Software Requirements Specification

Version 1.0
<<Annotated Version>>

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Get Your Gift!

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<<Any comments inside double brackets such as these are *not* part of this SRS but are comments upon this SRS example to help the reader understand the point being made.

Refer to the SRS Template for details on the purpose and rules for each section of this document.>>

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1.0.   Introduction

1.1. Purpose

The purpose of this document is to present a detailed description of the paying by points system, it will explain the purpose and feature of this system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli. This document is intended for both the stakeholders and the developers of the system

1.2. Scope of Project

This software will be a paying by points system for specific series of markets for a company, to find a new way for improving the customer shopping experience by collect points and then change it with a gifts, this will increase demands on the company products and make it more famous by providing mobile application in which the customer will be able to review his orders and the points related to, scan the barcode to add new orders, check points and choose gifts, and a website to manage this system where shop manager control both products and gifts, generate a barcode for each order made by the costumer .The system also contains a relational database containing users in both customers and shop managers, products, gifts and shops.

1.3. Glossary

Term	Definition
Customer	Any person has account to collect points by buying the products.
Shop manager	Employee who manage the shop.
User	Shop manager or customer.
Order	Group of products bought by the customer.
Points	for each product sailed there is number of free point later the customer can change it with another product or gift.
Barcode	machine readable representation of numerals and characters a barcode consists of bars and spaces of varying width that can be read by camera scanning.
bill	contains paying method and the order date, points and price.
Gift	gift cards including dining ,travel and entertainment
Database	Collection of all the information monitored by this system.

1.4. References

IEEE. *IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications.* IEEE Computer Society, 1998.

SOFTWARE ENGINEERING-Ian Somerville book.

1.5. Overview of Document

   The next chapter, the Overall Description section, of this document gives an
overview of the functionality of the product. It describes the informal requirements and is
used to establish a context for the technical requirements specification in the next chapter.
The third chapter, Requirements Specification section, of this document is written
primarily for the developers and describes in technical terms the details of the
functionality of the product.
Both sections of the document describe the same software product in its entirety,
   but are intended for different audiences and thus use different language.

2.0.   Overall Description

2.1 System Environment
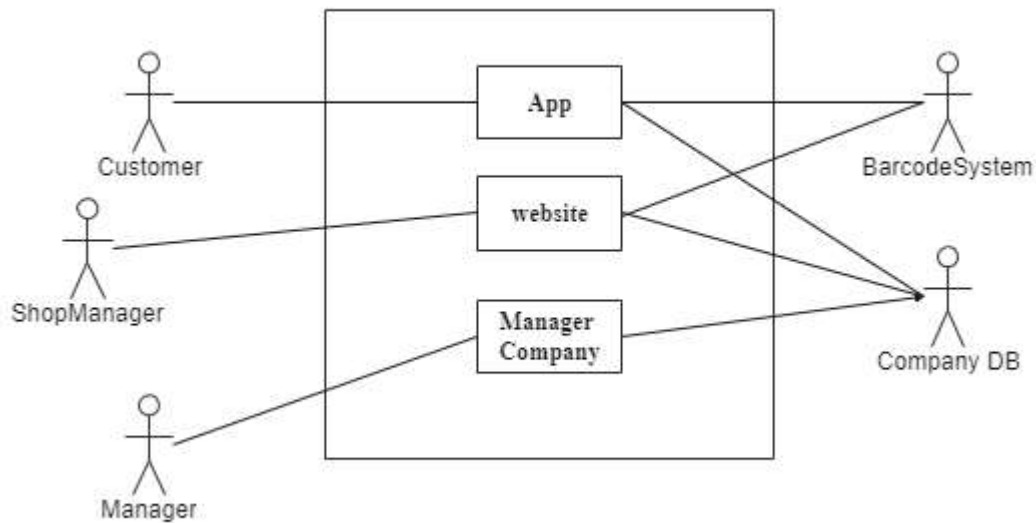
Figure 1 - System Environment

paying by points system has three active actors, the customer, shop manager and admin manager and
three component system, customer communication with the system through the application, manager
and shop manager assess directly to the website.

