

# A Shallow Dive into the Flex 4

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# Agenda

- Spark Component Architecture
- Enhanced States Syntax
- CSS Advanced Selectors
- Integration with Adobe Catalyst

# Spark Component Architecture

- spark.components ( 1/2 )
  - Application
  - Button
  - ButtonBar
  - ButtonBarButton
  - CheckBox
  - DataGroup
  - DropDownList
  - Group
  - HGroup
  - HScrollBar
  - HSlider
  - List
  - MXMLComponent
  - NumericStepper
  - Panel
  - PopUpAnchor
  - RadioButton
  - RadioButtonGroup
  - ResizeMode
  - Scroller
  - SkinnableContainer
  - SkinnableDataContainer
  - Spinner
  - TextArea

# Spark Component Architecture

- spark.components ( 2/2 )
  - TextInput
  - TextSelectionVisibility
  - ToggleButton
  - VGroup
  - VideoPlayer
  - VScrollBar
  - VSlider

# Spark Component Architecture

- spark.components.supportClasses
  - AnimationTarget
  - ButtonBarHorizontalLayout
  - ButtonBase
  - DropDownController
  - GroupBase
  - InvalidatingSprite
  - ItemRenderer
  - ListBase
  - Range
  - ScrollBar
  - ScrollerLayout
  - Skin
  - SkinnableComponent
  - SkinnableContainerBase
  - Slider
  - TextBase
  - ToggleButtonBase
  - TrackBase

# Spark Component Architecture

- spark.effects
  - AddAction
  - Animate
  - AnimateColor
  - AnimateFilter
  - AnimateShaderTransition
  - AnimateTransform
  - CallAction
  - CrossFade
  - Fade
  - KeyFrame
  - MotionPath
  - Move
  - Move3D
  - RemoveAction
  - Resize
  - Rotate
  - Rotate3D
  - Scale
  - Scale3D
  - SetAction
  - SimpleMotionPath
  - Wipe
  - WipeDirection

# Spark Component Architecture

- spark.effects.animation
- Animation
- RepeatBehavior
- Timeline

# Spark Component Architecture

- spark.effects.easing
- EaseInOutBase
- EasingFraction
- Linear
- Power
- Sine



# Spark Component Architecture

- spark.effects.interpolation
- ArrayInterpolator
- HSBInterpolator
- NumberInterpolator
- RGBInterpolator

# Spark Component Architecture

- spark.effects.supportClasses
  - AddActionInstance
  - AnimateColorInstance
  - AnimateFilterInstance
  - AnimateInstance
  - AnimateShaderTransitionInstance
  - AnimateTransformInstance
  - CallActionInstance
  - FadeInstance
  - MoveInstance
  - RemoveActionInstance
  - ResizeInstance
  - RotateInstance
  - SetActionInstance
  - WipeInstance

# Spark Component Architecture

- spark.effects Demos
- [http://labs.taiga.jp/flex4/EffectSample\\_01/](http://labs.taiga.jp/flex4/EffectSample_01/)
- [http://labs.taiga.jp/flex4/EffectSample\\_02/](http://labs.taiga.jp/flex4/EffectSample_02/)
- [http://labs.taiga.jp/flex4/EffectSample\\_03/](http://labs.taiga.jp/flex4/EffectSample_03/)

# Spark Component Architecture

- spark.events
- DropDownEvent
- ElementExistenceEvent
- RendererExistenceEvent
- TextOperationEvent
- TrackBaseEvent
- VideoEvent

# Spark Component Architecture

- spark.filters
  - BevelFilter
  - BlurFilter
  - ColorMatrixFilter
  - ConvolutionFilter
  - DisplacementMapFilter
  - DropShadowFilter
  - GlowFilter
  - GradientBevelFilter
  - GradientFilter
  - GradientGlowFilter
  - ShaderFilter

# Spark Component Architecture

- spark.filters Demos
- [http://labs.taiga.jp/flex4/FilterSample\\_01/](http://labs.taiga.jp/flex4/FilterSample_01/)

# Spark Component Architecture

- spark.layouts
  - BasicLayout
  - ColumnAlign
  - HorizontalAlign
  - HorizontalLayout
  - RowAlign
  - TileLayout
  - TileOrientation
  - VerticalAlign
  - VerticalLayout

# Spark Component Architecture

- `spark.layouts.supportClasses`
- `Block`
- `LayoutBase`
- `LayoutElementHelper`
- `LinearLayoutVector`



# Spark Component Architecture

- spark.primitives
- BitmapImage
- BitmapImageResizeMode
- Ellipse
- Graphic
- Line
- Path
- Rect
- RectangularDropShadow
- RichEditableText
- RichText
- SimpleText
- VideoElement

