Software-Design Document

for

Shop Inventory Management System

Version 1.2

Prepared by

Group #: 20

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Course: CS253

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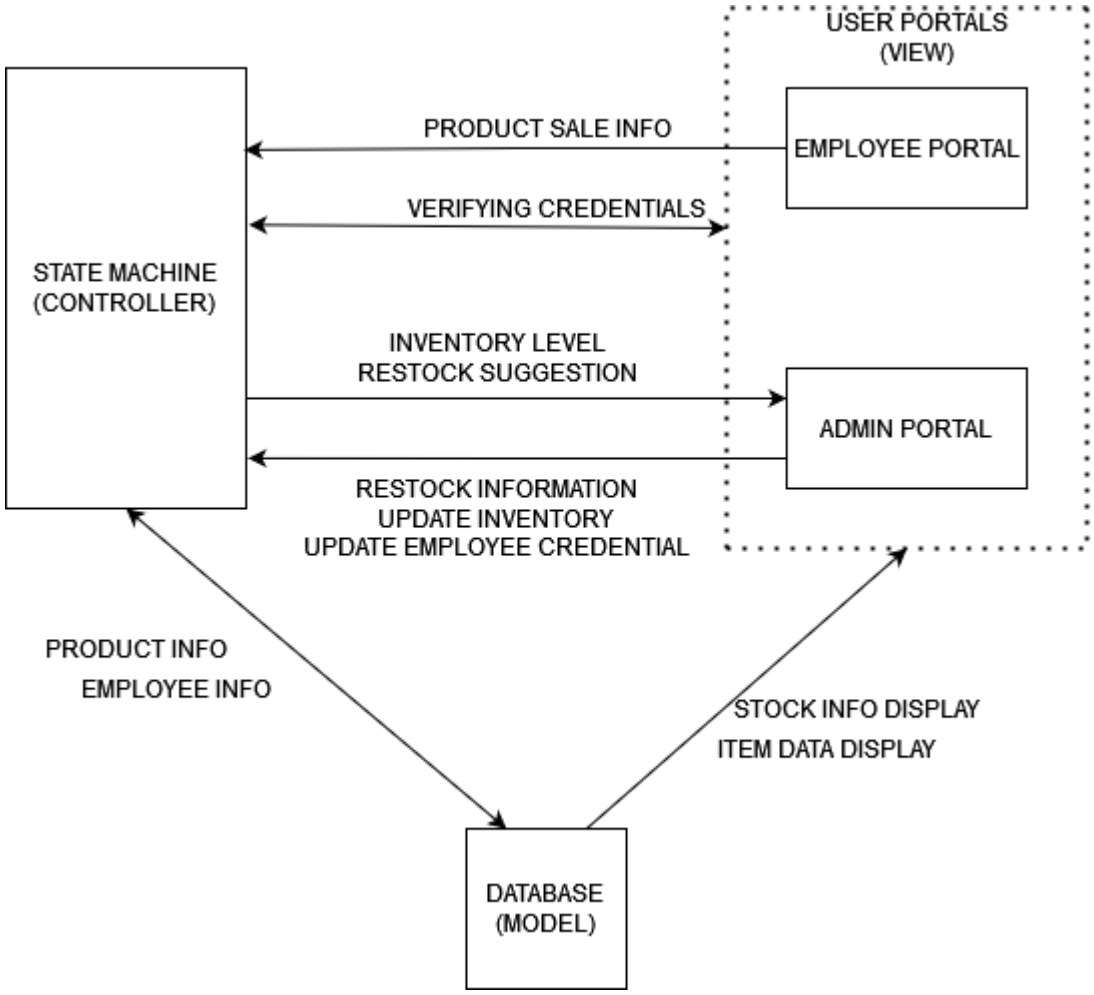
Revisions

Version	Primary Author(s)	Description of Version	Date Completed
1.1	Kshitij Kabeer Rishabh Kothary Kartavya	Added all diagrams related to software design	15/02/2022
1.2	Kshitij Kabeer Rishabh Kothary	Changed all diagrams to better match the final product we developed	28/04/2022

