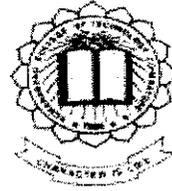# ONLINE INVENTORY SYSTEM

## PROJECT REPORT

*Submitted By*

## ABUDHAKIR.M

## Register No.: 0720300001

*in partial fulfillment for the award of the degree*

*of*

## MASTER OF COMPUTER APPLICATIONS

In

### COMPUTER APPLICATIONS

## KUMARAGURU COLLEGE OF TECHNOLOGY

**(An Autonomous Institution Affiliated to Anna University, Coimbatore)**

## MAY, 2010

# KUMARAGURU COLLEGE OF TECHNOLOGY

**(An Autoɪ omous Institution Affiliated to Anna University, Coimbatore)**

# COIMBATORE – 641 006.

Department of Computer Applications

**PROJECT WORK**

**MAY 2010**

This is to certify that the project entitled

**ONLINE INVENTORY SYSTEM**

Is the bonafide record of project work done by

**ABUDHAKIR.M**

**Register No: 0720300001**
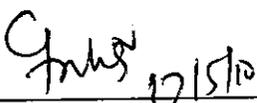
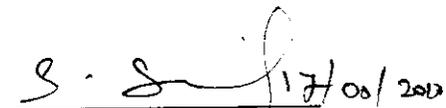of MCA (Computer Applications) during the year 2009-2010.

Project Guide                  Head of the Department

Submitted for the Project Viva-Voce examination held on 17 · 5 · 10 ·

Internal Examiner                  External Examiner

# DECLARATION

I affirm that the project work titled ONLINE INVENTORY SYSTEM being submitted in partial fulfillment for the award of MASTER OF COMPUTER APPLICATIONS is the original work carried out by me. It has not formed the part of any other project work submitted for award of any degree or diploma, either in this or any other University.
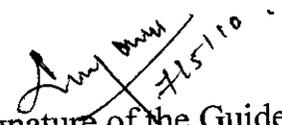
(Signature of the Candidate)

ABUDHAKIR.M

0720300001

I certify that the declaration made above by the candidate is true

Signature of the Guide,

Mrs.P.Parameswari,

Senior Lecturer / MCA.

DATE    03.05.2010.

## TO WHOMSOEVER IT MAY CONCERN

This is to certify that ABUDHAKIR.M MCA Final year student of Kumaraguru College  Coimbatore has completed the Project work in "ONLINE INVENTORY SYSTEM" for our organization during the period December 2009 to April 2010. His Performance during this period is good.

Project In charge

3/5/10

( JJ.Jesuraj )

# ACKNOWLEDGEMENT

The Satisfaction that accompanies the successful completion of any task would be incomplete without mentioning the names of people who made it possible, whose constant guidance and encouragement crowns all efforts with success.

I wish to express my deep unfathomable feeling of gratitude and indebtedness to **Dr.S.Ramachandran, Principal** and **Dr.J.Shanmugam, Director** Kumaraguru College of Technology, Coimbatore for the successful completion of the project work.

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# CONTENTS

# ABSTRACT

This project is aimed at developing an online Inventory system for Atchaiya Milk Distribution Centre HATSUN dealer in Karaikkal . This system can be used to store the details of the inventory, update the inventory based on the sale details, produce receipts for sales, generate sales and inventory reports periodically etc. This is one integrated system that contains both the user component used by salespersons and the admin component used by the administrators for performing admin level functions such as adding new items to the inventory, changing the price of an item etc.

The online inventory system having following list of modules that are important to the system namely, sales, stock, customer, reports .each modules deals with its own prescribed data to produce error less result to the end user.

Online Inventory system is very important in every organization because a good inventory system can create optimal productivity and lowest waste. Basically, online inventory system work consists of input, output and refill. Meanwhile, output is a procedure of taking out the products from the inventory for sales or usage and refill is a process of increasing the number of existing products in the inventory in order to fulfil the insufficient products or escalating demands. Most of the retailing market is using traditional way in the inventory system where a person is assigned to check and record the stock by hand using pen and paper. This technique is time-consuming and unavailable for 24/7 especially when the number of stock in the inventory is large and various in kinds. Furthermore, when the entire inventory ordering has to be made manually, it will consume time to contact suppliers and normally the process of ordering is only arranged after the stock is found out empty. Consequently, it will cause sluggish in stock refilling and bring negative effects towards productivity. Having a good inventory system is never can't without the computer. Therefore, our project goal is to develop a multifunctional system that will facilitate retail market in managing their inventory and stock ordering effectively and efficiency.

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## LIST OF FIGURES

# CHAPTER 1
# INTRODUCTION

## 1.1 Organization Profile

Welcome to the Hatsun world, India's largest private dairy. From a modest ice-cream manufacturer to one of the leading names in India's dairy sector in just a span of three decades, Hatsun now stands majestically as a hallmark of successful entrepreneurship. Be it in the dedication to quality, in employing the world's latest technology, innovative marketing strategies, or bringing prosperity to hundreds of thousands of farmers in the south.

It started as a creamy dream in 1970: Arun Ice creams, the rich, delicious brand that has captured the hearts of millions of ice-cream lovers. With over 70 delightful varieties it is the No. 1 selling ice-cream in south India. Arun Ice-cream is manufactured at the most modern plant of its kind in Chennai. From the ingredients, to the packaging and distribution stringent quality control is maintained at every stage which has made Arun Ice-cream the first ice-cream brand in India to win the 9001 certification for quality and world-class manufacturing facilities. Arun Ice-cream reaches the consumers through the largest network of exclusive parlors in India. These and the many Arun mini-parlors in the rural areas provide employment to thousands of people. When the vision is clear and the dedication total, growth follows, and Hatsun expanded.

When the market was ruled by unhygienic milk, Hatsun came up with Arokya - the standardized, homogenised and bacteria clarified milk. Arokya milk is still unsurpassed in purity, thickness and quality and has made it one of the most preferred milk brand consumed by several hundred thousand households every day and then came Hatsun Komatha. This product is Hatsun's proud contribution of a superior quality, lower fat milk which Hatsun calls 'Cow's milk'. Komatha is the perfect symbolization of the values and attributes of the provider of fresh milk - the cow. No wonder then Hatsun Komatha milk is hailed as the most suitable milk for the whole family. Loved by kids and adults alike for its taste and freshness.

Hatsun handles a total 1.8 million litre a day. Hatsun's quest for quality starts at procurement, two times a day, 365 days of the year at over a thousand collection centers, from more than a hundred thousand farmers. Hatsun sources its milk with an ever watchful eye, always keen on quality. It is an enthusiastic and bustling activity when milk takes its first step in its journey to the consumers' homes.

## 1.2 Project Overview:-

This project is aimed at developing an online Inventory system for Atchaiya Milk Distribution Centre HATSUN dealer in Karaikkal. This system can be used to store the details of the inventory, update the inventory based on the sale details, produce receipts for sales , generate sales and inventory reports periodically etc. This is one integrated system that contains both the user component used by salespersons and the admin component used by the administrators for performing admin level functions such as adding new items to the inventory, changing the price of an item etc.

The unit user should be able to Login to the system through the initial screen of the system, See the status of the inventory, ie, whether a particular item is available or not etc, Search for a particular item by typing the initial  cancel the produced bill, in case of error in entering the details, and produce a new one, Inform the inventory manager about the items that are not available, so that they can be stocked, Adding new items to stock, and  Adding new customers to customer data base, Maintaining retailers accounts and al are the inventory mandatory jobs .

The administrator should be able to, Add new users to the system, View the sales reports via sales module, Access request orders from other retailer s for forth coming dates, Add new items/categories to the inventory, Change the price of an item, and View the status of particular product.

The retailers should able to, Order for a particular product in future use, and View the account status that balance amount to be paid

# CHAPTER 2
# SYSTEM STUDY

## 2.1 EXISTING SYSTEM:

The management could not able to maintain the records (purchase & sales) properly. Because it has many branches and it is maintaining manually. Details of stocks and orders are logged into excel sheets. It leads to time consuming, wastage of human resources, lot of works done with excel sheets, overhead in task allocation, lack of security and difficult to generate various reports.

**Drawbacks of the existing system:**

The whole process is carried out in a manual order. Since it's a manual system it has the drawbacks such as time consumption, inefficient resource utilization. Some of the drawbacks of the current system are,

✓ The Employee has to collect the request form by hand from the General store. This consumes a valuable amount of time of the employee.

✓ Every time a employee queries about the availability of the item the Management check their register, which is also time consuming.

✓ Some of the items, which are not issued by the General store, can be purchase.

