE DEVELOPMENT LIFECYCLE

The framework we will be using for developing this project is Waterfall model. This model combines linear sequential model with the iterative prototype model. New functionalities will be added as each increment in each development. The phases of linear sequential model are: Analysis, Design, Coding and Testing.

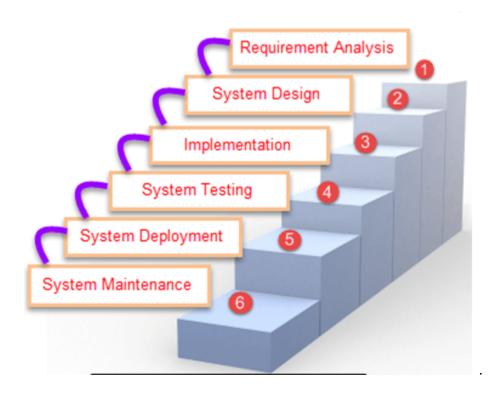


Figure 1: Software Development Life Cycle

4.1.1 ANALYSIS PHASE

In this phase analysis will be performed in order to find out the requirements of the system. The outcome of this phase would be SRS which is an acronym for "System Requirement Specifications".

4.1.2 DESIGN PHASE

In this phase, the SRS would be translated into the system's design. Context Diagram, DFD, Activity Diagram, Use Case Diagram and Class Diagram will be developed.

4.1.3 CODING PHASE

In this phase, coding would be done according to the design and a working system is achieved/developed by the end of this process.

4.1.4 TESTING PHASE

In this phase, the system would be tested. With each testing a list of changes to the system developed, is suggested and the changes will be applied to the software and the software would be delivered as a successive increment until a satisfying system is achieved.

4.2 FEASIBILITY STUDY

This project carries a goal that could be practically applicable as much as possible in real world. And also this Online Shopping System application can run on any operating system. Following things are taken under consideration under feasibility study: -

4.2.1 ECONOMIC FEASIBILITY

The project is economically feasible as the only cost involved is having a computer with the minimum requirements. For the users to access the application, the only cost involved will be in getting to the internet.

4.2.2 OPERATIONAL FEASIBILITY

This system maintains user confidentiality and consistency in data transfer from client to server. It is mainly related to human organizational as social aspects. The system interface is standard, user friendly and provides extensive help.

4.2.3 TECHNICAL FEASIBILITY

In this, one has to test whether the system can be developed using existing technology or not. It is evident that necessary hardware and software are available for development and implementation of proposed system. We acquired the technical knowledge of working in languages, and then only we have started designing our project. The technology used is one of the latest hence the system is also technically feasible.

4.3 TOOLS USED

HTML: - It is the standard markup language used to create web Pages. HTML is written in the form of HTML elements consisting of tags enclosed in angle brackets (e.g. <html>). HTML tags most commonly come in pairs like <h1> and </h1>.

CASCADING STYLE SHEETS (CSS): - It is a style sheet language used for describing the look and formatting of a document written in a markup language. While most often used to style web pages and interfaces written in HTML the Language can be applied to any kind of XML document. CSS is a cornerstone specification of the web and almost all web pages use CSS style sheets to describe their presentation.

SQL SERVER: - SQL Server is developed, distributed, and supported by Microsoft Corporation. SQL Server is a relational database system used on the web it runs on a server. SQL Server is ideal for both small and large applications. It is very fast, reliable, and easy to use. It supports standard SQL. It is a software product with the primarily function of storing and retrieving data requested by other software applications. The data in SQL Server is stored in tables. A table is a collection of related data, and it consists of columns and rows. Databases are useful when storing information categorically.

ASP.NET MVC: - The main reason of using MVC is it is an open source server side we application framework designed for web development to produce dynamic web pages. It significantly reduces the amount of code required for building complex and large applications which can increase overall development speed.

ANDROID(**JAVA**): - Android is a mobile operating system developed by google and we use java as a programming language for creating android application. The main reason of using android is that it is the quickest developing working framework.

TOOLS	PURPOSE
VISUAL STUDIO 2019	Programming
ASP.NET C#	Programming language
SQL SERVER 2018	Database
ANDROID STUDIO	Programming
JAVA	Programming Language

Table 1: Tools to be used

5. SYSTEM DESIGN AND UML MODELS

In system design phase, we define the architecture, components, modules, interfaces, and data for the system to satisfy specified requirements. Systems design could be seen as the application of systems theory to product development.

