BZ 214 Visual Programming

Movidle

Your job is to implement interactive Movidle movie guessing game.

The purpose of this project is threefold:

1. to let you create a JavaFX GUI Model-View-Controller design pattern,
2. to let you practice working with strings, collections, and text files in Java,
3. to give you a chance to implement an exciting puzzle that emphasizes interactivity.

1. The Movidle Game

The Movidle is a movie guessing game. Players have five chances to guess a movie name, with feedback given for each guess in the form of colored tiles that reveal specific information about the movie, such as year, genre, origin, director, and star. After every guess, each tile is marked as either green or red: green indicates that the information is correct, while red indicates it is wrong.

Figure 1 shows screenshots of a Movidle game in which the player attempts to guess the correct movie title, which is "The Dark Knight." Initially, the player guesses "Memento," resulting in tiles for origin and director being colored green since they match "The Dark Knight." The player's second guess is "The Prestige," which also results in the genre, origin, director, and star being matched, indicated by green tiles. Finally, the player guesses "The Dark Knight," resulting in all tiles being green and a "You Win" pop-up message. To start a new game, the player can simply click the "Restart" button.

Figure 1: A sample Movidle game

2. JavaFX Movidle Game Project

Create the JavaFX graphical display: First, you should create a JavaFX graphical user interface (GUI). A GUI implemented using a Model-View-Controller design pattern is preferred. GUI should be similar to the one depicted in Fig. 1. However, you are free to design your own GUI as long as you stick to the basic principles. The interface must have a text field where players can enter their guesses and a Guess button. It should also display tiles that provide information about the guessed movie. Additionally, tiles should be colored according to whether the corresponding information matches the film to be guessed.

Read dataset from the given CSV file: Your program should read the given IMDB Top 250 movies CSV file and then create movie objects for each record. Then it should add them to an appropriate collection (ArrayList, HashMap, etc.).

Determine the movie: For each game, the movie to be guessed should be randomly determined. So, your program should randomly select a movie and then start the game.

Start the game and let the player try to find the movie: Your program must let the player try to find the selected movie using your interface. It must check each guess if it is the true movie. If the guess is incorrect, your program should generate a new row of tiles that are color-coded based on their accuracy. If the guess is correct, a new row of tiles that are all green should be generated and a "You Win" pop-up window should appear.

3. Extra Credit

Including following features may earn additional points, but it is not a requirement.

Textfield with an auto-complete feature: You can enhance the text field by adding an auto-complete feature which suggests options to players as they type their guesses. When a player starts to type in a field, the program can display options to fill in the field, based on movie names in the dataset. This feature enhances user experience and saves time.

Animation on tiles: You can add animations, such as FadeTransition or FillTransition, to the tiles for a more visually appealing display upon their appearance.

Year tile with up and down arrows: You can enhance the year tile by adding an arrow to its background that indicates whether the actual movie year is newer or older than guessed one.

Movie poster as an image: You can add an image view showing the movie poster on each row.

4. Documentation

At the end of your project, you must prepare a detailed report that describes your work. You must give details about your project, provide the class, and use case diagrams. You can find a template for your project report on the ERUDM.

5. Academic Honesty

Honesty and integrity are very important. Never submit the work of others as your own. A student that copies the same code from an outside source or another one or allows someone to copy from his/her project will receive 0 points.

6. Submission

You should upload your project in **zip** format to ERUDM. The name of your submission must be your group number (e.g., group1.zip). You will not get any marks if you forget to name your submission as your group number. Each submission should consist of all java files required to compile and run your program plus a project report. We cannot grade something that does not run.

Note: No third-party toolkits or libraries are allowed. However, you are free to use any of the sample code provided in this course.

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