Designing and Building Web Experiences in Flash CS4

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Adobe

Flash Player 10

Adobe

Native 3D Support

Four new properties have been added to DisplayObjects:

- DisplayObject.rotationX
- DisplayObject.rotationY
- DisplayObject.rotationZ
- DisplayObject.z

3D is fully interactive but there is no automatic Z sorting. Not meant to replace engines like Papervision3D, Away3D, and Sandy.

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Advanced Text Engine

The new engine provides a low level framework that supports complex scripts, along with improved text flow capabilities.

Adobe will release a series of advanced text components which will enable features like:

- RTL text layout
- Animation and anti-aliasing of device fonts
- Vertical text layout
- Multi-column text with flow
- Mulit-language text layout

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Visual Performance

Flash Player 10 uses the graphics processor (GPU) on the video card to accelerate image compositing and video decoding.

- New WMODES for enabling HW acceleration
- Software rendering as fallback
- Large performance increases over SW rendering

Will accelerate video decoding and compositing processes such as blending, filtering and blitting operations.

Adobe

New Drawing API

Expands and extends the current drawing API to allow for read/write rendering, 2.5D features, memory improvements, and performance improvements.

New features include:

- 3D triangle meshes (low-level render access)
- Bitmap and gradient strokes
- Re-style drawing elements without re-drawing
- Bitmap fills using UV coordinates

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Dynamic Sound Generation

The Sound class has been extended to allow dynamic audio generation and processing.

- Event.SAMPLE_DATA
- Sound.extract()
- Extracted data can be processed using Pixel Bender*

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Local File Access

Provides ActionScript developers with a simple, intuitive and secure way to load local files (of the user's choosing) and save files via a mechanism similar to the browser's download process.

Uses three new methods of the FileReference class:

- FileReference.getData()
- FileReference.load()
- FileReference.save()

No more round trips to the server needed. Users interaction is required though.

Adobe

Additional Features

- Loader.unloadAndStop()
- Partial fullscreen keyboard support
- New Vector datatype (typed arrays)
- Multi-bitrate video streaming*
- Speex audio codec
- Lots of bug fixes, performance increases, and API tweaks

