

Creating a Visual Experience in Flex 2

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About Me

Juan Sanchez

Interface Designer for Atomic Curve

<http://www.atomiccurve.com>

ScaleNine : Themes & Skins for Flex 2

<http://www.scalenine.com>

Degrafa: Declarative Graphics Framework

<http://www.degrafa.com>

Creating a Visual Experience in Flex 2

What makes a unique visual experience?

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What makes a unique visual experience?

- Transparency of “technical stuff”
- Usability and focus
- Seamless interaction
- Everyone has something they take away from an application (hopefully good)
- Something users will remember
- What people see is important, it’s only part of the equation for a great app (functionality, speed, etc.)

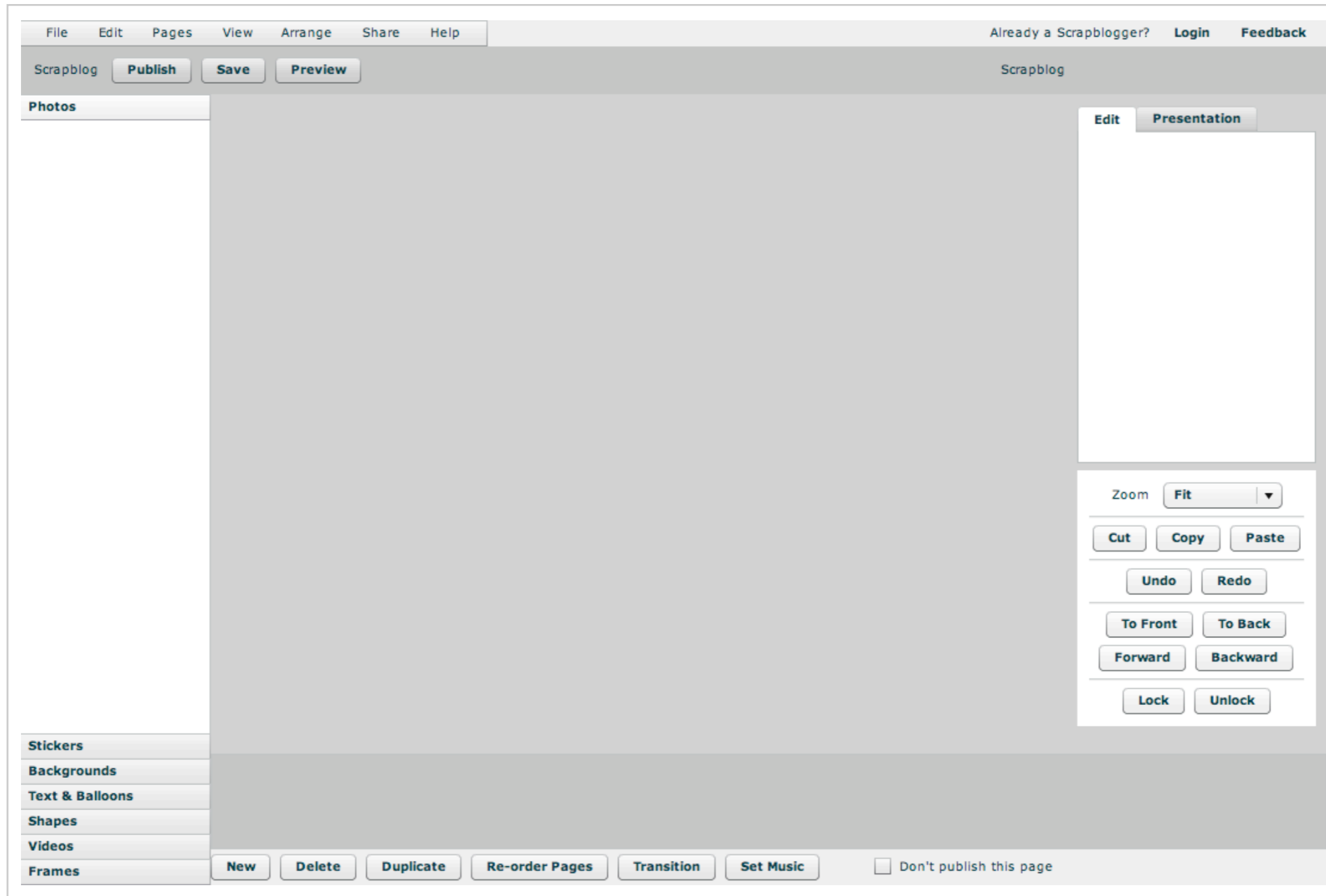
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Why?

