

TSE2101 Final Report

for

Quotation System

Version <3.1>

Tutorial: TT2L

Group No. : 1

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1 Project Management	6
1.1 Team Members	6
1.2 Project Plan	6
2 System Overview	8
2.1 Description	8
2.2 Actors	9
2.3 Assumptions and Dependencies	10
2.4 Use Case Diagram	10
3 Requirements	11
3.1 Class Diagrams	11
4 Design class Diagram	13
4.1 State Diagrams	13
■ Overview	13
4.1.2 Subsystem 1- Customer	14
4.1.3 Subsystem 2- Salesman	15
4.1.4 Subsystem 3 - Manager	16
4.1.5 Subsystem 4 - Finance Officer	17
4.2 Data Flow Diagrams	18
5 Design	18
5.1 Data Dictionary	19
5.2 Software Architecture	21
5.3.1 Subsystem 1	22
5.3.2 Subsystem 2	23
5.3.3 Subsystem 3	23
5.3.4 Subsystem 4	24
5.3 Main Screens	25
5.4.1 Login Screen	26
5.4.2 Subsystem 1- Customer	26
5.4.2.1 Home Screen	27
5.4.2.2 Purchase Requisition list Screen	27
5.4.2.3 View Purchase Requisition Screen	27
5.4.2.4 Add Purchase Requisition Screen	29
5.4.2.5 Available Quotation Screen	29
5.4.2.6 Quotation details Screen	30
5.4.3 Subsystem 2- Salesman	31
5.4.3.1 Home Screen	31

5.4.3.2 All Purchase Requisition Screen	32
5.4.3.3 View Purchase Requisition Screen	32
5.4.3.4 Add Quotation Screen	33
5.4.3.5 History of his Quotation Screen	33
5.4.3.6 View Quotation Screen	34
5.4.4 Subsystem 3 - Manager	35
5.4.4.1 Home Screen	35
5.4.4.3 History of all Quotation Screen	36
5.4.4.4 View Quotation Screen	37
Figure 5.4.4.4 Viewing a specific Quotation screen in Quotation System	37
5.4.5 Subsystem 4 - Finance Officer	38
5.4.5.1 Home Screen	38
5.4.5.2 Add Purchase Order Screen	39
5.4.5.3 History of Purchase Order screen	39
5.4.5.4 Purchase Order screen	40
Main Components	41
5.5.1 Component 1 - Create Purchase Requisition	43
5.5.2 Component 2 - View and sort their Purchase Requisition	44
5.5.3 Component 3 - View the Quotations	44
5.5.4 Component 4 - Accepts/Reject Quotations	46
5.5.5 Component 5 - Create Quotation	47
5.5.6 Component 6 - View the Purchase Requisition	47
5.5.7 Component 7 - View and sort the history of the Quotation for himself	48
5.5.8 Component 8 - Approve/Decline the Quotation	49
5.5.9 Component 9 - View and sort the history of the Quotation for the whole system	50
5.5.10 Component 10 - Key in the Purchase Order in the system	51
5.5.11 Component 11 - View all the Purchase Orders	51
5.4 Deployment Diagram	52
6 Implementation	54
6.1 Development Environment	54
6.2 Software Integration	58
6.3 Database	60
7 Testing	71
7.1 Testing Strategy	71
7.2 Test Data	71
■ Test Data Set 1 - Purchase Requisition	71
■ Test Data Set 2 - Quotation	71
■ Test Data Set 3 - Purchase Order	72
7.3 Acceptance Tests	75
■ Acceptance Test 1 - Customer	75

■ Acceptance Test 2 - Manager	75
■ Acceptance Test 3 - Salesman	76
■ Acceptance Test 4 - Finance Officer	78
8 Sample Screens	79
8.1 Main Screens	79
8.2 User 1 - Customer	80
8.3 User 2 - Salesman	83
8.4 User 3 - Manager	86
8.5 User 4 - Finance Officer	88
9 Conclusion	90
9.1 Completion of Software	90
9.2 Software Quality Assurance	90
9.3 Group Collaboration	90
9.4 Problems Encountered	91
9.5 Remarks/Comments	91
10 User Guide	92-93

Revisions

Version	Primary Author(s)	Description of Version	Date Completed
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1 Project Management

1.1 Team Members

Name	Actor/Processes
Ayaan Ahmad	Salesman Role
Salah Faye	Finance Officer Role
Ayat Al-Khulaqi	Customer Role
Roha Ali	Manager Role

1.2 Project Plan

WBS NUMBER	TASK TITLE	TASK OWNER	START DATE	DUE DATE	PCT OF TASK COMPLETE
1	Project 1		12/10/2022	30/10/2022	
1.1	System Overview	Team	12/10/22	13/10/2022	100%
1.2	Requirements	Team	14/10/22	15/10/2022	100%
1.3	Use case Diagram	Team	16/10/22	21/10/22	100%
1.4	Class Diagram	Team	22/10/22	27/10/22	100%
1.5	Revision	Team	28/10/22	06/11/22	100%
2	Project 2		6/11/2022	25/12/2022	
2.1	Design Requirements	Team	6/11/22	01/11/22	100%
2.2	Software Architecture	Team	02/11/22	17/11/22	100%
2.3	Database Design	Team	18/11/22	30/11/22	100%
2.4	Sequence Diagram	Team	01/12/22	23/12/22	100%
2.5	Revision	Team	24/12/22	25/12/22	100%

3	Project 3		17/12/2022	15/01/2022	
3.1	Interface Design	Team	17/12/22	20/12/22	100%
3.2	Coding	Team	21/12/22	10/01/23	100%
3.2.1	Customer-Role	Roha	21/12/22	10/01/23	100%
3.2.2	Manager-Role	Ayat	21/12/22	10/01/23	100%
3.2.3	Salesman-Role	Ayaan	21/12/22	10/01/23	100%
3.2.4	Finance office-Role	Salah	21/12/22	10/01/23	100%
3.3	Testing	Team	11/01/23	14/01/23	100%
3.4	Video	Team	16/01/23	18/01/23	
3.5	Presentation	Team	18/01/23	26/01/23	

2 System Overview

2.1 Description

The program starts with the **Customer** creating and submitting a **Purchase Requisition** to the **Salesmen**. The **Salesmen** are able to view the **Purchase Requisition** and create a **Quotation** pending **Manager's** approval. The **Manager** is able to Approve/Reject the **Quotation**. If the Quotation has been approved the Status will change from unclear to accepted by the **Manager**, After that the **Customer** has the ability to Accept/Decline the **Quotation**. If the **Quotation** is Accepted by the **Customer** the **Finance Officer** creates and stores the **Purchase Order** in the Quotation System.

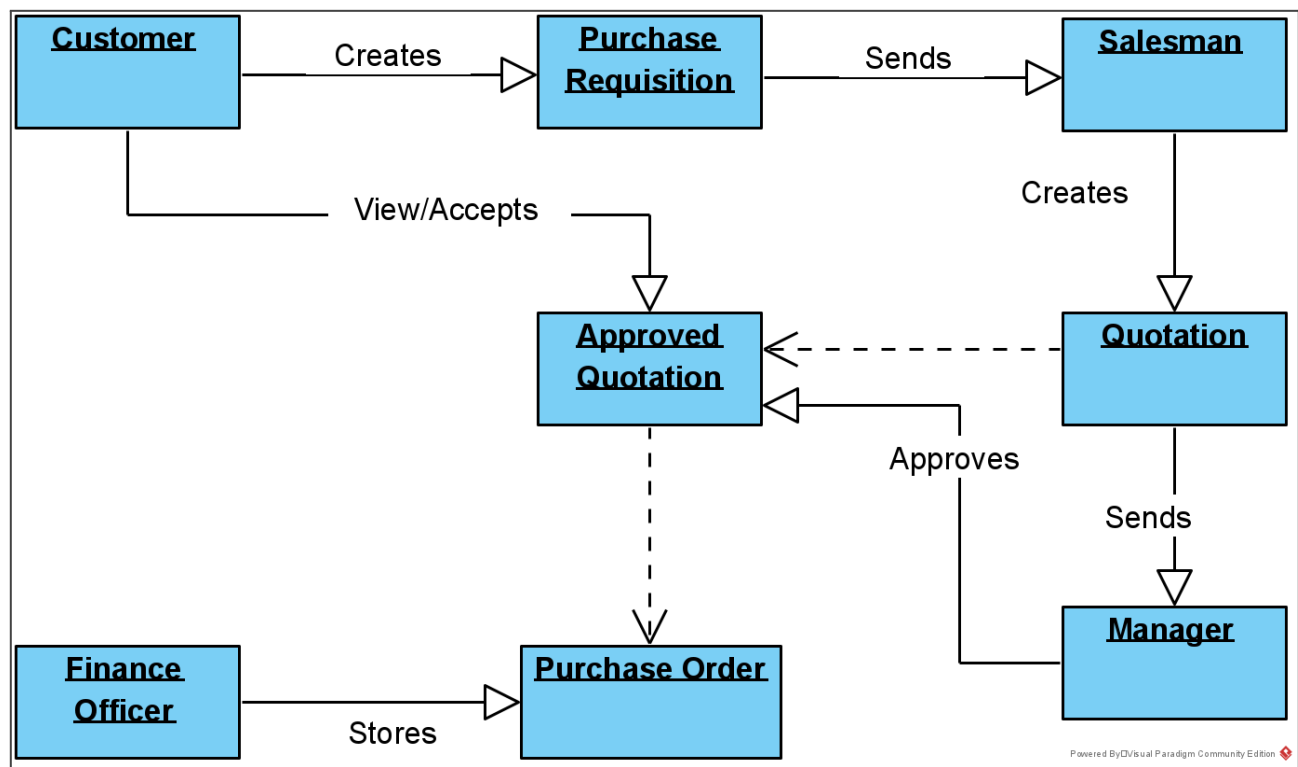


Figure 2.1 Quotation System Object Diagram

2.2 Actors

Actor	Use Cases
Customer	Create Purchase Requisition
	View and sort their Purchase Requisition
	View the Quotations
	Accepts/Reject Quotations
Salesman	Create Quotation
	View the Purchase Requisition
	View and sort the history of the Quotation for himself
Manager	Approve/Decline the Quotation
	View and sort history of the Quotation for the whole system
Finance Officer	Key in the Purchase Order in the system
	View all the Purchase Order

Table 2.2 Actors and their Use Cases

2.3 Assumptions and Dependencies

- Assumed that the Salesman can always create a quotation (regardless of stock, availability, etc)

2.4 Use Case Diagram

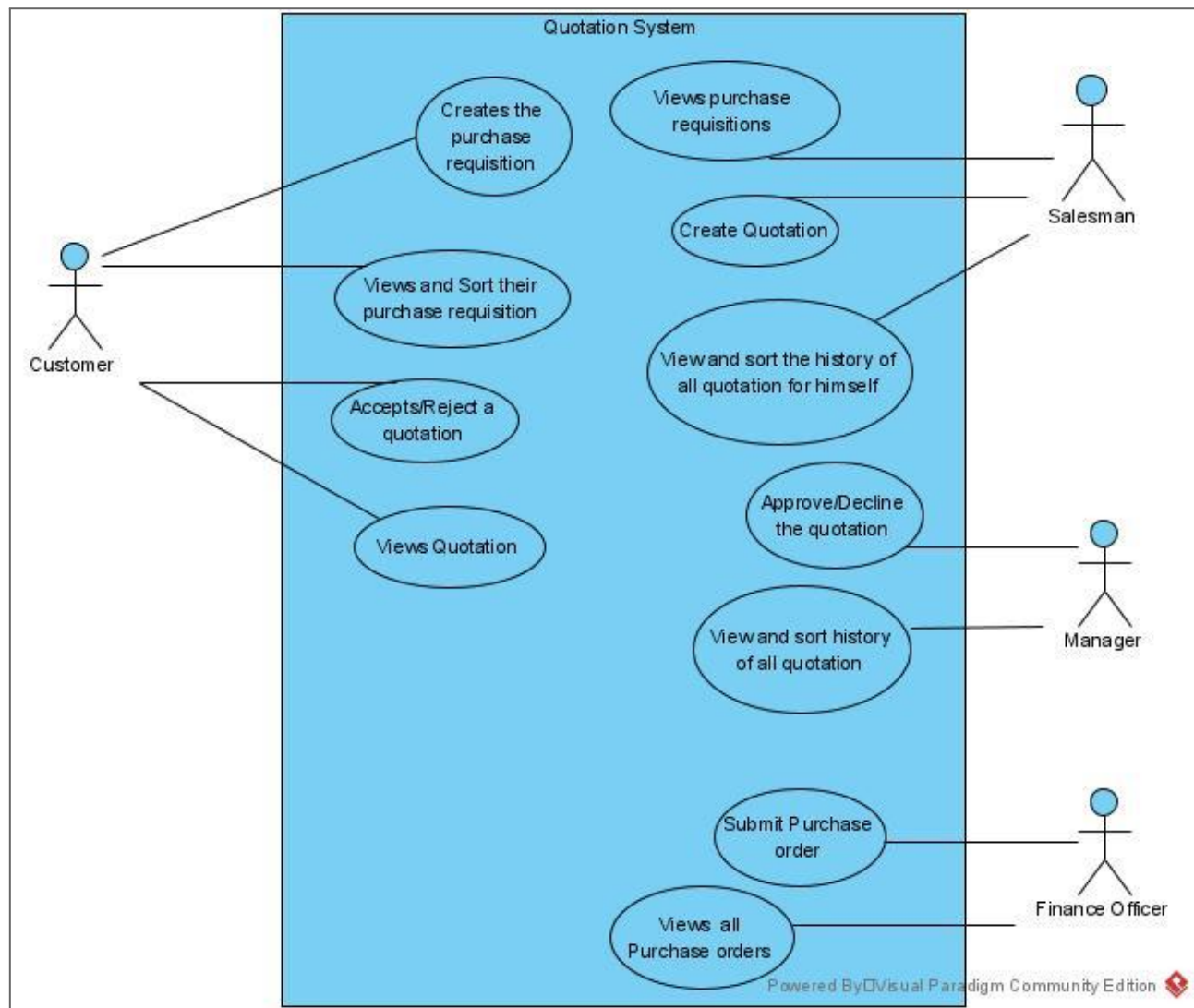


Figure 2.4 Quotation System Use Case Diagram

3 Requirements

3.1 Class Diagrams

Table 3.1 Classes and their Descriptions

Class	Description
Customer	This class contains the information of all the Customers in the Quotation system.
Purchase Requisition	This class contains all the Purchase Requisitions created by all the Customers with time stamps.
PRItems	This class contains all the Items that were entered in a Purchase Requisitions.
Salesman	This class contains the information of all the Salesmen in the Quotation system.
Quotation	This class contains all the Quotations made by all the Salesman in the system.
QuotationItems	This class contains all the Items that were entered in a Quotation.
Manager	This class contains information about the Managers in the Quotation system.
Purchase Order	This class contains all the Purchase Order pieces of information in the Quotation system.
POItems	This class contains all the Items that were entered in a Purchase Order.
Finance Officer	This class contains the information of the Finance Officer in the Quotation system.

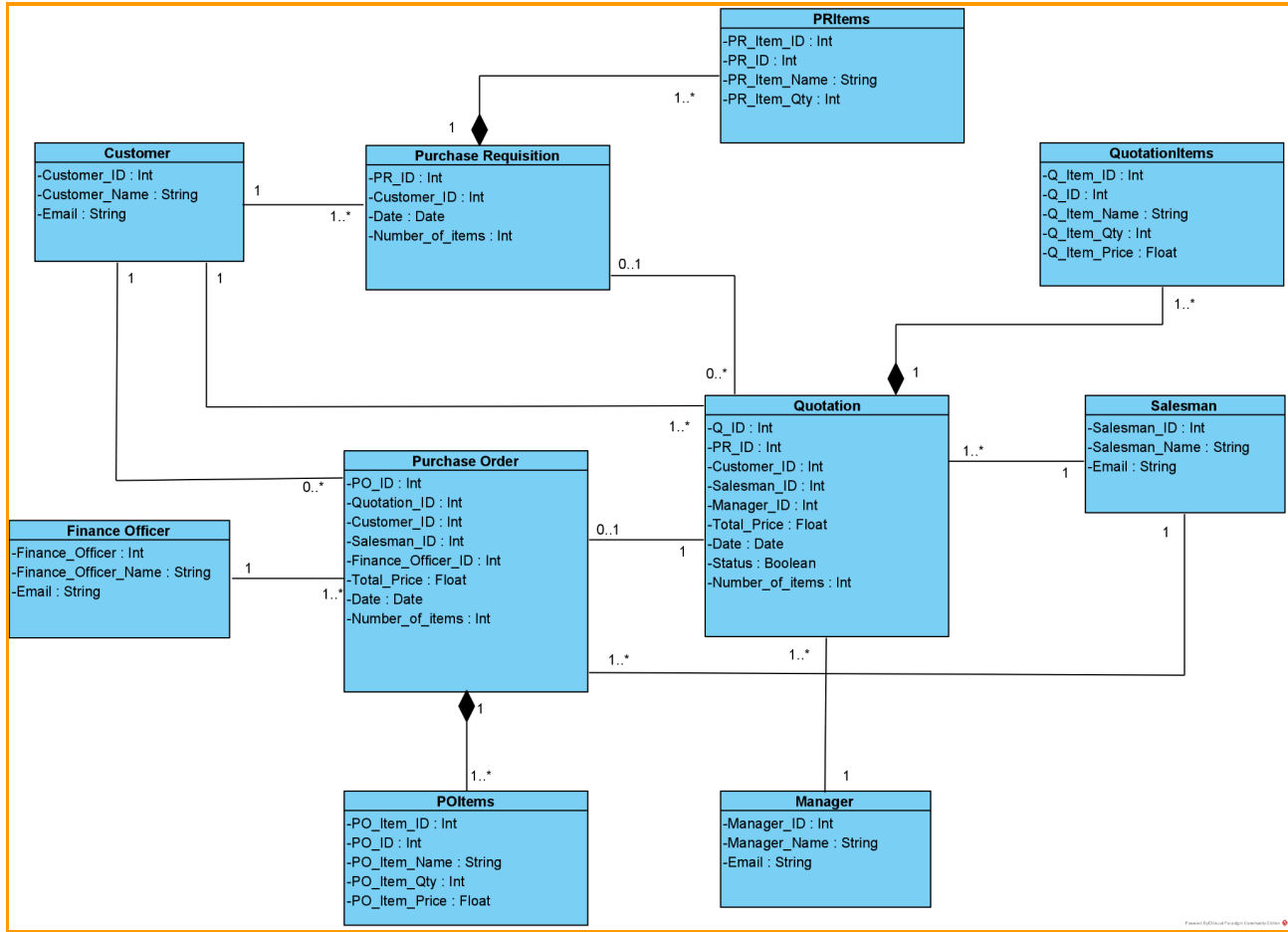


Figure 3.1 Class Diagram for Quotation System

4 Design class Diagram

4.1 State Diagrams

■ Overview

The Quotation System has the main **Login page** as its Home screen. After logging in, users are directed to their respective Home screens.

Every user's **Home screen** differs from each others. From the home screen, the users are further directed to screens related to their roles in the quotation system.

Subsystem 1 have **Customer** who can view and create Purchase Requisitions and view all the available Quotations for them in the system.

Subsystem 2 has a **Salesman** who can create and view all the Quotations made by them and all the Purchase Requisitions in the system.

Subsystem 3 has **Manager** who only has the authority to approve Quotations and can view all the previous Quotations in the system.

Lastly, the subsystem 4 **Finance Officer** can create the Purchase Order and view all the Purchase Orders stored in the system.

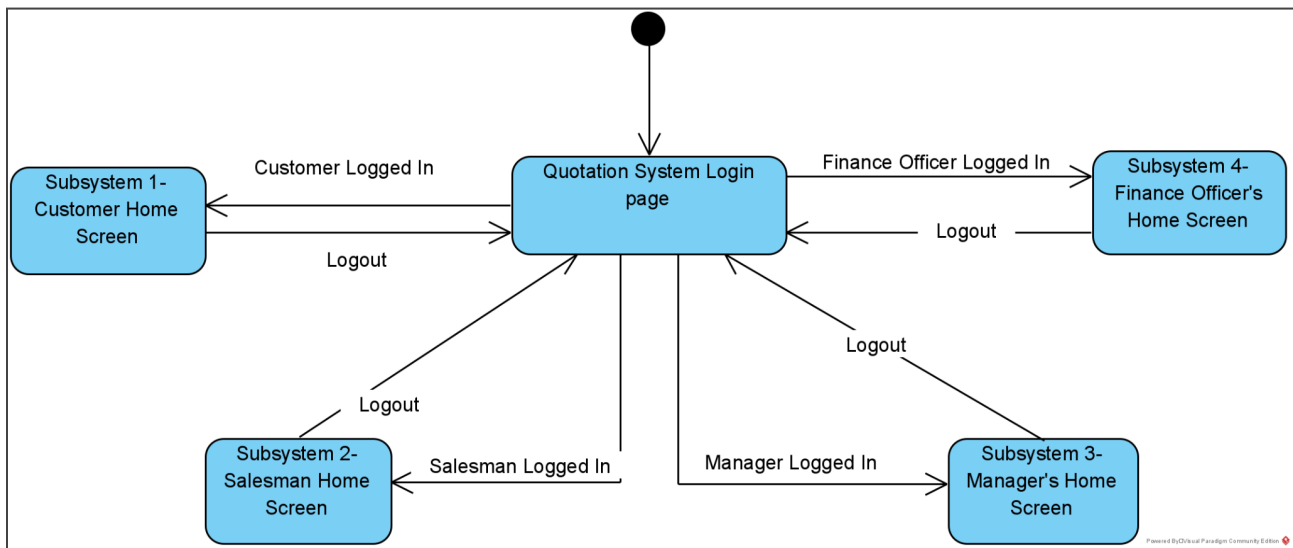


Figure 4.1.1 State Transition Diagram with Subsystems in Quotation System

4.1.2 Subsystem 1- Customer

The Customer after logging in will land on the **Home** screen which will show him his profile and overall stats in the quotation system.

