Add the Map to a Form

The intention of these short tutorial segments is to allow a novice user to get off the ground with the most basic mapping application. The intended target is someone that needs to use the map in a custom way, but isn't a master of C# yet, and maybe just needs some starting pointers on how to do the most basic things with the map.

The first step is to create a new C# project. From visual studio's file menu, click on *File*, *New* and *Project* shown in Figure 1.

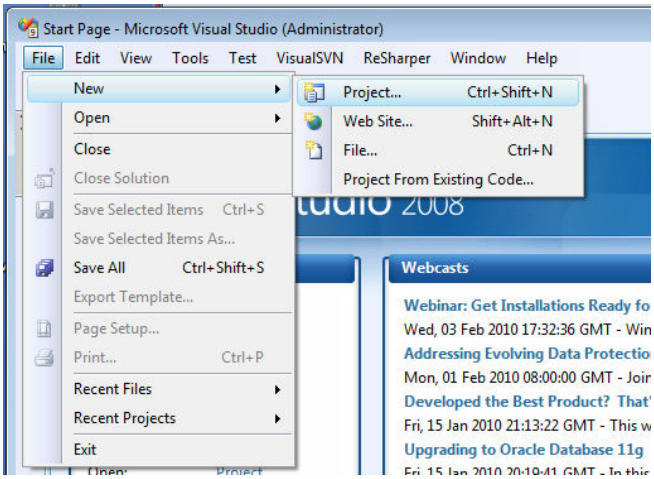

Figure 1: New Project Menu Item

Then, using the dialog, simply choose a name for your project. It should be a Windows Forms Application. The name of the project in this example is MapFundamentals, and is shown in the New Project dialog in Figure 2.

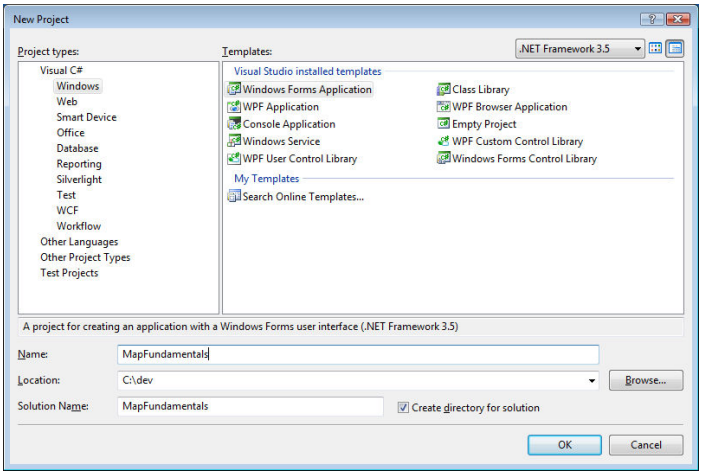

Figure 2: Name the Project

When the project opens, the first view should be of a blank form. The trick is that you as a developer can customize this form by adding buttons or other specialized controls. You have complete control of the appearance of your project, and the MapWindow components are designed to give you the same flexibility that you are comfortable with. In order to expose the MapWindow controls, you should first create a new tab in order to organize the tools that will appear, since several controls will become available. Figure 3 shows the Add Tab context menu item.