- Brands your application
- Create visual cues and connections
- Fluid, more engaging interaction
- Users will remember it
- Creates a product and identity
- Ease of use

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Examples

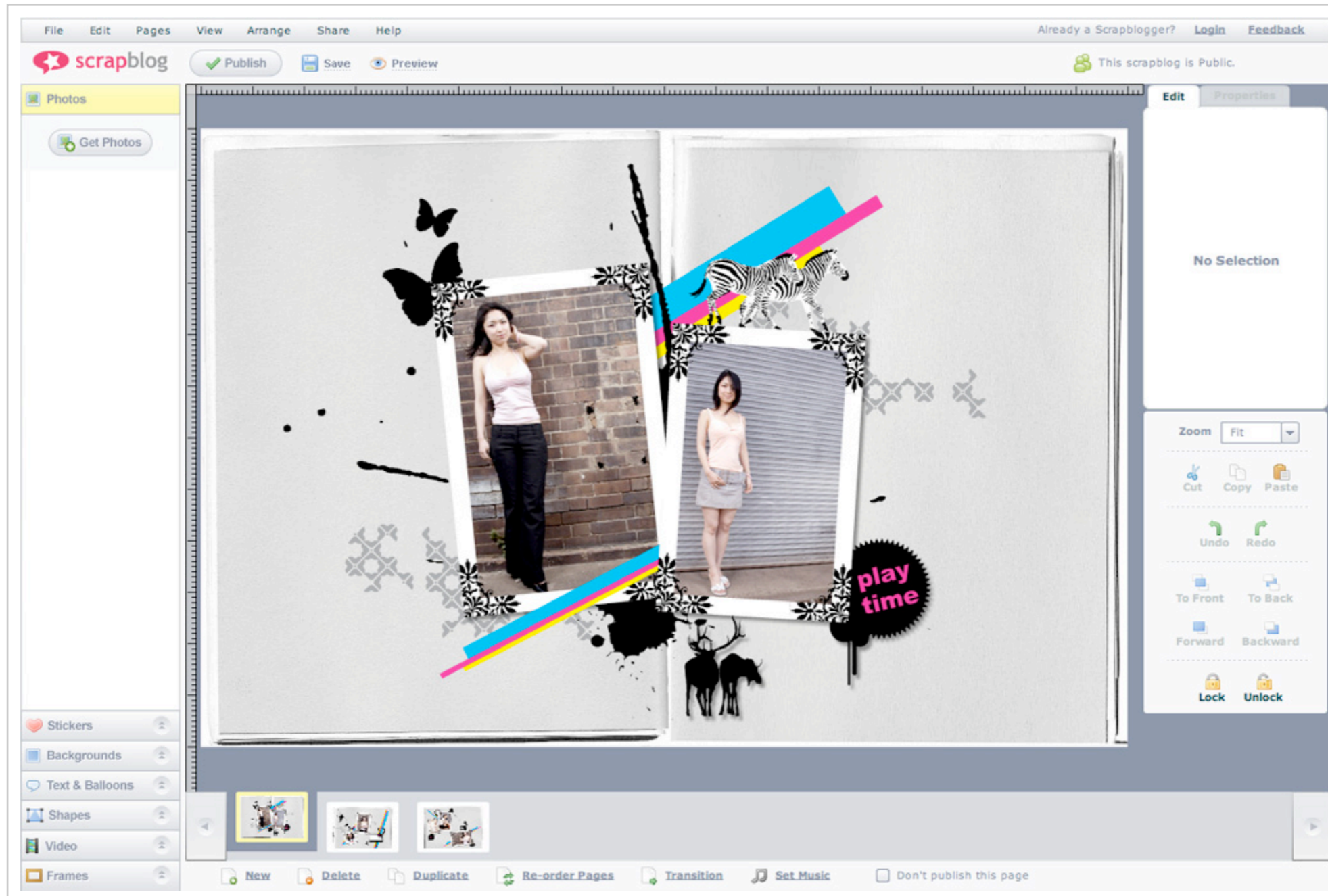


Scrapblog

“Before”