The customer can navigate to the **Purchase requisition** screen where it'll show him all the active purchase requisitions stored in the system by him, from there he can also proceed to make a new purchase requisition by clicking on **Add purchase requisition** button and can also view details of each purchase requisition.

The Customer can also navigate to view all the quotations offered to him for his previous purchase requisitions on the **Quotation** page, and can further view the details of each quotation by clicking on **View Details** Button.

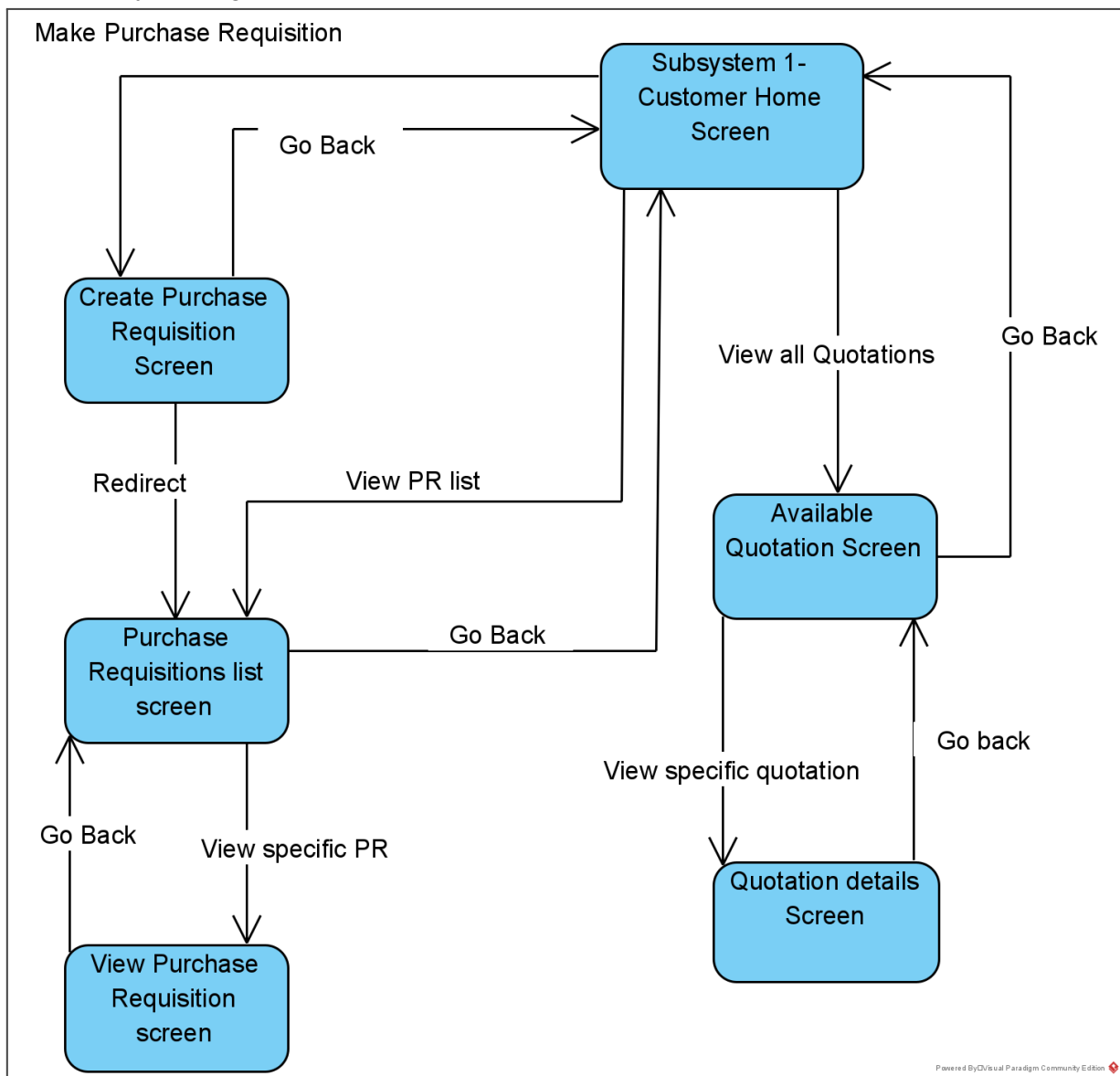


Figure 4.1.2 State Transition Diagram of Subsystem 1 in Quotation System

4.1.3 Subsystem 2- Salesman

The Salesman after logging in will land on the **Home** screen which will show him his profile and overall stats in the quotation system.

The Salesman can navigate to the **Purchase requisition** screen where it'll show him all the active purchase requisitions stored in the system.

He can then proceed to make new quotations by clicking on the **Add purchase requisition** button based on the active purchase requisition, and can further view the details of each Purchase Requisition by clicking on **View Details** Button.

He can view and sort all his quotations by navigating to the **Quotation** page, and can further view the details of each quotation by clicking on **View Details** Button.

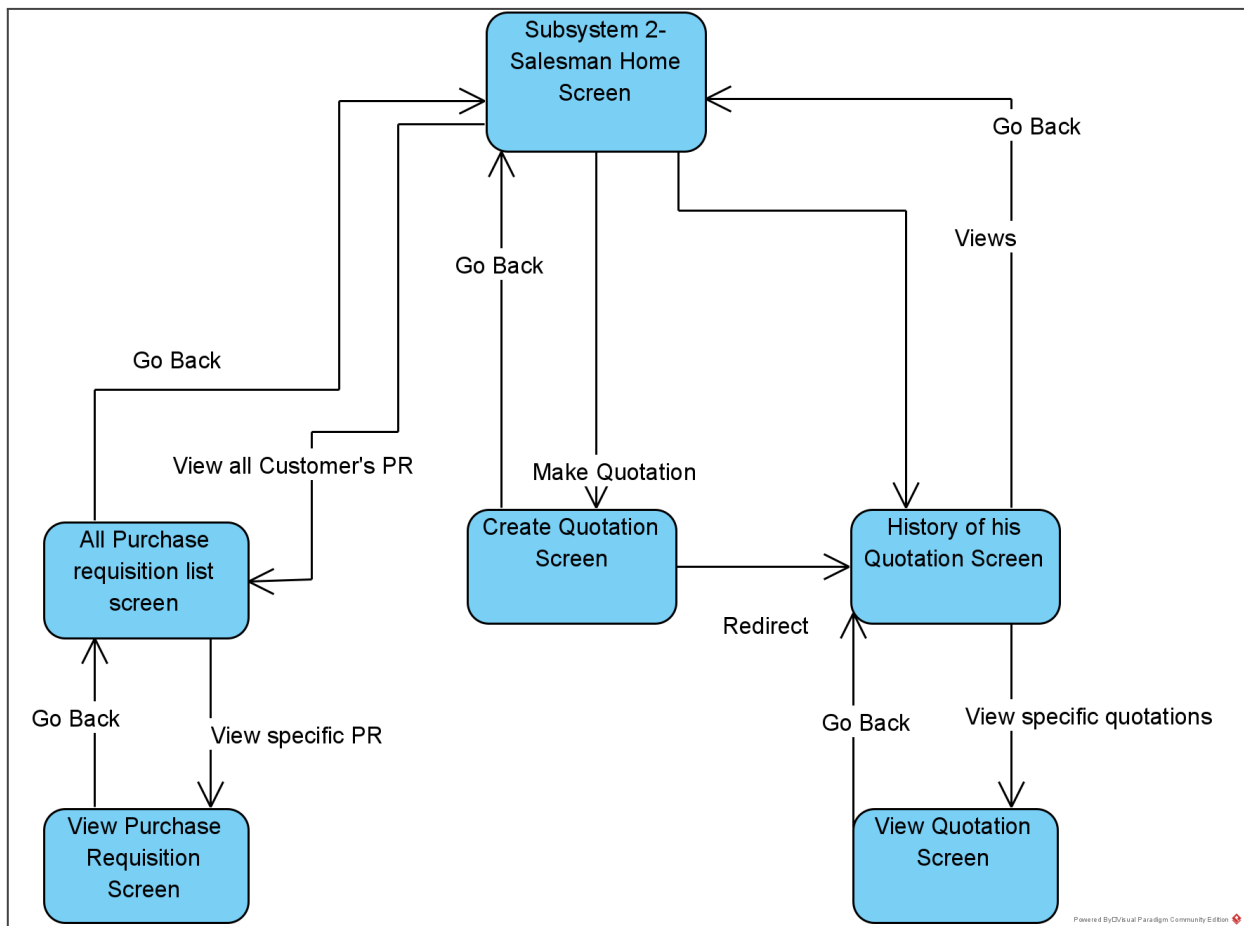


Figure 4.1.3 State Transition Diagram of Subsystem 2 in Quotation System

4.1.4 Subsystem 3 - Manager

The Manager after logging in will land on the **Home** screen which will show him his profile and overall stats in the quotation system.

The Manager can navigate to the **Quotation** screen where it'll show him all the quotations made by the Salesman which he can Approve/Decline in the system. The manager can also navigate to view all the **History of Quotations** and can even sort it, and can further view the details of each quotation by clicking on **View Details** Button.

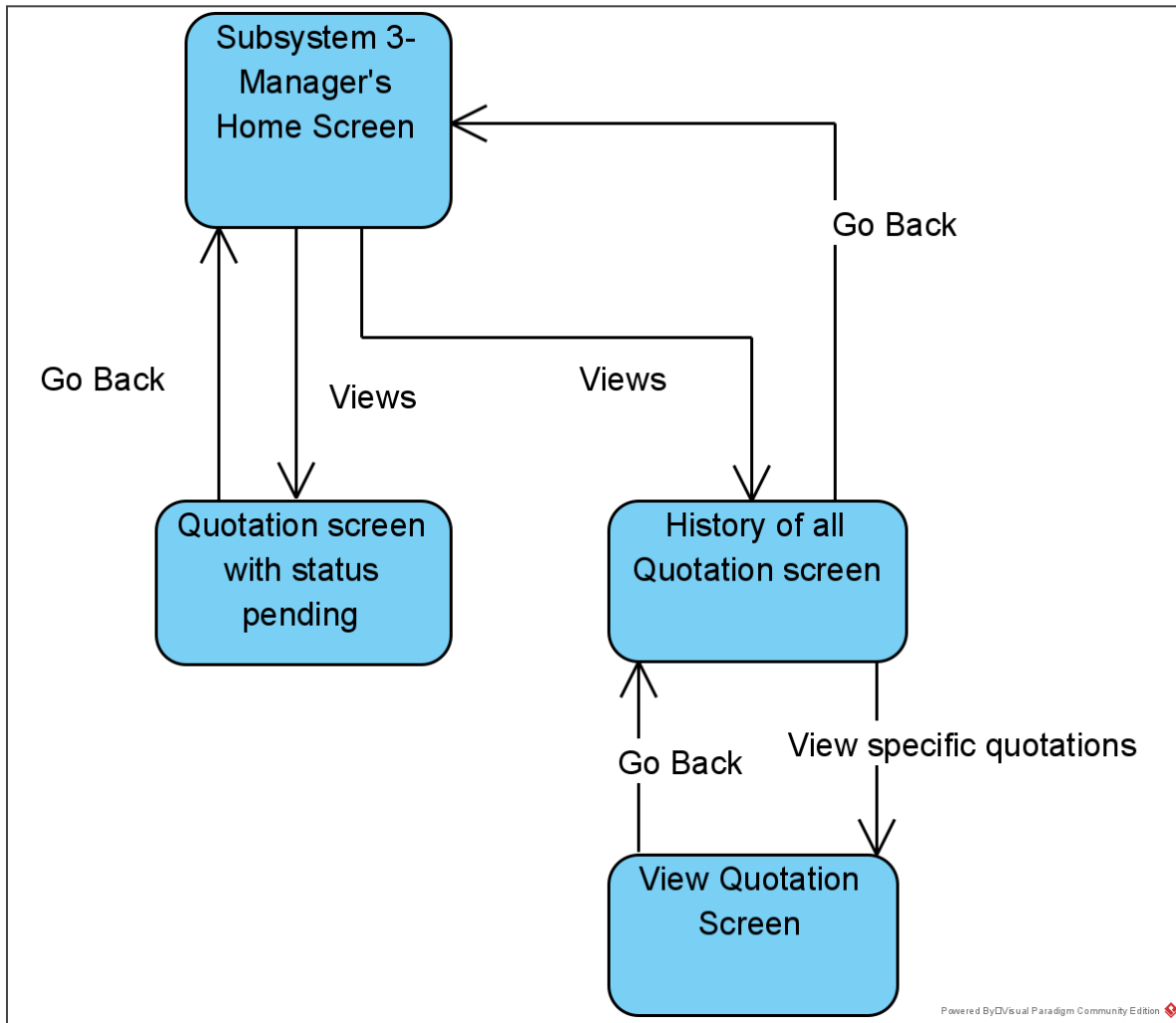


Figure 4.1.4 State Transition Diagram of Subsystem 3 in Quotation System

4.1.5 Subsystem 4 - Finance Officer

The Finance Officer after logging in will land on the **Home** screen which will show him his profile and overall stats in the quotation system.

The Finance Officer can navigate to the **Purchase Order** screen which it'll show him all the history of purchase orders stored in the system, and can further view the details of each Purchase order by clicking on **View Details** Button.

The Finance Officer can also navigate to the **Add Purchase Order** page where he can add new Purchase orders.

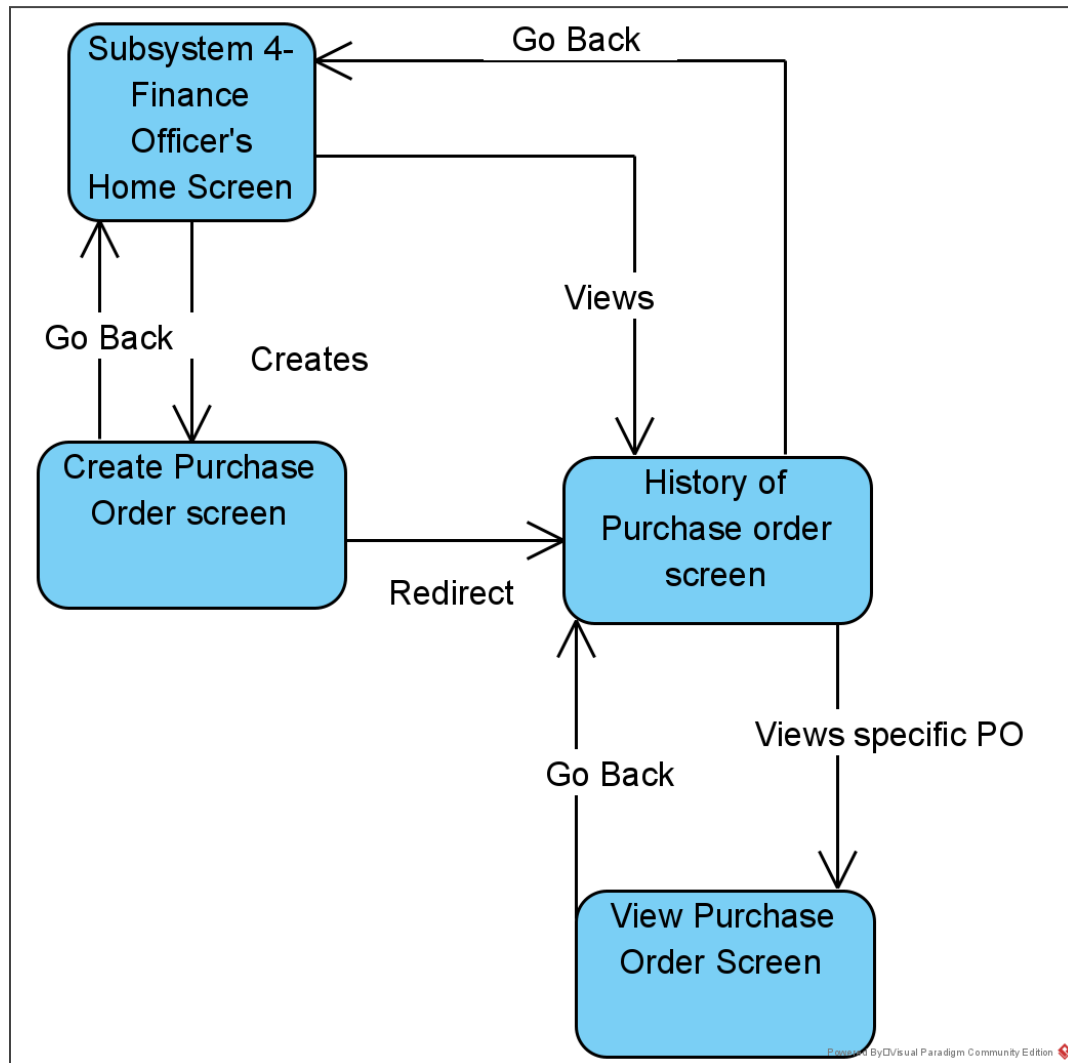


Figure 4.1.3 State Transition Diagram of Subsystem 4 in Quotation System

4.2 Data Flow Diagrams

The **Customer** creates and submits a **Purchase Requisition** which is stored in the Purchase Requisition database. The **Salesmen** are able to view the **Purchase Requisition** and create a **Quotation** which is stored in the Quotation database. The **Manager** is able to Approve/Reject the **Quotation**. If the Quotation has been approved the Status will change from uncleared to approved, then the Customer has the ability to Accept/Decline the **Quotation**. If the **Quotation** is Accepted by the **Customer** the **Finance Officer** creates and stores the **Purchase Order** in the Quotation System.

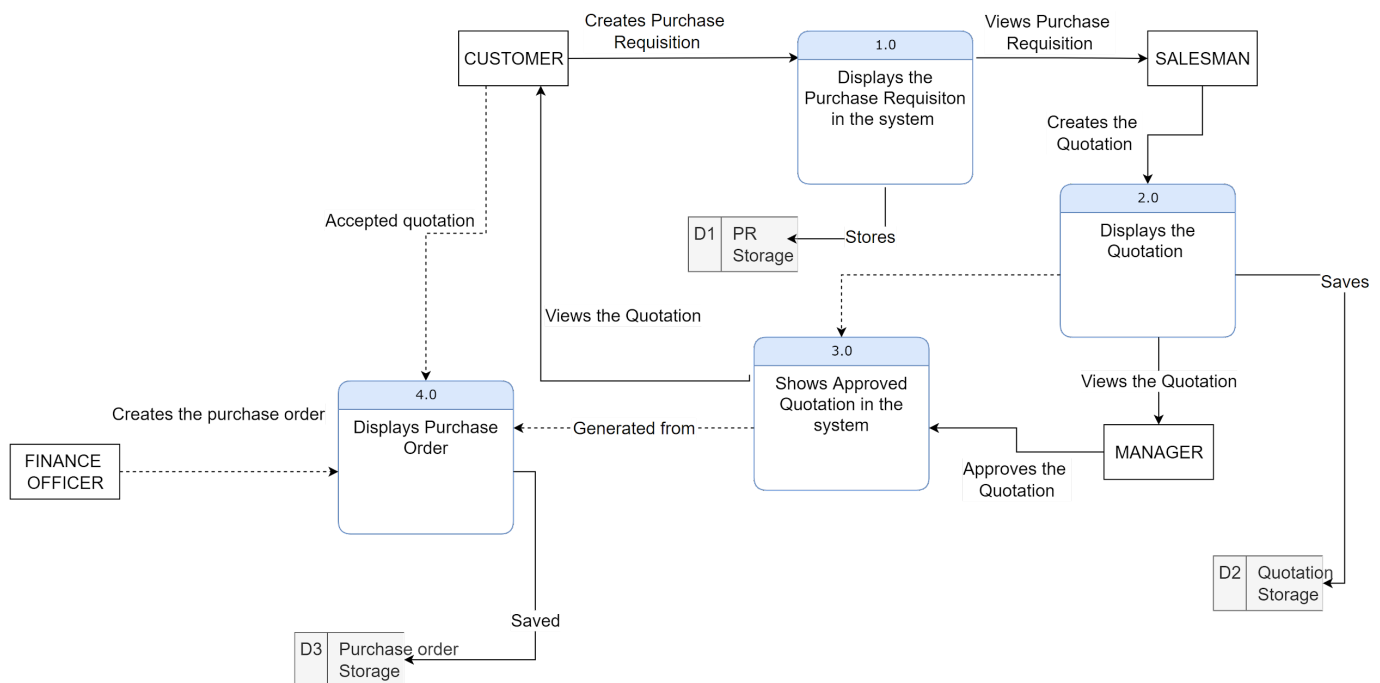


Figure 4.2.2 Data Flow Diagram

5 Design

5.1 Data Dictionary

Table 5.1 Data Dictionary for Quotation System

Table Name	Attribute Name	Type	Format	Required	PK or FK
Customer	Customer_ID	Int	xxxxxx	Y	PK
	Customer_Name	String	xxxxxxxx	Y	
	Email	String	xxx@xxx.com	Y	
Purchase requisition	Pr id	Int	xxxxxx	Y	PK FK
	Customer id	Int	xxxxxx	Y	
	Date	Date	xx-xx-xx	Y	
	Number of items	Int	xxx	Y	
Pr items	Pr id	Int	xxxxxx	Y	FK
	Pr item name	String	xxxxxxxx	Y	
	Pr item quantity	Int	xxx	Y	
Salesman	Salesman_ID	Int	xxxxxx	Y	PK
	Salesman_Name	String	xxxxxxxx	Y	
	Email	String	xxx@xxx.com	Y	
Quotations	Quotation id	Int	xxxxxx	Y	PK FK FK FK FK
	Pr id	Int	xxxxxx	Y	
	Salesman id	Int	xxxxxx	Y	
	Customer id	Int	xxxxxx	Y	
	Manager id	Int	xxxxxx	Y	
	Total price	Float	xxx.xx	Y	
	Date	Date	xx-xx-xx	Y	
	Status	String	xxxx	Y	
	Number of items	Int	xxx	Y	
Quotation items	Quotation id	Int	xxxxxx	Y	FK
	Q item name	String	xxxxxxxx	Y	
	Q item quantity	Int	xxx	Y	
	Q item price	Float	xxx.xx	Y	
Manager	Manager_ID	Int	xxxxxx	Y	PK
	Manager_Name	String	xxxxxxxx	Y	
	Email	String	xxx@xxx.com	Y	

Purchase orders	Po id	Int	xxxxxx	Y	PK FK FK FK FK
	Quotation id	Int	xxxxxx	Y	
	Customer id	Int	xxxxxx	Y	
	Salesman id	Int	xxxxxx	Y	
	Finance officer id	Int	xxxxxx	Y	
	Total price	Float	xxx.xx	Y	
	Date	Date	xx-xx-xx	Y	
	Number of items	Int	xxx	Y	
Po items	Po id	Int	xxxxxx	Y	FK
	Po item name	String	xxxxxxxx	Y	
	Po item quantity	Int	xxx	Y	
	Po item price	Float	xxx.xx	Y	
Finance Officer	Finance_Officer_ID	Int	xxxxxx	Y	PK
	Finance_Officer_Name	String	xxxxxxxx	Y	
	Email	String	xxx@xxx.com	Y	

5.2 Software Architecture

The Software Architecture diagram is organized by the actors, which is broken into subsystems, each with its own use cases. By breaking down the quotation system into subsystems for each actor, we can easily focus on tracking issues and isolate them to keep other subsystems from being affected by bugs, problems, etc.

