Flash Player 10

Workflow and 3d Introduction

Workflow

“A workflow is a model to represent real work for further assessment, e.g., for describing a reliably repeatable sequence of operations. More abstractly, a workflow is a pattern of activity enabled by a systematic organization of resources, defined roles and mass, energy and information flows, into a work process that can be documented and learned.”

http://en.wikipedia.org/wiki/Workflow

Setting up Flex Builder 3 for Flash Player 10

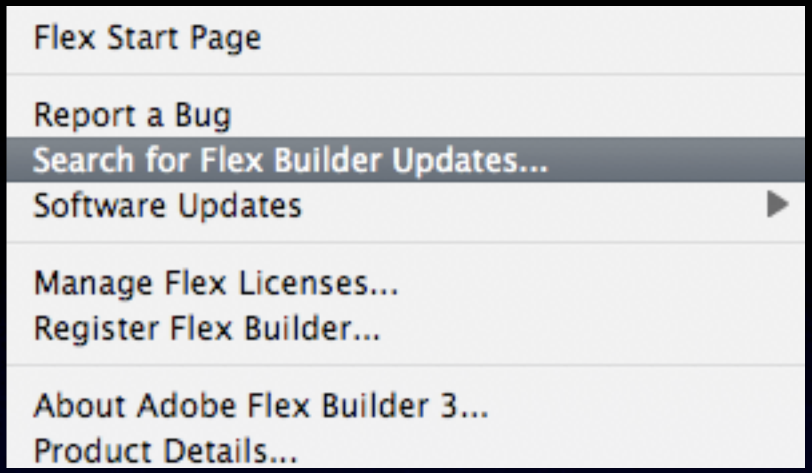
http://opensource.adobe.com/wiki/display/flexsdk/Targeting+Flash+Player+10