2.2 Functional Requirements Specification

2.2.1 Shop Manager Use Case
Use case**: make order**
Diagram:
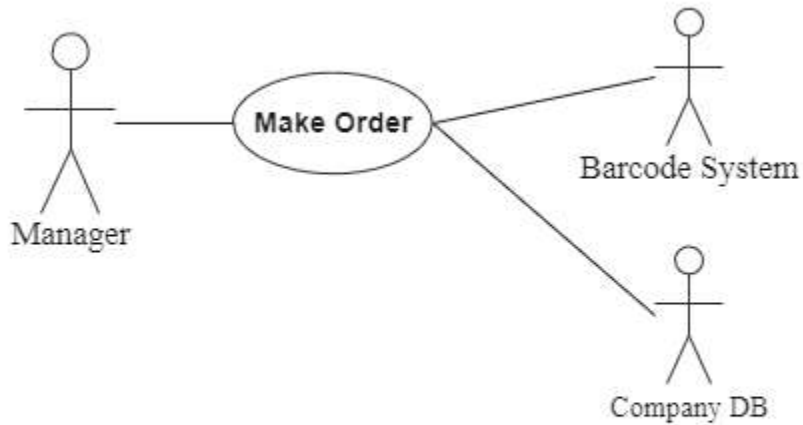
Brief Description
Shop manager make order includes products that selected by customer
Initial Step-By-Step Description
1. Shop manager select to add new order
2. shop manger selects the products which the customer has bought.

3. system process the content of the order and generate a barcode, and view it on the shop manager page.
4. system add the order to the database and update the entry related with.

Use case: **update products info**

Diagram:
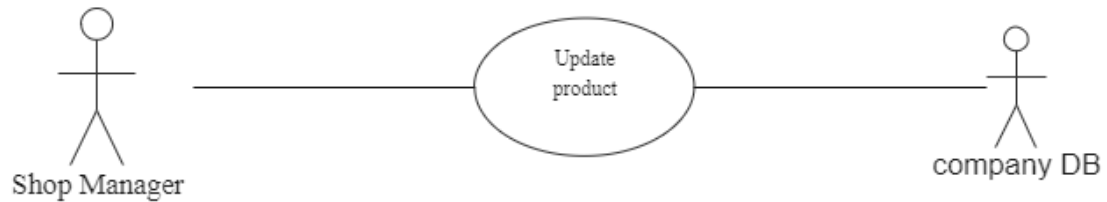
Brief Description
shop manager enters new product or update information about one that exists.

Initial Step-By-Step Description
Before this use case can be initiated, the shop manager accessed his main page.

1. system present a choice of products.
2. System presents a list of products and shop manager selects one to update or selects add new product
3.   System shows fields of product's details and the shop manager can fill the blank fields to add new or modifies information in field for existing product
4. shop manager selects to save the changes he did.
5. system save the information in data base and return the shop manager to the home page.

Use case**: login Shop Manager**

Diagram:
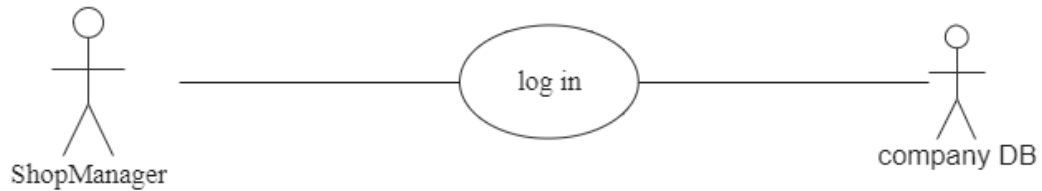
Brief Description
Shop manager login to his page on website.
Initial Step-By-Step Description
Shop manager open website and login with account that created by manager
1.   Login interface appears with fields of username and password
2. Shop manager enters his personal information.
3. system check the shop manager username and password if they are correct.
4.   System enables the shop manager to log in to his main page

2.2.2 Customer Use Case

Use case**: choose a gift**
Diagram:

Brief Description
customer then can change his points with accordable gift from the gifts list in the app.

Initial Step-By-Step Description
Before this use case can be initiated, customer already log in to the application.

1. customer select get gift button from the application.
2. system present the list of gifts.
3. customer choose his gift.
4. system check the customer points and subtract the gift value from his points.
5. system send a message to the company include the customer information.
6. customer then go and get his gift.

