PREFACE

This project report has been developed especially for you computerization and management required in "STOCK MANAGEMENT SYSTEM". It is woven with the fibre of "MICROSFT VISUAL STUDIO 2012". Which is well known standard programming language. All the activities in a program are triggered by one event or another. So, with the help of this software you can do the better computerization of a "STOCK MANAGEMENT SYSTEM".

The aim of preparing this project is to signify the role of computer in smooth functioning of "STOCK MANAGEMENT SYSTEM" and to explain that how computers help in records of Admission, record of student's details and all information related to students of School.

No, doubt I have tried my best effort to make the project in user friendly environment and managing stock management system full placed, because this is the most powerful feature of the project report. The approach adopted is very simple, lucid and comprehensive. The latest term and data have been taken into account and using facility of options and menus.

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CERTIFICATE OF THE PROJECT GUIDE

This is to certify that this project report entitled

"STOCK MANAGEMENT SYSTEM" submitted to

VELLORE INSTITUTE OF TECHNOLOGY, VELLORE

is a bonafide record of work done by "ESHIKA GOYAL (19BCT0232)"

under my supervision.

Date: 5th January 2022

Place: LG Electronics

Mr. Swarup Kumar Kar

AGM

LGEIL IT Dx Innovation

SELF CERTIFICED

This is to certify that the dissertation/Project report entitled "STOCK MANAGEMENT SYSTEM" is done by me is an automatic work carried out for the partially fulfilment of the requirements for the award of the degree of Computer Science with specialization in Internet of Things under the guidance of Mr. SWAROOP KAR. The matter embodied in this project work has not been submitted earlier for award of any degree or diploma to the best of my knowledge and belief.

Eshika

Eshika Goyal 19BCT0232

Signature of the student

Student of VIT, Vellore

1 INTRODUCTION

1.1 About The Project

In today's changing life style computer has become the most essential part of life. Most of the works being performed by the humans is now done by the computer The computer is being used in each and every field now a days.

I am developing software for a stock exchange and This software help in the stock exchange for their database maintaining and generating report corresponding to the data is done on the basis of as per requirement is given.

So, we can say that it helps the management of stock exchange and give exact database management of company according to rules and regulation. It also help in maintain stock data and also display how many products are present in the stock and also gives the details of these products. This software also gives or stores each and every information about orders. This company uses a huge data base so for security of database we give the facility of backup and also recovery as per when company need it takes backup on floppy or on hard disk.

This project is targeted for the mass stock management system around our country of further. Stock management is a very complex process which also needs a very efficient management. It enhances correctness and reduces man power. It also gives a detail and variety of angel for producing different types of report.

1.2 Business Requirement Analysis:

It is a reference to Reliance Industries stock storage department that offers various things to the public through retail stores such as Reliance Fresh and Reliance Foot Wear. Because the corporation must store all of its commodities and materials in a separate storage space, a separate department is required to track the specifics of all Godown ins and outs. The inside and outwards shall be referred to as inwards and outwards from now on.

Prior to storage of goods this department has to manage different godowns, product-wise stocks in each godown, inwards and outwards of each godown. Whenever a product comes into a particular godown then the details like Godown ID, Name of the Supplier, Date of Supply, Item Name, quantity, received by, receipt no and bill checked by need to be stored in the inwards register of the that godown by godown manager.

Whenever stock comes out from the Godown then the details like Product ID, Item Name, Invoice No, Date of Supply, Date of delivery, Delivered to, Quantity, Purpose (Sale/Service), Receipt No, Bill Value need to be stored in the outwards register by the godown manager.

As a result, the cycle is repeated every day. Currently, all of the aforementioned tasks are completed manually. The procedure is time-consuming. Data must be obtained from numerous sources to arrive at the inwards, outwards, or returns for goods. As a result of this, mistakes arise in the process, resulting in delayed delivery to consumers. Sometimes, due to mistakes, incorrect items are sent out that are not required, resulting in a large amount of money being spent on stock maintenance.

Not only will automating this process remove errors, but it will also reduce delivery times and make the organization more competitive. As a result, it was determined to create an automated system to make the entire procedure simpler and easier.