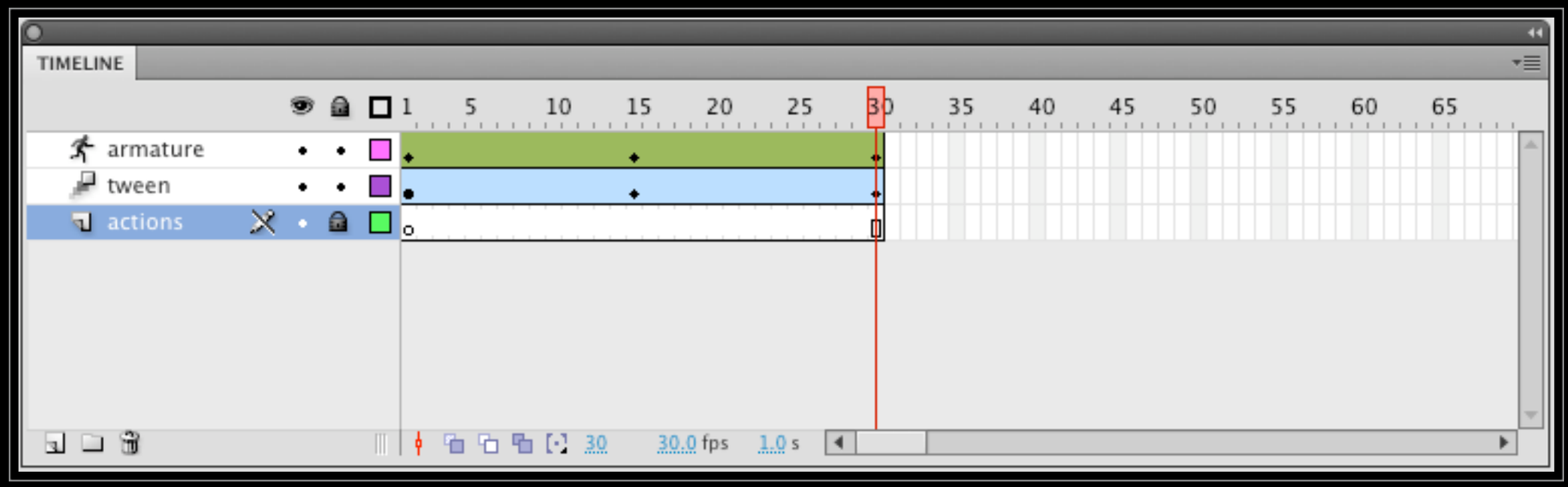
Adobe

Flash CS4

Adobe

New Timeline

Brand new timeline and animation engine. There are also new layer types for things like inverse kinematics (IK). By far the biggest addition to CS4.



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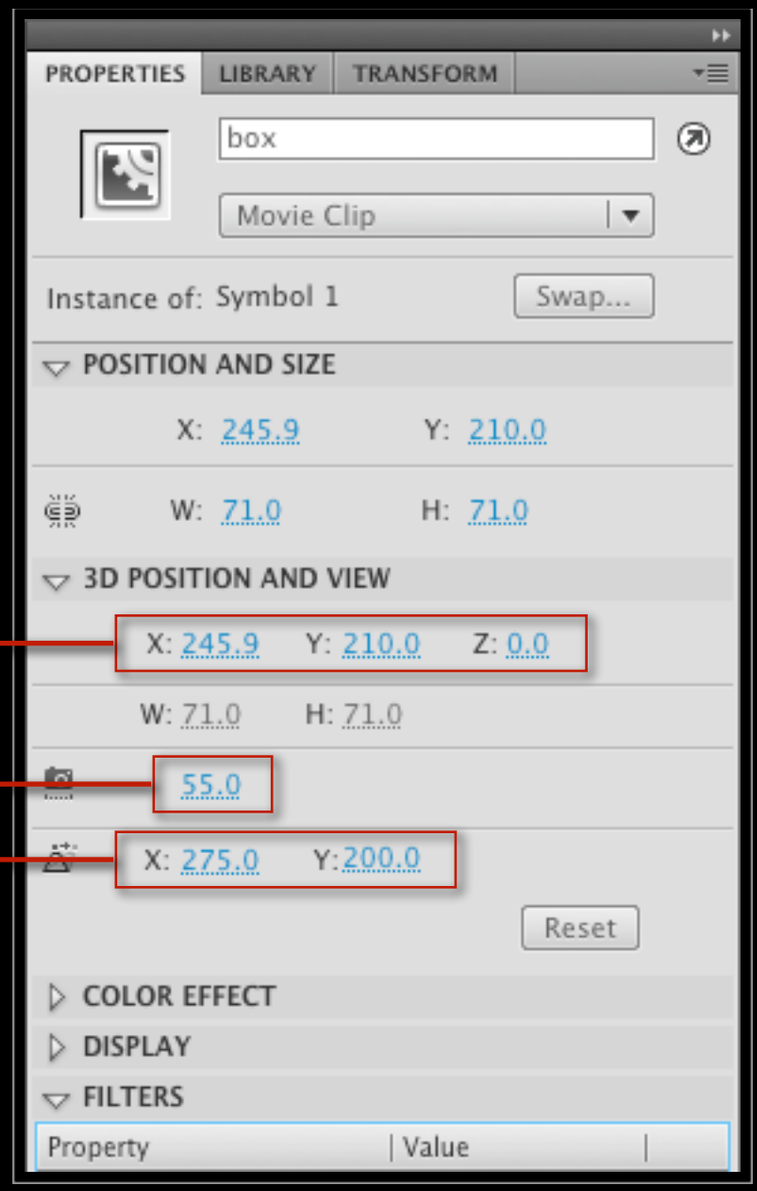
Properties Panel

New vertical layout to accommodate the large number of new properties added in CS4 like inverse kinematics and 3D.



