

T4 Coding Contest (version 1)

This coding contest is just what the title implies 'A Coding Contest'. The objective of this contest is to write real world code in the best possible way. Points will be given for things such as technic, optimization, readability, documentation and maintainability to name a few. Show us your BEST code.

The Task

One of the things that has struck me over the years of teaching ASP.NET is the large number of things that could and should be strong typed. One of these things is access to data in the resource files used to globalize a web application. Yet, if you are familiar with writing Windows and even console applications you know that Visual Studio somehow converts simple resource files into classed properties.

For example, included in the supporting solution files is a console project 'Console Application Resource Demo' that contains a resource for 'Text.resx'. In this file is the string resource HelloWorld. If you review the console applications main method you will see that the resource is accessed using the following class property call.

```
Resources.Text.HelloWorld
```

What you don't see is that behind the scenes Visual Studio has built a strongly-typed resource class for looking up localized strings (Hint: Reference Text.Designer.cs).

For this code contest you will build a T4 template named Resources that will reside in the App_Code folder of the website. The template will scan the root folder and all subfolders for App_LocalResources folder. From these folders it will identify all of the default resource files (no language-culture in name). From these XML files it will generate a class with its name based on the resource file name in a name space based on the folder location and resource file name. In the class will be a property defined for each resource named. The resulting code will be placed in the resulting Resources.cs file.

For example, if you look at the base website project provided to you as a starting point you will notice in the root default page load code for accessing a global resource. Like in the console application Visual Studio has also generated this code. In particular, we want to access the 'Report' resource in the Web.sitemap.resx file. The class property call for this is as follows.

```
Resources.Web.sitemap.Report
```

Visual Studio has created a hidden class similar to the way it creates a hidden class for Profile in which the name space Resources.Web has been defined with the class sitemap and property Report. You will have to take this one step further by including the folder directory to prevent confusion. So for the resource ReportHeader.Text in the file Default.aspx.resx in the resource folder of the Reports folder you would define a name space of Resource.Reports.Default for the class aspx containing the property ReportHeader.Text.

What exactly are we looking for when judging?

You will be judged technic, optimization, readability, documentation and maintainability.

Technic... Consider use of the .NET framework, Visual Studio tool, patterns and code formatting.

Optimization... This is not just about speed but also duplication of code and code reuse.

Readability... Things like accepted naming .NET conventions and comments.

Documentation... This is going to be published as a consumable application. As such you should think shrink wrapped. A user manual/summary would prove useful along with in code documentation (both `//` and `///`).

Maintainability... Did you run code metrics? Remember you are writing two pieces of code. The T4 template and the resulting class code.

This example is meant to be very real world and as such I plan on taking the resulting code in combination with each authors input and credit to be published for the Tulsa Users Group. This is not as easy as it may appear as you will soon see when looking at code that writes code. But the real world aspect of the project is also meant to make this a useful learning exercise. You will also find it useful to look at tools like Tangible T4 Editor (<http://t4-editor.tangible-engineering.com/T4-Editor-Visual-T4-Editing.html>) which provides debugging and the DevArt T4 Editor (<http://www.devart.com/t4-editor/>).