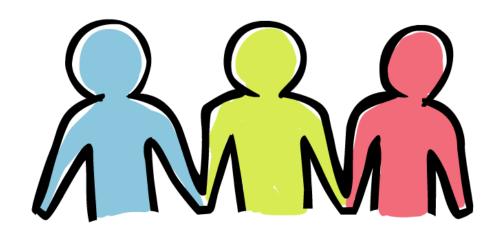


#### **RAILWAY MANAGEMENT SYSTEM**

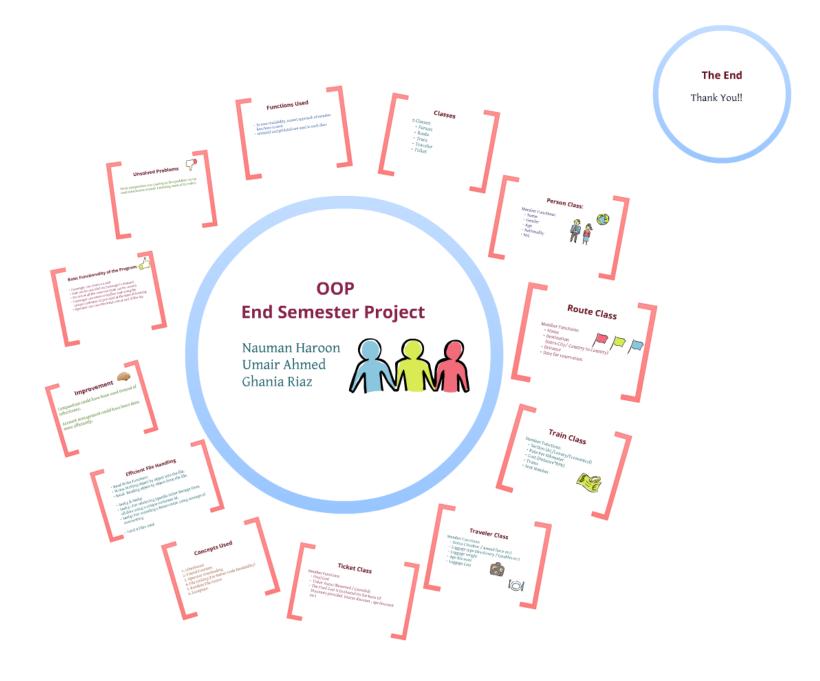


# OOP End Semester Project

Nauman Haroon Umair Ahmed Ghania Riaz







## **RAILWAY MANAGEMENT SYSTEM**



## **Basic Functionality of the Program:**



- Passenger can reserve a seat
- Seat can be canceled on Passenger's demand
- · Record of all the reserved seats can be viewed
- Passenger can retrieve his/her seat using the unique customer ID provided at the time of booking
- Operator can view the total cost at end of the day



## **Unsolved Problems**



Since composition was causing us few problems so we used inheritance instead (violating some of its rules).

## **Functions Used**

- To ease readability, easiest approach of member functions is used
- setdata() and getdata() are used in each class



# Classes

### 5 Classes:

- Person
- Route
- Train
- Traveler
- Ticket



# **Person Class:**

- Name
- Gender
- Age
- Nationality
- NIC







# **Route Class**

- Home
- Destination
   (Intra City/ Country to Country)
- Distance
- Date for reservation



# **Train Class**

- Section (AC/Luxury/Economical)
- Rate Per Kilometer
- Cost (Distance\*RPK)
- Trains
- Seat Number





## **Traveler Class**

- Status (Student / Armed force etc)
- Luggage type (Machinery / Eatables etc)
- Luggage weight
- Age discount
- Luggage Cost







### **Ticket Class**

- Final Cost
- Ticket Status (Reserved / Canceled)
- The Final Cost Is Evaluated On the Basis Of Discounts provided (status discount, age discount etc)



# **Concepts Used**

- 1. Inheritance
- 2. Friend Function
- 3. Operator Overloading
- 4. File Linking (For Better Code Readability)
- 5. Random File Access
- 6. Exception



## **Efficient File Handling**

- Read Write Functions
- Write: Writing object by object into the file.
- Read: Reading object by object from the file.
- Seekg & Seekp
- Seekg: For retrieving Specific ticket Reciept from all data using a unique customer id.
- Seekp: For canceling a Reservation using concept of overwriting
- Total 4 Files used



# Improvement



Composition could have been used instead of Inheritance.

Account management could have been done more efficiently.



Member Functions:

- Name
- Gender
- Nationality
- NIC

# **OOP End Semester Project**

Nauman Haroon **Umair Ahmed** Ghania Riaz



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- · Seat Number

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# The End

Thank You!!