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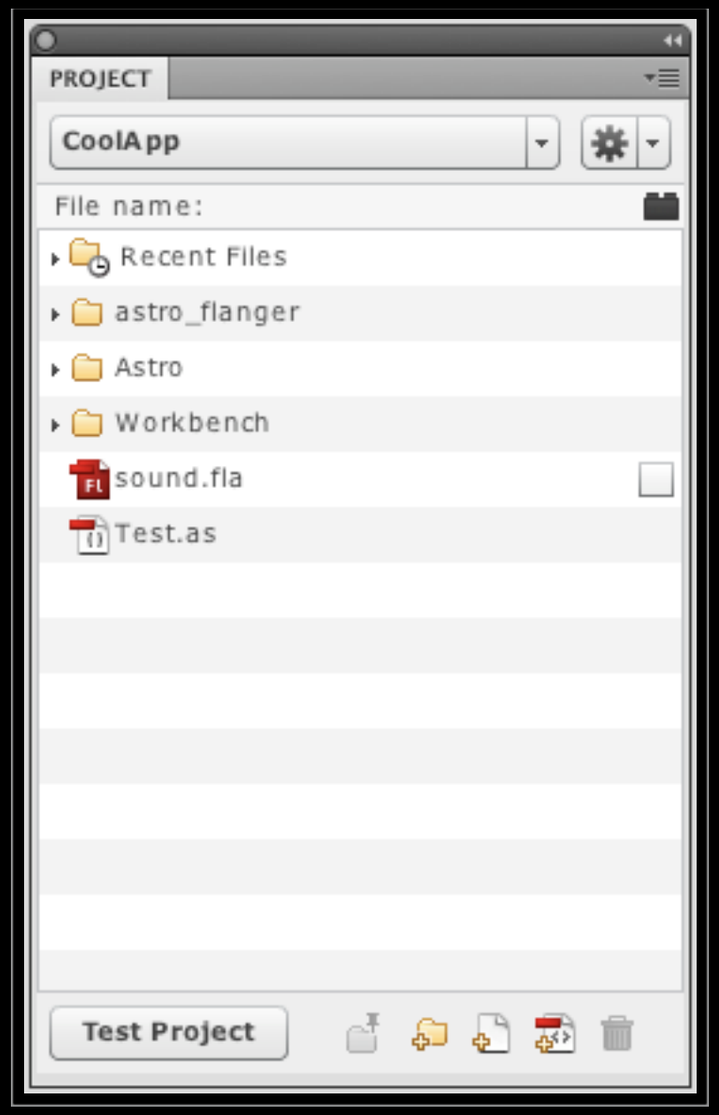
Project Panel

Adobe purchased gProject from Grant Skinner and included it with CS4.

- Built entirely in Flex
- Host of advanced options
- Ability to generate class files
- No JSFL support