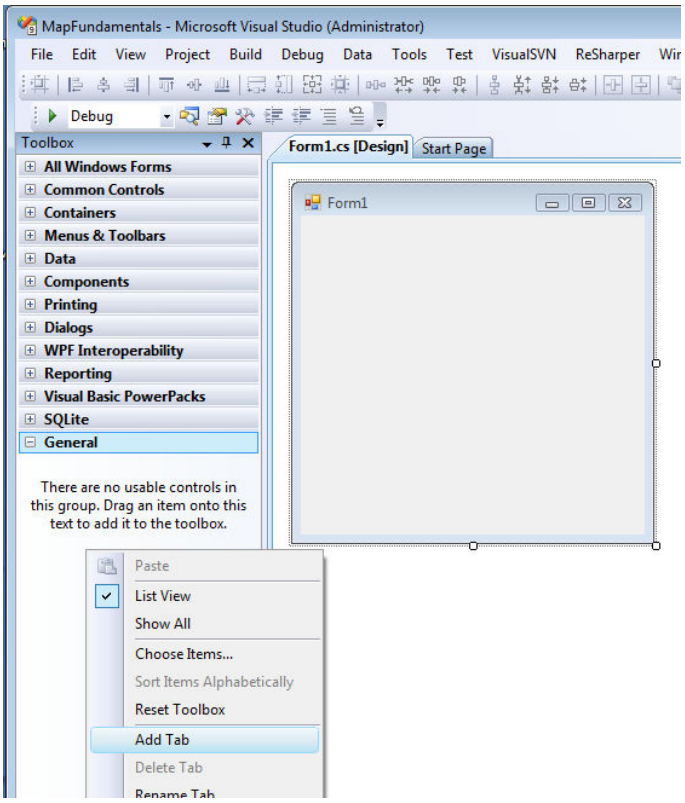

Figure 3: Add MapWindow Tab

The next step is to actually add the controls using the ChooseItems concept. This can be accomplished by selecting the choose items option after right clicking anywhere under the mapwindow tab in the toolbox. Figure 4 shows the Choose Items context menu option.

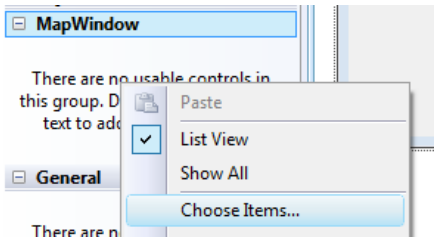

Figure 4: Choose Items

When the dialog in shown in Figure 5 appears, you can use the browse button in order to navigate to the MapWindow.dll file.

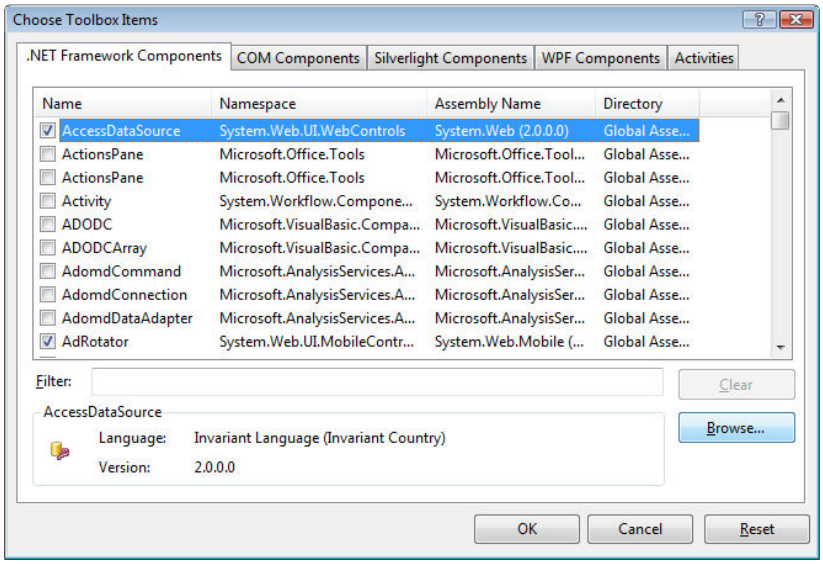

Figure 5: Choose Items Dialog

In this example, we are using the version of the dll found in the release folder that corresponds to the release folder of the codeplex svn repository. Figure 6 shows the location of the MapWindow.dll file under the release folder. Click on ok on both the open file dialog and the Choose Toolbox Items dialog.

