

BCS 450 C# Lab – WPF Master Detail

Overview

Create a project in C# using Visual Studio. You will write a WPF application that contains a master/detail interface. There will be a ListBox to display data in the “Master” list. Multiple controls will be used to display the “Details” of the currently selected record in the “Master” list.

Part 1 – Create the project

Create a C# WPF application in Visual Studio. Name the project Lab-MasterDetail.

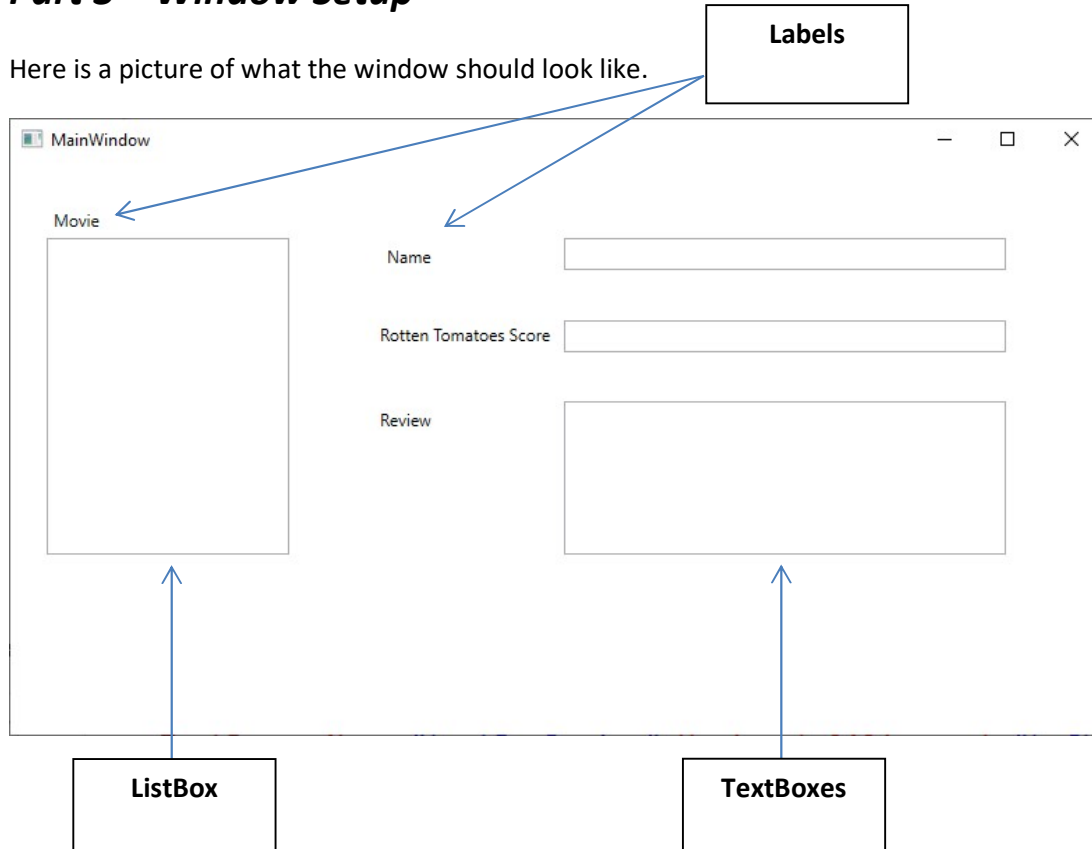
Part 2 – Movie Class

Create a Movie class. Use auto-implemented properties to define the following member variables:
Name (string), RottenTomatoesScore (int), Review (string).

Override the ToString method to return the Name.

Part 3 – Window Setup

Here is a picture of what the window should look like.



Descriptions:

- ListBox – This will be the “Master” list.
- TextBoxes – This shows the “Details” of the selected ListBox item.