Use case**: scan barcode**
Diagram:
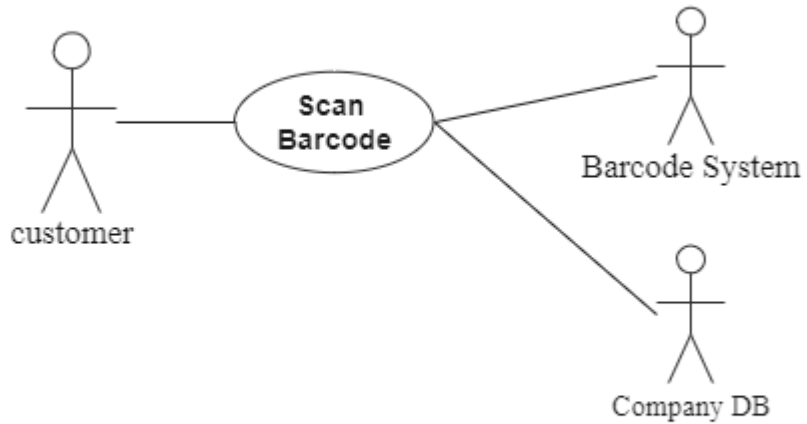
Brief Description
Customer scans barcode of the order he want to buy
Initial Step-By-Step Description
Before this use case can be initiated, customer already log in to the application.

1. customer selects new order from the app and the camera of mobile opens waiting for a barcode to be scanned.
2. Barcode system enables the customer to scan the barcode from shop manager web page.
3. system add points according to the order and update customer point information in data base.

Use case**: login Customer**
Diagram:
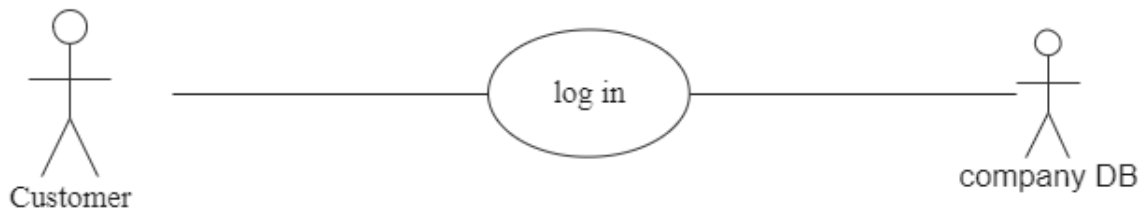
Brief Description
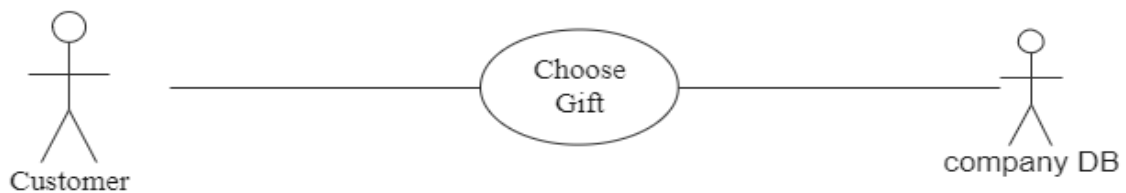Customer log in to the application
Initial Step-By-Step Description
Customer open the application and login with account that created by manager
1. Login interface appears with fields of username and password
2. customer enters his personal information.
3. system check the customer username and password if they are correct.
4. System enables the customer to log in to his interface

2.2.3 Manger Use Case

Use case: **add/update shops**
Diagram:

Brief Description
manger add new shop to the database or update on it.

Initial Step-By-Step Description
Before this use case can be initiated, the shop manager accessed the administration main page

1. The manger selects to Add/Update shop.
2. The system presents a choice of adding or updating.
3. The manger chooses to add or to update.
4. The manger is updating a shop, the system presents a list of shops to choose from and presents a grid filling in with the information; if the admin chooses to add, the system presents a blank grid to fill it with new shop info

Use case**: Create Account**
Diagram:
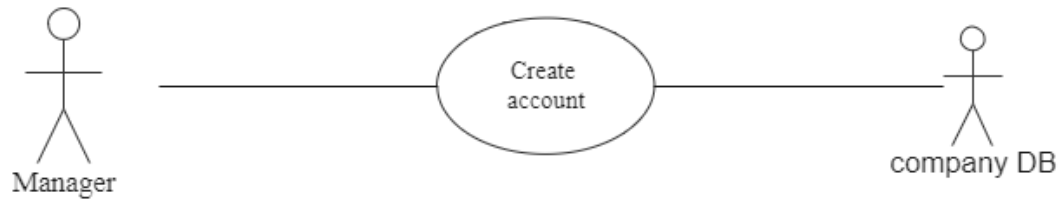
Brief Description:
manager add new Customer/Shop Manager to the system

