



PROGRAMMING ASSIGNMENT 4

HUCS Cinema Reservation System



Abdullah Enes Yaman
2200765012



MAY 13, 2022
HACETTEPE UNIVERSITY

Index

Chapter 1 : Defining the Problem	3
Chapter 2 : Solution Approach	4
Chapter 3 : Faced Problems and Solutions	5
Chapter 4 : Benefits of System	6
Chapter 5 : Benefits of GUI	7
Chapter 6 : Extra	7

1 Defining the Problem

In this project, we were expected to make a cinema reservation system. It must open with a login page and a sign-up page. And passwords in these pages must be saved in hashed format with md5 form for security. After the login there must be a film select page. For admins there must be a add/drop film buttons so admins of the program can add new film when a new movie comes out or they can delete movie when the movie is out of sight. Also, there must be edit users' button too so admins can change users' status. After selecting the film, trailer watch screen must be opened. In this screen users must be able to play the movie, skip back or forward for 5 seconds, rewind or change the volume. Also, users must be able to select available halls. For this page, admins must be able to add or remove halls. After the hall selection, a sketch of the hall must appear. In this page users must be able to select seats they want to buy or sell. Also, except admin, program should have 2 types of users too. Club members and not.

2 Solution Approach

Before I started writing code, I thought it makes sense to divide the project into sections. First, I made the front-end (GUI – Graphical User Interface) sections with separating the code for pages. After separating I had 10 class for pages and 1 main class. Then I started the OOP (Object-oriented Programming) part and backup readers/writers. After this part everything becomes easier to do because it was the same thing; add an action event on button, put combo-box, change scenes, setting error messages, putting error sound... I also encountered some different things that I mentioned in part 3. When I said, "Project almost finished." there was only these different parts.

3 Faced Problems and Solutions

After I said, "the project is almost finished", there were some parts that were not done in my hand. The first of these is block time on login page. If the user tries too much wrong password to login program should have made the user wait. When I researched it there was a Timer-Task thing but when I tried to use it, it throwed traceback. I couldn't set up the algorithm well because I didn't understand the working logic of the Timer things. After too much peek at the source code of Timer I found a schedule method of it, and it was available for this work. One of the other problems was Seat screen. I must place lots of buttons on screen and they must have row-column numbers, each of them must have an event handler, for different types of users it should have acted differently... As you can understand there was a lot of complex things to be done. So, I decided to open a new project and try different things about it. In the solution I used Gridpane to place the buttons inside, ArrayList for reaching all buttons, I used a for-each loop for creating an event handler for each button etc. The last problem I faced is I couldn't find a way for turning path to media. After a bit internet search there are people who faced the same problem. I learned that; I must use File.toURI().toString methods.

4 Benefits of System

Benefits of the system are different type of users can decide which movie to watch, they can watch trailers of movies, they can select halls and seats. If they want, they can rebate. Also, admins can see which seats sold or if they want to, they can rebate on behalf of other users too. They can add movie or delete in that program. It's easier for workers in cinema or people who want to go that cinema which is using this system.

5 Benefits of GUI

As you know GUI is Graphical User Interface and Its makes doing things for non-developers easier. It makes the application easy to use. There are buttons, Fields, ComboBoxes to interact with user. With the GUI user doesn't mess with console; user interact with concrete things. Even I would not want to use such an application through the console. So, you can't expect a non-programmer to use it.

6 Extra

In this assignment I think the biggest problem was there was no field in program to reset password. People are forgetful and they can forget their passwords. So, I want to add a reset password screen. If there is an extra.dat in assets/data program sees it and changes itself a bit. In register it wants the user to write a question and answer it. In login screen, I added a button for people who forgot their password. When you click it, they want your name. If there is a credential with that name program asks the question you saved in register before. If you answered correctly there comes a password field and programs allows you to change your password. The answers of questions are hashes in md5 and stored with that format. So, the other users can't see the answers and cannot change other people's passwords.