

MINI PROJECT
(2021-22)
“E-Commerce Website”
Project Report



Institute of Engineering & Technology

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Declaration

We hereby declare that the work which is being presented in the Bachelor of technology. Project “**E-Commerce Website(Things Around Us)**”, in partial fulfillment of the requirements for the award of the ***Bachelor of Technology*** in Computer Science and Engineering and submitted to the Department of Computer Engineering and Applications of GLA University, Mathura, is an authentic record of my/our own work carried under the supervision of **Mrs. Ruchi Talwar, Technical Trainer, Dept. of CEA, GLA University.**

The contents of this project report, in full or in parts, have not been submitted to any other Institute or University for the award of any degree.

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Certificate

This is to certify that the project entitled “E-Commerce Website”, carried out in Mini Project – I Lab, is a bonafide work by Amit Kumar ,Pratham Panjwani ,Saurav Kumar Singh and Tushar Srivastava and is submitted in partial fulfillment of the requirements for the award of the degree -Bachelor of Technology (Computer Science & Engineering).

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We feel thankful to the college staff for giving me such a big opportunity. I believe We will enroll in more such events in the coming future.

Thanking You

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ABSTRACT

Electronic Commerce is process of doing business through computer networks. A person sitting on his chair in front of a computer can access all the facilities of the Internet to buy or sell the products.

Unlike traditional commerce that is carried out physically with effort of a person to go & get products, ecommerce has made it easier for human to reduce physical work and to save time. E-Commerce which was started in early 1990's has taken a great leap in the world of computers, but the fact that has hindered the growth of e-commerce is security. Security is the challenge facing e-commerce today & there is still a lot of advancement made in the field of security.

The main advantage of e-commerce over traditional commerce is the user can browse online shops, compare prices and order merchandise sitting at home on their PC. For increasing the use of e-commerce in developing countries the B2B e-commerce is implemented for improving access to global markets for firms in developing countries. For a developing country advancement in the field of e-commerce is essential. The research strategy shows the importance of the e-commerce in developing countries for business applications.

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Chapter One

Introduction

1.1 Overview

The 'Online E-commerce Web application' Services department strives to provide solutions to develop and transfer easy and efficient way in the digital age and to help reduces the human pressure and time. To help support shop collections, the digital initiatives, and external partner institution digital projects, It provide services that include the digitization of analog objects, metadata management, digital preservation, and discovery and access of digital collections. "Things Around Us" is a web application written for all operating systems, designed to help users maintain and organize shop virtually. This software is easy to use for both beginners and advanced users. It features a familiar and well thoughtout, an attractive user interface,combined with strong searching Insertion and reporting capabilities. The report generation facility of shop system helps to get a good idea of which are the various items brought by the members, makes users possibleto get the product easily.

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1.2 Background Study

E-commerce is fast gaining ground as an accepted and used business paradigm. More and more business houses are implementing web sites providing functionality for performing commercial transactions over the web. It is reasonable to say that the process of shopping on the web is becoming commonplace.

The objective of this project is to develop a general-purpose e-commerce store where any product (such as books, CDs, computers, mobile phones, electronic items, and home appliances) can be bought from the comfort of home through the Internet. However, for implementation purposes, this paper will deal with an online ecommerce store.

An online store is a virtual store on the Internet where customers can browse the catalog and select products of interest. The selected items may be collected in a shopping cart. At checkout time, the items in the shopping cart will be presented as an order. At that time, more information will be needed to complete the transaction.

Page -1 Usually, the customer will be asked to fill or select a billing address, a shipping address, a shipping option, and payment information such as a credit card number. An email notification is sent to the customer as soon as the order is placed.

1.3 Project Planning

Project planning is part of project management, which relates to the use of schedules such as Gantt charts to plan and subsequently report progress within the project environment. Initially, the project scope is defined and the appropriate methods for completing the project are determined. Following this step, the durations for the various tasks necessary to complete the work are listed and grouped into a work breakdown structure. The logical dependencies between tasks are defined using an activity network diagram that enables identification of the critical path. Float or slack time in the schedule can be calculated using project management software. Then the necessary resources can be estimated and costs for each activity can be allocated to each resource, giving the total project cost. At this stage, the project plan may be optimized to achieve the appropriate balance between resource usage and project duration to comply with the project objectives. Once established and agreed, the plan becomes what is known as the baseline. Progress will be measured against the baseline throughout the life of the project.

