Programming Fundamentals- Fall 2025

Mobile Repairing Shop Management system

User Interface Report

Version 1.0

Submitted By: 2025-CS- (Section _)

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Contents

1 Project Details

1.1 Project Summary

Mobile Repairing Management system is for administrator use. Administrator has id to login on this system. This Mobile Repairing Shop management system adds customer details and assigns auto generate id to customers and takes needed details of customer: name, id, CNIC, no of orders etc. The administrator can also search the customer by its Id and see his details. We can also update the details of customers by using this software. Administrator also deletes the customers record. Administrator can also view all customer records. It also provides savings and exits options.

This management system places the order by getting required information for orders i.e. order id, customer id, service required, conditions, order costs etc. Also, Administrator can also search for the order by customer id and order id. It can also update orders option by customer id. After order completion, the administrator can also delete the order. Administrator can also view all order records.

This system also manages the service provided to the customer, by giving the option of adding the service and providing details i.e. service name, required time, service costs, etc. Administrators can read all the existing service provides to the customer, update the service to the customer, and delete the service. Administrator can also view all customer records.

This system can also provide the feature of status tracking i.e. pending, completed, delivered. It helps the administrator to check how many orders aren't delivered It can also filter orders based on status. In addition to this, the system also provides some additional features and statistics regarding the data. All these features display repeatedly until the user enters exit option. By pressing exit option, the program displays the main menu. This program also provides an option to save and exit the program. This management system also provides file handling on data. The file stores the details of customer, details of order, record of services and stores status of order. The console output of this program is little colorful.

1.2 Project Features

Major Features include:

1- Customer Management

2- Order Management

3- Service Management

4- Status tracking of order

2 Interfaces Details

2.1 Main Menu

The program required the administrator to enter login Id. Figure 1 shows the login Id and Main menu of mobile repairing shop management system. If the user enters wrong Id, it displays error messages and again required the login id.

```
Enter the username  :uet
Enter the password  :2025
****************************************************************************************
              Welcome To Mobile Repairing Shop Management System
****************************************************************************************
Enter 1 to Manage customer
Enter 2 to Manage order
Enter 3 to Manage services
Enter 4 to Status tracking
Enter 0 to Save data and Exit the program
****************************************************************************************
 Input the option  :
```

Figure 1 Screenshot of main menu

2.1.1 Manage Customer

2.1.1.1 Purpose of The Menu

This menu provides CRUD operations for customers. Administrator can check all records of customers via using it. This menu displays repeatedly until the Administrator enters the exit option.

2.1.1.2 Input/Output

The output is the menu of manages customers. It consists of CRUD operations on customers and gives the option to view all customers and go back to the main menu. The input of this option is just character that mentioned in menu. This menu has five submenus.

2.1.1.3 Validation

Table 1 Validation Table

Valid Input	Only the set of these uppercase characters is valid {C, R, U, D, V, E}
Invalid input	It shows errors messages on invalid input and again displays the menu.

2.1.1.4 Screenshot

```
The option is   :1

********************************************************************************

 Manage Customer
********************************************************************************

Enter C to Add customer
Enter R to Read customers
Enter U to Update cutomers
Enter D to delete cutomers
Enter V to View all cutomers
Enter E go back to the menu
********************************************************************************

Enter operation  :▮
```

Figure 2 Screenshot of menus of manage customers

2.1.2 Manage Order

2.1.2.1 Purpose of The Menu

This menu provides CRUD operations for orders. Administrator can check all records of orders via using it. As above, this menu displays repeatedly until the Administrator enters the exit option.

2.1.2.2 Input/Output

In output, the menu of manages orders display. It consists of CRUD operations on orders and gives the option to view all orders and go back to the main menu. The input of this option is just uppercase characters that mentioned in menu. This menu has five submenus.

2.1.2.3 Validation

Table 2 Validation Table

Valid Input	Only the set of these uppercase characters is valid {C, R, U, D, V, E}
Invalid input	It shows errors messages on invalid input and again displays the menu of manage order.

2.1.2.4 Screenshot

```
The option is   :2
********************************************************************************

 Manage Order
********************************************************************************

Enter C to Add order
Enter R to Read order
Enter U to Update order
Enter D to delete order
Enter V to View all order
Enter E go back to the menu
********************************************************************************
Enter operation  :▮
```

Figure 3 Screenshot of menu of manage order

2.1.3 Manage services

2.1.3.1 Purpose of The Menu

This menu provides CRUD operations for service. Administrator can add new service that can be provided in the shop. Check all records of services via using it. As above, this menu displays repeatedly until the Administrator enters the exit option.