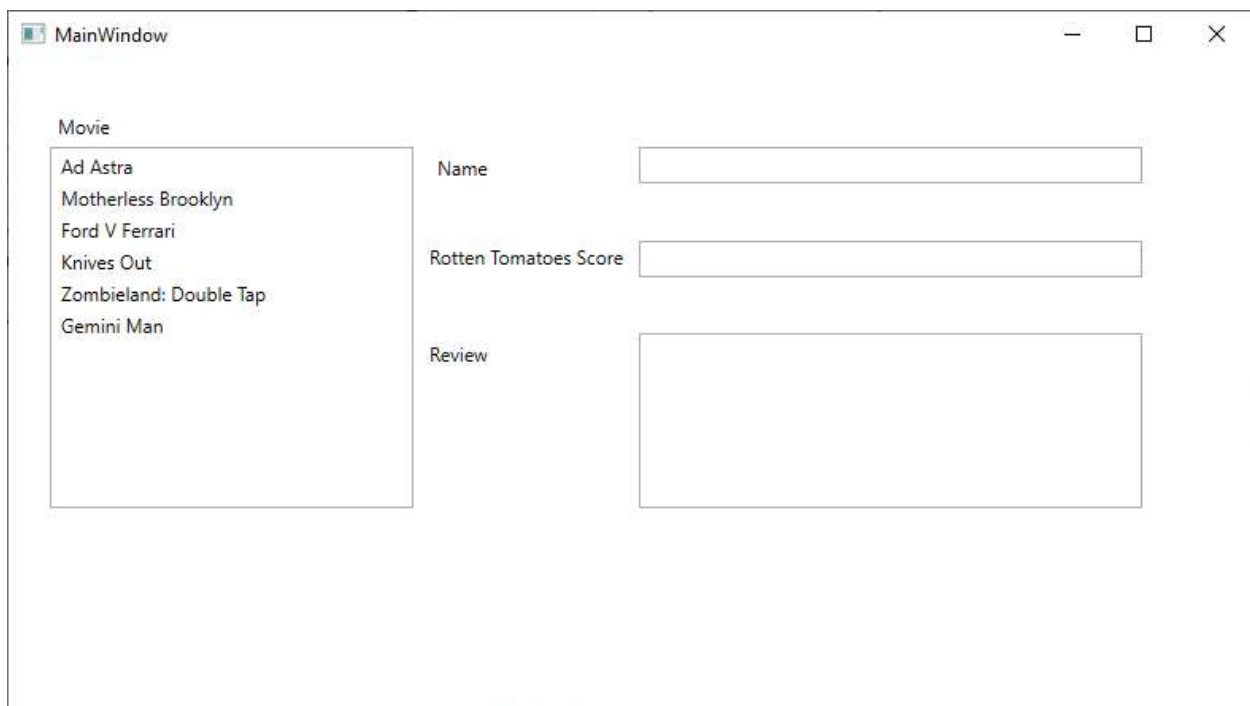
Part 4 – Loading Data

Read data from a file into the ListBox when the Window opens. You will need to add an event handler for the **Loaded** event of the Window.

Inside the event handler you should write a loop to read data from the input file. Inside the loop you will read in one instance of Movie. You should add the Movie instance that you just read in to the ListBox item collection. Each item in the ListBox will be associated with its own Movie instance.

The input file should have the name, score, and review for each movie on separate lines. You can hardcode the name of the input file into the program for this lab (bad style but it makes the lab a little easier). All data for each field should fit in one line. There is a sample movie input file at the end of this document.

Here is a screenshot after reading data into the ListBox (no item selected in the ListBox):



Part 5 – ListBox Item Selection

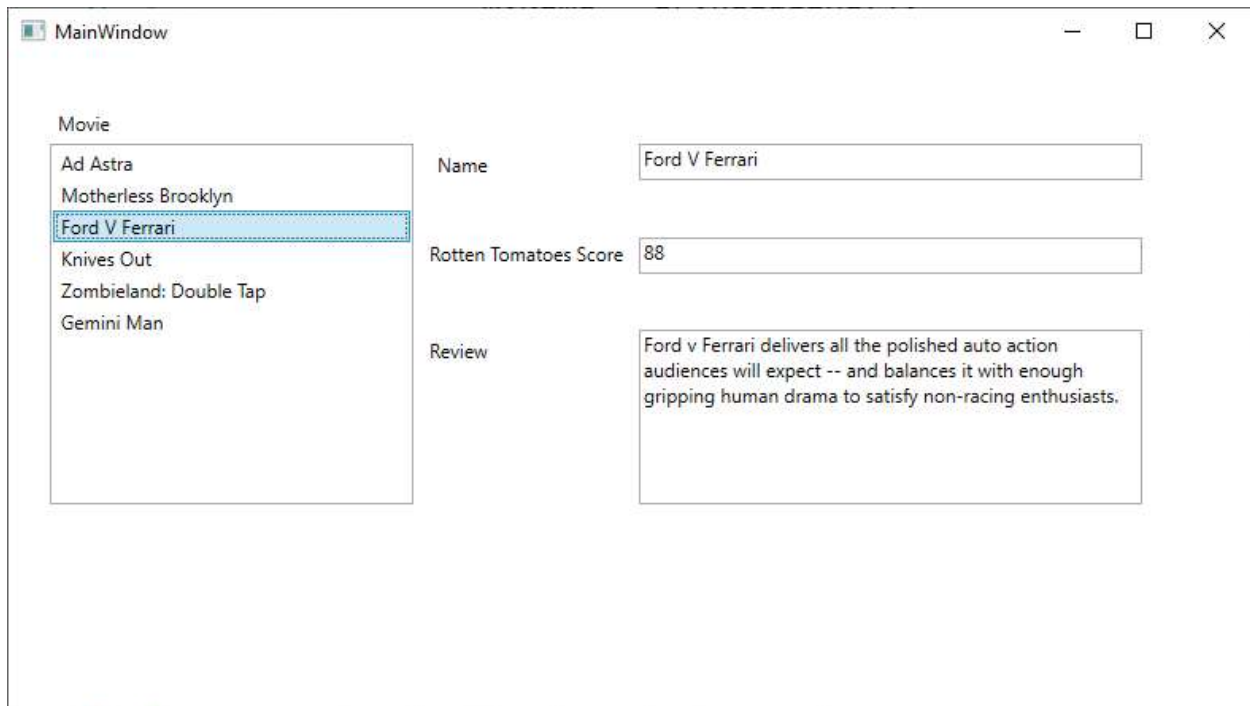
When an item is selected in the ListBox the “Detail” view on the right should be populated with the corresponding elements of the selected Movie item.