1.4 Purposes

The project is about to handle all the information of the shop regarding members. Also it manages resources which were managed and handled by manpower previously. The main purpose of the project is to integrate distinct sections of the shop into a consistent manner so that complex functions can be handled smoothly. The project aims at the following matters:

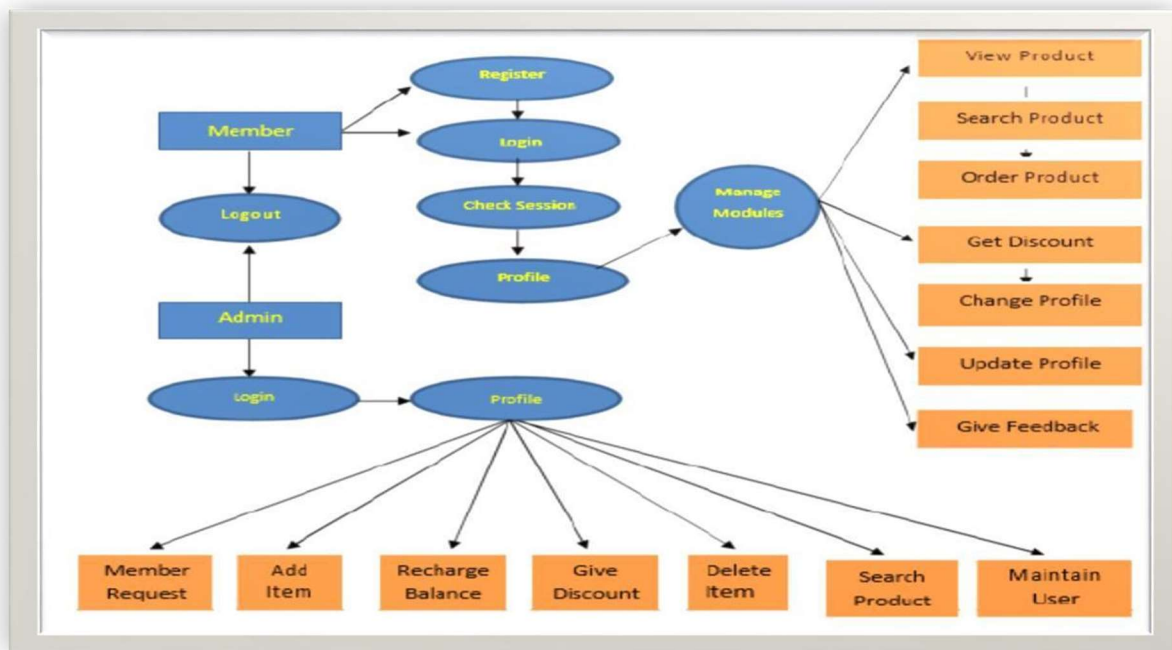
- Automation of product manipulation.
- Buying products.
- To manage information of different types of items.
- Consistently update information of all the items.
- Managing security by providing authorized email & password.
- Manage database efficiently.

Chapter -2

System Design

2.1 Design

The system is divided into some parts these are Register system, Login System, Search System, Buying System, Order Received System, Viewing System side with database represent the server using PHP , MYSQL and APACHE with XAMPP server. System diagram and system database diagram illustrated in figure.



2.2 User Characteristics

Admin The administrator has all the rights to access the system. He is the one who has all rights to view the members and product details, modify those details. He can add various product based on the category. He can also set the available quantity of a product and its reasonable price. Also he can also set discount in various occasion. Admin can also view the details of a member. The admin have the power to generate the scratch card so that users can also use the recharge card to buy various product.

Users The user can log in to the system by using his specific email and password. User can view the products and order the products according to their own needs. He can view his profile and update

his details. He can update his personal information by logging into the system. User can find various product by using search option easily. update his details. He can update his personal information by logging into the system. User can find various product by using search option easily.

2.3 System Information

This system is an automated Shop Management System. Through the software user can add members, add product, search product, update information, edit information, buy the product in quick time. The system has the following advantages:

- User friendly interface
- Fast access to database
- Search facility
- Look and Feel Environment

2.4 System Analysis

System Analysis refers into the process of examining a situation with the intent of improving it through better procedures and methods. System Analysis is the process of planning a new system to either replace or complement an existing system. But before any planning is done the old system must be thoroughly understood and the requirements determined. System analysis is therefore, the process of gathering and interpreting facts, diagnosing problems and using the information to recommend improvements in the system. System analysis is conducted with the following objectives in mind:

Evaluate the system concept for feasibility.