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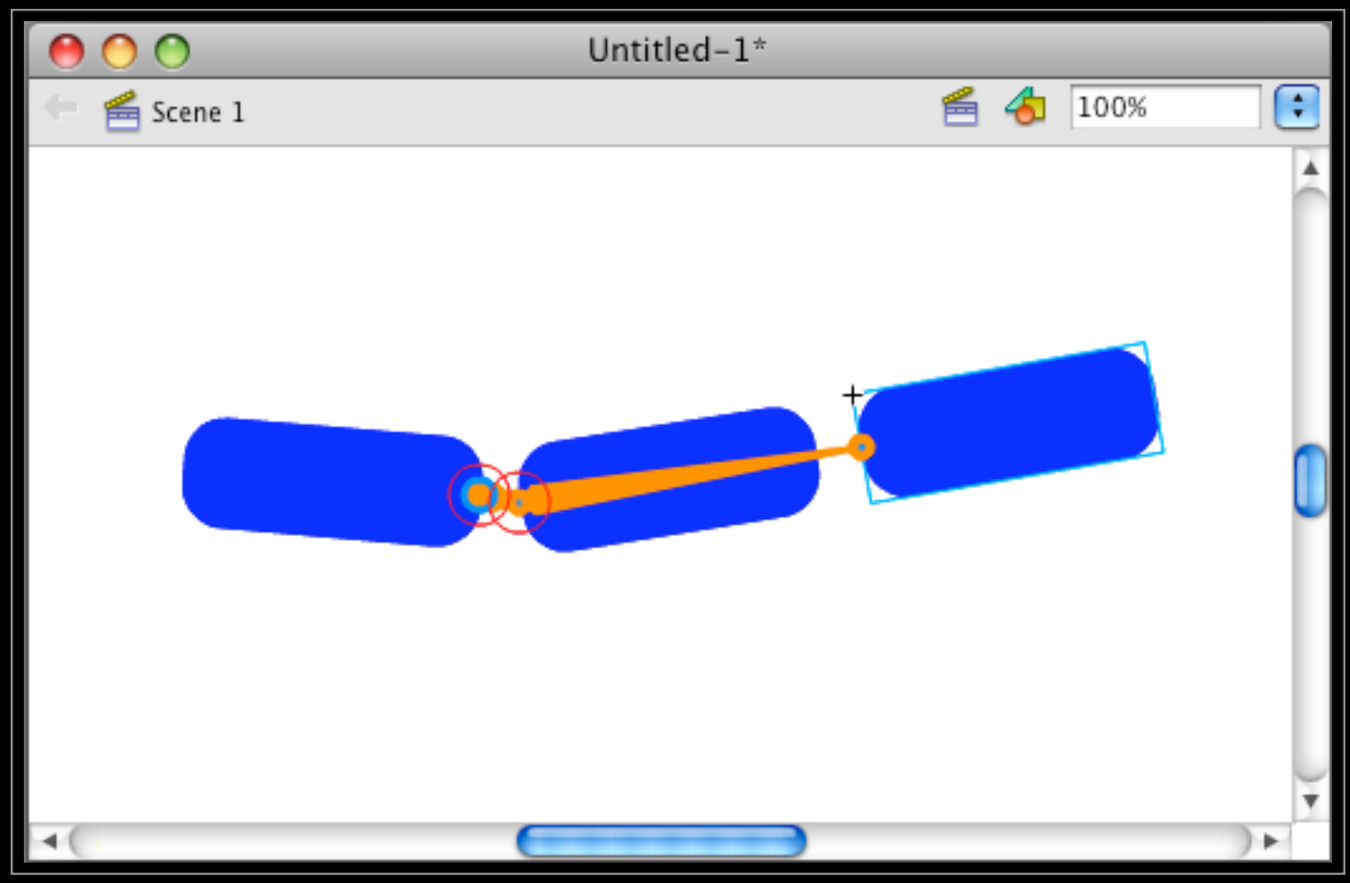
Inverse Kinematics (IK)

There is now IK support directly in Flash CS4. There is also a new ActionScript 3 API that allows you to manipulate bones and joints at runtime.



