GROCERY SHOP MANAGEMENT SYSTEM

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TITLE: **GROCERY SHOP MANAGEMENT SYSTEM**

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[Rida Aslam D/O Muhammad Aslam]

[Reg No.2016-ag-3840]

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ABSTRACT:

An online shopping system that permits a customer to submit online orders for items and/or services from a store that serves both walk-in customers and online customers. The online shopping system presents an online display of an order cut off time and an associated delivery window for items selected by the customer. The system accepts the customer's submission of a purchase order for the item in response to a time of submission being before the order cut off time. The online shopping system does not settle with a credit supplier of the customer until the item selected by the customer is picked from inventory but before it is delivered. Therefore, the customer can go online and make changes to the order. In addition, available service windows are presented to the customer as a function of customer selected order and service types and further, the order picking is assigned in accordance with a picker's preference. When ordering goods, many shopping systems provide a virtual shopping cart for holding items selected for purchase. Successive items selected for purchase are placed into the virtual shopping cart until a customer completes their shopping trip. Virtual shopping carts may be examined at any time, and their contents can be edited or deleted at the option of the customer. Once the customer decides to submit a purchase order, the customer may print the contents of the virtual shopping basket in order to obtain a hard copy record of the transaction.

CHAPTER 1

INTRODUCTION

1.1 Introduction:

Grocery Shop was a creative art based community project delivered by 42nd Street in the Old Trafford area of Greater Manchester between March - May 2015. Its main purpose was to engage young people in creative activities, to make items to be sold to community members and to make young people in the area aware of the support services available to them through 42nd Street.

42nd Street is a young person's mental health charity in Manchester with a 30 year track record of providing services and opportunities to young people under stress.' (42nd Street 2015). Itcreated the grocery Shop project as a way to engage young people, who were attending a variety of groups in the area, through arts-based activities. In doing so it provided recreational activity, informal skills development, and an opportunity to collaborate in a small social enterprise. It also raised awareness of what 42nd Street could offer to individuals and existing community groups.

The idea was to encourage young people to set up their own shop, to make their own products and to sell them to local community members. The shop was essentially a social enterprise

which aimed to introduce young people to the idea of 'gift giving', with any money raised from this venture to be re-invested into the groups that had participated in the project.

1.2 Objective:

small grocery store companies have many objectives. They usually outline these objectives in their business plans well before the start of new fiscal years. These companies can best reach their objectives by staying customer-focused, offering products and services their customers want. That is why most grocery store companies also develop comprehensive marketing plans to reach their key objectives. Marketing plans

help the owners better define their target customers and store concepts, such as whether they serve specialty markets like organic food eaters. Objective of the Project The objectives for this project are as below: i. To develop a smart shopping system using active RFID. ii. To investigate the active tags orientation in a trolley. iii. To analyze the factors that influences the reading range of RFID. iv. To determine the duration of time taken using RFID compare to the barcode.

1.3 Need of project:

Problem Statement When shopping at the supermarket, the consumers always faced with a problem of waiting a little longer at the payment counter. This is because they have to wait for the cashier to scan the product price one by one to get the total price or cost. This situation will get worsen if there are many consumers buy a lot. Nowadays, most of the products are equipped with the bar code. Therefore, to get the price, the product has to be scan individually by the scanner. To address these issues, RFID technology can be used as an alternative to improve the efficiency of the payment process. RFID technology will be used to develop a new method of payment system. This new system will be able to read the prices of all products in a trolley and then display the total price at one.

1.4 Environment of PHP:

PHP precisely , PHP is a very powerful server-side scripting language for developing dynamic web application . using PHP, one can build interactive and dynamic websites with ease. PHP script can be embedded straight into the heart of html code. PHP is compatible with various web servers like apache and the Microsoft‘s IIS as well. All the PHP scripts are executed on the server and its supports various databases like MYSQL, oracle, solid, generic ODBC etc ; however ,it is mostly used with MYSQL ,SQL . SQL stand for structured query language. SQL lets us access and manipulate databases. SQL is an ANSL (American National Standards Institute) standard . the front end will be HTML pages for client side validation with java script where as all business logics will be in java reside at middle layer. Third layer of databases will be interacted with these layers ,which would be oracle database .SQL can executed queries against a database , retrieve data from a database , insert, update ,edit, delet.

WAMP server because PHP based software always run through local host servers. Basically WAMP server is a utility designed to allows you create web application and manage your server and databases. WAMP server is windows web development environment. It allows you to create web application with Apache 2, PHP and a MY SQL databases.

WAMP servers the only packaged solution that will allow you to reproduce your production server. Once WAMP server installed ,you have the possibility to add as many MYSQL,PHP releases as you want. WAMP server also has a tray icon to manage your server and its settings.

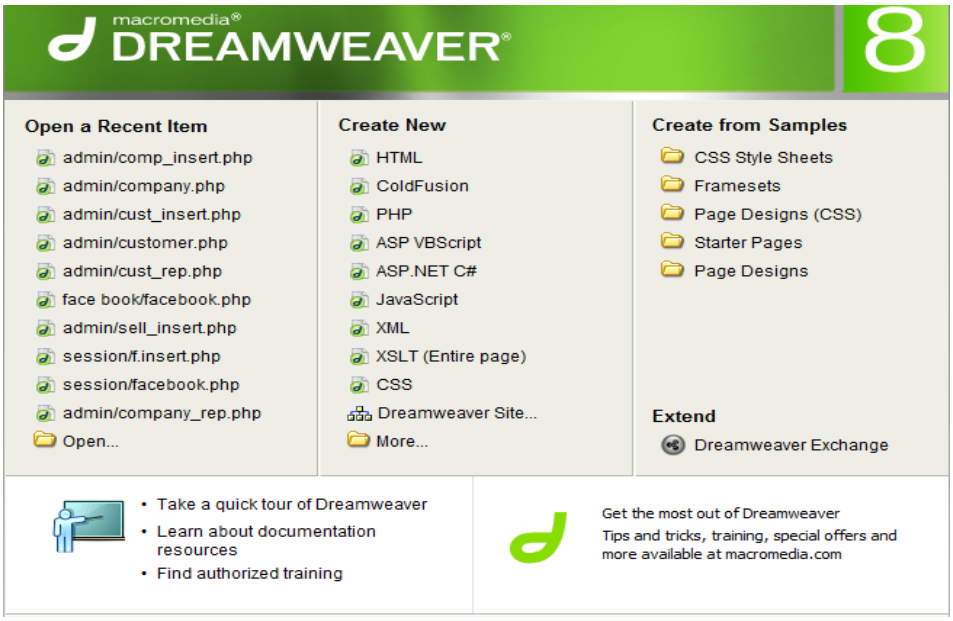


Figure 1 : Dreamweaver

1.5 Database:

This project help to maintain the database of grocery shop management we can access any information of shop easily and can be kept safely for long period of fine without any damage project distribution subsystem are fundamental component of any information system .As information moved to digital form, storage system evolved into various forms of database systems. In the admin can check the all details of his shop and also manage all data.

INTRODUCTION

We have a strong specialization in database and web system and technologies. The database coursework consist of classes storage covering both fundamental concepts of modern database management systems (DBMS) and advanced issues that typically of data management.

The web system course work introduces current web technology including XML ,and new distributed architectures for services provision . hands –on projects will teach you technology that can be applied to solve an organization ‘s information processing needs.

If you specialize in database and web system , career option include position such as a system analyst ,system architect, database administrator ,data steward ,senior programmer /analyst, design analyst, and web services manager.

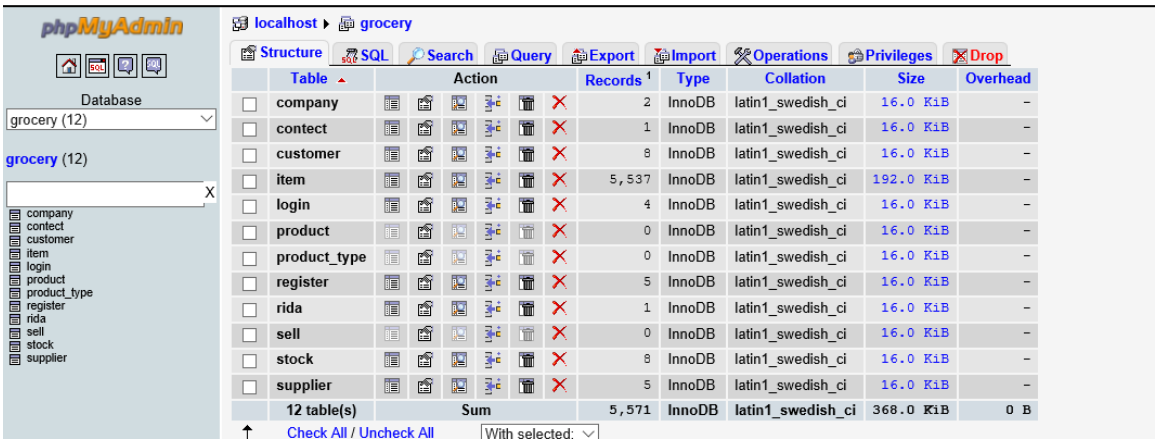


Figure 2 : WAMP SERVER

The easiest way to manage database creation and versioning, is to create a subclass of SQLite Open Helper. SQLite Open Helper will ease the management of your SQLite database tremendously, by opening databases when needed, creating databases if they do not exist as well as upgrading or downgrading as necessary.

1.7 Software (Tools &Technologies)

- Requirements: Dreamwever
- Language: php

1.8 Previous system:

Beginning as early as the 14th century, a grocer (or "purveyor") was a dealer in comestible dry goods such as , sugar, and tea, and coffee. These items were bought in bulk, hence the term grocer from the French "grosser" (meaning wholesaler), in turn derived from the Medieval Latin term "glossaries",[1] from which the term "gross" (meaning a quantity of 12 dozen, or 144) is also derived.

As increasing numbers of staple food -stuffs became available in cans and other less-perishable packaging, the trade expanded its province. Today, grocers deal in a wide range of staple food-stuffs including such perishables as dairy products, meats, and produce. Such goods are, hence, called grocery.

In some countries such as the United States, grocery stores descended from trading posts, which sold not only food but clothing, furniture, household items, tools, and other miscellaneous merchandise. These trading posts evolved into larger retail businesses known as general stores. These facilities generally dealt only in "dry" goods such as baking soda, canned foods, dry beans, and flour. Perishable foods were obtained from specialty markets, i.e., fresh meat from a butcher and milk from a local dairy, while eggs and vegetables were either produced by families themselves, bartered for with neighbours, or purchased at a farmers' market or a local greengrocer.