Perform economic and technical analysis.

Allocate functions to hardware, software people, database and other system elements.

Establish cost and schedule constraints.

Create a system definition that forms the foundation for all the subsequent engineering work.

2.5 Feasibility Analysis

Whatever we think need not be feasible .It is wise to think about the feasibility of any problem we undertake. Feasibility is the study of impact, which happens in the organization by the development of a system. The impact can be either positive or negative. When the positives nominate the negatives, then the system is considered feasible. Here the feasibility study can be performed in two ways such as technical feasibility and Economical Feasibility.

Technical Feasibility

It is technically feasible, since there will not be much difficulty in getting required resources for the development and maintaining the system as well. All the resources needed for the development of the software as well as the maintenance.

Economical Feasibility

Development of this application is highly economically feasible .The organization needed not spend much money for the development of the system already available. The only thing is to be done is making an environment for the development with an effective supervision. If we are doing so , we can attain the maximum usability of the corresponding resources .Even after the development , the organization will not be in a condition to invest more in the organization .Therefore , the system is economically feasible.

Chapter 3

Hardware And Software Requirements

3.1 Hardware Required

- **Processor :** Pentium IV or Above
- **RAM :** 2GB or above
- **Hard Disk:** 50GB or above
- **Input Devices :** Keyboard, Mouse
- **Output Devices:** Monitor

3.2 Software Required

Operating System : Linux, Ubuntu, Mac, Windows XP, 7, 8, 8.1, 10

Frontend : HTML, CSS, Bootstrap, JavaScript

Backend : Firebase, MySQL

Local host : XAMPP/WAMP/LAMP/MAMP

Chapter Four

Implementing Tools for the Project

Tools :-

- Javascript
- Firebase
- HTML
- CSS and Bootstrap

4.1 What is Firebase ?

Firebase is a set of hosting services for any type of application (Android, iOS, Javascript, Node.js, Java, Unity, PHP, C++ ...). It offers NoSQL and real-time hosting of databases, content, social authentication (Google, Facebook, Twitter and Github), and notifications, or services, such as a real-time communication server. Firebase evolved from Envolv, a prior startup founded by James Tamplin and Andrew Lee in 2011. Envolv provided developers an API that enables the integration of online chat functionality into their websites. After releasing the chat service, Tamplin and Lee found that it was being used to pass application data that were not chat messages. Developers were using Envolv to sync application data such as game state in real time across their users. Tamplin and Lee decided to separate the chat system and the real-time architecture that powered it. They founded Firebase as a separate company in 2011 and it launched to the public in April 2012.

Firebase's first product was the Firebase Realtime Database, an API that synchronizes application data across iOS, Android, and Web devices, and stores it on Firebase's cloud. The product assists software developers in building real-time, collaborative applications.

In May 2012, a month after the beta launch, Firebase raised \$1.1 million in seed funding from venture capitalists Flybridge Capital Partners, Greylock Partners, Founder Collective, and New Enterprise Associates. In June 2013, the company further raised \$5.6 million in Series A funding from Union Square Ventures and Flybridge Capital Partners.

In 2014, Firebase launched two products: Firebase Hosting and Firebase Authentication. This positioned the company as a mobile backend as a service.

In October 2014, Firebase was acquired by Google. A year later, in October 2015, Google acquired Divshot, an HTML5 web-hosting platform, to merge it with the Firebase team.








In May 2016, at Google I/O, the company's annual developer conference, Firebase introduced Firebase Analytics and announced that it was expanding its services to become a unified backend-as-a-service (BaaS) platform for mobile developers. Firebase now integrates with various other Google services, including Google Cloud Platform, AdMob, and Google Ads to offer broader products and scale for developers. Google Cloud Messaging, the Google service to send push notifications to Android devices, was superseded by a Firebase product, Firebase Cloud Messaging, which added the functionality to deliver push notifications to both iOS and web devices.



