Re Amy's Flex Frequently Asked Questions

Q (1):   I want to use an XML data source to dynamically display images and data in my Flex application. I won't know how many images/data points I will have at design time. How can I best approach this?

A: Depending on what you're wanting to do, you can either use a Repeater with an Image or custom component that contains an Image or you can use a List based component to display an Image or custom component with an Image (or SwfLoader, or Loader) in it. The Help is full of resources on this subject. Here are some places you may want to try:

Help>Flex Start Page>Creating a Simple RIA
Help>Help Contents>User Interfaces
     - Using Data Providers and Collections
     - Controls
       - Image
       - SwfLoader
     - Using Data Driven Controls
     - Using Item Renderers and Item Editors
     - Dynamically Repeating Controls and Containers

Here is an example that might get you running fast if you find it easier to learn from a working example than from Help files:
http://examples.adobe.com/flex2/inproduct/sdk/photoviewer/PhotoViewer.html

Q (2):   I've created a custom itemRenderer component to use in a List based component (Datagrid, TileList, HorizontalList, etc.). When my List first displays, everything looks fine, but when I scroll it or change the dataProvider, some of the itemRenderers show values or formatting that aren't right. How do I fix this?

A: List-based components don't draw a renderer for every item in the dataProvider. Instead, they create enough to display what is on screen now, plus one or two more waiting in the wings.   This means they recycle the renderers rather than creating new ones when you change dataProvider or scroll up and down. When you use a creationComplete event to set up the itemRenderer, that event doesn't happen again when the renderer is used for a different set of data. The solution to this is to override the set data protected function that most components have.

For more information, check out the following resources:
http://www.adobe.com/devnet/flex/articles/itemrenderers_pt1.html?devcon=f1
http://blogs.adobe.com/aharui/2007/03/thinking_about_item_renderers_1.html

Q (3):   I want to run a function in my main application from inside my custom component. But when I try to refer to myFunction() in that component, I get a compile time error Call to a possibly undefined function myFunction. How can I fix this?

A: Your component has its own scope, so it doesn't know anything about the functions in the main file. You can get around this by directly referencing the main application scope like this: Application.application.myFunction(). However, this makes your component tightly coupled, which is a quick way of saying that

your component is only usable in an application that has a myFunction() function in it. You're better off dispatching an event from your component and letting the application decide how to handle it. For more information, check out the following resources:
http://www.adobe.com/devnet/flex/articles/loose_coupling.html
http://www.adobe.com/devnet/flex/articles/graduating_pt1.html

Q (4): I want to decide at runtime what kind of component to add to display my data. How can I accomplish this?

A: Use getDefinitionByName and ClassFactory to dynamically create your class. Just be sure that you actually have at least one "hard" reference to each class you intend to use, or the class might not get compiled into your swf. Here's a full write-up of how to do that:
http://www.paulofierro.com/archives/520/

Q (5): I need to set a property or add an event listener on a component that is in a ViewStack/TabNavigator/Accordion. When the component is not the first child of the Navigator Container, I get a null object error (#1009). What causes this, and how can I fix it?

A: By default, the Navigator containers only create the children of each pane as that pane is viewed. The easy way to fix this is to set the creationPolicy on the Navigator to "all." However, this will cause your application to take longer to load. A better way to fix this is to wait for a later event, such as creationComplete on the component you want to access, or to use binding to "pull" the data into the component.
The way I handle it is to call `invalidateProperties()` on change of the ViewStack. I then override `commitProperties()` and call an "initializer" for each pane. In the body of each initializer function, I check to see if the selectedItem for the viewStack is the one my initalizer cares about. If not, I return from the function immediately. Inside that initializer function, I set properties and add listeners as appropriate.

Q (6): When my application is taller than the browser window, I get scrollbars in the application. I want the browser to do the scrolling. How can I do this?

A: In the html-template/index.template.html file change line 46 (in the Flex 3 template) to read `<body scroll="auto">` instead of the default of `<body scroll="no">`.

Q (7): I am using URLRequest, HTTPRequest, or HTTPService to retrieve information from a database on a server. The first time my application makes a server call, it works fine. But when I call the same page again, I get the same data, even though I know the data has changed on the server. Is this a bug?