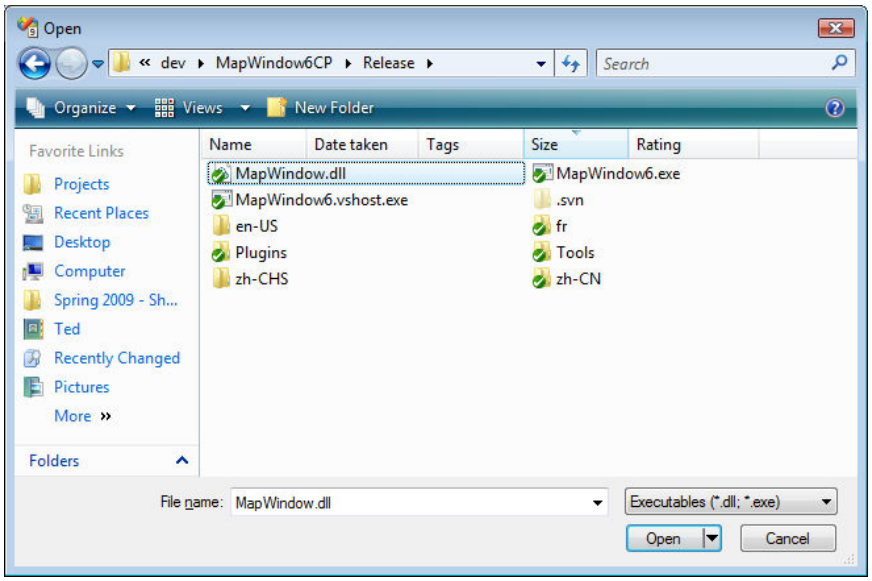

Figure 6: MapWindow.dll

The next step is to actually drag the map onto the form. Since you will have revealed several new components, the map will be one among many, and for reasons that escape me, not necessarily even in alphabetical order. Figure 7 shows the map in the toolbox and illustrates a drag motion to add it to the form. You can resize the map once it appears.

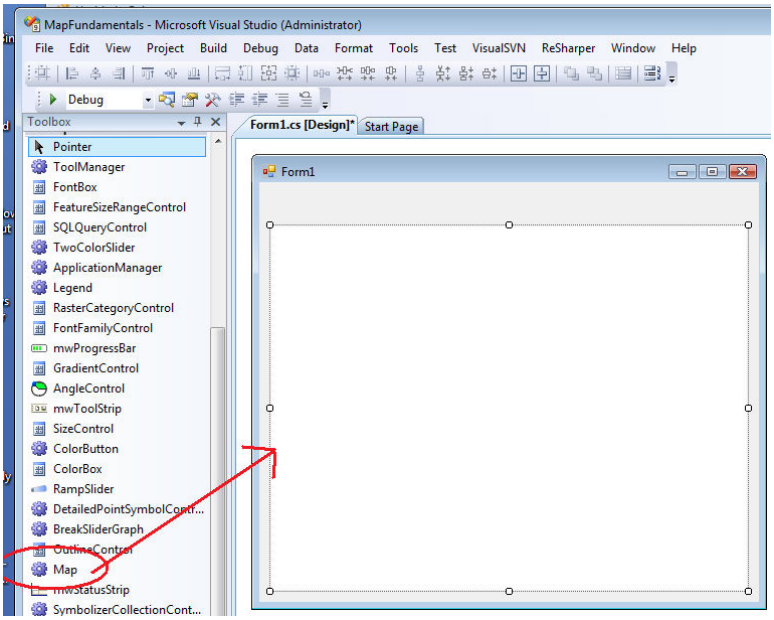

Figure 7: Drag the Map

Because we didn't add this map to any kind of panel or container, we don't want it to occupy the entire form, but it should resize if we resize the form. To allow that, we will take advantage of the anchoring, using anchors in all four directions. Figure 8 shows setting the *Anchor* property in the Properties window.