In our project we have used High Level design diagram for system design. They are:

- ER Diagram
- Use case Diagram
- Class Diagram
- Sequence Diagram
- Activity Diagram

5.1 E-R DIAGRAM

The ER Diagram is a pictorial representation of the overall logical structure of the system's database. The ER Diagram of our system is given below. It shows the relationship among the entities. The entities are represented in the rectangle, their attributes are represented in the oval and the attributes that are underlined are the primary keys.

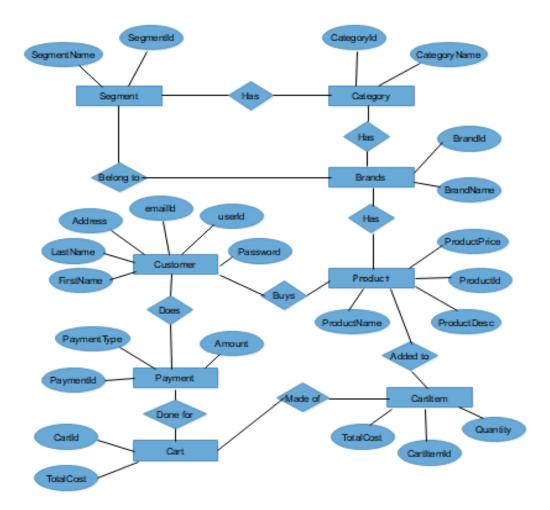


Figure 2: E-R Diagram

5.2 USE CASE DIAGRAM

A use case diagram at its simplest is a representation of a user's interaction with the system that shows the relationship between the user and the different use cases in which the user is involved. The actors for our system are: Customer and Admin. The simplified and graphical representation of what our system must actually do is represented below:

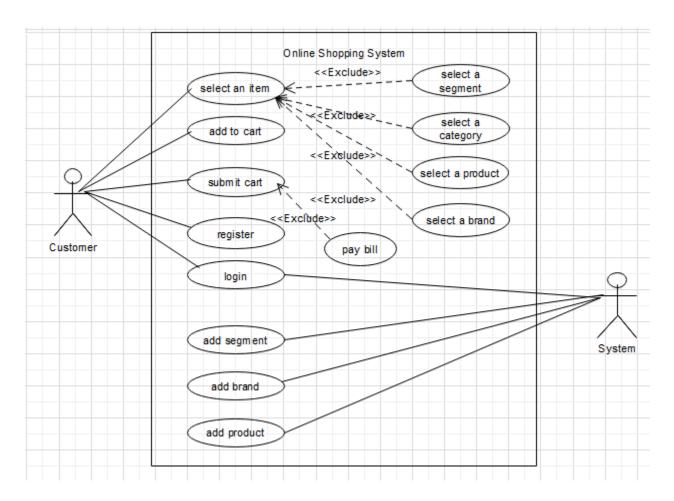


Figure 3: Use Case Diagram

5.3 CLASS DIAGRAM

A class diagram in the Unified Modeling Language (UML) is a type of static structure diagram that describes the structure of a system. We designed the following class diagram to illustrate the system's classes, their attributes, operations (or methods), and the relationships among objects.

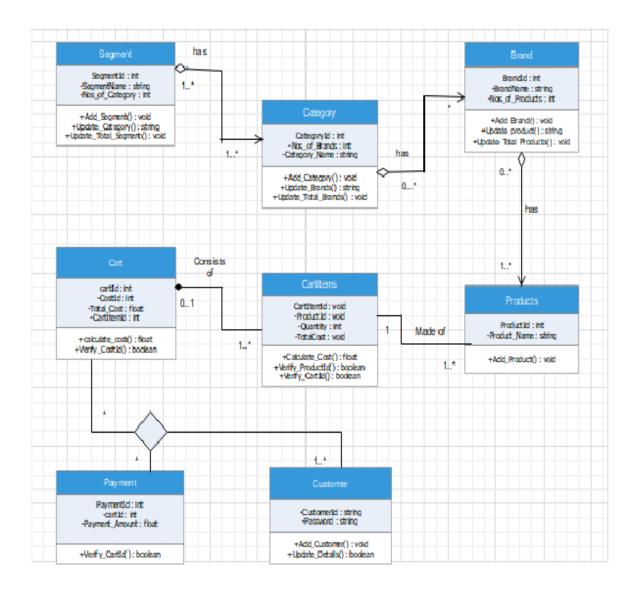


Figure 4: Class Diagram

5.4 SEQUENCE DIAGRAM

A sequence diagram is an interaction diagram which represents how messages flows between different systems components in the system. It show how the events occur and in what order. For our system we have designed sequence diagram as shown below:

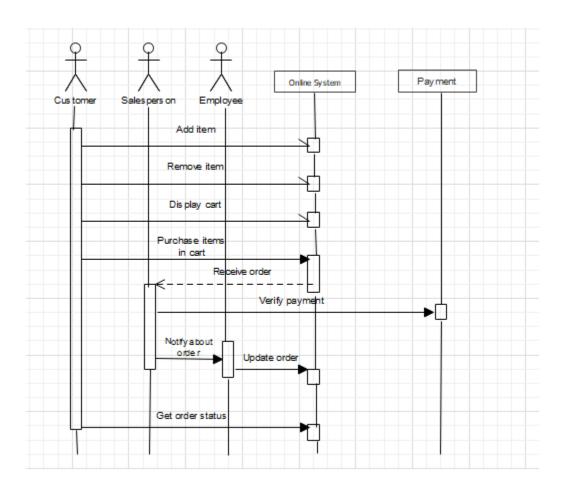


Figure 5: Sequence Diagram

5.5 ACTIVITY DIAGRAM

Activity diagram is basically a flowchart to represent the flow from one activity to another activity. It shows the workflow from the start point to finish point. It is used to display the sequence of activities.

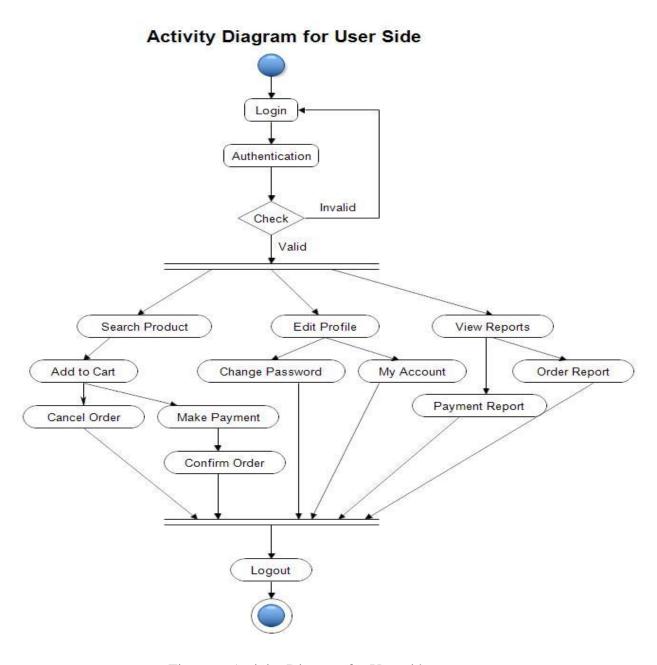


Figure 6: Activity Diagram for User side

Activity Diagram for Admin Side

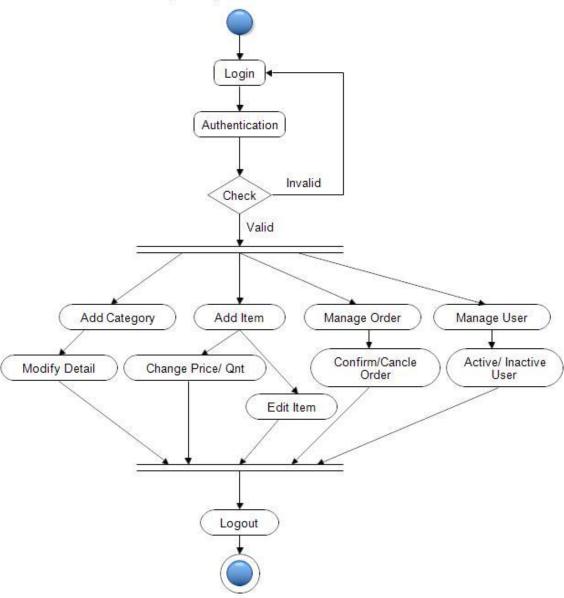


Figure 7: Activity Diagram for Admin side

5.6 CONTEXT DIAGRAM

The overall explanation of a system is represented by a context diagram. Using this diagram, we define the boundary between the system, or part of a system, and its environment, showing the entities that interact with it. The diagrammatic representation of our project's context diagram is represented below:

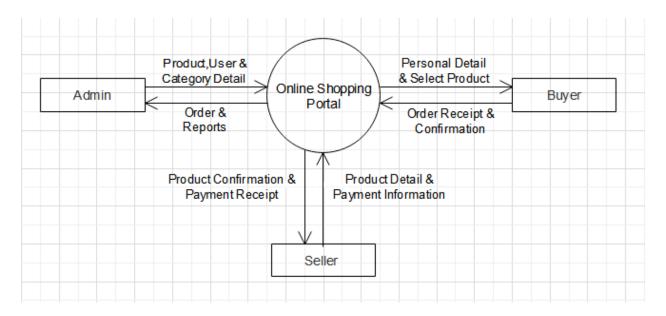


Figure 7: Context Diagram

6. SYSTEM IMPLEMENTATION AND TESTING

The implementation of the system simply show how the new system should be applied in order to ensure good performance.

6.1 MODULE DESCRIPTION

Well-structured designs improve the maintainability of a system. A structured system is one that is developed from the top down and modular that is broken down into manageable components. In this project we modularized the system so that they have minimal effect on each other. This application is designed with independent modules which take care of different tasks efficiently.

- Admin Module
- User page module
- Search module

Admin Module

Admin module is mainly for the owner of the system. This module performs the work of regular checking process. Everyone needs current information about anything. So, this module is responsible for updating the information continuously if any, in the system so that one can find timely information. But the main function of this module is to handle security of this system. Different types of authentication and authorization process is performed for this purpose.

User Page module

User Page Module is for front page of this system. It is the main page of the system in which all the links of this system are kept. Now the main thing is how to make the home page interactive and user friendly so that there should not be any problem for the user. This is the task of the system administrator to make the home page interactive.

Search module

Search module provides search facilities to the search different product to the purchase.

6.2 TESTING

Testing is the process of executing a program with the intent of finding any errors. Testing is vital to the success of the system. Without proper testing hide errors will surface after sometime of use and perhaps irreversible damage has been done to valuable data. A series of tests like responsiveness, its value, stress and security are performed before the system is ready for user acceptance testing.

System testing follows the logical conclusion that is all part of the system are tested and found to be working properly under all kinds of situations, and then the system is achieving its goal of processing the data perfectly according to user rules and requirements.

The different types of testing are given below.

UNIT TESTING

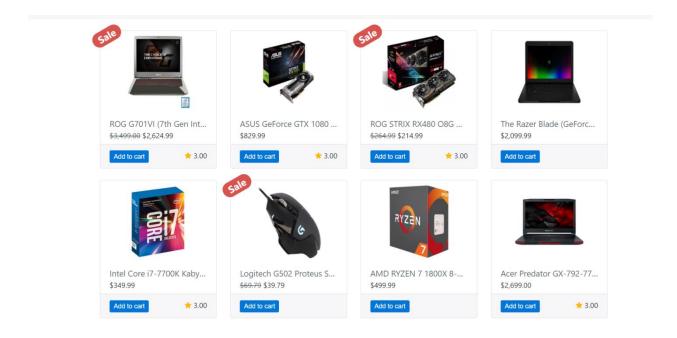
It involves the basic testing of a piece of code the size of which is often undefined in practice. During the unit testing it tested to know whether that particular unit in the proper manner as expecting. It only tests the functionality of the units themselves. In unit testing following testing are done:

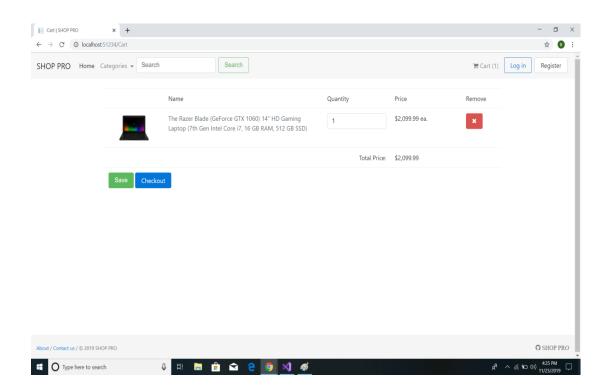
Table of unit testing is shown below:

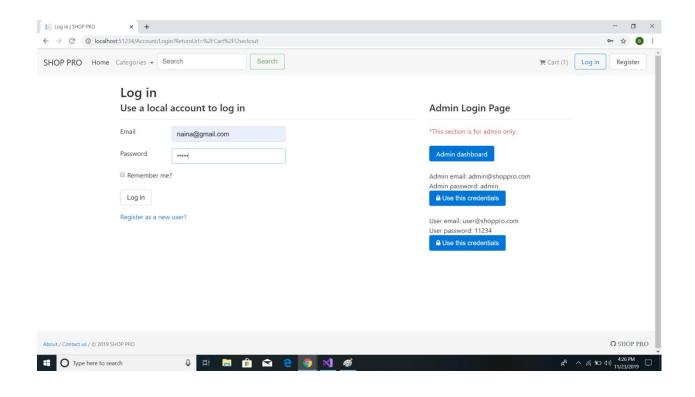
Test No.	Unit	Test	Expected Result	Test Output
1	Sign Up	Check whether a new account can be created on filling up required details.	Account Successfully created	Successful
2.	Login	Check Login credentials for valid username and password	User is successfully logged in	Successful
3.	Add product	Check whether the product is added is shown in UI and database	Product added successfully	Successful
4.	Add to cart	Check whether the product is added to cart or not	Product added to cart successfully	Successful
5.	Remove from cart	Check whether the product is removed from cart or not	Product removed Successfully	Successful
6.	Buy Product	Check whether the selected product is bought or not	Product bought successfully	Successful
7.	Checkout	Check whether the product checkout buy the user has reached to admin dashboard	Checkout Successfully	Successful

