

Programming Assignment 4

HUCS Cinema Reservation System

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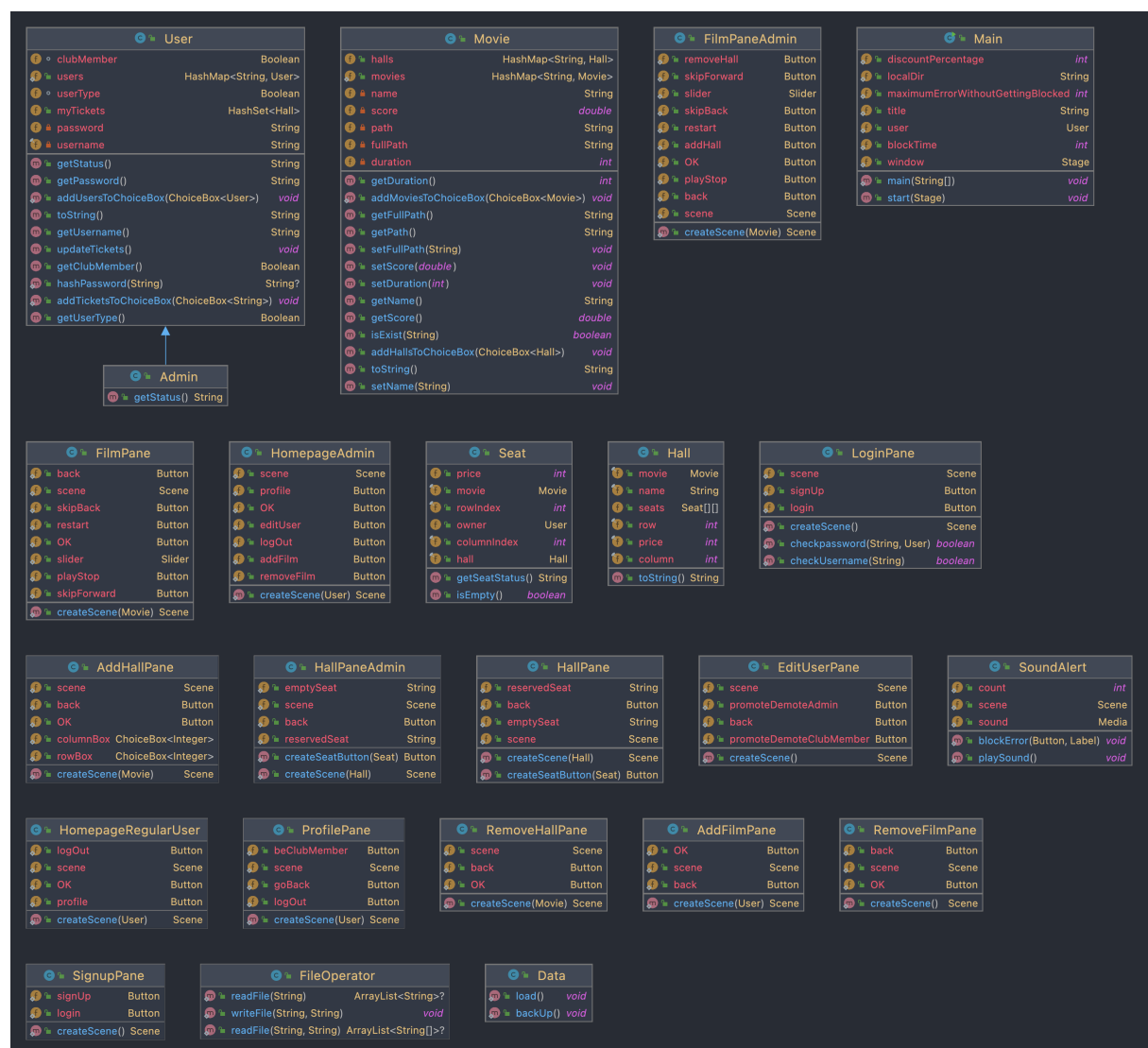
1. Assignment Description

In this assignment, instructors expect us to develop a Graphical User Interface (GUI) application using Java programming language.

Graphical User Interface provides that an easy interaction between users and the application via buttons, windows, slider, text input boxes, etc. We made this Graphical User Interface using JavaFX framework.