Initial Step-By-Step Description
Before this use case can be initiated, the shop manager accessed the administration main page

1- manager choose to add Customer/Shop Manager
2-the system present a blank field for Customer/Shop Manager's information
3-manager fill it with information and submit/save the form
4-The system verifies the information and returns the manager to the main
Page

Use case**: Update Customer/Shop Manager**
Diagram:

Brief Description:
manager update Customer/Shop Manager to the database

step by step Description:
Before this use case can be initiated, the manager accessed his main page
1- manager choose to update Customer/Shop Manager
2- System shows fields of Customer/Shop Manager's information and the shop manager can fill the blank fields to modifies information in field for existing Customer/Shop Manager
3-manager fill it with information and submit/save the form
4-The system verifies the information and returns the manager to the main Page

Use case: **add gifts**
Diagram:
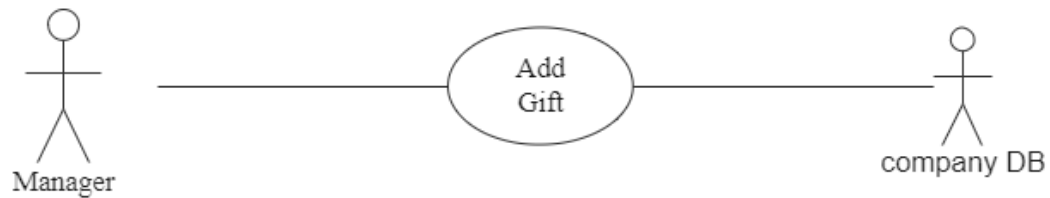
Brief Description
manager enters new gift.
Initial Step-By-Step Description
Before this use case can be initiated, the manager accessed his main page.

1. system present a choice of gifts.
2. System presents a list of gifts and manager selects add new gift
3. System shows fields of gift's details and the manager fills the blank fields to add
4. shop manager selects to save the changes he did.
5. system save the information in data base and return the shop manager to the home page.

2.3 User Characteristics
No certain characteristics required.

2.4 Non-Functional Requirements

The Manager will run on the Manager's PC and will contain an Access database.
The shop Manager will run on the shop Manager's PC and will contain an Access database.
The customer will run on the customer's mobile and will contain an Access database.
The system must run on android and iOS and run on windows, Linux and mac and users can use it any time
The system must safe, easy to use and very fast

3.0. Requirements Specification

3.1 External Interface Requirements
There are two links to external systems.
The first one to Company database to verify information and add/update information
Add, update, login and create account use cases require access database to add or to check information like password and user name or to get list of existing information like shops ,products, gifts and so one..
The second link is to barcode system that we need when customer scan barcode and when shop manager generate barcode for order he add in make order use case

3.2 Functional Requirements

3.2.1 Make Order

Use Case Name	make order
Trigger	the shop manager selects to make order.
Precondition	shop manager has accessed his page main screen.
Basic Path	1. shop manager selects add order 2. Shop manager select the pay method if it by money or points 3.if the pay method is by points system check the customer points and subtract the order value from his balance. 4.shop manager selects to add product/products that the customer has purchased 5.System present a search field and shop manager types product he want 6.System add product to order and shop manager select to save order or add new product 7.If he selects to save order the system group these products and add order entry in the database after the barcode system has generated barcode for this order 8.system shows the order details on the shop manager screen
Alternative Paths	In step 2, the pay method with money no update on points is done. In step 3, if there are no sufficient points System show message, you do not have points to this order In step 6, if shop manager selects to add new product System present a search field again and shop manager types product he want and continue to finish all products and save order
Post condition	new order in customer account
Exception Paths	none
Other	The order details includes products in this order , barcode , price , customer who buy this and points.

3.2.2 Update products info

Use Case Name	update products info.
Trigger	shop manager select to update existing products
Precondition	shop manager accessed to his main screen.
Basic Path	1. shop manager selects product 2. system present a list to select from. 3. shop manager select item to update. 4. The system presents the database information in grid form for modification. 5. The shop manager updates the information and submits the form 6. The system checks that required fields are not blank.
Alternative Paths	in step 6, if any required field is blank, the shop manager is instructed to add an entry. No validation for correctness is made.
Post condition	The database has been updated
Exception Paths	if the product is not already in the database, the use case is abandoned. In addition, the shop manager may abandon the operation at any time.
Other	None..