The following is the system that was created to meet the aforementioned requirements. An initial feasibility study was conducted, and it was determined that automating such a system would not only accomplish all of the above, but would also generate extra Reports that would allow management to examine the statistical side of inwards, inwards, and returns for each depot. This would also result in a more effective stock management platform, eliminating the confusion associated with stock maintenance at several depots and, as a result, lowering the company's spending expenses. Another advantage was that the whole Accounts system could be linked to this system in future, which would finally reduce the Overheads of the company.

1.3 Project Plan

Because the firm had a large stock management and was planning to add more godowns, staff, and grow their operations in the near future, it was determined to adopt solid Software engineering principles in the creation of the system. As a result, the following Project Plan was created:

- 1) The Analysts interacted with the current manual system users to get the Requirements. As a part of this the Requirements Specification Document was created.
- 2) The Analysis, Design, Implementation & testing of the System itself will be broadly based on the Rational Unified Software Development process.
- 3) The Architecture & Technologies will be decided as a part of the Analysis of the requirements.
- 4) Once the design is complete, the system's implementation and testing plan will begin. Each will be self-contained from the other. The system will be split down

into sub-systems and implemented using Software Engineering concepts for the construction of reliable software.

5) System testing will begin after the implementation is complete. If the system is deemed stable, users will be asked to test it, and after they are pleased, the system will be pushed out to the users and they will be instructed on how to use it for a period of time.

1.4 Requirements Specification Document

This document is a very comprehensive document & contains all the User requirements & Analysis diagrams. The Requirements are broadly divided into two groups:

- 1. Functional requirements
- 2. Non-functional requirements

1.5 Functional Requirements

The primary goal of functional requirements in a requirement specification document is to define all of the system's activities or processes. These are derived by the system's interactions with its users. Because the Requirements Specification is such a large document with a lot of information, it has been divided into many chapters in this report.

- 1) It allows the authorized users to login in the system
- 2) It allows the new users to sign up if they don't have an account
- 3) It allows users to navigate to a page using the Dashboard page.
- 4) It allows user to make themselves to use the customer management while inserting their details
- 5) It allows users to Select their own Category of Goods.
- 5) It allows user to select their own brand.
- 7) It allows users to add an item of their choice.
- 8) The system allows user to generate their bill/invoice.
- 9) It allows admin to generate stock details report.
- 10) It allows admin to generate inwards details report.
- 11) It allows admin to generate outwards details report.
- 12) It allows users to save their contact information on the website and leave a remark.

- 13) It allows the users to look up into the contact information of the organisation.
- 14) It allows any user to logout when he wants to come out from the system.

1.5 Non-Functional Requirements

The non-functional requirements consist of

- 1. Analysis, Design & Data requirements (Use-case diagrams, textual analysis, sequence diagrams, data dictionary etc.)
- 2. Constraints.
- 3. Guidelines.

1.7 Validation Criteria

1.7.1 Analysis, Design & Data requirements

This category includes use case diagrams, textual analysis, sequence diagrams, and data dictionaries. Because each of the categories listed above is so important, they have been divided into different chapters. Only an outline is presented in this section.

Use Case diagrams, textual analysis, Sequence Diagrams, Class Diagrams, and a Data Dictionary are all produced throughout the system's Analysis and Design phases. The data dictionary is made up of process statements that indicate how data flows from one place to another.

1.7.2 Constraints

These are the requirements that are not directly related to the functionality of the system. These should be considered as mandatory when the system is developed. The following Constraints were arrived at for the system:

- 1) For gaining entry into the system the admin should register user info and the user should be able use login & passwords for gaining access to the system.
- 2) The system should be easy to understand and organized in a structured way. The users should also receive feedback about any errors that occur.
- 3) There should be no limitation about the hardware platform that is to be used to run the system.
- 4) Data integrity should be maintained if an error occurs or the whole system comes down.

1.7.3 Guidelines

We have discussed mandatory requirements in the previous section. The requirements

in this section should be taken as suggestions & they should be thought of as recommendations to further enhance the usability of the system.

- 1. The system should display a user friendly menu for users to choose from.
- 2. The system should display Product ID and item to be selected from the popup list in the forms .
- 3. Services of the system should be available 24 hours a day.
- 4. The system should be designed in such a way that it is easy to enhance it with more functionality. It should be scalable & easily maintainable.