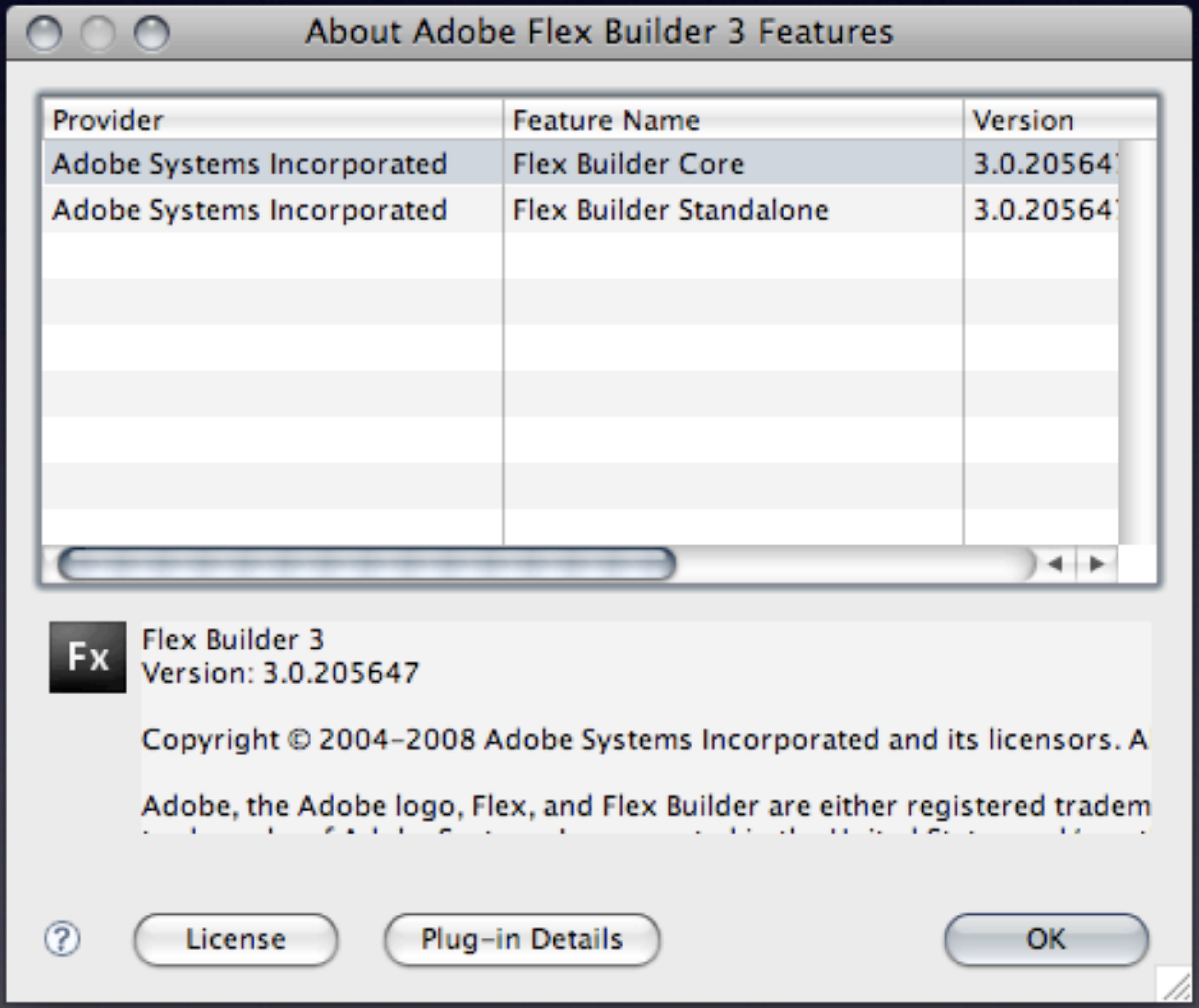
Step 1

Upgrade Flex Builder

Make sure you are using version 3.0.2 or higher

This will help with when targeting Flash Player 10 in your projects and getting better code hinting.




About Adobe Flex Builder 3 Features

Provider	Feature Name	Version
Adobe Systems Incorporated	Flex Builder Core	3.0.20564
Adobe Systems Incorporated	Flex Builder Standalone	3.0.20564

Flex Builder 3
Version: 3.0.205647

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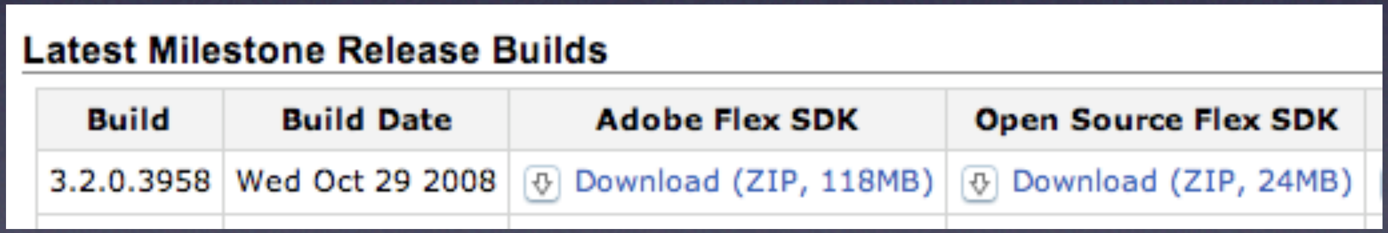
Adobe, the Adobe logo, Flex, and Flex Builder are either registered tradem

Step 2

Grab a nightly build from Wednesday Oct 29, 2008 (3.2 Milestone build), or later.