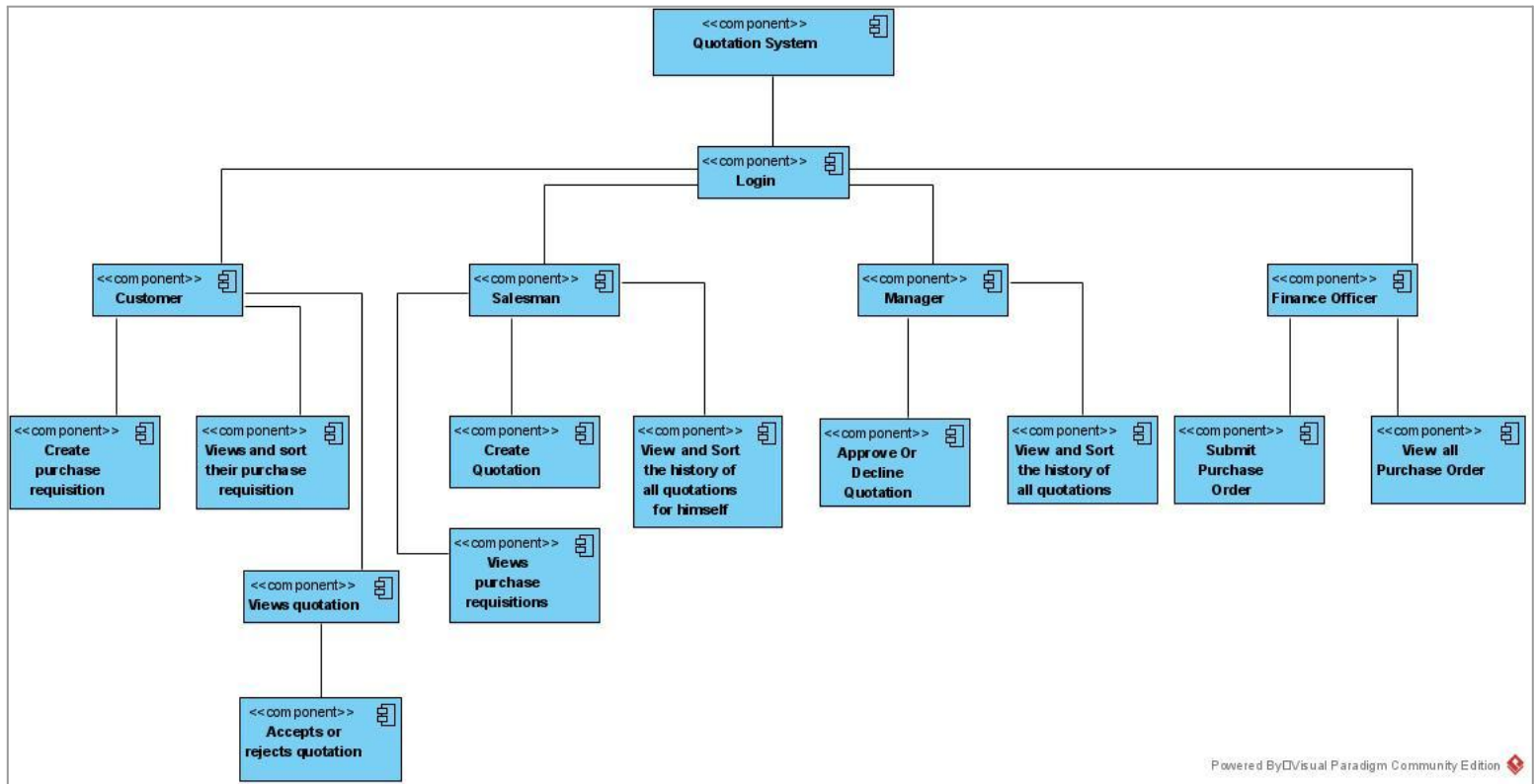


Figure 5.3 Architecture Design for Quotation System

Team Task Distribution

Subsystem	Assigned Team member
Subsystem 1- Customer	Ayat
Subsystem 2- Salesman	Ayaan
Subsystem 3- Manager	Roha
Subsystem 4- Finance Officer	Salah

5.3.1 Subsystem 1

This Subsystem shows the dedicated system for the customer that includes creating Purchase Requisitions, viewing and handling quotations, viewing and sorting the history of all Purchase Requisition.

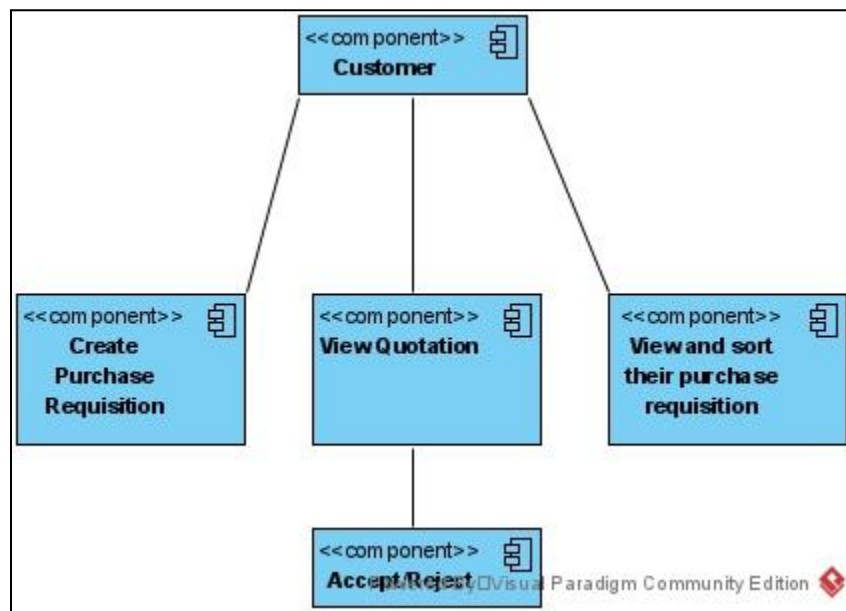


Figure 5.3.1 Subsystem 1- Customer

5.3.2 Subsystem 2

This Subsystem shows the dedicated system for the Salesman that includes creating quotations, viewing and sorting the history of all quotations, and viewing active Purchase requisition

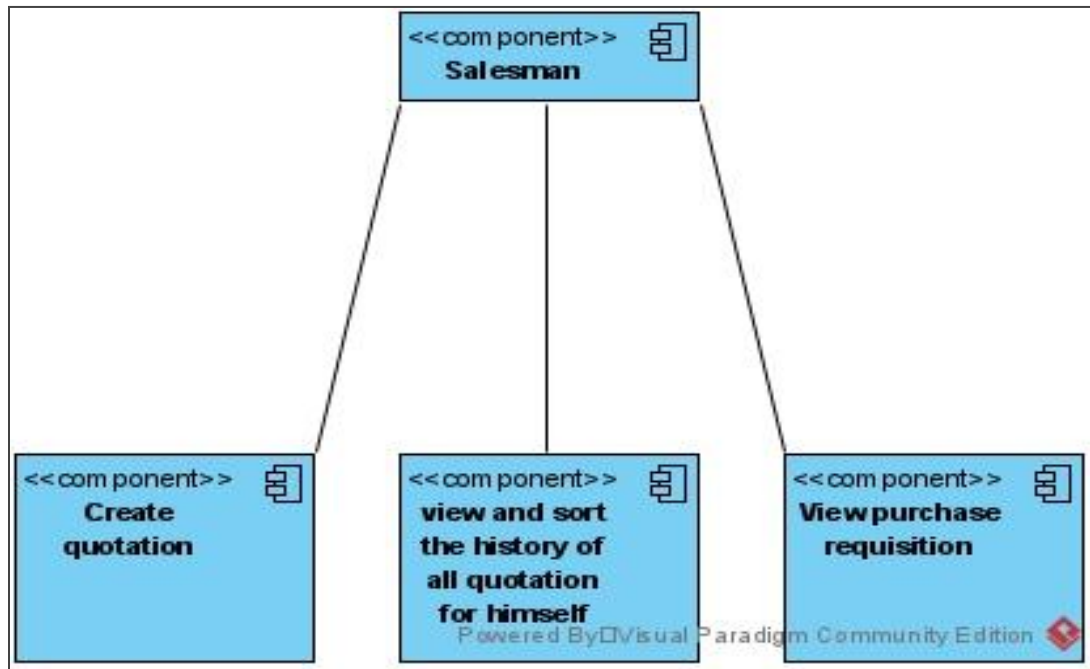


Figure 5.3.2 Subsystem 2- Salesman

5.3.3 Subsystem 3

This Subsystem shows the dedicated system for the Manager that includes approving or declining quotations, viewing and sorting the history of all quotations.

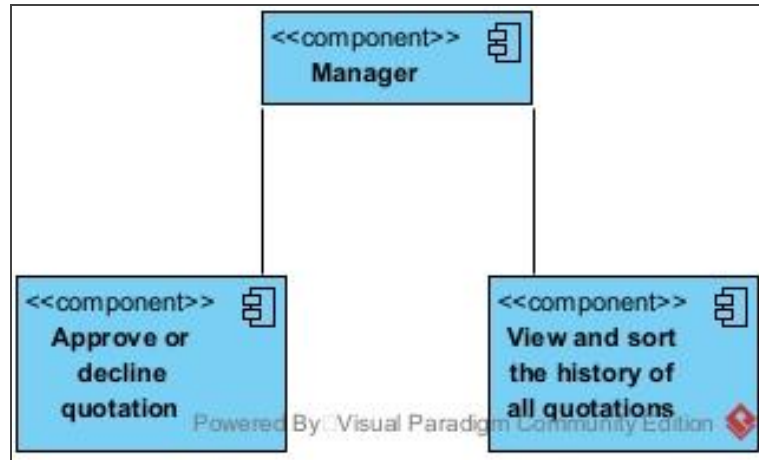


Figure 5.3.3 Subsystem 3- Manager

5.3.4 Subsystem 4

This Subsystem shows the dedicated system for the Finance officer that includes submitting the purchase order in the system and viewing all purchase orders.

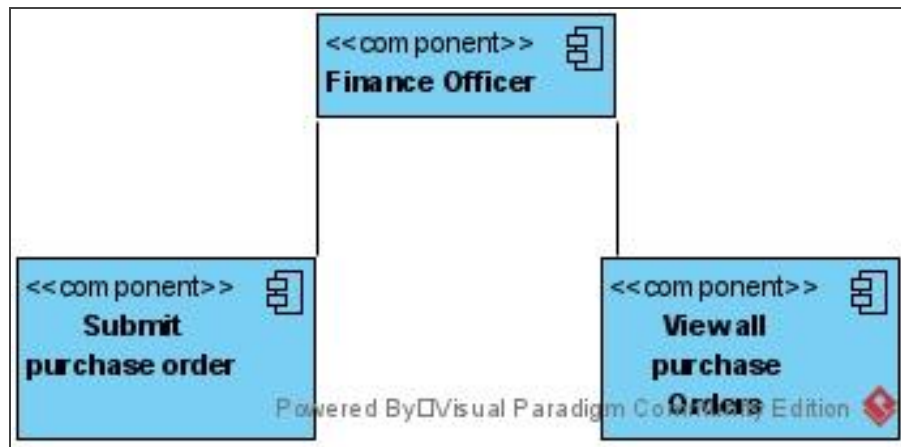


Figure 5.3.4 Subsystem 4- Finance Officer

5.3 Main Screens

The Quotation System has the main **Login page** as its Home screen. After logging in, users are directed to their respective Home screens.

Every user's **Home screen** differs from each other. From the home screen, the users are further directed to screens related to their roles in the quotation system.

Subsystem 1 have **Customer** who can view and create Purchase Requisitions and view all the available Quotations for them in the system.

Subsystem 2 has a **Salesman** who can create and view all the Quotations made by them and all the Purchase Requisitions in the system.

Subsystem 3 has a **Manager** who only has the authority to approve Quotations and can view all the previous Quotations in the system.

Lastly, the subsystem 4 **Finance Officer** can create the Purchase Order and view all the Purchase Orders stored in the system.

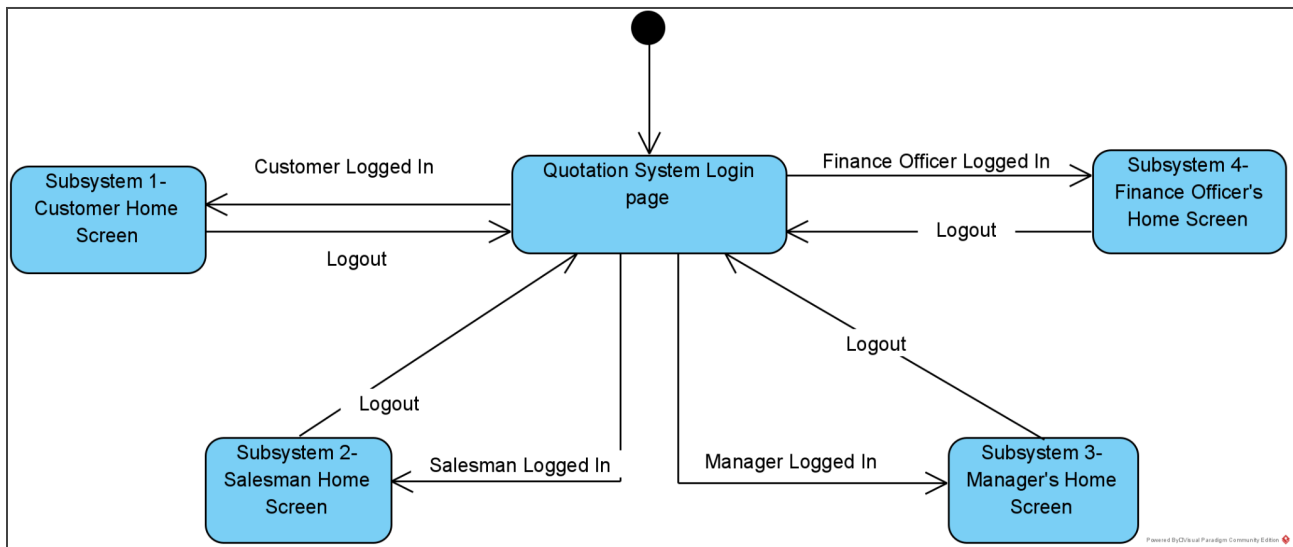


Figure 5.4 State Transition Diagram with Subsystems in Quotation System

5.4.1 Login Screen

The Login screen will direct each user to their specific subsystem.

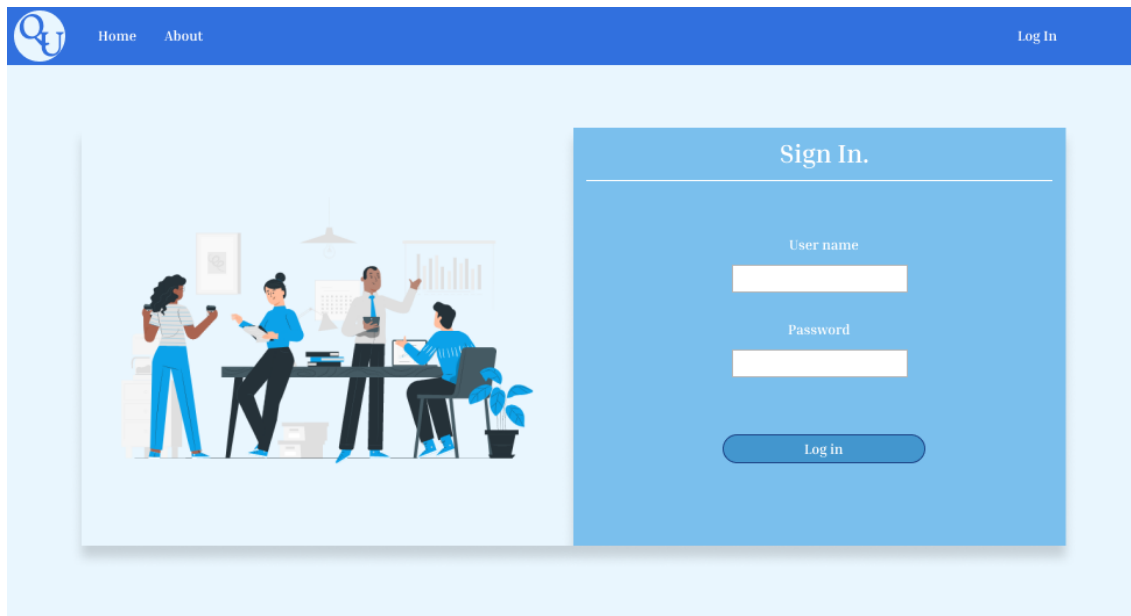


Figure 5.4.1 Login Screen in Quotation System

5.4.2 Subsystem 1- Customer

The Customer after logging in will land on the **Home** screen which will show him his profile and overall stats in the quotation system.

The customer can navigate to the **Purchase requisition** screen where it'll show him all the active purchase requisitions stored in the system by him, from there he can also proceed to make a new purchase requisition by clicking on **Add purchase requisition** button and can also view details of each purchase requisition.

The Customer can also navigate to view all the quotations offered to him for his previous purchase requisitions on the **Quotation** page, and can further view the details of each quotation by clicking on **View Details** Button.