2 PROBLEM DEFINITION

2.1 Existing System:

Current system is a manual one in which users are maintaining ledgers, books etc to store the information like suppliers details, inwards, customer details as well as employee details. It is very difficult to maintain historical data. Also regular investments need to purchase stationary every year.

2.1.1 Disadvantages:

The following are the disadvantages of current system

- 1. It is difficult to maintain important information in books
- 2. More manual hours need to generate required reports
- 3. It is tedious to manage historical data which needs much space to keep all the previous year ledgers, books etc.
- 4. Daily transactions are to be entering into different books immediately to avoid conflicts which are very difficult.

2.2 Proposed System:

Proposed system is a software application which avoids more manual hours that need to spend in record keeping and generating reports. This application keeps the data in a centralized way which is available to all the users simultaneously. It is very easy to manage historical data in database. No specific training is required for the employees to use this application. They can easily use the tool that decreases manual hours spending for normal things and hence increases the performance. As the data is centralized it is very easy to maintain the stocks of the various items.

2.2.1 Advantages:

The following are the advantages of proposed system

- Easy to manage all the daily transactions
- Can generate required reports easily
- Easy to manage historical data in a secure manner
- Centralized database helps in avoiding conflicts
- Easy to use GUI that does not requires specific training.

3 DESIGN DOCUMENT

3.1 SOFTWARE REQUIREMENTS:

Database: SQL Server

Server: Chrome

Front end: ASPX, C#, CSS, HTML(Knowledge)

Editor: Visual Studio 2012

3.2 HARDWARE REQUIREMENTS:

It is recommended that the minimum configuration for clients is as appended below:-

Suggested Configuration of Windows clients:-

1. Microprocessor : Pentium-4 class processor, 2.2 GHz

2. Ram : 1GB of RAM.

3. Hard Disk : 10 GB on installation drive which

includes 500 MB on system drive

4. CD ROM Drive : 52 X CD ROM Drive.

3.3 Database Design:

3.3.1 Database Tables:

The total number of database tables that were identified to build the system is 7. The major part of the Database is categorized as

• Transactional components:

The Transactional components are useful in recording the transactions made by the system. All the inwards, deliveries, etc information handled by these components.

Data Dictionary components:

These components are used to store the major information like Employee details, Product details, Customer details, Items information etc.

General components:

These components are used to store the general information like login or Sign Up information etc.

4 SYSTEM ANALASYS

4.1 System Design:

4.1.1 Users:

The major functionality of this product is divided into two categories.

- 1. Administrative User Functions.
- 2. Normal User Functions.

4.1.2 Administrative User Functions:

Administrators can perform the following task

- Create new users.
- Add/Update the details of Employees of the Company.
- Add the information about the Products.
- Can view the information about the Inwards.
- Can view the information about the Deliveries.

4.1.3 Normal User Functions:

Normal users can perform the following task

- View the details of Employees of the Company.
- View information of different Products.
- Can add the information about the Inwards.
- Can add the information about the Deliveries.

4.2 Modules:

The System after careful analysis has been identified to present with the following modules.

4.2.1 EMPLOYEE INFORMATION MODULE:

This module maintains all the information which belongs to the employees who are working for the company. It allows the administrator to add an employee record to the database very easily and it allows to view the list of employees in tabular format out of which he can edit a particular employee. Admin can take the print of employee report just by making a single on print icon and It also allows the administrator to remove an employee from list. It makes all the above can be done very flexibly.

4.2.2 ADMINISTRATOR MODULE:

This module is used to manage the details of users of the application. Users are divided into two categories. Admin Normal user It allows administrator to add a new user, view the list of user and delete a user from the list. It allows to send a print request to the printer for printing user report.

4.2.3 PRODUCT MODULE:

This module is used to manage the details of Product of the application. User can select their own category and brand and type in the Item Name. It allows administrator to add a new products, view the list of products and delete them from the list. The user can also bill themselves.

4.2.4 USER MODULE:

The user can save their details and view in the table which will be shown below. They can also give their remarks for the website.

4.2.5 REPORTING MODULE:

This module used to provide reports required by the higher management. It provides a facility to generate dynamic reports like information about the product, monthly inwards, monthly deliveries, monthly returns and stock statements very easily.

4.3 Feasibility Analysis

Feasibility study is an important phase in the software development process. It enables the developer to have an assessment of the product being developed. It refers to the feasibility study of the product in terms of outcomes of the product, operational use and technical support required for implementing it.