Many rural areas still contain general stores that sell goods ranging from tobacco products to imported napkins. Traditionally, general stores have offered credit to their customers, a system of payment that works on trust rather than modern credit cards. This allowed farm families to buy staples until their harvest could be sold

1.9.Advantages of Proposed System:

Benefits of Using Retail POS System for grocery shop. Grocery shop is a large form of the traditional grocery store and a self-service shop offering a wide variety of food and household products, organized into aisles. It is larger in size and has a wider selection than a traditional grocery store, but is smaller and more limited in the range of merchandise than a hypermarket or big-box market. When designing POS system for Supermarket, These need to be considered Retail POS System and ecommerce on a single platform with core operational business systems—inventory and order management,

CRM, business intelligence, warehouse management, marketing and financials. 1. Inventory: A Supermarket usually stock several thousand types of products with only little people to manage everything of the store. It will be huge work load to manage all these products manually. POS system provides a convenient way to manage all products easily. 2. Customer Relationship Management (CRM): keep a complete profile of every customer who has shopped in your store. Customer information typically includes demographics, preferences and purchase history. Using CRM features will allow you to target market and send promotions to customer based on purchasing history or **other specific** customer preferences. 3. Purchasing and financials: a Point of Sale system will help you replenish items efficiently and negotiate lower vendor costs. Purchase orders can be tracked by order date, receive date and cancel date so you can take the appropriate action on your open orders. Support the payment by credit card, the convenience of our customers shopping. 4. Reduce the labor force: Labor is typically the largest expense in a retail store outside the cost of the products being sold. Cash Register Express™ has integrated time-clock and labor scheduling functionality to help you manage staffing and reduce labor costs. Before the supermarket may spend countless hours calculating profits, expenses and payroll and performing a variety of manual tasks in order to run their business. The Cash Register Express ™ contains dozens of built - in the tools to help retailers streamline administrative tasks and manage their retail stores more efficiently

1.10 System Design:

There are two main function of this project.

- Admin
- user

1.10.1 Admin:

- Add items
- Add supplier
- Add worker
- Login

1.10.2 user:

- Select category
- Select product
- payment
- Change password
- Logout

1.11Fornt end of grocery shop:

Use a powered in-feed conveyor to help cashiers bring the items to their best work zone, rather than leaning and reaching to get items further up the conveyor. Use a "sweeper" to move items on the conveyor within the checker's reach. Locate commonly used items such as the cash drawer and printer within easy horizontal reach. Place in-feed and take-away conveyor belts as close as possible to the cashier to minimize reaching. Consider using checkstands designed with an adjustable sit/stand or lumbar support against which cashiers can lean. Remove, round-off, or pad sharp or hard edges with which the cashier may come into contact. Fornt end Guidelines for Retail Grocery Stores .Set scanners and conveyors at the same height so that cashiers can slide items across rather than lift them. Establish a regular maintenance schedule for scanners; clean dirty plates and replace scratched ones. Use combined scales/scanners. Provide an adjustable-height bag stand. In bagging areas, the tops of plastic bags should be just below conveyor height. To avoid extended reaches when loading bags into carts, move carts closer to the employee. Use bags with handles. Handles make the bags easier and less stressful to carry. Use carts to carry bags and groceries outside the store. Consider using powered-tugs when retrieving carts from the parking area. Powered tugs facilitate moving more carts with more efficiency and less effort. Consider using keyboards to enter the quantity of identical products rather than scanning each individual item. Use keyboard to enter code if item fails to scan after second attempt. Place keyboards on supports that adjust in height, horizontal distance and tilt to keep work within the preferred work zone. Use front facing checkstands to reduce twisting motions and extended reaches to the side. Adjust the checkstand height to match the cashier's waist height, or use a platform. Place cash

register displays at or slightly below eye level. Use scan cards or scan guns for large or bulky items to eliminate.

CHAPTER 2:

METHODOLOGY

2.1 METHODOLOGY:

The overall system should be tested before the product is delivered. This is done by using all the hardware's and software's involved or interacted with the system.

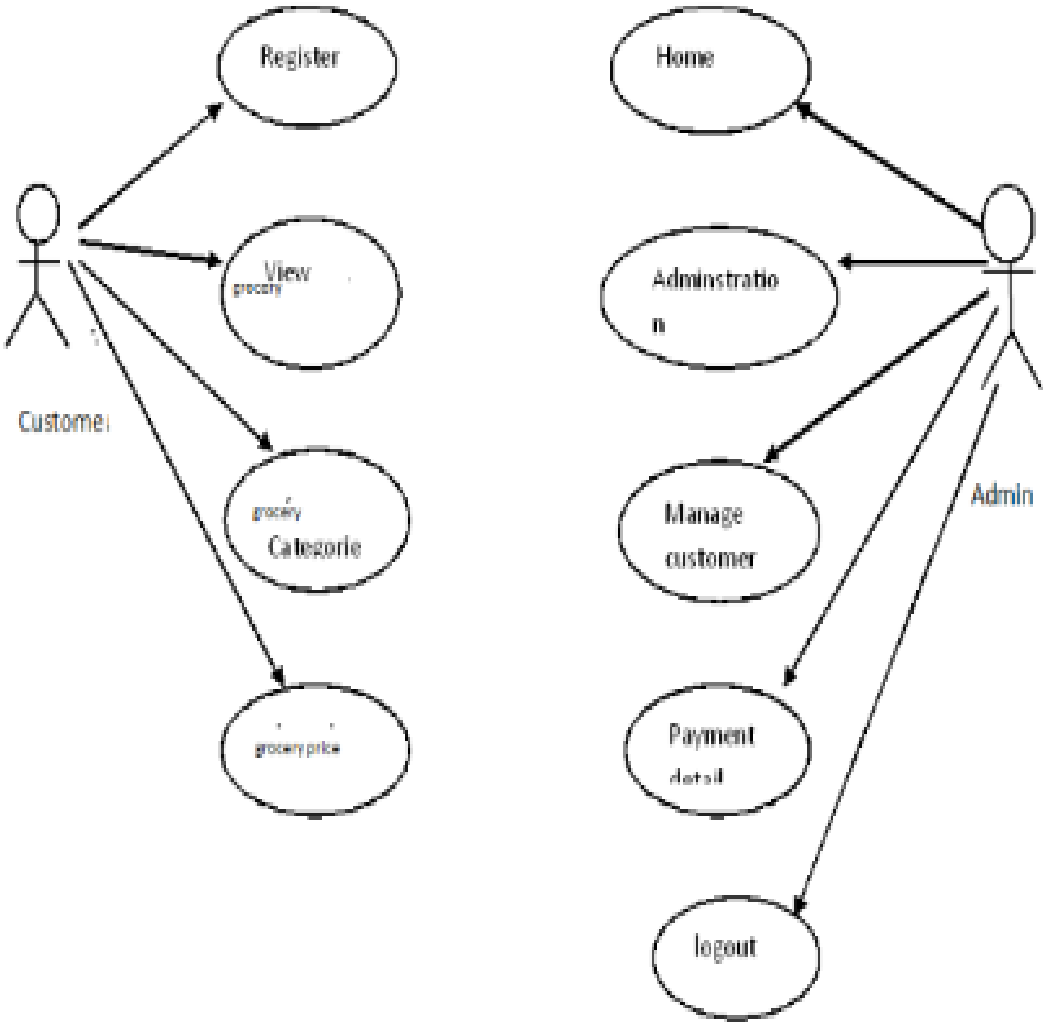
2.2 The software Development Lifecycle:

Software Development lifecycle (SDLC) is a process used by the software industry to design, develop and test high quality software. The SDLC aims to produce a high – quality software that meets exceeds customer expectations, reaches completion within times and cost estimates.

SDLC is a process followed for a software project, within a software organization. It consist of a detailed plan describing how to develop, maintain, replace and alter or enhance specific software. The lifecycle defines a methodology for improving the quality of software and overall development process overall development process.

A SDLC is composed of a number of clearly defined and distinct work phase which are used by engineers and system developers to plan for design, build, test and deliver information systems.

2.2.1 Use case diagram:



2.1.3.Agile Model:

Agile SDLC model is a combination of iterative and incremental process models with focus on process adaptability and customer satisfaction by rapid delivery of working software product. Agile methods break the product into small incremental builds. These builds are provided in iterations. Each iteration

Typically lasts from about one to three weeks. Every iteration involves cross-functional teams working simultaneously on various areas like

- Planning
- Requirement Analysis
- Design
- Coding
- Unit Testing and acceptance testing

2.2.3 Unified Modeling Language(UML):

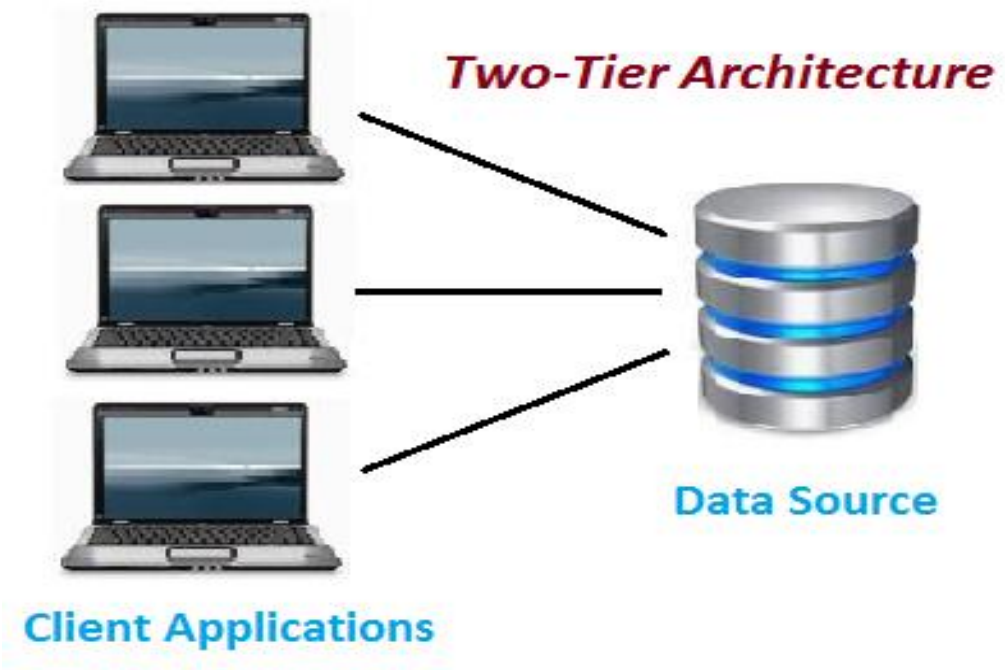
Unified modeling language has come in to with the rise of object oriented development and provides an unambiguous model of the system to be implemented. UML syntax and notations describes thoroughly and completely that how to use UML in the context of object oriented application development method.

