

BIL343 Object Oriented Programming**2011-2012 Fall****Assignment 3****Instructor** : Mustafa Sert, Asst.Prof.Dr.**Due Date:** 22-Dec-2011**Objectives** : Inheritance and Class Hierarchies, Exception handling, GUI Design.**Problem Statement**

In this assignment you are supposed to design and write an application for a video rental company. The requirements are given as follows:

- Create an inheritance hierarchy for video clips. Every video clip has a creator name. Movies are video clips. Every movie has a title, year, genre, director and appearing stars information. Also every movie has information about genres and every movie addressed different individuals.
- So you design a **VideoClip** interface. It has the *getCreatorName* method.
- Design a **Movie** abstract class that implements the VideoClip interface. This class has three abstract methods, namely *movieInfo* (includes some metadata such as year, rating, genre), *abstractText* (includes movie abstract), and *appearedStars* (includes the director and stars appearing in the movie).
- Design four classes, namely **ShawshankRedemption**, **Godfather**, **Se7en**, and **Scarface**. These classes extend the Movie abstract class and implement the VideoClip interface (indirectly).
- You may use/modify the classes from homework 2.
- Draw a **UML class diagram** (in a case-tool, not by hand) to show your class hierarchies and class structures.
- Write a **Windows Application** (w/GUI) to test your classes' functionality. Sample GUI designs are given on the next page. These may give some idea to you, but the overall design of the GUI is up to you.
 - There are two forms in the application, namely main screen and movie information screen
 - If we select a movie from the drop-down list in main screen, the corresponding movie information screen appears. We can also use this screen to get information regarding a movie, a star, or a director by searching. The example is given for a movie search, that is, if we search for a director/star, then multiple results may appear in the result area displaying the movie name, year, and genre information in which this director/star appears.
 - When we click the "close" button in movie information screen, the form closes.
- Make use of **exception handling** mechanism in your application so that your application is robust against to exceptional situations.
- Make use of at least one inner class and one anonymous inner class for event handling.

Write the below comment as the first statement in your classes:

```
//-----
// ClassName.java           Author: Your name/surname   ID: Your id
//                           e-mail: Your e-mail address.
// Write the purpose of this class (e.g., Definition of the Products class)
//-----
```

Submission

You will submit your hw as an e-mail to mdikmen@baskent.edu.tr by **1pm on 22-Dec-2011**. Follow the rules below:

1. Include your UML drawing and comments in a Word document.
2. Prepare your source files (*.java)
3. Package the above two into a **single RAR archive**, with name "yourName-yourID.rar", e.g., BenimAdim-9867017.rar
4. Send this RAR file to the e-mail address given above with the subject line as "BIL343-hw3".

NOTE: This is not a group assignment, and by submitting your homework it is assumed that all of the work is your own. While you may discuss the problem with other students, **any students submitting the samelssimilar work will be given 0.**

☞ Apply the general design and coding principles described in previous HWs.

☞ Write comments to describe your work.

☞ Do NOT use a visual designer for this homework. Those students will be given a zero grade.