5.4.2.1 Home Screen

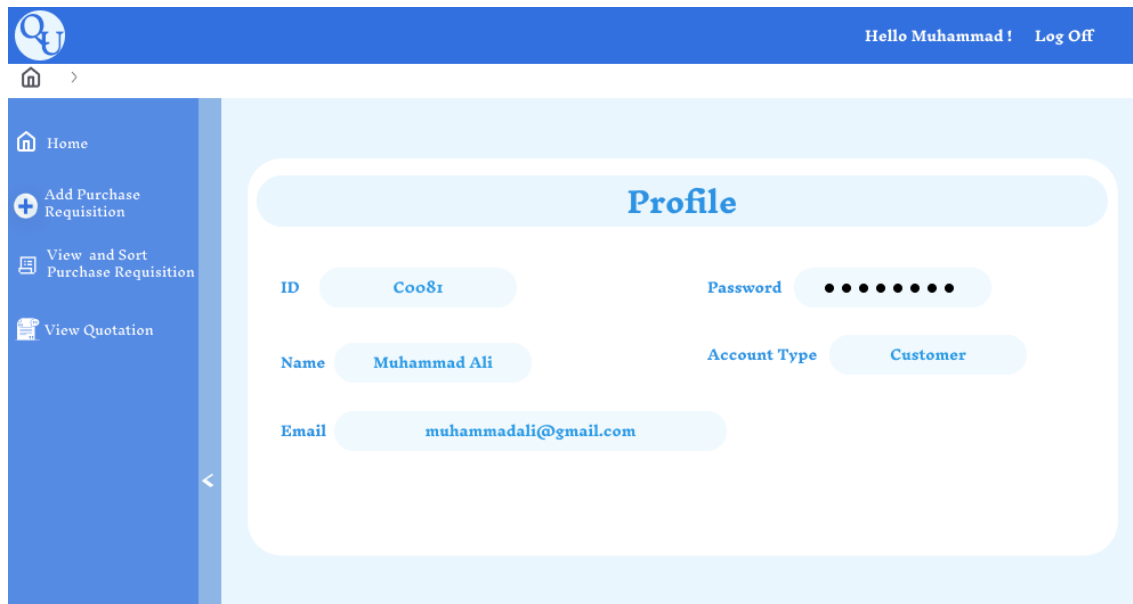


Figure 5.4.2.1 Home Screen of Customer in Quotation System

5.4.2.2 Purchase Requisition list Screen

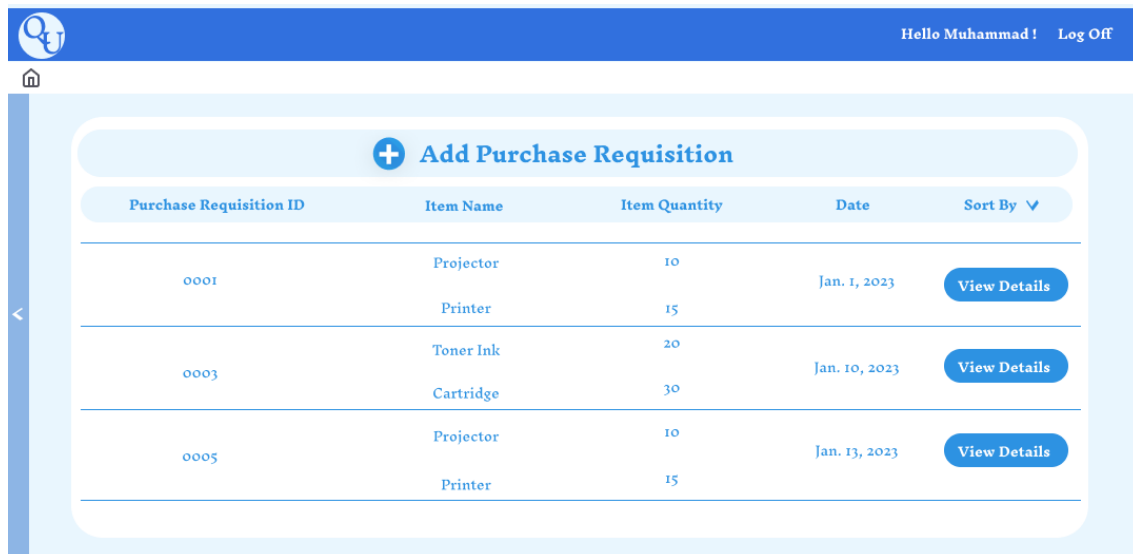


Figure 5.4.2.2 Purchase requisition screen in Quotation System

5.4.2.3 View Purchase Requisition Screen



View Purchase Requisition PU0001

Purchase Requisition ID PU0001 Date Jan. 1, 2023

Item Name	Item Quantity
Projector	10
Printer	15

Figure 5.4.2.3 Viewing a specific Purchase Requisition screen in Quotation System

5.4.2.4 Add Purchase Requisition Screen

Add Purchase Requisition

Purchase Requisition ID: PUXXXX

Customer ID: Coo8r

Date: dd/mm/yyyy

Add Item: 1

Item Name	Item Quantity

Submit

Figure 5.4.2.4 Adding Purchase requisition screen in Quotation System

5.4.2.5 Available Quotation Screen

View Quotations

Quotation ID	Item Name	Item Quantity	Item Price	Total Price	Date	
QU0001	Projector	10	8,999.0	152240.0	Jan. 1, 2023	View Details
	Printer	15	4,150.0			
QU0003	Toner Ink	20	40.0	1880.0	Jan. 13, 2023	View Details
	Cartridge	30	36.0			
QU0005	Projector	10	7000.0	122500.0	Jan. 14, 2023	View Details
	Printer	15	3,500.0			

Figure 5.4.2.5 Quotations screen in Quotation System

5.4.2.6 Quotation details Screen

View Quotation QU0001

Customer ID: C0081 Date: Jan. 1, 2023

Purchase Requisition ID: PU0001 Total Price: 152240.0

Status: Accepted

Item Name	Item Quantity	Item Price
Projector	10	8,999.0
Printer	15	4,150.0

Figure 5.4.2.6 Viewing a specific Quotation screen in Quotation System

5.4.3 Subsystem 2- Salesman

The Salesman after logging in will land on the **Home** screen which will show him his profile and overall stats in the quotation system.

The Salesman can navigate to the **Purchase requisition** screen where it'll show him all the active purchase requisitions stored in the system.

He can then proceed to make new quotations by clicking on the **Add purchase requisition** button based on the active purchase requisition, and can further view the details of each Purchase Requisition by clicking on **View Details** Button.

He can view and sort all his quotations by navigating to the **Quotation** page, and can further view the details of each quotation by clicking on **View Details** Button.

5.4.3.1 Home Screen

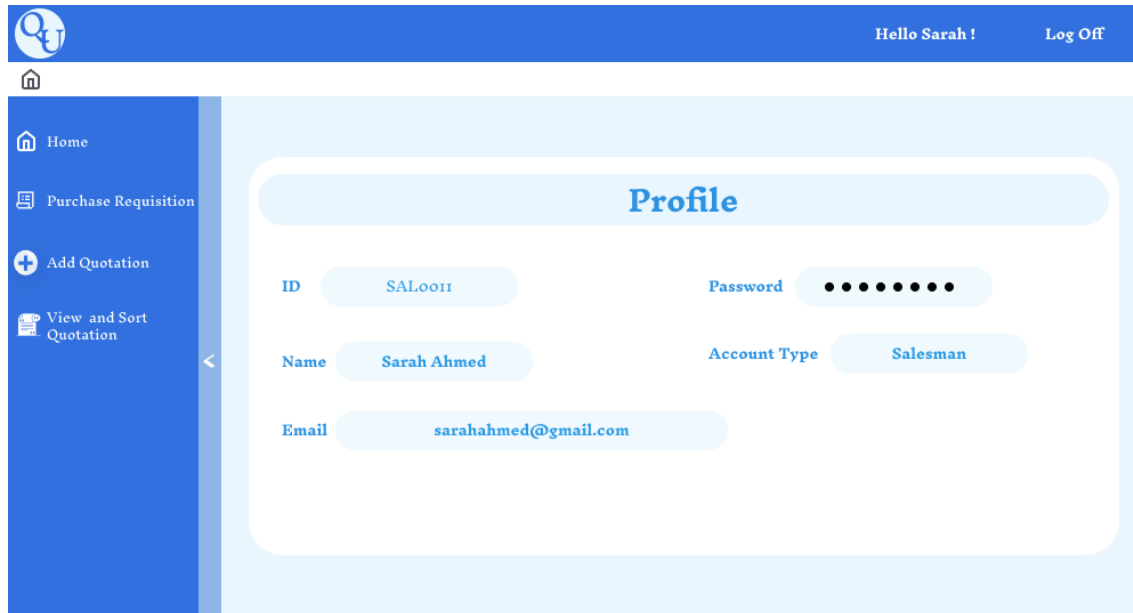


Figure 5.4.3.1 Home screen of Salesman in Quotation System

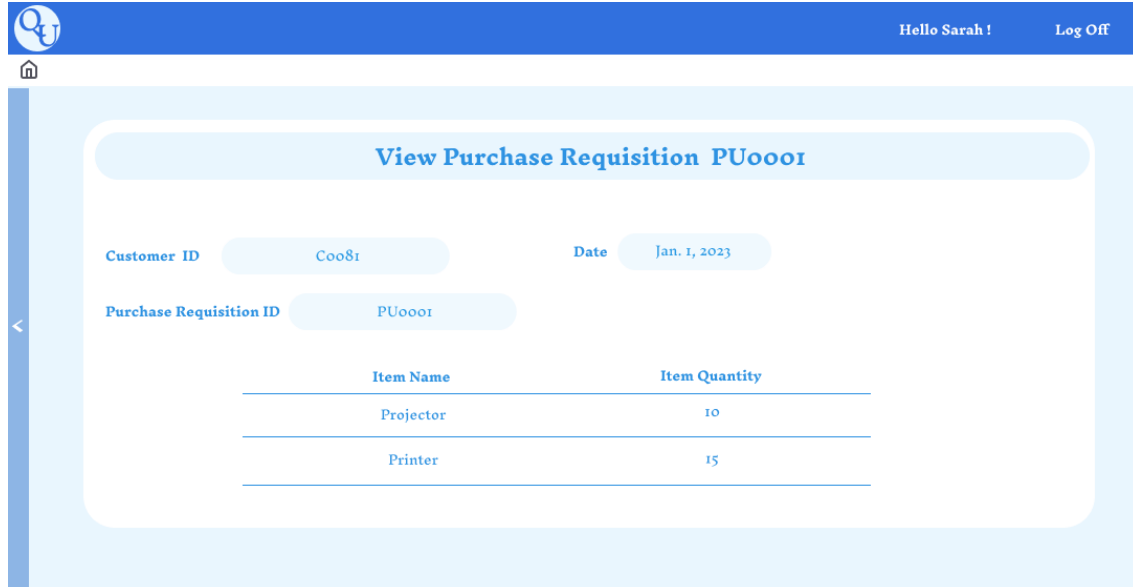
5.4.3.2 All Purchase Requisition Screen



Purchase Requisition ID	Customer ID	Item Name	Item Quantity	Date	
PU0001	C0081	Projector	10	Jan. 1, 2023	View Details
		Printer	15		
PU0003	C0005	Toner Ink	20	Jan. 10, 2023	View Details
		Cartridge	30		
PU0005	C0011	Keyboard	20	Jan. 14, 2023	View Details
		Mouse	35		

Figure 5.4.3.2 Purchase Requisition screen in Quotation System

5.4.3.3 View Purchase Requisition Screen



Customer ID	Date
C0081	Jan. 1, 2023

Purchase Requisition ID: PU0001

Item Name	Item Quantity
Projector	10
Printer	15

Figure 5.4.3.3 Viewing a specific Purchase Requisition screen in Quotation System

5.4.3.4 Add Quotation Screen

Add Quotations

Quotation ID: QU0001

Purchase Requisition ID: Choose...

Salesman ID: SAL0012

Customer ID:

Date: dd/mm/yyyy

Add Item: 1

Item Name	Item Quantity	Item Price

Total Price:

Submit

Figure 5.4.3.4 Adding Quotation screen in Quotation System


5.4.3.5 History of his Quotation Screen

View Quotations

Quotation ID	Item Name	Item Quantity	Item Price	Total Price	Date	Sort By ▼
QU0001	Projector	10	8,999.0	152240.0	Jan. 1, 2023	View Details
	Printer	15	4,150.0			
QU0003	Toner Ink	20	40.0	1880.0	Jan. 13, 2023	View Details
	Cartridge	30	36.0			
QU0005	Keyboard	20	70.0	122500.0	Jan. 14, 2023	View Details
	Mouse	35	45.0			

Figure 5.4.3.5 Viewing Quotation screen in Quotation System

5.4.3.6 View Quotation Screen



View Quotation QU0001

Customer ID: C0081 Date: Jan. 1, 2023

Purchase Requisition ID: PU0001 Total Price: 152240.0

Status: Accepted

Item Name	Item Quantity	Item Price
Projector	10	8,999.0
Printer	15	4,150.0

Figure 5.4.3.6 Viewing a specific Quotation screen in Quotation System

5.4.4 Subsystem 3 - Manager

The Manager after logging in will land on the **Home** screen which will show him his profile and overall stats in the quotation system.

The Manager can navigate to the **Quotation** screen where it'll show him all the quotations made by the Salesman which he can Approve/Decline in the system. The manager can also navigate to view all the **History of Quotations** and can even sort it, and can further view the details of each quotation by clicking on **View Details** Button.

5.4.4.1 Home Screen

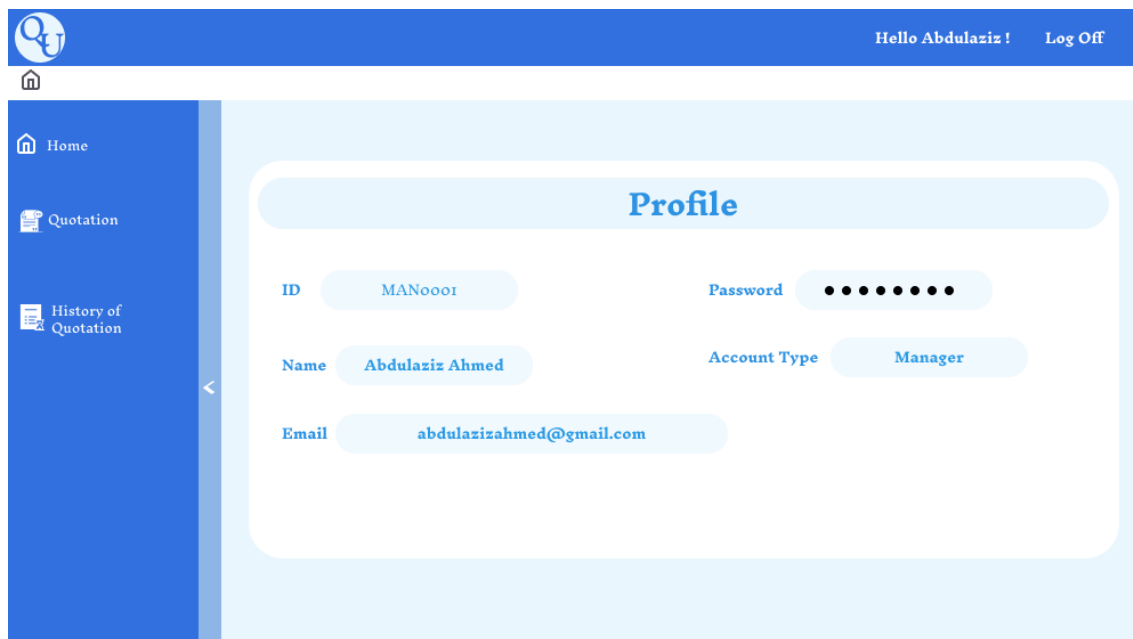


Figure 5.4.4.1 Home screen for Manager in Quotation System

5.4.4.2 Quotations Screen



Accept or Decline Quotations						
Quotation ID	Item Name	Item Quantity	Item Price	Total Price	Date	Status
QU0001	Projector	10	8,999.0	152240.0	Jan. 1, 2023	Approved
	Printer	15	4,150.0			Decline
QU0003	Toner Ink	20	40.0	1880.0	Jan. 10, 2023	Approved
	Cartridge	30	36.0			Decline
QU0005	Printer	10	70.0	122500.0	Jan. 14, 2023	Approved
	Toner Ink	40	45.0			Decline

Figure 5.4.4.2 View quotations screen in Quotation System

5.4.4.3 History of all Quotation Screen



View Quotations						
Quotation ID	Item Name	Item Quantity	Item Price	Total Price	Date	Sort By ▼
QU0001	Projector	10	8,999.0	152240.0	Jan. 1, 2023	View Details
	Printer	15	4,150.0			
QU0003	Toner Ink	20	40.0	1880.0	Jan. 10, 2023	View Details
	Cartridge	30	36.0			
QU0005	Printer	10	70.0	122500.0	Jan. 14, 2023	View Details
	Toner Ink	40	45.0			

Figure 5.4.4.3 View History of Quotations screen in Quotation System

5.4.4.4 View Quotation Screen

The screenshot shows a web application interface for viewing a quotation. The header is blue with a logo on the left and user information 'Hello Abdulaziz!' and 'Log Off' on the right. The main content area is light blue and contains a white rounded rectangle titled 'View Quotation QU0001'. Inside this rectangle, there are several fields: 'Customer ID' with value 'Coo81', 'Date' with value 'Jan. 1, 2023', 'Purchase Requisition ID' with value 'PU0001', 'Total Price' with value '152240.0', and 'Status' with value 'Accepted'. Below these fields is a table with three columns: 'Item Name', 'Item Quantity', and 'Item Price'. The table contains two rows of data: 'Projector' with quantity '10' and price '8,999.0', and 'Printer' with quantity '15' and price '4,150.0'.

Item Name	Item Quantity	Item Price
Projector	10	8,999.0
Printer	15	4,150.0

Figure 5.4.4.4 Viewing a specific Quotation screen in Quotation System

5.4.5 Subsystem 4 - Finance Officer

The Finance Officer after logging in will land on the **Home** screen which will show him his profile and overall stats in the quotation system.

The Finance Officer can navigate to the **Purchase Order** screen which it'll show him all the history of purchase orders stored in the system, and can further view the details of each Purchase order by clicking on **View Details** Button.

The Finance Officer can also navigate to the **Add Purchase Order** page where he can add new Purchase orders.

5.4.5.1 Home Screen

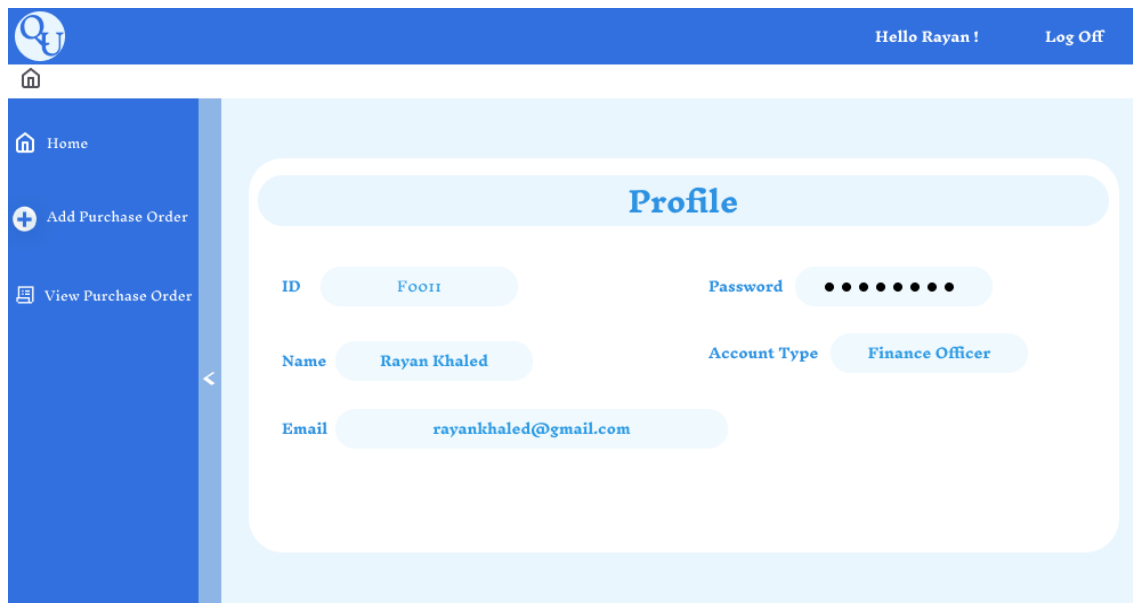


Figure 5.4.5.1 Home Screen for Finance Officer in Quotation System

5.4.5.2 Add Purchase Order Screen

Add Purchase Order

Purchase Order ID: POXXXX

Quotation ID: Choose...

Finance Officer ID: FO001

Customer ID:

Salesman ID:

Date: dd/mm/yyyy

Add Item: I

Item Name	Item Quantity	Item Price

Total Price:

Submit

Figure 5.4.5.2 Add Purchase Order screen in Quotation System

5.4.5.3 History of Purchase Order screen

View Purchase Orders

Purchase Order ID	Item Name	Item Quantity	Item Price	Total Price	Date	Sort By
PO0001	Projector	10	8,999.0	152240.0	Jan. 1, 2023	View Details
	Printer	15	4,150.0			
PO0003	Toner Ink	20	40.0	1880.0	Jan. 10, 2023	View Details
	Cartridge	30	36.0			
PO0005	Keyboard	20	70.0	122500.0	Jan. 14, 2023	View Details
	Mouse	45	45.0			

Figure 5.4.5.3 View Purchase order screen in Quotation System

5.4.5.4 Purchase Order screen



View Purchase Order POoooo1

Customer ID: Coo8r Date: Jan. 1, 2023

Salesman ID: SAL0012 Total Price: 152240.0

Quotation ID: QUoooo1

Item Name	Item Quantity	Item Price
Projector	10	8,999.0
Printer	15	4,150.0

Figure 5.4.5.4 View A Purchase order screen in Quotation System

Main Components

Table 5.5 Main Components and Classes in Quotation system

Subsystems	Components	Classes
Subsystem Customer	1- Create Purchase Requisition	Customer Purchase Requisition PRItems
	View and sort their Purchase Requisition	Customer Purchase Requisition PRItems
	View the Quotations	Customer Salesman Quotation QuotationItems Purchase Requisition PRItems
	Accepts/Reject Quotations	Customer Salesman Quotation QuotationItems Purchase Requisition PRItems
Subsystem Salesman	2- Create Quotation	Salesman Customer Manager Purchase requisition PRItems Quotation QuotationItems
	View the Purchase Requisition	Customer Purchase Requisition PRItems
	View and sort the history of the Quotation for himself	Salesman Customer Manager Purchase requisition PRItems

		Quotation QuotationItems
Subsystem 3- Manager	Approve/Decline the Quotation	Salesman Customer Manager Purchase requisition PRItems Quotation QuotationItems
	View and sort the history of the Quotation for the whole system	Salesman Customer Manager Purchase requisition PRItems Quotation QuotationItems
Subsystem 4- Finance Officer	Create Purchase Order	Customer Salesman Finance Officer Quotation QuotationItems Purchase Order POItems
	View all the Purchase Order	Customer Salesman Finance Officer Quotation Purchase Order POItems

5.5.1 Component 1 - Create Purchase Requisition

Customers after logging in the system can create Purchase requisition which is then stored in the Purchase requisition database.