http://opensource.adobe.com/wiki/display/flexsdk/Download+Flex+3

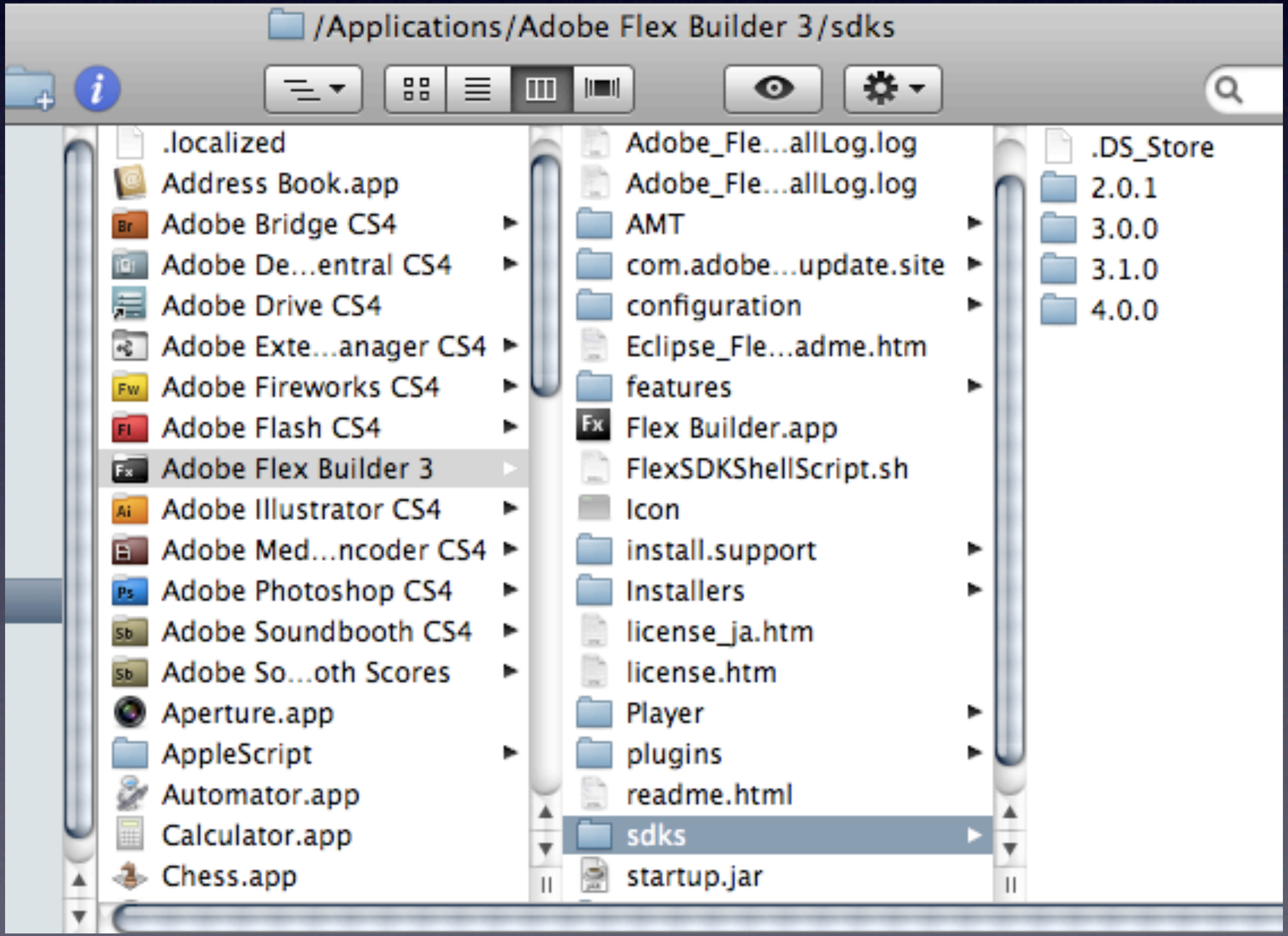


Latest Milestone Release Builds

Build	Build Date	Adobe Flex SDK	Open Source Flex SDK
3.2.0.3958	Wed Oct 29 2008	Download (ZIP, 118MB)	Download (ZIP, 24MB)

Step 3

Rename downloaded SDK to 4.0.0 (optional) and put it in your FlexBuilder sdks folder. On the mac its located at: Applications/Adobe Flex Builder 3/sdks