Feasibility study should be performed on the basis of various criteria and parameters. The various feasibility studies are:

- ✓ Technical Feasibility
- ✓ Economic Feasibility

4.3.1 Technical Feasibility:

The system is self-explanatory and does not need any extra sophisticated training. As the system has been built by concentrating on the Graphical User Interface Concepts, the application can also be handled very easily with a no vice User. The overall time that is required to train the users upon the system is less than half an hour.

The System has been added with features of menu-driven and button interaction methods, which makes the user the master as he starts working through the

environment. The net time the customer should concentrate is on the installation time.

4.3.2 Financial Feasibility:

i) Time Based:

Contrast to the manual system management can generate any report just by single click. In manual system it is too difficult to maintain historical data which become easier in this system. Time consumed to add new records or to view the reports is very less compared to manual system. So this project is feasible in this point of view

ii) Cost Based:

No special investment need to manage the tool. No specific training is required for employees to use the tool. Investment requires only once at the time of installation. The software used in this project is freeware so the cost of developing the tool is minimal and hence the overall cost.

4.3.3 Implementation Plan:

The main plan for the system developed is to mimic the existing system as it is in the proposed system.

5 Diagrams

5.1 DATABASE:

5.1.1 Login Table:

Design:

	Column Name	Data Type	Allow Nulls
₽₿	id	int	
	name	varchar(255)	\checkmark
	email	varchar(255)	\checkmark
	password	varchar(255)	\checkmark

5.1.2 Signup Table:

```
CREATE TABLE [dbo].[SignUp](
       [username] [nvarchar](255) NULL,
       [password] [nvarchar](255) NULL
) ON [PRIMARY]
```

	Column Name	Data Type	Allow Nulls
Þ	username	nvarchar(255)	\checkmark
	password	nvarchar(255)	\triangleright

5.1.3 Admin Table:

```
CREATE TABLE [dbo].[AdminPage](
    [id] [int] IDENTITY(1,1) NOT NULL,
    [username] [varchar](255) NULL,
    [user_id] [varchar](255) NULL,
    [password] [varchar](255) NULL,
    [user_grade] [varchar](255) NULL
) ON [PRIMARY]
```

Design:

DE	DELL-ESHIKA\SA.tek - dbo.AdminPage × SQLQuery4.sql - DELSA.testok (sa (54))*			
	Column Name	Data Type	Allow Nulls	
•	id	int		
	username	varchar(255)	\checkmark	
	user_id	varchar(255)	\checkmark	
	password	varchar(255)	\checkmark	
	user_grade	varchar(255)	\checkmark	

5.1.4 Brand Table:

```
CREATE TABLE [dbo].[BrandTable](
    [id] [int] IDENTITY(1,1) NOT NULL,
    [category] [varchar](255) NULL,
    [brand] [varchar](255) NULL,
PRIMARY KEY CLUSTERED (id));
```

SC	QLQuery7.sql - DELSA.testok (sa (54))	DELL-ESHIKA\SA.tesk - dbo.BrandTable	SQLQuery6.sql - DEI
	Column Name	Data Type	Allow Nulls
▶8	id	int	
	category	varchar(255)	$\overline{\checkmark}$
	brand	varchar(255)	$\overline{\checkmark}$

5.1.5 Category Table:

```
[id] [int] IDENTITY(1,1) NOT NULL,

[category] [varchar](255) NULL,

PRIMARY KEY CLUSTERED (id));
```

Design:

SC	QLQuery8.sql - DELSA.testok (sa (54))	DELL-ESHIKA\SA.testok - dbo.category	X SQLQuery6.sql - DEL
	Column Name	Data Type	Allow Nulls
₽¥	id	int	
	category	varchar(255)	\checkmark

5.1.6 Ad-Item Table:

```
[id] [int] IDENTITY(1,1) NOT NULL,
[category] [varchar](255) NULL,
[brand_name] [varchar](255) NULL,
[item_name] [varchar](255) NULL,
[unit] [varchar](255) NULL,
[tax] [varchar](255) NULL,
PRIMARY KEY CLUSTERED (id));
```