## 2.2 PROPOSED SYSTEM:

The project name itself implies the project done to simplify the transaction. This system helps the management to view the exact sales and purchase entries going on in all branches at a time. The management can make a daily report on sales and purchase sitting in one place from everywhere.

**Objective of proposed system:**

The main objective of the proposed system is to overcome the drawbacks of the existing system. The prime benefits are,

✓ To create a comprehensive database that provides the information on the availability details and the issue details along with the transaction details related to item.

✓ Development and implement of information retrieval system for the employees and the management of the General store.

✓ To automate the entire range of activities or processes that needs to be performed by the administrator before a request.

✓ To put the information on Internet for easy access not only for the administrator but also for the employees from various places.

✓ To make the system more user friendly and easy to use.

✓ Utilize the IT to increase the efficiency/productivity.

**Advantages of the proposed system:**

The proposed system is a computerized system. This system has lots of advantages over the existing system. Some of them are,

✓ The user can log onto the intranic website from anywhere to check the Availability status and issue the item. This saves a valuable amount of employee Time.

✓ All the data relevant to item information are stored in the database. So the Management can get rid of the tedious job like manually searching for an Available and issue date.

✓ The database contains the cost information of the various items offered by the General store of NIC. So, the management can get help from the proposed system As most of the cost calculations are done in a computerized manner and the results Are again in the database at it helps in the generation of bills.

## Scope of the proposed system:

The online Inventory system of General store" software is being developed as accurate and efficient online software for the user such as the employees and also the administrator i.e. the management of the General store of NIC. In this system the record of the each request details are preserved along with their status and transaction related to them. The system is also made secured as all the updating of the item and transaction can be done by the authorized person i.e. the administrator only.

## 2.3 MODULES DESIGN

The Inventory is provided with facilities to handle receipts, transfers, returns, sales and issues of stock with full stock take and stock adjustment functionality, providing management control over the quantity and value of stock on hand. Demand on stock may be initiated from sales, transfers, adjustments and supplier returns in any of the inventory-related modules, ensuring centralized control over availability of stock to fulfill requirements with optional automatic releasing of stock to fill backorders. Standard and average costing are provided with actual costing for serial numbered and batched items, allowing accurate valuation of stock on hand. Transfer of stock to or from inventory locations, jobs, projects, and General Ledger accounts enables full tracking of stock movements other than sales and receipts. Full transaction history in both detail and summary allows management to spot trends, analyze sales and profitability while preventing over-stocking and ensuring that customer demands are met without lost sales.

- ✓ Sales
- ✓ Billing
- ✓ Reports
- ✓ stock

**Sales:**

Distribution and sales order module of our inventory software maintains the customer orders and shipment details. You can allocate, create purchase orders and work orders to fulfill the demand based on current availability. When the inventory is ready-to-ship simply select the documents required - invoice, packing list, bill of lading certificate of conformance CofC, certificate of analysis etc.

To accommodate a variety of sales situations, sales orders may be processed starting at any point including quotations, standing orders, order entry, and invoice entry with dispatch of goods. This flexibility allows multiple sales outlets to process orders according to their needs with functionality which meets their specific requirements. Automatic allocation of available stock with backordering and forward ordering ensures that customers' demands are recorded and auctioned. Where kit assembly or manufacture from component parts is required, the entry of a sales order can automatically raise a works order and explode the bill of materials. If an item is not normally stocked but ordered from a supplier when required, a purchasing requisition can be automatically generated to provide accounting and costing control over these sales activities. Extensive sales analysis reporting by customer, salesman and product on both gross sales and net (after discount) sales is provided to allow management to map sales trends and profitability.

**Features**

- ✓ Customer Categorization and Database
- ✓ Consignee Database and its linkage with respective Customer
- ✓ Customer Item Mapping along with customer wise price fixation facility
- ✓ Sales Order Receipt & delivery schedule Plan

**Billing:**

The System has extensive invoicing capabilities. Generate invoices for charging internal departments or for billing outside customers. Automatically apply a user defined

percentage markup to any parts or labor entry. The module can be interfaced with your accounting system for easy recording keeping.

**Features**

- ✓ Receive Bills from Contractors
- ✓ Verification through
  - o Site Supervisor
  - o Designs & Drawings
  - o Accounts People
- ✓ Raise Bills to Clients
- ✓ Status of payments

**Reports:**

- ✓ Goods Receipt Note (Printouts / Pending for Inspection / Pending For Bill / Register)
- ✓ GRN Inspection Sheet (Raw Material procured)
- ✓ Item Shortage From Challan Quantity
- ✓ Issue Register
- ✓ Return Register
- ✓ Return Department Wise
- ✓ Stocks Adjustment Register
- ✓ Non returnable Gate Pass Register
- ✓ Report for non moving items
- ✓ Department Rejection Return Register
- ✓ Stocks Reports (Stocks Statement, Stocks Balance)
- ✓ Stocks Ledger (Consolidated/Quantitative)
- ✓ Rejection Stocks Ledger
- ✓ RGP (Returnable Gate Pass) Register
- ✓ RGP Pending Material
- ✓ Stocks Statement Summary (Category/ Group/ Type Wise)

**Customer:**

Store customer data. You also keep contact data that is not used in the actual invoicing. Fetch customer data to the invoice routine. Copy a customer's name, address and reference straight from the customer database to the invoice. Set credit limits. Set the credit limits for customers. You will get a warning when invoicing a customer that has reached 75 % of his credit limit. Write notes on customers. Keep notes on customers such as discount, different terms etc. These notes will show up when you fetch the customer for invoicing. Make lists of customers. List can be useful when checking customers for any reason, making a campaign to old customers, or simply to check where your customers live. Print excerpt from the register. The register also can be printed, partly or as a whole, as address list, phone list, sales per customer or even all registered data for the customer.

# CHAPTER 3

# SYSTEM REQUIREMENT AND SPECIFICATION

## 3.1 Hardware Specification

| | |
|---|---|
| Processor | : Pentium IV |
| Clock Speed | : 2 GHz |
| RAM | : 512 MB |
| Hard disk Capacity | : 80 GB |
| Floppy disk Capacity | : 1.44 MB |
| Keyboard | :  101 Keys |
| Mouse | :  Optical Mouse |

## 3.2 Software Specification

| | |
|---|---|
| Front End | : ASP.NET |
| Back End | : MYSQL |
| Operating System | : Windows |

## 3.3 SOFTWARE DESCRIPTION

The system we have developed is mainly a web based system. The three-tier architecture is followed in the development of the system. A three tier architecture has three separate components: a client, an application server and a database server. In implementing a three tier architecture the number of choices is more than the traditional client server architecture. The communication protocol used to communicate between the client and the application server can be different from that used to communicate between the application server and the database server. The workload distribution among the three components can vary widely across applications.

Most web-enabled database relies on a three-tier model. Typically, an existing database server is made available for web-based access. To make the database available, the server must be accessible via an external network. To provide this network access, a second server is commonly used as a firewall, restricting the kinds of commands that can be passed to the database server. The application server can act as a firewall.
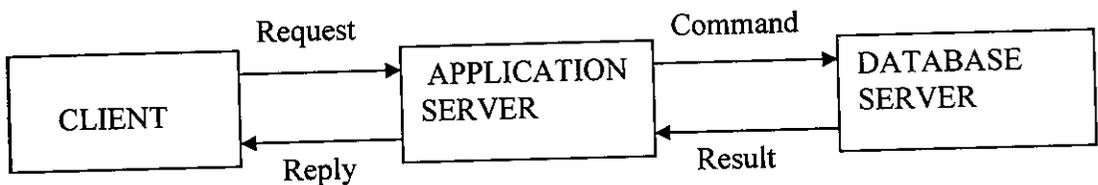


The above figure shows one possible configuration for a web enabled system. The client is a computer with access to the Internet, running a browser. The client communicates with the application server via the Hypertext Transfer Protocol(HTTP). The application server in turn executes commands against the database, formats the result in Hypertext Markup Language(HTML), and return the result to the client.

In this configuration, the application server provides authentication services (to make the client is allowed to initiate the request) database connection service, and application

processing service. The client's role is to initiate the request and display the result returned, while the database serves as the repository for the data.

**ASP.NET:**

**Overview:**

The Microsoft .NET Framework provides a powerful platform for the development of applications for both the desktop and the Internet. The .NE T Framework allows you to develop Internet applications with an ease that was never provided before. To develop Internet applications, the .NET Framework is equipped with ASP.NET. ASP.NET is a powerful programming framework for the development of enterprise-class Web applications.

