



Master of Computer Applications [Batch 2019-2021]

DMS Inventory Management System

Technology: Python Django

Submitted in the partial fulfillment for the Semester-V Mini-Project

Project Guide: Dr. Hetal Thaker

Group-2

Team Members



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Agenda

- ✓ Project Overview
- ✓ Core Components
- ✓ System Requirements
- ✓ Tools and Technologies
- ✓ About Existing System
- ✓ Targeted Users
- ✓ Use Case Diagram
- ✓ Activity Diagram
- ✓ Class Diagram
- ✓ Sequence Diagram
- ✓ Timeline Chart
- ✓ Screenshots

Project Overview

DMS Inventory Management System

DMS is online stock management application, invoicing by scan QR Code, statistical data and some other features which will help to grow their business, on web-based application responsive design mobile, tablet, desktop supportive, for any small or large scale business/organization, which covers all sports store, supermart, gift and home-decor shop, book store, stationery, hardware, auto-parts store.



Core Components

In this application/system there are seven modules which are described below

› Login Module

Registration of any organization, Registration of any organization, while registration we will take basics details about organization which will take be like business name, username, password, address, city, state, contact details and business logo, GSTIN Number. Once registration completes, authenticate user of organization has to login via their username and password.

› Stock Management Module

Stock Management Module is divided into 2 sub-modules, Add Products, Add/Modify Stock Details. While adding products or modifying stock details we will get some details like, product name, quantity, HSNCode, Cost Price, Selling Price, expire date, packing date. User can add product manually or they can insert directly stocks, if there is any new product it will automatically first add product and then it add stocks.



Core Components (Continue...)

› Billing Module

User will scan the products QR Code and each items will be added to list of billing desk, billing was done with some basic calculation related to GST and discount based on product. $Qty * SellingPrice = Amount$, $Amount - Discount = TaxableAmount$, $TaxableAmount + GST = TotalAmount$ information we get while billing are Customers Mobile/email, Selling Price(With GST). Quantity, Payment Mode

› Print Module

Based on the product inserted into the stock user can also print out the QR code, they can select the product and system will ask how many QR Code must be printed for per product.

› Stock Notify Module

If any stock is less than given limit or product is expired then it will notify instantly to owner, to remove that stock from their shop.



Core Components (Continue...)

› Report & Analysis Module

All kind of statistical data will be displayed here which will help owner to boost their business/ entire organization. Report & Analysis details like..

- Maximum Selling Product in the Day
- Maximum Selling Product in the Month
- Unique Customers
- Total Products in their Shop
- Which Products not sale in Day or Month
- Product wise selling count Report of the Day, Month & Year
- Profit of the Day, Month and Year
- Current Stock Report
- Sales Return Products
- And Many More Reports with PDF and Excel files.

› Sales Return Module

Whenever any customer return any product, due to any reason like damaged product, Defective Product, Product not as per expected, etc... We will get some details at the time of sales return like, Customer Mobile, Product ID, Quantity, Note (Reason for Return)



System Requirements

➤ Minimal Hardware Requirements

Operating System	Microsoft Windows 7, 8 or 10, Ubuntu, Mac
CPU Processor	Dual Core 3rd Gen. or above
RAM	2GB
Hard Disk	250GB
Camera	2.0 MP TrueVision



System Requirements (Continue...)

› Software Requirements

Python 2.7+	Support some libraries, (if requires)
Adobe Reader or any pdf reader	Used for Label printing and billing
MS Excel	Checking Excel sheet files
Chrome Browser 30+ or any browser	For Running application

› Network Requirements

Mobile Data Plan	3G or Above
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Tools and Technologies



About Existing System

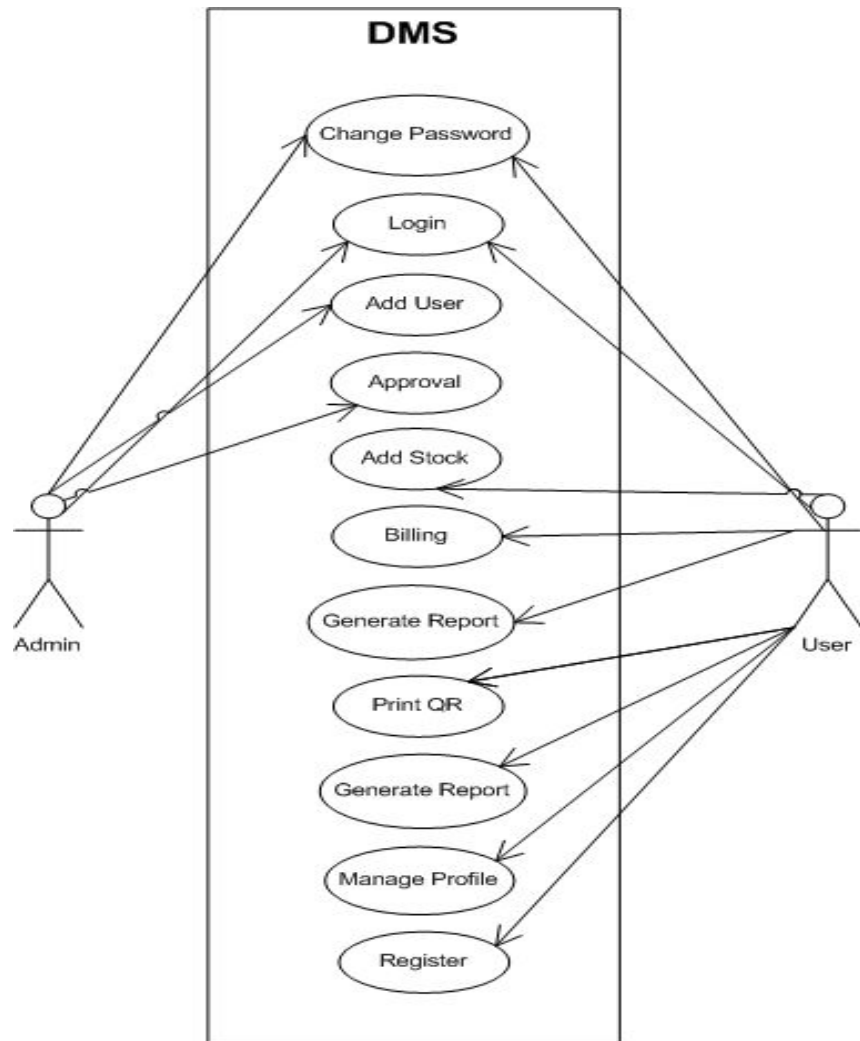
There are many billing system like zoho, vyaparapp, justbilling, retailcore, Anapurna Supermarket, etc. Some of applications works Online or Offline standalone applications. Many system are just for specific purpose, supports only stock management and billings, While some of system also gives statistical information and analysis of stock with profit/loss, and to track customers buying analysis, and many more.



Targeted Users

Targeted users are any small or large scale business/organization, which covers all sports store, supermart, gift and home-decor shop, book store, stationery, hardware, auto-parts store. Targeted to Small Shops First.