1 Context Design

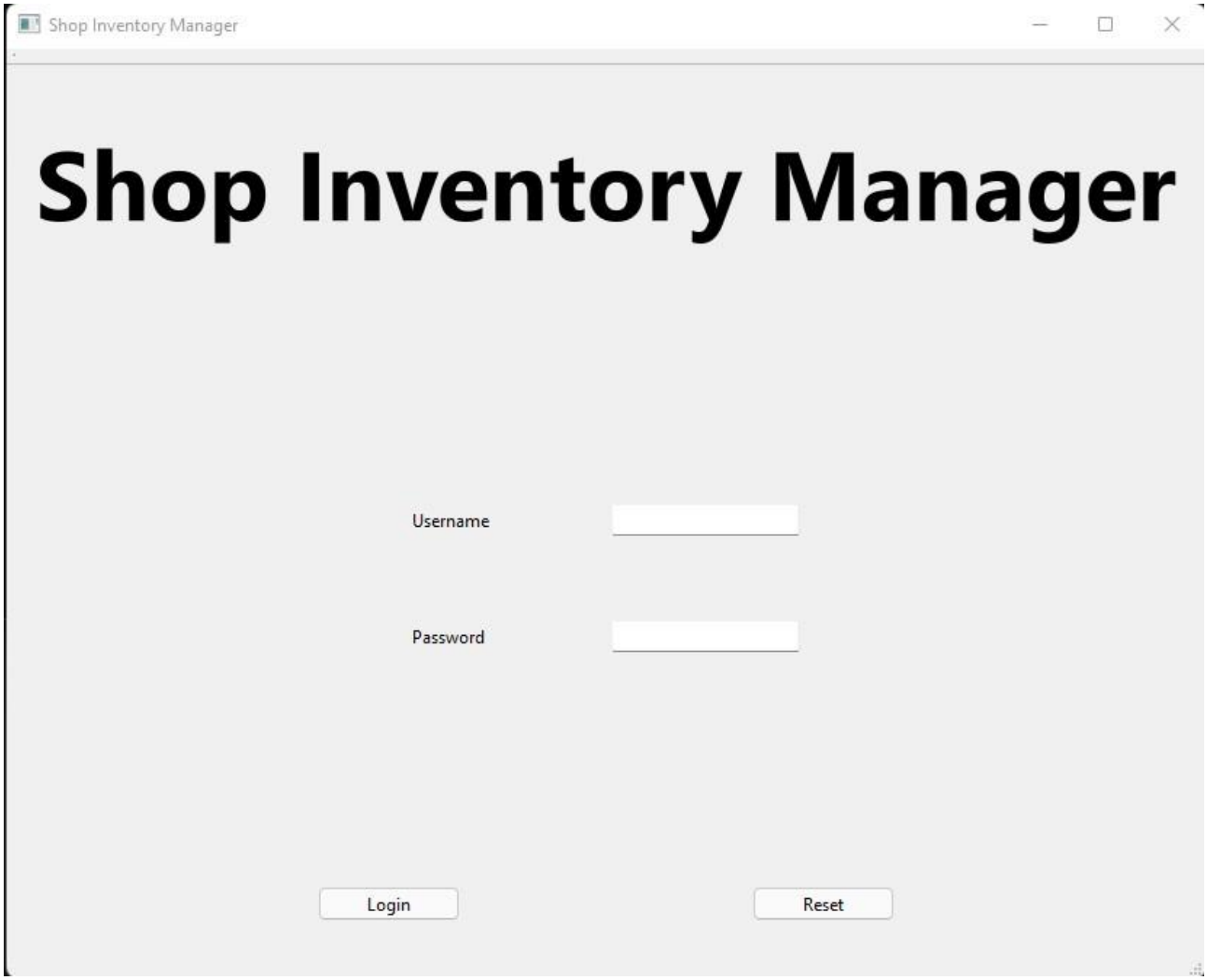
1.1 Context Model

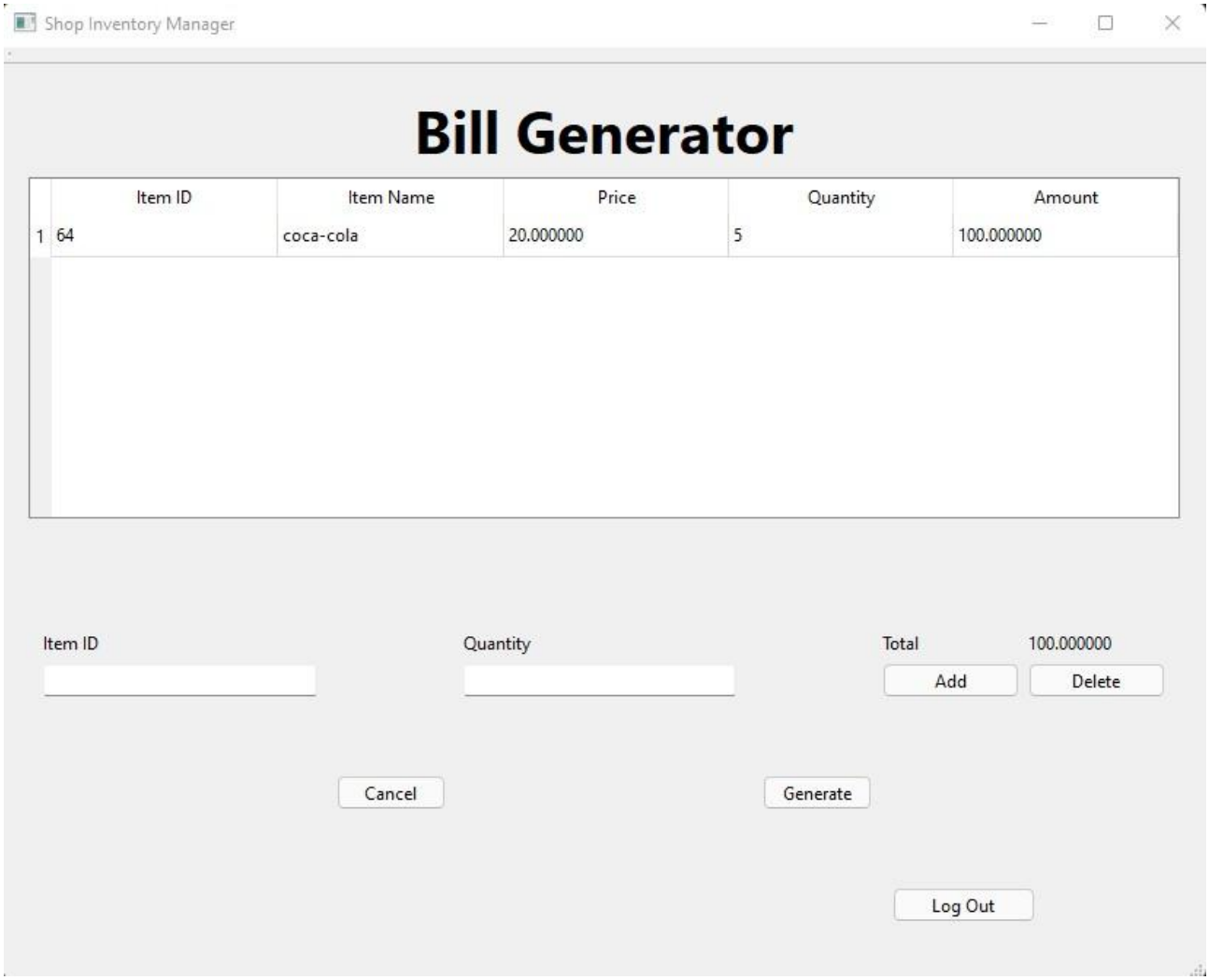
This diagram is changed