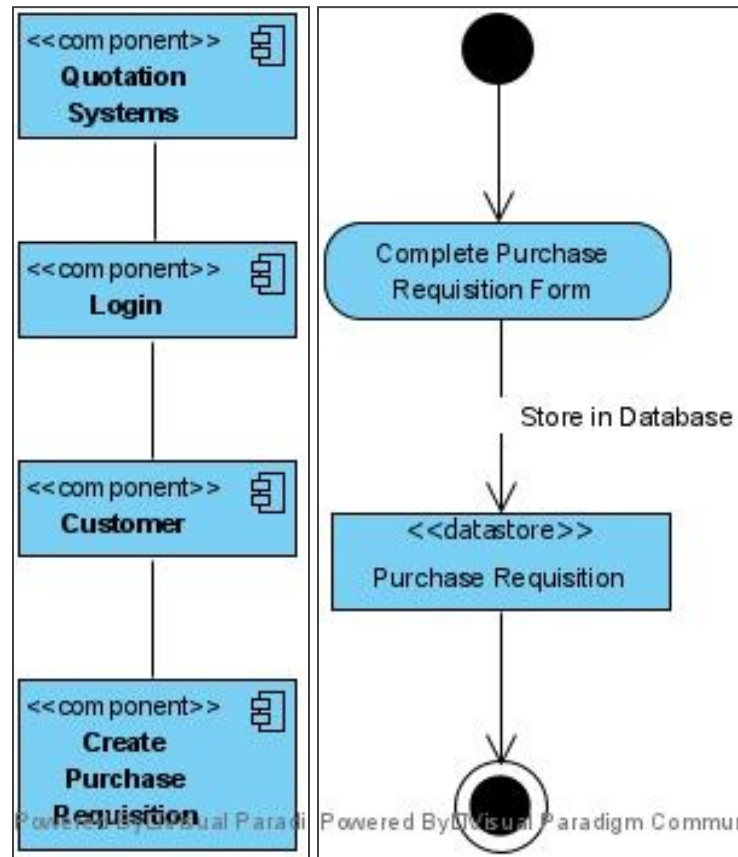


Figure 5.5.1 Create Purchase Requisition

5.5.2 Component 2 - View and sort their Purchase Requisition

Customer after logging in can view and sort all the Purchase requisitions in the system made by him.

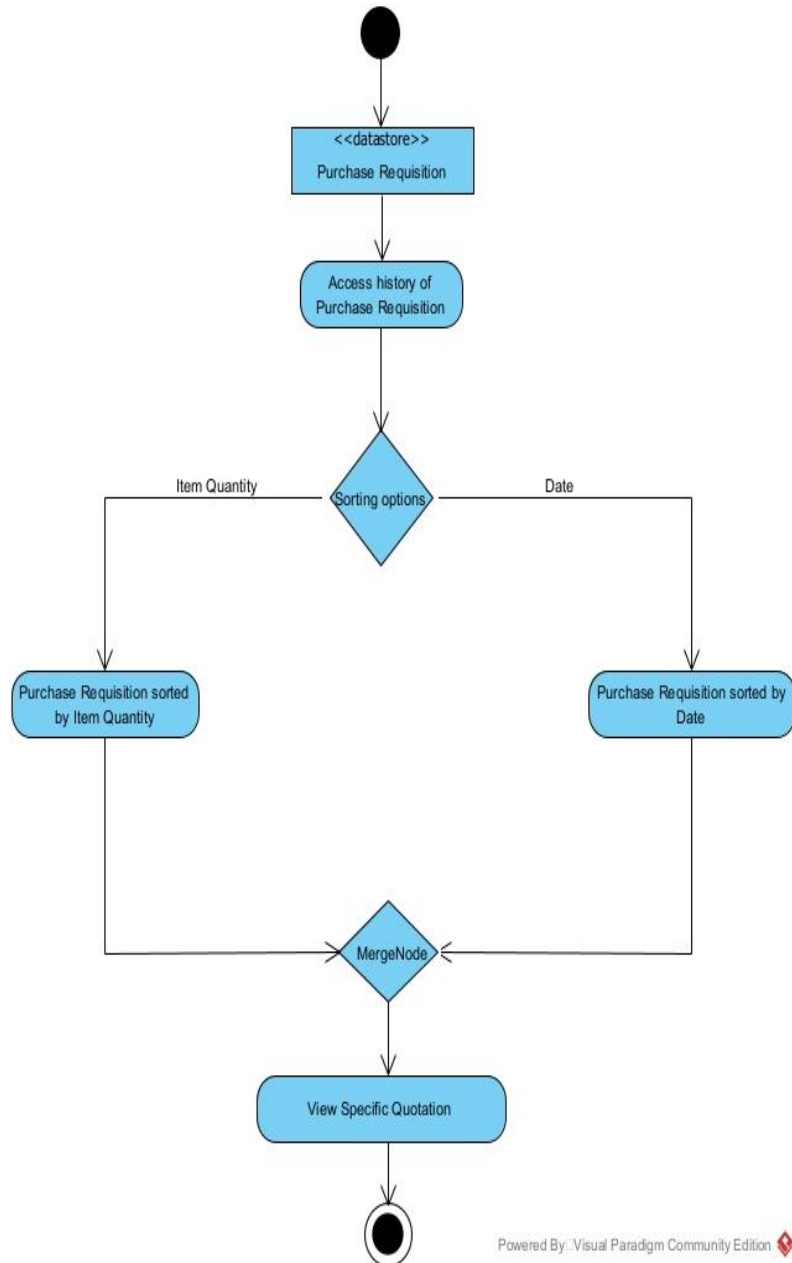
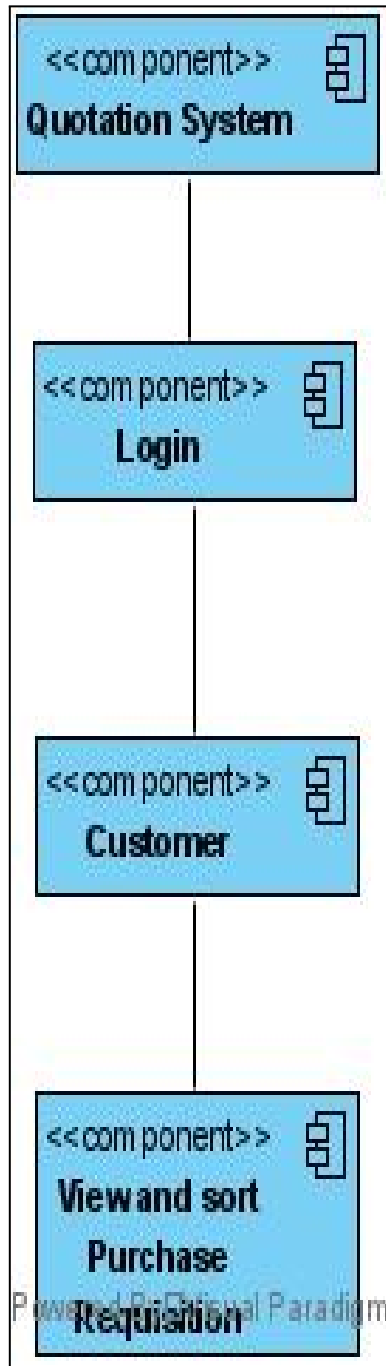


Figure 5.5.2 View and sort their Purchase Requisition

5.5.3 Component 3 - View the Quotations

The customer after logging in can view all the quotations that are being offered to him.

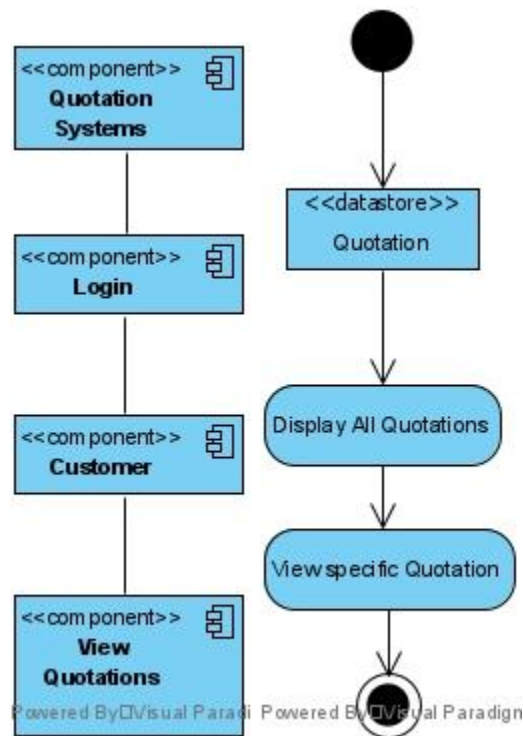


Figure 5.5.3 View Quotations

5.5.4 Component 4 - Accepts/Reject Quotations

The Customer after logging in can view all the active quotations offered to him and can further accept or reject the quotations according to his will.

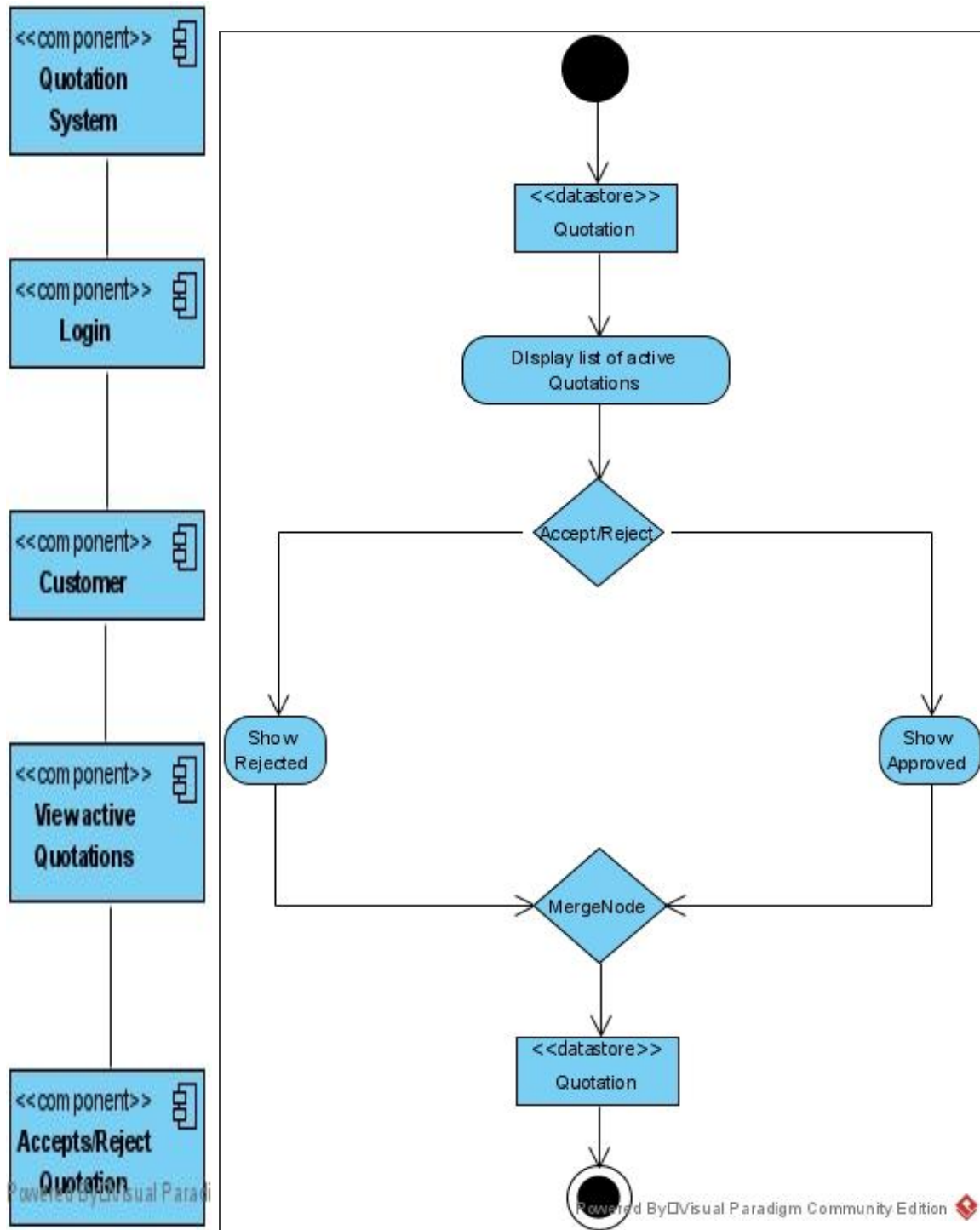


Figure 5.5.4 Accepts/Reject Quotations

5.5.5 Component 5 - Create Quotation

The salesman after logging in can create quotations and send them to the managers for further approval.

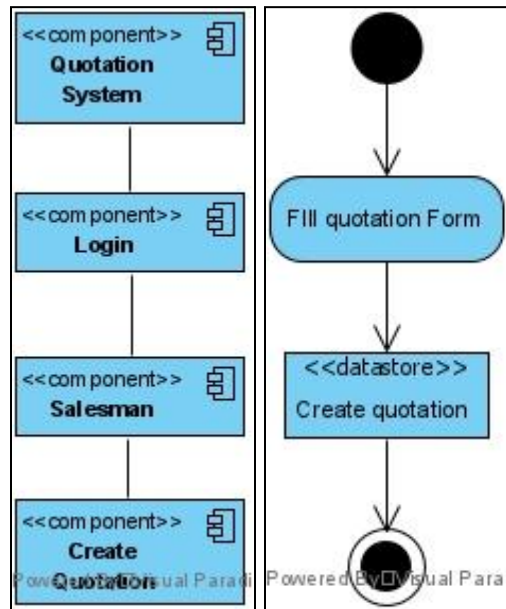


Figure 5.5.5 Create Quotation

5.5.6 Component 6 - View the Purchase Requisition

The Salesman after logging in can view all the Purchase requisitions in the system that has been made by the customers.

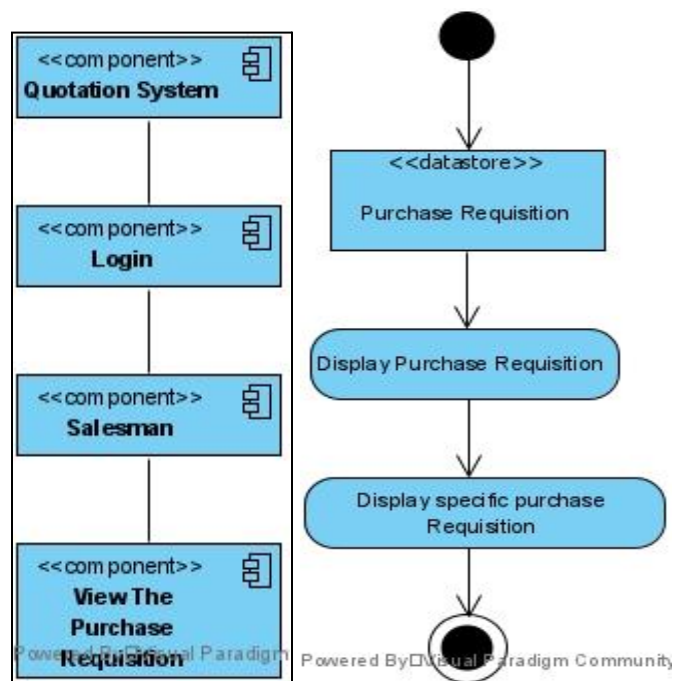


Figure 5.5.6 View the Purchase Requisition

5.5.7 Component 7 - View and sort the history of the Quotation for himself

The salesman after logging in to the system can view all the history of Quotations for himself and can sort it according to his will.

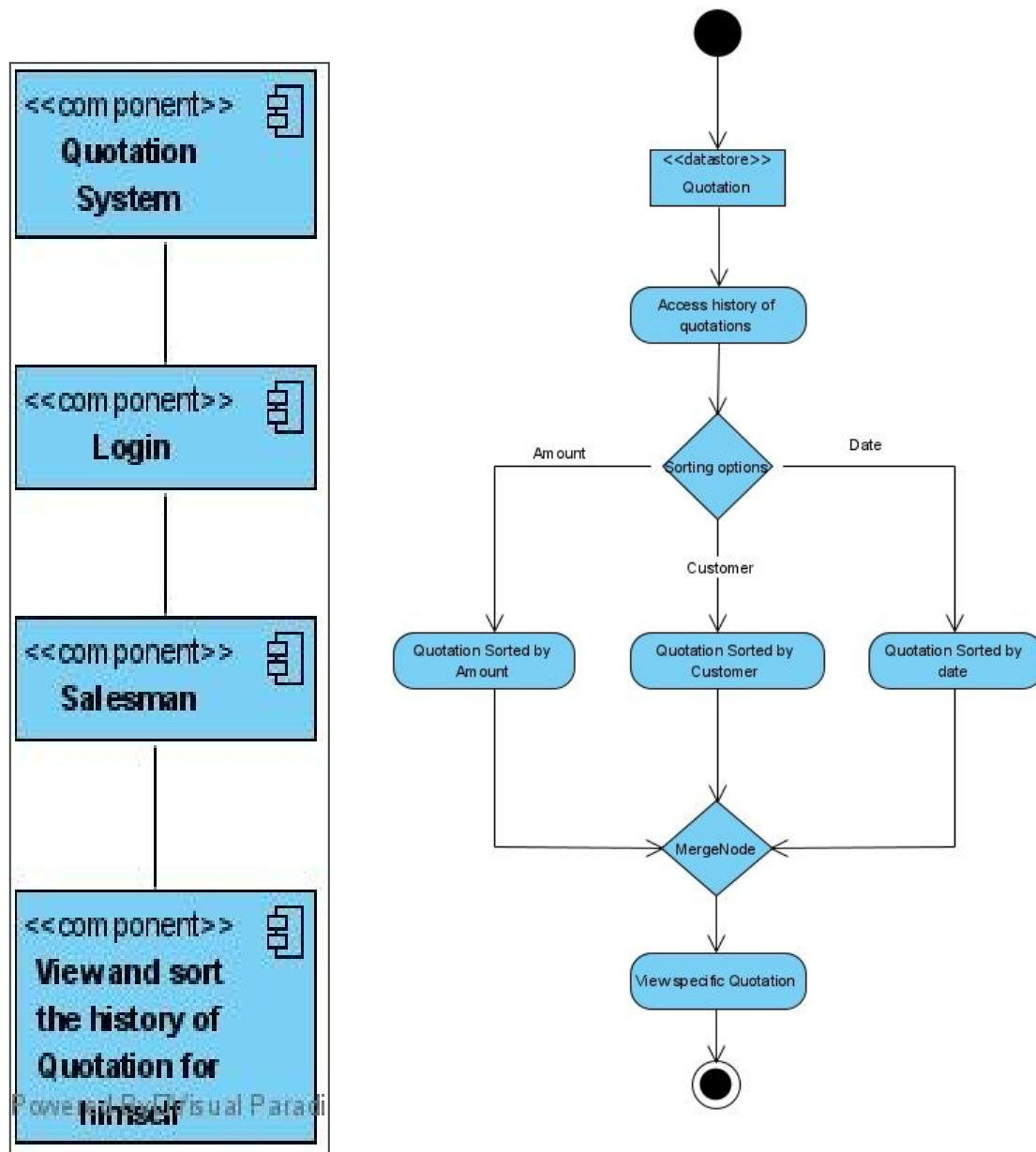


Figure 5.5.7 View and sort the history of the Quotation for himself

5.5.8 Component 8 - Approve/Decline the Quotation

The manager after logging in the system has the authority to approve or decline the quotations, the approved quotations are sent to the customers while declined quotations are not.

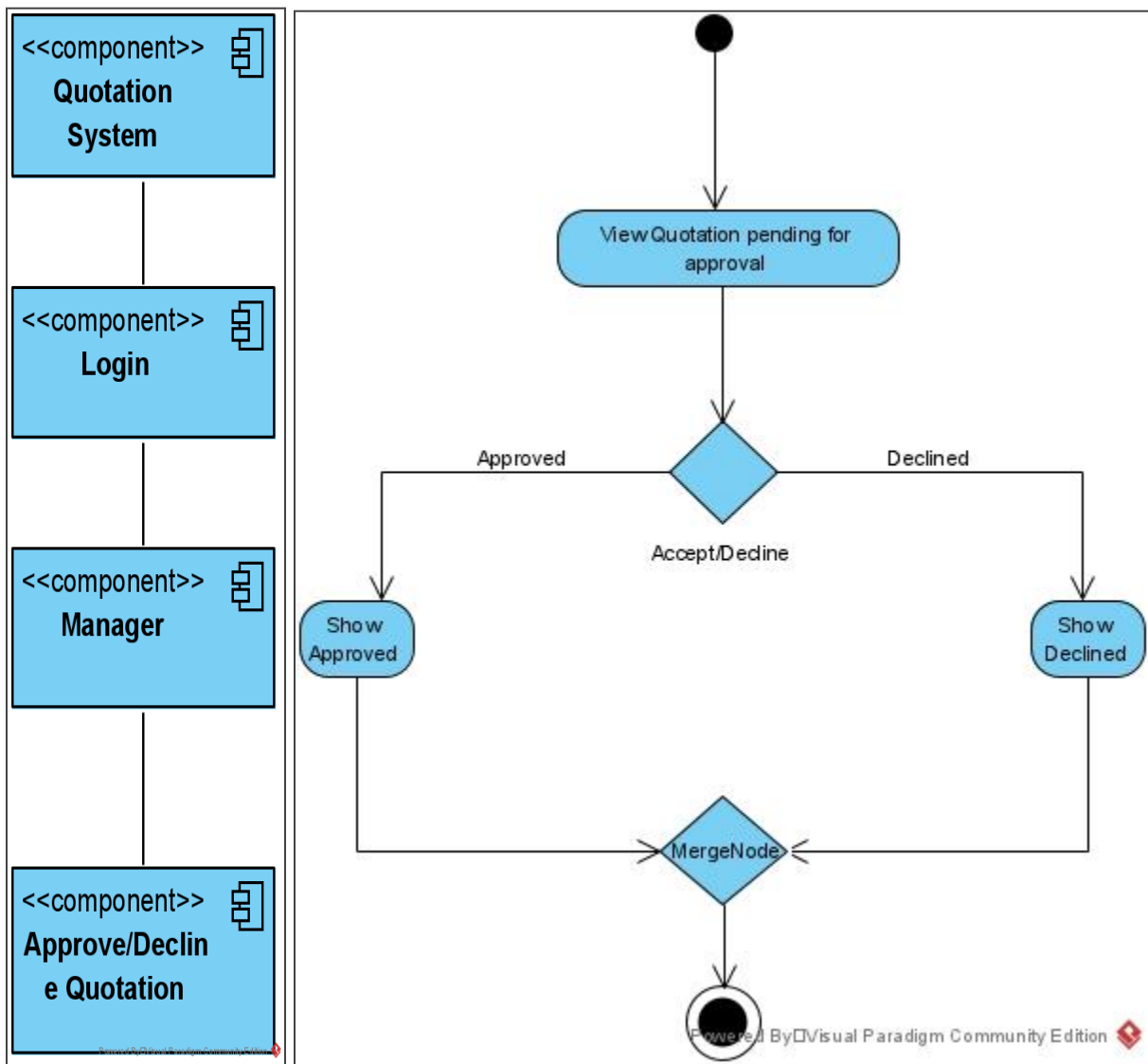


Figure 5.5.8 Approve/Decline the Quotation

5.5.9 Component 9 - View and sort the history of the Quotation for the whole system

The Manager can view all the history of the quotations that are made in the system and can sort it out according to his will.