2.1.3.2 Input/Output

In output, the menu of manages services display. It consists of CRUD operations on orders and gives the option to view all orders and go back to the main menu. The input of this option is just uppercase characters that mentioned in menu. This menu has five submenus.

2.1.3.3 Validation

Table 3 Validation Table

Valid Input	Only the set of these uppercase characters is valid {C, R, U, D, V, E}
invalid input	It shows errors messages on invalid input and again displays the menu of manage service.

2.1.3.4 Screenshot

Figure 4 Screenshot of menu of manage service

2.1.4 Status Tracking

2.1.4.1 Purpose of The Menu

The purpose of this menu is to show the status of order i.e., pending, completed, and delivered. This menu helps the administrator to check how many orders are not yet delivered. If the order status is pending, it also displays order conditions i.e., normal, urgent.

2.1.4.2 Input/Output

In output, the Status Tracking Menu display. It consists of options to read the orders on base of their status. The input of this option is just uppercase characters that mentioned in menu. This menu has five submenus.

2.1.4.3 Validation

Table 4 Validation Table

Valid Input	Only the set of these uppercase characters is valid {P, C, D, U, E}

invalid input	It shows errors messages on invalid input and again displays the menu of status tracking.

2.1.4.4 Screenshot

Figure 5 Screenshot of menu of status tracking

2.1.5 Save Data and Exit the Program

2.1.5.1 Purpose of The Menu

This menu provides the administrator to save all data and exit the program.

2.1.5.2 Input/Output

No input required in this menu. It outputs the messages that data save successfully and program closed successfully as shown if figure 6.

2.1.5.3 Validation

No validation required in this menu.

2.1.5.4 Screenshot

2.1.5.5 Figure 6 Screenshot of menu of save and exit the program

2.2 SubMenu 1 Customer Management

2.2.1 Add Customer

2.2.1.1 Purpose of The Menu

This menu add customers' details by inputting required information.

2.2.1.2 Input/Output

The menu requires the administrator to enter the details of customers, i.e., customer's name, CNIC, no. of order and phone detail and check the validity of data. Display the messages: customer successfully added.

2.2.1.3 Validation

Table 5 Validation Table

Name	consist of alphabet and space of size less than or equal to 50
CNIC	13-digit long integers only
No. of order	1 to 5
Phone detail	consist of digit alphabet, spaces and size <=50
Invalid input	It shows errors messages on invalid input and again displays the menu.

2.2.1.4 Screenshot

```
 The operation is   :C
 *** Add Customer ***
Enter customer's name         : Ahmed
Enter customer's CNIC         : 3512456789135
Enter customer's no of order  : 1
Enter customer's phone detail : iphone 10
```

Figure 7 Screenshot of menu of add customer

2.2.2 Read Customer

2.2.2.1 Purpose of The Menu

The purpose of this menu to search for customer details by customer id that is auto generated at the time of adding a customer.

2.2.2.2 Input/Output

The input of this menu is customer id. The output of this menu is the customers' details.

2.2.2.3 Validation

Table 6 Validation Table

customer Id	First two characters are alphabets and next three are digits
Invalid input	It shows errors messages on invalid input and again displays the menu.

2.2.2.4 Screenshot

```
 The operation is   :R
 *** Read Customer ***
Enter customer id           : CU001
Customer's name             : Ahmed
Customer's CNIC             : 3512456789135
Customer's no of order      : 1
Customer's phone detail     : iphone 10
```

Figure 8 Screenshot of menu of read customer

2.2.3 Update Customer

2.2.3.1 Purpose of The Menu

The administrator can update the customer details via using this menu.

2.2.3.2 Input/Output

This menu required the user to input id of customer that to updated and also input the updated customers details. If the validation on data is fulfilled, then display success messages otherwise display error messages and required the user to enter the detail again.

2.2.3.3 Validation

The validation of this menu is same as table 6 and table 5.

2.2.3.4 Screenshot

```
 The operation is   :U
 *** update Customer ***
Enter customer id            : CU001
Enter Customer's name        : Ahmed
Enter Customer's CNIC        : 3512456789135
Enter Customer's no of order : 3
Enter Customer's phone detail : Samsung
```

Figure 9 Menu of update customer

2.2.4 Delete Customer

2.2.4.1 Purpose of The Menu

The administrator can delete user detail by using this menu.