This chapter introduces you to the .NET Framework and ASP.NET. You'll learn to set up the development environment for creating ASP.NET applications. You'll also learn how to create an ASP.NET application by using Visual Basic .NET and C#, and deploy the application.

**Introducing the .NET Framework:**

Since 1995, Microsoft has been constantly making efforts to shift focus from the Windows -based platforms to the Internet. Microsoft introduced Active Server Pages (ASP) as an endeavour toward Internet programming. However, writing ASP script, an Interpreted script, was a traditional way of programming as compared to the existing Structured object-oriented programming. Moreover, it was very difficult to debug and Maintain the unstructured ASP code. Definitely, you could combine the code written in Structured object-oriented languages, such as Visual Basic, with ASP code. However, You could combine the VB code only as a component. Moreover, the software integration For the Web development was quite complicated and required an understanding of a host of technologies and integration issues on the part of the developers. Therefore, an

more structured and consistent manner.

Recently, Microsoft introduced the .NET Framework with a vision for developers to create globally distributed software with Internet functionality and interoperability. The .NET Framework includes multiple languages, class libraries, and a common execution platform. In addition, the .NET Framework includes protocols that allow developers to integrate software over the Internet and the .NET Enterprise Servers, such as SQL Server 2000, Commerce Server 2000, and BizTalk Server. Thus, the .NET Framework provides the richest built-in functionality for software integration ever provided by any platform. Also, with the .NET Framework, developing the Internet applications is as easy as developing desktop applications.

The .NET Framework frees the software developer from most of the operating system specifics, such as memory management and file handling, because the .NET Framework covers all the layers of software development above the operating system.

describes the different components of the .NET Framework.

# ▄▄▄ The .NET Framework Architecture
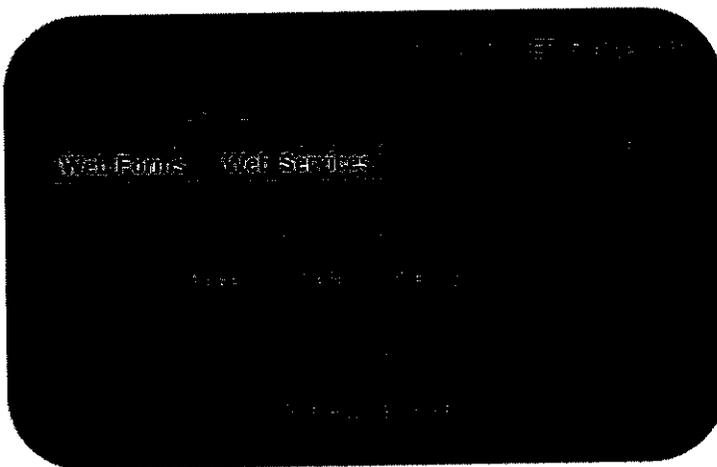
Web Forms, Web Services, and Application Services. Windows Forms provide a Win32-based user interface. Web Forms provide a Web-based user interface. Web Services are the most revolutionary program interfaces because they allow programs to communicate over the Internet. The Internet-based program interfaces, which include Web Forms and Web Services, are implemented by ASP.NET, which is a built-in component of the .NET Framework.

The middle layer represents the .NET Framework classes, which are universally available across multiple languages. The usage of these classes is consistent across all languages included in the .NET Framework.

The base layer represents the common execution platform called the Common Language Runtime (CLR). This is the most important component of the .NET Framework. The CLR provides support for multiple languages and allows cross language inheritance. For example, you can inherit a class written in Visual Basic from a class written in Visual C++. Thus, with .NET, the choice of a programming language simply depends on the user's choice. With .NET, it is possible to create applications by using multiple languages. The multiple-language support is possible because the CLR provides a common system of data types. In addition, the CLR performs the memory management and monitors the complete life cycle of objects, while it tracks objects and handles garbage collection.

Visual Studio .NET (VS.NET) is the first release of the products based on the .NET Framework. It includes Visual Basic, Visual C++, and C#. VS.NET provides a common Integrated Development Environment (IDE) for all languages. Therefore, developers always work in a consistent environment irrespective of the language they use.
With that basic understanding of the .NET Framework, you are ready to look at the basic features of ASP.NET.

**Introducing ASP.NET:**

ASP.NET, the next version of ASP, is a programming framework that is used to create enterprise-class Web applications. The enterprise-class Web applications are accessible

that ASP.NET offers make it more than just the next version of ASP.

ASP.NET is integrated with Visual Studio .NET, which provides a GUI designer, a rich toolbox, and a fully integrated debugger. This allows the development of applications in a What You See is What You Get (WYSIWYG) manner. Therefore, creating ASP.NET applications is much simpler.

Unlike the ASP runtime, ASP.NET uses the *Common Language Runtime (CLR)* provided by the .NET Framework. The CLR is the .NET runtime, which manages the execution of code. The CLR allows the objects, which are created in different languages, to interact with each other and hence removes the language barrier. CLR thus makes Web application development more efficient. In addition to simplifying the designing of Web applications, the .NET CLR offers many advantages. Some of these advantages are listed as follows.

**Improved performance:**

The ASP.NET code is a compiled CLR code instead of an interpreted code. The CLR provides just-in-time compilation, native optimization, and caching. Here, it is important to note that compilation is a two-stage process in the .NET Framework. First, the code is compiled into the Microsoft Intermediate Language (MSIL). Then, at the execution time, the MSIL is compiled into native code. Only the portions of the code that are actually needed will be compiled into native code. This is called Just In Time compilation. These features lead to an overall improved performance of ASP.NET applications.

**Flexibility:**
The entire .NET class library can be accessed by ASP.NET applications. You can use the language that best applies to the type of functionality you want to implement, because ASP.NET is language independent.

**Configuration settings:**

The application-level configuration settings are stored in an Extensible Mark-up Language (XML) format. The XML format is a hierarchical text format, which is easy to read and write. This format makes it easy to apply new settings to applications without the aid of any local administration tools.

**Security:**

ASP.NET applications are secure and use a set of default authorization and authentication schemes. However, you can modify these schemes according to the security needs of an application. In addition to this list of advantages, the ASP.NET framework makes it easy to migrate from ASP applications. Before you start with your first ASP.NET application, take a quick look at how to set up the development environment, described next.

**Microsoft SQI Server 2000:**

**Features of SQL Server 2000:**

Microsoft SQL Server 2000 features include:

✓ **Internet Integration:**

The SQL Server 2000 database engine includes integrated XML support. It also has the scalability, availability, and security features required to operate as the data storage component of the largest Web sites. The SQL Server 2000 programming model is integrated with the Windows DNA architecture for developing Web applications, and SQL Server 2000 supports features such as English Query and the Microsoft Search Service to incorporate user-friendly queries and powerful search capabilities in Web applications.

✓ **Scalability and Availability:**

The same database engine can be used across platforms ranging from laptop computers running Microsoft Windows® 98 through large, multiprocessor servers running Microsoft Windows 2000 Data Center Edition. SQL Server 2000 Enterprise Edition supports features such as federated servers, indexed views, and large memory support that allow it to scale to the performance levels required by the largest Web sites.

✓ **Enterprise-Level Database Features:**

The SQL Server 2000 relational database engine supports the features required to support demanding data processing environments. The database engine protects data integrity while minimizing the overhead of managing thousands of users concurrently modifying the database. SQL Server 2000 distributed queries allow you to reference data from multiple sources as if it were a part of a SQL Server 2000 database, while at the same time, the distributed transaction support protects the integrity of any updates of the distributed data. Replication allows you to also maintain multiple copies of data, while ensuring that the separate copies remain synchronized. You can replicate a set of data to multiple, mobile, disconnected users, have them work autonomously, and then merge their modifications back to the publisher.

✓ **Ease of installation, deployment, and use:**

SQL Server 2000 includes a set of administrative and development tools that improve upon the process of installing, deploying, managing, and using SQL Server across several sites. SQL Server 2000 also supports a standards-based programming model integrated with the Windows DNA, making the use of SQL Server databases and data warehouses a seamless part of building powerful and scalable systems. These features allow you to rapidly deliver SQL

Server applications that customers can implement with a minimum of installation and administrative overhead.

✓ **Data warehousing:**

SQL Server 2000 includes tools for extracting and analyzing summary data for online analytical processing. SQL Server also includes tools for visually designing databases and analyzing data using English-based questions.

**SQL Server Enterprise Manager:**

Microsoft Management Console (MMC) is a tool that presents a common interface for managing different server applications in a Microsoft Windows network. Server applications provide a component called an MMC snap-in that presents MMC users with a user interface for managing the server application. SQL Server Enterprise Manager is the Microsoft SQL Server™ MMC snap-in.