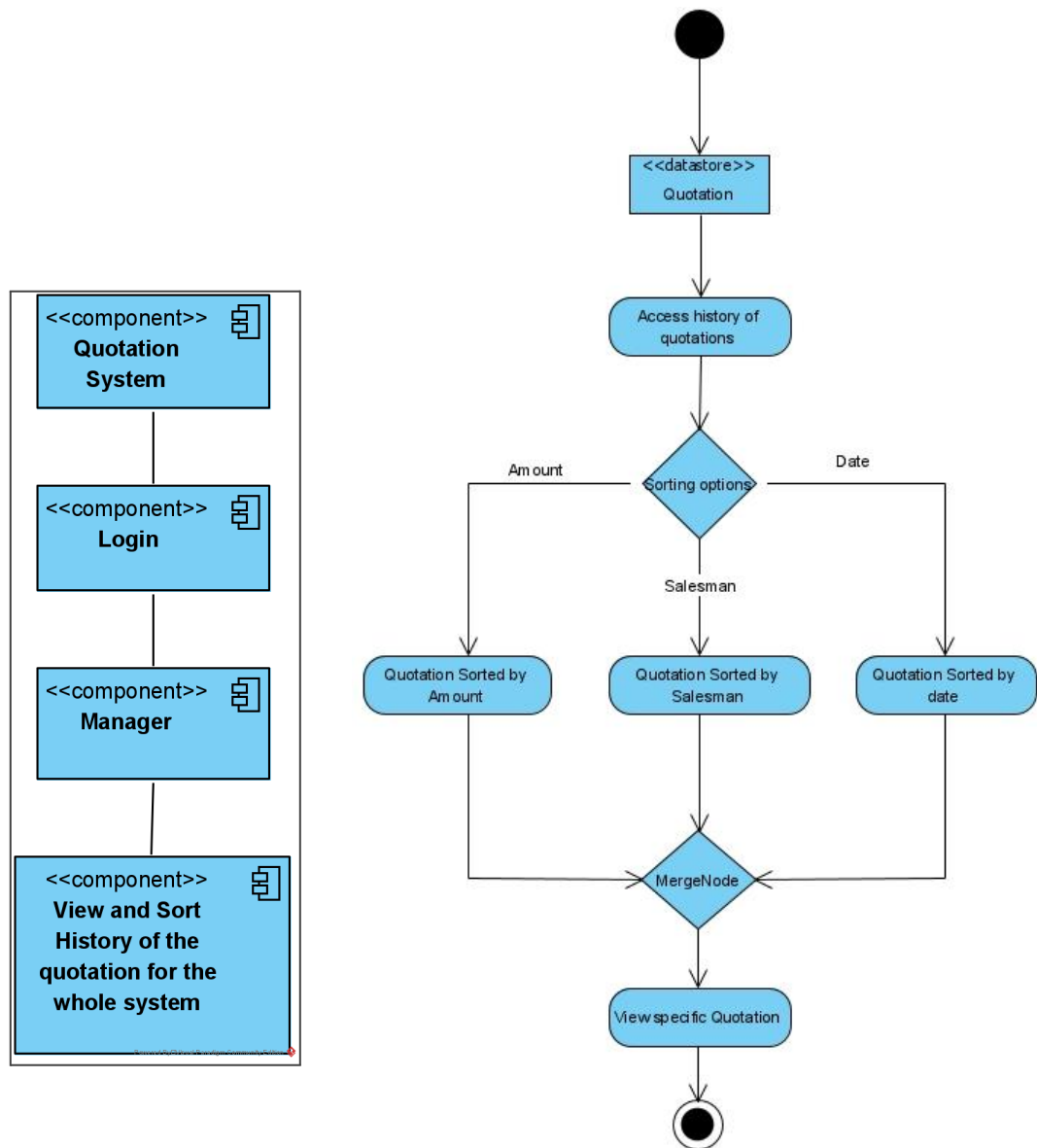


Figure 5.5.9 View and sort the history of the Quotation for the whole system

5.5.10 Component 10 - Key in the Purchase Order in the system

The finance officer after logging in to the system can key in the Purchase orders which are stored in the Purchase order database.

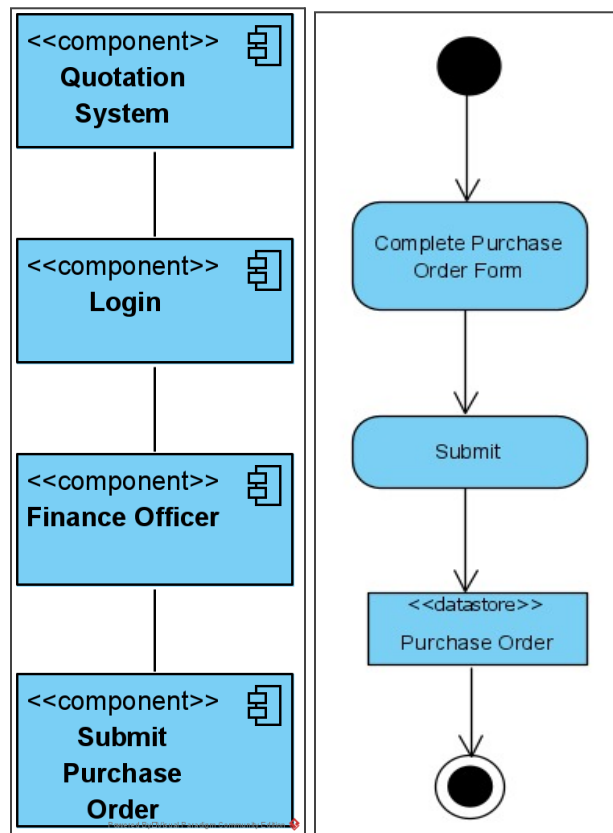


Figure 5.5.10 Key in the Purchase Order in the system

5.5.11 Component 11 - View all the Purchase Orders

The finance officer after logging in to the system can view all the Purchase Orders stored in the system by other finance officers as well.

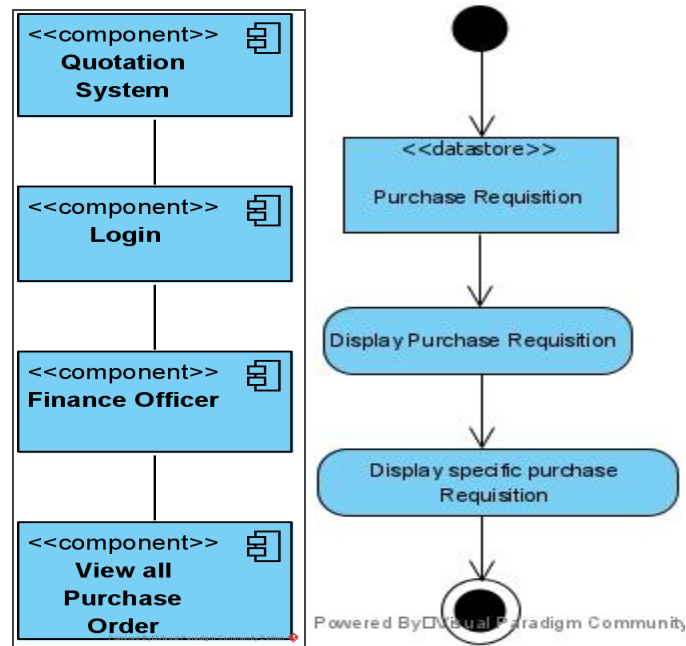


Figure 5.5.11 View all the Purchase Order

5.4 Deployment Diagram

The User can open the browsers to access the Quotation System Web application from their own machinery or PC, There is a localhost web server designated to open the web application, the web application is based on the Django framework and it uses db.sqlite3 as a backend database.

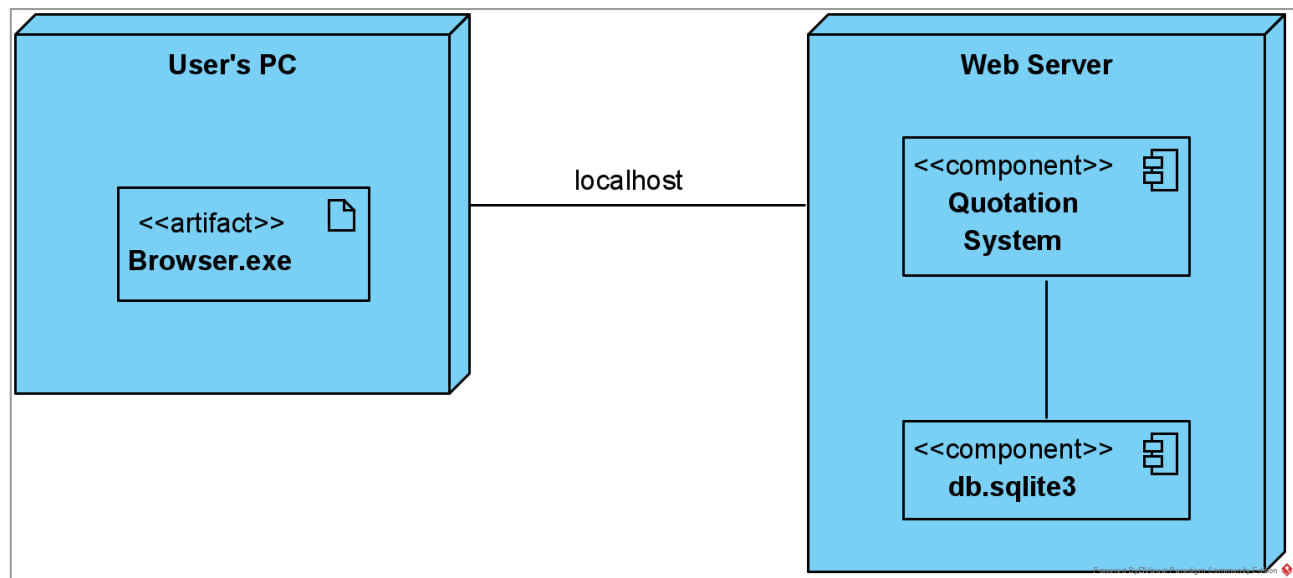


Figure 5.6 Deployment Design for Quotation System

6 Implementation

6.1 Development Environment

IDE: Pycharm and VSCode

Tools for Collaboration: GitHub

Each subfolder is shown in *Figure 6.1.1.* which presents the functionalities of the quotation system

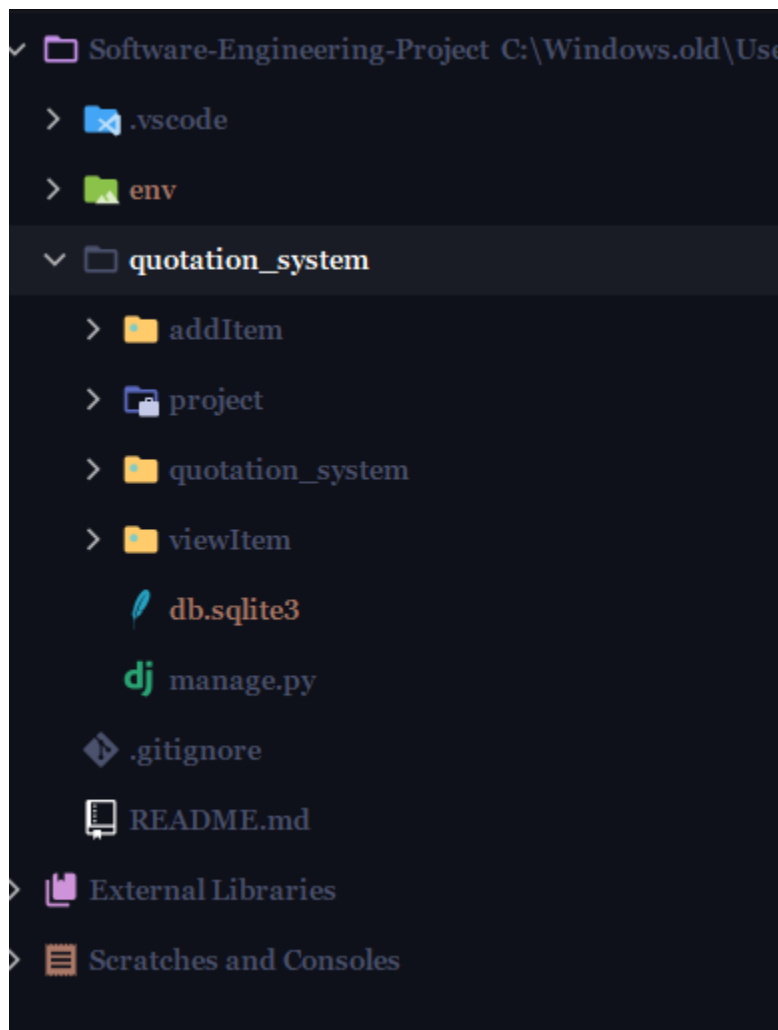


Figure 6.1.1. Screenshot of the Parent folders taken from Pycharm

- **Folder quotation_system:** It contains all the main files of the Django framework, this folder has the file **urls.py** which we use to define all the URLs for our system. It also contains **settings.py** where we had to add all the apps we used in the system and other settings for the project.

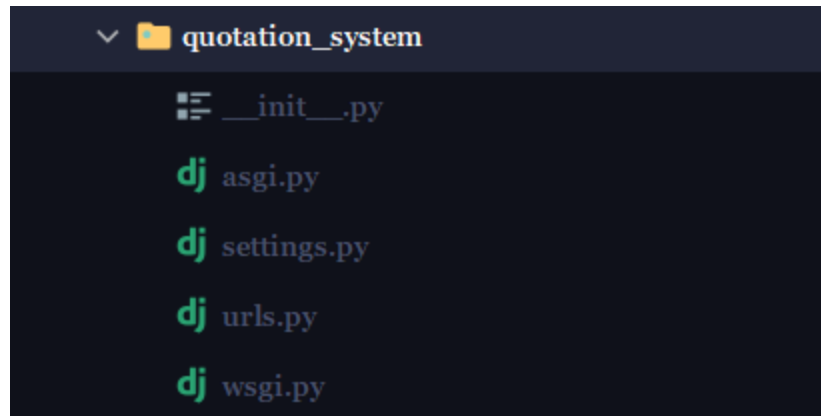


Figure 6.1.2. Screenshot of the quotation_system folder taken from Pycharm

- **Folder project:** It is our primary app and contains all the primary files and folders which are used throughout the system. It contains the **models.py** file which has all the models we have made for our project. It also contains **views.py** which contains all the views until we log in to the system. The **static** folder has all the static files like CSS and Javascript. The **templates** folder contains all the HTML files that we are using in the project till we login into the system including the dashboard.

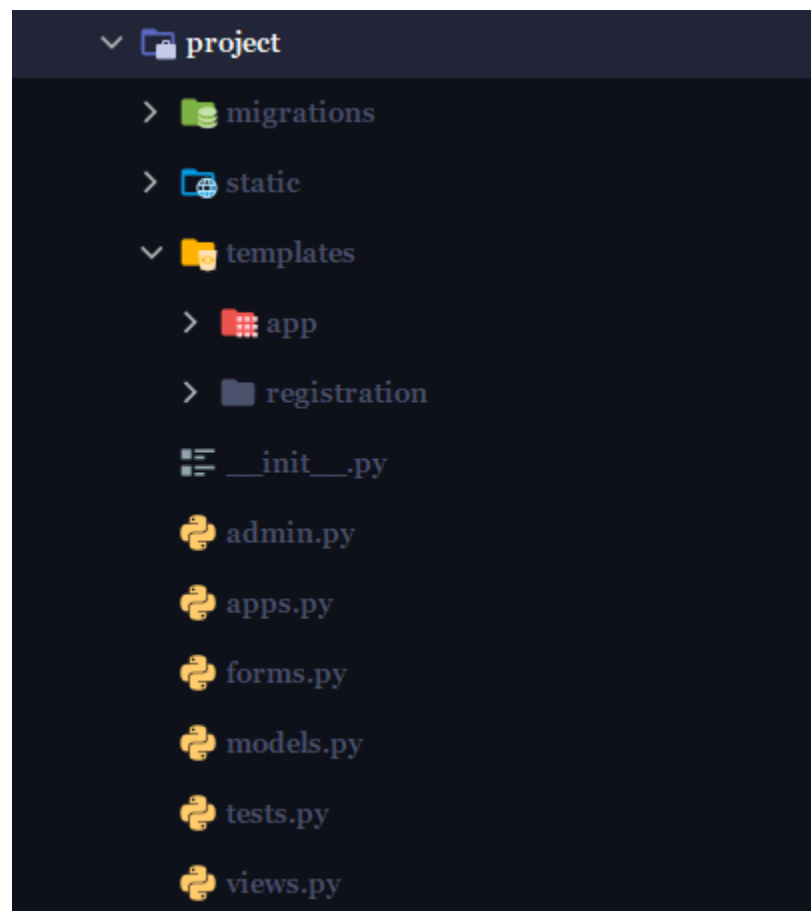


Figure 6.1.2. Screenshot of the project folder taken from Pycharm

- **Folder addItem:** It is our sub-app which contains all the functionalities to add the fields into the database. It contains **views.py** which has all the views functions that we used to add the data in the fields which are sent from the HTML form that is placed in the **templates** folder. It also contains the **forms.py** which has the forms we are using to store the data in the views.

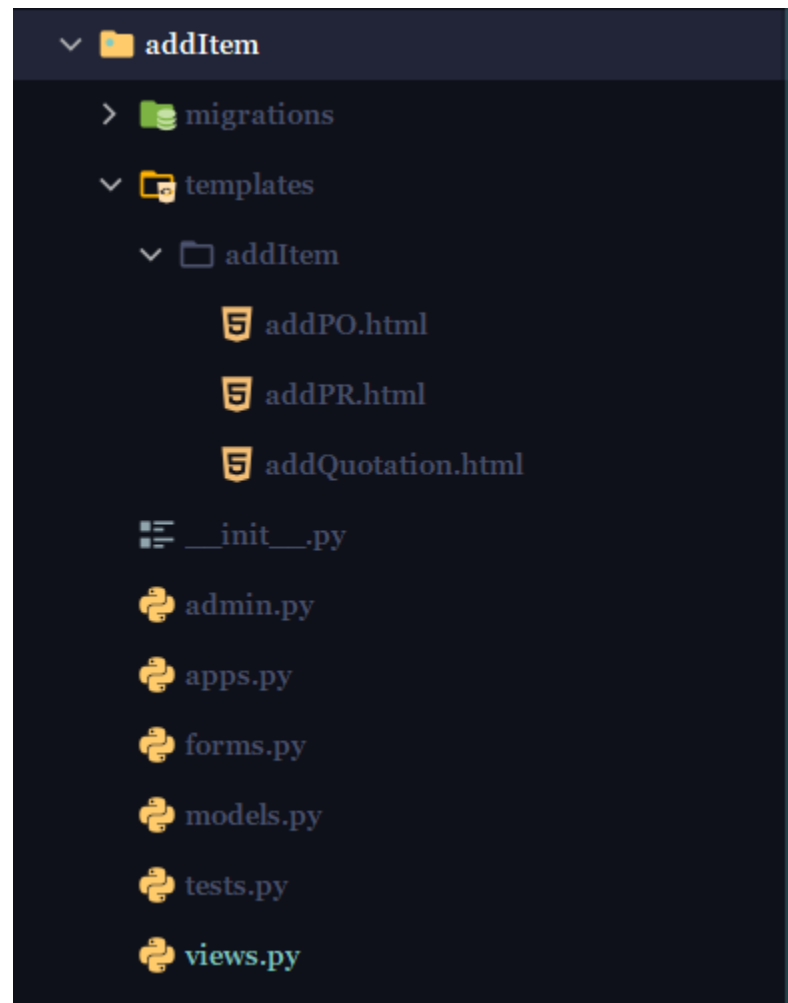


Figure 6.1.3. Screenshot of the addItem folder taken from Pycharm

- **Folder viewItem:** It is our sub-app which contains all the functionalities to view the data from the database. It contains **views.py** which has all the views functions that we used to view the data in the fields which are presented in the HTML file that is placed in the **templates** folder, the folders have subfolders containing views for each module.