2.2.4.2 Input/Output

This menu required the user to input id of customer that to deleted. If the id of customers exists in the record then deleted the customer otherwise displays error messages with the menu.

2.2.4.3 Validation

Table 7 Validation Table

customer id	Check whether it exist or not
Invalid input	It shows errors messages on invalid input and again displays the menu.

2.2.4.4 Screenshot

```
 The operation is   :D
 *** Delete Customer ***
Enter customer id  :CU001
The customer has been deleted successfully
```

Figure 10 Menu of delete customer

2.2.5 View all Customers

2.2.5.1 Purpose of The Menu

This menu shows the record of all customers.
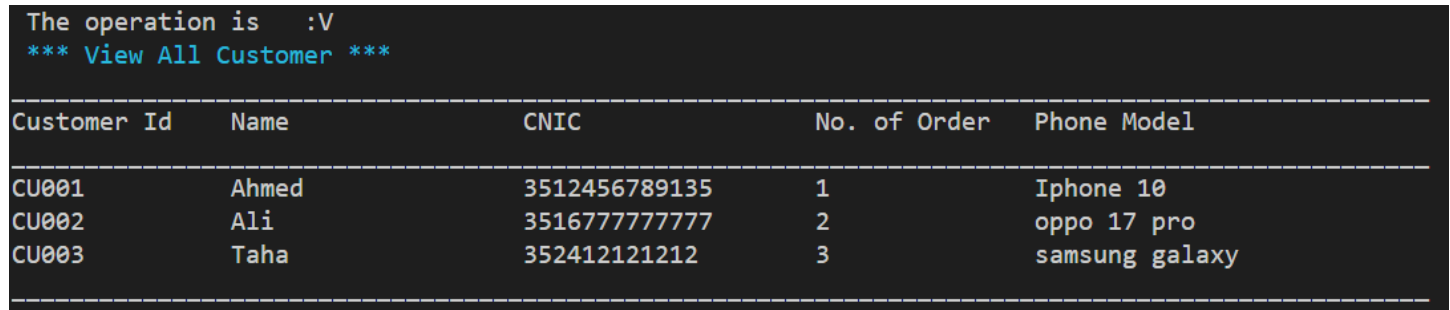
2.2.5.2 Input/Output

This menu required no input. It displayed all the details of all customers as shown in figure 11.

2.2.5.3 Validation

No validation required.

2.2.5.4 Screenshot

```
 The operation is   :V
 *** View All Customer ***
_____
Customer Id    Name               CNIC            No. of Order   Phone Model
_____
CU001          Ahmed              3512456789135   1              Iphone 10
CU002          Ali                3516777777777   2              oppo 17 pro
CU003          Taha               352412121212    3              samsung galaxy
_____
```

Figure 11 Menu of view all customer

2.3 SubMenu 2 Order Management

2.3.1 Add Order

2.3.1.1 Purpose of The Menu

This menu adds order of the customer and assigns the order id to orders.

2.3.1.2 Input/Output

This menu requires the user to input id of customer and its orders details i.e., order's type, condition, costs etc.it display the success messages.

2.3.1.3 Validation

Table 8 Validation Table

customer id	Should already exist
order type	should match with one of available service type
condition	it can be normal and urgent.
costs	positive integers only
Invalid input	It shows errors messages on invalid input and again displays the menu.

```
 The operation is   :C
 *** Add order ***
Enter Customer's Id        : CU001
Enter order type           : Panel changing
Enter order's Condition    : Urgent
Enter order costs          : 2000
The option is   :2
```

Figure 12 Menu of add order

2.3.2 Read Order

2.3.2.1 Purpose of The Menu

The purpose of this menu is to search the order of customer.

2.3.2.2 Input/Output

The input of this menu is customer id and order id. It displays the order details of that order id.

2.3.2.3 Validation

Table 9 Validation Table

Customer id	Should already exist
Order Id	Should already exist
Invalid input	It shows errors messages on invalid input and again displays the menu.

2.3.2.4 Screenshot

```
 The operation is   :R
 *** Read order ***
Customer's Id              : CU001
Order type                 : Panel changing
Order's Condition          : Urgent
Order costs                : 2000
```

Figure 13 Menu of read order

2.3.3 Update Order

2.3.3.1 Purpose of The Menu

The purpose of this menu to update the order details.