/Applications/Adobe Flex Builder 3/sdks

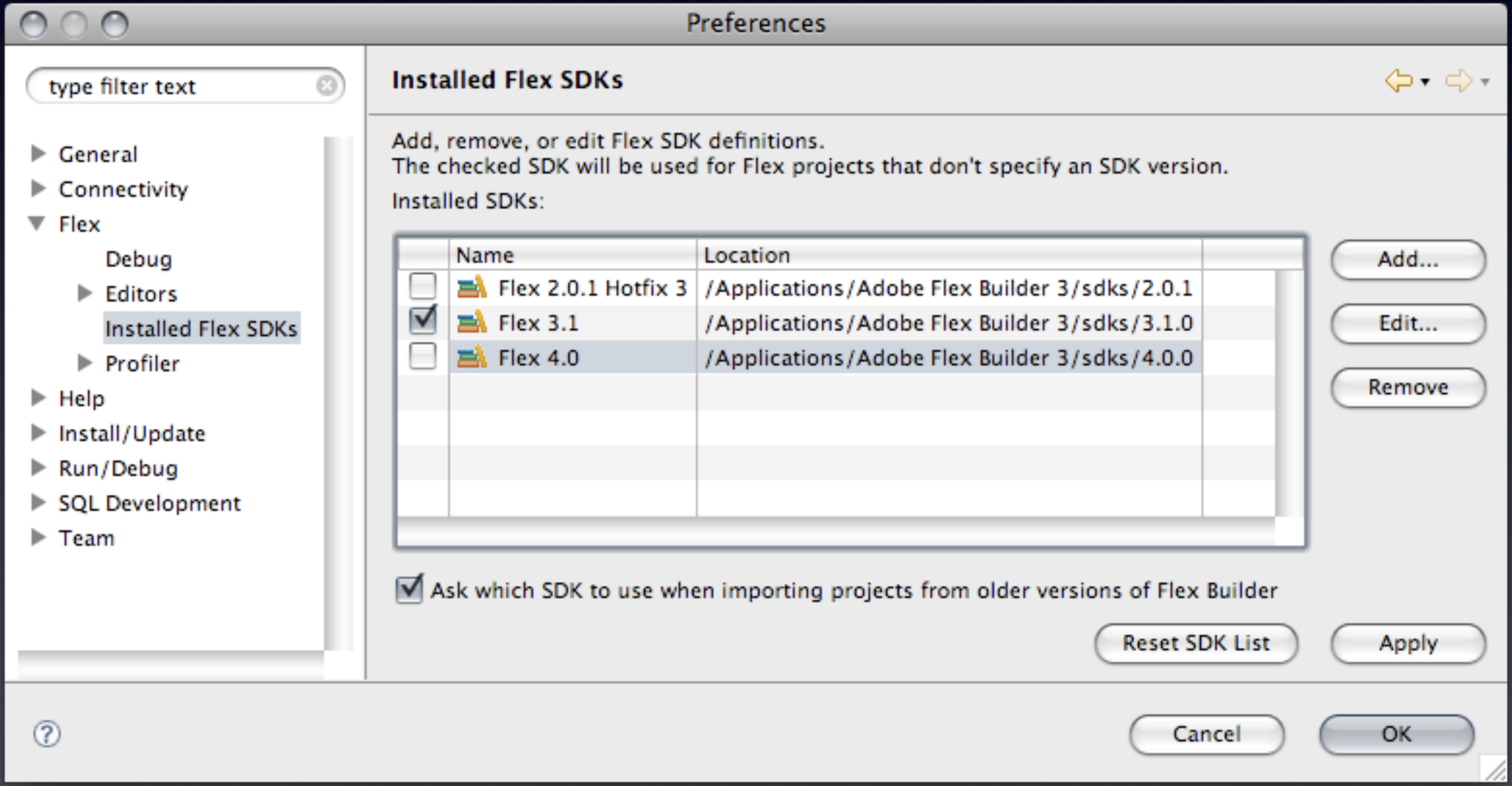
.localized
Address Book.app
Adobe Bridge CS4
Adobe De...entral CS4
Adobe Drive CS4
Adobe Exte...anager CS4
Adobe Fireworks CS4
Adobe Flash CS4
Adobe Flex Builder 3
Adobe Illustrator CS4
Adobe Med...ncoder CS4
Adobe Photoshop CS4
Adobe Soundbooth CS4
Adobe So...oth Scores
Aperture.app
AppleScript
Automator.app
Calculator.app
Chess.app

Adobe_Fle...allLog.log
Adobe_Fle...allLog.log
AMT
com.adobe...update.site
configuration
Eclipse_Fle...adme.htm
features
Flex Builder.app
FlexSDKShellScript.sh
Icon
install.support
Installers
license_ja.htm
license.htm
Player
plugins
readme.html
sdks
startup.jar

.DS_Store
2.0.1
3.0.0
3.1.0
4.0.0

Step 4

Add the new SDK to your FlexBuilder installed SDKs list.



Installed Flex SDKs

Add, remove, or edit Flex SDK definitions.
The checked SDK will be used for Flex projects that don't specify an SDK version.