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Examples

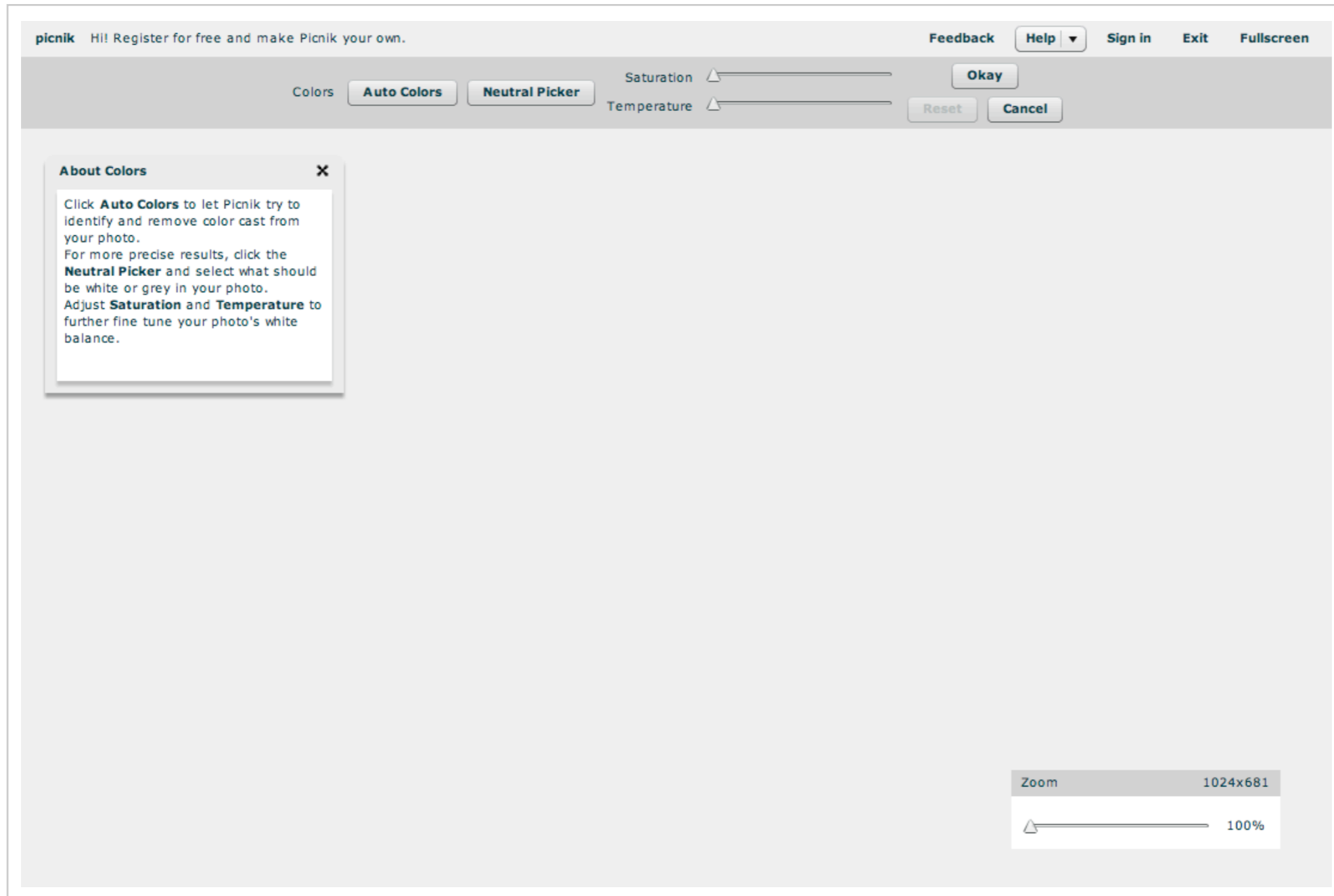


Scrapblog

“After”