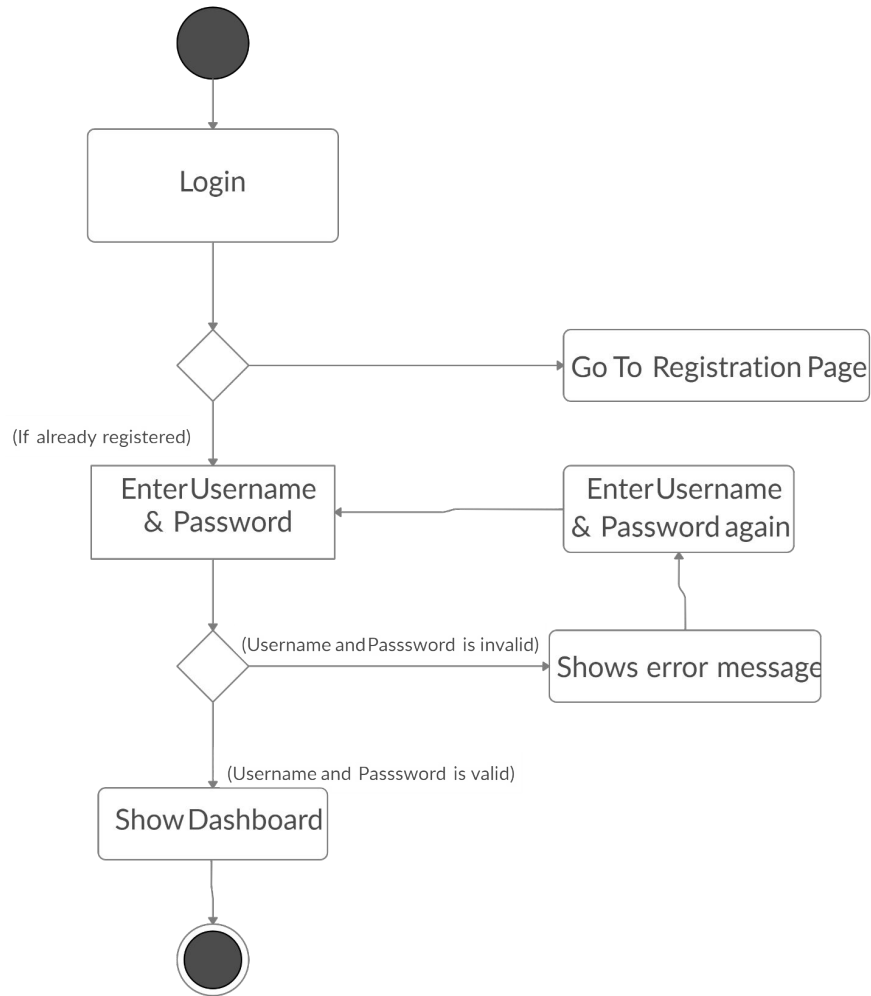




Use Case Diagram

DMS Inventory Management System





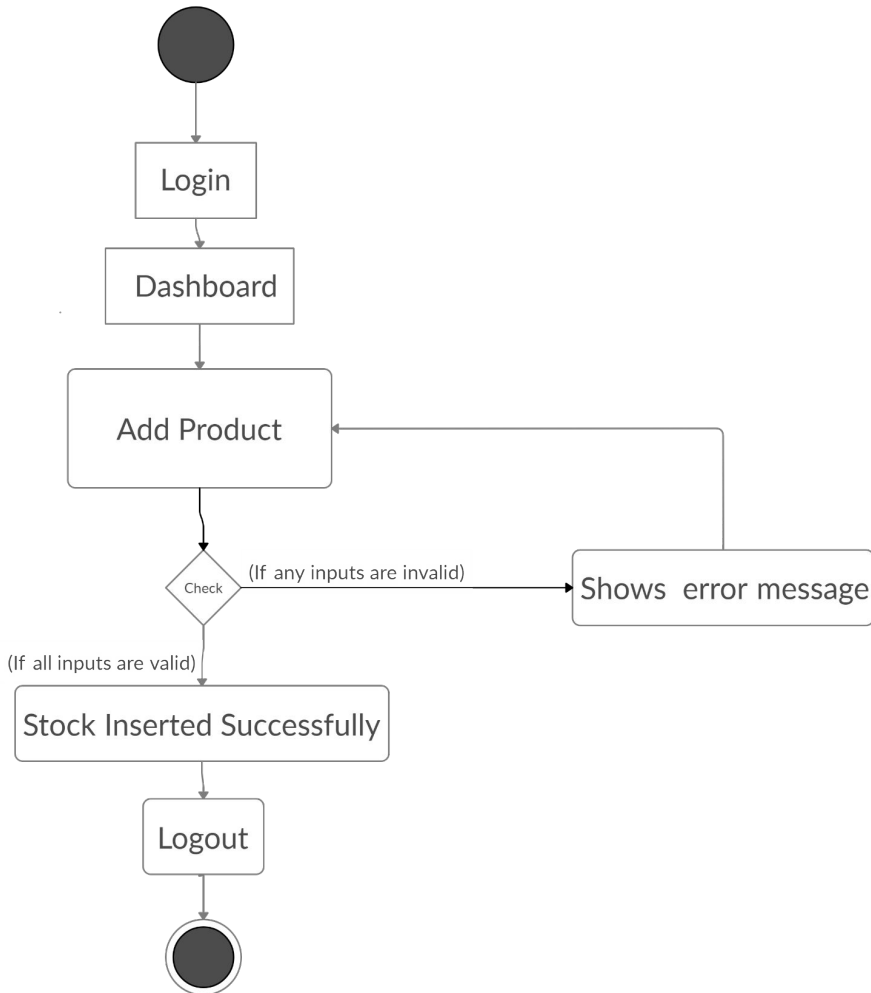
Activity Diagram

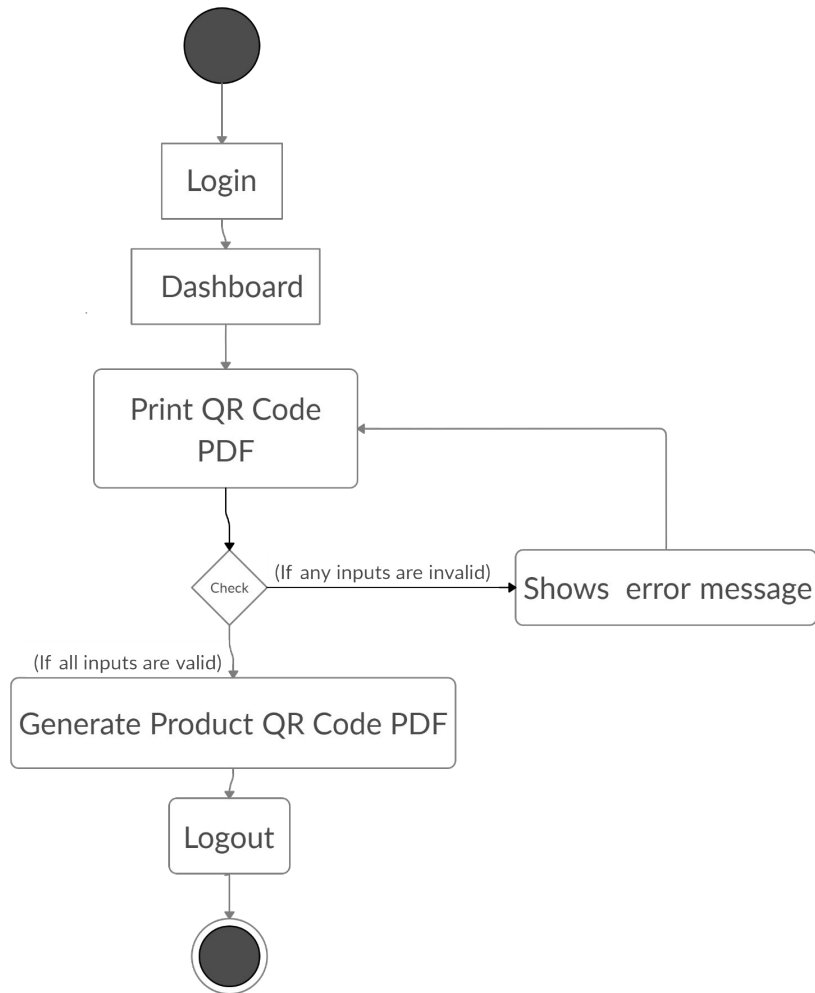
DMS-Login



Activity Diagram

DMS-Add Product

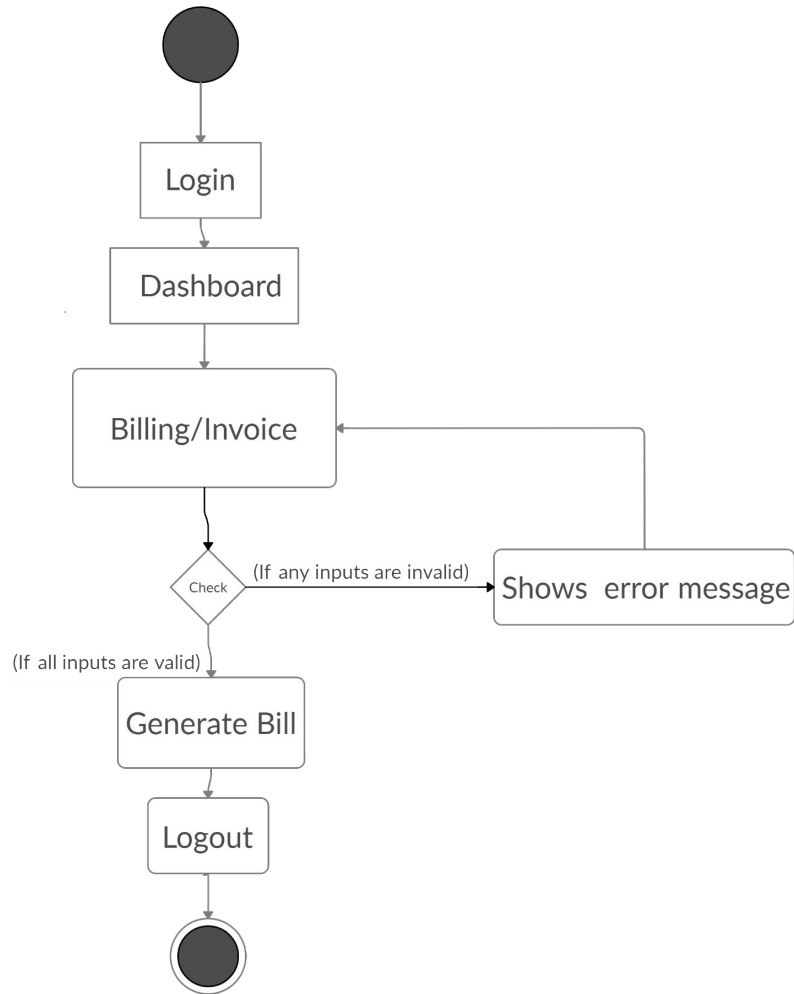




Activity Diagram

DMS-Print QR Code PDF





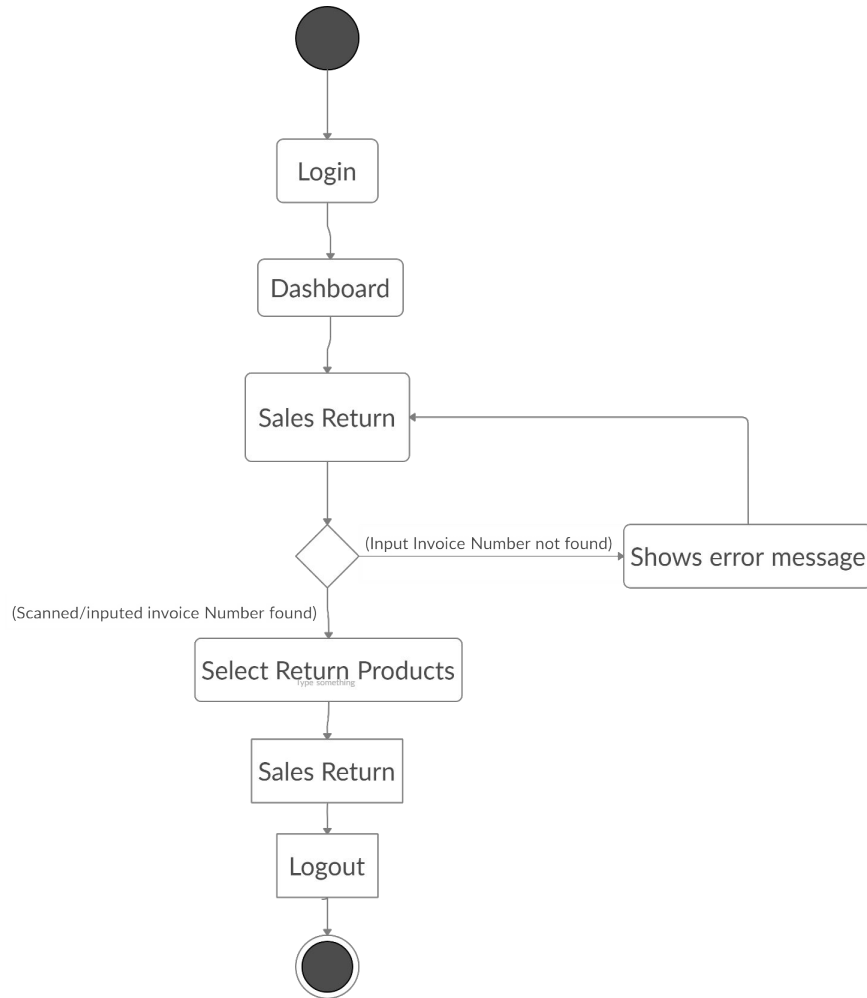
Activity Diagram

DMS-Billing



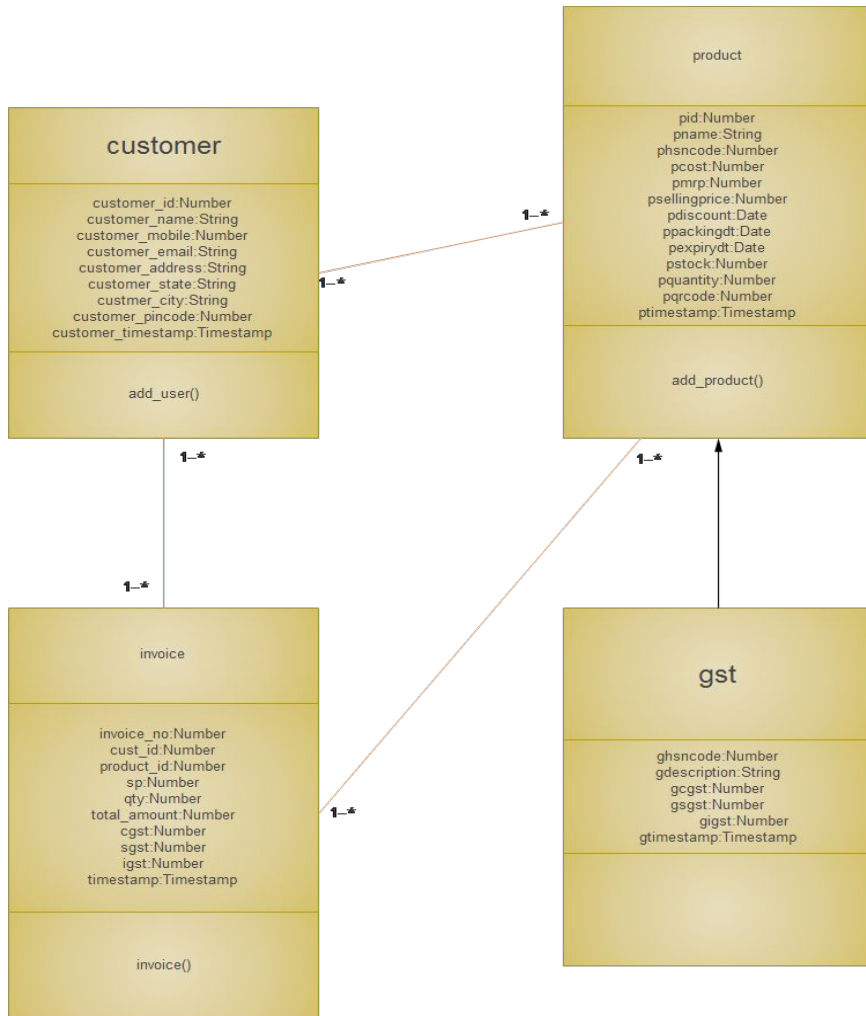
Activity Diagram

DMS-Sales Return



Class Diagram

DMS Inventory Management System





Sequence Diagram

DMS-Login



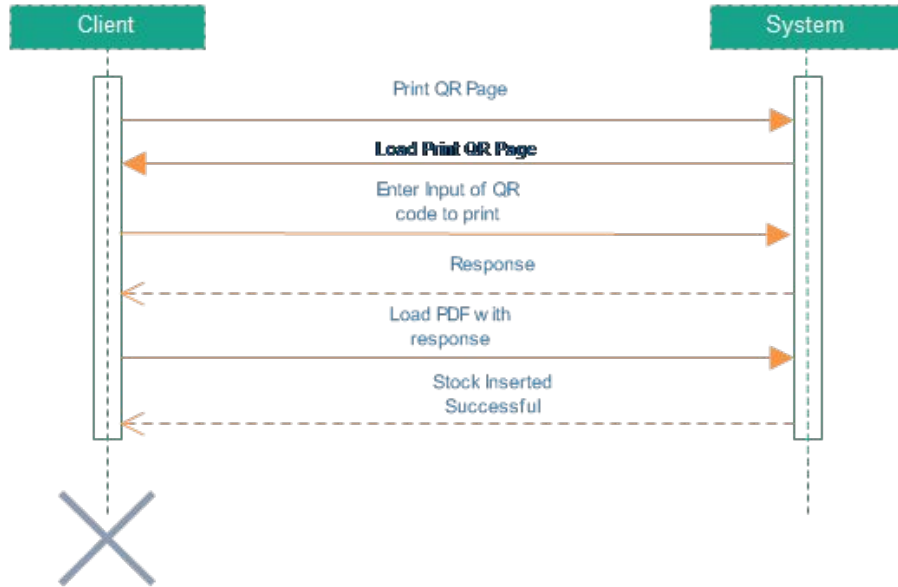
Sequence Diagram

DMS-Add Product



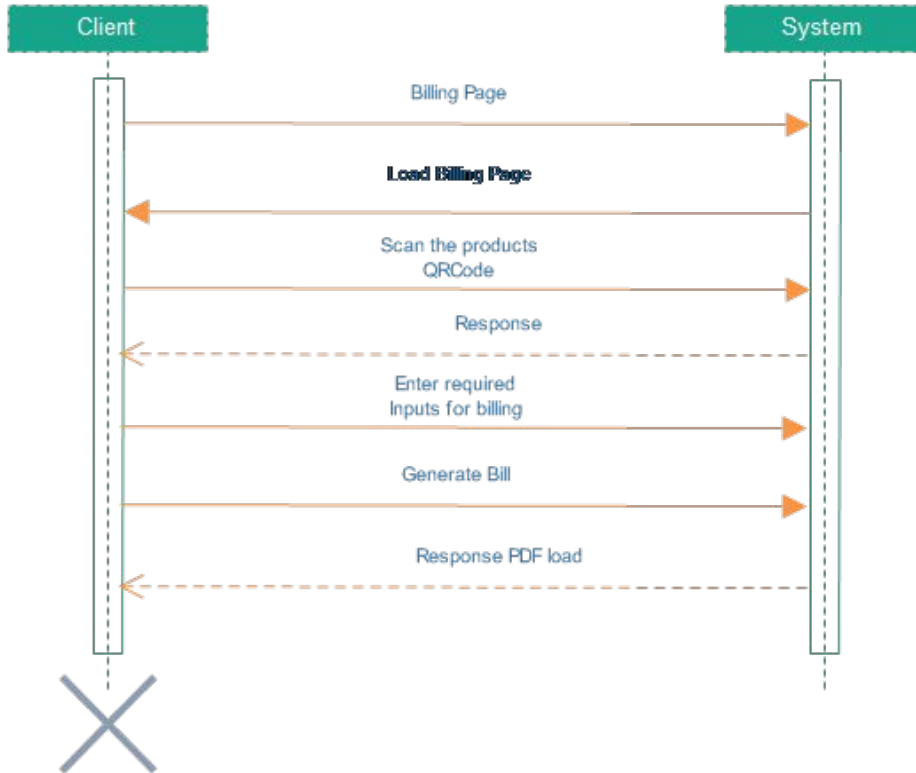
Sequence Diagram

DMS-Print QR Code



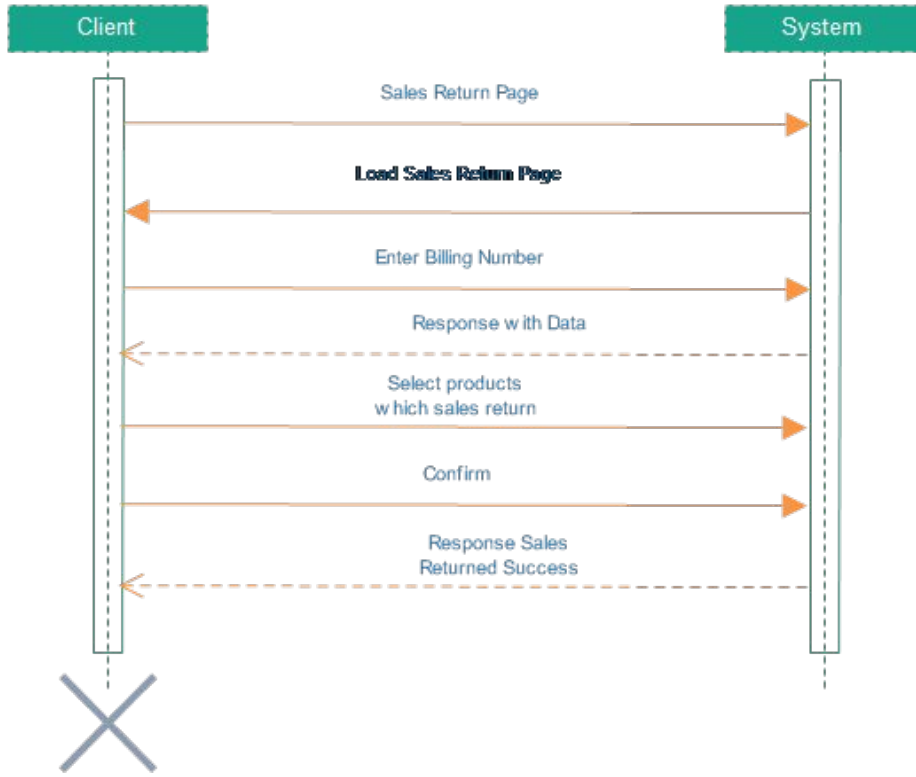
Sequence Diagram

DMS-Billing



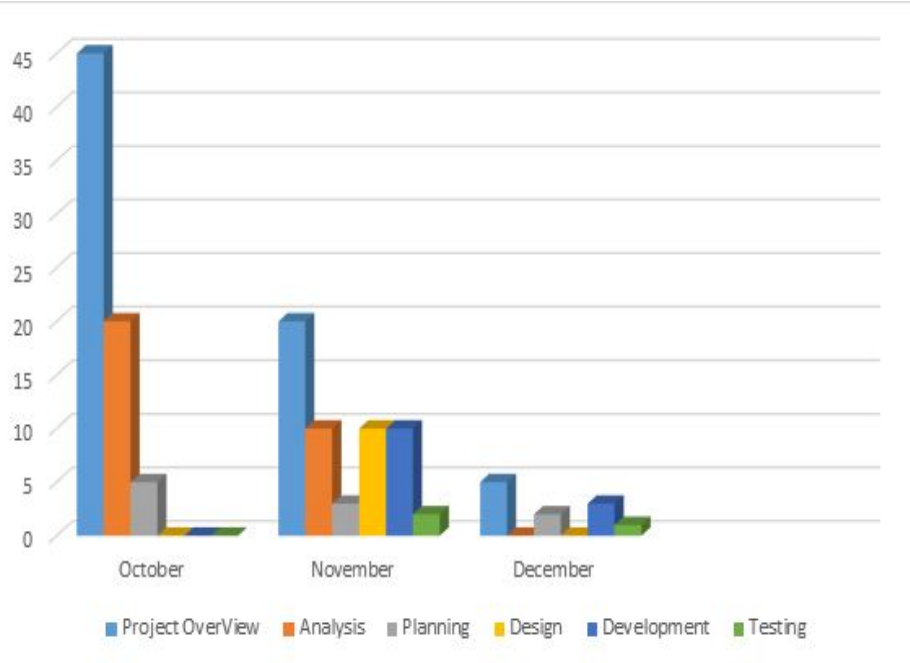
Sequence Diagram

DMS-Sales Return

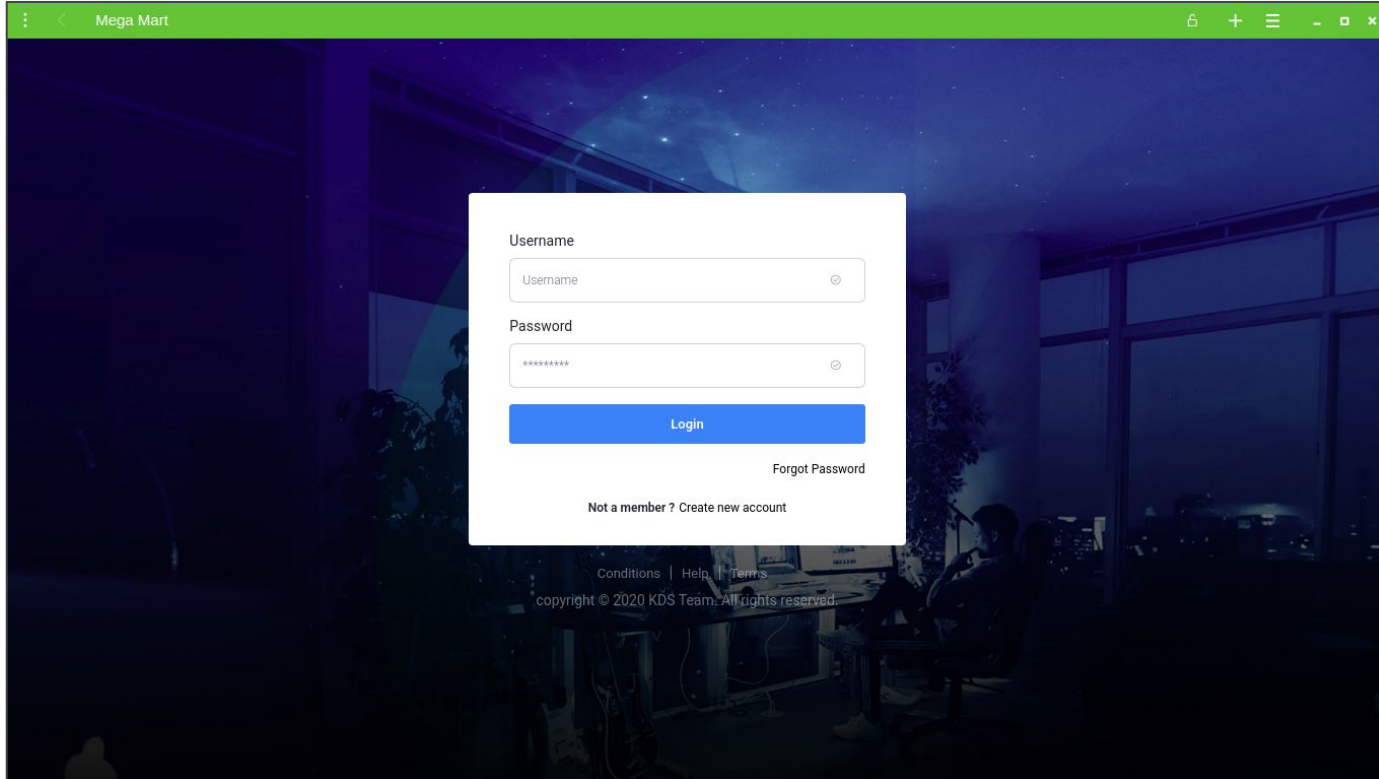


Timeline Chart