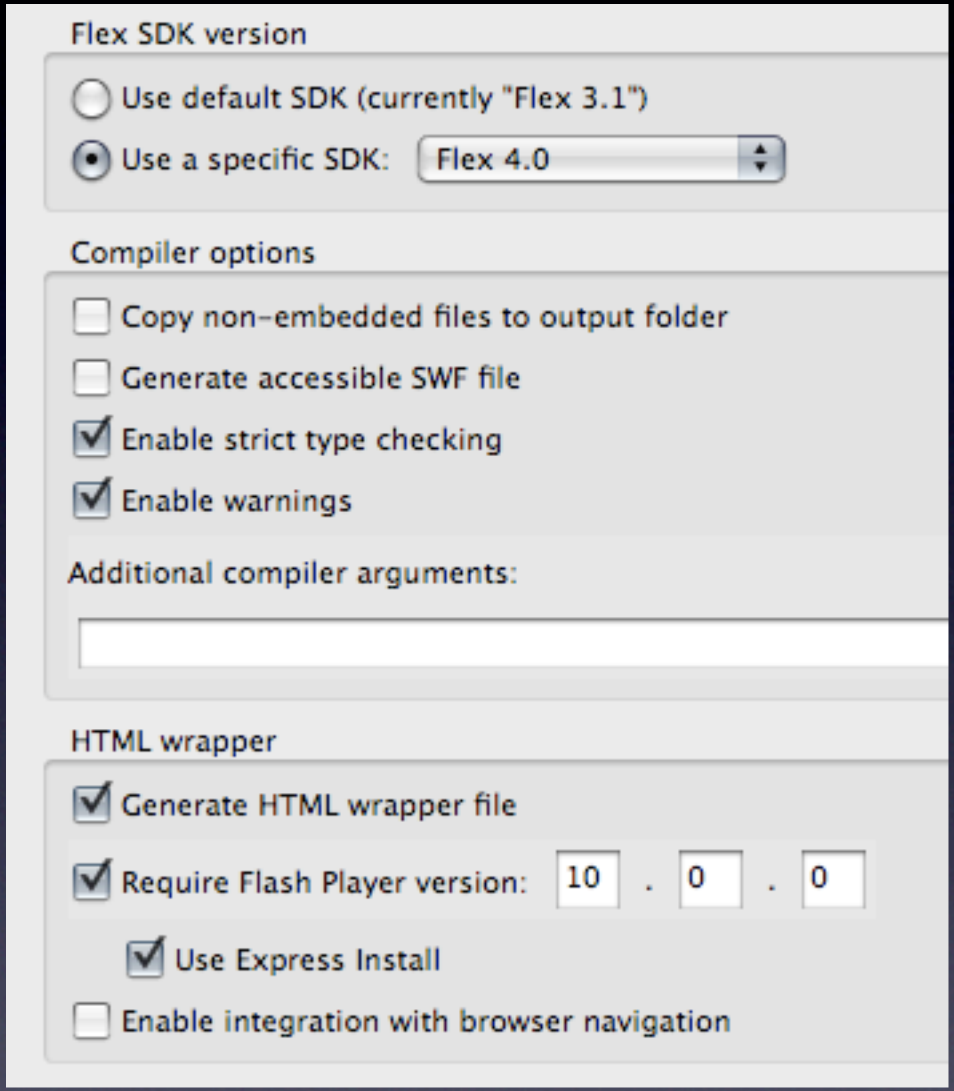
Installed SDKs:

	Name	Location
□	Flex 2.0.1 Hotfix 3	/Applications/Adobe Flex Builder 3/sdks/2.0.1
☑	Flex 3.1	/Applications/Adobe Flex Builder 3/sdks/3.1.0
□	Flex 4.0	/Applications/Adobe Flex Builder 3/sdks/4.0.0

☑ Ask which SDK to use when importing projects from older versions of Flex Builder

Step 5

Start a new project and configure it to use the new SDK and target player 10.0.0



Flex SDK version

○ Use default SDK (currently "Flex 3.1")

● Use a specific SDK: Flex 4.0

Compiler options

□ Copy non-embedded files to output folder

□ Generate accessible SWF file

☑ Enable strict type checking

☑ Enable warnings

Additional compiler arguments:

HTML wrapper

☑ Generate HTML wrapper file

☑ Require Flash Player version: 10 . 0 . 0

☑ Use Express Install

□ Enable integration with browser navigation

ANT & Flash CS 4

Step 1

Word of warning, this only works on Mac OS X.