SC)LQuery9.sql - DELSA.testok (sa (55))	DELL-ESHIKA\SA.testok - dbo.ItemTable	X SQLQuery6.sql - DE
	Column Name	Data Type	Allow Nulls
▶ ਊ	id	int	
	category	varchar(255)	\checkmark
	brand_name	varchar(255)	\checkmark
	item_name	varchar(255)	\checkmark
	unit	varchar(255)	\checkmark
	tax	varchar(255)	\checkmark

5.1.7 Customer Bill Table:

```
CREATE TABLE [dbo].[Customer_Bill](
    [bill_id] [int] IDENTITY(1,1) NOT NULL,
    [names] [varchar](255) NULL,
    [item_name] [varchar](255) NULL,
    [category] [varchar](255) NULL,
    [brand_name] [varchar](255) NULL,
    [tax] [int] NULL,
    [price] [int] NULL,
    [quant] [int] NULL,
    [total] [int] NULL,
    primary key (bill_id)
);
```

SC	LQuery10.sql - DESA.testok (sa (54))	DELL-ESHIKA\SA.tesdbo.Customer_Bill	× SQLQuery6.sql - DE
	Column Name	Data Type	Allow Nulls
•	bill_id	int	
	names	varchar(255)	\checkmark
	type	varchar(255)	\checkmark
	item_name	varchar(255)	\checkmark
	category	varchar(255)	\checkmark
	brand_name	varchar(255)	\checkmark
	tax	int	\checkmark
	price	int	\checkmark
	quant	int	\checkmark
	total	int	\checkmark

5.1.8 Customer Detail Table:

SC	λLQuery11.sql - DESA.testok (sa (54))	DELL-ESHIKA\SA.testok - dbo.customer	X SQLQuery6.sql - DE
	Column Name	Data Type	Allow Nulls
₽¥	id	int	
	names	nvarchar(50)	\checkmark
	mobile	nvarchar(50)	\checkmark
	types	nvarchar(50)	\checkmark
	addre	nvarchar(50)	\checkmark
	remark	nvarchar(50)	\checkmark
	company	varchar(50)	\checkmark