You will need to add an event handler for the **SelectionChanged** event of the ListBox. Inside the event handler, the SelectionChangedEventArgs parameter has a property named AddedItems that contains the newly selected item. AddedItems is a collection so you will need to get the item at index 0.

You can just set the value of the Text property on each TextBox control to show data for the selected item.

Challenge (optional): Bind each TextBox Text property to the selected item in the ListBox instead of explicitly setting the Text property value.

Here is a screenshot of when an item is selected in the ListBox:



Part 6 – Test the program

Run the program. Make sure to select different items in the ListBox.

Part 7 – Add posters to the application

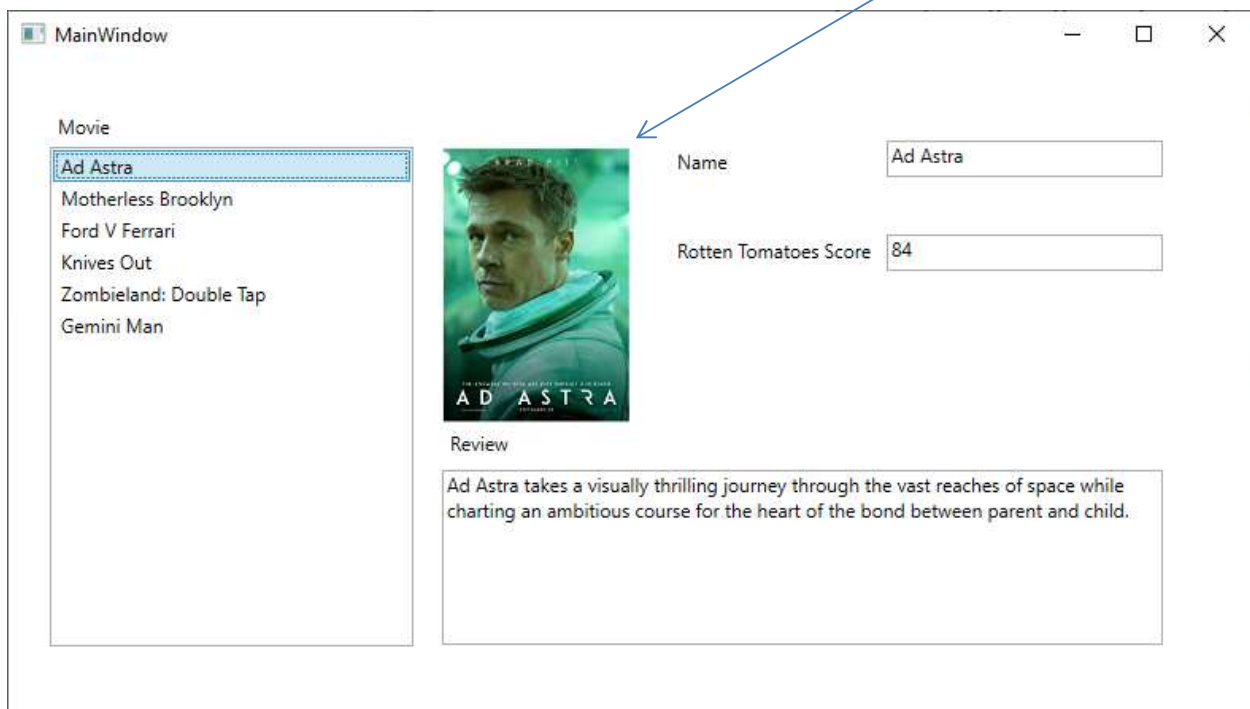
Add functionality to show movie poster images in the application. To do this you will need to add an **Image** control. Make sure to put the image files in the working directory. There is another version of the movie input file that contains the poster image filenames (at bottom of this document). Here is sample code you can modify to show the poster file in the Image control:

```
string fullPathFileName = Environment.CurrentDirectory + "\\\" + "AdAstra.jpg";  
BitmapImage bitmap = new BitmapImage();  
bitmap.BeginInit();  
bitmap.UriSource = new Uri(fullPathFileName);  
bitmap.EndInit();  
imagePoster.Source = bitmap;
```

