BBM 104 Spring Semester

Project Assignment-4 Report

Student Name : Harun

Student Surname: Harman

Student Department: Artificial Intelligence Engineering

Student ID : 2200765008

Problem:

The main purpose of this assignment is to create a GUI platform with using the programming language Java. With using this GUI application it is expected to build a "Cinema Reservation System". Reservation system includes functionalities such as log in, sign up, choosing a movie, adding/removing movie, choosing hall, adding/removing hall, buying/refunding seats etc...

Also it is expected to arrange these functionalities according to the user attributes. For instance, if an user is admin, he/she has permission to use more functions according to the normal user such as adding/ removing movies, editing users etc…

Solution:

First of all, four class named "Users", "Movies", "Hall", "Seat" are created to store the datas given by the backup.dat and properties.dat files as an object's attributes. For example, for Users class, name, password(Hashed), clubMember, admin attributes exist. After creating these four class, a class named "Go" is created for reading the backup.dat and properties.dat and the inputs taken are added to the different observableLists<Object>. Object part is the four classes created at the beginnings.The aim of the "Go" class is to store the data given by backup.dat and properties.dat files. After finishing storing data, pages started to be created. For every page, new class is created. Also a class named "Info" is extended by most of the page classes because those classes needed common variables.

In log in page, program must check the inputs and let the user log in or not log in according to these inputs's situation. While checking the information inputs, username is compared with the usernames stored in the observableLists taken from backup.dat file. For passwords, first input password is turned into MD5 hashed format then same process for the username is used.

For embedding layouts; GridPane, Vbox,Hbox, StackPane classes are imported and their methods are used such as GridPane.setHalignment(), GridPane.setValignment(),GridPane.setConstraints() etc…

In film window, Media, MediaPlayer, MediaView classes are imported and their methods are used such as MediaPlayer.setAutoPlay(), MediaView.setFitWidth(), etc…

There are some parts those cannot solved by the program:

- In log in page, most of the errors are working, but after reaching the max error, program shows the sentence "ERROR: Please wait for … seconds to make a new operation!" but user can make operation in that period of time.

- In remove film and remove hall page, pages are ready, but the functionalities doesn't work. OK buttons in the Remove film and Remove hall pages don't make a change.

- In hall page, page is ready, but purchasing functionality doesn't work. When user click on the OK button, nothing happens.

- Backup.dat is updating according to the changes, but due to the problems above, those changes are not happening on the backup.dat such as removing film/hall and purchasing seat.

Benefits of The System:

-With using object oriented programming(OOP), this program allows to change the attributes of the specific object. For example, status of a person being an admin or a being club member can be easily change with this programme.

- Controlling inputs provides reliability for the program and also storing the passwords by hashed format also increases the protecting of informations.

- Updating backup.dat file keeps it up to date and the user can easily make changes on the information if he/she allows to do it.

- Getting properties of the program from the properties.dat file provides flexibility for the programme. No effort required for making changes on the programme.

Benefits of GUI:

- GUI provides visual representation for the user. It displays a text area or a video or an image etc…

- GUI (Graphic User Interface) provides interaction between the user and the programme immediately. When user wants to take an action on the programme, he/ she click on a button or choose some options and get visual response from the programme according to the his/her action .

- It can be used everywhere whether a mobile phone, tablet, laptops, computer and all the other electronic devices. Therefore, it is a flexible program in terms of its use in many environments.

- User doesn't need to memorize commands to perform actions in the programme.

Resources:

- https://www.geeksforgeeks.org/gui-full-form/