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Examples

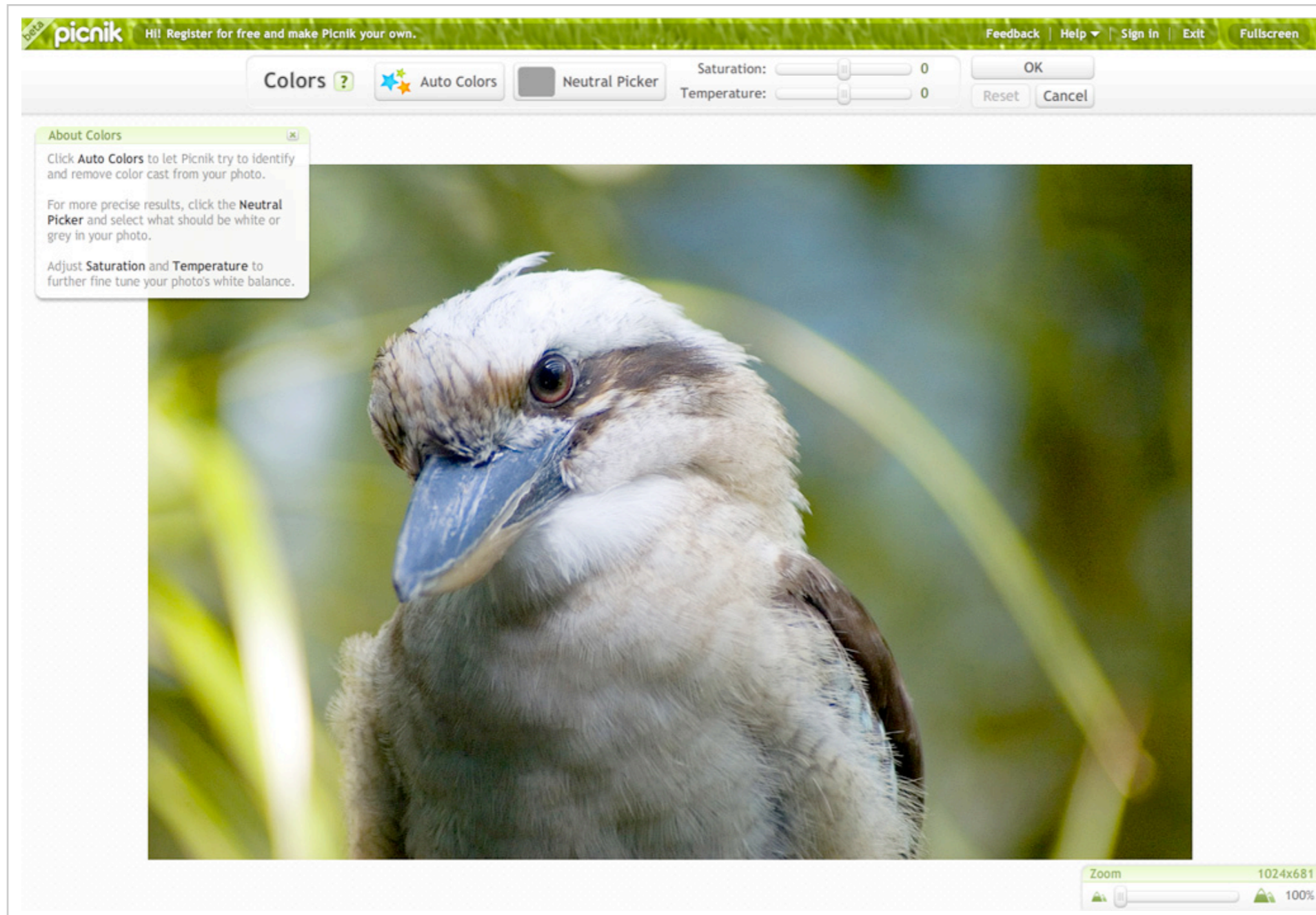


Picnik

“Before”