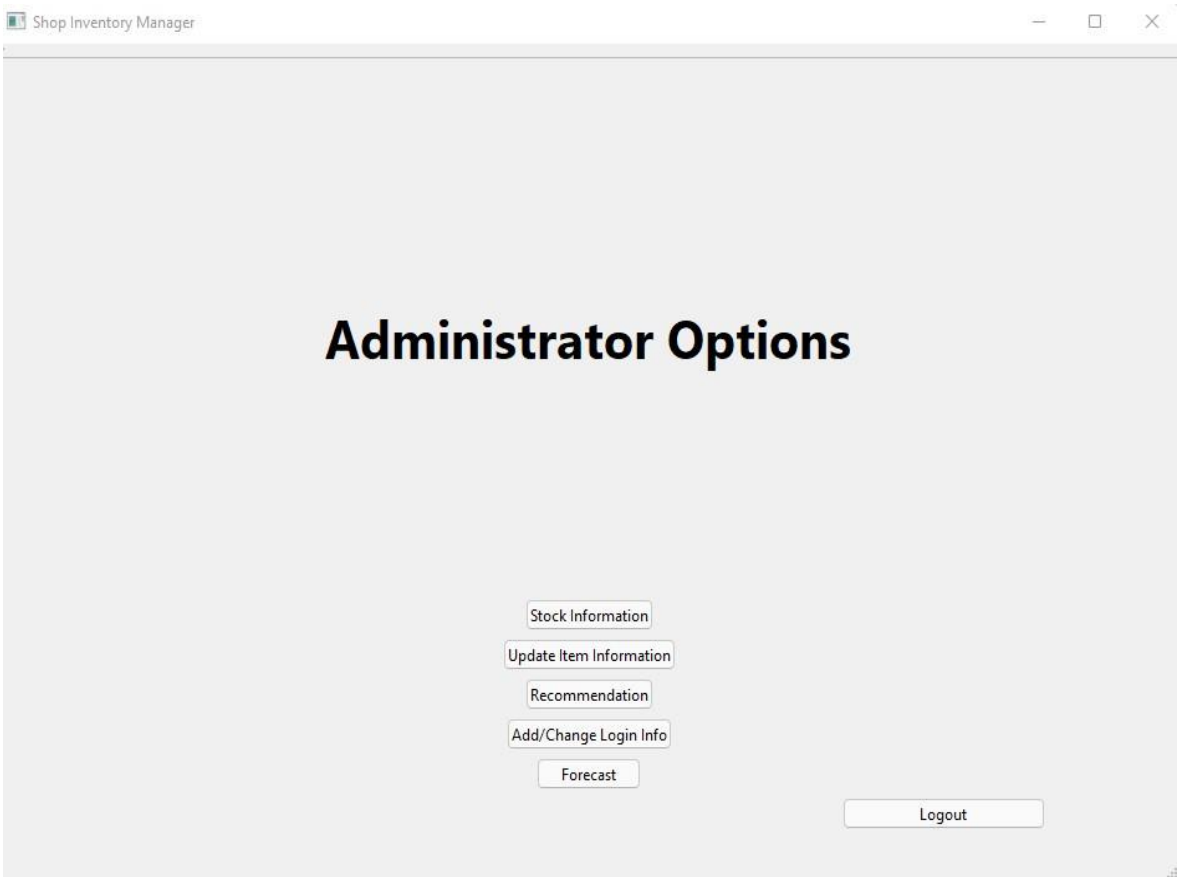


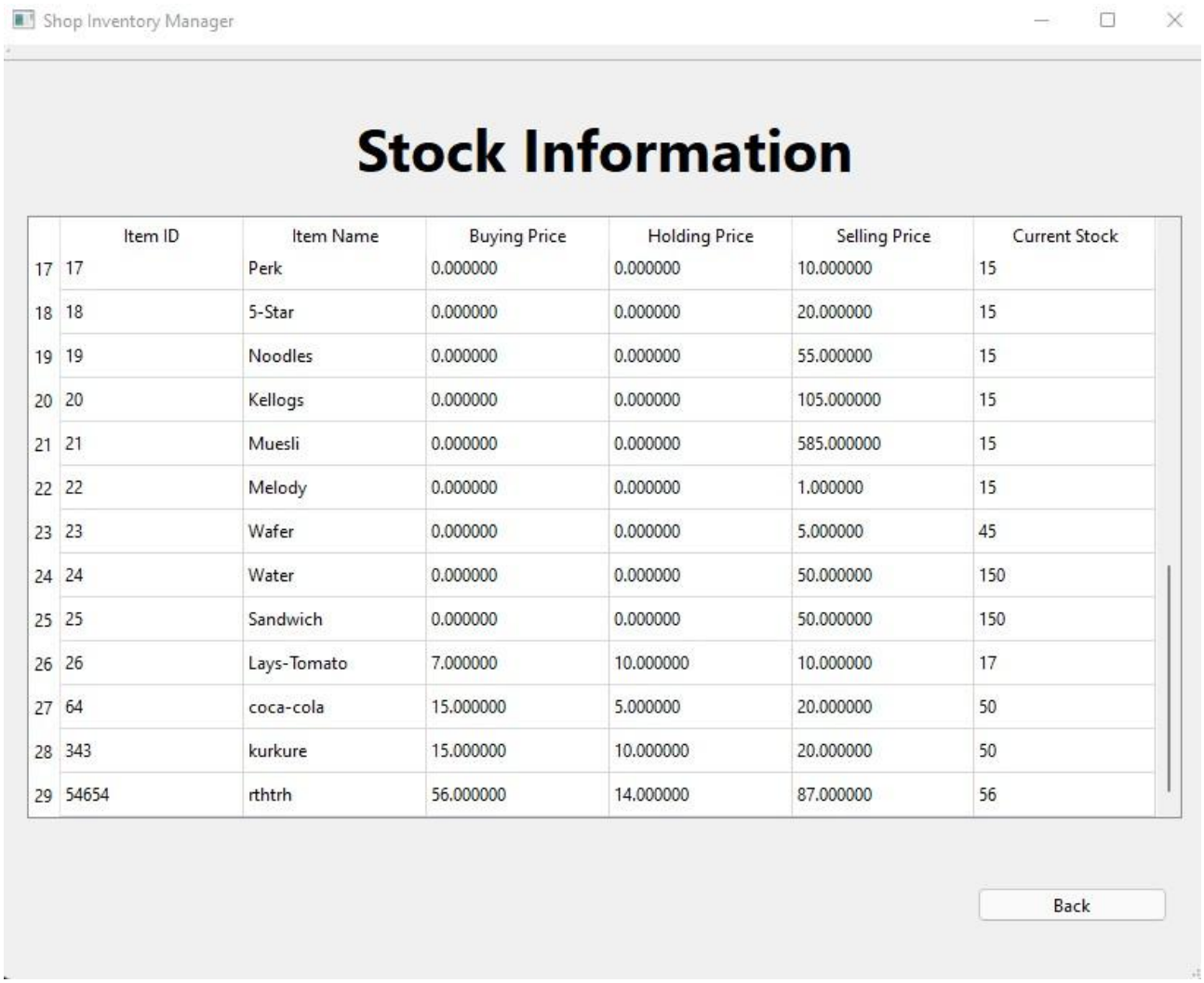
1.2 Human Interface Design

(These diagrams are changed)