Firebase



Build better apps

-  Auth
-  Hosting
-  Cloud Functions
-  ML Kit
-  Cloud Firestore
-  Realtime Database
-  Cloud Storage










Improve app quality

-  Crashlytics
-  Performance Monitoring
-  Test Lab



Grow your app

-  Analytics
-  Remote Config
-  Predictions
-  A/B Testing
-  Cloud Messaging
-  Dynamic Links
-  In-app Messaging

4.2 What's included in Firebase :-

Firebase offers a number of services, including:-

Analytics – Google Analytics for Firebase offers free, unlimited reporting on as many as 500 separate [events](#). Analytics presents data about user behavior in iOS and Android apps, enabling better decision-making about improving performance and app marketing.

Authentication – Firebase Authentication makes it easy for developers to build secure authentication systems and enhances the sign-in and [onboarding](#) experience for users. This feature offers a complete identity solution, supporting email and password accounts, phone auth, as well as Google, Facebook, [GitHub](#), Twitter login and more.

Cloud messaging – Firebase Cloud Messaging ([FCM](#)) is a cross-platform messaging tool that lets companies reliably receive and deliver messages on iOS, Android and the web at no cost.

Realtime database – the Firebase Realtime Database is a cloud-hosted NoSQL database that enables data to be stored and synced between users in real time. The data is synced across all clients in real time and is still available when an app goes offline.

Crashlytics – Firebase Crashlytics is a real-time crash reporter that helps developers track, prioritize and fix stability issues that reduce the quality of their apps. With crashlytics, developers spend less time organizing and troubleshooting crashes and more time building features for their apps.

Performance – Firebase Performance Monitoring service gives developers insight into the performance characteristics of their iOS and Android apps to help them determine where and when the performance of their apps can be improved.

Test lab – Firebase Test Lab is a cloud-based app-testing infrastructure. With one operation, developers can test their iOS or Android apps across a variety of devices and device configurations. They can see the results, including videos, screenshots and logs, in the Firebase console.

4.3 HTML

Every webpage you look at is written in a language called HTML. You can think of HTML as the skeleton that gives every webpage structure. In this course, we'll use HTML to add paragraphs, headings, images and links to a webpage.

In the editor to the right, there's a tab called test.html. This is the file we'll type our HTML into. Like any language, it has its own special syntax. A browser's job is to transform the code in test.html into a recognizable webpage! It knows how to lay out the page by following the HTML syntax.

4.4 CSS

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language.[1] Most often used to set the visual style of web pages and user interfaces written in HTML and XHTML, and is applicable to rendering in speech, or on other media. Along with HTML and JavaScript, CSS is a cornerstone technology used by most websites to create visually engaging webpages, user interfaces for web applications, and user interfaces for many mobile applications.

CSS is designed primarily to enable the separation of document content from document presentation, including aspects such as the layout, colors, and fonts.[3] This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple HTML pages to share formatting by specifying the relevant CSS in a separate .CSS file, and reduce complexity and repetition in the structural content.

