VEGETABLE MARKET MANAGEMENT SYSTEM

Final Project

Programming Fundamentals

DS1102

Registration number – 22CDS0428

Name – M.K.S.K.KUMARA

Department – Data Science

Date – 2024.12.24

Table of Contents

Vegetable Market Management System

1. Introduction

The Vegetable Market Management System is a console application that provides a system to manage stock, orders, and billings for vegetables at a market. This project implements Python programming in building an efficient and user friendly system.

The key features of this project will include the following:

- Stock management by name, price, and quantity in store.

- Customer ordering of items based on weight.

- Stock and billing report with all minute details.

- Storage and retrieval using JSON files for data persistence.

Target Users:

- Market Administrators
- Customers

2. Objectives

- Simplify vegetable stock management.

- Reduce errors in billing and stock updates.

- Enable quick access to inventory and sales data.

- Provide a user-friendly interface for administrators and customers.
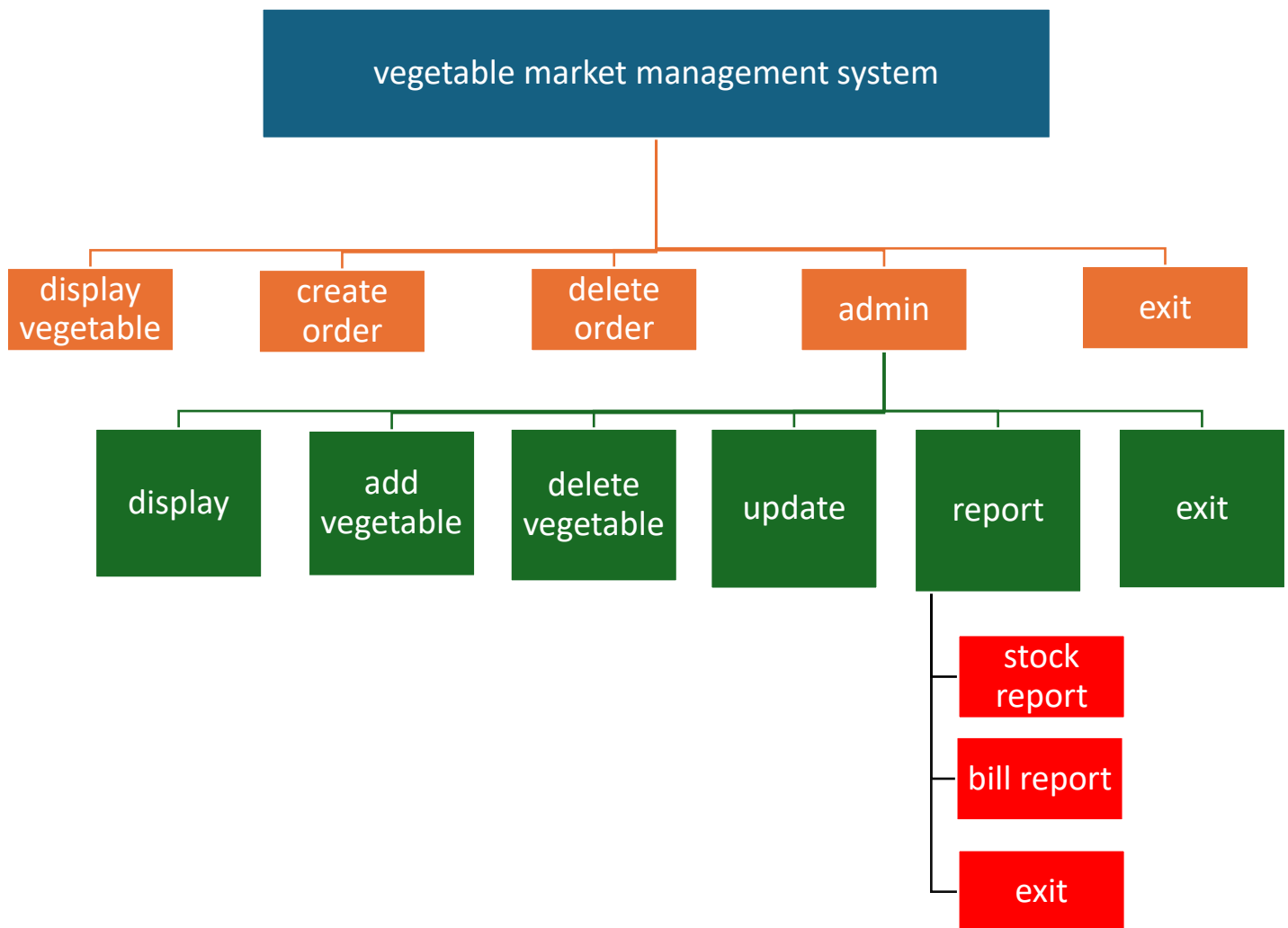
3. System Requirements