SQL Server Enterprise Manager is the primary administrative tool for SQL Server and provides an MMC-compliant user interface that allows users to:

✓ Define groups of SQL Server instances.

✓ Register individual servers in a group.

✓ Configure all SQL Server options for each registered server.

✓ Create and administer all SQL Server databases, objects, logins, users, and permissions in each registered server.

✓ Define and execute all SQL Server administrative tasks on each registered server.

✓ Design and test SQL statements, batches, and scripts interactively by invoking SQL

✓ Invoke the various wizards defined for SQL Server.

## Overview of the SQL Server Tools

Microsoft SQL Server 2000 includes many graphical and command prompt utilities that allow users, programmers, and administrators to:

✓ Administer and configure SQL Server.

✓ Determine the catalog information in a copy of SQL Server.

✓ Design and test queries for retrieving data.

✓ Copy, import, export, and transform data.

✓ Provide diagnostic information.

✓ Start and stop SQL Server.

# CHAPTER 4
# SYSTEM DESIGN

## 4.1 INPUT DESIGN

The input design is the link that ties the information system into the world of its users. It is a process of converting user-originated inputs to a computer-based format. Input data are collected and organized into a group of similar data. Once identified, appropriate input media are selected for processing.

The goal of designing input data is to make entry easy, logical and free form errors. In input data design, we design source document that capture the data and then select the media used to enter them into the computer. The input forms are developed in a user-friendly way so that a layman also can easily understand everything. Menus are provided to users and different icons are designed so the proposed system design looks decorative. Input design is the part of the overall system design.

Source documents initiate a processing cycle as soon as they are entered into the system through the keyboard. A source should be logical and easy to understand.

Objectives of Input Design:
- ✓ To achieve the highest possible level of accuracy.
- ✓ To ensure that the input is acceptable and understood by the user.

In this project, authentication was done by using username and password. The admin added Stock name, Symbol and fund schemes into the Database.

## 4.2 OUTPUT DESIGN

Output forms are also designed in a specific manner as per the user requirement. Results are formatted to enhance clarity. Depending on the user the system would generate appropriate output. The output forms are designed in such a way that the entire user required data is presented.

While designing an output, the system analyst must accomplish the following.

1. Determine what information to present

2. Arrange the presentation of information in an acceptable form.

3. Decide how to distribute the output to intended users.

4. The output may vary with different user.

In this project, the graphical report was produced for market analysis based on the purchase unit and amount which given by the user.

✓ Getting the result either negative or positive based on the purchase value and current value.

## 4.3 USER INTERFACE DESIGN

The user interface is one of the most important parts of this kind of system. As the system is aimed at the average user, the interface had to conform to certain design styles in order to remain accessible.

It was decided that the user interface would have to conform as much as possible to standard systems, with not too many functions visible on screen at one time which might confuse a user.

1. A main window with menus for all activities is done.
2. The required information for this system is obtained through user interaction with text fields.
3. The output is design and framed.

## 4.4 DATA BASE DESIGN

Database is designed to store all necessary information. Different types of information are stored in the database. MY SQL is used for this purpose. To avoid redundancy, we use unique data so that the database becomes consistent. The database is structured with the help of Normalization.

**Normalization**

Normalization is the process of simplifying the relationship between the date elements in a record. Through normalization, a collection of data in a record structure is replaced by successive record structure that is simpler and more manageable. Normalization is carried out for the following reasons.

✓ To structure the data so that relationship between the entities can be represented.

✓ To permit simple retrieval of data in response to query and reports request.

✓ To simplify the maintenance of the database through update, insertions and deletions.

✓ To reduce the need to re-structure and organize data when new application requirements arise.

The Table described below is used to store all the necessary information.

First Normal Form decomposes all data groups into two-dimensional records. It is achieved when all repeating groups are removed so that a record is of the fixed length.

A relation scheme R is said to be in 1NF, if the values in the domain of each attribute of the relation are atomic.

## Second Normal Form

Second Normal Form eliminates any relationship in which data elements do not fully depend on the primary key of the record. Second Normal Form is achieved when a record is First Normal Form and each item in the record is fully dependent on the primary key for identification in storage or retrieval.

A relation R said to be 2NF, if it is in 1NF and if all the nonprime attributes ate fully functionally dependent on the relational keys. A database scheme is said to be in 2NF if all the relations in the database are in 2NF.

## Third Normal Form

Third Normal Form eliminates any relationship that contains transitive dependencies.

A relation R is said to be in 3NF if whenever a functional dependencies, X->A holds in R and A is not in X, then either X is super key for R or A is prime (i.e. A is a subset is a subset of the candidate key).

To make use of tables Second Normal Form is used in this project. Second Normal Form is carried out in stock master and customer portfolio tables.

## 4.5 TABLE DESIGN

Table 4.5.1:- Table Name: customer table

| Field | Data type | Size | Constraints |
|---|---|---|---|
| Customer id | varchar | 50 | primary key |
| Customer name | varchar | 50 | |
| Bank name | varchar | 50 | |
| Account number | Varchar | 50 | |
| Deposit paid | Varchar | 50 | |
| Credit limit | Varchar | 50 | |
| Balance amount | Varchar | 50 | |
| Address | Varchar | 100 | |
| Phone number | Varchar | 50 | |
| Email id | Varchar | 50 | |
| User name | Varchar | 50 | |
| Password | Varchar | 50 | |

Table 4.5.2:- Table Name: items table

| Field | Data type | Size | Constraints |
|---|---|---|---|
| Item id | varchar | 50 | primary key |
| Item name | varchar | 50 | |
| Item price | Varchar | 50 | |
| Item quantity | Varchar | 50 | |

Table 4.5.3:- Table Name: Bill table

| Field | Data type | Size | Constraints |
|---|---|---|---|
| Bill number | varchar | 50 | primary key |
| Customer id | varchar | 50 | foreign key |
| Net total | Flaot | | |

Table 4.5.4:- Table Name: Orders table

| Field | Data type | Size | Constraints |
|---|---|---|---|
| Customer id | varchar | 50 | Foreign key |
| Date needed | Date | | |
| Items | varchar | 50 | |
| Quantity | Varchar | 50 | |

Table 4.5.5:- Table Name: Login table

| Field | Data type | Size | Constraints |
|---|---|---|---|
| User id | Varchar | 50 | primary key |
| User name | varchar | 50 | |
| Password | Varchar | 50 | |

Table 4.5.6:- Table Name: Stock entry details

| Field | Data type | Size | Constraints |
|---|---|---|---|
| Receipt number | varchar | 50 | primary key |
| Items name | varchar | 50 | |
| Quantity | varchar | 100 | |

## 4.6 DATAFLOW DIAGRAM

The data flow diagram (DFD) is one of the most important tools used by system analysts. Data flow diagrams are made up of a number symbols, which represent system components. Most data flow modeling methods use four kinds of symbols. These symbols are used to represent four kinds of system components such as Processes, data stores, data flows and external entities.

Circles in DFD represent processes. Data Flow is represented by a thin line in the DFD and each data store has a unique name and rectangle represents external entities. Unlike detailed flow chart, Data Flow Diagrams do not supply detailed description of the modules but graphically describes a system's data and how the data interact with the system.

An arrow identifies the data flow in motion. It is a pipeline through which information is flown like the rectangle in the flowchart. A circle stands for process that converts data into information. An open-ended box represents a data store, data at rest or a temporary repository of data. A square defines a source or destination of system data.

