# **OOP PROJECT**

PROJECT MEMBERS:

1. SAIM AKHTAR CT-059
2. MAUWIA ATIF CT-074
3. SAADAT HASSAN CT-040
4. AHMED IMRAN CT-037

**PROJECT TITLE: RATED R CINEMA**

THE PROJECT IS CODED IN C++. THE FILES ARE CREATED THROUGH BINARY FILING AND WILL HAVE THREE FILES FOR MANAGEMENT OF DATA AND TEXT FILING IS USED FOR PRINTING ASPECT

**INTRODUCTION:**

RATED R CINEMA IS A SINGLE SCREEN CINEMA PROJECTING MOVIES ALL 7 DAYS OF WEEK. THERE ARE 4 DIFFERENT SHOWTIMINGS EACH DAY AND EACH SHOW HAS A CAPACITY OF 135 SEATS

AFTER THE CUSTOMER SUCCESSFULLY BOOKS THE TICKETS. A NOTEPAD WILL BE OPENED WHICH WILL SHOW THE BOOKING DETAILS OF THE TICKET AND WILL SAVE THE FILE FOR PRINTING

**DESCRIPTION:**

WHEN A CUSTOMER ACCESS THE CINEMA, THE PERSON WILL BE ABLE TO:

* CHECK AVAILABLE MOVIES IN THE CINEMA
* DISPLAY DETAILS OF A MOVIE
* CHECK BOOKINGS OF THE SHOWS IN THE CINEMA
* BOOK TICKETS OF THEIR DESIRED MOVIE AND SHOWTIMING
* CANCEL TICKETS THEY HAVE BOOKED

ONLY THESE KEY FEATURES WILL BE ALLOWED FOR A CUSTOMER

IF AN AUTHORITY PERSON LOGS IN THE CINEMA, FIRST OF ALL THEY WILL BE ASKED TO LOG IN THROUGH A AUTHORIZED ACCOUNT OTHERWISE THE ACCESS WILL BE DENIED,KEY FEATURES USED BY AN AUTHORIZED USER:

* CREATE A SCHEDULE FOR THE CINEMA AND DESTROY IT
* CHECK MOVIES LIST AND DETAILS
* ADD A MOVIE
* MODIFY A MOVIE DETAILS
* REMOVE A MOVIE
* UPDATE SCHEDULE OF THE CINEMA
* CHANGE THE SHOWTIMING OF A SHOW IN THE CINEMA
* ADD A MOVIE IN A CERTAIN SHOW
* REMOVE A MOVIE FROM A CERTAIN SHOW
* CHECK SCHEDULE OF THE CINEMA

**CLASSES USED IN PROJECT:**

* Cinema
* Schedule
* Showtime
* Shows\_seats
* Movie
* Person
* Customer
* Authorized\_user

Above mentioned classes are the main classes used for the working and functionality of project. Other classes used in the project are for layout and decorative purpose

**IMPLEMENTATION OF OOP RELATIONS IN PROJECT:**

WE HAVE USED**:**

* **COMPOSITION:** FOR CREATING RELATION OF SCHEDULE WITH SHOWTIME AND SHOW\_SEATS
* **INHERITANCE:** MAKING DERIVED CLASSES OF PERSON
* **FUNCTION OVERRIDDING:** FUNCTION VIEW\_MOVIES() OF PERSON USED IN BOTH CUSTOMER AND AUTHORIZED\_USER
* **AGGREGATION:** TO ALLOW CUSTOMER AND AUTHORIZED\_USER TO ACCES CINEMA

CINEMA CLASS CONSISTS OF A SCHEDULE WHICH HAS SHOWTIME AND SHOWS\_SEATS.

MOVIE CLASS HAS A SHOWTIME.

PERSON IS A BASE CLASS FROM WHICH TWO CLASSES ARE DERIVED NAMED “CUSTOMER” AND “AUTHORIZED\_USER” . ALSO TWO FUNCTIONS OF PERSON ARE OVERRIDDING IN BOTH THE DERIVED CLASSES

BOTH THE DERIVED CLASSES USES THE CINEMA CLASS TO ACCESS THE WHOLE FUNCTIONALITY OF THE PROJECT

**ROLES PLAYED BY GROUP MEMBERS:**

CT-037) AHMED IMRAN CREATED THE CLASS OF PERSON AND ITS INHERITED CLASSES CUSTOMER AND AUTHORIZED\_USER. THE OPTIONS PROVIDED AND WHICH CLASSES IS ABLE TO ACCESS THE AVAILABLE OPTIONS AND WHICH IS NOT.SIMPLY MAKING THEIR RELATION WITH THE CINEMA CLASS

CT-040) SAADAT HASSAN TOOK THE RESPONSIBILITY OF MAKING THE CLASS OF MOVIE WHICH SHOWS THE RECORD OF MOVIES AVAILABLE IN THE CINEMA AND HOW THEY WILL BE MODIFIED, DISLAYED, ADDED AND REMOVED FROM THE CINEMA

CT-074) MUAWIA ATIF CREATED THE FUNCTION OF THE BOOKING OF TICKETS. THE PROCEDURE THOUGH WHICH THE TICKETS ARE BOOKED IN EACH SHOW TIME AND ALSO IF THE PERSON MISTAKENLY ENTER THE SEAT NO WHICH IS ALREADY BOOKED THEN IT WILL INDICATE THAT THE TICKET IS ALREADY BOOKED AND WILL AGAIN ASK THE USER TO INPUT

CT-59) SAIM AKHTAR CREATED THE CLASSES OF SCHEDULE SHOWTIME AND SHOWS\_SEATS. AND THE RELATIONS ADJOINING THE DIFFERENT CLASSES IN THE PROJECT AND HOW THEY WILL BE ACCESSED AND NECCESSARY FILINGS REQUIRED FOR THE MANAGEMENT OF THIS PROJECT. ALSO THE RE-USABILITY OF THIS CODE

THE DECORATIVE DESIGNS AND LAYOUTS WERE DECIDED AND DISCUSSED ALTOGETHER AND CODED BY SAIM AKHTAR AND MUAWIA ATIF IN THE CINEMA HALL DESIGN

THUS THIS IS HOW THE WHOLE PROJECT WAS PREPARED BY THE SHEER DETERMINATION AND HARDWORK OF EACH GROUP MEMBER

**REUSABILITY:**

ONE OF THE MOST IMPORTANT ASPECT OF THIS CODE IS ITS REUSABILTY. AS WE CAN SEE THE CODE IS USED FOR A SINGLE SCREEN CINEMA BUT WHAT IF THE REQUREMENTS ARE CHANGED IN THE FUTURE LIKE IF WE WANT UPGRADE IT TO A MULTIPLEX CINEMA.

THEN WE HAVE A SOLUTION FOR THIS PROBLEM. IN THE CODE WE ARE SENDING NAMES OF FILES AS AN ARGUMENT. IT MEANS THAT TO MAKE MORE CINEMAS WE JUST NEED TO SEND THEIR FILE NAMES AS AN ARGUMENT AND THE FUNCTIONS WILL DO THE SAME JOB AS IT DID FOR THE PREVIOUS CINEMA

**CONCLUSION:**

ALTHOUGH THE PROJECT IN C++ BUT IT HAS THOSE FUNCTIONALITIES WHICH CAN MAKE IT ABLE TO SOLVE A REAL LIFE PROBLEM AND PROVIDES BETTERMENT IN MANY ASPECTS