INN570 2013 Week 7 Prac Exercises

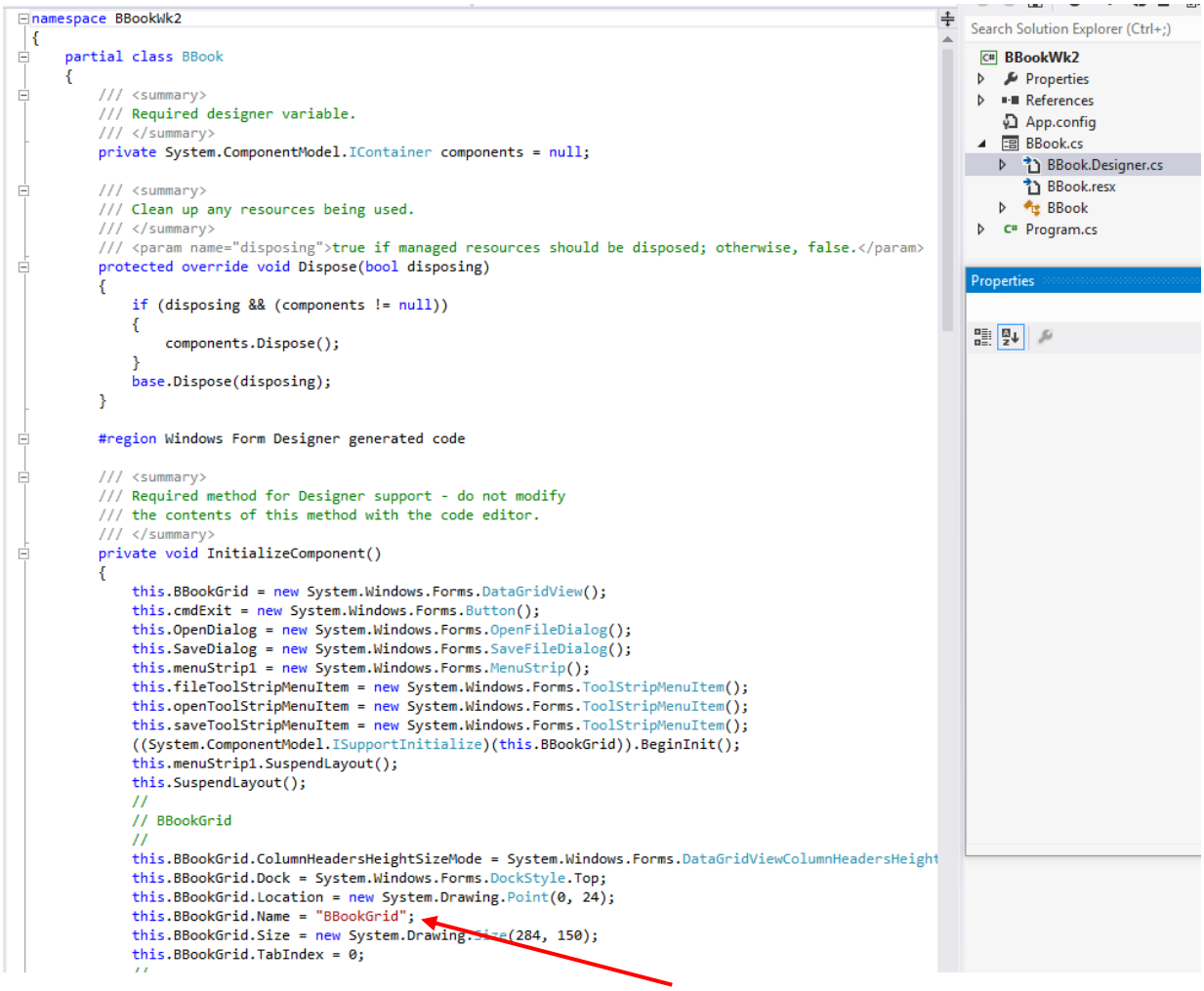
# Localization within Visual Studio .NET

In the first part of this exercise, you will continue with the work from last week, making minor extensions to the Birthday Book application. The objective of this practical exercise is to explore some localisation features in the Visual Studio.Net Integrated Development Environment.

In earlier versions of .NET, the Visual Studio designer would place generated code in a 'hidden section' in the form class. From VS2005 onwards, there is a separate file containing all of the relevant material. In our case, it is *BBook.Designer.cs*.