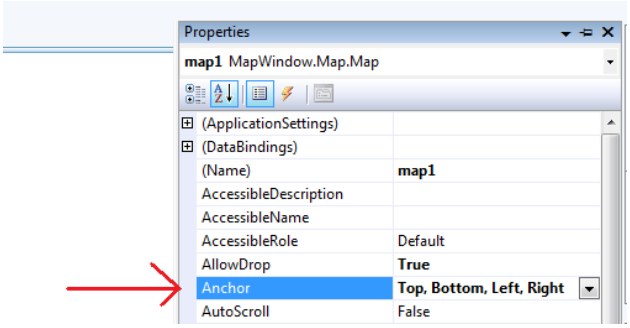

Figure 8: Anchor Top, Bottom, Left, Right

To flesh out this simple example layout, we can add a button, just to allow the map to share space on the form with something else. For now the button will not actually do anything yet. Figure 9 shows the button on the form after it has been dragged in place from the All Windows Forms tab in the toolbox.

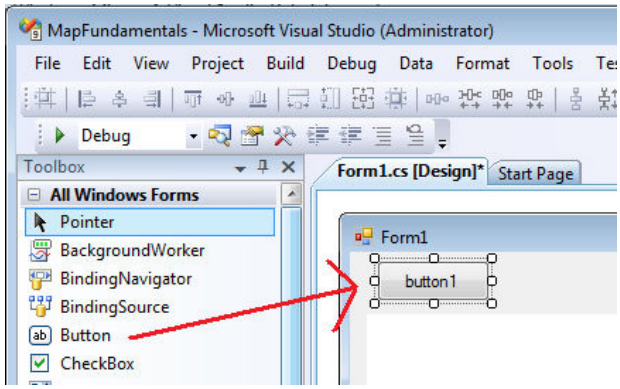

Figure 9: Add Button1

So as of this point, we haven't written a single line of code, but we can demonstrate that the project runs by pressing the green play button. Figure 10 shows the button to press in order to run the project in debug mode.

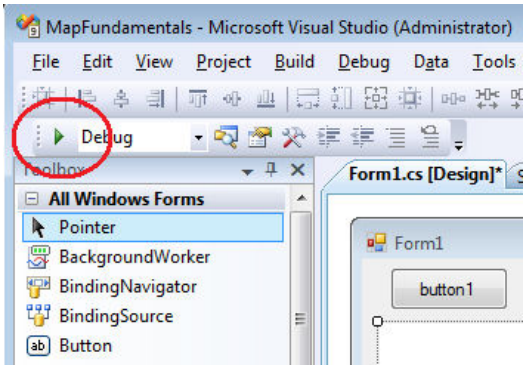

Figure 10: Run project

At first appearance, the map is a rather unexciting white box, as illustrated in Figure 11.

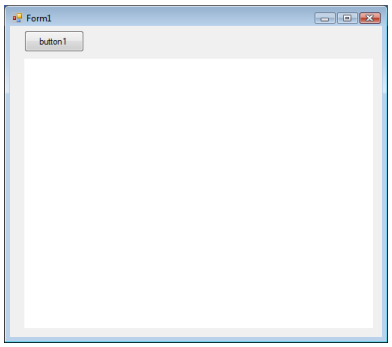

Figure 11: Unexciting white box

However, the white box suddenly gets more exciting if you drag a data file, for instance a .shp file onto the box. This dragging can be done from Windows Explorer as illustrated in Figure 12.