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Examples



Picnik

"After"

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Ways of creating a visual experience

- Fonts/Text Styling
- CSS Styling
- Graphical Skinning
- Programmatic Skinning
- Filters
- Effects and Transitions

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Fonts & Text Styling

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Fonts

The Options

Local Fonts

Embedding TTF

Using FlashType

Pros of Embedding

- Ensures font is available
- Influence fonts using rotation, alpha, etc.
- Easier to read and smoother with Effects

Cons of Embedding

- Can only embed certain font types
- Increases application file size
- Decreased legibility at smaller font sizes

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Fonts : Embedding

Embed fonts inline using `<mx:Style>`
or using external CSS file

```
<mx:Style>
```

```
    @font-face
```

```
    {
```

```
        src: url(myriad.ttf);  
        fontFamily: myMyriadFont;  
        fontStyle: normal;  
        fontWeight: normal;
```

```
    }
```

```
</mx:Style>
```

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Fonts : Embedding

Embedding using FlashType

Create SWF or SWC with font embedded in a dynamic text field

- Works with TrueType and OTF
- Embed only necessary characters
- Weight and Family must match SWF

```
@font-face
{
  src: url(myriad.swf);
  fontFamily: "Myriad Pro";
  fontStyle: normal;
  fontWeight: normal;
}
```

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Text Styling

Creating text styles using CSS

Benefits

- Easily change a defined style application wide
- Maintain consistency

```
.windowTitle  
{  
    fontFamily: "Myriad Pro";  
    fontWeight: "normal";  
    fontSize: 20;  
    color: #999999;  
}
```

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CSS Styling

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CSS Styling

Quick and easy way to create custom looking components by using style properties

Helps create a consistent look across the application

Assign styling inline, embedded, external CSS, or
ActionScript

Levels of Styling:

- Global

- Type Selector ie. Button

- Class Selector ie. .myButtonStyle

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CSS Styling : Example

Styling a Button using CSS

```
Button {  
    cornerRadius: 12;  
    paddingLeft: 0;  
    paddingRight: 0;  
    highlightAlphas: 0.3, 0.5;  
    fillColors: #33ccff, #3399ff, #0066ff, #0066cc;  
    color: #0b333c;  
    borderColor: #006699;  
}
```

The Result



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CSS Styling

Ways of applying styling

Inline styling

```
<mx:Button fillColors="#cccccc, #999999" />
```

Embedded styles (component specific)

```
<mx:Style>
    .blueButton
    {
        fillColors: #3399cc, #003399, #33cccc, #003399;
    }
</mx:Style>
```

External CSS file

```
<mx:Style source="style/darkroom.css" />
```

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CSS Styling : Levels of Styling

Global

```
global
{
    color:#ffffff;
}
```

Result

All components will have a text color of white.

Great for creating a high level of design consistency across your application.

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CSS Styling : Levels of Styling

Component wide styling (Type selector)

```
Button
{
    fillColors: #3399cc, #003399, #33cccc, #003399;
    borderColor: #6600cc;
    color: #ffffff;
}
```

Result

All Buttons have a gradient fill of blues, a border color of dark blue and have a text color of white.

Great for creating a visual consistency across components.

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CSS Styling : Levels of Styling

Selective styling (Class selectors)

```
.greyButton
{
    fillColor: #cccccc, #999999, #eeeeee, #bbbbbb;
    borderColor: #666666;
    color: #ffffff;
}
```

```
<mx:Button styleName="greyButton"/>
```

Result

Only Buttons with styleName="greyButton" will take on that styling and override any styling specified in an external CSS file or through embedded styles.

Great for creating variety.