## 4.6 DATA_FLOW_DIAGRAM

**Zero level: DFD**
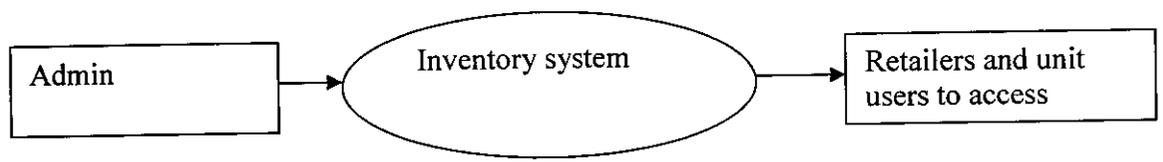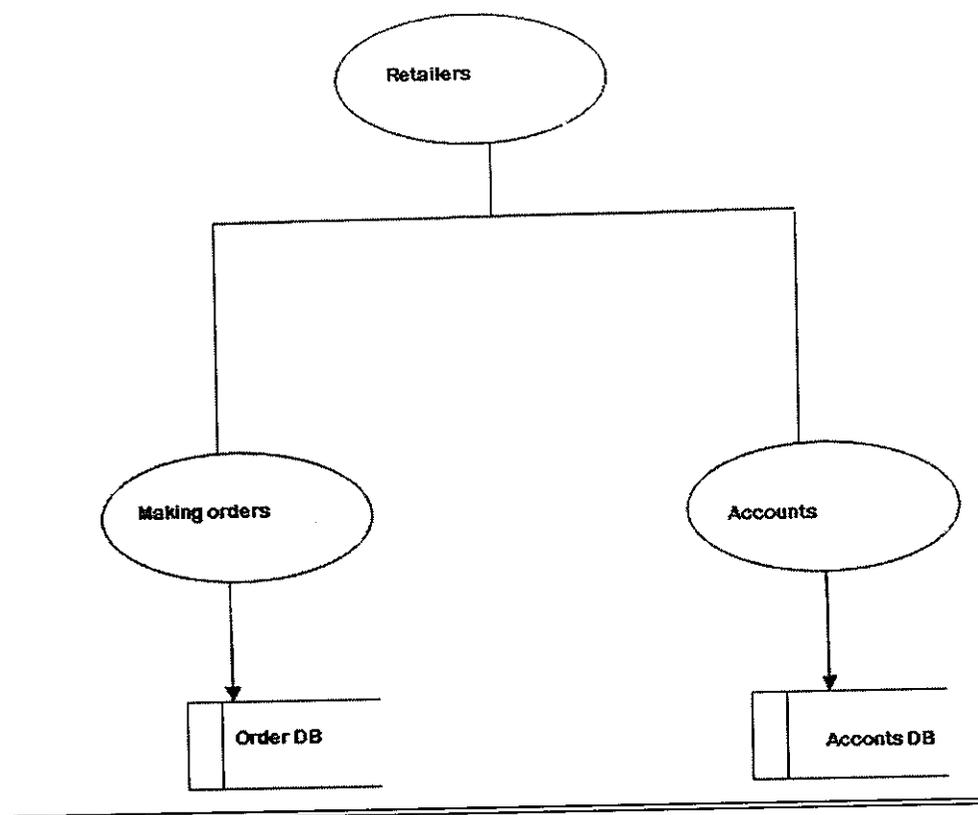


Fig 4.6.1: level zero Data Flow Diagram

**Level1:DFD**
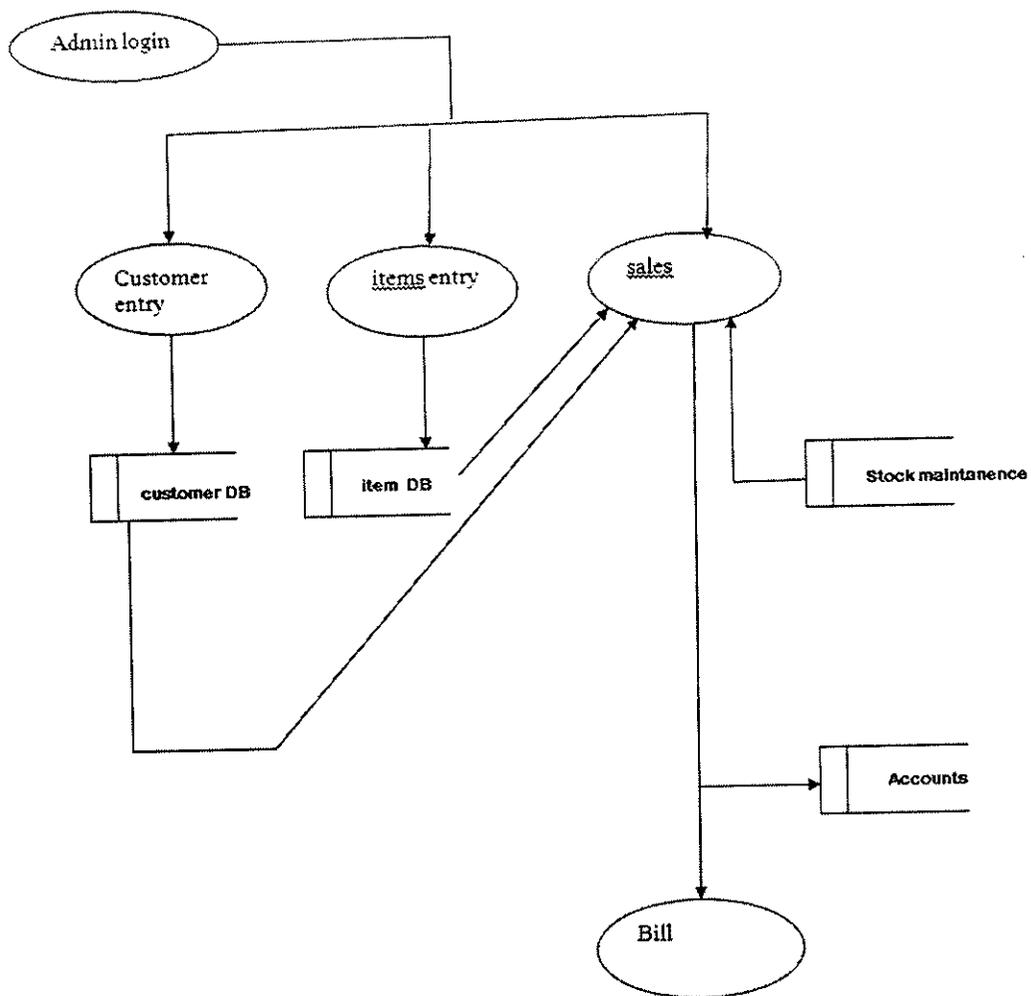


Fig 4.6.2: Level 1 Data Flow Diagram

**Level 2 DFD**



**Fig 4.6.4: Level 3 Data Flow Diagram**
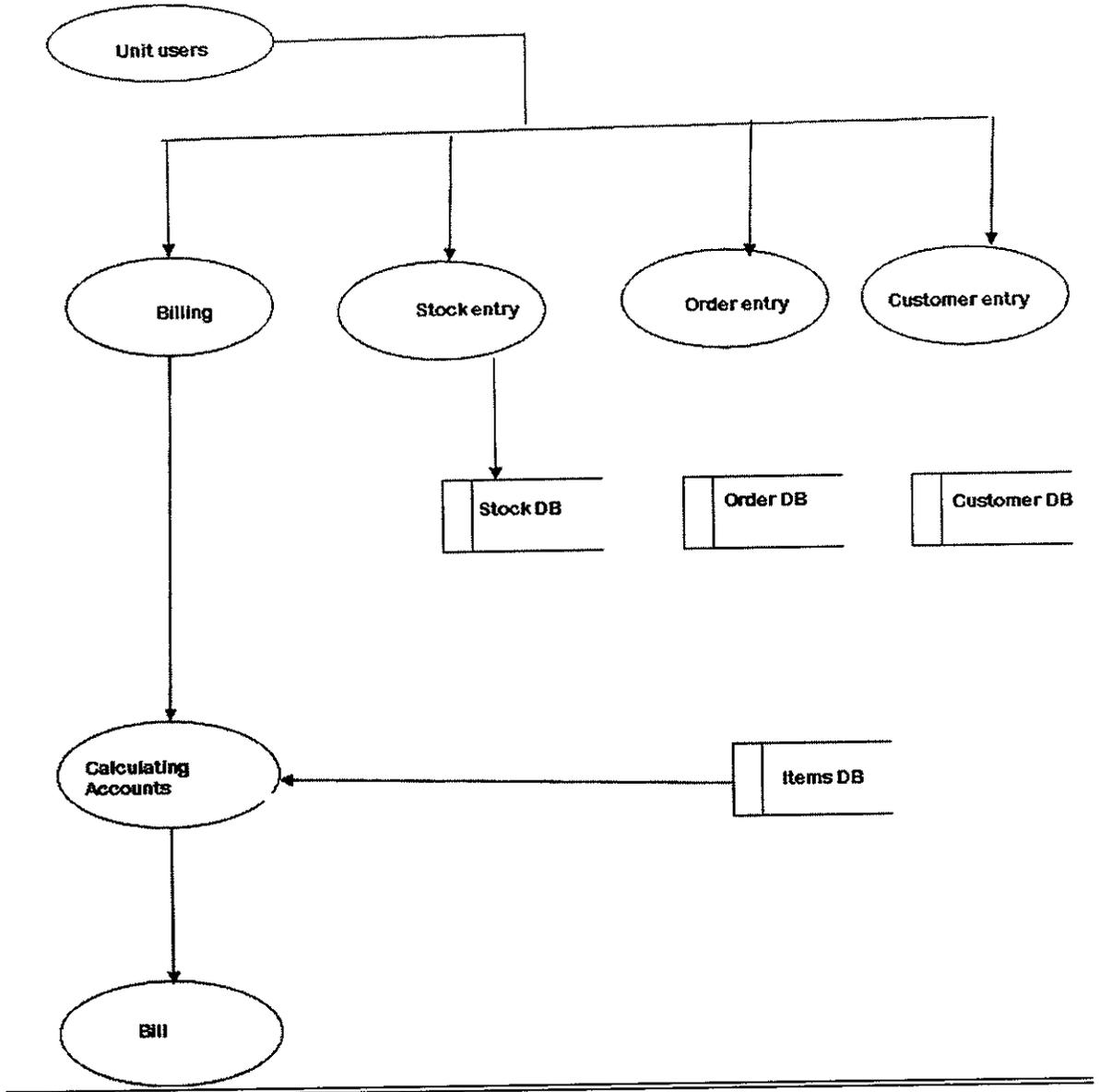
**Level 3 DFD**



Fig 4.6.3: Level 2 Data Flow Diagram

# CHAPTER 5

# SYSTEM TESTING AND IMPLEMENTATION

In a software development project, error may get introduced at any stage during the development. Testing is the phase where the errors remaining from the earlier phases also may be detected. Hence, testing performs a very critical role for quality assurance and for ensuring the reliability of software.

During testing, the program to be tested is executed with set of test cases, and the output of the program for the test cases is evaluated to determine if the program is performing as it is expected to.

Due to its approach, dynamic testing can only assertion the presence of error in the program, the exact nature of the error is not usually decided by testing. The results of testing are used later on during maintenance also. One of our goals during dynamic testing is to produce a test suite, which contains a set of interesting test cases along with their expected output for future use.

## 5.1 Types of Testing

The following are the types of tests, which are generally performed:

### 5.1.1 Unit Testing

Unit testing focuses verification effort on smallest unit of software design - the module. This is done to check syntax and logical errors in programs. At the time of preparation of technical specifications, unit test data was also prepared. The coding for that program was considered complete after verifying its output against this test data.

The software has been tested with real type data to find it works as intended.

## 5.1.2 Integration Testing

The next level of testing is often called integration testing. In this, many tested modules are combined into sub-system, which is then tested. The goal here is to see if the modules can be integrated properly, the emphasis being on testing interfaces between modules.

There may be question: If they all work individually, why it is doubtful that they will work when they put together?

The problem is "putting them together" - interfacing. Data can be lost across an interface, one module can have an inadvertent, adverse affect on another, sub functions, when combined, may not produce the desired major function, individually acceptable imprecision may be magnified to unacceptable levels, global data structures can present problems, the list goes on and on.

## 5.1.3 System Testing

Here the entire software system is tested. The reference for this process is the requirements document, and the goal is to see if the software meets its requirements.

System testing consists of the following steps:

- ✓ Program Testing
- ✓ String Testing
- ✓ System Testing
- ✓ System Documentation
- ✓ User Acceptance Testing

## 5.1.4 Acceptance Testing

It is performed with realistic data of the client demonstrate that the software is working satisfactorily. According to organization's policy, testing action is not the part of software development team. Testing team does it. Testing team prepares test cases for the software.

## 5.1.5 Validation checks

Software validation is achieved through a series of black-box tests that demonstrate conformity with requirements. A test plan outlines the classes of tests to be conducted and a test procedure defines specific test cases that will be used to demonstrate conformity with requirements. Both the plan and procedure are designed to ensure that all functional requirements are satisfied, all behavioral characteristics are achieved, all performance requirements are attained, documentation is correct, and human engineered and other requirements are met.

After each validation test case has been conducted, one of two possible conditions exists:

✓ The function or performance characteristics conform to specification and are accepted

✓ A deviation from specification is uncovered and a deficiency list is created.

✓ Deviation or error discovered at this stage in a project can rarely be corrected prior to scheduled delivery. It is often necessary to negotiate with the customer to establish a method for resolving deficiencies.

## 5.2 SYSTEM IMPLEMENTATION

Implementation is the stage of the project where the theoretical design is turned into a working system. At this stage the main work load and the major impact on the existing system shifts to the user department. If the implementation is not carefully planned and controlled, it can cause chaos and confusion.

Implementation includes all those activities that take place to convert from the old system to the new one. The new system may be totally new, replacing an existing manual or automated system or it may be a major modification to an existing system. Proper implementation is essential to provide a reliable system to meet the organization requirements.