I have used some of the UML diagrams in the object which are:

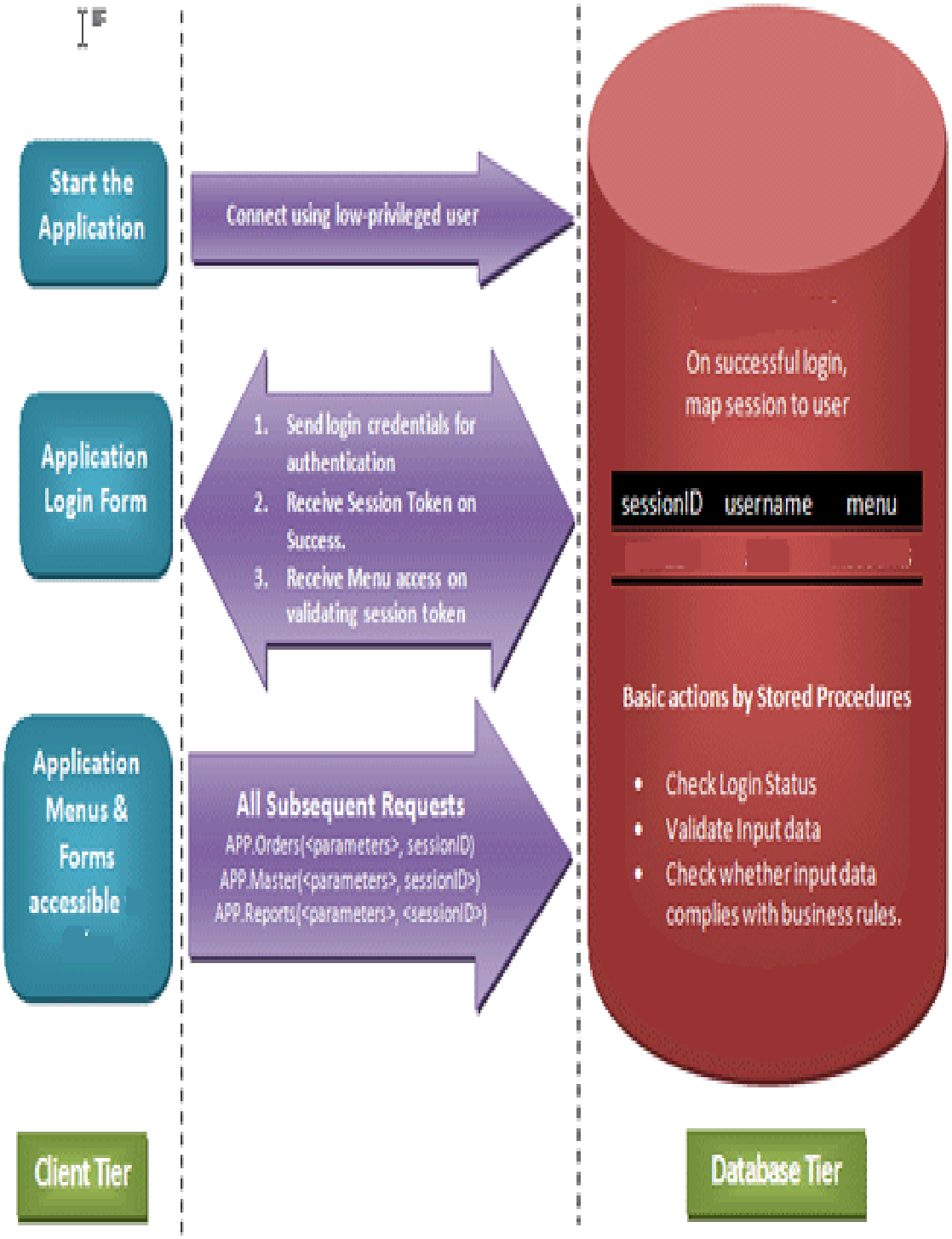
2.4. Architecture Design of purposed system:

The Project of grocery Shop and Inventory Management System use two-tier architecture. Our project will be on the base of two tier application architecture in which there will be the direct communication occurs between the client and server. That means that our project will run on the same system on which data about our project has been saved. The direct communication takes place between client and database means peer to peer communication,

- Application (Client tier)
- Database (Database tier)

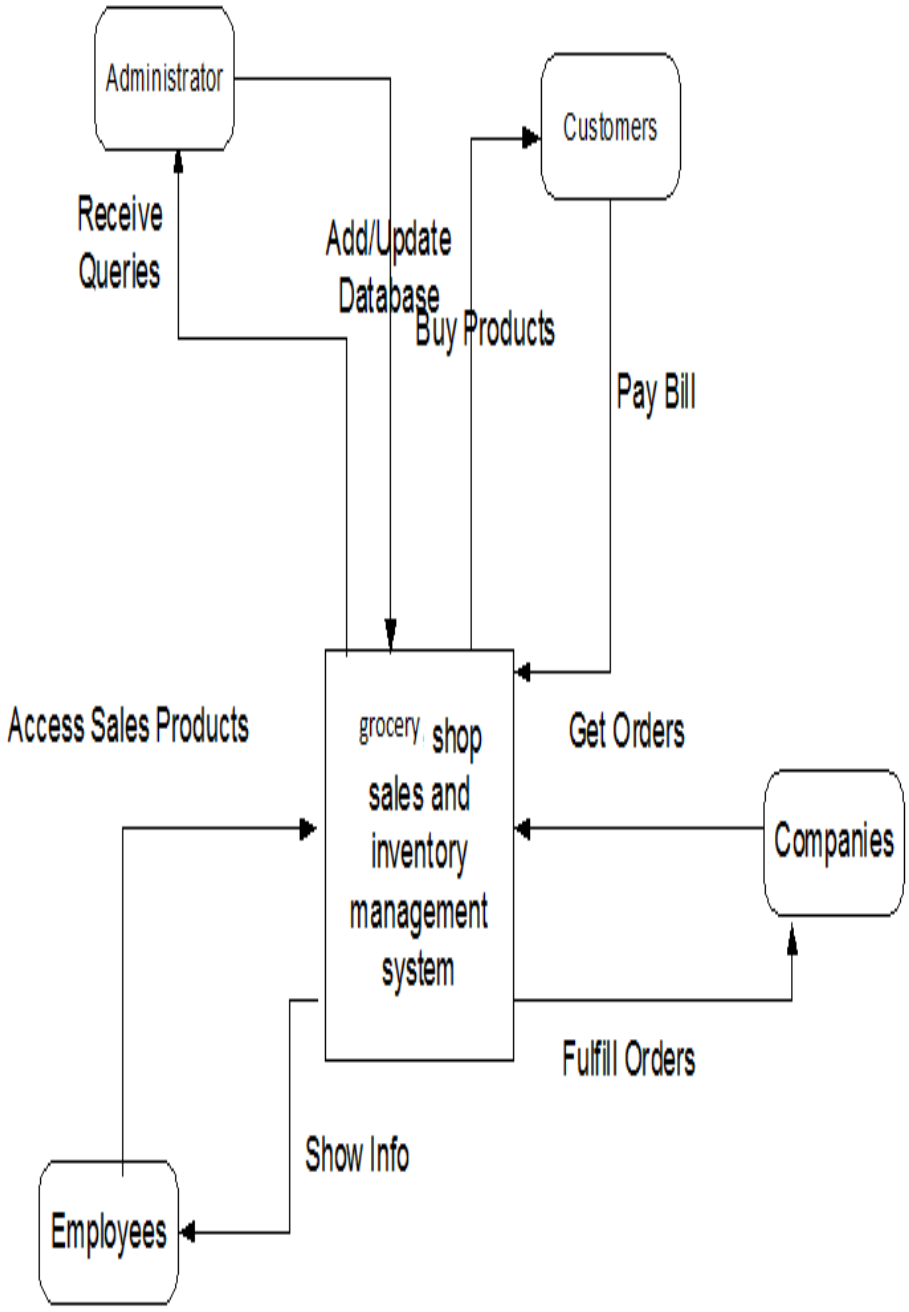


METHDOLOGY


Start the Application
Connect using low-privileged user
On successful login, map session to user
sessionID username menu
Application Login Form
1. Send login credentials for authentication
2. Receive Session Token on Success.
3. Receive Menu access on validating session token
Basic actions by Stored Procedures
• Check Login Status
• Validate Input data
• Check whether input data complies with business rules.
Application Menus & Forms accessible
All Subsequent Requests
APP.Orders(<parameters>, sessionID)
APP.Master(<parameters>, sessionID>)
APP.Reports(<parameters>, <sessionID>)
Client Tier
Database Tier

2.5. Context Level Data Flow Diagram:

A data flow diagram (DFD) is a graphical representation of the "flow" of data through an information system, modeling its process aspects. .