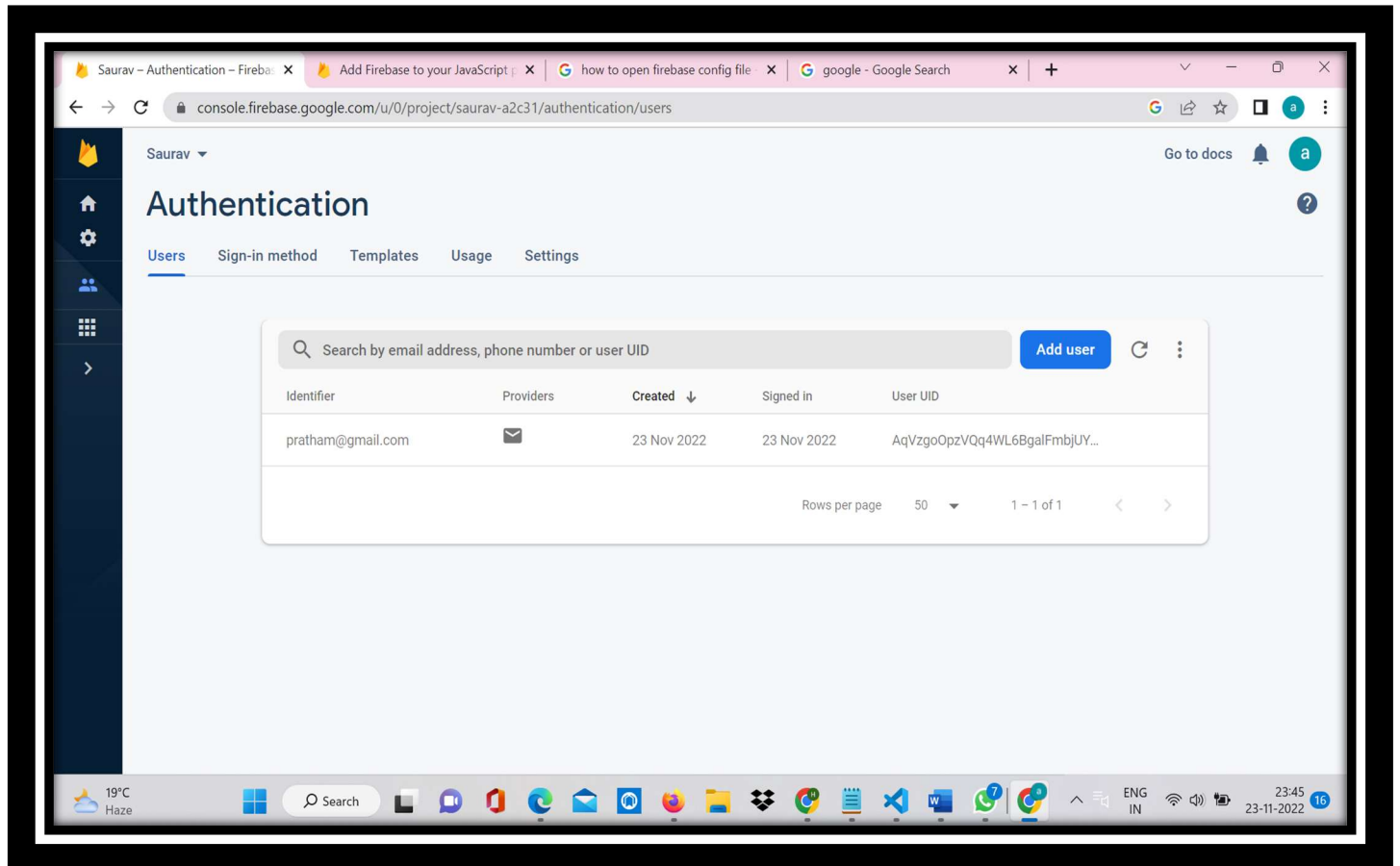
4.5 Bootstrap

Bootstrap is an HTML, CSS and JS Library that focuses on simplifying the development of informative web pages (as opposed to [web apps](#)). The primary purpose of adding it to a web project is to apply Bootstrap's choices of color, size, font and layout to that project. As such, the primary factor is whether the developers in charge find those choices to their liking. Once added to a project, Bootstrap provides basic style definitions for all [HTML elements](#). The result is a uniform appearance for prose, tables and form elements across [web browsers](#). In addition, developers can take advantage of CSS classes defined in Bootstrap to further customize the appearance of their contents. For example, Bootstrap has provisioned for light- and dark-colored tables, page headings, more prominent [pull quotes](#), and text with a highlight



Chapter Five

Project Database Using Firebase



Chapter Seven

Software Testing

Why Software Testing is Needed ?

Tool-bars work properly? Are all menu function and pull down sub function properly listed? Is it possible to invoke each menu function using a logical assumptions that if all parts of the system are correct, the goal will be successfully achieved? In adequate testing or non-testing will leads to errors that may appear few months later. Testing represents an interesting anomaly for the software engineer. During earlier software engineering activities, the engineer attempts to build software from an abstract concept to a tangible product. Now comes testing. The engineer creates a series of test cases that are intended to “demolish” the software that has been built. In fact, testing is the one step in the software process that could be viewed (psychologically, at least) as destructive rather than constructive. Testing requires that the developer discard preconceived notions of the “correctness” of software just developed and overcome a conflict of interest that occurs when errors are uncovered.

If testing is conducted successfully (according to the objectives stated previously) it will uncover errors in the software. As a secondary benefit, testing demonstrates that software functions appear to be working according to specification, that behavioral and performance requirements appear to have been met. In addition, data collected as testing is conducted provide a good indication of software reliability and some indication of software quality as a whole. But testing cannot show the absence of errors and defects, it can show only that software errors and defects are present. It is important to keep this (rather gloomy) statement in mind as testing is being conducted.