DMS Inventory Management System



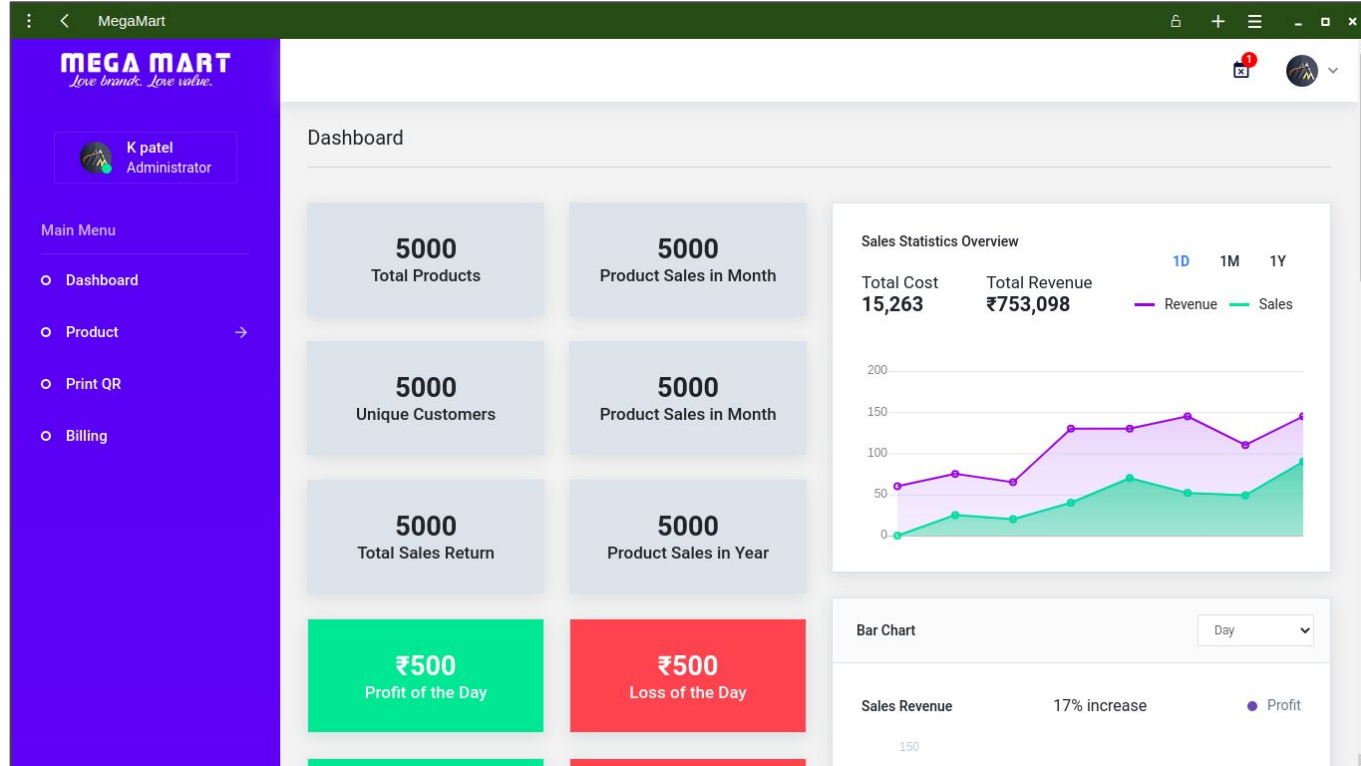
Screenshots



Login



Screenshots (Continue...)



Dashboard



Screenshots (Continue...)

The screenshot displays the MegaMart web application interface. The left sidebar is purple and contains the MegaMart logo, the user name 'K patel Administrator', and a 'Main Menu' with links to Dashboard, Product (with a dropdown arrow), Show Products, Add product, Print QR, and Billing. The main content area is white and shows a notification banner at the top right stating 'You have 1 notification View all'. Below this is a table titled 'All Products' with columns: No., Name, Qrcode, Stock, Cost, MRP, Discount, Packing Date, and Expiry Date. The table lists five products: Apple 1KG, Crispy Toast, Maggi, Notebook A4, and Pen. Each product has a stock level indicator (a bar with a percentage) and an expiry date. The footer of the application shows 'Copyright © 2020 KDS Team. All rights reserved.' and 'Hand-crafted & made with ❤️'.