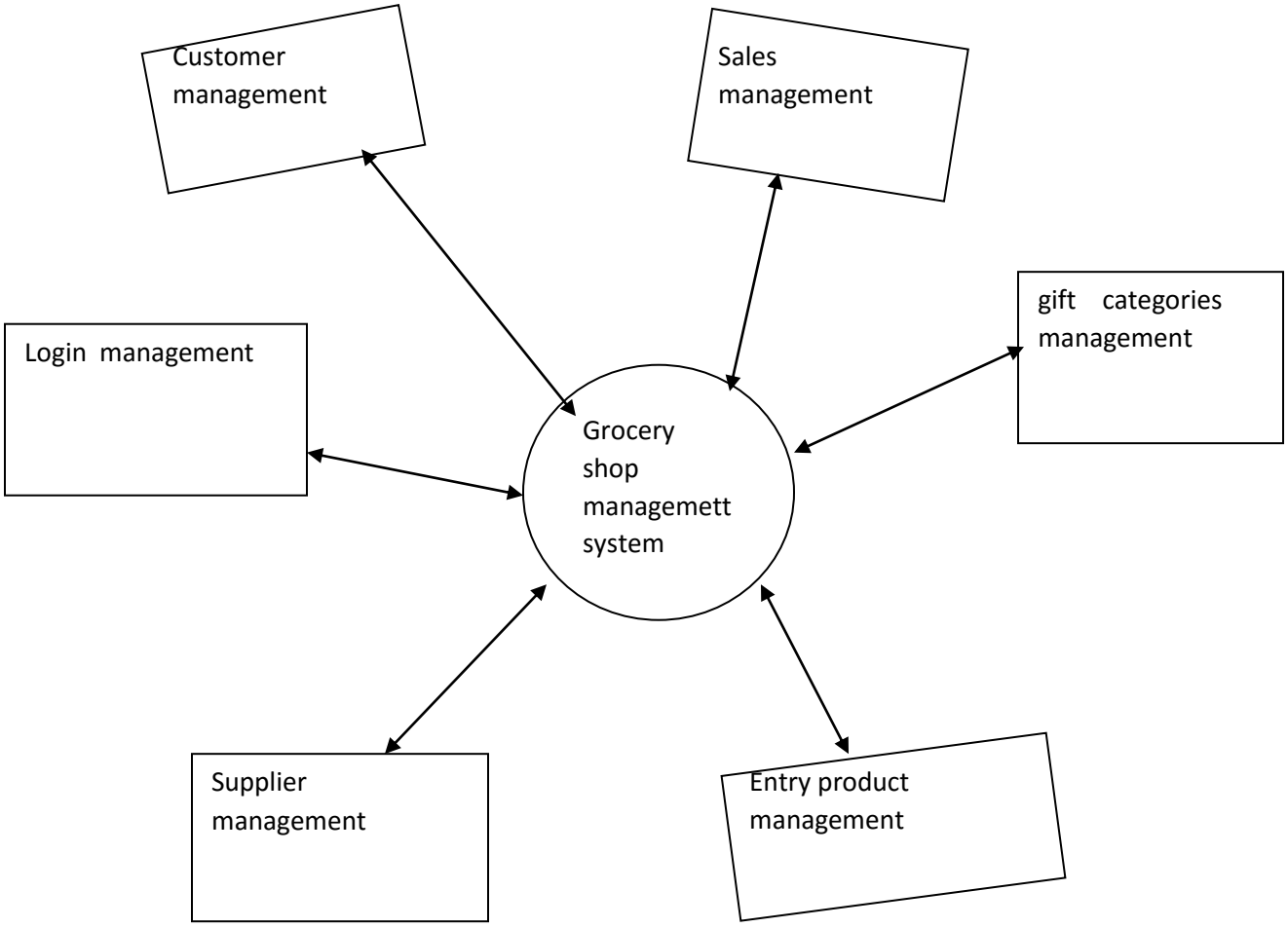
2.6. Use case:

Use case is a more detailed description of the processes used to accomplish the system function. An expanded use case is built upon a high level use case.

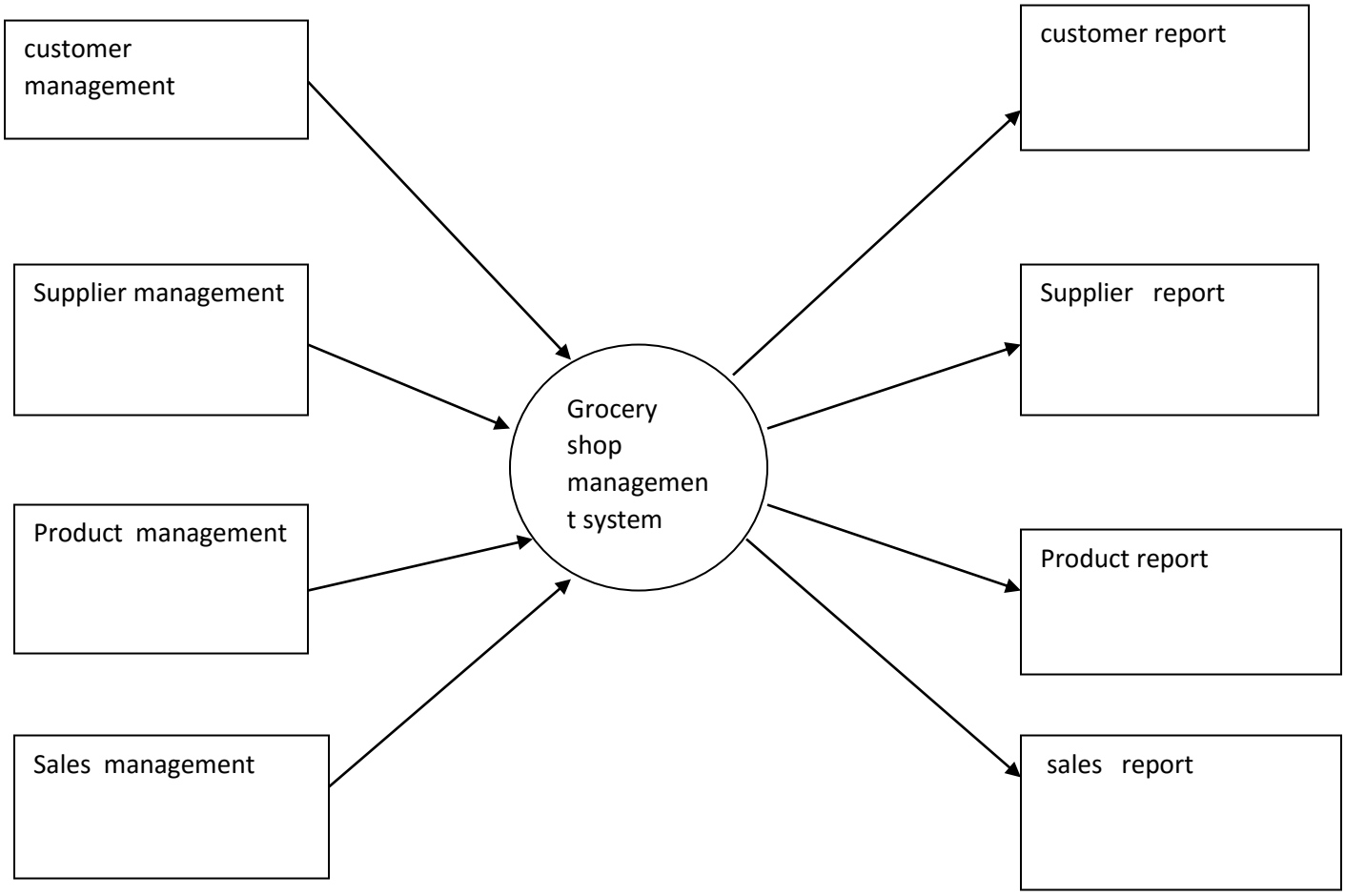
2.6.1.Data flow diagram

0 level DFD

Zero level of car showroom management system where we have elaborated the high level process of car showroom. Its basic overview of the whole car showroom management system or process being analyzed or modeled.

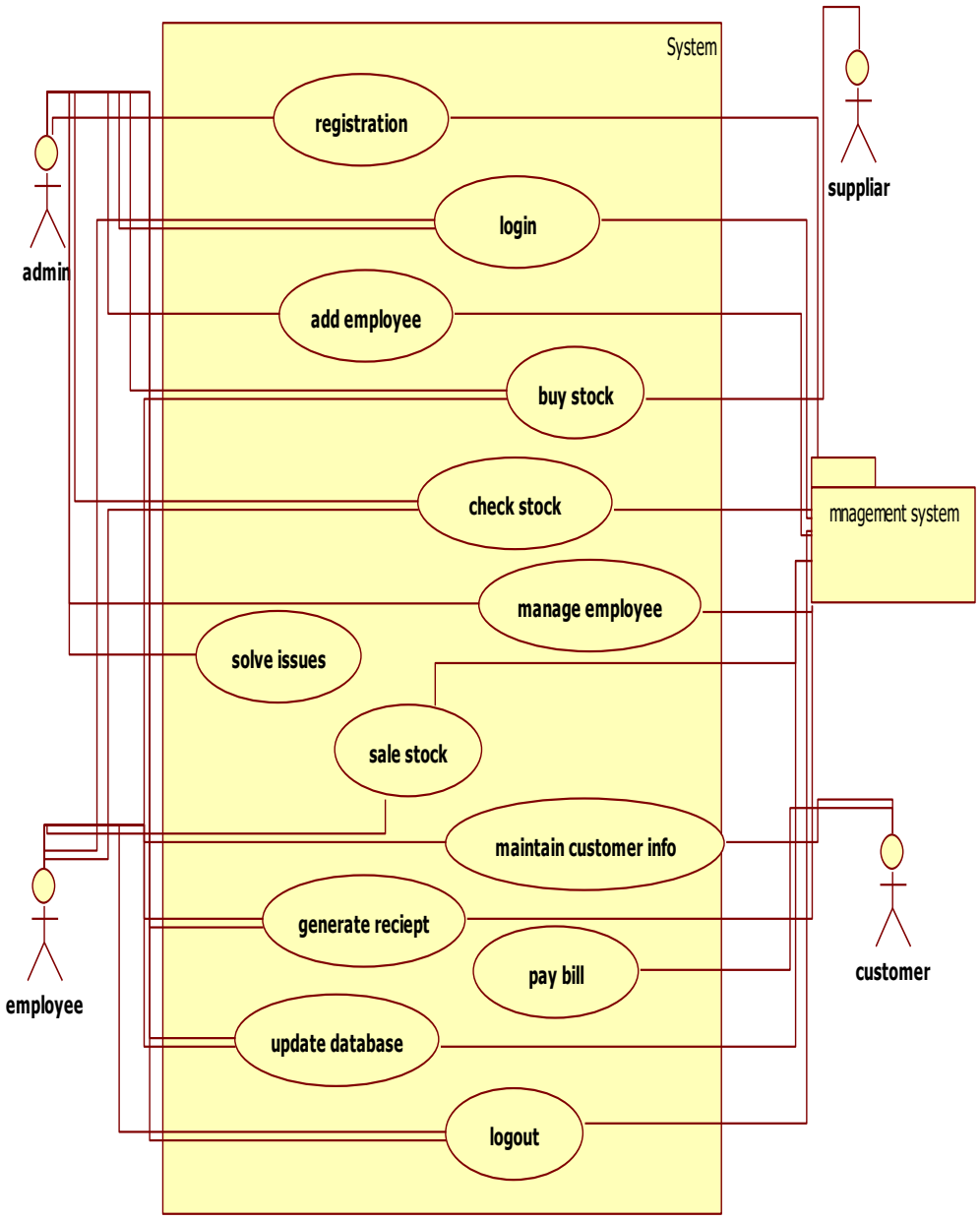


2.6.2. 1 level of DFD:

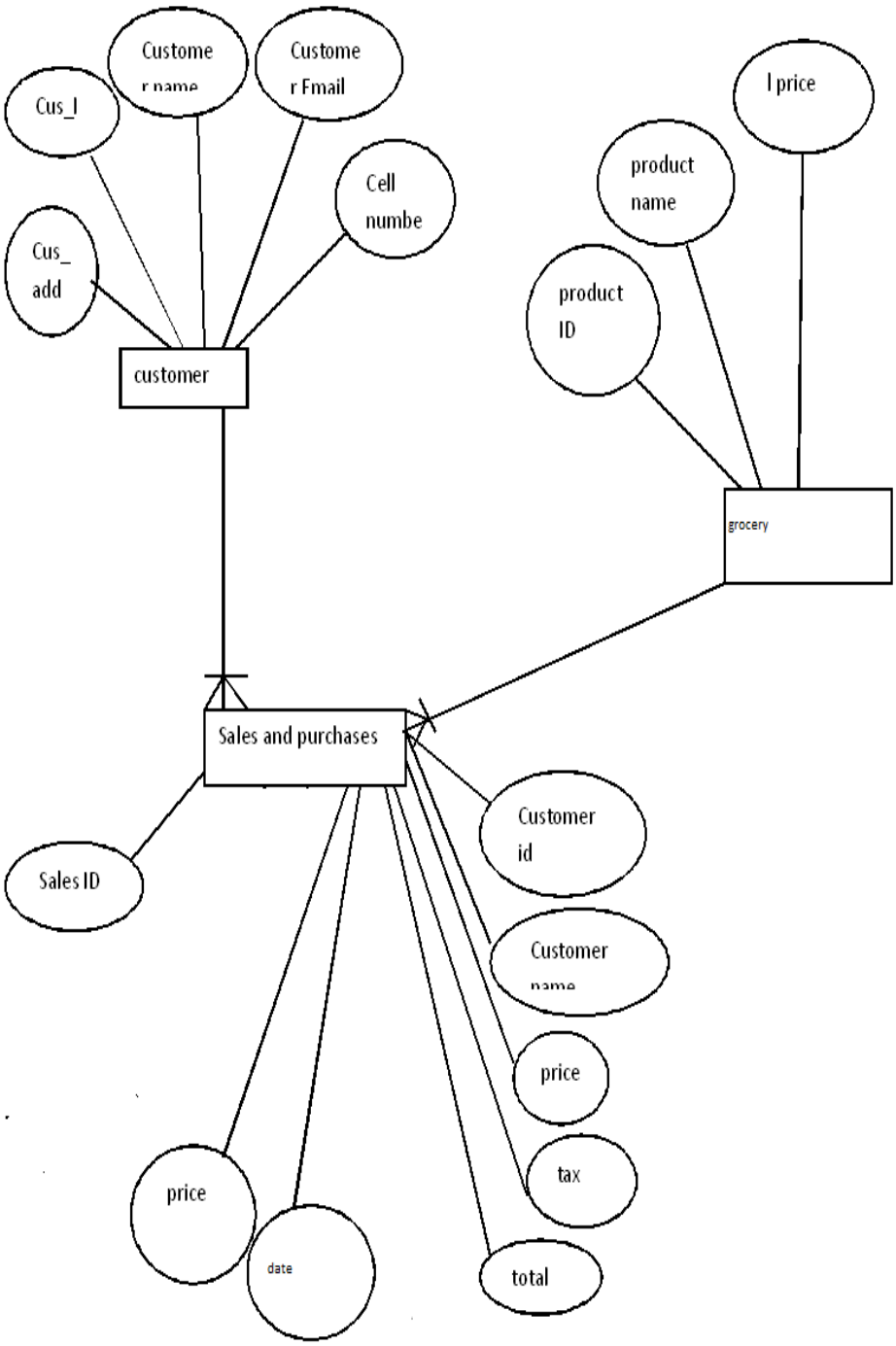


2.6.2. Diagram:

Example:



2.6.3.Entity relationship Diagram (ERD):



2.7. Analysis Level Use case Diagram:

Analysis high level use case diagram represents the functionalities that how the use case meet the system reached to their functionalities. This is the expedition of the high level system diagram

2.7.1. Use case Description:

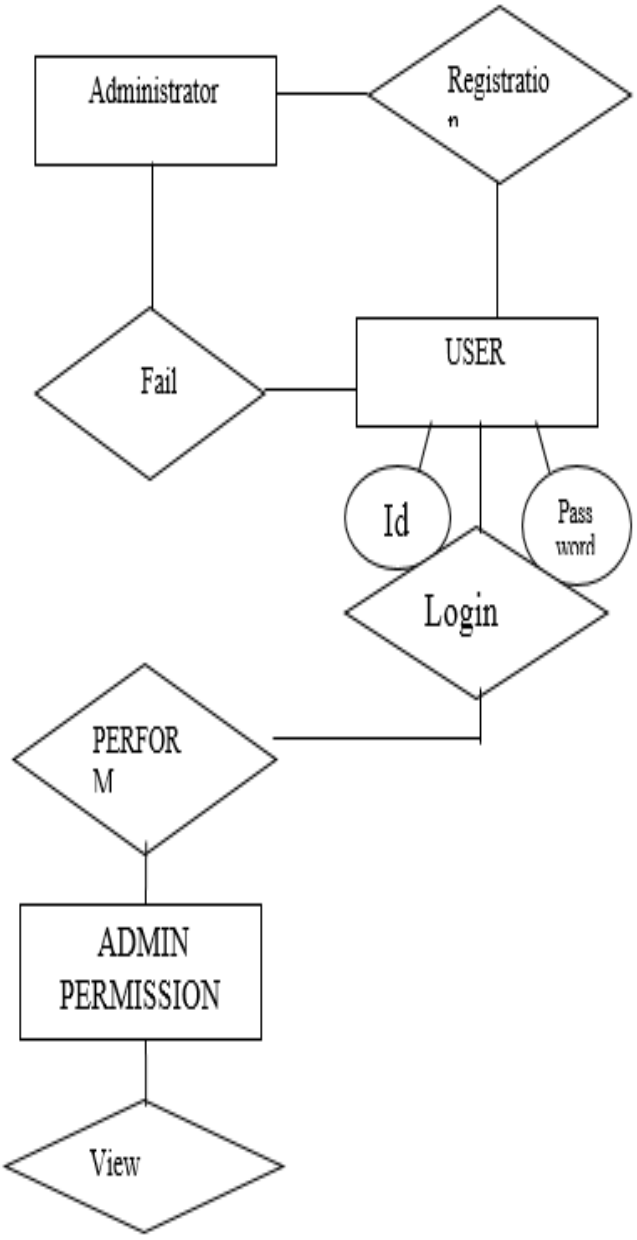
1-Use case of User login:

Name:	User login
Scope:	grocery Shop Management System
Level:	User level
Primary actor:	User etc.
Secondary actor:	System
Stakeholder and their interest:	Admin
Pre-condition:	Person must be login and account must be created.
Post condition:	User will access the functionalities and system.
Main success scenario:	User can view all information about stock and products.
Alternate Scenario:	No alternative

2.7.1 .E-R Diagram:

E-R Diagram

The Entity Relationship diagram for the System is given below

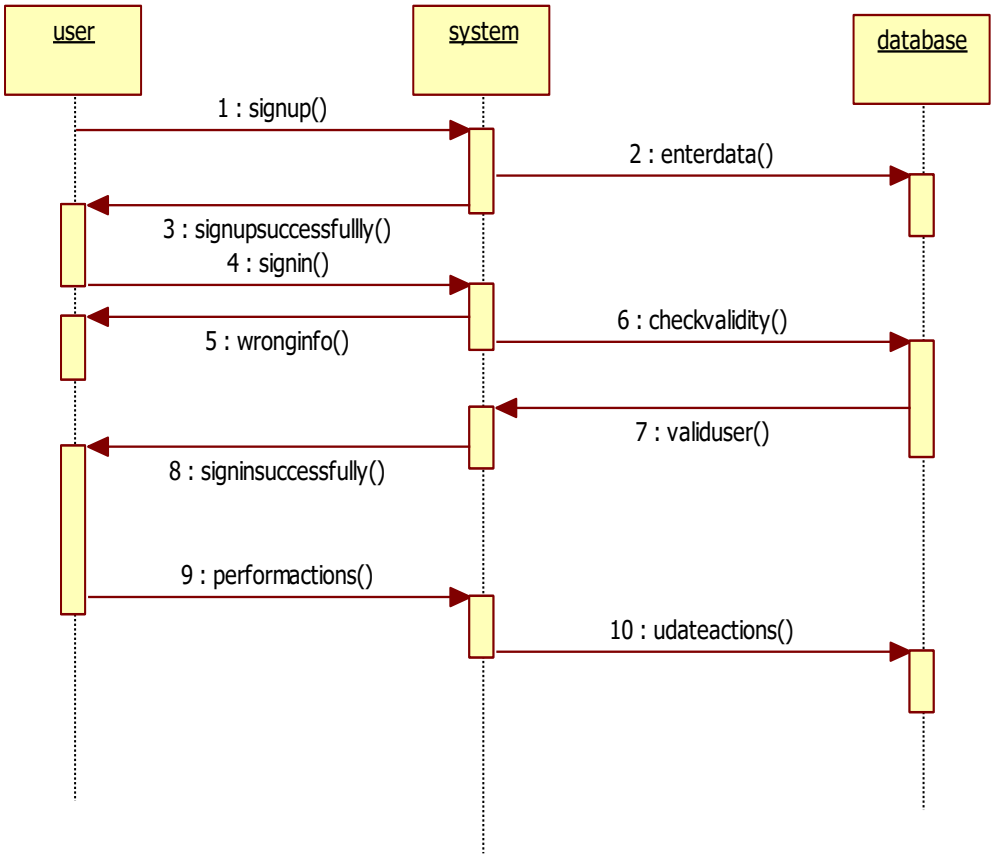


2.8. System Sequence Diagram:

The UML system sequence diagram (SSD) illustrates events sequentially input from an external source to the system. The SSD will define the system events and operations. System sequence diagrams are a timeline drawing of an expanded use case. Events are related by time with the top events occurring first. System events are the important items. These are events that cause a system response.