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CSS Styling

Compound Selectors

Combining type and class selectors

Selector Precedence

The finer you go in the styling hierarchy, the higher the precedence of the styling

global > type > class > inline

Limitations: Predefined Attributes

You can only style the properties that are given to you in Flex components

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Graphical Skinning

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Graphical Skinning

Using graphics to change the look of things

Vector

- Flash or export Illustrator and bring into Flash
- SWF

Bitmap

- Photoshop, Fireworks or other graphics editor
- JPG, GIF, PNG

Hybrid

- Vector and Bitmap

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Creating a Graphical Skin

SWF (Vector)

Create in Flash as a Symbol

- Movie Clip, Graphic

Export for ActionScript

- Name will become the Embed name

JPG, GIF, PNG (Bitmap)

Create in any image editing program

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Applying a Graphical Skin

Inline

```
<mx:Button upSkin="@Embed(source='skin.swf',symbol='up')"/>
```

Via CSS

```
.blueButton  
{  
    disabledSkin: Embed(source="darkroom.swf",  
        symbol="Button_disabledSkin");  
    downSkin: Embed(source="darkroom.swf",  
        symbol="Button_downSkin");  
    overSkin: Embed(source="darkroom.swf",  
        symbol="Button_overSkin");  
    upSkin: Embed(source="darkroom.swf",  
        symbol="Button_upSkin");  
}
```

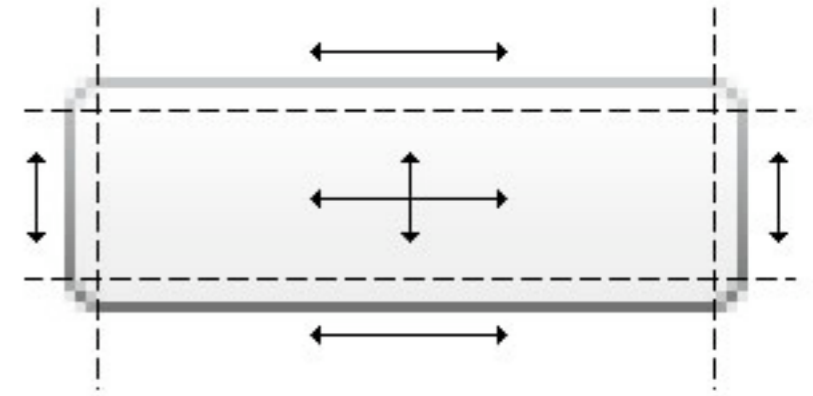
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Stretching a Graphical Skin

Using the scale9grid

Flash

- Creating a Symbol select “Enable guides for 9-slice scaling”
- Edit a Symbol and move the guides



Bitmap

Button

```
{  
upSkin: Embed('Button_upSkin.png'  
    scaleGridLeft=6; scaleGridTop=10;  
    scaleGridRight=6; scaleGridBottom=2;);  
}
```

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Programmatic Skinning

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Programmatic Skinning

Creating a Programmatic Skin

Use one of the following

- ProgrammaticSkin
- Border
- RectangularBorder

Use `updateDisplayList()` method

- All styling/drawing calls go in this method
- Use getters and setters for setting properties

Getters for `measuredWidth/Height`, `borderMetrics`

Make properties styleable

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Programmatic Skinning

Which superclass to use

ProgrammaticSkin

- Easiest and most common
- Implements IFlexDisplayObject, ILayoutManager Client, IInvalidating, ISimpleStyleClient

Border Extends ProgrammaticSkin

- borderMetrics support and defines border

RectangularBorder Extends Border

- backgroundImage style support

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Filters

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Filters

What filters are there?

Bevel, Blur, DropShadow, Glow

How can they be applied?

MXML syntax

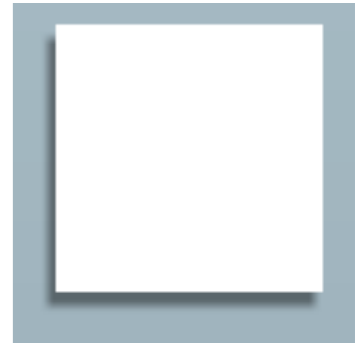
Inline syntax

ActionScript

Cannot modify filters directly. For changes to take effect you must reassign it. Cannot bind filter properties to other values.