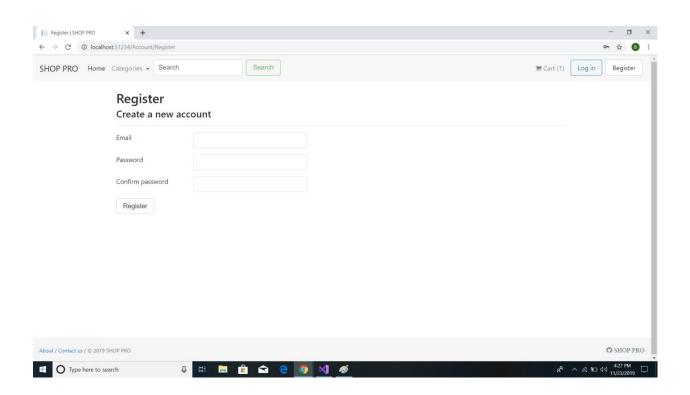
Table 2: User Testing

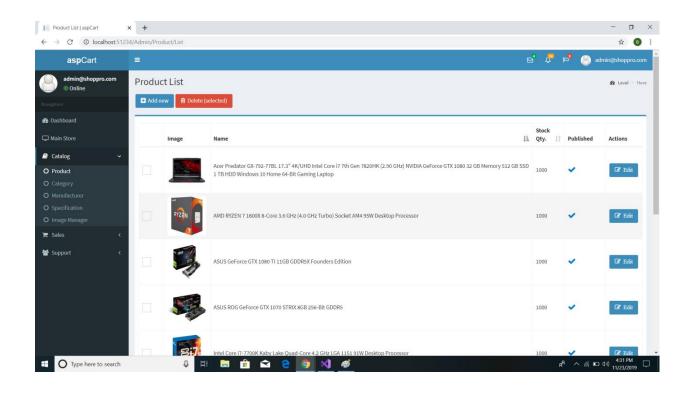
6.3 Test Evidences

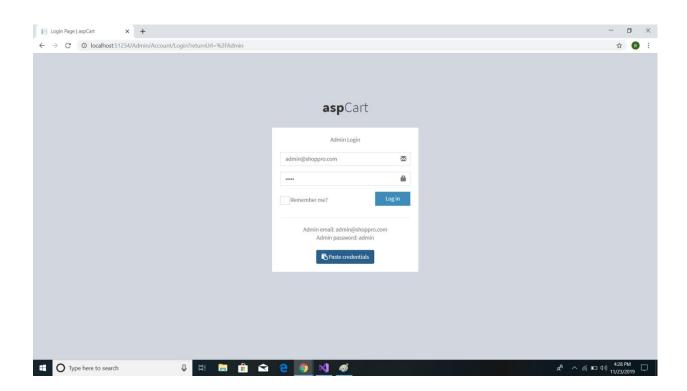


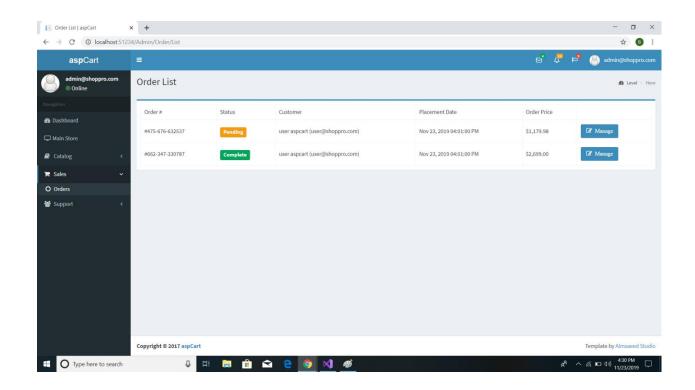












7. PROJECT TASK AND TIME SHEDULE

The project schedule has been designed as per requirements and constraints involved. This project is schedule to be completed in about 3 months. Requirements analysis has been given more emphasis. Research and database management is to be done first and well document. Debugging and testing is to be done prior to the completion of project.

TASK	First Increment Period	Second Increment Period	Third Increment Period	APPROX DURATION(in days)
Requirement Analysis and Specification	11	4	13	28
Undertake Analysis of the System	8	5	12	25
Design System	15	7	21	43
Produce Requirement Specifications	14	9	16	39
Testing and Debugging	8	8	18	34
Test System Modules	7	17	34	58
Overall System Test	6	3	6	15
Develop Documentation	40	30	60	130

Table 3: Project task and time schedule

7.1 First Increment Period

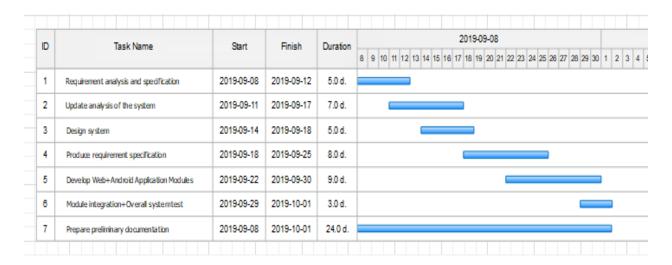


Figure 8: Gantt Chart for First Increment Period

7.2 Second Increment Period

\perp					
ID	Task Name	Start	Finis h	Duration	2019-10-01
-					1 2 3 4 5 8 7 8 9 10 11 12 13 14 15 18 17 18 19 20 2
1	Backend system analysis and specification	2019-10-01	2019-10-07	7.0 d.	
2	Design/Implement System	2019-10-07	2019-10-15	9.0 d.	
3	Test and Debug Backend Modules	2019-10-07	2019-10-14	8.0 d.	
4	Test Overall System Modules in Integration Test	2019-10-15	2019-10-17	3.0 d.	
5	Risk Assessment	2019-10-15	2019-10-18	4.0 d.	
6	Documentation Update	2019-10-01	2019-10-17	17.0 d.	

Figure 9: Gantt Chart for Second Iteration Period

7.3 Third Iteration Period

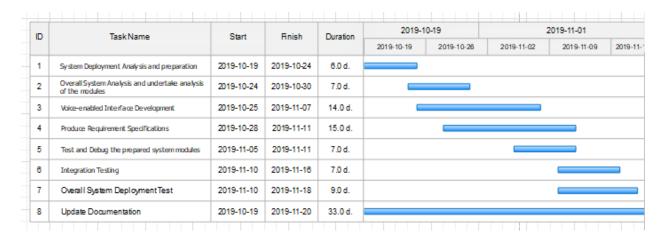


Figure 10: Gantt Chart for Third Iteration Period

8. CONCLUSION

The internet has become a major resource in modern business, thus online shopping has gained significance not only from the entrepreneur's but also from the customer's point of view. For the entrepreneur, online shopping generates new business opportunities and for the customer, it makes comparative shopping possible. As per a survey, most consumers of online stores are impulsive and usually make a decision to stay on a site within the first few seconds. We have designed the project to provide the user with easy navigation, retrieval of data and necessary feedback as much as possible. A good shopping cart design must be accompanied with user-friendly shopping cart application logic. It should be convenient for the customer to view the contents of their cart and to be able to remove or add items to their cart. The shopping cart application described in this project provides a number of features that are designed to make the customer more comfortable. This project helps in understanding the creation of an interactive web page and the technologies used to implement it.