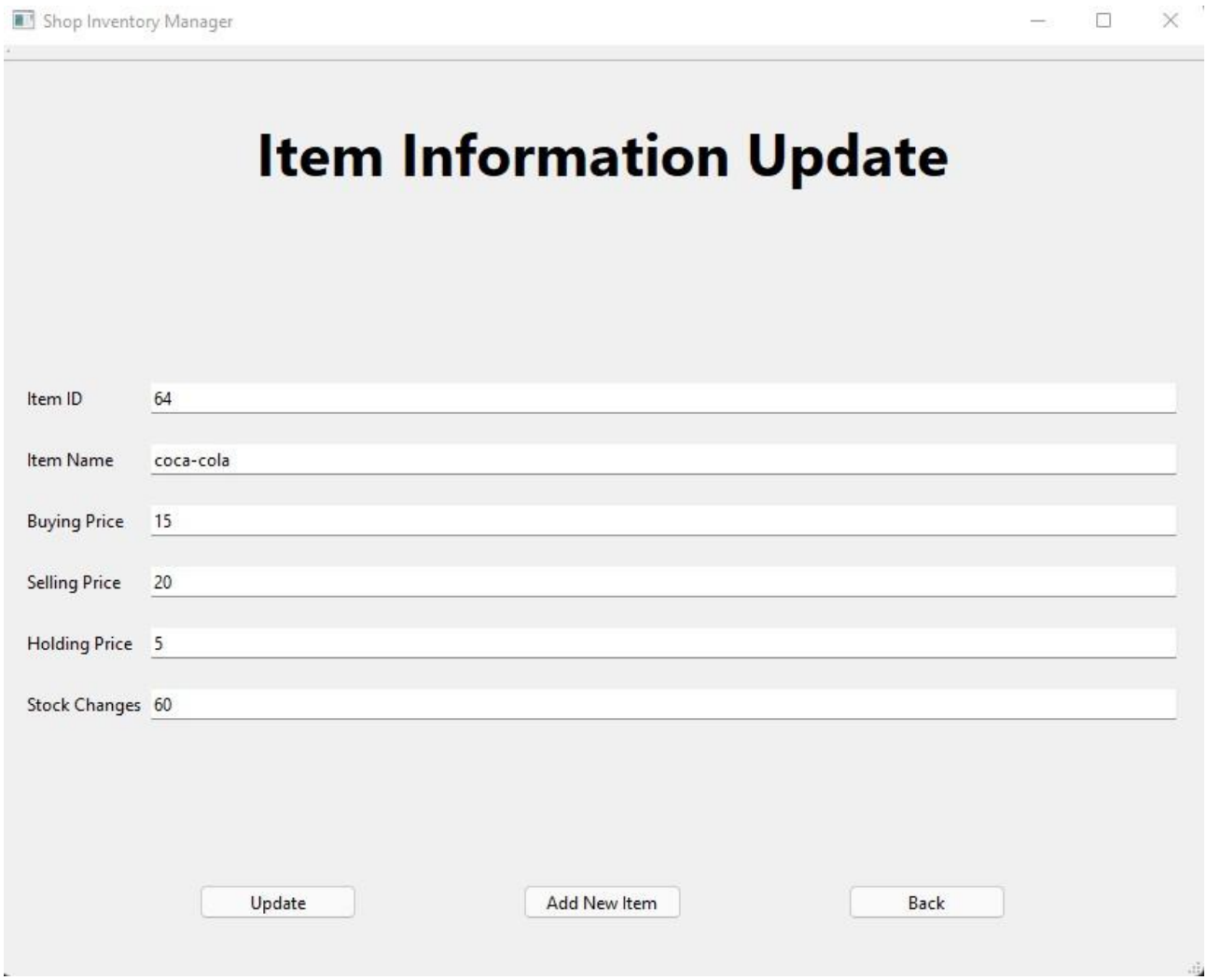


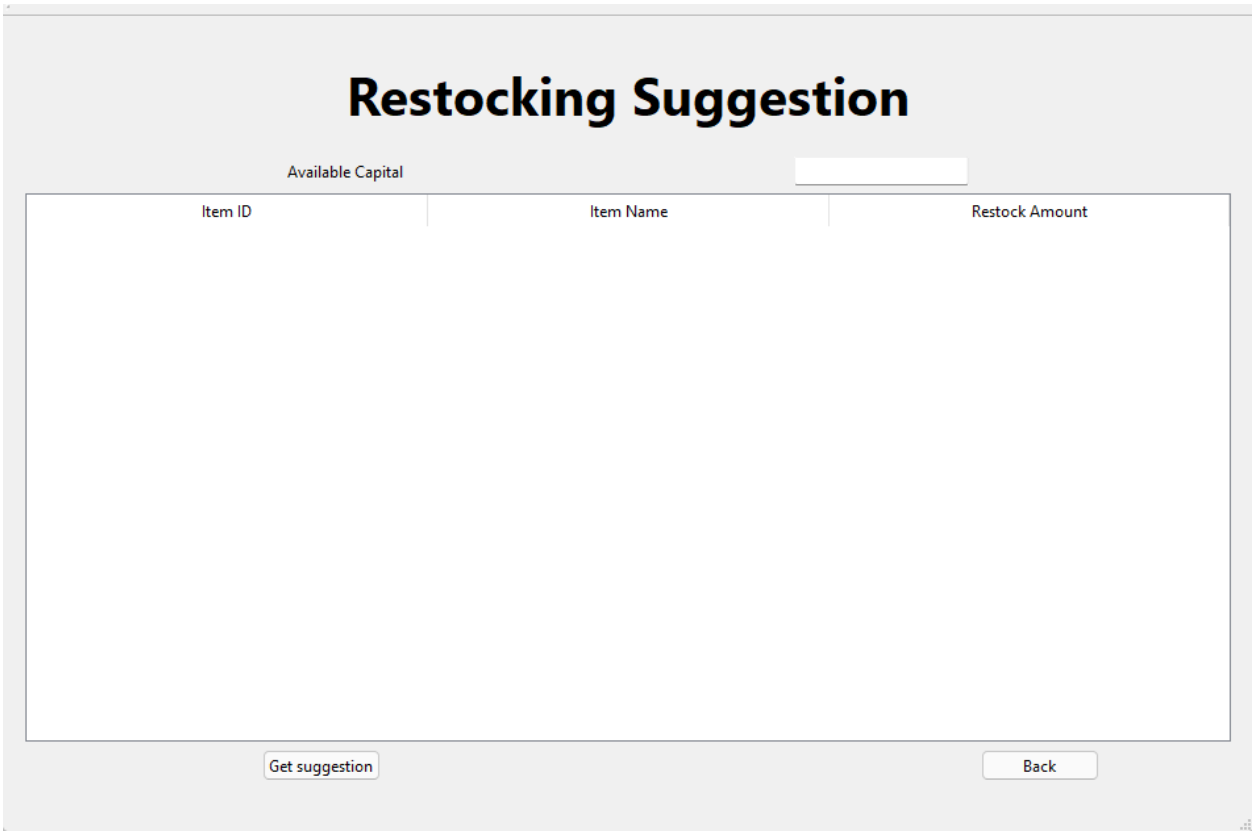

Shop Inventory Manager
Bill Generator
Item ID
Item Name
Price
Quantity
Amount
1
64
coca-cola
20.000000
5
100.000000
Item ID
Quantity
Total
100.000000
Add
Delete
Cancel
Generate
Log Out

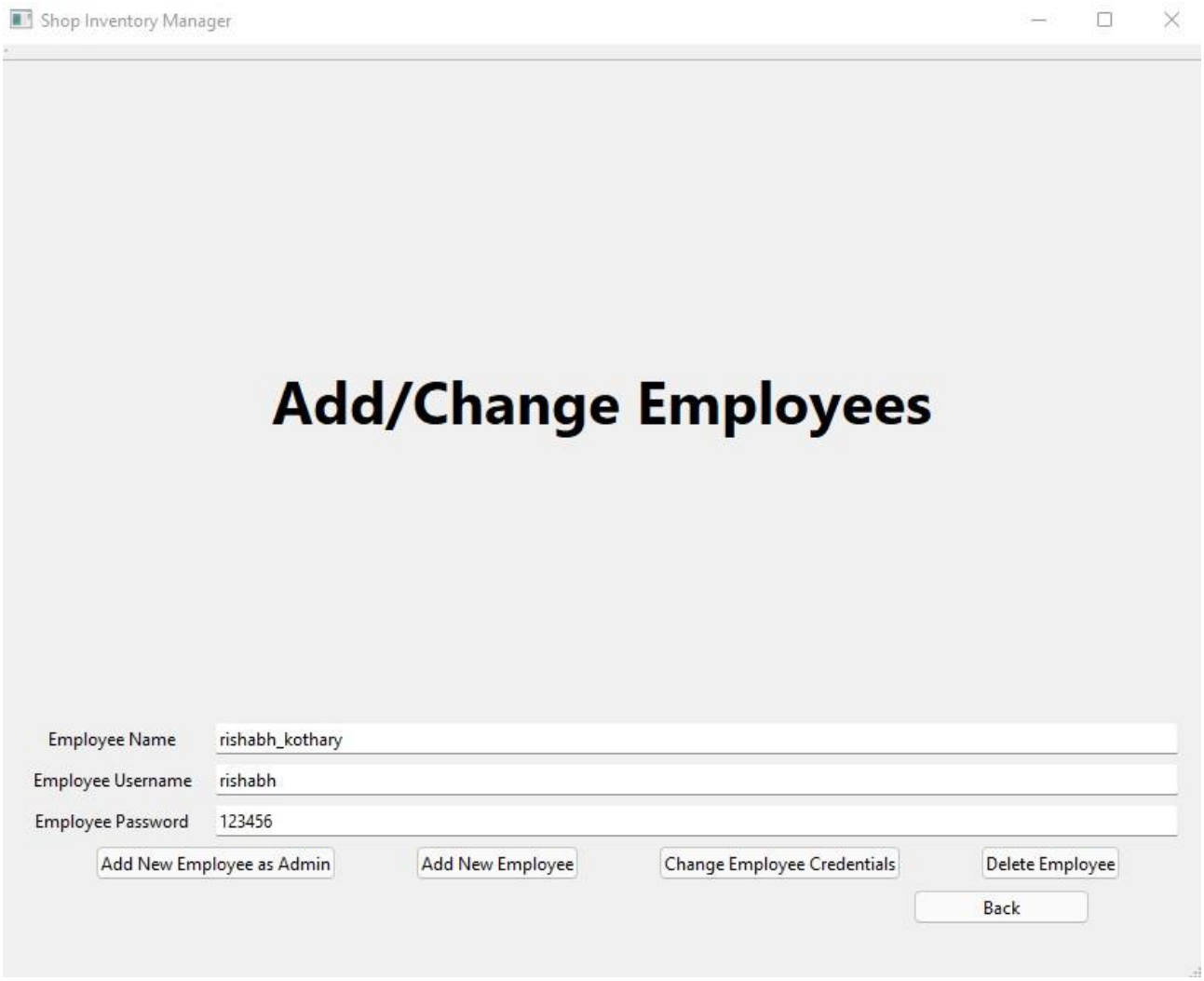

Shop Inventory Manager
Administrator Options
Stock Information
Update Item Information
Recommendation
Add/Change Login Info
Forecast
Logout