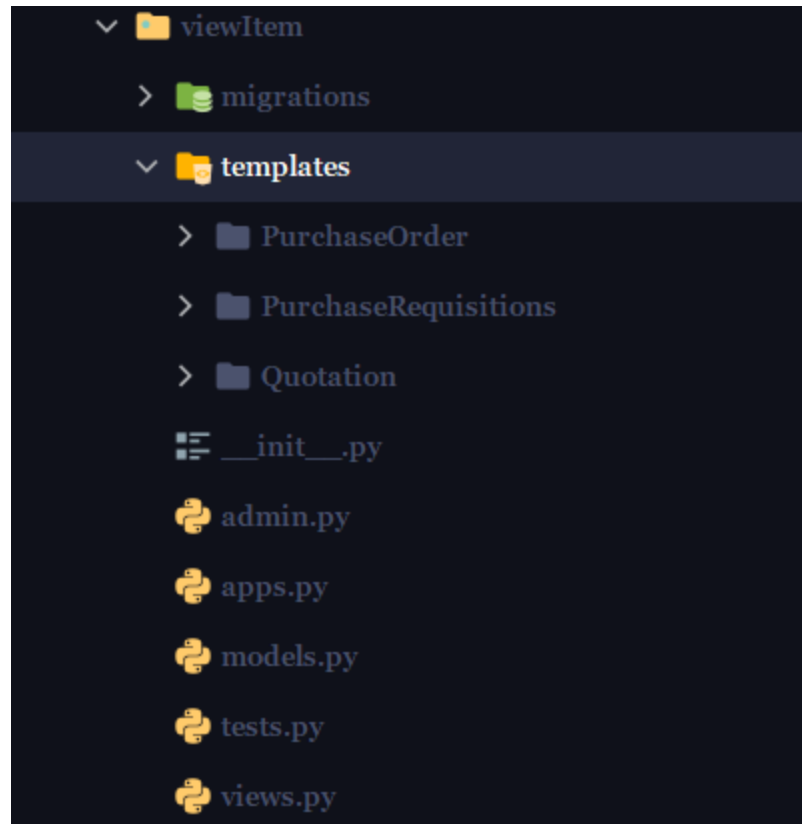


Figure 6.1.4. Screenshot of the viewItem folder taken from Pycharm

6.2 Software Integration

In order to Integrate our components to work simultaneously we needed to define the routing in **urls.py**, we added the URLs under the comments according to where it was needed which helped us in the reusability of the code, and while pushing the code into Github the files were getting updated without any conflicts.

```
# View urls
# All the urls for Purchase requisition
path('view_purchase_requisition/', view_items.view_purchase_requisition, name='view_purchase_requisition'),
path('view_PR/', view_items.view_PR, name='view_PR'),
path('view_PR/<str:sort_by>', view_items.purchase_requisition_view_sort, name='purchase_requisition_view_sort'),
path('view_one_PR/', view_items.view_one_PR, name='view_one_PR'),
path('view_one_PR/<str:pr_id>', view_items.view_one_PR, name='view_one_PR'),

# All the urls for quotation
path('view_quotation/', view_items.view_quotation, name='view_quotation'),
path('view_quotation/<str:sort_by>', view_items.quotations_view_sort, name='quotations_view_sort'),
path('view_active_quotation/', view_items.view_active_quotation, name='view_active_quotation'),
path('update_quotation/', view_items.update_quotation, name='update_quotation'),
path('view_one_quotation/', view_items.view_one_quotation, name='view_one_quotation'),
path('view_quotation/<str:quotation_id>', view_items.view_one_quotation, name='view_one_quotation'),
path('view_all_quotation/', view_items.view_all_quotation, name='view_all_quotation'),
path('view_all_quotation/<str:sort_by>', view_items.quotations_view_sort, name='quotations_view_sort'),

# All the urls for Purchase Order
path('view_PO/', view_items.view_PO, name='view_PO'),
path('view_PO/<str:sort_by>', view_items.purchase_order_view_sort, name='purchase_order_view_sort'),
path('view_one_PO/', view_items.view_one_PO, name='view_one_PO'),
path('view_one_PO/<str:po_id>', view_items.view_one_PO, name='view_one_PO'),

# Add Item urls
path('add_quotation/', additem_views.add_quotation, name='add_quotation'),
path('add_PO/', additem_views.add_PO, name='add_PO'),
path('add_PR/', additem_views.add_PR, name='add_PR'),
# urls to get the data automatically in the fields
path('customer_id/', additem_views.customer_id, name='customer_id'),
path('salesman_id/', additem_views.salesman_id, name='salesman_id'),
path('get_customer_id/', additem_views.get_customer_id, name='get_customer_id'),
```

Figure 6.2.1. Screenshot of the urls.py file taken from Pycharm

To increase reusability we implemented methods so that multiple users can use the same pages with additional functionality for example this snippet of the code is from **Quotation/viewOneQuotation.html** which we are using for viewing a single quotation by the customer, manager, and salesman, however, if the customer is viewing the quotation page he'll be able to see the button to Accept and Reject that quotation. If he already has accepted the quotation the button will go away.

```
{% if customer %}
    {% if is_approved %}
        <button id="submit-button" class="btn-success btn-md btn-block mx-auto" style="...">Accept</button>
        <button id="decline-button" class="btn-danger btn-md btn-block mx-auto" style="...">Reject</button>
    {% endif %}
{% endif %}
```

Figure 6.2.2. Screenshot of the viewOneQuotation.html file taken from Pycharm

6.3 Database

Site administration is the management of website components like Authentication and Authorization. Authentication verifies user identity and Authorization determines user permissions. In this project, different groups like Project: Customers, Finance Officers, Managers, and Salesmen have specific access and responsibilities managed by the site administrator.

Site administration		
AUTHENTICATION AND AUTHORIZATION		
Groups	+ Add	Change
Users	+ Add	Change
PROJECT		
Customers	+ Add	Change
Finance officers	+ Add	Change
Managers	+ Add	Change
Po itemss	+ Add	Change
Pr itemss	+ Add	Change
Purchase orders	+ Add	Change
Purchase requisitions	+ Add	Change
Quotation itemss	+ Add	Change
Quotations	+ Add	Change
Salesmans	+ Add	Change

Figure 6.3.1 Site Administration

In the list of groups, we have Customers, Finance Officers, Managers, and Salesmen. Later, we assigned each user a role, as seen in (Figures 6.3.5, 6.3.7, 6.3.9, and 6.3.11).

Select group to change

Q Search

Action: Go 0 of 4 selected

<input type="checkbox"/>	GROUP
<input type="checkbox"/>	Customer
<input type="checkbox"/>	Finance Officer
<input type="checkbox"/>	Manager
<input type="checkbox"/>	Salesman

4 groups

Figure 6.3.2 Groups List

Select user to change

Q Search

Action: Go 0 of 7 selected

<input type="checkbox"/>	USERNAME	EMAIL ADDRESS	FIRST NAME	LAST NAME	STAFF STATUS
<input type="checkbox"/>	Ahmed				✓
<input type="checkbox"/>	Ali				✓
<input type="checkbox"/>	Sarah				✓
<input type="checkbox"/>	ayaan	salesman@gmail.com			✓
<input type="checkbox"/>	ayat	ayatabdulaziz.qi@gmail.com			✓
<input type="checkbox"/>	roha				✓
<input type="checkbox"/>	salah				✓

7 users

Figure 6.3.3 Users List

In figure 6.3.4, the customer list is displayed. This allows you to view all of the customers that are currently in the system. Additionally, in figure 6.3.5, you have the ability to assign users to specific customers.

Select customer to change

Action: Go 0 of 2 selected

<input type="checkbox"/>	CUSTOMER
<input type="checkbox"/>	C0002
<input type="checkbox"/>	C0001

2 customers

Figure 6.3.4 Customers List

Add customer

Customer id:

User:   

Figure 6.3.5 Add Customer

In figure 6.3.6, the finance officer list is displayed. This allows you to view all of the customers that are currently in the system. Additionally, in figure 6.3.7, you have the ability to assign users to specific finance officers.

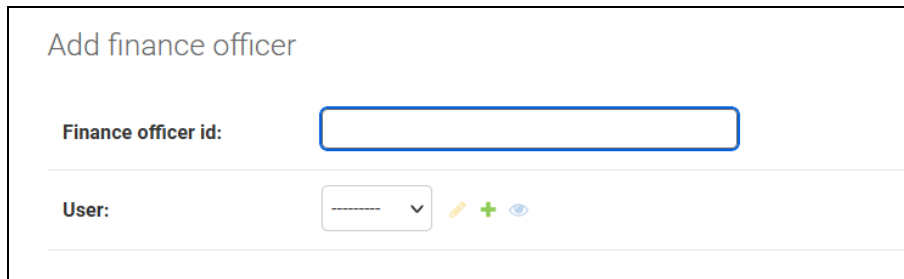
Select finance officer to change

Action: Go 0 of 1 selected

<input type="checkbox"/>	FINANCE OFFICER
<input type="checkbox"/>	F0001

1 finance officer

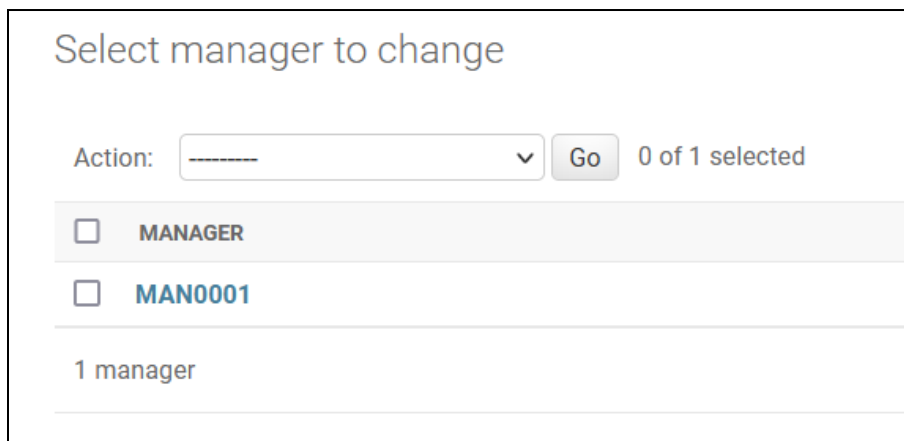
Figure 6.3.6 Finance Officers List



The screenshot shows a web form titled "Add finance officer". It contains two main input fields. The first is labeled "Finance officer id:" and is a text input field with a blue border. The second is labeled "User:" and is a dropdown menu with a blue border. To the right of the dropdown menu are three small icons: a yellow pencil, a green plus sign, and a blue eye.

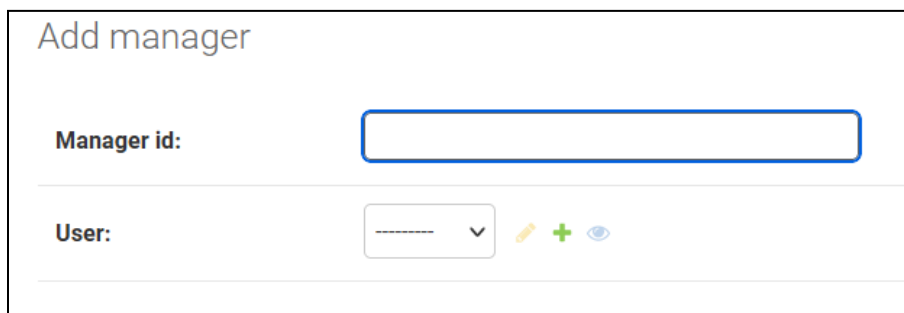
Figure 6.3.7 Add Finance Officer

In figure 6.3.8, the manager list is displayed. This allows you to view all of the customers that are currently in the system. Additionally, in figure 6.3.9, you have the ability to assign users to specific managers.



The screenshot shows a web form titled "Select manager to change". It features an "Action:" dropdown menu with a blue border, a "Go" button, and a "0 of 1 selected" status indicator. Below this is a list of managers, each with a checkbox and a label. The first manager is "MANAGER" and the second is "MAN0001". At the bottom of the list, it says "1 manager".

Figure 6.3.8 Managers List



The screenshot shows a web form titled "Add manager". It contains two main input fields. The first is labeled "Manager id:" and is a text input field with a blue border. The second is labeled "User:" and is a dropdown menu with a blue border. To the right of the dropdown menu are three small icons: a yellow pencil, a green plus sign, and a blue eye.

Figure 6.3.9 Add Manager

In figure 6.3.10, the salesman list is displayed. This allows you to view all of the customers that are currently in the system. Additionally, in figure 6.3.11, you have the ability to assign users to specific salesmen.

Select salesman to change

Action: 0 of 3 selected

<input type="checkbox"/>	SALESMAN
<input type="checkbox"/>	SAL0003
<input type="checkbox"/>	SAL0002
<input type="checkbox"/>	SAL0001

3 salesmans

Figure 6.3.10 Salesmen List

Add salesman

Salesman id:

User:

Figure 6.3.11 Add Salemen

In figure 6.3.12, the list of purchase requisitions is displayed. Figure 6.3.13 displays add purchase requisitions fields, including the purchase requisition ID, customer ID, date, and number of items. Figure 6.3.14 allows for the addition to the purchase requisition items, which consists of the purchase requisition ID, item name, and quantity. Lastly, figure 6.3.15 displays the list of items included in the purchase requisition.

Select purchase requisition to change

Action: 0 of 2 selected





<input type="checkbox"/>	PURCHASE REQUISITION
<input type="checkbox"/>	PR0002
<input type="checkbox"/>	PR0001


2 purchase requisitions

Figure 6.3.12 Purchase Requisitions List

Add purchase requisition

Pr id:




Customer id:    

Date: Today 
Note: You are 8 hours ahead of server time.

Number of items:

Figure 6.3.13 Add Purchase Requisition

Add pr items


Pr id:   

Pr item name:

Pr item quantity:

Figure 6.3.14 Add Purchase Requisition Item

Select pr items to change

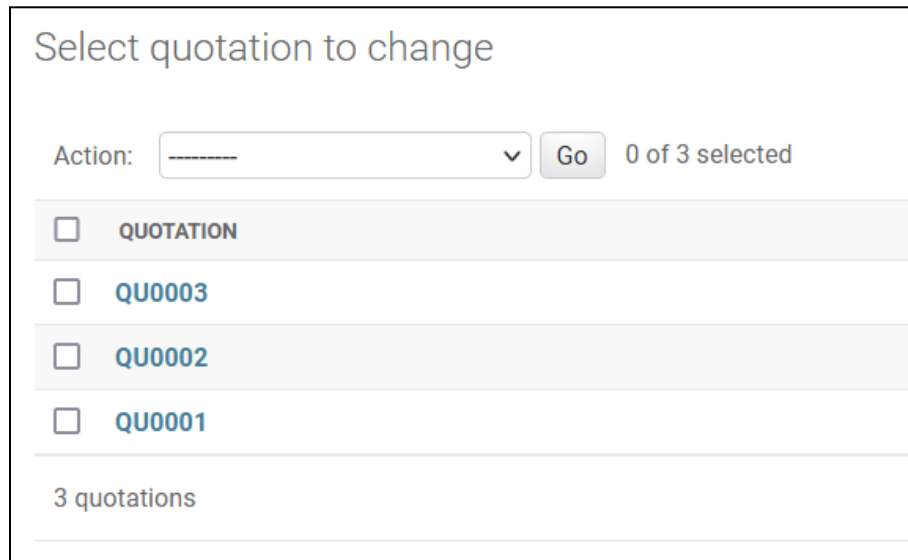
Action:  0 of 2 selected

<input type="checkbox"/>	PR ITEMS
<input type="checkbox"/>	6
<input type="checkbox"/>	5

2 pr itemss

Figure 6.3.15 Purchase Requisition Items List

In figure 6.3.16, the list of quotations is displayed. Figure 6.3.17 displays add quotation fields, which include quotation ID, purchase requisition ID, salesman ID, customer ID, manager ID, total price, date, status, and a number of items. Figure 6.3.18 allows for the addition to the quotation items, which consist of the quotation ID, item name, quantity and price. Lastly, figure 6.3.19 displays the list of items included in the quotation.



Select quotation to change

Action: 0 of 3 selected

<input type="checkbox"/>	QUOTATION
<input type="checkbox"/>	QU0003
<input type="checkbox"/>	QU0002
<input type="checkbox"/>	QU0001

3 quotations

Figure 6.3.16 Quotations List

Add quotation






















Quotation id:	<input type="text"/>
Pr id:	<input type="text" value="-----"/>   
Salesman id:	<input type="text" value="-----"/>    
Customer id:	<input type="text" value="-----"/>    
Manager id:	<input type="text" value="MAN0001"/>    
Total price:	<input type="text"/>  
Date:	<input type="text"/> Today  <small>Note: You are 8 hours ahead of server time.</small>
Status:	<input type="text" value="Uncleared"/> 
Number of items:	<input type="text"/>  

Figure 6.3.17 Add Quotation

Add quotation items








Quotation id:	<input type="text" value="-----"/>   
Q item name:	<input type="text"/>
Q item quantity:	<input type="text"/>  
Q item price:	<input type="text"/>  

Figure 6.3.18 Add Quotation Item

Select quotation items to change

Action: 0 of 6 selected

<input type="checkbox"/>	QUOTATION ITEMS
<input type="checkbox"/>	14
<input type="checkbox"/>	13
<input type="checkbox"/>	12
<input type="checkbox"/>	11
<input type="checkbox"/>	6
<input type="checkbox"/>	5

6 quotation itemss

Figure 6.3.19 Quotation Items List

In figure 6.3.20, the list of purchase orders is displayed. Figure 6.3.21 displays add purchase order fields, which include purchase ID, quotation ID, customer ID, salesman ID, finance officer ID, total price, date, and a number of items. Figure 6.3.22 allows for the addition to the purchase order items, which consists of the purchase order, item name, quantity and price. Lastly, figure 6.3.23 displays the list of items included in the purchase orders.

Select purchase order to change

Action: 0 of 1 selected

<input type="checkbox"/>	PURCHASE ORDER
<input type="checkbox"/>	PO0001

1 purchase order

Figure 6.3.20 Purchase Orders List

Add purchase order

Po id:

Quotation id:


Customer id:

Salesman id:

Finance officer id:

Total price:

Date:

Today | 

Note: You are 8 hours ahead of server time.

Number of items:

Figure 6.3.21 Add Purchase Order

Add po items

Po id:

Po item name:

Po item quantity:

Po item price:

Figure 6.3.22 Add Purchase Order Item

Select po items to change

Action: 0 of 2 selected

<input type="checkbox"/>	PO ITEMS
<input type="checkbox"/>	4
<input type="checkbox"/>	3

2 po itemss

Figure 6.3.23 Purchase Order Items List

7 Testing

7.1 Testing Strategy

Functional Testing:

It is a method of testing the software's functionality, it validates that the software meets its requirements and can perform the functions that it was designed to do. Functional tests are typically manual and are performed by testing the software manually by running through different scenarios to check that the software behaves as expected.

We Checked the system by entering the different test data in the system and waiting for the response to which our system worked exactly as we interpreted.

7.2 Test Data

■ Test Data Set 1 - Purchase Requisition

The purchase requisition IDs are in the format "PR" followed by four digits. The item number and item quantity are positive integers. The remarks field includes information about the validity of the input for each record. Some records have valid input and others have invalid input, such as wrong ID format, repeated ID, item number, and item quantity less than 1.

Purchase Requisition ID	Item Number	Item Quantity	Remarks
PR0001	2	30	Valid Input
PD0004	4	20	Invalid Input - Wrong ID Format
PR0001	5	10	Invalid Input - Repeated ID
PR0009	-1	-	Invalid Input - Item number can't be less than 1
PR0010	3	-10	Invalid Input - Item quantity can't be less than 1

■ Test Data Set 2 - Quotation

The Quotation IDs are in the format "QR" followed by five digits. The item number, item quantity, and item price are positive integers. The remarks field includes information about the validity of the input for each record. Some records have valid input and others have invalid input, such as wrong

ID format, repeated ID, item number, and item quantity less than 1, and item price can't be negative.

Quotation ID	Item Number	Item Quantity	Item Price	Remarks
QR00001	2	30	450	Valid Input
QD00004	4	20	500	Invalid Input - Wrong ID Format
QR00001	5	10	670	Invalid Input - Repeated ID
QR00009	-1	-	340	Invalid Input - Item number can't be less than 1
QR00010	3	-10	780	Invalid Input - Item quantity can't be less than 1
QR00015	4	30	-190	Invalid Input - Item price can't be negative.

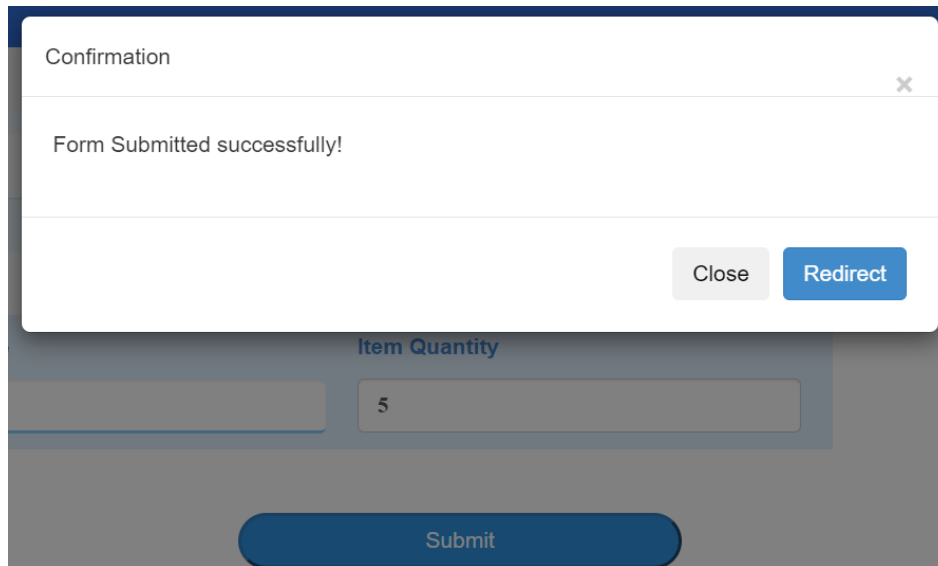
■ Test Data Set 3 - Purchase Order

The Purchase Order IDs are in the format "PO" followed by four digits. The item number, item quantity, and item price are positive integers. The remarks field includes information about the validity of the input for each record. Some records have valid input and others have invalid input, such as wrong ID format, repeated ID, item number, and item quantity less than 1, and item price can't be negative. .