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Filters : MXML Syntax



Requires adding flash namespace.

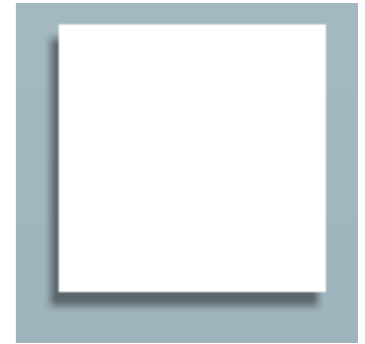
```
<?xml version="1.0"?>
<mx:Application xmlns:mx="http://www.adobe.com/2006/mxml"
                xmlns:flash="flash.filters.*">
  <mx:VBox width="100" height="100" backgroundColor="#ffffff">
    <mx:filters>
      <flash:DropShadowFilter distance="6" angle="120" alpha=".5"/>
    </mx:filters>
  </mx:VBox>
</mx:Application>
```

Add more filters inside <mx:filters>.

Order affects the z-index.

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Filters : Inline Syntax



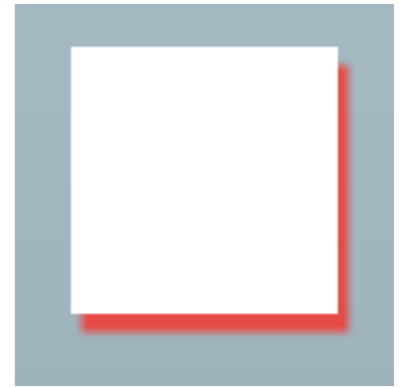
Does not require adding flash namespace.

```
<?xml version="1.0"?>
<mx:Application xmlns:mx="http://www.adobe.com/2006/mxml">
  <mx:VBox width="100" height="100" backgroundColor="#ffffff"
    filters="{[new DropShadowFilter(6, 120, 0x000000 ,.5)]}" />
</mx:Application>
```

More filters by adding to the filters Array.

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Filters : ActionScript



```
<?xml version="1.0"?>
<mx:Application xmlns:mx="http://www.adobe.com/2006/mxml"
initialize="createFilter()">
  <mx:Script>
    import flash.filters.*;

    public function createFilter():void {
      var f:DropShadowFilter = new DropShadowFilter(8,60,0xFF0000,.7);
      var myFilters:Array = new Array();
      myFilters.push(f);
      box.filters = myFilters;
    }
  </mx:Script>
  <mx:VBox id="box" width="100" height="100" backgroundColor="#ffffff"/>
</mx:Application>
```

Import `flash.filters.*` and add new filters to filters Array for a component.

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Effects

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Effects

What effects are there?

AnimateProperty

Animate the numeric value of a property ie. height, width, etc. Use isStyle to animate style changes

Blur

Gives a hazy or softened visual effect

Dissolve

Applies an overlay which can be modified with alpha and color attributes

Fade

Animate the alpha of a component

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Effects

What effects are there? (cont.)

Glow

Creates a glow effect

Iris

Animates an expanding or contracting mask

Move

Change the positioning of a component

Pause

Create a pause for a certain period of time

Resize

Change height and/or width of a component

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Effects

What effects are there? (cont.)