Note: The above code assumes the Image control is named imagePoster.

Image

Here is a screenshot of the window:



Part 8 – Add actors to the application

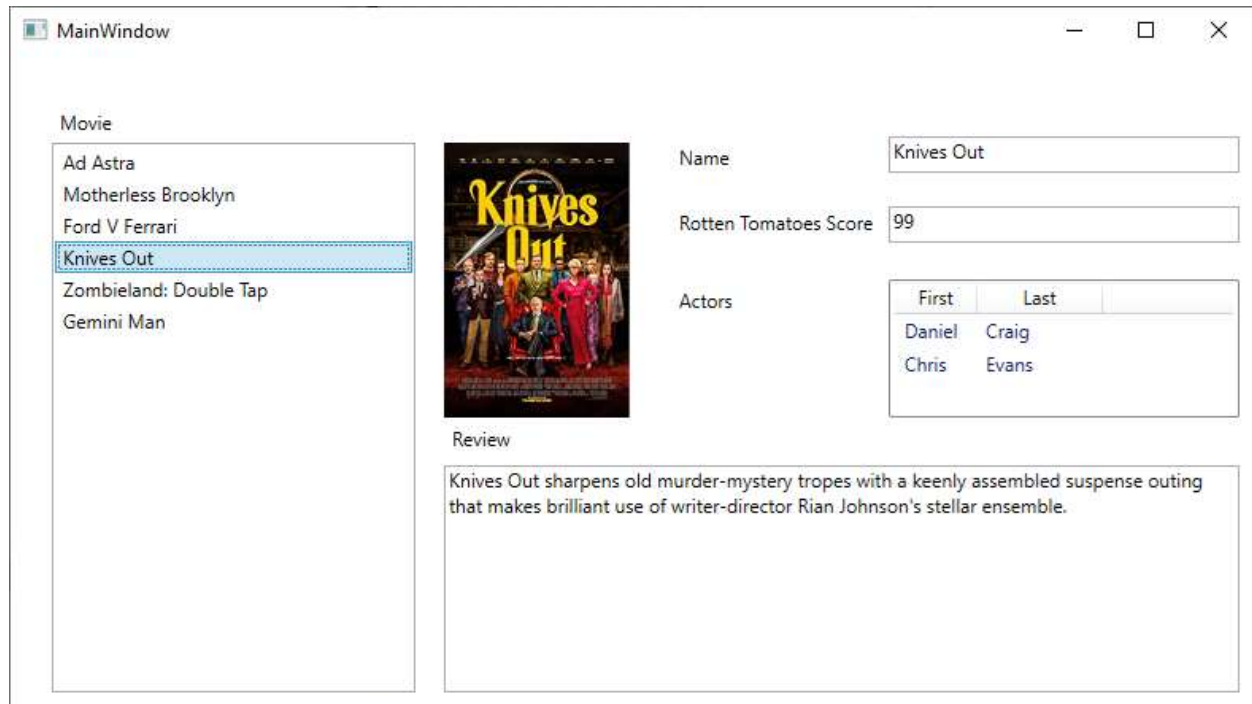
Create a new class called Actor. It should have properties for first and last names.

Add a new property to the movies class to store the actors. It should have the data type List<Actor>.

Add a ListView that will display the actor's first and last names. The ListView should have columns for first and last names. You will need to show exactly two actors for each movie (helps with reading the data from the input file).

There is another version of the movie input file that contains the actor names (at bottom of this document).

Here is a screenshot of the window:



Part 9 – Update the application

Do the following:

- Add a menu that contains a File section with Open, Save As..., and Exit menu items. Add event handlers for when the menu items are selected. Open should use an OpenFileDialog to let the user select the input file. Save As... should use a SaveFileDialog to let the user choose the output file. Exit should just close the application.
- Change the title that appears in the title bar. It should be a combination of a meaningful application name and the currently open file. Whenever you open a file update the title so that it reflects the file that has been opened. For example:
"Movie Reviews – MovieReviewsWithPostersActors.txt"
- Add a suitable icon to the application.
- Make controls on the right and bottom edges stretch.