☞ **START EARLY!**

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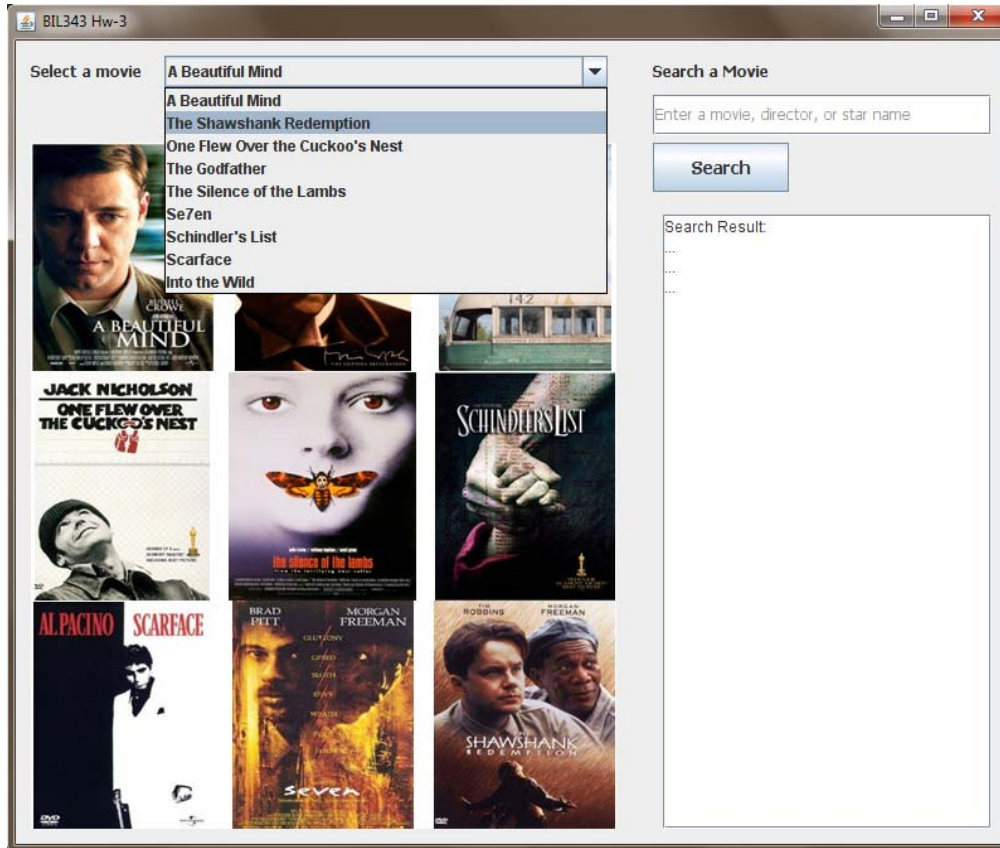


Fig. 1: Main screen of the application

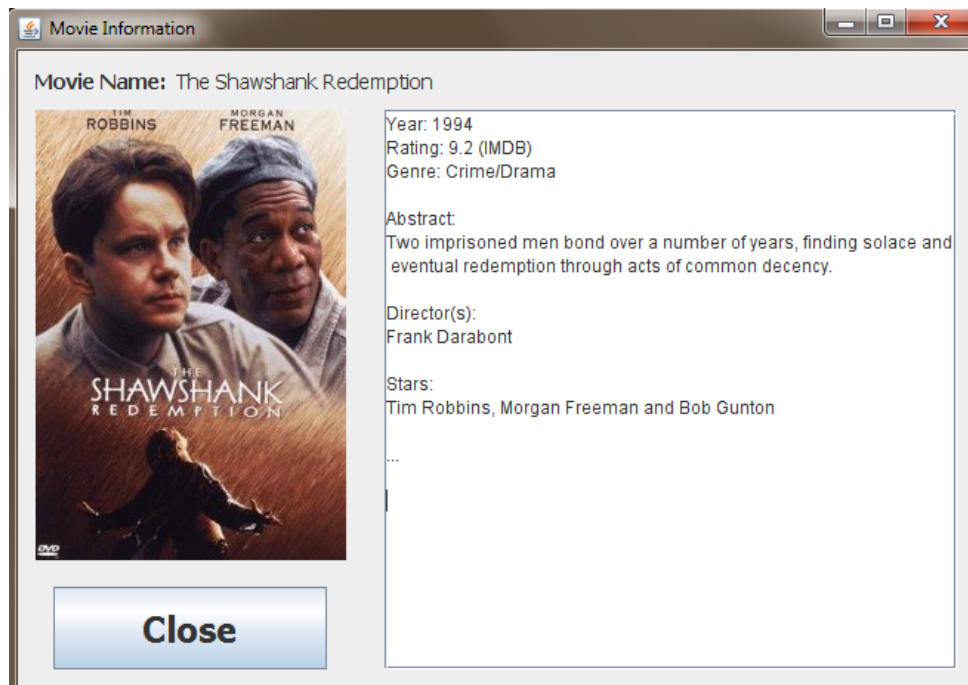


Fig. 2: The movie information screen for The Shawshank Redemption