The process of putting the developed system in actual use is called system implementation. The system can be implemented only after thorough testing is done and it is found to be working according to the specifications. The system personnel check the feasibility of the system. The most crucial stage is achieving a new successful system and giving confidence on the new system for the user that it will work efficiently and effectively. It involves careful planning, investigation of the current system and its constraints on implementation. The system implementation has three main aspects. They are education and training, system testing and changeover.

The implementation stage involves following tasks.

✓ Careful planning

✓ Investigation of system and constraints

✓ Design of methods to achieve the changeover.

✓ Training of the staff in the changeover phase

✓ Evaluation of the changeover method

## Implementation Procedures

Implementation of software refers to the final installation of the package in its real environment, to the satisfaction of the intended users and the operation of the system. The people are not sure that the software is meant to make their job easier. In the initial stage they doubt about the software but we have to ensure that the resistance does not build up as one has to make sure that.

- ✓ The active user must be aware of the benefits of using the system
- ✓ Their confidence in the software built up
- ✓ Proper guidance is impaired to the user so that he is comfortable in using the application

Before going ahead and viewing the system, the user must know that for viewing the result, the server program should be running in the server. If the server object is not running on the server, the actual processes will not take place.

## System maintenance

The maintenance phase of the software cycle is the time in which software performs useful work. After a system is successfully implemented, it should be maintained in a proper manner. System maintenance is an important aspect in the software development life cycle. The need for system maintenance is to make adaptable to the changes in the system environment. There may be social, technical and other environmental changes, which affect a system which is being implemented. Software product enhancements may involve providing new functional capabilities, improving user displays and mode of interaction, upgrading the performance characteristics of the system. So only thru proper system maintenance procedures, the system can be adapted to cope up with these changes.

Software maintenance is of course, far more than "finding mistakes". We may define maintenance by describing four activities that are undertaken, after a product is released for use.

## Corrective Maintenance

The first maintenance activity occurs because it is unreasonable to assume that software testing will uncover all latent errors in a large software system. During the use of any large program, errors will occur and be reported to the developer. The process that includes the diagnosis and correction of one or more errors is called Corrective Maintenance.

## Adaptive Maintenance

The second activity that contributes to a definition of maintenance occurs because of the rapid change that is encountered in every aspect of computing. Therefore Adaptive maintenance termed as an activity that modifies software to properly interfere with a changing environment is both necessary and commonplace.

## Perceptive Maintenance

The third activity that may be applied to a definition of maintenance occurs when a software package is successful. As the software is used, recommendations for new capabilities, modifications to existing functions, and general enhancement are received from users. To satisfy requests in this category, Perceptive maintenance is performed. This activity accounts for the majority of all efforts expended on software maintenance.

## Preventive Maintenance

The fourth maintenance activity occurs when software is changed to improve future maintainability or reliability, or to provide a better basis for future enhancements. Often called preventive maintenance, this activity is characterized by reverse engineering and re-engineering techniques.

# CHAPTER 6
# CONCLUSION

A package can only be developed successfully if the developer has a depth understanding about the nature of the existing system. Obviously developer would try to tackle each and every problem whatever encountered during the implementation of the new system. It is evident that most of the times it is not possible to computerize the manual system completely and therefore some of the portion should be left.

The project "Online Inventory System" was aimed to identify the weakness of the existing system and critically analyze and examine the possible improvements in the existing system to Up to date the present system. The system has been designed taking into account user friendliness and to provide maximum support to the user for easy operation. It is expected that after implementation, it will be helpful for fulfilling the need of customer to manage their portfolio details and also reduce human effort of maintaining records to a larger extent.

# CHAPTER 7

## SCOPE FOR FUTURE ENHANCEMENT

The Online Inventory System Implementation is developed with enough room for future enhancement.

✓ **Automated Price Updates :** A price update module which can retrieve daily and historical prices from the internet can be added to the system now it's available as admin provision

✓ **Stock Alerts :** A stock alert pop up window can be added that arrives when it is reaches limit

✓ **SMS indication :** SMS will be sent when a transaction completed .