Software Requirements:

- Operating System: Any OS supporting Python

- Python Version: Python 3.8 or higher

- Python Libraries: json

Hardware Requirements:

- Storage: Minimal (depends on data size)

4. System Design

4.1 Flowchart:

```
                    vegetable market management system

display        create        delete        admin              exit
vegetable      order         order

        display    add          delete      update    report    exit
                   vegetable    vegetable

                                                      stock
                                                      report

                                                      bill report

                                                      exit
```

4.2 Admin Functionalities:

1. **Add Vegetable:**
    - Add new vegetables with details like name, price, and stock.
2. **Delete Vegetable:**
    - remove vegetables with details like name, price, and stock.
3. **Update Stock:**
    - Modify existing name , stock or price details.
4. **View Reports:**
    - Generate stock and billing reports for analysis.

4.3 Customer Functionalities:

1. **View Vegetables:**
    - Browse available vegetables with prices and stock levels.
2. **Place Order:**
    - Select vegetables and specify quantities to create an order.
3. **Generate Bill:**
    - Receive an itemized bill with total cost.
4. **Delete bill:**
    - Remove created bill.

5. Testing and Results

5.1. Admin Testing:

5.1.1. Add Vegetables:

- Verified successful addition of vegetable details.
- Main menu→ 4. Admin → enter password → admin menu → 2. Add vegetable

```
---Vegetable Market---
1. Display Vegetables
2. Create Order
3. Delete Order
4. Admin
5. Exit
Enter your choice (1-5): 4
Enter password: 122333
login successful


--admin menu--
1.display
2.add vegetable
3.delete vegetable
4.update
5.report
6. exit

select your choice (1-6) :2
Enter vegetable name: carrot
Enter price per kilogram: 90
Enter stock in kilograms: 60
Successfully added!
Do you need to add another vegetable (yes or no)?
```

5.1.2. Delete vegetable:

- o remove vegetables with details like name, price, and stock.
- o Main menu→4. Admin→enter password→3.Delete vegetable

```
---Vegetable Market---
1. Display Vegetables
2. Create Order
3. Delete Order
4. Admin
5. Exit
Enter your choice (1-5): 4
Enter password: 122333
login successful


--admin menu--
1.display
2.add vegetable
3.delete vegetable
4.update
5.report
6. exit

select your choice (1-6) :3

Available Vegetable Names:
1. Onion
2. Carrot
Enter delete vegetable index no: 1
You choose onion
delete successfully!
Do you need to delete another order? (yes or no):
```

5.1.3. Update Stock:

- ○ Ensured name , stock and price updates were accurately reflected.
- ○ Main menu→4. Admin→enter password→4.Update

```
---Vegetable Market---
1. Display Vegetables
2. Create Order
3. Delete Order
4. Admin
5. Exit
Enter your choice (1-5): 4
Enter password: 122333
login successful


--admin menu--
1.display
2.add vegetable
3.delete vegetable
4.update
5.report
6. exit

select your choice (1-6) :4

Available Vegetables:
1. carrot - Price (per Kg): Rs.90.0    Stock: 73.0 Kg
2. onion - Price (per Kg): Rs.60.0    Stock: 63.400000000000006 Kg
3. pumkin - Price (per Kg): Rs.80.0    Stock: 82.2 Kg
enter index no what do you want update : 2
-- update --
 1.vegetable name
 2.vegetable price
 3.vegetable stock
 4.exit
```

```
what do you need update? (1-4):3
enter new stock (kg) : 63.4
successfully update!
-- update --
 1.vegetable name
 2.vegetable price
 3.vegetable stock
 4.exit

what do you need update? (1-4):4

--admin menu--
1.display
2.add vegetable
3.delete vegetable
4.update
5.report
6. exit

select your choice (1-6) :1

Available Vegetables:
1. carrot - Price (per Kg): Rs.90.0    Stock: 73.0 Kg
2. onion - Price (per Kg): Rs.60.0    Stock: 63.4 Kg
3. pumkin - Price (per Kg): Rs.80.0    Stock: 82.2 Kg
```

5.1.4. View Reports:

- o generate bill report from all bills and create stock reports.