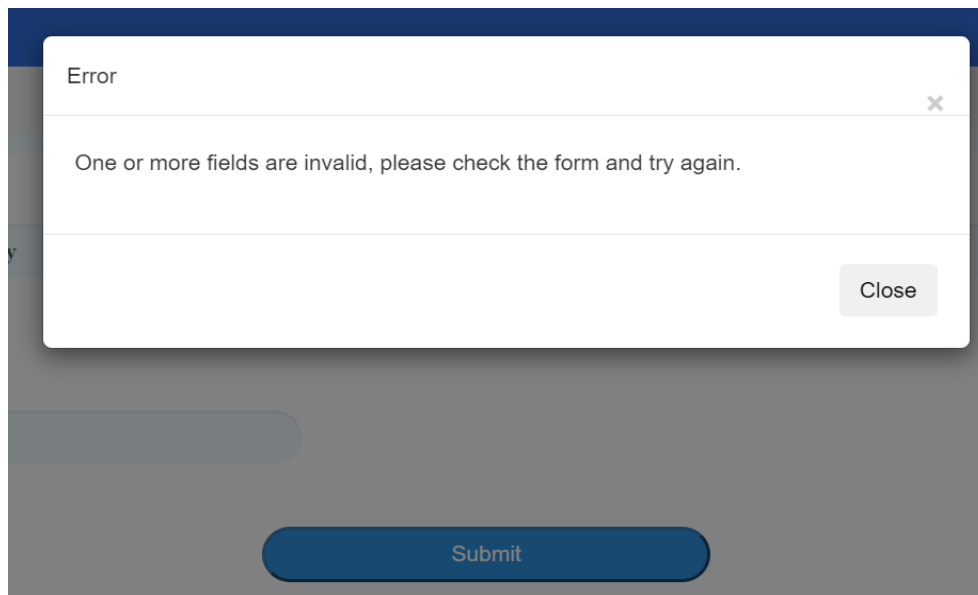
Purchase Order ID	Item Number	Item Quantity	Item Price	Remarks
PO0001	2	30	450	Valid Input
PD0004	4	20	500	Invalid Input - Wrong ID Format
PO0001	5	10	670	Invalid Input - Repeated ID
PO0009	-1	-	340	Invalid Input - Item number can't be less than 1
PO0010	3	-10	780	Invalid Input - Item quantity can't be less than 1

PO0015	4	30	-190	Invalid Input - Item price can't be negative
--------	---	----	------	---

- The Success message generated after successfully creating and storing all the fields of the form.



- The Error generated in case of failure of any acceptance test while filling up the forms to create each field.



7.3 Acceptance Tests

■ Acceptance Test 1 - Customer

Criteria	Fulfilled?	Remarks
Customer can create a new purchase requisition	Yes	
Customer can view a list of Purchase requisitions made by him	Yes	
Customer can click and view full purchase requisition	Yes	
Customer has a list view of the quotations	Yes	
Customer can click and view full quotation	Yes	
Customer can accept the quotation	Yes	
Customer can reject the quotation	Yes	
Customer can see the dashboard/home page	Yes	
Customer can sort purchase requisition	No	<i>"was implemented after the presentation sir"</i>

Date tested : 18/1/23

% Complete : 95

Tested by : Ayat Abdulaziz

Verified by : Dr. Yeoh

■ Acceptance Test 2 - Manager

Criteria	Fulfilled ?	Remarks
Manager can sign in	Yes	
Manager can see the dashboard/home page	Yes	

Manager has a list view of the quotation	Yes	
Manager can sort the list by date	No	<i>"was implemented after the presentation sir"</i>
Manager can sort the quotation list by salesman name	No	<i>"was implemented after the presentation sir"</i>
Manager can sort the quotation list by total price	No	<i>"was implemented after the presentation sir"</i>
Manager can click and view full quotation	Yes	
Manager can view quotation status	Yes	
Manager can accept the quotation	Yes	
Manager can reject the quotation	Yes	

Date tested: 18/1/123

% Complete: 90%

Tested by: Roha Ali

Verified by: Dr. Yeoh

■ Acceptance Test 3 - Salesman

Criteria	Fulfilled?	Remarks
Salesman can sign in	Yes	
Salesman can see the dashboard/home page	Yes	
Salesman has a list view of the Purchase requisition	Yes	
Salesman can click and view the full Purchase requisition	Yes	
Salesman can create a quotation	Yes	
Salesman can sort the quotation list by date, customer_id, etc.	No	<i>"was implemented after the presentation sir"</i>
Salesman can click and view full quotation	Yes	

Date tested : 18/1/23
% Complete : 95%
Tested by : Ahmad Ayaan
Verified by : Dr. Yeoh

■ Acceptance Test 4 - Finance Officer

Criteria	Fulfilled?	Remarks
Finance officer can sign in	Yes	
Finance officer can see the dashboard/home page	Yes	
Finance officer can click and view full purchase order	Yes	
Finance Officer can create a new purchase order	Yes	
Finance officer can view a list of Purchase order made by him	Yes	
Finance officer can sort the list by total price	No	<i>“was implemented after the presentation sir”</i>
Finance officer can sort the list by date	No	<i>“was implemented after the presentation sir”</i>

Date tested : 18/1/23_____

% Complete : 90_____

Tested by : Salah Fayeq_____

Verified by : Dr. Yeoh_____

8 Sample Screens

8.1 Main Screens

Login Screen



The image shows a web application login screen. At the top is a blue navigation bar with a circular logo on the left, the text 'Home' and 'About' in the center, and 'Log in' on the right. The main content area has a light blue background. On the left, there is a large illustration of four people in an office setting. On the right, there is a white 'Sign In.' form with a horizontal line below the title. The form contains two input fields: 'User name' with the text 'ayaanii' and 'Password' with masked characters '*****'. Below these fields is a blue 'Log in' button. At the bottom left of the page, there is a small copyright notice: '© - My Django Application'.

Home About Log in

Sign In.

User name
ayaanii

Password

Log in

© - My Django Application

8.2 User 1 - Customer

Dashboard

The screenshot shows a web application dashboard for a customer. The top navigation bar is blue with a logo on the left, the text "Hello ayat!" and a "Log off" link on the right. Below the navigation bar is a sidebar with a home icon and four menu items: "Home", "Add Purchase Requisition", "View and Sort Purchase Requisition", and "View Quotation". The main content area is light blue and contains a white rounded rectangle titled "Profile". Inside the "Profile" box, there are five input fields: "ID" with the value "CS0001", "Name" with the value "ayat", "Email" (empty), "Password" with masked characters "*****", and "Account Type" with the value "Customer". At the bottom left of the sidebar, the text "© Mr. Dianno Application" is visible.

Add Purchase Requisition

The screenshot shows the "Add Purchase Requisition" form in the same web application. The top navigation bar and sidebar are identical to the previous screenshot. The main content area is light blue and contains a white rounded rectangle titled "Add Purchase Requisition". Inside this box, there are four input fields: "Purchase Requisition ID" with the value "PRXXXX", "Customer ID" with the value "CS0001", "Date" with a placeholder "mm/dd/yyyy" and a calendar icon, and "Add Item" (empty). Below these fields is a blue "Submit" button. At the bottom left of the sidebar, the text "© Mr. Dianno Application" is visible.

View Purchase Requisition

The screenshot shows a web application interface for adding purchase requisitions. The header is blue with a logo on the left, a home icon, and user information 'Hello ayat!' and 'Log off' on the right. The main content area has a light blue background. A central white card contains a blue button with a plus icon and the text 'Add Purchase Requisition'. Below this is a table with the following columns: 'Purchase Requisition ID', 'Item Name', 'Item Quantity', 'Date', and 'Sort by' (with a dropdown arrow). The table contains five rows of data, each with a 'View Details' button. The footer shows '© - My Django Application'.

Purchase Requisition ID	Item Name	Item Quantity	Date	Sort by
PR0001	Laptop	5	Jan. 9, 2023	View Details
PR0002	Laptop	3	Jan. 9, 2023	View Details
PR0004	Laptop	5	Jan. 20, 2023	View Details
PR0005	Laptop	5	Jan. 18, 2023	View Details
PR0007	Keyboard	10	Jan. 18, 2023	View Details
	Laptop	5		

View One Purchase Requisition

The screenshot shows the 'View Purchase Requisition PR0007' page. The header is the same as the previous page. The main content area features a white card with the title 'View Purchase Requisition PR0007'. Below the title are two input fields: 'Purchase requisition ID' with the value 'PR0007' and 'Date' with the value 'Jan. 18, 2023'. Below these fields is a table with two columns: 'Item Name' and 'Item Quantity'. The table contains two rows of data. The footer shows '© - My Django Application'.

Item Name	Item Quantity
Keyboard	10
Laptop	5

View Quotation

View Quotations

Quotation ID	Salesman ID	Item Name	Item Quantity	Item Price	Total Price	Date	
QR00001	SAL0001	Laptop	5	5000.0	25000.0	Jan. 11, 2023	View Details
QR00005	SAL0001	Laptop	3	122.0	366.0	Jan. 26, 2023	View Details

© Mr. Pijarso Application

Accept/reject Quotation

View Quotation QR00001

Customer ID Date

Purchase requisition ID Total Price

Status Salesman ID

Item Name	Item Quantity	Item Price
Laptop	5	5000.0

[Accept](#) [Reject](#)

8.3 User 2 - Salesman

Dashboard

The screenshot shows a web application dashboard for a user named 'ayaan'. The header is blue with a logo on the left and 'Hello ayaan! Log off' on the right. Below the header is a light blue sidebar with a home icon and a back arrow. The main content area is light blue and contains a white card titled 'Profile'. The card displays the following information:

ID	SAL0001	Password	*****
Name	ayaan	Account Type	Salesman
Email	ayaanishere08@gmail.com		

At the bottom of the page, there is a small copyright notice: © - Mr. Dianoo Application.

View Purchase Requisition

The screenshot shows a web application dashboard for a user named 'ayaan'. The header is blue with a logo on the left and 'Hello ayaan! Log off' on the right. Below the header is a light blue sidebar with a home icon and a back arrow. The main content area is light blue and contains a white card titled 'View Purchase Requisitions'. The card displays a table of purchase requisitions:

Purchase Requisition ID	Customer ID	Item Name	Item Quantity	Date	
PR0001	CS0001	Laptop	5	Jan. 9, 2023	View Details
PR0002	CS0001	Laptop	3	Jan. 9, 2023	View Details
PR0003	CS0002	Printers	5	Jan. 9, 2023	View Details
		Laptop	3		
PR0004	CS0001	Laptop	5	Jan. 20, 2023	View Details
PR0005	CS0001	Laptop	5	Jan. 18, 2023	View Details
PR0007	CS0001	Keyboard	10	Jan. 18, 2023	View Details
		Laptop	5		

At the bottom of the page, there is a small copyright notice: © - Mr. Dianoo Application.

View one Purchase Requisition

The screenshot shows a web application interface for viewing a purchase requisition. The header is blue with a logo on the left, a home icon, and user information 'Hello ayaan!' and 'Log off' on the right. The main content area has a light blue background. A white card titled 'View Purchase Requisition PR0007' is centered. Inside the card, there are two rows of input fields: 'Customer ID' with value 'CS0001' and 'Date' with value 'Jan. 18, 2023'; and 'Purchase requisition ID' with value 'PR0007'. Below these is a table with two columns: 'Item Name' and 'Item Quantity'. The table contains two rows: 'Keyboard' with quantity '10' and 'Laptop' with quantity '5'. At the bottom of the page, there is a small copyright notice: '© 2022 - My Django Application'.


Item Name	Item Quantity
Keyboard	10
Laptop	5


Add Quotation

The screenshot shows a web application interface for adding a quotation. The header is blue with a logo on the left, a home icon, and user information 'Hello ayaan!' and 'Log off' on the right. The main content area has a light blue background. A white card titled 'Add Quotations' is centered. Inside the card, there are four input fields: 'Quotation ID' with value 'QUXXXX', 'Salesman ID' with value 'SAL0001', 'Date' with a date picker showing 'mm/dd/yyyy', and 'Purchase Requisition ID' with a dropdown menu showing 'Choose...'. Below these is a table with three columns: 'Item Name', 'Item Quantity', and 'Item Price'. The table has one row with empty input fields. At the bottom of the card, there is a 'Total Price' label. At the bottom of the page, there is a small copyright notice: '© 2022 - My Django Application'.

Item Name	Item Quantity	Item Price

View and sort quotation

 Hello ayaan! [Log off](#)





View Quotations

Quotation ID	Customer ID	Item Name	Item Quantity	Item Price	Total Price	Date	Sort by	
QR00001	CS0001	Laptop	5	5000.0	25000.0	Jan. 11, 2023	View Details	
QR00002	CS0001	Laptop	2	2343.0	18803.0	Jan. 4, 2023	View Details	
QR00003	CS0001	Laptop Printers	4 4	3343.0 343.0	14744.0	Jan. 25, 2023	View Details	
QR00005	CS0002	Laptop	3	122.0	366.0	Jan. 26, 2023	View Details	
QR00006	CS0002	Laptop	45	3232.0	145440.0	Jan. 25, 2023	View Details	


© - My Django Application


View one quotation


 Hello ayaan! [Log off](#)





View Quotation QR00001

Customer ID  CS0001

Date  Jan. 11, 2023

Purchase requisition ID  PR0001

Total Price  25000.0

Status  Approved

Item Name	Item Quantity	Item Price
Laptop	5	5000.0

© - My Django Application

8.4 User 3 - Manager

Dashboard

The screenshot shows the 'Profile' page of the application. The user is logged in as 'roha'. The profile information is as follows:


Field	Value
ID	MAN0001
Name	roha
Email	
Password	*****
Account Type	Manager


Active Quotations

The screenshot shows the 'Active Quotations' page. The table displays the following data:

Quotation ID	Item Name	Item Quantity	Item Price	Total Price	Date	Actions
QR00001	Laptop	5	5000.0	25000.0	Jan. 11, 2023	<button>Approve</button> <button>Decline</button>
QR00003	Laptop Printers	4 4	3343.0 343.0	14744.0	Jan. 25, 2023	<button>Approve</button> <button>Decline</button>
QR00006	Laptop	45	3232.0	145440.0	Jan. 25, 2023	<button>Approve</button> <button>Decline</button>

History of Quotations


Hello roha! Log off




View Quotations


Quotation ID	Salesman ID	Item Name	Item Quantity	Item Price	Total Price	Date	Sort by	
QR00001	SAL0001	Laptop	5	5000.0	25000.0	Jan. 11, 2023	View Details	
QR00002	SAL0001	Laptop	2	2343.0	18803.0	Jan. 4, 2023	View Details	
QR00003	SAL0001	Laptop	4	3343.0	14744.0	Jan. 25, 2023	View Details	
		Printers	4	343.0				
QR00005	SAL0001	Laptop	3	122.0	366.0	Jan. 26, 2023	View Details	
QR00006	SAL0001	Laptop	45	3232.0	145440.0	Jan. 25, 2023	View Details	


View one Quotation


Hello roha! Log off





View Quotation QR00002


Customer ID CS0001

Date Jan. 4, 2023

Purchase requisition ID PR0002

Total Price 18803.0

Status Declined

Salesman ID SAL0001

Item Name	Item Quantity	Item Price
Laptop	2	2343.0

© - My Django Application

8.5 User 4 - Finance Officer

Dashboard

The screenshot shows a web application interface for a Finance Officer. The top navigation bar is blue with a logo on the left, a home icon, and the text "Hello salah!" and "Log off" on the right. The main content area has a light blue background. A white card titled "Profile" is centered. Inside the card, there are input fields for "ID" (containing "FO0001"), "Name" (containing "salah"), "Email", "Password" (masked with "*****"), and "Account Type" (containing "Finance Officer"). A vertical sidebar with a blue background and a white home icon is on the left. At the bottom, there is a small copyright notice: "© Mr. Dinesh Application".

Add Purchase order

The screenshot shows the "Add Purchase Order" form in the same web application. The top navigation bar is blue with a logo on the left, a home icon, and the text "Hello salah!" and "Log off" on the right. The main content area has a light blue background. A white card titled "Add Purchase Order" is centered. Inside the card, there are input fields for "Purchase order ID" (containing "POXXXX"), "Quotation ID" (a dropdown menu with "Choose..." selected), "Finance Officer ID" (containing "FO0001"), "Customer ID", "Salesman ID", "Date" (a date picker showing "mm/dd/yyyy"), "Add Item" (a text input field), and "Total Price". A blue "Submit" button is at the bottom right of the card. A vertical sidebar with a blue background and a white home icon is on the left. At the bottom, there is a small copyright notice: "© Mr. Dinesh Application".

View Purchaser Order

The screenshot shows a web application interface with a blue header bar containing a logo, a home icon, and user information "Hello salah!" with a "Log off" link. The main content area has a light blue background and a white sidebar on the left with a back arrow. The central panel is titled "View Purchase Orders" and contains a table with the following columns: Purchase Order ID, Salesman ID, Item Name, Item Quantity, Item Price, Total Price, Date, and Sort by. A single row is displayed with the data: PO0001, SAL0001, Laptop, 3, 122.0, 366.0, Jan. 31, 2023, and a "View Details" button. Below the table is a large empty white space.

Purchase Order ID	Salesman ID	Item Name	Item Quantity	Item Price	Total Price	Date	Sort by
PO0001	SAL0001	Laptop	3	122.0	366.0	Jan. 31, 2023	View Details

View one Purchase Order

The screenshot shows the "View Purchase Order PO0001" page. The header and sidebar are identical to the previous page. The main content area is titled "View Purchase Order PO0001" and displays a form with the following fields: Customer ID (CS0001), Date (Jan. 31, 2023), Salesman ID (SAL0001), Total Price (366.0), and Quotation ID (QR00005). Below the form is a table with the following columns: Item Name, Item Quantity, and Item Price. A single row is displayed with the data: Laptop, 3, and 122.0.

Item Name	Item Quantity	Item Price
Laptop	3	122.0

9 Conclusion

9.1 Completion of Software

The quotation system software is fully completed with all the requirements stated before in the requirement analysis has been implemented. The **Customer** can create the Purchase requisition which is shown to the **Salesman** in the system. The **Salesman** then views the Purchase requisition and makes the quotation according to it. The quotation can be further approved or declined by the **Manager** and the **Customer** can only view the quotation if it is approved by the **Manager** before. The **Finance officer** can create the Purchase order once the **Customer** Accepts the quotation.

9.2 Software Quality Assurance

To ensure the quality of the software we as a developers did

- Requirements gathering: To clearly understand the requirements of the project.
- Design and development: Use the best practice of following the correct design pattern while developing and purring files in correct folder structures while adding more features to it.
- Functional testing: Tested the system against the requirements to ensure that it behaves as expected.
- Code review: Had a peer review of the code to ensure that the code is of high quality and adheres to the coding standards.

9.3 Group Collaboration

Group Members	Contribution
Ayat Abdulaziz Gaber Al-Khulaqi	Worked on Subsystem- Customer
Roha Ali	Worked on Subsystem- Manager
Ayaan Ahmad	Worked on Subsystem- Salesman
Salah Fayeq	Worked on Subsystem- Finance Officer

9.4 Problems Encountered

Problems	Solution
Changing fields type in one of the model and	The database already had the data in that

were unable to migrate	specific table and after changing the fields type it was clashing in the migration and the error was of data type mismatch, to fix that error we had to delete all the data in that specific table and then migrate.
After adding new fields in the purchase requisition without deleting the previous data, problems occurred in viewing and adding data.	The problem was fixed by using "python manage.py flush" to remove all data from the dataset.

9.5 Remarks/Comments

Overall, working on the Django framework project was a very nice experience that gave us a lot of knowledge on how databases and backends work. The Django framework was a very nice framework to code with as it already had the built-in admin panel which saved a lot of time to debug while coding.

The Django framework also has very good online documentation which came in handy while we were stuck somewhere.

10 User Guide

How to run the system

Requirements to be installed:

1. Python
2. Python Django framework
`python -m pip install Django`

Setting up Virtual environment:

1. Creating the virtual environment
`python -m venv env`
2. Activating the virtual environment
`./env/bin/activate`

Note: Make sure you do the following commands in the folder of the project and install the Django framework in there itself

To run the project:

1. Navigate to the directory
`cd quotation_system`
2. Type the following two commands to make migrations
`python manage.py makemigrations`
`python manage.py migrate`
3. Type the following command and press enter to load the database
`python manage.py loaddata data1.json`
4. Type the following command and press enter to run the server
`python manage.py runserver`

To log in as each role use the following Id and Password:

//These credentials are only valid if the loaddata was successful otherwise users might have to create new users.

1. Customer-
 - a. Username- ayat

- b. Password- ayat1234
- 2. Salesman-
 - a. Username- ayaan
 - b. Password- software01
- 3. Manager-
 - a. Username- roha
 - b. Password- roha1234
- 4. Finance Officer-
 - a. Username- salah
 - b. Password- sal12345

Note: You can create more than one account for each role by logging in to the admin panel using the username and password for the ayaan account or create new super user account.