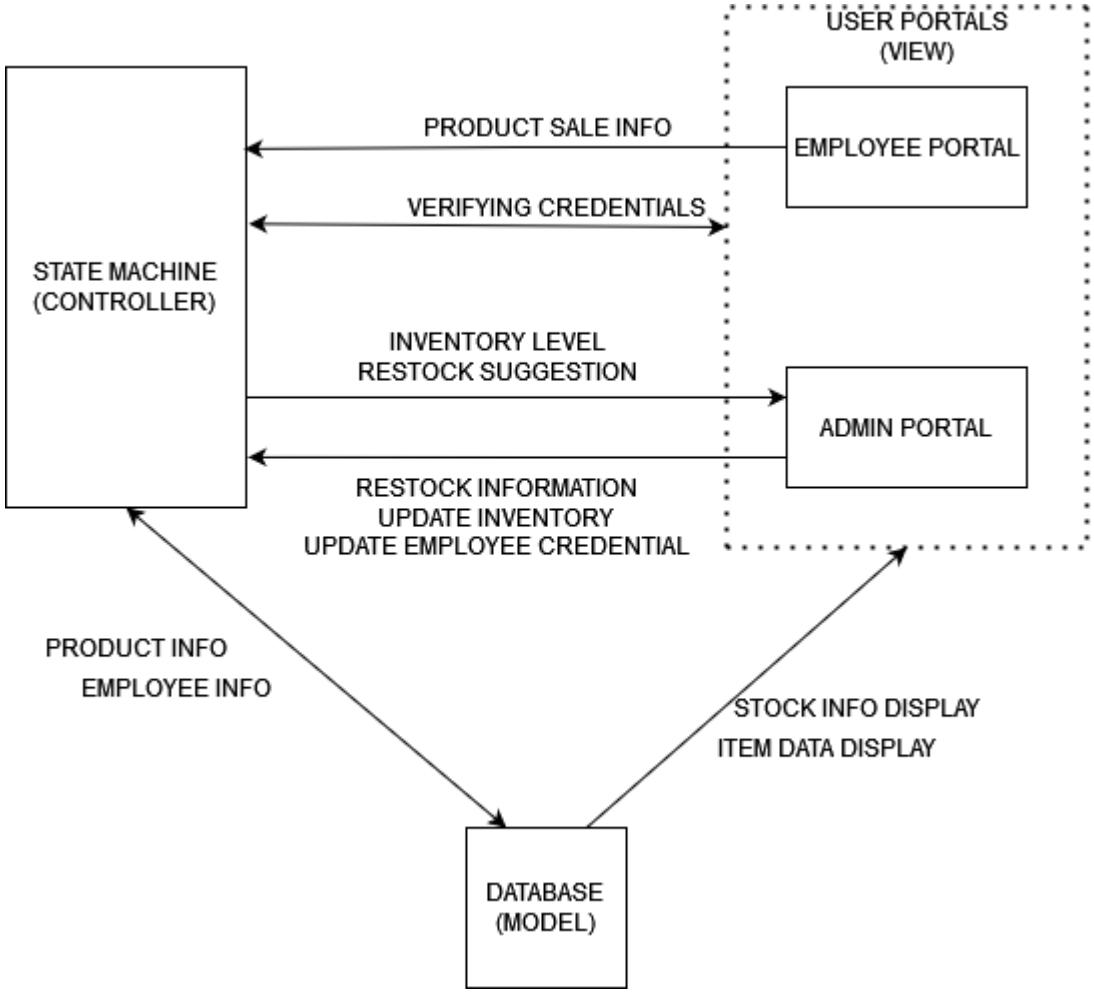
	Item ID	Item Name	Buying Price	Holding Price	Selling Price	Current Stock
17	17	Perk	0.000000	0.000000	10.000000	15
18	18	5-Star	0.000000	0.000000	20.000000	15
19	19	Noodles	0.000000	0.000000	55.000000	15
20	20	Kellogs	0.000000	0.000000	105.000000	15
21	21	Muesli	0.000000	0.000000	585.000000	15
22	22	Melody	0.000000	0.000000	1.000000	15
23	23	Wafer	0.000000	0.000000	5.000000	45
24	24	Water	0.000000	0.000000	50.000000	150
25	25	Sandwich	0.000000	0.000000	50.000000	150
26	26	Lays-Tomato	7.000000	10.000000	10.000000	17
27	64	coca-cola	15.000000	5.000000	20.000000	50
28	343	kurkure	15.000000	10.000000	20.000000	50
29	54654	rthtrh	56.000000	14.000000	87.000000	56


Shop Inventory Manager
Item Information Update
Item ID
64
Item Name
coca-cola
Buying Price
15
Selling Price
20
Holding Price
5
Stock Changes
60
Update
Add New Item
Back


Restocking Suggestion
Available Capital
Item ID
Item Name
Restock Amount
Get suggestion
Back


Shop Inventory Manager
Add/Change Employees
Employee Name
rishabh_kothary
Employee Username
rishabh
Employee Password
123456
Add New Employee as Admin
Add New Employee
Change Employee Credentials
Delete Employee
Back

2 Architecture Design



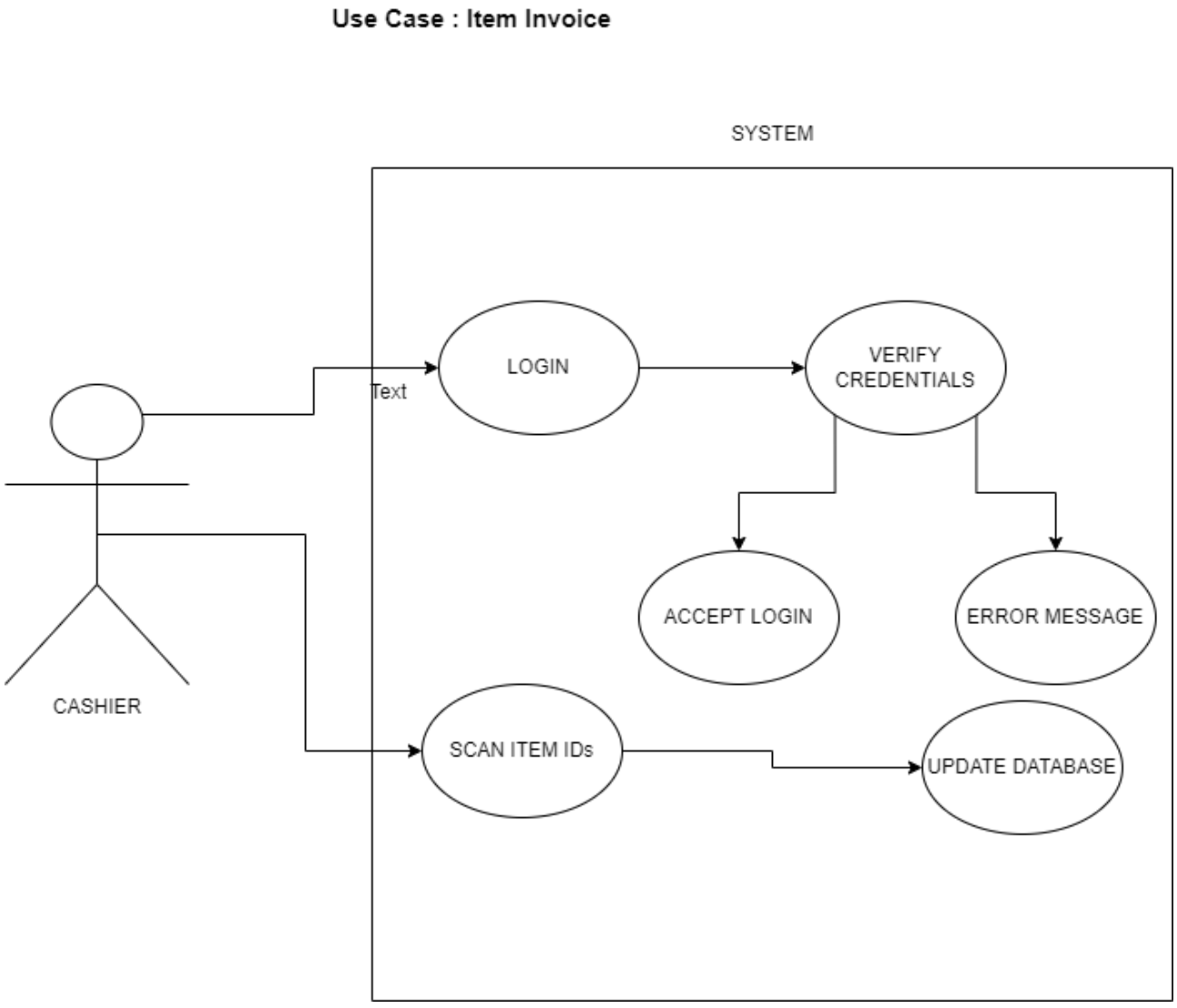
(This diagram has changed)