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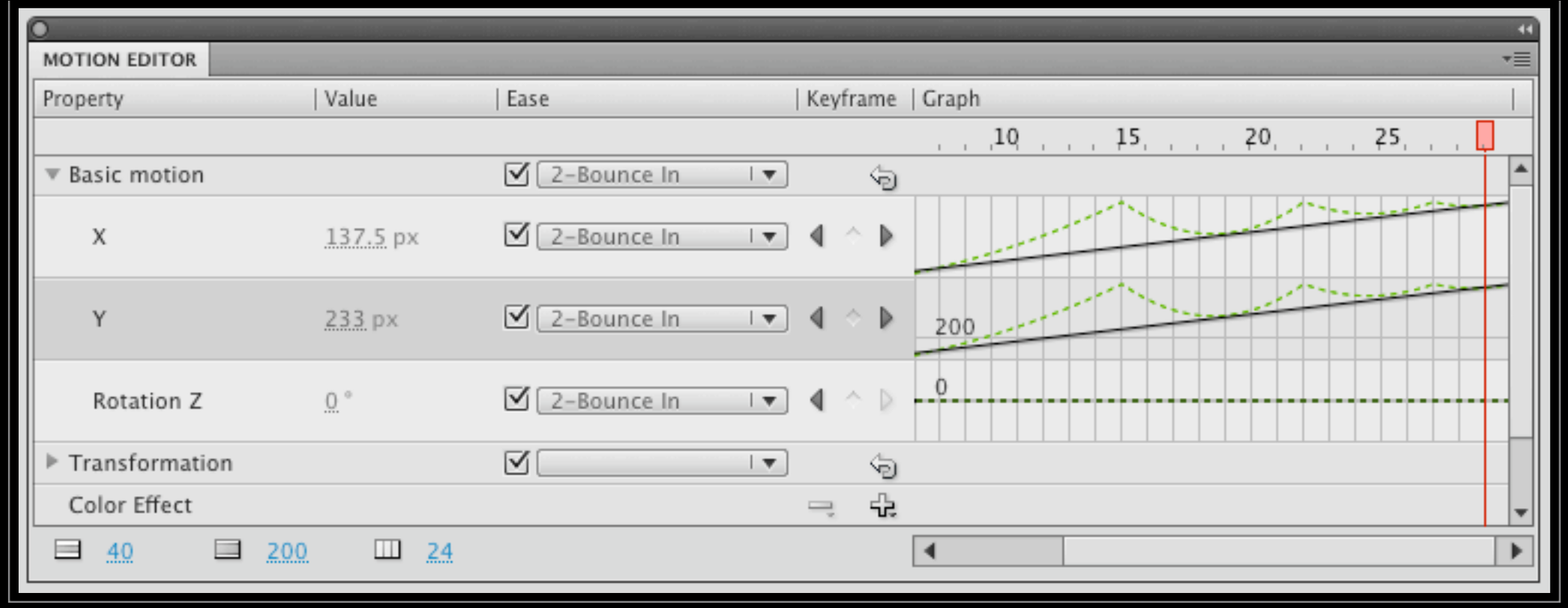
Motion Editor

Flash CS4 contains an advanced motion editor for manipulating the easing curves for each property individually. Makes creating custom types easy.



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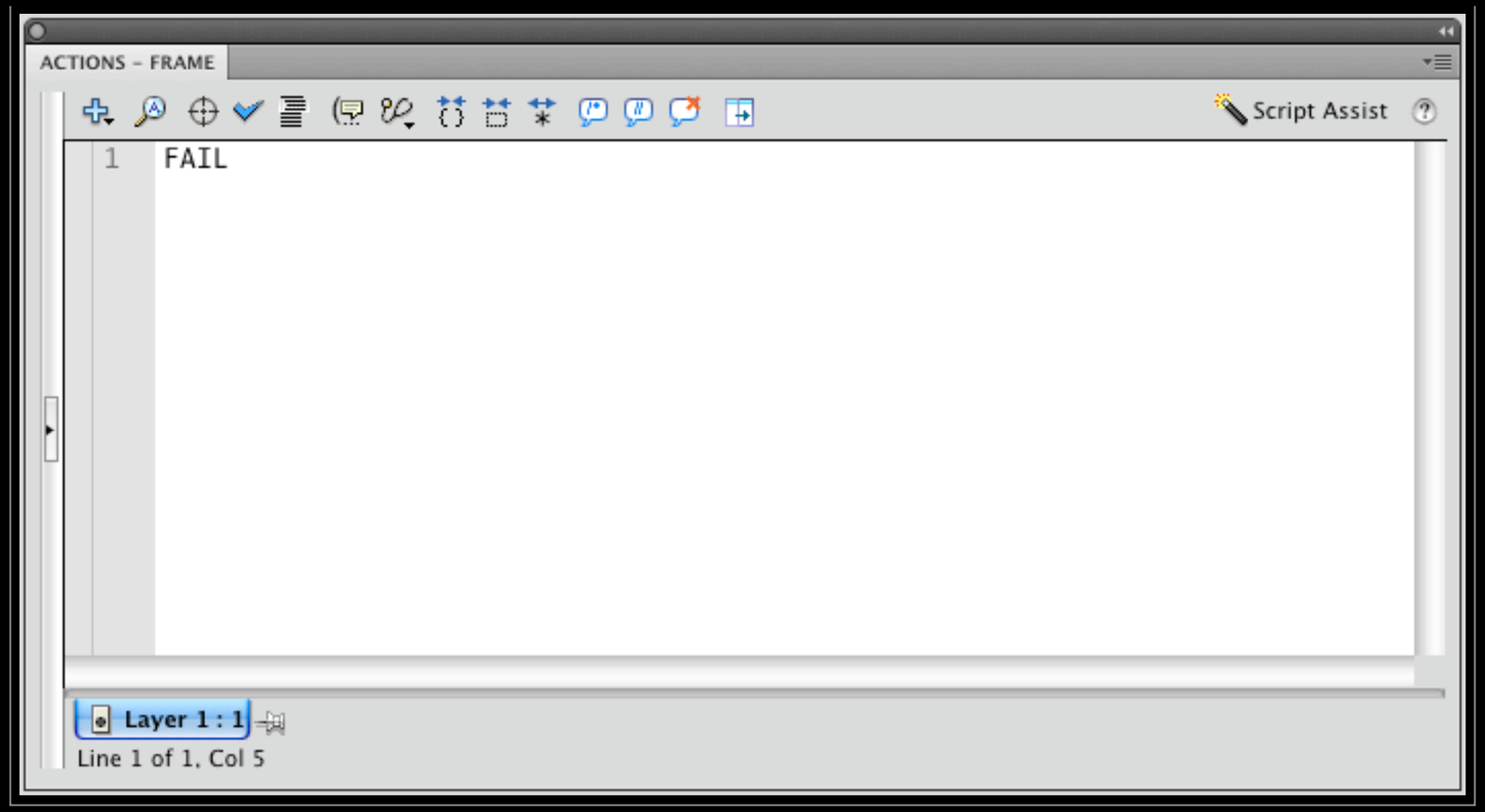
Code Editor Enhancements