5.1.4.1. Stock report

- o Main menu→4. Admin→enter password→5. report→1.stock report

```
---Vegetable Market---
1. Display Vegetables
2. Create Order
3. Delete Order
4. Admin
5. Exit
Enter your choice (1-5): 4
Enter password: 122333
login successful


--admin menu--
1.display
2.add vegetable
3.delete vegetable
4.update
5.report
6. exit

select your choice (1-6) :5

--vegetable report--
1.stock report
2.bill report
3.exit
enter your choice (1-3) : 1
Stock Report:
1  Name: carrot -    stock: 90.0 Kg
2  Name: onion -    stock: 70.0 Kg
3  Name: pumkin -    stock: 90.0 Kg
```

5.1.4.2. Bill report

o   Main menu→4. Admin→enter password→5. report→2.bill report

```
---Vegetable Market---
1. Display Vegetables
2. Create Order
3. Delete Order
4. Admin
5. Exit
Enter your choice (1-5): 4
Enter password: 122333
login successful


--admin menu--
1.display
2.add vegetable
3.delete vegetable
4.update
5.report
6. exit

select your choice (1-6) :5

--vegetable report--
1.stock report
2.bill report
3.exit
enter your choice (1-3) : 2
1  Name: onion    Quantity: 800.0g  Price: Rs.72.00
2  Name: onion    Quantity: 500.0g  Price: Rs.45.00
3  Name: pumkin   Quantity: 5.0kg   Price: Rs.400.00
4  Name: pumkin   Quantity: 800.0g  Price: Rs.64.00
total price is Rs.581.0
```

5.2. Customer Testing:

5.2.1. View Vegetables:

- o Verified correct display of vegetable data.
- o Main menu→1.Display vegetables

```
---Vegetable Market---
1. Display Vegetables
2. Create Order
3. Delete Order
4. Admin
5. Exit
Enter your choice (1-5): 1

Available Vegetables:
1. carrot - Price (per Kg): Rs.90.0    Stock: 90.0 Kg
2. onion - Price (per Kg): Rs.60.0    Stock: 70.0 Kg
3. pumkin - Price (per Kg): Rs.80.0    Stock: 84.2 Kg
```

5.2.2. Place Order:

- o Ensured order calculations and stock reductions were accurate.
- o Main menu →2. Create order

```
---Vegetable Market---
1. Display Vegetables
2. Create Order
3. Delete Order
4. Admin
5. Exit
Enter your choice (1-5): 2

Available Vegetable Names:
1. Carrot
2. Onion
3. Pumkin
Enter vegetable index no: 1
You choose carrot
Choose your measure (Kg or g): kg
How much do you need? 5
Do you need to stop ordering? (yes or no): yes
Your order was successful!

 --bill--
1  Name: carrot   Quantity: 5.0kg  Price: Rs.450.00
total bill amount is Rs.450.0
```

5.2.3. Delete Order:

- o Remove the order bills check available bills.
- o Main menu →3. Delete order

```
---Vegetable Market---
1. Display Vegetables
2. Create Order
3. Delete Order
4. Admin
5. Exit
Enter your choice (1-5): 3
1  Name: carrot   Quantity: 5.0kg  Price: Rs.450.00
2  Name: onion    Quantity: 800.0g  Price: Rs.48.00
3  Name: pumkin   Quantity: 2.0kg  Price: Rs.160.00
Total price is Rs. 658.00
Enter the bill number you want to delete: 2
Delete successful.
Do you need to delete another order? (yes or no): no

---Vegetable Market---
1. Display Vegetables
2. Create Order
3. Delete Order
4. Admin
5. Exit
Enter your choice (1-5): 3
1  Name: carrot   Quantity: 5.0kg  Price: Rs.450.00
2  Name: pumkin   Quantity: 2.0kg  Price: Rs.160.00
Total price is Rs. 610.00
Enter the bill number you want to delete: 
```

- o

6. Limitations

- Console-based; lacks a graphical user interface (GUI).

- No real-time notifications for low stock.

- Data stored locally; no cloud integration.

---

7. Future Enhancements

- Add a GUI for better user interaction.

- Implement a database for improved scalability.

- Introduce real-time low-stock alerts.

- Enable export of reports in PDF or Excel formats.