The architecture used is the Model-View-Controller Architecture, which is the most commonly used architecture for GUI programs

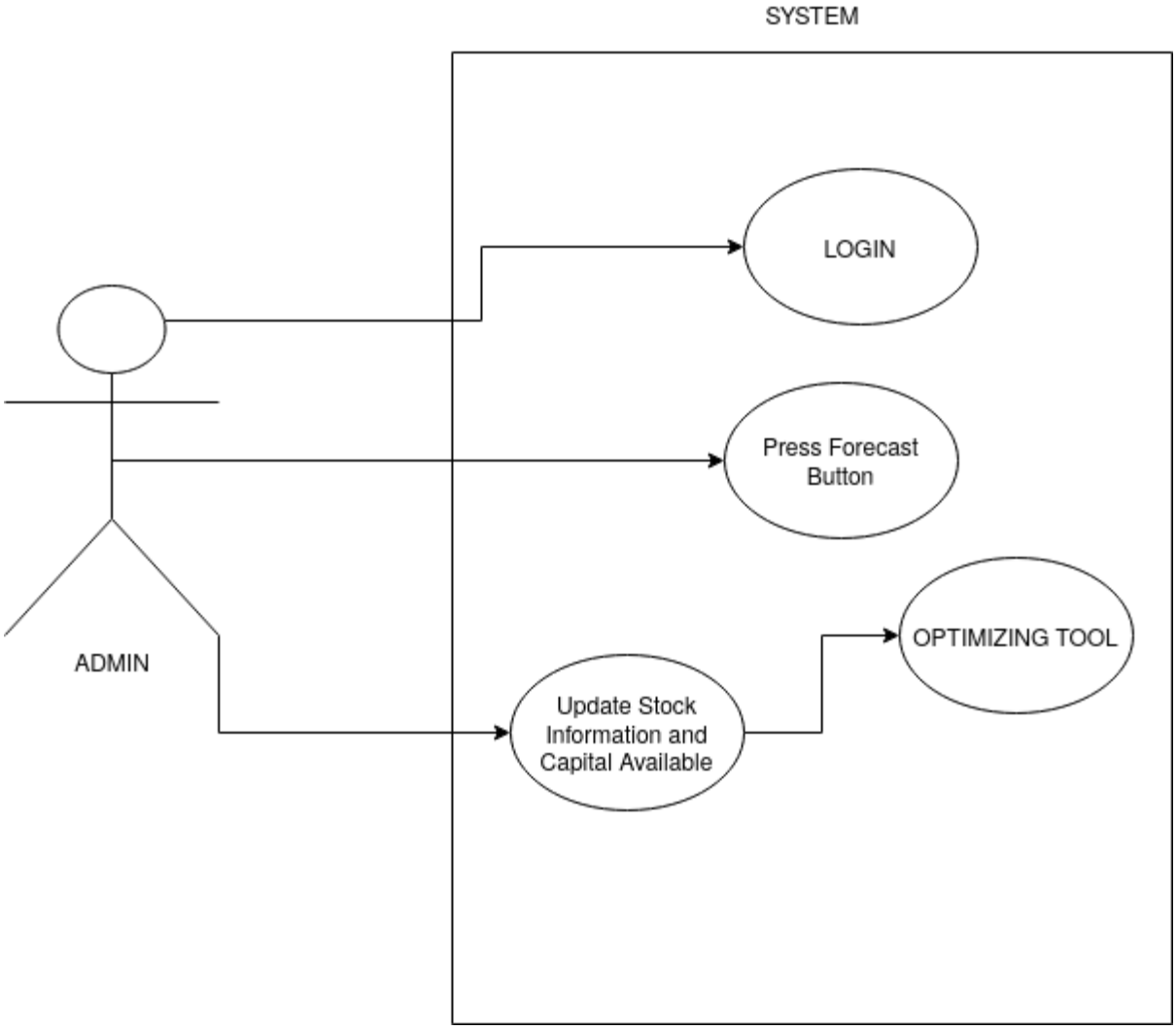
3 Object Oriented Design

3.1 Use Case Diagrams

(These diagrams have changed)