Rotate

Rotation of a component around a specified point

SoundEffect

Plays a specified sound when triggered

WipeLeft, WipeRight, WipeUp, WipeDown

Creates a block wipe effect in a defined direction

Zoom

Zooms a component by a specified amount

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Effects

Creating an Effect

Effects are triggered

Embed fonts for Dissolve, Fade, Rotate and Zoom
effectEnd is helpful for triggering other actions

```
<mx:Glow id="glowOn" blurXFrom="0" blurXTo="10" blurYFrom="0"  
        blurYTo="10" alphaFrom="0" alphaTo="1" color="#ff0000" />
```

```
<mx:Glow id="glowOff" blurXFrom="10" blurXTo="0" blurYFrom="10"  
        blurYTo="0" alphaFrom="1" alphaTo="0" color="#ff0000" />
```

```
<mx:Button label="Button" rolloverEffect="{glowOn}"  
        rolloutEffect="{glowOff}" />
```

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Effects

Creating a Composite Effect

Parallel: effects play at the same time

Sequence: one effect fires after another

Parallel Effect

```
<mx:Parallel id="growGlow" target="{button1}">
  <mx:Glow blurXFrom="0" blurXTo="10" blurYFrom="0"
    blurYTo="10" alphaFrom="0" alphaTo="1" color="#ff0000" />
  <mx:Zoom zoomHeightFrom="1" zoomHeightTo="2"
    zoomWidthFrom="1" zoomWidthTo="2" />
</mx:Parallel>

<mx:Button id="button1" label="Button"
  rolloverEffect="{growGlow}" />
```

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Effects

Sequence Effect

```
<mx:Sequence id="growGlow" target="{button1}">  
  <mx:Glow blurXFrom="0" blurXTo="10" blurYFrom="0"  
    blurYTo="10" alphaFrom="0" alphaTo="1" color="#ff0000" />  
  <mx:Zoom zoomHeightFrom="1" zoomHeightTo="2"  
    zoomWidthFrom="1" zoomWidthTo="2" />  
</mx:Sequence>  
  
<mx:Button id="button1" label="Button"  
  rolloverEffect="{growGlow}" />
```

In this example the Glow effect plays first and upon completion, the Zoom effect is triggered.

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Effects

easingFunction

Allows for more dynamic motions

Requires import of `mx.effects.easing.*`

What easing types are there?

Back

Bounce

Circular

Cubic

Elastic

Exponential

Linear

Quadratic

Quartic

Quintic

Sine

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Transitions

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Transitions

Transitions are grouped effects that allow for smooth visual changes between states

Defining a Transition

- Use `fromState` and `toState`

- Specify an effect (Parallel, Sequence)

- Specify action effects

- Define targets to be affected

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Transitions

Action effects correspond to view state properties

AddChildAction

RemoveChildAction

SetStyleAction

SetPropertyAction

Use action effects side by side with effects to create the desired transition

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Transitions : Example

```
<mx:states>
  <mx:State name="showButtons">
    <mx:SetProperty target="{box}" name="width" value="400"/>
    <mx:SetProperty target="{button1}" name="includeInLayout" value="true"/>
  </mx:State>
</mx:states>

<mx:transitions>
  <mx:Transition fromState="*" toState="showButtons">
    <mx:Sequence>
      <mx:Resize target="{box}" widthFrom="10" widthTo="400"/>
      <mx:SetPropertyAction targets="{[button1]}"
        name="includeInLayout" value="true"/>
      <mx:Parallel targets="{[button1]}" duration="200">
        <mx:SetPropertyAction name="visible" value="true"/>
        <mx:Fade alphaFrom="0" alphaTo="1"/>
      </mx:Parallel>
    </mx:Sequence>
  </mx:Transition>
</mx:transitions>
```


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So, to review...

- Fonts/Text Styling
- CSS Styling
- Graphical Skinning
- Programmatic Skinning
- Filters
- Effects and Transitions

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What else is there?

Custom Components for finer control

Flex Component Kit for Flash CS3

Flex 3 (Moxie)

CS3 Integration

Check out the 360Flex Conference

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Resources

ScaleNine

<http://www.scalenine.com>

Flex 2 Style Explorer

<http://examples.adobe.com/flex2/consulting/styleexplorer/Flex2StyleExplorer.html>

Effects Explorer

<http://blog.keutgens.de/index.php/flex-effect-explorer-01alpha/>

Filter Explorer

http://www.merhl.com/flex2_samples/filterExplorer/

Designing Skins for Flex 2

http://www.adobe.com/devnet/flex/articles/flex_skins.html