✓ **Print option:** Option for printing the executive summary of transactions can be incorporated to the system

✓ **Credit option:** Now every transaction is based on only money so credit card system must be added

# CHAPTER 8

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- ✓ Software Engineering By Roger.S. Pressman Published by Tata Mc. Graw Hill – $4^{th}$ Edition.
- ✓ Mastering Visual Basic.Net By Thomas A. Powell Published by Tata Mc. Graw Hill – $2^{nd}$ Edition.
- ✓ Visual Basic.Net Complete Reference By Evangelos by BPS Publication – First Edition.
- ✓ Analysis Of Inventory Systems by Hadley

### Web Sites

- ✓ www.devx.com

- ✓ www.msdn.com

- ✓ www.homeandlearn.co.uk

- ✓ www.example-code.com
- ✓
- ✓ www.functionx.com

# APPENDICES A

## A. Screen Shots
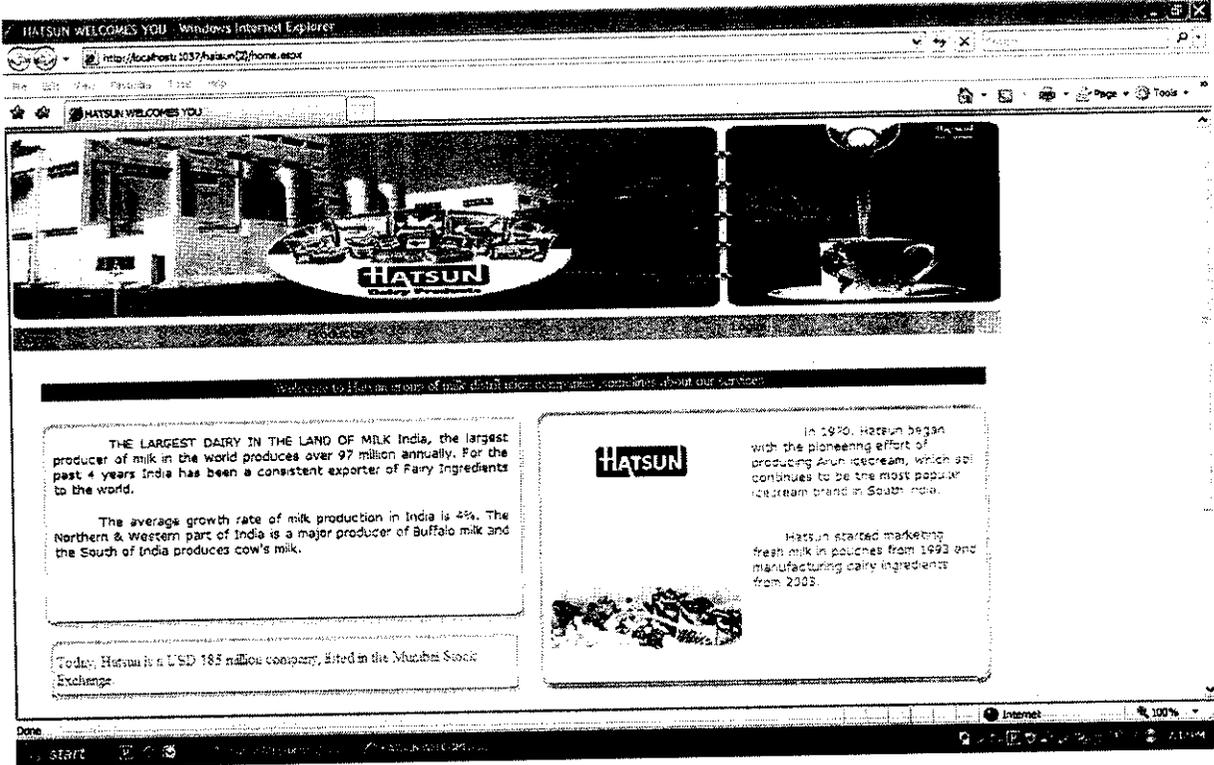


Fig 9.1: Home page
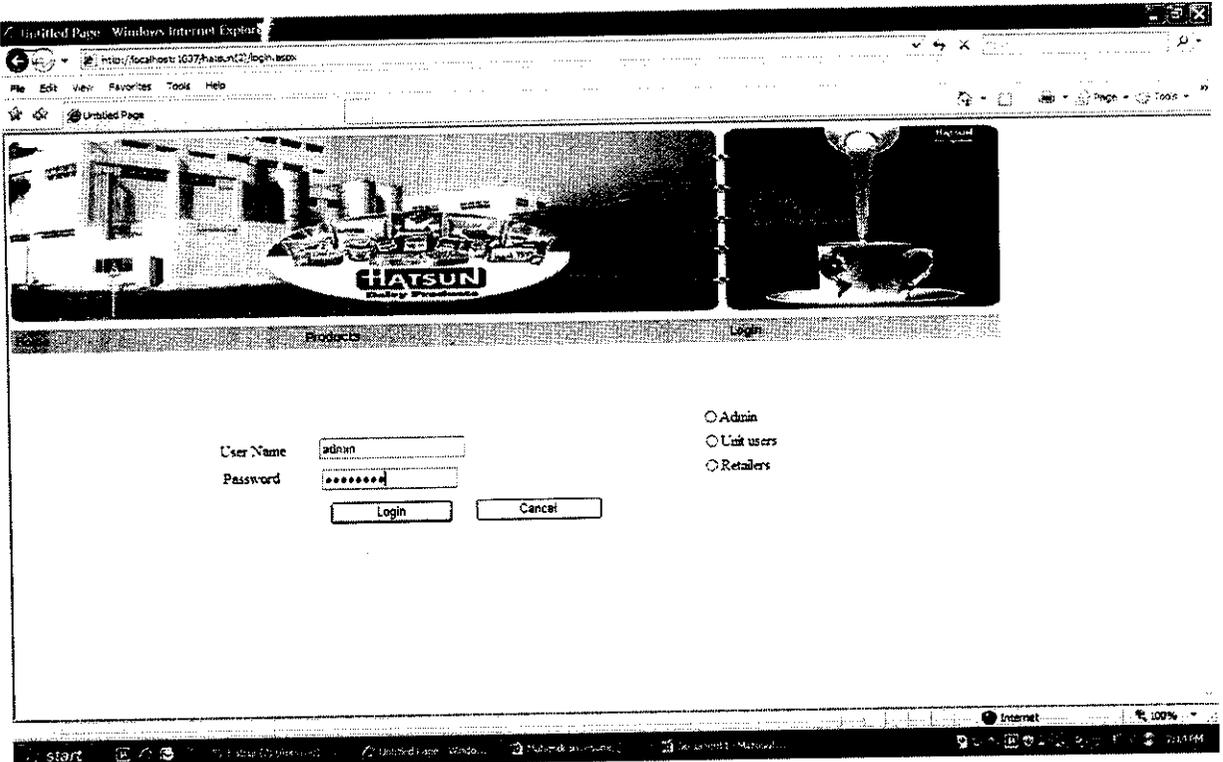
Fig 9.2: Login page

Fig 9.3: Admin page

| billNo | item | qty | price | total |
|--------|------|-----|-------|-------|
| B1 | Toned Milk 1/2 lt | 2 | 23 | 46 |
| B2 | Toned Milk 1/2 lt | 1 | 23 | 23 |
| B2 | Curd | 1.25 | 36 | 45 |
| B2 | Gee | 2.5 | 250 | 625 |
| B3 | ewre | 7 | 44 | 308 |
| B3 | Curd | 2 | 36 | 72 |
| B3 | Gee | 1.5 | 250 | 375 |
| B4 | Toned Milk 1/2 lt | 1.5 | 23 | 34.5 |
| B5 | Toned Milk 1/2 lt | 2 | 23 | 46 |
| B6 | Toned Milk 1/2 lt | 27 | 23 | 621 |
| B7 | Toned Milk 1/2 lt | 1.5 | 23 | 34.5 |