2.3.3.2 Input/Output

The input of this menu is customer id and order id and the new detail of order.

2.3.3.3 Validation

The validation of this menu is same as mentioned in table 12 and table 13.

2.3.3.4 Screenshot

```
 The operation is   :U
 *** Update order ***
Enter Customer's Id          : CU001
Enter Order Id               : OR001
Enter Order type             : battery changing
Enter Order's Condition      : Normal
Enter Order costs            : 1000
```

Figure 14 Menu of update order

2.3.4 Delete Order

2.3.4.1 Purpose of The Menu

The purpose of the menu is to delete the orders.

2.3.4.2 Input/Output

The input of this menu is customer id and order id. It displays the success messages after the deletion of order.

2.3.4.3 Validation

The validation of this menu is same as mentioned in table 13.

2.3.4.4 Screenshot

```
 The operation is   :D
 *** Delete order ***
Customer's Id               : CU001
Order's Id                  : OR002
The order has deleted successfully .
```

Figure 15 Menu of delete order

2.3.5 View all Order

2.3.5.1 Purpose of The Menu

This menu shows the record of all orders.

2.3.5.2 Input/Output

This menu required no input. It displayed all the details of all orders as shown in figure XX

2.3.5.3 Validation

No validation required.

```
The operation is   :V
*** View all Order ***

-------------------------------------------------------------------------------
Customer Id    Order Id      Order type         Order Conditon      Order Cost

-------------------------------------------------------------------------------
CU001          OR001         Panel Changing     Urgent              2000
CU001          OR002         Battery Changing   Normal              3000
CU001          OR003         Mic replacing      Urgent              1000

-------------------------------------------------------------------------------
```

Figure 16 Menu of view all orders

2.4 SubMenu 3 Service Management

2.4.1 Add Service

2.4.1.1 Purpose of The Menu

The purpose of this menu is to add new service. That will be provided on mobile repairing shop.

2.4.1.2 Input/Output

The input of this menu is the details of service i.e., service type, service costs, required time etc.

2.4.1.3 Validation

Table 10 Validation Table

Service type	Consist of alphabet and space of size less than or equal to 50
Required time(min)	Positive number integers
Service cost	Positive number integers
Invalid input	It shows errors messages on invalid input and again displays the menu.

2.4.1.4 Screenshot

```
 The operation is    :C
 *** Add service ***
Enter the service type    :panel changing
Enter the time required   :30 min
Enter the service costs   :2000
The option is    :3
```

Figure 17 Menu of add service

2.4.2 Read Service

2.4.2.1 Purpose of The Menu

The purpose of this menu is to search service details.

2.4.2.2 Input/Output

This required the administrator to input the service type, and it display the output of service costs and required time of that service type.

Table 11 Validation Table

Service type	Should already exist
Invalid input	It shows errors messages on invalid input and again displays the menu.

2.4.2.4 Screenshot

```
 The operation is   :R
 *** Read service ***
Enter Service type        : panel changing
Required                  : 30 min
Rervice costs             : 2000
```

Figure 18 Menu of read service

2.4.3 Updated Service

2.4.3.1 Purpose of The Menu

The purpose of this menu is to update service details.

2.4.3.2 Input/Output

This required the administrator to input the service type, new details of service(service costs and required time) that service type. It also displays the success messages.

2.4.3.3 Validation

Table 12 Validation Table

Service type	Should already exist
Required time (min)	Positive integers only
Service cost	Positive integers only
Invalid input	It shows errors messages on invalid input and again displays the menu.

2.4.3.4 Screenshot

```
 The operation is   :U
 *** Update service ***
Enter Service type        : panel changing
Enter new Required time   : 35 min
Enter new Service cost    : 3000
```

Figure 19 Menu of update service

2.4.4 Delete Service

2.4.4.1 Purpose of The Menu

The purpose of this menu is to delete service.

2.4.4.2 Input/Output

The input of this menu is service type. It displays the success messages after the deletion of service.

2.4.4.3 Validation

The validation of this menu is same as mentioned in table 11.

2.4.4.4 Screenshot

```
 The operation is   :D
 *** Delete service ***
Enter Service type        :panel changing
the service has deleted successfully
```

Figure 20 Menu of delete service

2.4.5 View All Service

2.4.5.1 Purpose of The Menu

This menu shows the record of all service.