A: The browser has cached the response it got from the first call you made to the page. This means that you need to either change how you are calling the page so it appears to be a new request, or you need to change the page itself so that it won't be cached.

To change how you are calling the page, append a unique value to the end of the

URL. For example, `new URLRequest('yourPage.asp?param="+(new Date()).getTime)`.

If you want to change the page itself, you need to change the response headers. The method for changing the response headers will vary from language to language. For more on this see:

Q (8): I am using Modules in my Application. When I load the first Module, everything works fine. But when I load the second one, I get a Type Coercion Error failed error #1034 that looks something like TypeError: Error #1034: Type Coercion failed: cannot convert com.myDomain.package::SingletonClass@fce9a89 to com.myDomain.package::SingletonClass or TypeError: Error #1034: Type Coercion failed: cannot convert mx.managers::HistoryManagerImpl@22346589 to mx.managers.IHistoryManager. How do I fix this?

A: When you reference a singleton class, either a custom singleton or one of the managers in Flex, into a Module, if this is not loaded in the Application domain, it will load into the child domain of the first Module to load and other Modules will not be able to see it. To prevent this, either directly load your class into the main Application before loading any Module, or use a Runtime Shared Library with the class included.

For more on this, see Alex Harui's presentation on Modules from Flex 360 http://blogs.adobe.com/aharui/2007/03/modules.html (slides 19, 24-31).

Not sure what a Singleton is? Check out http://www.adobe.com/cfusion/communityengine/index.cfm?event=showdetails&postId=262&productId=2

Q (9): I'm using a Repeater to lay out the right number of components on the screen for me based on a data source. I'm trying to set up the id for each component dynamically like this:

```
<mx:Repeater id="myRepeater" dataProvider="mySource">
     <mx:Button id="{'myButton'+myRepeater.currentIndex}"
label="{myRepeater.currentItem.label}"  />
</mx:Repeater>
```

When I try to run the file, I get a compiler error '{'myButton'+myRepeater.currentIndex}' is not a valid identifier.

I need to be able to reference each of the repeated components. How can I do this?

A: If you give the component an ordinary id like this:
```
<mx:Button id="myButton"
label="{myRepeater.currentItem.label}"  />
```
Flex will create an Array for you called myButton that contains a reference to each component the repeater created. For more information, see **Referencing Repeated Components** here:
http://livedocs.adobe.com/flex/3/html/help.html?content=repeater_3.html

Q (10): I have several components with the ID's "component1", "component2", "component3", and I want to be able to create a string that contains the name of the component so I can change a property on that component. How can I do that?

A: You can refer to any subproperty of an object with a string by naming the object and then using the string inside brackets. In this case, you just need to figure out what parent to use, and you can get it working. Most of the time that you are doing this, the component is in the local scope, so the parent will be "this". So, to change the width of component1, you can use
```
this['component1'].width=100.
```

Q (11): I want to be able to change the icons on my buttons, tree, or AdvancedDataGrid dynamically, using external assets. How do I do this?

A: The problem with icons in Flex Builder is that they need to be built from a class file, as discussed here http://blog.xsive.co.nz/archives/233.
Here are two fixes that may work for you:
http://blog.benstucki.net/?p=42
http://blog.xsive.co.nz/archives/234

Q (12): Where can I find examples of Flex code to look at and/or use?

A: http://code.google.com/p/flexlib/wiki/ComponentList
http://blog.flexexamples.com
http://www.cflex.net
http://www.quietlyscheming.com/blog
http://flexbox.mrinalwadhwa.com/
http://blogs.adobe.com/aharui/
http://www.adobe.com/cfusion/communityengine/index.cfm?event=homepage&productId=2
http://blogs.adobe.com/flexdoc/

Q (13): I want to set the itemRenderer for my DataGrid, List, HorizontalList, etc. in ActionScript instead of MXML. How can I do this?

A: When you set the itemRenderer in MXML, Flex creates a ClassFactory for you under the hood. To set the itemRenderer through code, you have to create the ClassFactory yourself, like this:
```
myDataGrid.itemRenderer = new ClassFactory(myRendererClass)
```
For more about this, see
http://blog.flashgen.com/components/implementation/flex/itemrendering-pt1/

If you need to set properties on your renderer before you use it, make sure to

implement IFactory.