3.2.3 Login Shop Manager

Use Case Name	Login Shop Manager
Trigger	shop manager login to check his role and can do his actions
Precondition	shop manager open website
Basic Path	1. Login page appears with username and password fields 2. Shop manager enters his personal information 3. system check the shop manager username and password if they are correct. 4. shop manager can access his main page
Alternative Paths	In step 1, if shop manager login for the first time system enable him to change his password after check his username so he fills a two fields of new password and confirm it. in step 2, if username is not found in data base the system show message tell user who try log in that he does not have account. in step 2, if username is found in data base but the password is not correct the system show message tell shop manager to try again with correct password and give him three attempts to login in step 2, shop manager can select to forget password and system enable him to reset it. in step 2,if shop manager finish his attempts with wrong password the system block him for three hours
Post condition	Any changes on password updates in data base
Exception Paths	The shop manger may abandon the operation at any time
Other	The main page contains shop of shop manager and links to his products and orders

3.2.4 Choose a Gift

Use Case Name	Choose a Gift
Trigger	the customer select to get gift.
Precondition	Customer access the gifts interface in application
Basic Path	1. customer chooses his gift and select get it! 2. system check the customer points and subtract the gift value from his balance. 3. system show a message in the manager page include the customer and gift information for he can take it
Alternative Paths	In step 2, if there are no sufficient points System show message, you do not have points to this gift
Post condition	the customer pay with points.
Exception Paths	if the gift is not already in the database, the use case is abandoned. In addition, the customer may abandon the operation at any time.
Other	Gifts view contains list of gifts with all details.

3.2.5 Scan Barcode

Use Case Name	scan barcode
Trigger	Customer scan barcode of order
Precondition	The customer has accessed the orders view in application
Basic Path	1. customer selects new order and the camera of mobile opens waiting for a barcode to be scanned. 2. Barcode system enables the customer to scan the barcode from shop manager web page. 3. system add points according to the order and update customer point information in data base
Alternative Paths	None..
Post condition	The points must added to customer and this change updated in database .
Exception Paths	The customer may abandon the operation at any time
Other	None..

3.2.6 Login Customer

Use Case Name	Login Customer
Trigger	customer login to check his role and can do his actions
Precondition	Customer open application
Basic Path	1. Login page appears with username and password fields 2. customer enters his personal information 3. system check the customer's username and password if they are correct. 4. customer can access his main interface
Alternative Paths	In step 1, if customer login for the first time system enable him to change his password after check his username so he fills a two fields of new password and confirm it. in step 2, if username is not found in data base the system show message tell user who try log in that he does not have account. in step 2, if username is found in data base but the password is not correct the system show message tell customer to try again with correct password and give him three attempts to login in step 2, customer can select to forget password and system enable him to reset it. in step 2,if customer finish his attempts with wrong password the system block him for three hours
Post condition	Any changes on password updates in data base
Exception Paths	The shop manger may abandon the operation at any time

Other	The mobile interface contains buttons to show gifts, products, shops, orders, points and a message with customer id.

3.2.7 Add Shop

Use Case Name	add shop
Trigger	Manager selects to add a new customer to the database.
Precondition	The manger has accessed the administration page main screen.
Basic Path	1. The system presents a blank field to enter the shop information. 2. The manger enters the information and submits the form 3. The system checks that the shop manager information and location fields are not blank and updates the database.
Alternative Paths	If in step 2, either field is blank, the Manager is instructed to add an entry. No validation for correctness is made.
Post condition	The shop has been added to the database.
Exception Paths	The manger may abandon the operation at any time
Other	The shop information includes the name, phone number and location.