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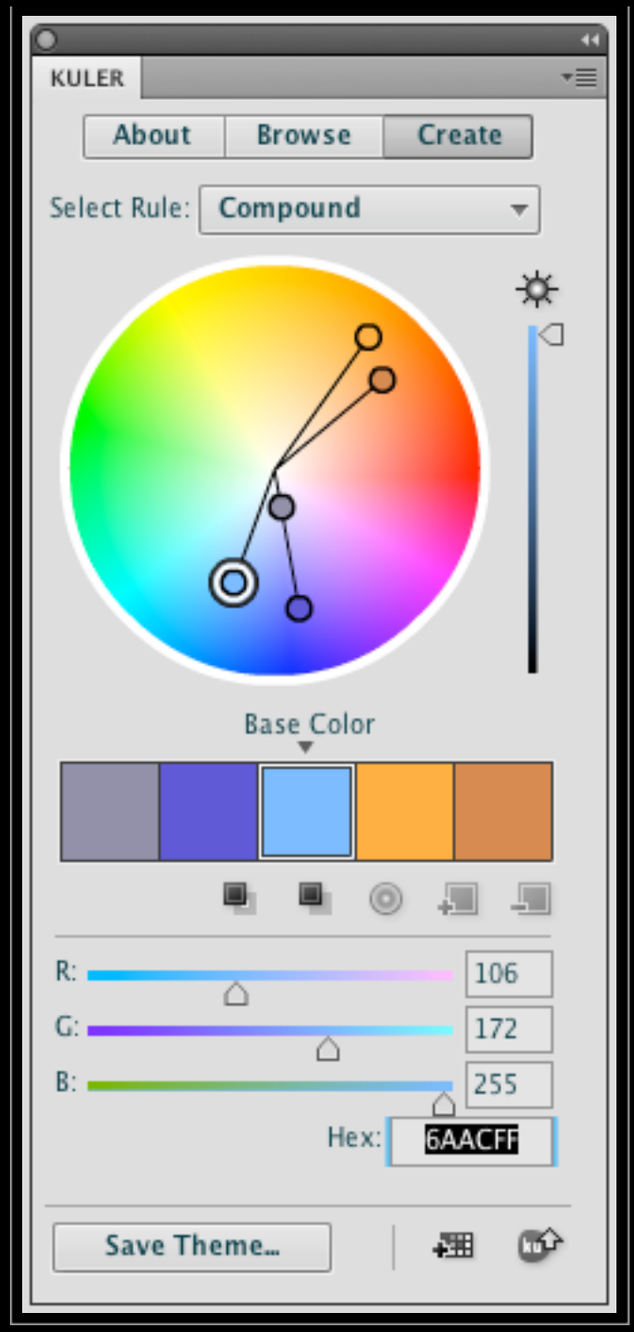
Kuler Panel