Not sure why you'd want to set properties on your itemRenderer? Check out this link:
http://www.returnundefined.com/2006/11/creating-truly-reusable-renderers-with-classfactory

Q (14): I have the following XML

```
myXML:XML =
<salesData>
      <saleDate month="January">
            <sales>
                  <salesPerson>John Smith</salesPerson>
                  <salesAmount>900</salesAmount>
            </sales>
            <sales>
                  <salesPerson>Mary Jones</salesPerson>
                  <salesAmount>300</salesAmount>
            </sales>
      </saleDate>
      <saleDate month="February">
            <sales>
                  <salesPerson>John Smith</salesPerson>
                  <salesAmount>600</salesAmount>
            </sales>
            <sales>
                  <salesPerson>Mary Jones</salesPerson>
                  <salesAmount>400</salesAmount>
            </sales>
      </saleDate>
      <saleDate month="March">
            <sales>
                  <salesPerson>John Smith</salesPerson>
                  <salesAmount>600</salesAmount>
            </sales>
            <sales>
                  <salesPerson>Mary Jones</salesPerson>
                  <salesAmount>700</salesAmount>
            </sales>
      </saleDate>
</salesData>
```

When I try to set an XMLList variable to `myXML.salesData.saleDate`, the variable is empty, even though when I trace `myXML.toXMLString()` I can clearly see that it contains the information I want. What's the problem?

A: Your `myXML` variable *is* the entirety of the XML you assigned to it. So, in essence, the root node, `salseData`, is the same thing as `myXML`. Since `salesData` does not contain a `salesData` node, that is why your XMLList is empty. Try using `myXML.saleDate`.

Q (15): I'm using a HTTPService (or Remote Object, WebService, or URLLoader) to get information from my database. My code looks like this:

```
private var myVar:Array;
public function getObject(value:String):Array{
    params.objectID = value;
    service = new HTTPService();
    service.url = "http://www.myserver.com/getObject.php";
    service.method = "POST";
    service.addEventListener("result", resultHandler);
    service.send(params)
    return myVar;
}
public function resultHandler(event:ResultEvent):void{
    myVar=event.result as Array;
}
```

This isn't working. How do I get access to the service result to return it from my function?

A: The short answer is, you can't. What I mean by that is that when you call the remote service, the program will continue executing until the result handler fires. So the `return` line of the `getObject` function has already executed when the resultHandler function is invoked. To get around this, you can do one of two things:

(1) Use bindings and a bindable object like ArrayCollection to handle whatever should happen when the result is returned. You'd return a new ArrayCollection from `getObject` and then set its source in the result handler. Because it is still the same object, when the source changes, the bindings will fire and anything that refers to the ArrayCollection will get updated automatically.

(2) Slightly restructure your program so that anything that needs to be set with the value from the result is set from the result handler or something that you know will be called after the result handler. For instance, if you called `invalidateProperties()` from the result handler, you could be sure that `commitProperties()` will be called at some point after that.

Q (16): Why can't you use Arrays for binding expressions?

A: When you make a variable bindable, Flex writes code for you that compares the old value of the variable to the new value. If that value has changed, it will fire the "dataChange" event for you. When you add or remove elements from an Array or change the value of one of those elements, the Array itself is still the same, so when Flex checks the old value of the Array against the new value of the Array, it doesn't see a difference and doesn't fire the "dataChange" event. The ArrayCollection *will* fire the events when you use setItemAt() or itemUpdated(). For more information about the "guts" of how data binding works, check out http://link.brightcove.com/services/player/bcpid1733261879?bclid=1729365228&bctid=1741212660

Q (17): I want to apply affects and rotation to my Flex component, so I've embedded the font I'm using. This works great for most of the text, but the effects and rotation aren't working on my Button text. Why not?

A: Buttons use a bold font weight by default. When you embed a font family, it only includes the font weight you specify. To solve this, embed the bold version under a different font family name or set the font weight on your buttons to normal.

Courtesy of Amy's Flex Diary.

The most recent version of this FAQ can always be found at
http://www.magnoliamultimedia.com/flex_examples/Amys_Flex_FAQ.pdf