3.2.8 Update Shop

Use Case Name	update shop
Trigger	the manager select to update a shop and the shop is already in the database.
Precondition	The manger has accessed the administration page main screen.
Basic Path	1. the manger selects to update shop list. 2. the system presents a list of shops in the database. 3. the admin select shop to update. 4. The system presents the database information in grid form for modification. 5. the admin updates the information and submits the form. 6. the system cheeks that required fields are not blank.
Alternative Paths	In step 5, if any required field is blank, the manager is instructed to add an entry. No validation for correctness is made.
Post condition	none
Exception Paths	if the shop is not already in the database, the use case is abandoned. In addition, the manager may abandon the operation at any time.
Other	none

3.2.9 Create Account

Use Case Name	Create account.
Trigger	manager selects to add a new customer or shop manager to the database.
Precondition	The manager accessed his page main screen.
Basic Path	1. manager choose to add customer or shop manager 2. if he adds customer The system presents a blank grid to enter the customer information 3. The manager enters the information and submits the form 4. The system checks that the requires fields are not blank and updates the database.
Alternative Paths	In step 1, if manager choose to add shop manager, system presents a blank grid to enter the shop manager information and search field to add the shop of this shop manager. in step 3, either field is blank, the manager is instructed to add an entry. No validation for correctness is made.
Post condition	The customer/Shop Manager has been added to the database.
Exception Paths	The Manager may abandon the operation at any time.
Other	The customer information includes full name, username, city, password, confirm password, age, birthday date, gender, phone number and email address. And shop manager information includes full name, salary, email address,

	password, confirm password, username and shop he manage.

3.2.10 Use case add product

Use Case Name	add product
Trigger	shop manager selects to add a new product to the database.
Precondition	The shop manager has accessed his page main screen.
Basic Path	1. The system presents a blank field to enter the product information. 2. The shop manger enters the information and submits the form 3. The system checks that the required fields are not blank and updates the database.
Alternative Paths	If in step 2, either field is blank, the shop manager is instructed to add an entry. No validation for correctness is made.
Post condition	The product has been added to the database.
Exception Paths	The shop manger may abandon the operation at any time
Other	The product information includes name, price, points, points to buy, manufacturer, type and picture

3.2.11 Update customer/Shop Manager

Use Case Name	Update customer/shop Manager
Trigger	manager selects to update an existing customer or shop manager in the database.
Precondition	The manager accessed his page main screen.
Basic Path	1. manager choose to update customer or shop manager 2.if he updates customer The system the system presents a list of customers in the database. 3.the manager select customer to update. 4.The system presents the database information in grid form for modification. 5.the admin updates the information and submits the form. 6.the system cheeks that required fields are not blank.
Alternative Paths	In step 1, if manager choose to update shop manager, presents a list of shop managers in the database. the manager selects shop manager to update and The system presents the database information in grid form for modification and search field to replace the shop of this shop manager. in step 5, either field is blank, the manager is instructed to add an entry. No validation for correctness is made.

Post condition	The customer/shop manager information has been updated in the database.
Exception Paths	if the shop manager/customer is not already in the database, the use case is abandoned. In addition, the manager may abandon the operation at any time.
Other	None..

3.2.12 Add Gift

Use Case Name	add gift
Trigger	manager selects to add a new gift to the database.
Precondition	The manger has accessed the administration page main screen.
Basic Path	1. The system presents a blank field to enter the gift information. 2. The manger enters the information and submits the form 3. The system checks that the gift information fields are not blank and updates the database.
Alternative Paths	If in step 2, either field is blank, the admin is instructed to add an entry. No validation for correctness is made.
Post condition	The gift has been added to the database.
Exception Paths	The manger may abandon the operation at any time
Other	The gift information includes the name, picture and points

3.3Detailed Non-Functional Requirements:

3.3.1 availability:
this system must be available in 24 hours permanently so users can use it any time.

3.3.2 security and privacy:
the system should make use of encryption to ensure that data is stored securely SO passwords should be stored as SHA1 hashes.
the users can change their password after the first log in and they blocked for 3 hours after 3 attempts of entre false password to protect system
The manager's PC in the company will have its own security. Only the manager will have physical access to the machine and the program on it.
3.3.3 performance:
3.3.3.1 processing time:
Login and requesting thumbnails of images should take less than three seconds
3.3.3.2 response time:
Server should respond to client in less than one second
3.3.3.3 querying time:
querying the database should take less than one second
3.3.4 usability:
This system must be easy to use ,need training for mostly 10 minutes
3.3.5 Portability:
must run on android and iOS and on windows Linux and mac
3.3.6 recovery:
the system must contain one copy of all data that considered worthy of conservation such as users and orders information.
The system should backup data very frequently every hour to avoid any data loss.