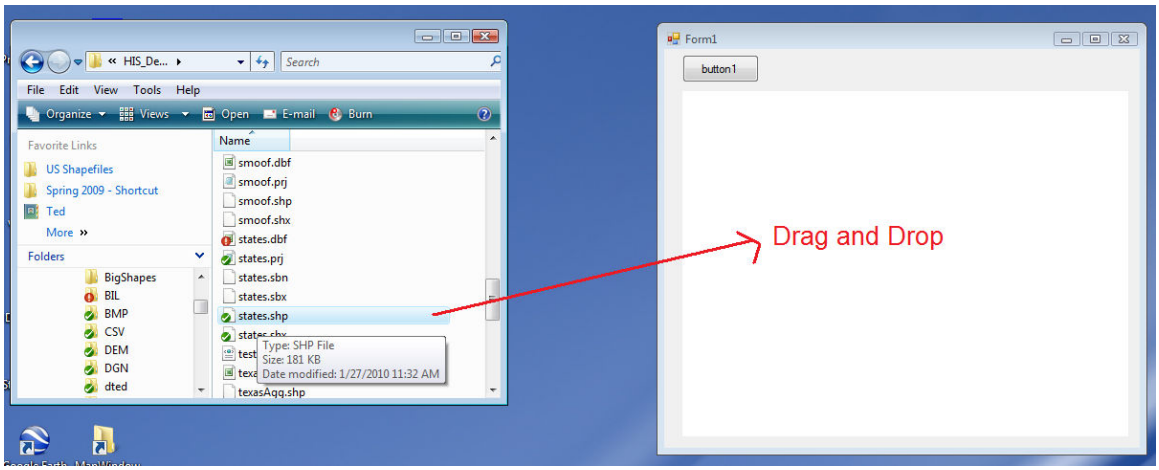

Figure 12: Drag and drop a file to the map

The result is a white box with the actual shapefiles drawn to it already. No code required! Figure 13 shows the map with the data visible as it appears when you first open the shapefile.

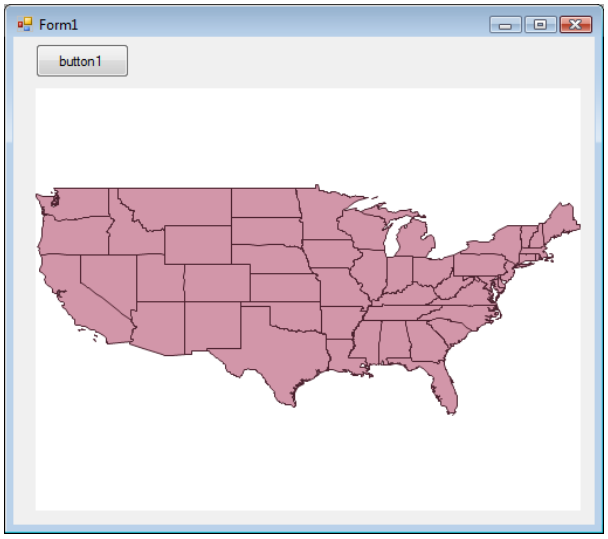

Figure 13: Map with data

Even at this early stage, without controlling anything, we have already enabled the map to display content, and completely without any additional toolstrips or legends.

In addition, the pan and scroll zoom features already work and are active. Figure 14 illustrates the map after we have zoomed in with the scroll wheel and panned to the New England area.

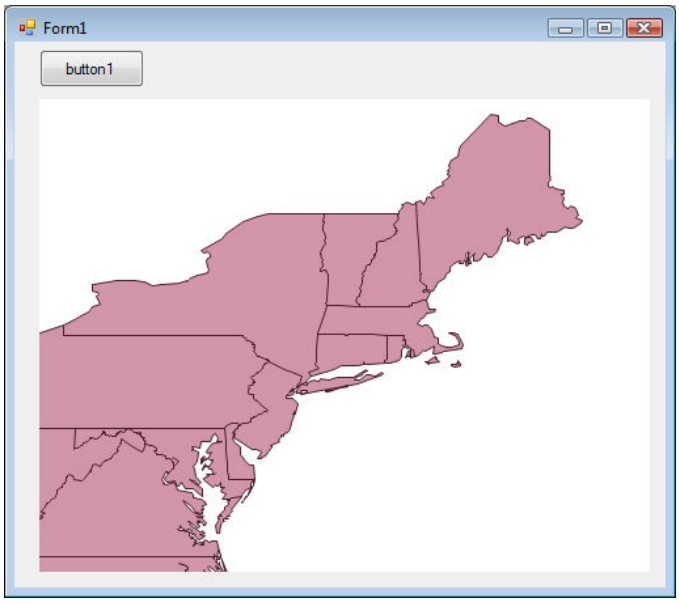

Figure 14: Zoomed Map