No.	Name	Qrcode	Stock	Cost	MRP	Discount	Packing Date	Expiry Date
1	Apple 1KG	1606855462	9 / 50	85.0	100.0	10.0 %	28-11-2020	06-12-2020
5	Crispy Toast	1607362705	35 / 35	35.0	45.0	6.69 %	01-11-2020	30-01-2021
4	Maggi	1607362124	25 / 70	37.0	45.0	2.02 %	06-11-2020	06-08-2021
3	Notebook A4	1606856787	64 / 108	45.0	65.0	6.59 %	11-05-2020	30-06-2022
2	Pen	1606856658	60 / 70	45.0	80.0	1.59 %	11-02-2020	11-03-2023

All Products
and
Notification of
Expired Products



Screenshots (Continue...)

The screenshot displays the MegaMart web application interface. On the left is a purple sidebar with the MegaMart logo and a user profile for 'K patel Administrator'. The main menu includes 'Dashboard', 'Product' (with sub-options 'Show Products' and 'Add product'), 'Print QR', and 'Billing'. The main content area is titled '+ Add Product' and contains several input fields: 'Name' (filled with 'Dark Chocolate'), 'HSN Code' (filled with '1804'), 'Cost' (filled with '80'), 'MRP' (filled with '100'), 'Selling Price' (filled with '90'), and 'Discount' (filled with '8.38'). Below these fields, the GST number is shown as 'GST: ₹ 1.6170892393691356' and the profit as 'Profit: 8.38'. There are also fields for 'Packing date' (filled with '11-08-2020') and 'Expiry date' (filled with '10-08-2021'). At the bottom, there is a 'Quantity' field (filled with '05') and two buttons: 'Save' and 'Cancel'.

MegaMart

MEGA MART
Love brands. Love value.

K patel
Administrator

Main Menu

- Dashboard
- Product
 - Show Products
 - Add product
- Print QR
- Billing

+ Add Product

Name
Dark Chocolate

HSN Code ⓘ
1804

Cost
80

MRP
100

Selling Price
90

Discount
8.38

GST: ₹ 1.6170892393691356 Profit: 8.38

Packing date
11-08-2020

Expiry date
10-08-2021

Quantity
05

Save Cancel

+ Add Stock

Product name

Add Products



Screenshots (Continue...)