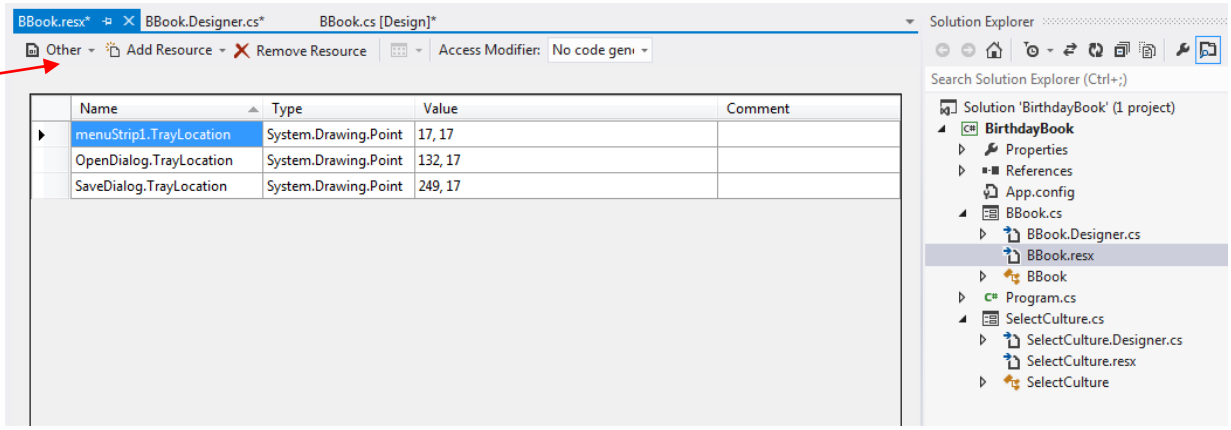
Look in the *Solution explorer*, open *BBook.cs*, you can find *BBook.Designer.cs*. Double click on *BBook.Designer.cs* to open up its corresponding code, then click on and open the method *InitializeCoponent( )* to observe how all the controls are given with properties defined in the *design view*, for example, the location and size of the *BBookGrid* as indicated in the following screenshot.

Move the *Exit Button* in the form in the Design view, and then observe what differences this makes to the location property of *cmdExit* in the method *InitializeCoponent( ).*



- ***Resource Files***

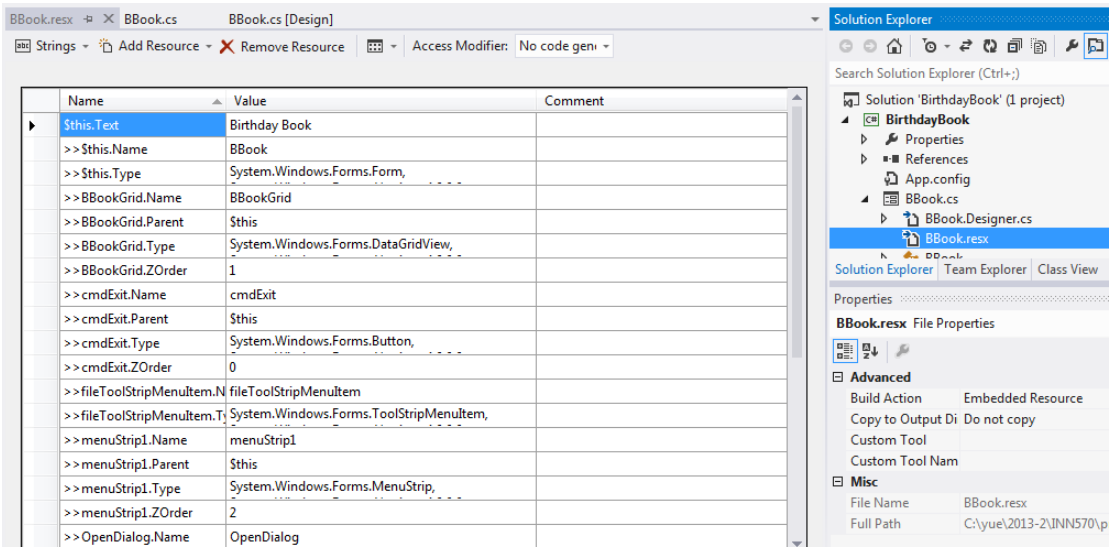
In the *Solution explorer*, associated with the main form classes, in our case, they are *BBook.cs* and *SelectCulture.cs*, you can find resources files, *BBook.resx and SelectCulture.resx.* Double click on the resource file, we shall see a table display, populated by properties associated with the controls in the form. There aren't very many at this stage. Look at the tabs available, and focus on "other" and on "Strings" as indicated in the screenshot as follows, and we see that the form uses only a very small set of resources.




- ***The Localizable property***

Each *form* has a *Localizable* property. Get into the *design view* and click on the form *Birthday Book* to open the *Properties Window*, then set the *Localizable* property for the form to be *true*.

Now look what has changed in the code and in the resource file as a result of this one small change. Click on *BBook.resx* to open it up, basically all the properties set up in the design view are now included in the resource as shown below.



- ***The Language property***

Each *form* has a *Language* property. Use the *Properties Window* to set this property for the form *Birthday Book* to be *German (Germany)*.

While the language is set to German, move the *Exit* button to the left hand side of the screen, and set the *Anchor* property the *Exit* button to anchor it to the left edge and bottom of the screen. Also alter the text property to read "*Beenden*". As soon as these changes are made, look closely at the resource files, and note the appearance of another resource file *BBook.de-DE.resx*. Double click on the resource file *BBook.de-DE.resx*, check the 'Other' and 'Strings' tabs.