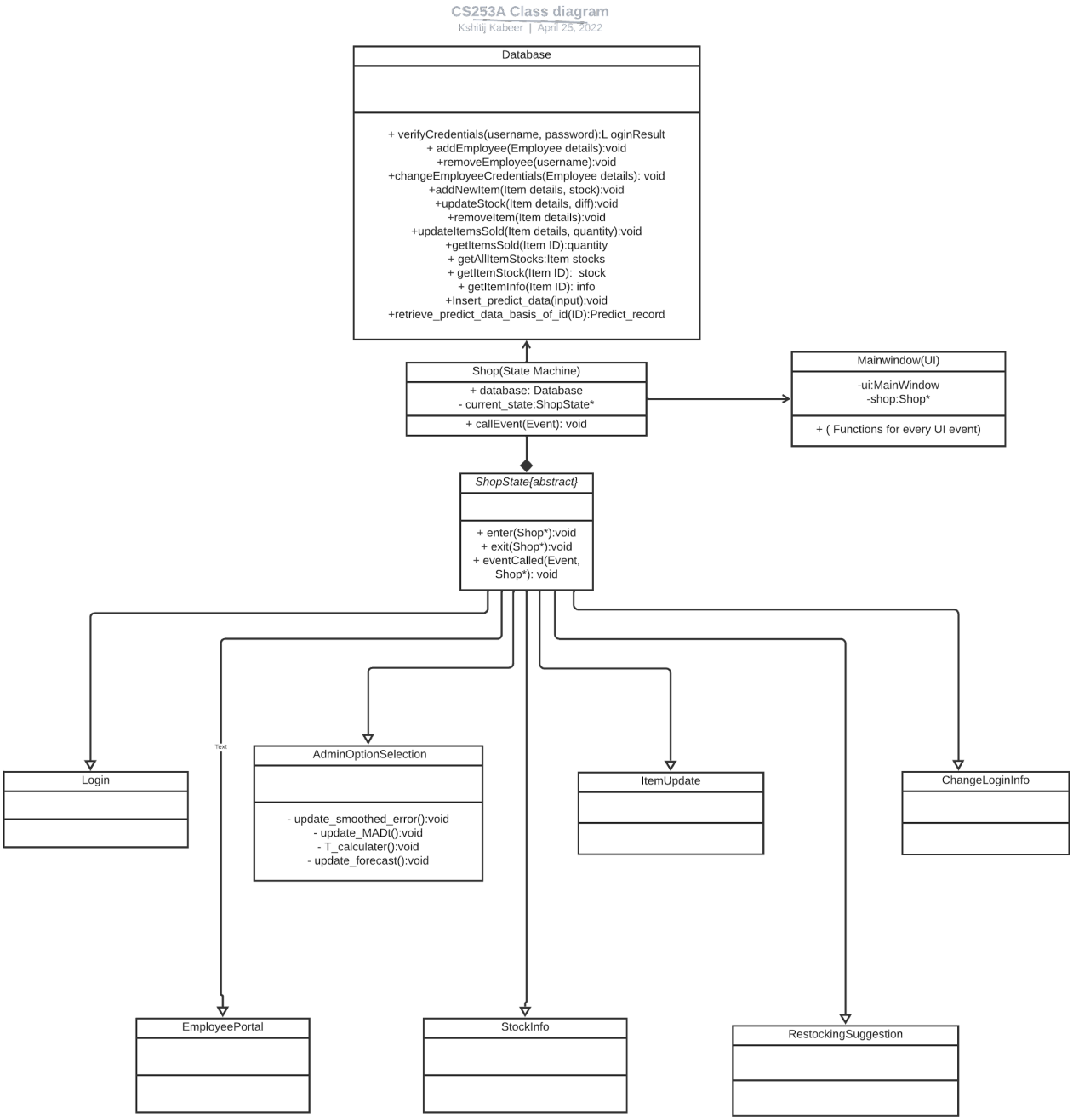


Use Case : Restocking Recommendations



3.2 Class Diagrams

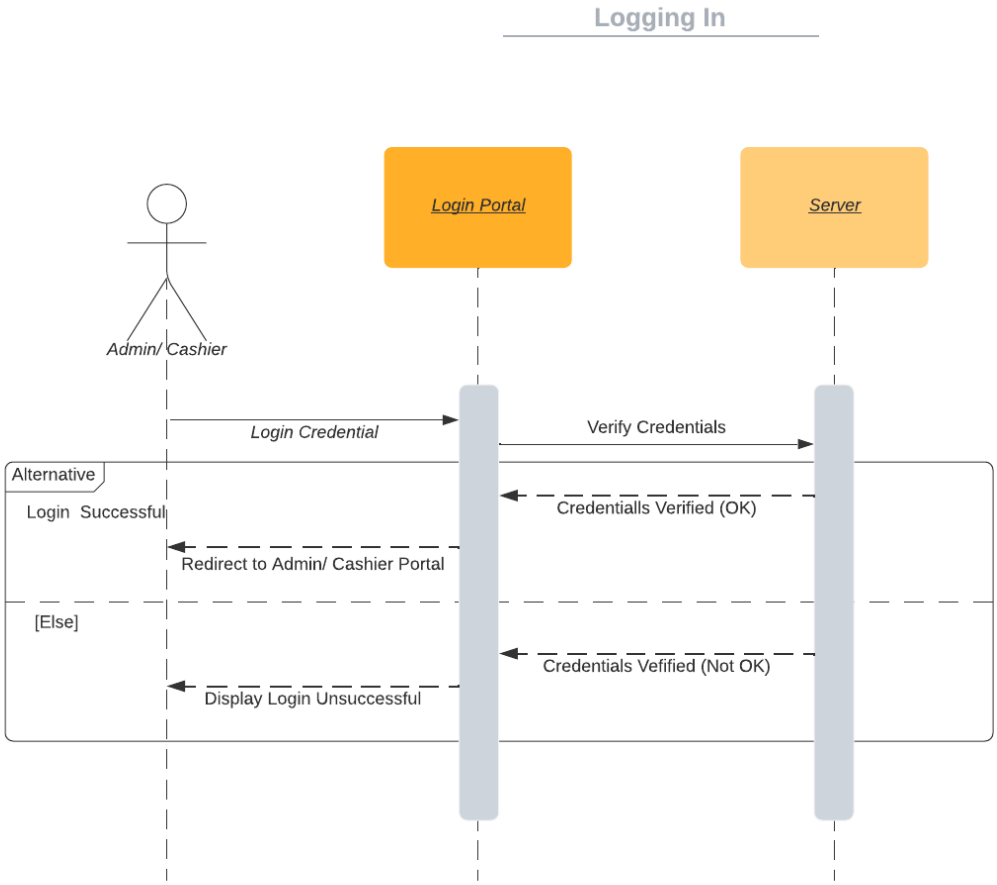
(This diagram has changed)