The screenshot displays the MegaMart web application interface. On the left is a purple sidebar with the 'MEGA MART' logo and the tagline 'Love brands. Love value.' Below this, it shows the user 'K patel Administrator'. A 'Main Menu' section includes links for 'Dashboard', 'Product' (with a dropdown arrow), 'Print QR', and 'Billing'. The 'Product' dropdown menu is open, showing 'Show Products' and 'Add product'. The main content area is divided into two panels. The left panel, titled '+ Add Product', contains form fields for Name (Maggi), HSN Code (HSN), Cost (00.0), MRP (00.0), Selling Price (00.0), Discount (0), Packing date (dd-mm-yyyy), Expiry date (dd-mm-yyyy), and Quantity (000). At the bottom are 'Save' and 'Cancel' buttons. The right panel, titled '+ Add Stock', features a search bar for 'Product name' with a magnifying glass icon. Below this are fields for Name (Maggi), HSN Code (gst object (1902)), Cost (37.0), MRP (45.0), and Discount (2.02). It also displays 'Selling price: ₹ 44.09' and 'Profit: 7.09' in green. Further down are fields for Packing date (06-11-2020), Expiry date (06-08-2021), and Quantity (25), with 'Save' and 'Cancel' buttons at the bottom.

Adding Products
with same which is
already inserted




Screenshots (Continue...)

MegaMart

MEGA MART

Love brands. Love value.

K patel
Administrator

Main Menu

○ Dashboard







○ Product →

○ Print QR


○ Billing

Print QR Code

Search

No.	Name	Qrcode	Print	Stock	Cost	MRP	Discount	Packing Date	Expiry Date
1	Apple 1KG	1606855462	<input type="text" value="9"/> 	<div><div></div>9 / 50</div>	85.0	100.0	10.0 %	28-11-2020	06-12-2020
5	Crisp		<input type="text" value=""/> 	<div><div></div></div>	35.0	45.0	6.69 %	01-11-2020	30-01-2021
6	Dark Chocalate	1607363229	<input type="text" value="65"/> 	<div><div></div>65 / 65</div>	80.0	100.0	8.38 %	11-08-2020	10-08-2021
4	Maggi	1607362124	<input type="text" value="25"/> 	<div><div></div>25 / 70</div>	37.0	45.0	2.02 %	06-11-2020	06-08-2021
3	Notebook A4	1606856787	<input type="text" value="64"/> 	<div><div></div>64 / 108</div>	45.0	65.0	6.59 %	11-05-2020	30-06-2022
2	Pen	1606856658	<input type="text" value="60"/> 	<div><div></div>60 / 70</div>	45.0	80.0	1.59 %	11-02-2020	11-03-2023

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Print QR Code



Screenshots (Continue...)




Downloading
PDF of QR Code



Screenshots (Continue...)

MegaMart

MEGA MART
Love brands. Love value.

 **K patel**
Administrator

Main Menu

- Dashboard
- Product →
- Print QR
- Billing**

Invoice

MEGA MART

GST Type ▾

Clear

+ Add item

Customer Name:

Mobile No.:

Email ID:

Address:

City:

State:

PinCode:

#	HSNCode	Product Name	Rate	Quantity	Amount	Discount	Total	Delete
						SGST Total:	₹	
						CGST Total:	₹	
						IGST Total:	₹	
						Grand Total: GST Inclusive	₹	

Generate Bill

Print Bill

Billing



Screenshots (Continue...)

The screenshot displays the MegaMart web application interface. A 'QR CODE Scanner' window is overlaid on the left, showing a blurred image of a QR code. The main application area features a header with 'MEGA MART' and a navigation menu. Below the header, there are input fields for 'City:', 'State:', and 'PinCode:', each with a corresponding text box. To the right of these fields are buttons for 'GST Type', 'Clear', and '+ Add item'. Below the input fields is a table with columns: Rate, Quantity, Amount, Discount, Total, and Delete. The table contains one row with the following data: Rate ₹100.0, Quantity 1, Amount ₹100.0, Discount 10.0%, Total ₹90.0, and a delete icon. Below the table, there are buttons for 'Generate Bill' and 'Print Bill'. The bottom of the page shows a summary table with the following data:

Rate	Quantity	Amount	Discount	Total	Delete
₹100.0	1	₹100.0	10.0%	₹90.0	
SGST Total:				₹ 0.00	
CGST Total:				₹ 0.00	
IGST Total:				₹ 0.00	
Grand Total: GST Inclusive				₹ 90.00	

Adding Item with
QR Code Scanner



Screenshots (Continue...)

MegaMart

MEGA MART

Love brands. Love value.

K patel

Administrator

Main Menu

Dashboard

Product

Print QR

Billing

Invoice

MEGA MART

GST Type

Clear

+ Add item

Customer Name:

Mobile No.:

Email ID:

Address:

City:

State:

PinCode:

SGST & CGST

IGST

#	HSNCode	Product Name	Rate	Quantity	Amount	Discount	Total	Delete
1	1201 0.0%	1606855462 Apple 1KG	₹100.0	- 1 +	₹100.0	10.0%	₹90.0	
2	10129 12.0%	1606856787 Notebook A4	₹65.0	- 2 +	₹130.0	17.58%	₹120.0	
3	502 5.0%	1606856658 Pen	₹80.0	- 1 +	₹80.0	10.71%	₹75.0	
SGST Total:							₹ 8.40	
CGST Total:							₹ 8.40	
IGST Total:							₹ 0.00	
Grand Total: GST Inclusive							₹ 285.00	

Default GST type
is SGST & CGST



Screenshots (Continue...)

The screenshot displays the MegaMart web application interface. On the left is a purple sidebar with the MegaMart logo and a user profile for K. Patel, Administrator. The sidebar contains a 'Main Menu' with links to Dashboard, Product, Print QR, and Billing. The main content area is titled 'Invoice' and 'MEGA MART'. It features a form for customer details (Name, Mobile No., Email ID, Address, City, State, PinCode) and a 'GST Type' dropdown menu currently set to 'IGST'. Below the form is a table with 3 columns: #, HSNCode, Product Name, Rate, Quantity, Amount, Discount, Total, and Delete. The table contains 3 rows of product data. At the bottom, there are summary rows for SGST Total, CGST Total, IGST Total, and Grand Total (GST Inclusive).

MEGA MART
Love brands. Love value.

K. Patel
Administrator

Main Menu

- Dashboard
- Product
- Print QR
- Billing

Invoice

MEGA MART

GST Type: **IGST** (Selected)
Buttons: Clear, + Add item

Customer Name:
Mobile No.:
Email ID:
Address:
City:
State:
PinCode:

#	HSNCode	Product Name	Rate	Quantity	Amount	Discount	Total	Delete
1	1201 0.0%	1606855462 Apple 1KG	₹100.0	- 1 +	₹100.0	10.0%	₹90.0	
2	10129 12.0%	1606856787 Notebook A4	₹65.0	- 2 +	₹130.0	17.58%	₹120.0	
3	502 5.0%	1606856658 Pen	₹80.0	- 1 +	₹80.0	10.71%	₹75.0	
SGST Total:							₹ 0.00	
CGST Total:							₹ 0.00	
IGST Total:							₹ 16.43	
Grand Total: GST Inclusive							₹ 285.00	


Changing to GST
type IGST



Screenshots (Continue...)

MegaMart

MEGA MART
Love brands. Love value.

 **K patel**
Administrator

Main Menu

- Dashboard
- Product →
- Print QR
- Billing

Invoice

MEGA MART

GST Type ▾

Clear

+ Add item

Customer Name:

City:



Mobile No.:

State:

Email ID:

PinCode:

Address:

#	HSNCode	Product Name	Rate	Quantity	Amount	Discount	Total	Delete
1	1201 0.0%	1606855462 Apple 1KG	₹100.0	<div>- 1 +</div>	₹100.0	10.0%	₹90.0	
2	502 5.0%	1606856658 Pen	₹80.0	<div>- 1 +</div>	₹80.0	10.71%	₹75.0	
SGST Total:							₹ 0.00	
CGST Total:							₹ 0.00	
IGST Total:							₹ 3.57	
Grand Total: GST Inclusive							₹ 165.00	

Generate Bill

Print Bill

Deleting Item from
billing products




Screenshots (Continue...)

MegaMart

MEGA MART

Love brands. Love value.