Use case text may be placed on the left side of the system sequence diagram if desired. If this is done it is best if the use case information lines up with the events in the system sequence diagram.

There may be more than one actor to the system. An actor may be an external automated system that the system may communicate with. Automated actors or robots are shown as actors with a line horizontally through the head.



2.9.Testing:

2.9.1. Purpose of Testing:

This portion is intended to deliver a high-level overview of "**grocery shop sales and management system**" Software Developers, System Engineers, and Testers (with a basic knowledge of software; what it is, how it is generally tested) will benefit from this document.

2.9.2. Project Overview:

This project mobile shop and inventory management system is a web based application which can track all the employee detail of their working, sale item detail, purchase detail and bill detail. The main goal of this software is to build good management tool. The mobile shop sales and inventory management system will make storing the stock record, sales detail and employee information in the database it will generate the bill when the customer will purchase the mobile.

In that system we will also imbed the functionality of the barcode reader to print out the bill of the items.

2.9.3.Scope of Testing:

All functional requirements should be tested in all possible ways. All possible combinations of inputs should be given to the system to check the reliability, correctness and consistency of the system.

2.9.4.Test Plan Strategy:

Following tests are to be performed for testing. There should be no ambiguity about any test methodology or other testing relevant material.

2.9.5. Functions to be tested:

Login function must be executed well without any exception
A user will be able to view main page without any delay
All web pages are able to load without any error

METHDOLOGY

Each and every built-in or user controls must work properly

Admin can view stock and manage employees without any error.

Employees can sale stock and generate receipt.

Admin can send e-mail and SMS to supplier.

METHDOLOGY

CHAPTER 3:

RESULT AND DISCUSSION

3.1Results and Discussion:

In some countries such as the United States, grocery stores descended from trading posts, which sold not only food but clothing, furniture, household items, tools, and other miscellaneous merchandise. These trading posts evolved into larger retail businesses known as general stores. These facilities generally dealt only in "dry" goods such as baking soda, canned foods, dry beans, and flour. Perishable foods were obtained from specialty markets, i.e., fresh meat from a butcher and milk from a local, while eggs and vegetables were either produced by families themselves, bartered for with neighbours, or purchased at a farmers' market or a local grocery.

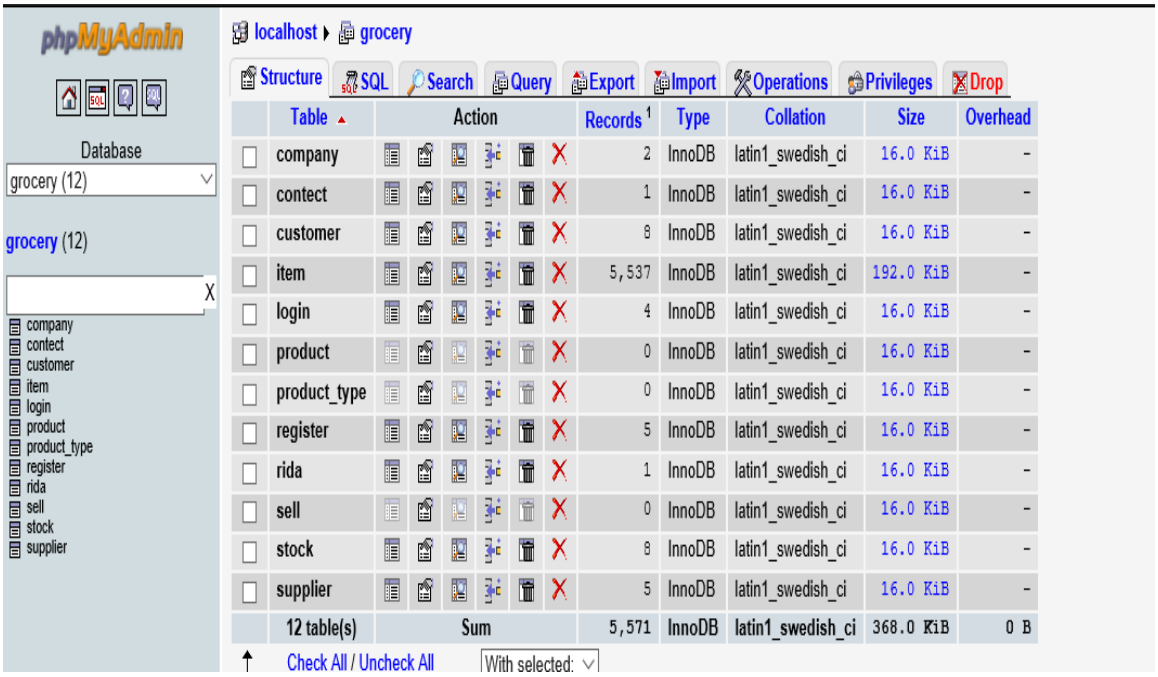
Many rural areas still contain general stores that sell goods ranging from tobacco products to imported napkins. Traditionally, general stores have offered credit to their customers, a system of payment that works on trust rather than modern credit cards. This allowed farm families to buy staples until their harvest could be sold.

3.2 Product Perspective:

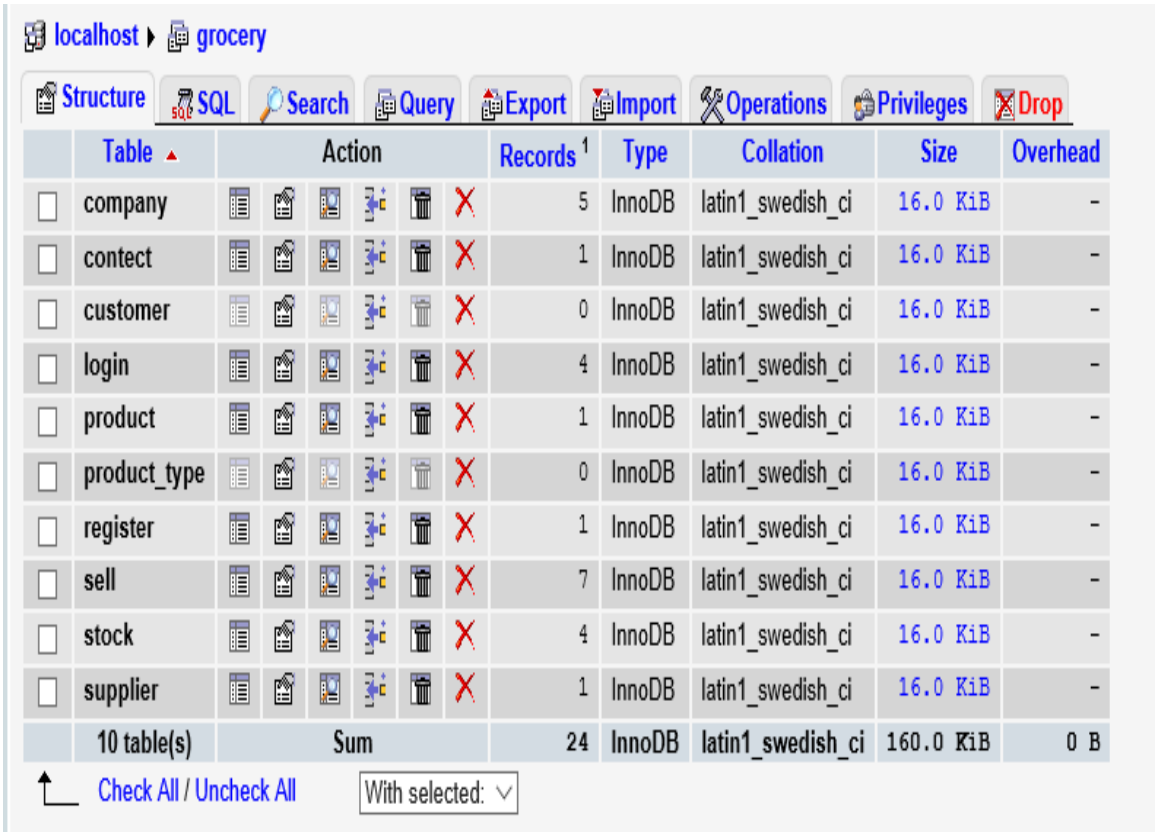
3.2.1 Product Function

- login
- Add product
- Select catagory
- Delete record
- View all record
- User name
- Password
- Change password

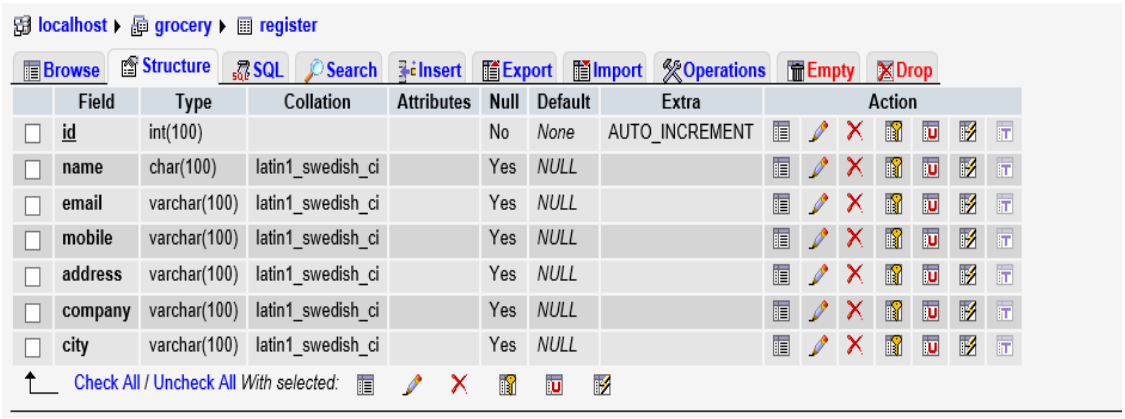
3.3 Data base design:



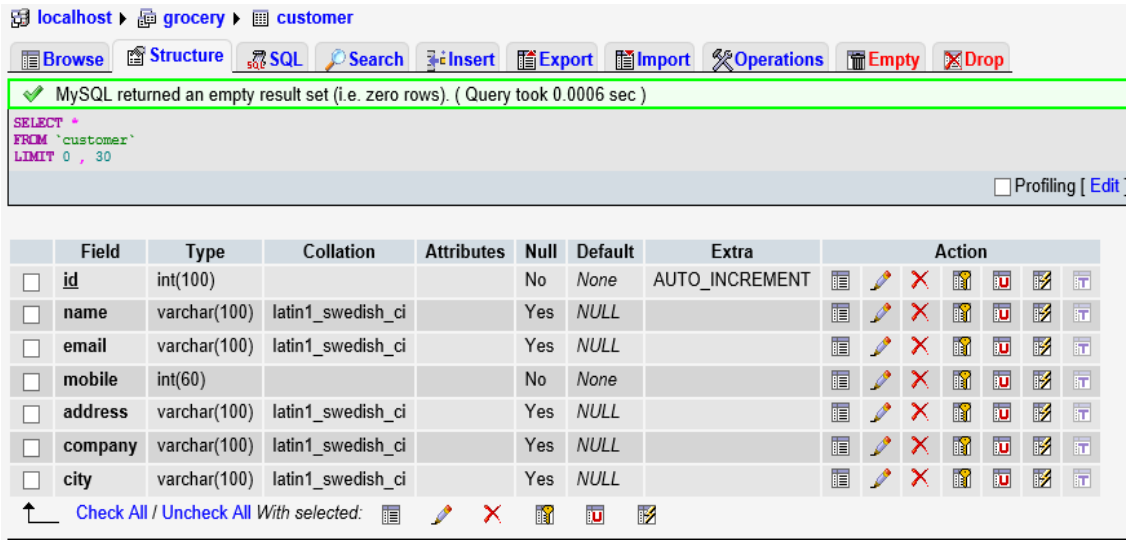
3.4 :Admin:



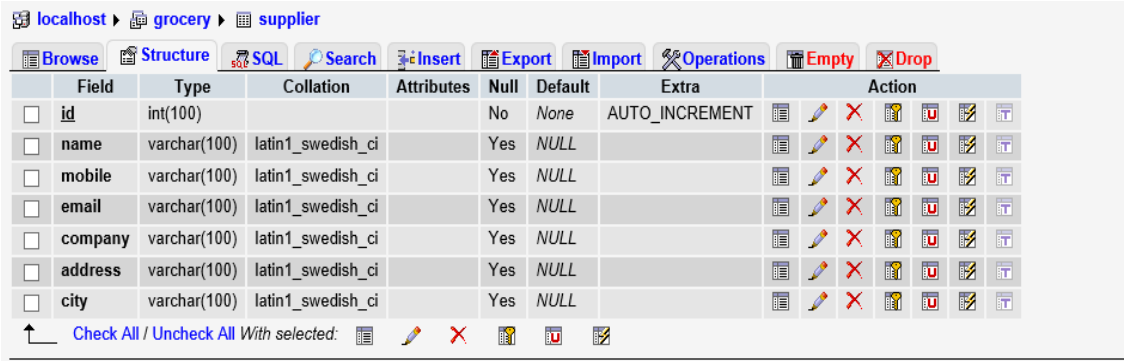
3.5:Register:



3.6:Customer:



3.7:Supplier:



3.8:Contect:

localhost ▸ grocery ▸ contect

Browse | Structure | SQL | Search | Insert | Export | Import | Operations | Empty | Drop

	Field	Type	Collation	Attributes	Null	Default	Extra	Action
☐	id	int(100)			No	None	AUTO_INCREMENT	
☐	name	varchar(100)	latin1_swedish_ci		Yes	NULL		
☐	email	varchar(100)	latin1_swedish_ci		Yes	NULL		
☐	password	varchar(100)	latin1_swedish_ci		Yes	NULL		
☐	company	varchar(100)	latin1_swedish_ci		Yes	NULL		
☐	message	varchar(100)	latin1_swedish_ci		Yes	NULL		
☐	mobile	varchar(100)	latin1_swedish_ci		Yes	NULL		

Check All / Uncheck All *With selected:*

3.9: Sell:

localhost ▸ grocery ▸ sell

Browse | Structure | SQL | Search | Insert | Export | Import | Operations | Empty | Drop

	Field	Type	Collation	Attributes	Null	Default	Extra	Action
☐	id	int(100)			No	None	AUTO_INCREMENT	
☐	name	varchar(100)	latin1_swedish_ci		Yes	NULL		
☐	email	varchar(100)	latin1_swedish_ci		Yes	NULL		
☐	mobile	varchar(100)	latin1_swedish_ci		Yes	NULL		
☐	address	varchar(100)	latin1_swedish_ci		Yes	NULL		
☐	city	varchar(100)	latin1_swedish_ci		Yes	NULL		

Check All / Uncheck All *With selected:*

3.10: Login:

localhost ▸ grocery ▸ login

Browse | Structure | SQL | Search | Insert | Export | Import | Operations | Empty | Drop

	Field	Type	Collation	Attributes	Null	Default	Extra	Action
☐	id	int(50)			No	None		
☐	email	varchar(50)	latin1_swedish_ci		No	None		
☐	passwors	varchar(11)	latin1_swedish_ci		No	None		

Check All / Uncheck All *With selected:*

3.11: Product:

localhost ▸ grocery ▸ product

Browse | Structure | SQL | Search | Insert | Export | Import | Operations | Empty | Drop

	Field	Type	Collation	Attributes	Null	Default	Extra	Action
☐	id	int(100)			No	None	AUTO_INCREMENT	
☐	product_name	varchar(100)	latin1_swedish_ci		Yes	NULL		
☐	select_type	varchar(100)	latin1_swedish_ci		Yes	NULL		
☐	select_company	varchar(100)	latin1_swedish_ci		Yes	NULL		
☐	product_unit	varchar(100)	latin1_swedish_ci		Yes	NULL		
☐	picture	varchar(100)	latin1_swedish_ci		Yes	NULL		
☐	description	varchar(100)	latin1_swedish_ci		Yes	NULL		

Check All / Uncheck All With selected:

3.12.Index Site Screenshots:

3.13.About page*:*

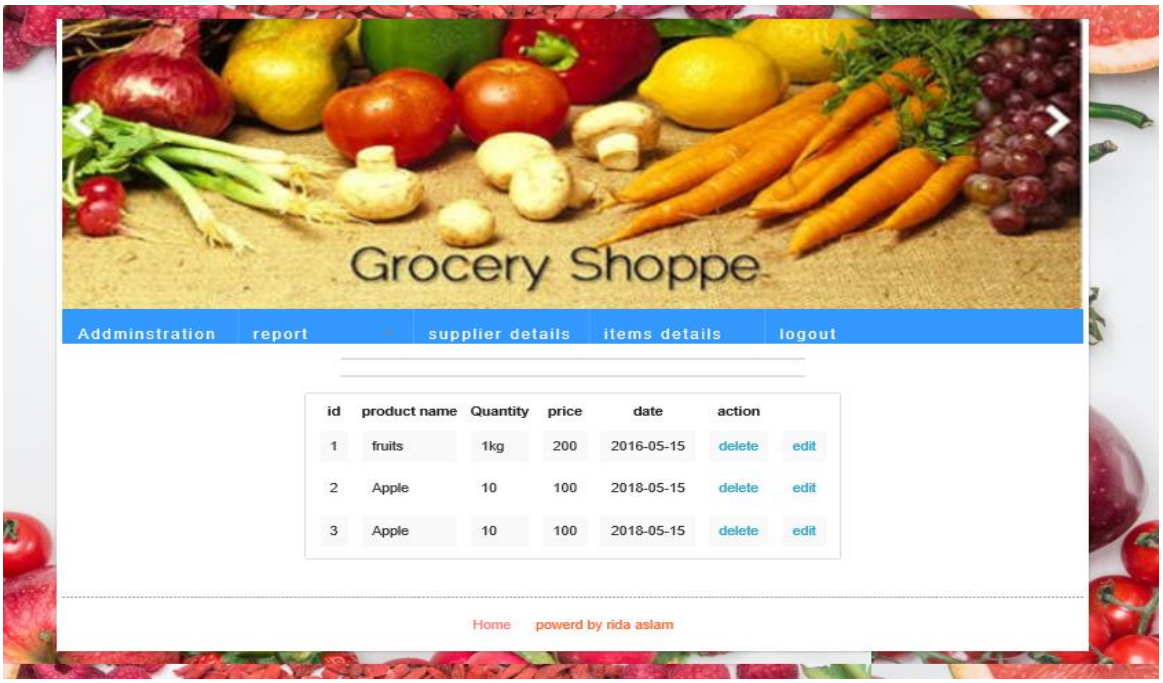
3.14.Contect page:

3.15. Login page:

3.16.Addmistration page:

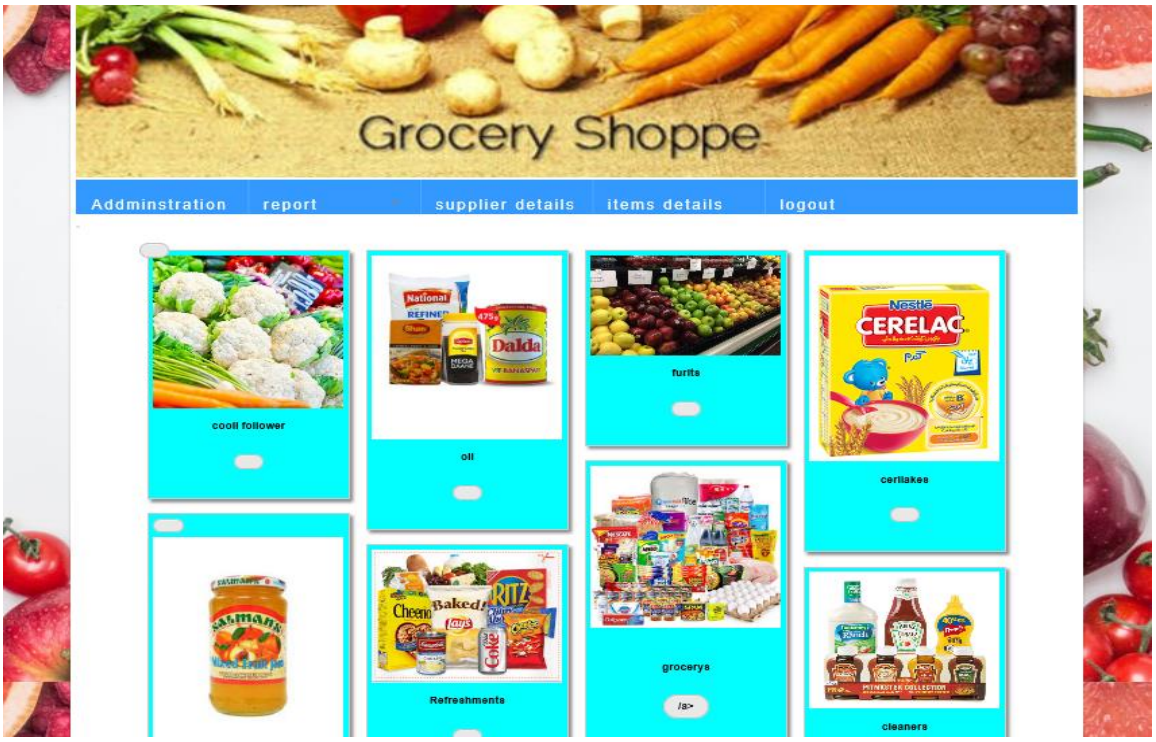
3.17.Add items:

3.18.Details of items:

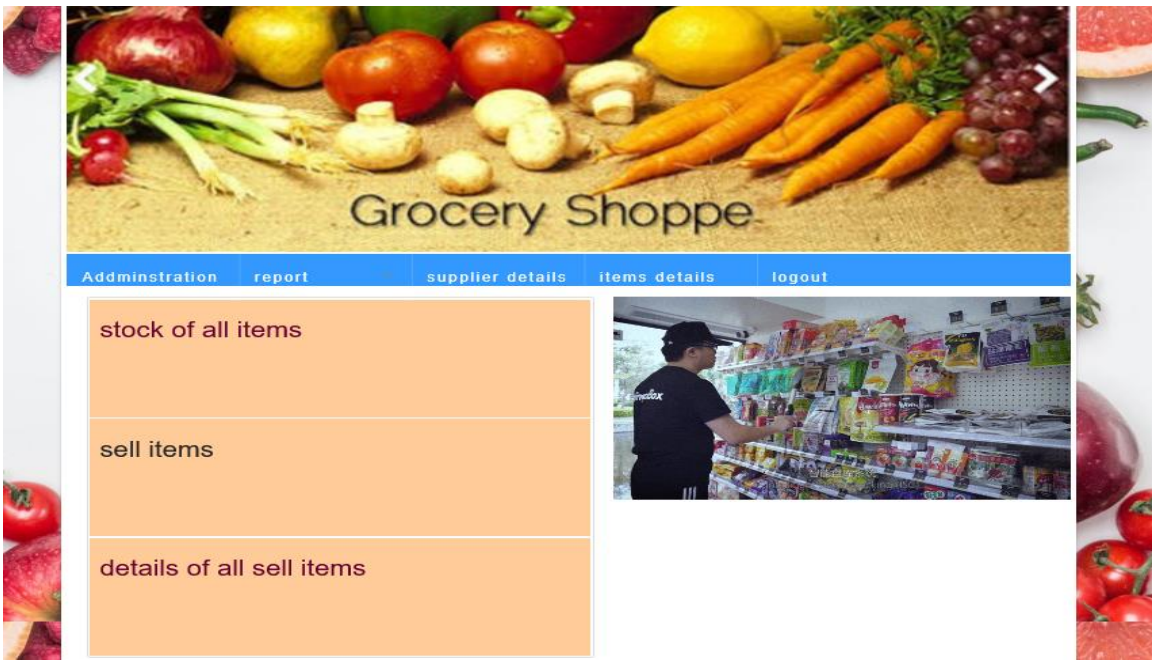


3.19.All items:

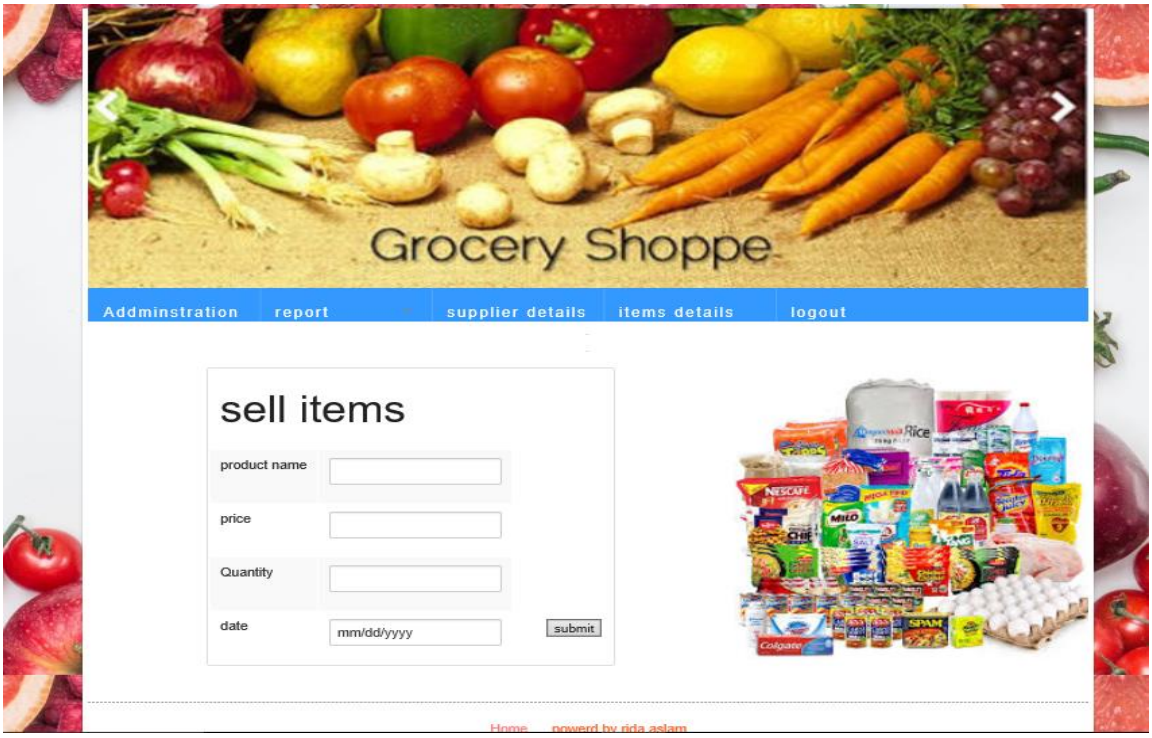
3.20.Stock:



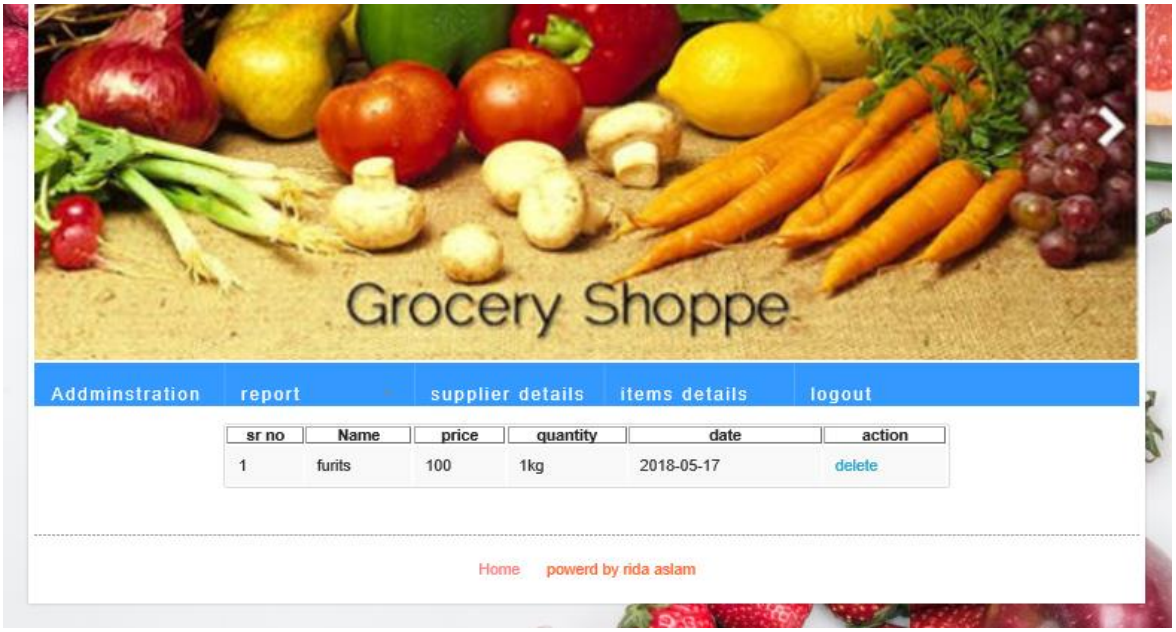
3.21.Sell:



3.22.Sell items:



3..23.Sell details:



3.24 CONCLUSION:

They usually outline these objectives in their business plans well before the start of new fiscal years. These companies can best reach their objectives by staying customer-focused, offering products and services their customers want. That is why most grocery store companies also develop comprehensive marketing plans to reach their key objectives. Marketing plans help the owners better define their target customers and store concepts, such as whether they serve specialty markets like organic food eaters.

References in Text

(Gary R.Heerkens and McGraw-Hill, 2002)

(Bob Hughes and Mike Cottrell, 1999)

(Lauren Darcey in 2010)

(Shane conder in 2013)

1. Journal

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2. Book

Chair, Professional Practices Committee, IEEE Computer Society (2001–2003)

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Chair, Software Engineering Standards Committee, IEEE Computer Society (199 2–1998) Don Shafer, Vice President Professional Activities Board IEEE Computer Society. DickFairley, ChairSoftware and Systems Engineering CommitteeIEEE Computer Society.

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3. Edited Book

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4. Proceedings

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6. Report

(Gary R.Heerkens and McGraw-Hill, 2002) (Bob Hughes and Mike Cottrell, 1999).The Report behind the books in the Briefcase Series is to give you practical information written in a friendly person-to-person style.

The chapters are short, deal with tactical issues, and include lots of examples. They also feature numerous boxed sidebars designed to give you different types of specific information. Here's a description of the boxes you'll find in this book.

7. Website/Online resource

It is a search engine which is being used to search the require content in this project.

1. [Online] Available: http://developer.android.com/sdk/index.html
2. https://developer.android.com/studio/

3. https://stackoverflow.com/questions/5740708/android-clearing-all-edittext-fields-with-clear-button

This site is used to update and clear the knowledge required to complete this project.

4.https://code.tutsplus.com/tutorials/android-essentials-creating-simple-user-forms--mobile-1758

5. http://www.technotalkative.com/android-volley-library-example/

6. https://icons8.com/icon/new-icons/all