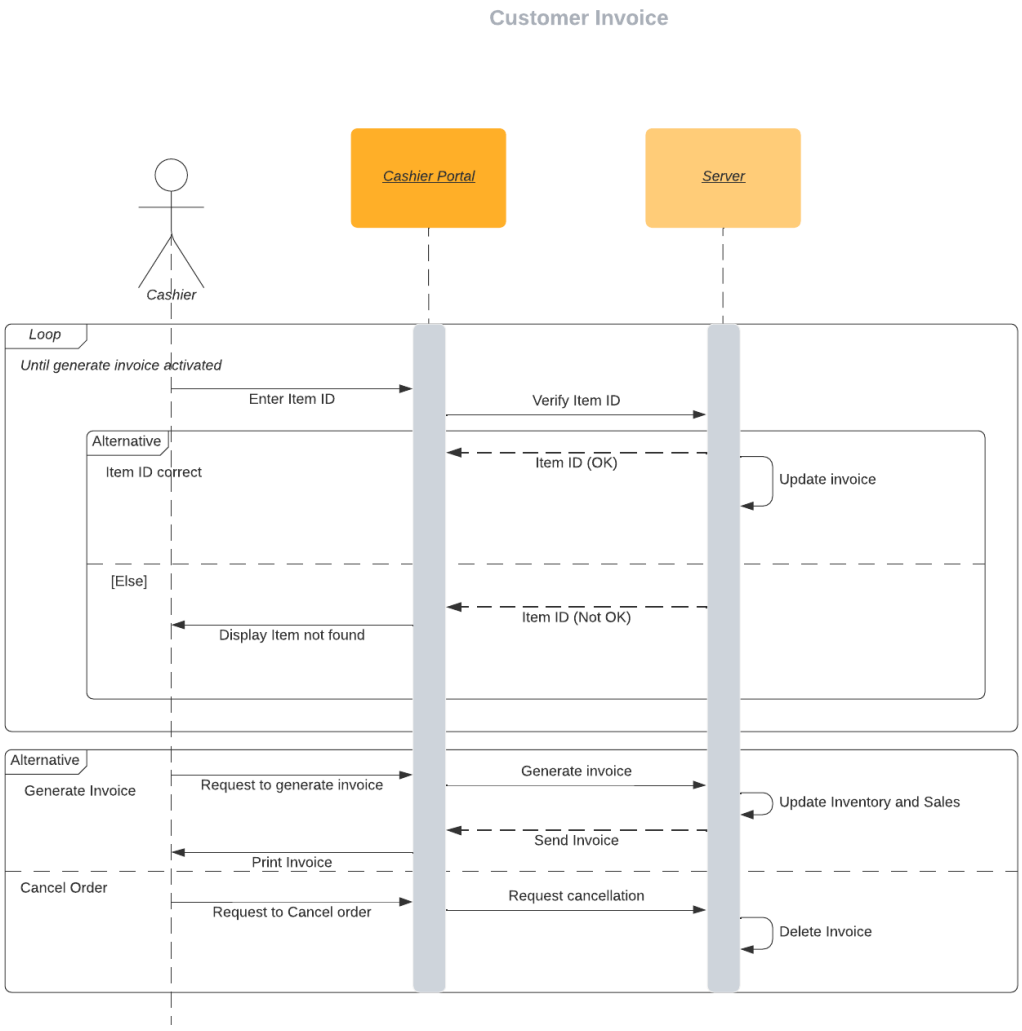


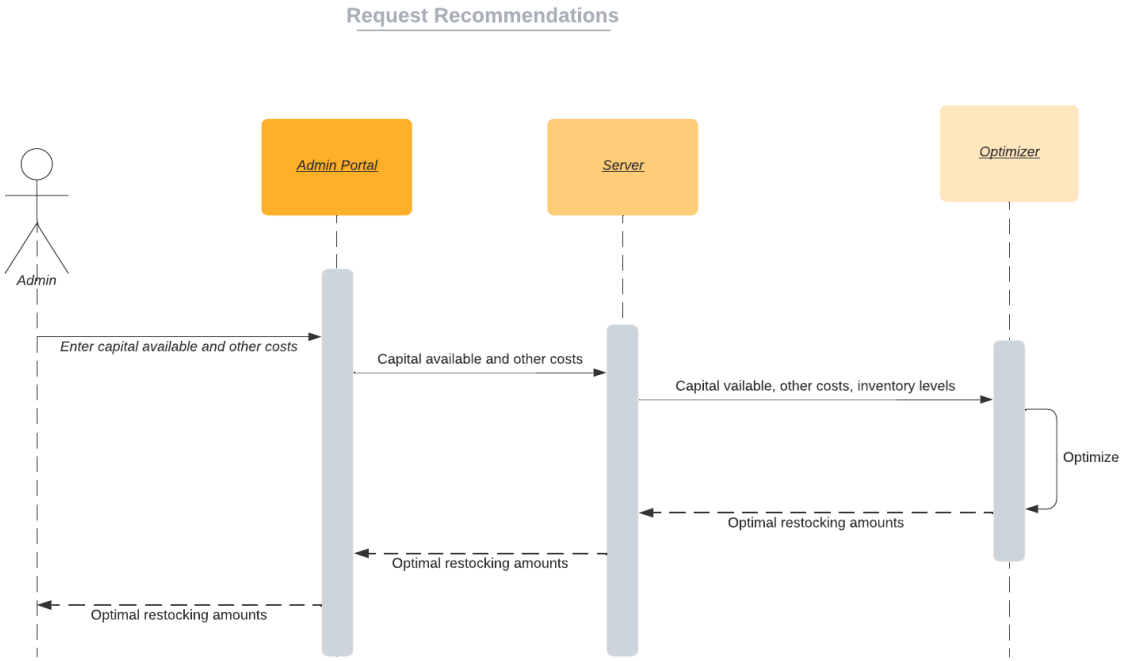
(Class diagram contains only the important classes and functions. Otherwise it will become too large to fit here)

3.3 Sequence Diagrams

(These diagrams have changed)

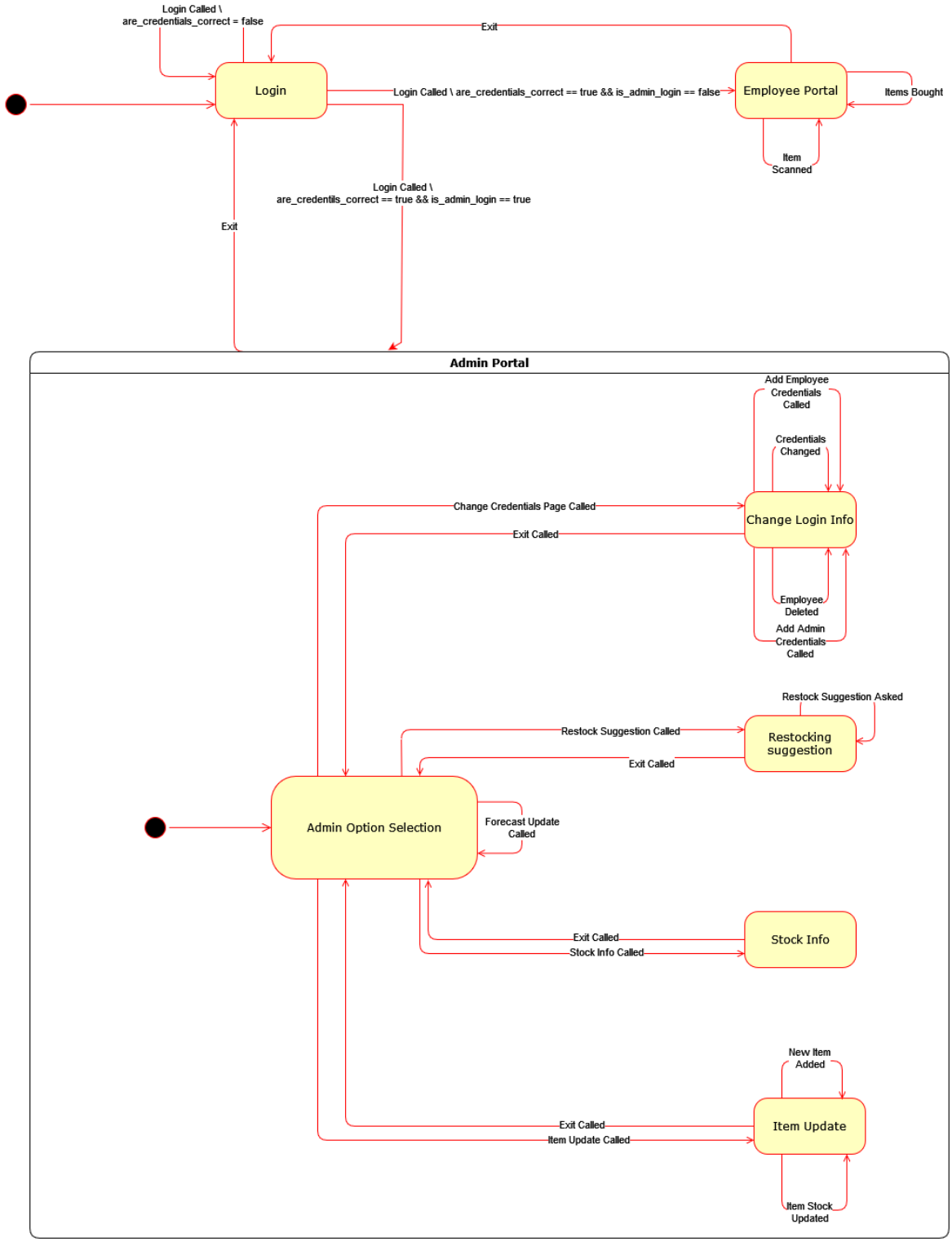



Customer Invoice
Cashier Portal
Server
Cashier
Loop
Until generate invoice activated
Enter Item ID
Verify Item ID
Alternative
Item ID correct
Item ID (OK)
Update invoice
[Else]
Item ID (Not OK)
Display Item not found
Alternative
Generate Invoice
Request to generate invoice
Generate invoice
Update Inventory and Sales
Send Invoice
Print Invoice
Cancel Order
Request cancellation
Request to Cancel order
Delete Invoice


Request Recommendations
Admin Portal
Server
Optimizer
Admin
Enter capital available and other costs
Capital available and other costs
Capital vailable, other costs, inventory levels
Optimize
Optimal restocking amounts
Optimal restocking amounts
Optimal restocking amounts

3.4 State Diagrams

Hierarchical State Machine diagram of the entire system



(This diagram has changed)

The state machine is implemented as a flattened version of this hierarchical state machine.

4 Project Plan

Timelines → Tasks↓	*Week 7 (14 Feb - 21 Feb)*		*Week 8 (21 Feb - 28 Feb)*	*Week 9 (28 Feb - 7 Mar)*		*Week 10 (7th Mar - 14th Mar)*		*Week 11 (14th Mar - 21st Mar)*	*Week 12 (21st Mar - 28th Mar)*	
UI Design			*MIDSEM EXAMS*					*MIDSEM RECESS*		
Database										
Core Functions										
Unit Tests										
Integration Tests										
System Tests										

Task	*Assigned Members*
UI Design	*Vikas*
Database	*Kartavya, Pravar*
Core Functions	*Rishabh, Kabeer*
Unit Tests	*Kundan, Vikas*
Integration Tests	*Rishabh, Kabeer*
System Tests	*Everybody*

5 Other Requirements

No other requirements

Appendix A - Group Log

10 Feb 2022
Work Assigned:-

1) Class Diagrams - Kshitij Kabeer
2) State Diagrams - Kartavya
3) Architecture Diagram - Pravar
4) Sequence Diagram - Rishabh
5) Context Diagram - Vikas

15 Feb 2022
Finished Gantt Chart, Context Diagram, Architecture Diagram, and edited the final document - Rishabh and Kshitij

25th April 2022
Updated Sequence Diagrams, added updated UI and new class diagram-
Rishabh and Kshitij