

Building a bar chart in Flash – part 1

I get a lot of queries from people about how to create charts in Flash. Flash MX shipped with some chart components and there are a number of commercial products available that can help you make charts. However, if you need to make a simple chart, you can quite easily write your own. That's the topic for this tutorial.

In this tutorial, I'll show you how to create your own reusable BarChart class. We'll draw the axes and bars with the drawing API. We'll allow users of the class to create it with default values and labels or set their own. We'll also allow people to add their own title and bar colour. If you're not familiar with the drawing API, I won't cover it in detail here so if you need a refresher, check out the Drawing with Flash article.

This is the first tutorial in a two part series, so I'll say right at the front that you'll need to complete both tutorials before you have a finished chart. By the end of the first part, we'll have set up the class file created the x and y axis and title for the chart but you won't see a completed chart until you finish part 2.

Using an AS2.0 class to create the chart means that we can create a "black box" for the code. Anyone using the class only needs to know the a few public methods to create the chart. In fact, when we finish this tutorial, we'll only be using two lines of ActionScript in the Flash file.

This tutorial assumes that you have at least Flash MX 2004 and that you're familiar with writing ActionScript. You won't be able to complete the tutorial with an earlier version of Flash. If you've had some exposure to classes that would help, but it isn't absolutely necessary.

You can download the completed files for the tutorial from the blue Properties box that contains the article PDF. There's a heading titled Code Download and you can click the Details link next to it to get the zip file.

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Planning the chart

Before we get started, we'll need to do some planning to figure out how the chart will work. The user will supply some values and labels and we'll generate the bar shapes. We will need to figure out which is the maximum value and calculate the scale accordingly. We'll allow the user to add a chart title and select a colour for the bars.

We'll need to use the drawing API to create the axes and to generate the bars for the chart. We'll use a preset colour unless the user specifies a colour.

Because we're going to create an AS2.0 class for the bar chart, we'll need to think about the datatypes of our inputs and the public methods (functions) that the user should be able to call. To start with, because we're dealing with list data for the values and labels, they should be received as an array of numbers (for the values) and an array of strings (for the labels). The title will be a string and the colour will be a hexadecimal number.

The user will start by creating a bar chart object within an existing movie clip. When they create the object, it will be initialised with some default values. They can choose to set the values, labels, title and colour for the bars. If they don't set any of these things, default values will be used. To make life a little simpler, we'll create the chart at a preset size of 300 x 300.

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