# Spark Component Architecture

- `spark.primitives.pathSegments`
  - `CloseSegment`
  - `CubicBezierSegment`
  - `LineSegment`
  - `MoveSegment`
  - `PathSegment`
  - `QuadraticBezierSegment`

# Spark Component Architecture

- `spark.primitives.supportClasses`
- `FilledElement`
- `GraphicElement`
- `RichEditableTextContainerManager`
- `StrokedElement`
- `TextGraphicElement`

# Spark Component Architecture

- spark.primitives Demos
- <http://labs.taiga.jp/flex4/PathSampleFB4B1/>

# Spark Component Architecture

- spark.skins
- SparkSkin

# Enhanced States Syntax

- State-Specific Component Instances

```
<s:states>
```

```
  <mx:State name="default" />
```

```
  <mx:State name="aState" />
```

```
  <mx:State name="bState" />
```

```
</s:states>
```

```
<s:Button label="Button A" />
```

```
<s:Button label="Button B" includeIn="aState, bState" />
```

```
<s:Button label="Button C" excludeFrom="bState" />
```

# Enhanced States Syntax

- State-Specific Property Values

```
<s:states>
  <mx:State name="aState" />
  <mx:State name="bState" />
</s:states>
```

```
<s:Button
  color.aState = "#990000"
  color.bState = "#000099"
  label.aState = "Button B_A"
  label.bState = "Button B_B"
  includeIn    = "aState, bState"
/>
```

# Enhanced States Syntax

- State Groups

```
<s:states>
```

```
  <mx:State name="aState" stateGroups="Group1" />
```

```
  <mx:State name="bState" stateGroups="Group1" />
```

```
  <mx:State name="cState" stateGroups="Group2" />
```

```
  <mx:State name="dState" stateGroups="Group1" />
```

```
</s:states>
```

```
<s:Button
```

```
  color.Group1 = "#990000" label.Group1 = "Button B_A"
```

```
  color.Group2 = "#000099" label.Group2 = "Button B_B"
```

```
  includeIn    = "Group1"
```

```
/>
```



# Enhanced States Syntax

- Custom Creation and Destruction Policies

```
<s:states>  
  <mx:State name="aState" />  
</s:states>
```

```
<s:Button label="Button A"  
  includeIn="aState"  
  itemCreationPolicy="immediate" />
```

```
<s:Button label="Button B"  
  includeIn="aState"  
  itemCreationPolicy="deferred" />
```

# Enhanced States Syntax

- Demos
- [http://labs.taiga.jp/flex4/StateSample\\_01/](http://labs.taiga.jp/flex4/StateSample_01/)
- [http://labs.taiga.jp/flex4/StateSample\\_02/](http://labs.taiga.jp/flex4/StateSample_02/)
- [http://labs.taiga.jp/flex4/StateSample\\_03/](http://labs.taiga.jp/flex4/StateSample_03/)
- [http://labs.taiga.jp/flex4/StateSample\\_04/](http://labs.taiga.jp/flex4/StateSample_04/)

# CSS Advanced Selectors

- id Selector

```
<fx:Style>
```

```
    #hoge { color : #ff0000; }
```

```
</fx:Style>
```

```
<s:Button id="hoge" label="AAAAAA" />
```

# CSS Advanced Selectors

- Descendant Selector

```
<fx:Style>
  @namespace s "library://ns.adobe.com/flex/spark";
  s|Panel s|Button {
    color : #ff0000;
  }
</fx:Style>
```

```
<s:Panel title="AAA" width="400" height="300">
  <s:Button id="piyo" label="AAA" />
</s:Panel>
```

# CSS Advanced Selectors

- Pseudo Selectors

```
<fx:Style>
```

```
  @namespace s "library://ns.adobe.com/flex/spark";
```

```
  s|Button:up          { color : #000000; }
```

```
  s|Button:over       { color : #ff0000; }
```

```
  s|Button:down       { color : #00ff00; }
```

```
  s|Button:disabled   { color : #0000ff; }
```

```
</fx:Style>
```

```
<s:Button label="AAA" />
```

# CSS Advanced Selectors

- Demos
- [http://labs.taiga.jp/flex4/StyleSample\\_01/](http://labs.taiga.jp/flex4/StyleSample_01/)
- [http://labs.taiga.jp/flex4/StyleSample\\_02/](http://labs.taiga.jp/flex4/StyleSample_02/)
- [http://labs.taiga.jp/flex4/StyleSample\\_03/](http://labs.taiga.jp/flex4/StyleSample_03/)