6 FRONT-END SCREENS

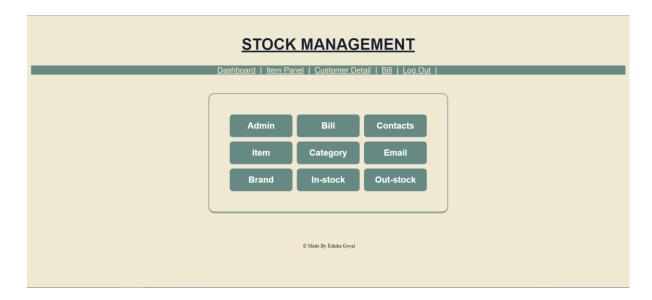
6.1 Login Page



6.1.2 Sign Up Page



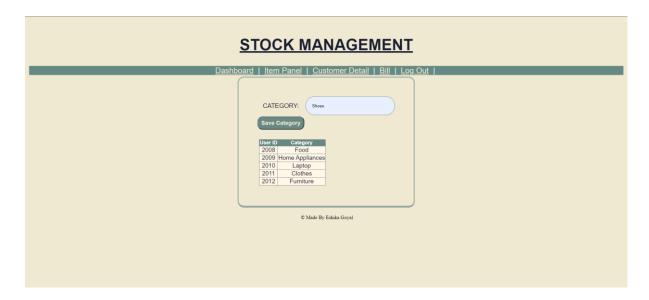
6.1.3 Dashboard Page



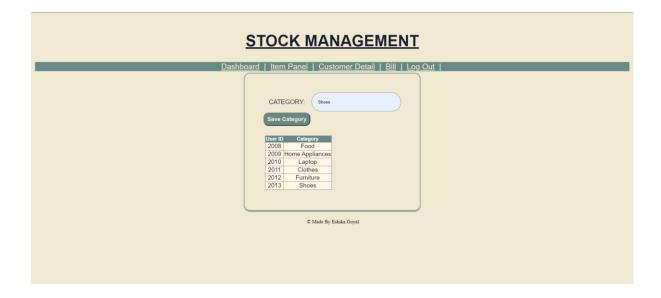
6.1.4 Admin Page



6.1.5 Category Page



6.1.5 After Edit



6.1.6 Brand Page



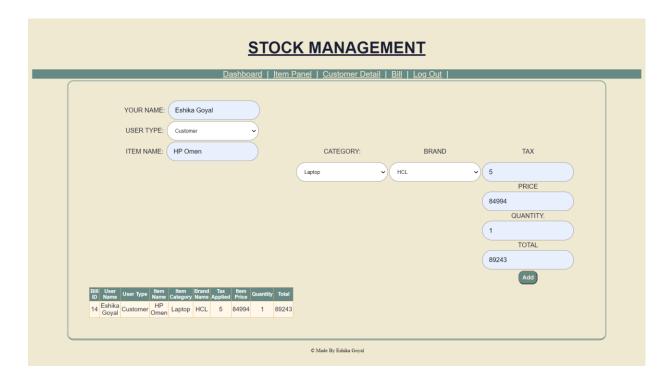
6.1.6.1.1 After Edit



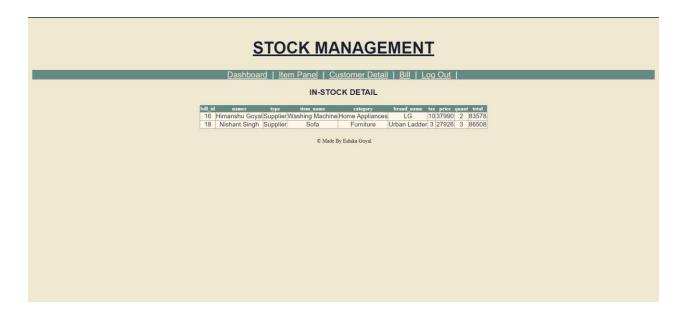
6.1.7 Bill Page



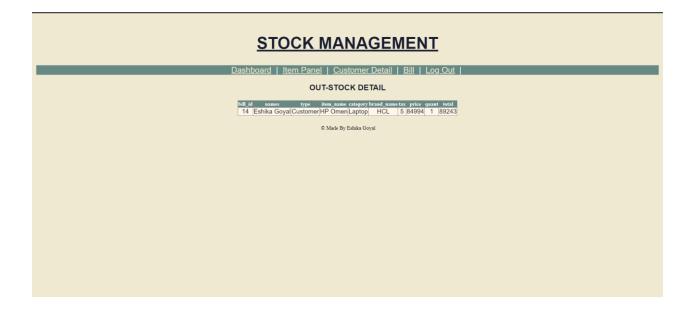
6.1.7.1 After Edit



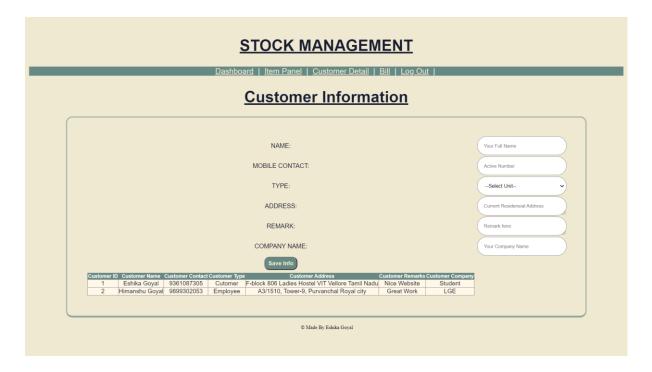
6.1.8 In-Stock Page



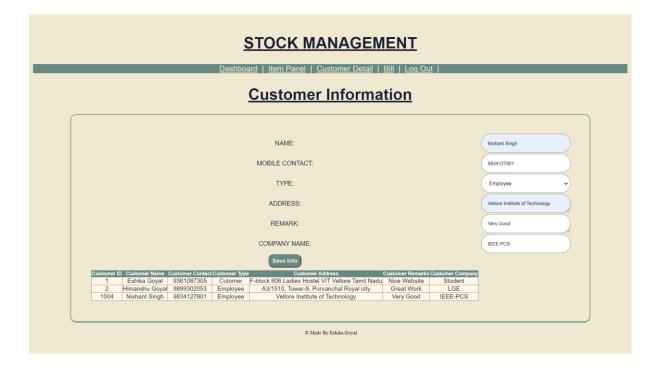
6.1.9 Out-Stock Page



6.1.10) User Detail Page



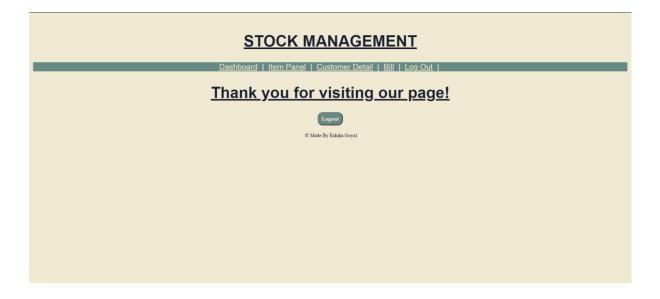
6.1.10.1 After Edit



6.1.11 Email Page



6.1.12 Logout Page



7 TESTING

Testing is a process, which reveals errors in the program. It is the major quality measure employed during software development. During software development. During testing, the program is executed with a 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 perform.

In order to make sure that the system does not have errors, the different levels of testing strategies that are applied at differing phases of software development are:

7.1 Unit Testing:

Unit Testing is done on individual modules as they are completed and become executable. It is confined only to the designer's requirements. Each module can be tested using the following two Strategies:

i) Black Box Testing:

In this strategy some test cases are generated as input conditions that fully execute all

functional requirements for the program. This testing has been uses to find errors in the following categories:

- a) Incorrect or missing functions
- b) Interface errors
- c) Errors in data structure or external database access
- d) Performance errors
- e) Initialization and termination errors.

In this testing only the output is checked for correctness.

The logical flow of the data is not checked.

ii) White Box testing:

In this the test cases are generated on the logic of each module by drawing flow graphs of that module and logical decisions are tested on all the cases. It has been uses to generate the test cases in the following cases:

- a) Guarantee that all independent paths have been Executed.
- b) Execute all logical decisions on their true and false Sides.
- c) Execute all loops at their boundaries and within their operational bounds.
- d) Execute internal data structures to ensure their validity.

7.2 Integrating Testing:

Integration testing ensures that software and subsystems work togethers a whole. It tests the interface of all the modules to make sure that the modules behave properly when integrated together.

7.3 System Testing:

Involves in-house testing of the entire system before delivery to the user. It's aim is to satisfy the user the system meets all requirements of the client's specifications.