This is a new SWF panel that allows you to create advanced color schemes directly in Flash.

You can also upload your scheme to the Kuler repository as well as browse the existing content.

The community needs to create more SWF panels!



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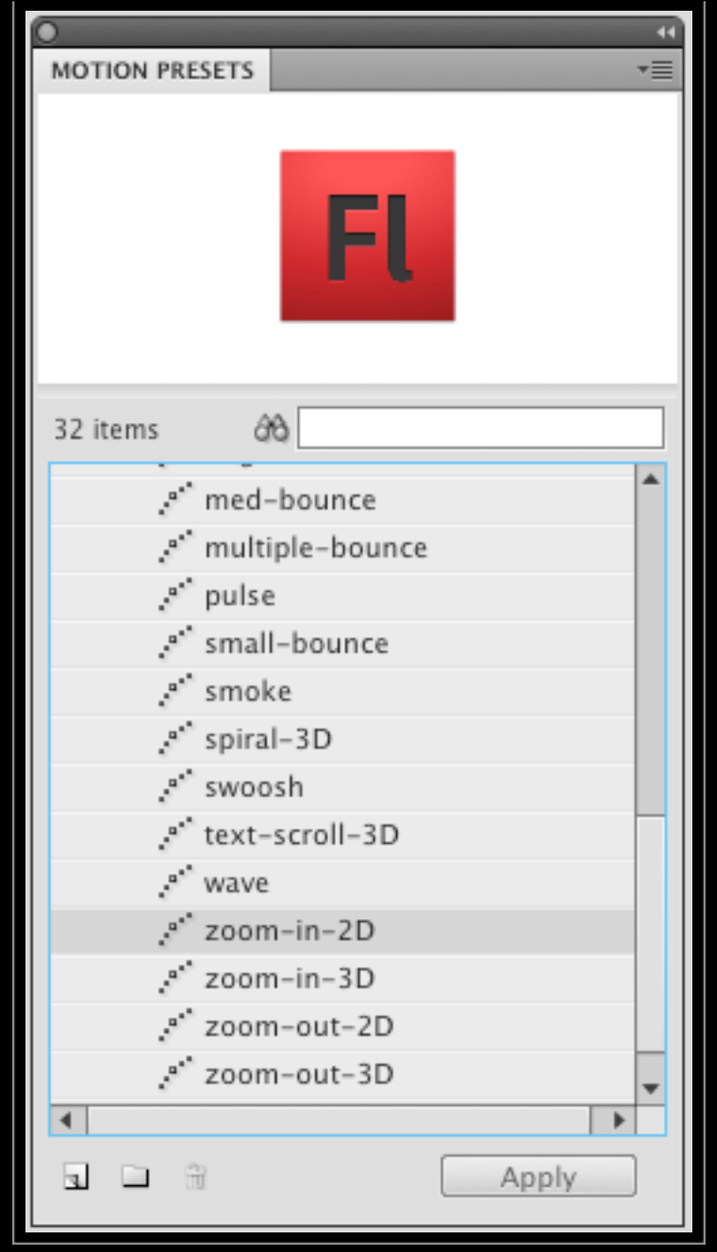
Motion Presets

You can apply motion presets to symbols to accomplish some of the most often used effects.

The real power of the panel is in the ability to create your own presets. The presets include things like easing, filters, and anything else seen in the motion editor.



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