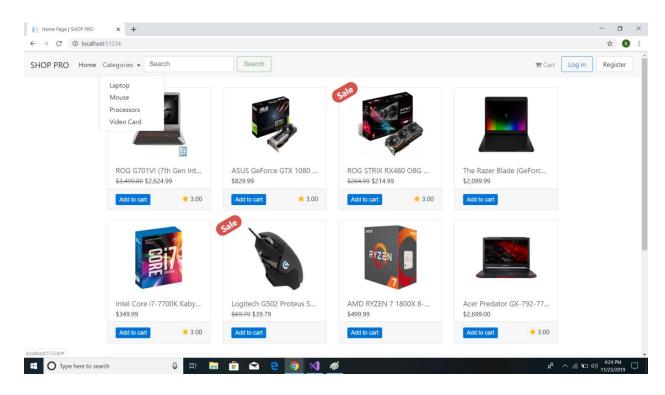
9. FUTURE ENHANCEMENTS

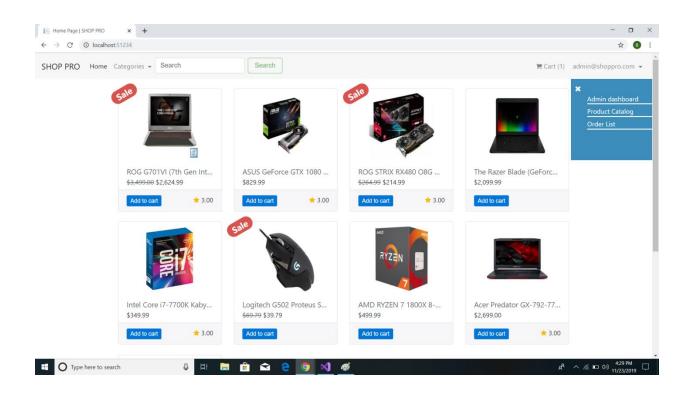
- ➤ We think that not a single project is ever considered as complete forever because our mind is always thinking new and our necessities also are growing.
- ➤ Our application also, if you see at the first glance that you find it to be complete but we want to make to make it still mature and fully automatic.
- As system is flexible you can generate more report and screen as and when required.
- The system is modified in future as per the owner requirement.
- ➤ In this system we can add more reports about users so more and more information about the system.

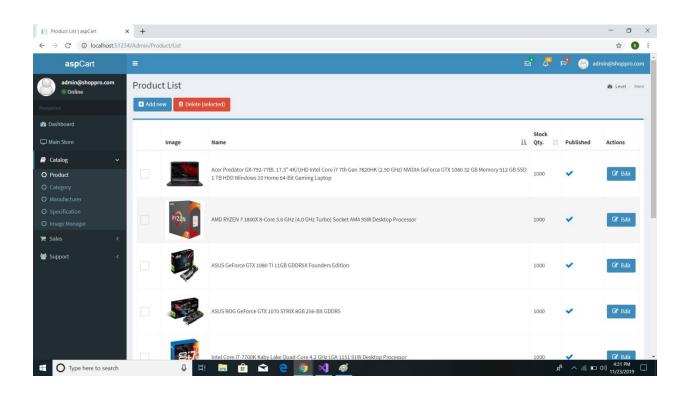
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- 2. https://www.edrawsoft.com/en/guide/edrawmax/create-basic-diagram.html
- 3. https://www.guru99.com/what-is-sdlc-or-waterfall-model.html
- 4. https://www.aspdotnetstorefront.com/
- 5. https://www.smartstore.com/en/net/
- 6. https://developer.android.com/reference/android/view/TouchDelegate
- 7. https://www.scribd.com/doc/76128028/Online-Shopping-Documentation-SRS

APPENDIX









← Checkout

No of items: 1



New Wind Cheater Qty:1(\$1050 x1)

Payment Details:

Order Total: Rs. 1050.0 Delivery: will be contacted **Total Payable:** Rs. 1050.0

Deliver To:

Naina Maharjan Koteshor koteshor

+977 +977 9841080808

🕦 🖫 🖪 📶 📶 37% 🖺 4:59 p.m.

← Cart



New Wind Cheater Rs. 1050 Quantity: 1 ▼

Remove From Cart

CHECKOUT

PLACE YOUR ORDER



\$2,219



Jackets









Shirts