K patel
Administrator

Main Menu

○ Dashboard

○ Product →


○ Print QR

○ Billing

All Products

Search

No.	Name	Qrcode	Stock	Cost	MRP	Discount		
1	Apple 1KG	1606855462	9 / 50	85.0	100.0	10.0 %		
5	Crispy Toast	1607362705	35 / 35	35.0	45.0	6.69 %		
6	Dark Chocalate	1607363229	65 / 65	80.0	100.0	8.38 %		
4	Maggi	1607362124	25 / 70	37.0	45.0	2.02 %		
3	Notebook A4	1606856787	64 / 108	45.0	65.0	6.59 %	11-05-2020	30-06-2022
2	Pen	1606856658	60 / 70	45.0	80.0	1.59 %	11-02-2020	11-03-2023



K patel
kpatel9899s@gmail.com

My Profile


Messages

Activity

FAQ

Sign Out

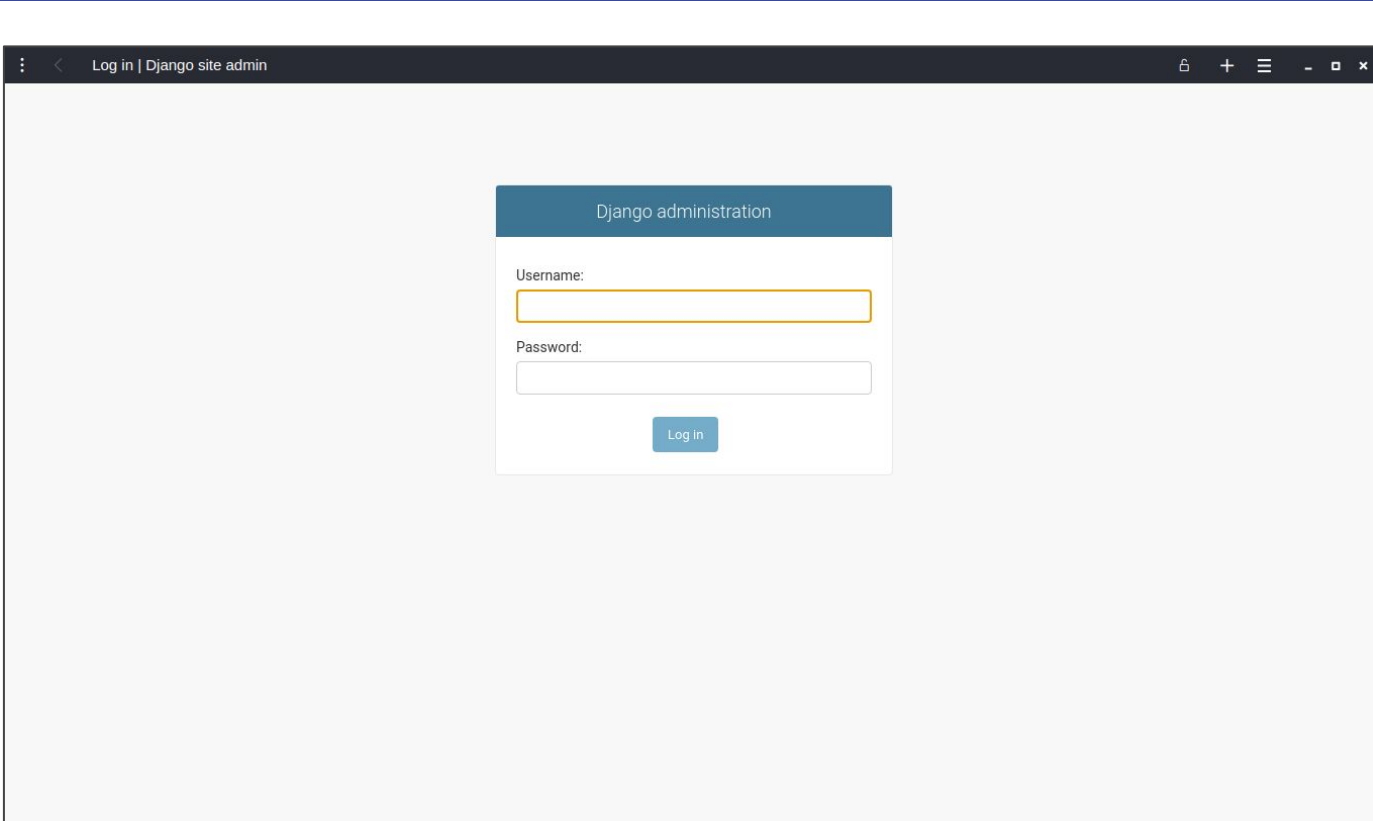
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Logout



Screenshots (Continue...)



The screenshot shows a web browser window with the address bar displaying "Log in | Django site admin". The main content area features a login form titled "Django administration". The form includes a "Username:" label, a text input field with a yellow border, a "Password:" label, a text input field, and a "Log in" button.

Log in | Django site admin

Django administration

Username:

Password:

Log in

**Admin
Login**



Screenshots (Continue...)

The screenshot displays the Django administration interface. The browser's address bar shows 'Site administration | Django site admin'. The page header includes 'Django administration' and a welcome message for 'DEVANG' with links to 'VIEW SITE', 'CHANGE PASSWORD', and 'LOG OUT'. The main content area is titled 'Site administration' and is divided into two sections: 'AUTHENTICATION AND AUTHORIZATION' and 'MEGAMART'. The 'AUTHENTICATION AND AUTHORIZATION' section contains links to 'Groups' and 'Users', each with 'Add' and 'Change' options. The 'MEGAMART' section contains links to 'Gsts' and 'Products', also with 'Add' and 'Change' options. On the right side, there is a 'Recent actions' panel titled 'My actions' listing several product-related actions, such as 'Apple 1KG Product', 'Crispy Toast Product', 'Maggi Product', 'Pen Product', and 'Notebook A4 Product'.

Site administration | Django site admin

Django administration

WELCOME, DEVANG [VIEW SITE](#) / [CHANGE PASSWORD](#) / [LOG OUT](#)

Site administration

AUTHENTICATION AND AUTHORIZATION

Groups [+ Add](#) [Change](#)

Users [+ Add](#) [Change](#)

MEGAMART

Gsts [+ Add](#) [Change](#)

Products [+ Add](#) [Change](#)

Recent actions

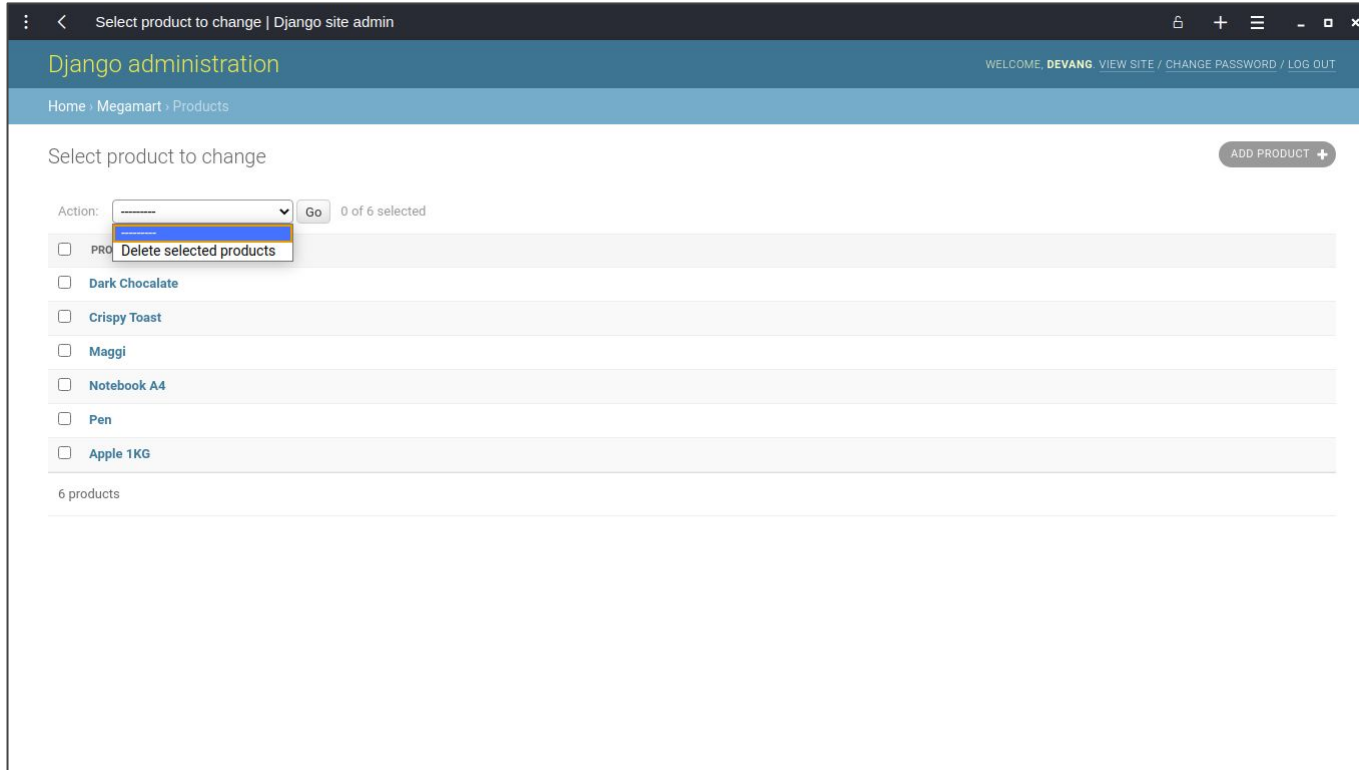
My actions

- [Apple 1KG](#)
Product
- [Apple 1KG](#)
Product
- [Crispy Toast](#)
Product
- [Maggi](#)
Product
- [Pen](#)
Product
- [Pen](#)
Product
- [Notebook A4](#)
Product
- [Notebook A4](#)
Product
- [Apple 1KG](#)
Product
- [Apple 1KG](#)
Product

Admin Dashboard



Screenshots (Continue...)