Testing Strategy

There are types of testing that we implement. They are as follows:-

While deciding on the focus of testing activities, study project priorities. For example, for an online system, pay more attention to response time. Spend more time on the features used frequently. Decide on the effort required for testing based on the usage of the system. If the system is to be used by a large number of users, evaluate the impact on users due to a system failure before deciding on the effort.

This create two problem :-

- Time delay between the cause and appearance of the problem.
- The effect of the system errors on files and records within the system.

The purpose of the system testing is to consider all the likely variations to which it will be suggested and push the systems to limits. The testing process focuses on the logical intervals of the software ensuring that all statements have been tested and on functional interval is conducting tests to uncover errors and ensure that defined input will produce actual results that agree with the required results. Program level testing, modules level testing integrated and carried out.

There are two major type of testing they are:

- White Box Testing.
- Black Box Testing.

White Box Testing

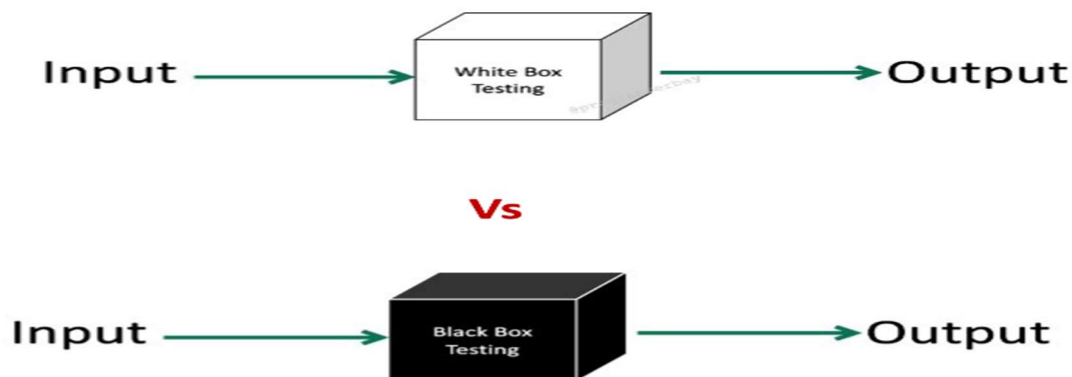
White box sometimes called “Glass box testing” is a test case design uses the control structure of the procedural design to drive test case. Using white box testing methods, the following tests where made on the system.

- All independent paths within a module have been exercised once. In our system, ensuring that case was selected and executed checked all case structures. The bugs that were prevailing in some part of the code where fixed
- All logical decisions were checked for the truth and falsity of the values.

Black Box Testing

Black box testing focuses on the functional requirements of the software. This is black box testing enables the software engineering to derive a set of input conditions that will fully exercise all functional requirements for a program. Black box testing is not an alternative to white box testing rather it is complementary approach that is likely to uncover a different class of errors that white box methods like.

- Interface errors.
- Performance in data structure.
- Performance errors.
- Initializing and termination errors.



Chapter Eight

Conclusion & Future Enhancement

Conclusion :-

This project is only a humble venture to satisfy the needs in a shop. Several user friendly coding have also adopted. This package shall prove to be a powerful package in satisfying all the requirements of the organization. The objective of software planning is to provide a frame work that enables the manger to make reasonable estimates made within a limited time frame at the beginning of the software project and should beupdated regularly as the project progresses.

This website provides a computerized version of shop manipulate system which will benefit the users as well as the visitor of the shop. It makes entire process online where users can search product, and buy various product. It also has a facility for common user by login into the system where user can login and can see status of ordered item as well request for items or give some suggestions. It provide the facility ofadmin's login where admins can add various item, review users activity and also give occasional discount and also add info about different events for the customer.

Future aspect :-

The project has a very vast scope in future. The project can be implemented on intranet in future. Project can be updated in near future as and when requirement for the same arises, as it is very flexible in terms of expansion. With the proposed software of database Space Manager ready and fully functional the client is now able to manage and hence run the entire work in a much better, accurate and error free manner.

The following are the future scope for the project.

- Should be added payment gateway
- Can be added inventory management system
- Can be added multiple branches
- Can be added multilingual to this site
- And many features can be added this project to make it more robust