Here is a screenshot of the window:

Movie Reviews - MoviesWithPostersActors.txt

File

- Open...
- Save As...
- Exit


Motherless Brooklyn

Ford V Ferrari

Knives Out

Zombieland: Double Tap

Gemini Man



Name: Zombieland: Double Tap

Rotten Tomatoes Score: 68

Actors:

First	Last
Woody	Harrelson
Jesse	Eisenberg

Review

Zombieland: Double Tap makes up for a lack of fresh brains with an enjoyable reunion that recaptures the spirit of the original and adds a few fun twists.

Sample Movie Data File (NO PICS)

Ad Astra

84

Ad Astra takes a visually thrilling journey through the vast reaches of space while charting an ambitious course for the heart of the bond between parent and child.

Motherless Brooklyn

62

Motherless Brooklyn's imposing length requires patience, but strong performances and a unique perspective make this a mystery worth investigating.

Ford V Ferrari

88

Ford v Ferrari delivers all the polished auto action audiences will expect -- and balances it with enough gripping human drama to satisfy non-racing enthusiasts.

Knives Out

99

Knives Out sharpens old murder-mystery tropes with a keenly assembled suspense outing that makes brilliant use of writer-director Rian Johnson's stellar ensemble.

Zombieland: Double Tap

68

Zombieland: Double Tap makes up for a lack of fresh brains with an enjoyable reunion that recaptures the spirit of the original and adds a few fun twists.

Gemini Man

25

Gemini Man's impressive visuals are supported by some strong performances, but this sci-fi thriller is fatally undermined by a frustratingly subpar story.

Sample Movie Data File (WITH PICS)

Ad Astra

84

Ad Astra takes a visually thrilling journey through the vast reaches of space while charting an ambitious course for the heart of the bond between parent and child.

AdAstra.jpg

Motherless Brooklyn

62

Motherless Brooklyn's imposing length requires patience, but strong performances and a unique perspective make this a mystery worth investigating.

MotherlessBrooklyn.jpg

Ford V Ferrari

88

Ford v Ferrari delivers all the polished auto action audiences will expect -- and balances it with enough gripping human drama to satisfy non-racing enthusiasts.

FordVFerrari.jpg

Knives Out

99

Knives Out sharpens old murder-mystery tropes with a keenly assembled suspense outing that makes brilliant use of writer-director Rian Johnson's stellar ensemble.

KnivesOut.jpg

Zombieland: Double Tap

68

Zombieland: Double Tap makes up for a lack of fresh brains with an enjoyable reunion that recaptures the spirit of the original and adds a few fun twists.

ZombielandDoubleTap.jpg

Gemini Man

25

Gemini Man's impressive visuals are supported by some strong performances, but this sci-fi thriller is fatally undermined by a frustratingly subpar story.

GeminiMan.jpg

Sample Movie Data File (WITH PICS AND ACTORS)

Ad Astra

84

Ad Astra takes a visually thrilling journey through the vast reaches of space while charting an ambitious course for the heart of the bond between parent and child.

AdAstra.jpg

Brad

Pitt

Tommy Lee

Jones

Motherless Brooklyn

62

Motherless Brooklyn's imposing length requires patience, but strong performances and a unique perspective make this a mystery worth investigating.

MotherlessBrooklyn.jpg

Edward

Norton

Gugu

Mbatha-Raw

Ford V Ferrari

88

Ford v Ferrari delivers all the polished auto action audiences will expect -- and balances it with enough gripping human drama to satisfy non-racing enthusiasts.

FordVFerrari.jpg

Matt

Damon

Christan

Bale

Knives Out

99

Knives Out sharpens old murder-mystery tropes with a keenly assembled suspense outing that makes brilliant use of writer-director Rian Johnson's stellar ensemble.

KnivesOut.jpg

Daniel

Craig

Chris

Evans

Zombieland: Double Tap

68

Zombieland: Double Tap makes up for a lack of fresh brains with an enjoyable reunion that recaptures the spirit of the original and adds a few fun twists.

ZombielandDoubleTap.jpg

Woody

Harrelson

Jesse

Eisenberg

Gemini Man

25

Gemini Man's impressive visuals are supported by some strong performances, but this sci-fi thriller is fatally undermined by a frustratingly subpar story.

GeminiMan.jpg

Will

Smith

Mary Elizabeth

Winstead