2.4.5.2 Input/Output

This menu required no input. It displayed all the details of all services as shown in figure XX

2.4.5.3 Validation

No validation required.

2.4.5.4 Screenshot

```
 The operation is   :V
 *** View All Service ***
--------------------------------------------------------------------------------
Service Type              Required time(min)  Service cost
--------------------------------------------------------------------------------
Panel changinng            30                 2000
battery changing           20                 3000
mic changing               25                 1000
--------------------------------------------------------------------------------
```

Figure 21 Menu of view services

2.5 SubMenu 4 Status Tracking

2.5.1 View all Pending Order

2.5.1.1 Purpose of The Menu

The purpose of this menu is to view all the pending orders and their details.

2.5.1.2 Input/Output

This menu required no input. The output of this menu is the details of all orders i.e., customer id, order id, order type, order condition, order status, as shown in figure

2.5.1.3 Validation

No validation required.

2.5.1.4 Screenshot

```
 The operation is   :P
 *** View all Pending Order ***
 _____
 Order Id        Customer Id    Order type          Order Conditon      Status
 _____
 OR001           CU001          Panel Changing      Urgent              Pending
 OR002           CU002          Battery Changing    Normal              Pending
 OR003           CU003          Mic replacing       Urgent              Pending
 _____
```

Figure 22 Menu of view all pending orders

2.5.2 View all Completed Orders

2.5.2.1 Purpose of The Menu

The purpose of this menu is to view all the complete orders and their details. These orders are completed but not delivered yet

2.5.2.2 Input/Output

This menu required no input. The output of this menu is the details of all order i.e., customer id, order id, order type, order condition, order status, as shown in figure 23.

2.5.2.3 Validation

No validation required.

2.5.2.4 Screenshot

```
 The operation is   :C
 *** View all Completed Order ***
 _____
 Order Id        Customer Id    Order type          Order Conditon      Status
 _____
 OR001           CU001          Panel Changing      Urgent              Completed
 OR002           CU002          Battery Changing    Normal              Completed
 OR003           CU003          Mic replacing       Urgent              Completed
 _____
```

Figure 23 Menu of view all completes orders

2.5.3 View all Delivered Orders

2.5.3.1 Purpose of The Menu

The purpose of this menu is to view all the delivered orders and their details.

2.5.3.2 Input/Output

This menu required no input. The output of this menu is the details of all orders i.e., customer id, order id, order type, order condition, order status, as shown in figure

2.5.3.3 Validation

No validation required.

```
The operation is    :D
*** View all Delivered Order ***

------------------------------------------------------------------------------
Order id        Order type        Order Conditon      Status
------------------------------------------------------------------------------
OR001           CU001             Panel Changing      Urgent          Delivered
OR002           CU002             Battery Changing    Normal          Delivered
OR003           CU003             Mic replacing       Urgent          Delivered
------------------------------------------------------------------------------
```

Figure 24 Menu of view all delivered orders

2.5.4 Update the Order Status

2.5.4.1 Purpose of The Menu

The purpose of this menu is to change the order status.

2.5.4.2 Input/Output

This menu required the input of customer id, order id and updated order status. After validaton check it display success message.

2.5.4.3 Validation

Table 13 Validation Table

Customer id	should already exist
Order id	should already exist
Status	it should be "completed" and "delivered"
Invalid input	It shows errors messages on invalid input and again displays the menu.

2.5.4.4 Screenshot

```
 The operation is    :U
 *** Update the status ***
Enter the customer id        :OR001
Enter the order id           :OR001
Enter the updated status     :Completed
The status successfully updated.
```

Figure 25 Menu of update order status

2.5.5 Go Back to the Main Menu

2.5.5.1 Purpose of The Menu

This menu saves the changes and exits it corresponds menu to main menu.

2.5.5.2 Input/Output

It displays exit messages and displays the main menu.

2.5.5.3 Validation

No validation required.

2.5.5.4 Screenshot

```
The operation is    :E
*** go back to the menu ***
**********************************************************************************
               Welcome To Mobile Repairing Shop Management System
**********************************************************************************
Enter 1 to Manage customer
Enter 2 to Manage order
Enter 3 to Manage services
Enter 4 to Status tracking
Enter 0 to Save data and Exit the program
**********************************************************************************
Input the option  :
```

Figure 26 Menu of go back to the main menu