Admin
Checking and
Deleting products
from product table



Screenshots (Continue...)

Change product | Django site admin

Django administration

Home / Megamart / Products / Dark Chocolate

WELCOME DEVANG / VIEW SITE / CHANGE PASSWORD / LOG OUT

Change product HISTORY

id:

Name:

Phoncode:

Cost:

Prmp:

Prsellingprice:

Prdiscount:

Packingdt: Today

Note: You are 0.5 hours ahead of server time.

Prexpirydt: Today

Note: You are 0.5 hours ahead of server time.

Pstock:

Pquantity:

Pbarcode:

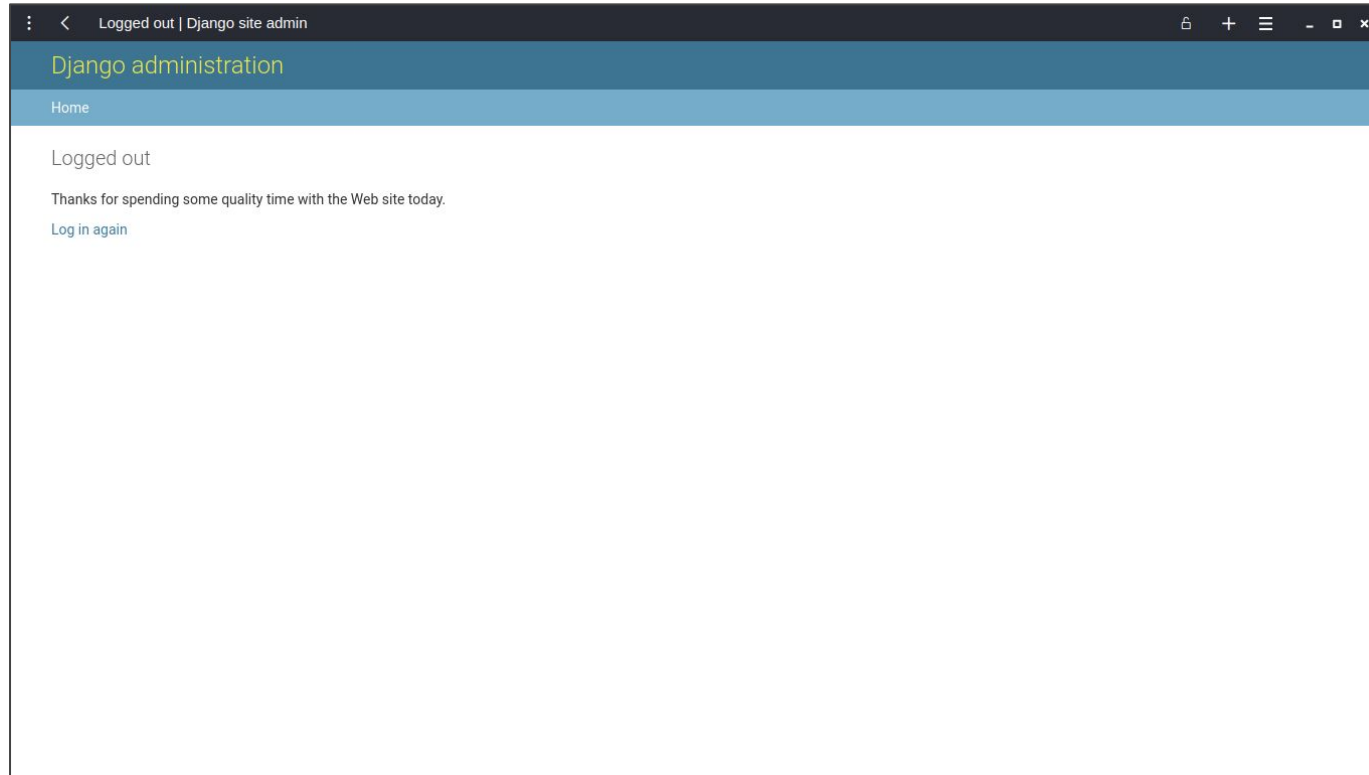
Ppimage: Currently: Dark_Chocolate_1007363229.png ☐ Clear

Change: No file chosen

Admin
Modifying Inserted
Record in product
table



Screenshots (Continue...)



**Admin
Logout**



Screenshots (Continue...)

pgAdmin File Object Tools Help

Browser

- Domains
- FTS Configurations
- FTS Dictionaries
- FTS Parsers
- FTS Templates
- Foreign Tables
- Functions
- Materialized Views
- Procedures
- Sequences
- Tables (14)
 - MegaMart_customer
 - MegaMart_gst
 - MegaMart_invoice
 - MegaMart_product
 - auth_group
 - auth_group_permissions
 - auth_permission
 - auth_user
 - auth_user_groups
 - auth_user_user_permission
 - django_admin_log
 - django_content_type
 - django_migrations
 - django_session
- Trigger Functions
- Types
- Views

postgres

Login/Group Roles (13)

Tablespaces

Dashboard Properties SQL Statistics Dependencies Dependents public.MegaMart_product/megamart/postgres@megamart

Query Editor Query History Scratch Pad

```
1 SELECT * FROM public."MegaMart_product"
2 ORDER BY pid ASC
```

Data Output Explain Messages Notifications

	pid [PK] Integer	pname character varying (50)	pcost double precision	pmrp double precision	psellingprice double precision	pdiscout double precision	ppackingdt date	pexply date
1	1	Apple 1KG	85	100	90	10	2020-11-28	2020-11-28
2	2	Pen	45	80	75	1.59	2020-02-11	2023-02-11
3	3	Notebook A4	45	65	60	6.59	2020-05-11	2022-05-11
4	4	Maggi	37	45	42	2.02	2020-11-06	2021-11-06
5	5	Crispy Toast	35	45	40	6.69	2020-11-01	2021-11-01
6	6	Dark Chocalate	80	100	90	8.38	2020-08-11	2021-08-11

Admin Postres Database view 1



Screenshots (Continue...)

The screenshot displays the pgAdmin web interface. On the left, the 'Browser' pane shows a tree view of the database structure. The 'Tables (14)' folder is expanded, and 'MegaMart_product' is selected. The main pane shows the 'Query Editor' with a SQL query: `SELECT * FROM public."MegaMart_product" ORDER BY pid ASC`. Below the query editor, the 'Data Output' tab is active, showing a table of data. The table has columns: `ppackingdt`, `pexpirydt`, `pstock`, `pquantity`, `pqrqcode`, `pqrimage`, `ptimestamp`, `Id_Id`, and `phsncode_Id`. The data is sorted by `pid` in ascending order.

ppackingdt	pexpirydt	pstock	pquantity	pqrqcode	pqrimage	ptimestamp	Id_Id	phsncode_Id
2020-11-28	2020-12-06	50	9	1606855462	Apple_1KG_1606855462_qTC...	2020-12-02 02:14:22.883782+05...	1	1201
2020-02-11	2023-03-11	70	60	1606856658	Pen_1606856658_4F6KZPA.p...	2020-12-02 02:34:18.659764+05...	1	502
2020-05-11	2022-06-30	108	64	1606856787	Notebook_A4_1606856787_R...	2020-12-02 02:36:27.891152+05...	1	10129
2020-11-06	2021-08-06	70	25	1607362124	Maggi_1607362124_zjsjMJZ.p...	2020-12-07 23:58:44.244477+05...	1	1902
2020-11-01	2021-01-30	35	35	1607362705	Crispy_Toast_1607362705.png	2020-12-07 23:08:26.009845+05...	1	19054000
2020-08-11	2021-08-10	65	65	1607363229	Dark_Chocolate_1607363229...	2020-12-07 23:17:09.637798+05...	1	1804

Admin Postres Database view 2



Thank you



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