7.4 Acceptance Testing:

It is a pre-delivery testing in which entire system is tested at client's site on real world data to find errors.

7.5 Test Approach:

Testing can be done in two ways:

- Bottom up approach
- Top down approach

7.5.1 Bottom up Approach:

Testing can be performed starting from smallest and lowest level modules and proceeding one at a time. For each module in bottom up testing a short program executes the module and provides the needed data so that the module is asked to perform the way it will when embedded with the larger system. When bottom level modules are tested attention turns to those on the next level that use the lower level ones they are tested individually and then linked with the previously examined lower level modules.

7.5.2 Top down approach:

This type of testing starts from upper level modules. Since the detailed activities usually performed in the lower level routines are not provided stubs are written. A stub is a module shell called by upper level module and that when reached properly will return a message to the calling module indicating that

proper interaction occurred. No attempt is made to verify the correctness of the lower level module.

7.5 Validation:

The system has been tested and implemented successfully and thus ensured that all the requirements as listed in the software requirements specification are completely fulfilled. In case of erroneous input corresponding error messages are displayed.

8 Implementation & Maintenance

8.1 User Manual:

8.1.1 Login:

If you (end user) want to enter into the form, then if you are admin user then you should enter through login form which checks for authorized access. If you are normal user then you to need to be created by the administrator then only this user will be allowed to start the operations. Adding the user details through registration form with your own identification name and password which gives you an unique identification to you and firm.

8.1.2 Employees & User Management:

An administrator can create, edit and delete the employees information. He can also create a user of type administrator or a normal employee.

9 CONCLUSION

Any system intended to fit an organization's needs relies on collaboration throughout the implementation stage, as well as the system's flexibility to adapt to the company.

"Stock Management System" was created to address the issues with traditional large-scale stock management. Online application access from a single site across all products, less manual effort, data storage in a secure centralised location, and speedy creation of reports tailored to our needs are all advantages over previous manual methods.

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- SQL SERVER: https://www.microsoft.com/en-in/sql-server/sql-server-downloads