Run the application, you will find that the English resource file *BBook.resx* is used to generate the form rather than the resource file *BBook.de-DE.resx*. In order to use the language of your choice, you need to set the locale.

- ***Setting the locale***

Double click on the form *Birthday Book* in the Design view to open its corresponding code *BBook.cs*. Alter the code as follows.

  - First, add two additional library references at the top of the file if they are not there.

```
using System.Globalization;
using System.Threading;
```

  - Then in the constructor `BBook()`, add the following statement just prior to the call to the `InitialiseComponent(`.

```
Thread.CurrentThread.CurrentUICulture = new CultureInfo("de-DE");
```

This statement effectively changes the user interface culture of your code to German, regardless of any defaults set by the operating system. Run the application and observe the output. The output should be in German no matter which culture has been chosen from the *SelecCulture* form.

What you should see is that the *CurrentUICulture* of the thread determines where the application will find resources when running the program. On the other hand, the Language property of the form in the design view will allow you to change your interface by adding more resources in different languages. The Language property of the form makes no difference to how the program runs.

- ***Avoiding a recompilation***

Open *Windows Explorer*, and find the directory where you built your solution. Run the application by double clicking on the executable file *BirthdayBook.exe*, which is in the *bin ->Debug* directory. You should get the German version.

Exit the program, and then rename the *de-DE* folder inside the *bin ->Debug* directory to be something else. Run the application again, and you should get the original English version.

Think about what must be happening here. You did not recompile, but the interface changed. What happens is that the program failed to find the German resources, and went back to using the default resource which is *BBook.resx*.

Now set the folder name back to *de-DE* before proceeding.

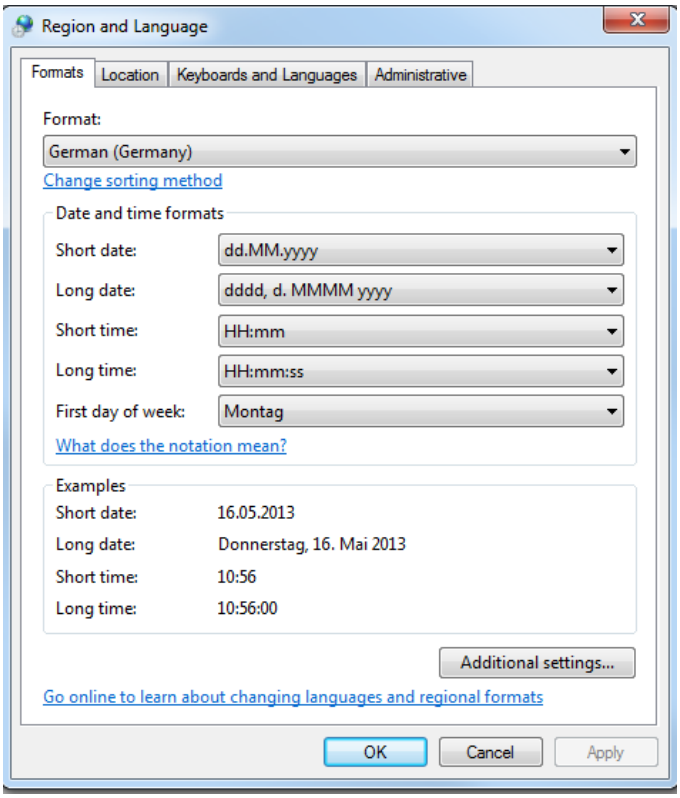
- ***Setting the default language of the system***

Remove from the constructor `BBook()` the following statement that sets the *CurrentUICulture* of the thread, which you have added before:

```
Thread.CurrentThread.CurrentUICulture = new CultureInfo("de-DE");
```

Now when you run the application without choosing a Culture, it will use the default UI culture of the system, which is English.

Usually we use the Regional Settings of the Control Panel from the Start Menu of Windows 7 or XP to change the system settings. Here, as an example, you can see we can set the locale for Formats to be German (Gernany) as showed below.




However, in this application, we use the *SelectCulture* form to set the locale for Formats. Now, run the application with the culture set to German (Gernany). But this is still not changing the *CurrentUICulture*.

The system actually maintains two variables; the *CurrentUICulture* for looking up resources, and the *CurrentCulture* for deciding on number and date formats. If you set the system locale for Formats to German, you still will not get the “Beenden” label on the exit button.

To solve this problem, now add the following code into the constructor `BBook()` prior to the call to the *InitialiseComponent()* method:

```
Thread.CurrentThread.CurrentUICulture =
                    Thread.CurrentThread.CurrentCulture;
```

This resets the culture to look up resources to be the same as the culture used for Formats. Now you will find your program looks up resources corresponding to the culture set from the *SelectCulture* form.