Fig 9.4: Items page
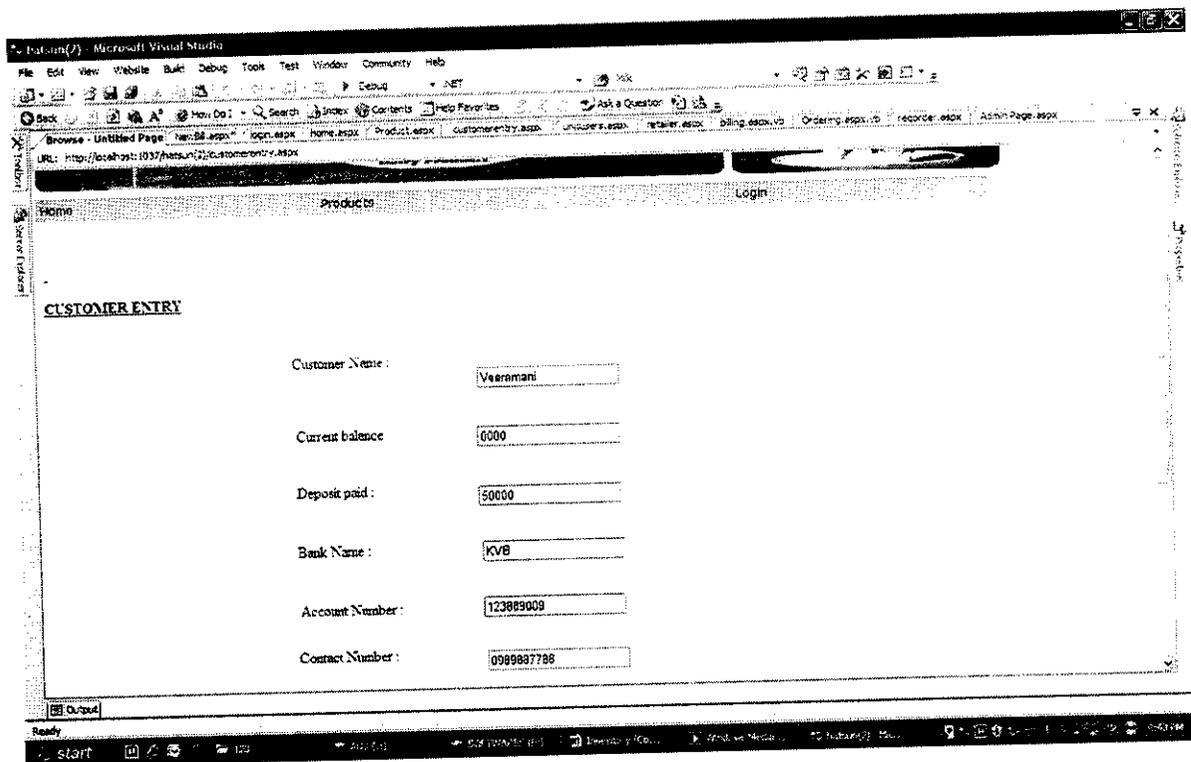
Fig 9.5: Retailer registration page

Fig 9.6:  Items adding  page
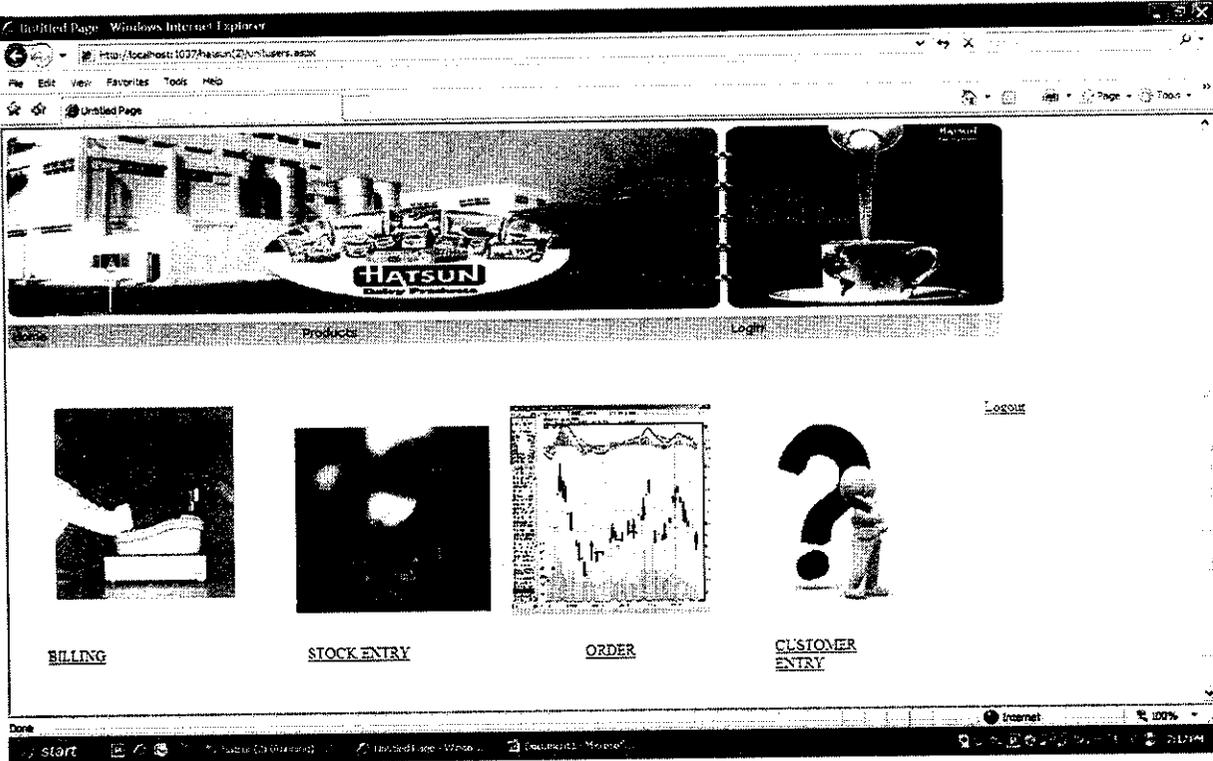
Fig 9.7: Unit user page
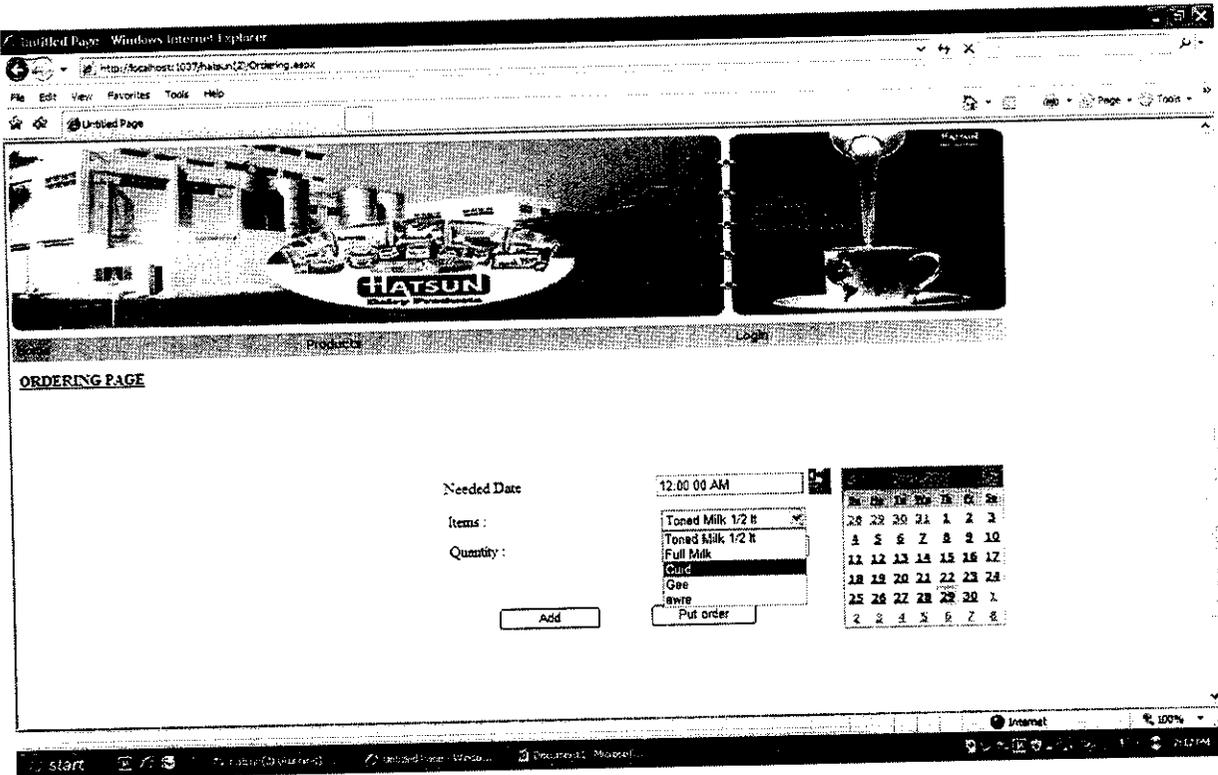
Fig 9.8: Billing page

Fig 9.9: Billing sample page

Fig 9.10: Ordering page

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Fig 9.11: Retailers page