In this project assignment 4, we are expected to develop a simplified version of cinema reservation system according to instruction pdf using JavaFX framework.

2. Application Details



(Figure 1: UML Diagram)

2.1 Implementation

User class are created to create a unique User object for every single user. Every user has its own username, password -which is hashed for security-, information about whether he/she is a club member, and he/she is an admin. This information of users is stored in their user object. Moreover, User class has a static attribute called “users”, which is an HashMap; in this users HashMap usernames and User object are kept together. Lastly, Admin class is extended to user class.

Movie class is created to keep movie information in its movie object when a data about a movie is read from “backup.dat” or a new movie is created by admin. Movie class has static movies HashMap to keep movies’ name and their object together in one place to when accessing to all movies is needed.

Hall and Seat class are the same logic with Movie class. Additionally, Hall class has static halls HashMap of its movie and Hall object has two-dimensional array called seats to keep its Seat objects.

FileOperator class are created to keep file reading and writing methods in one place for more clean code.

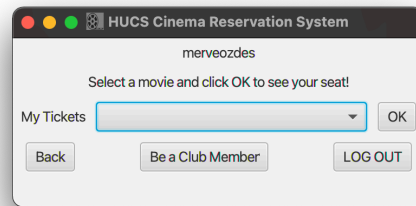
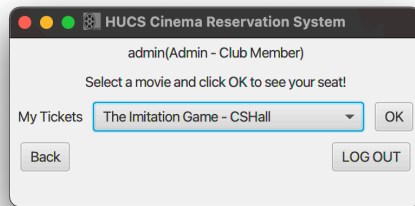
Data class has two static methods. load() method is created to read “backup.dat” file and then create objects according to data, and set values of blocktime, discountPercentage, etc. according to “properties.dat” file. backUp() method is created to store the data when applications is closed by user.

SoundAlert class has two static methods. First method called playSound() is created to play the sound alert and warn the user when user make a mistake. Last method, which is blockError(), is created to count the user’s mistakes and block his/her activity to ensure the security of the system.

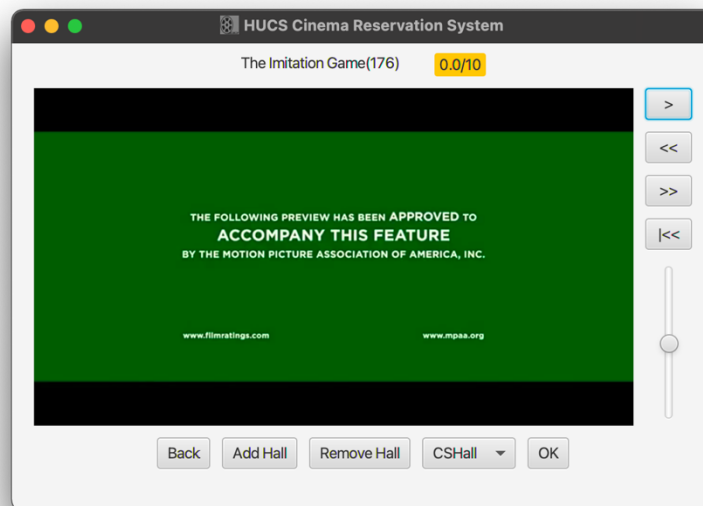
2.2 Extra Features

In this assignment, we are expected to add extra features to cinema reservation system.

Profile button, which when clicked, profile page is displayed, is added to homepage. In the profile page, user could see his/her tickets in the list in my ticket section. When user select a ticket from list and then click the OK button, user sees the hall that the ticket is bought, so user can manage tickets easily. Second feature in the profile page is the “Be a Club Member” button. If a user is not a club member, this button will be displayed user’s profile page. When user clicked on the “Be a Club Member” button, he/she will be a club member.



Last feature that I added to application is score box. There is a score box near the film's name in film page. Users can decide the film that they wanted to buy tickets easily with seeing film's score. This score box exist only visually, system is not developed to set the score.



3. Resources

- <https://www.youtube.com/watch?v=FLkOX4Eez6o&list=PL6gx4Cwl9DGBzfXLWLSYVy8EbTdpGbUIG>
- <https://www.geeksforgeeks.org/javafx-tutorial/>
- <https://docs.oracle.com/javase/8/javafx/api/toc.htm>
- <https://stackoverflow.com/>