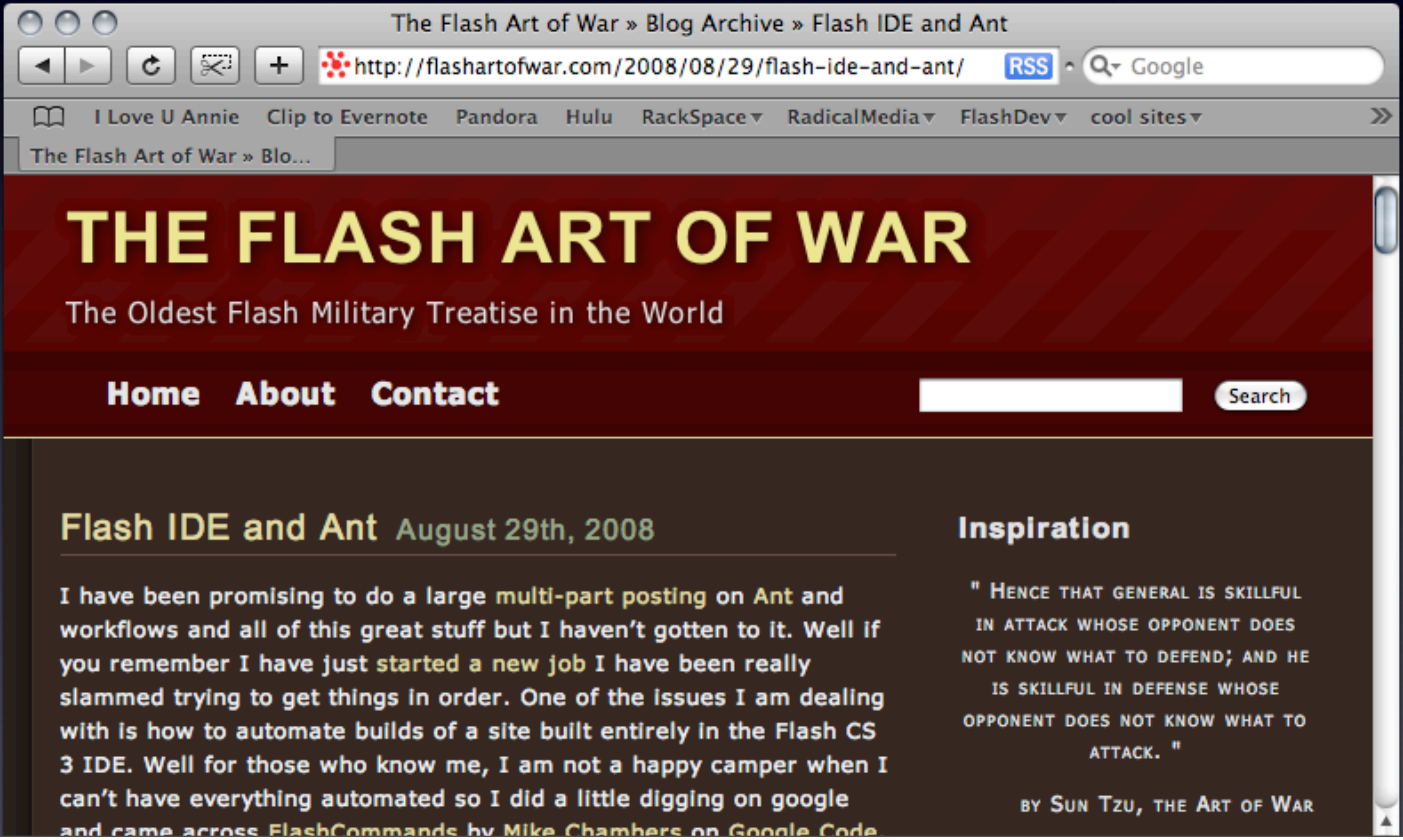
Start by downloading flashcommand by Mike Chambers

http://code.google.com/p/flashcommand/downloads/list

Step 2

Get the Ant Template

http://flashartofwar.com/2008/08/29/flash-ide-and-ant/


The Flash Art of War » Blog Archive » Flash IDE and Ant
http://flashartofwar.com/2008/08/29/flash-ide-and-ant/
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The Oldest Flash Military Treatise in the World

Flash IDE and Ant August 29th, 2008

I have been promising to do a large multi-part posting on Ant and workflows and all of this great stuff but I haven't gotten to it. Well if you remember I have just started a new job I have been really slammed trying to get things in order. One of the issues I am dealing with is how to automate builds of a site built entirely in the Flash CS 3 IDE. Well for those who know me, I am not a happy camper when I can't have everything automated so I did a little digging on google and came across FlashCommands by Mike Chambers on Google Code.

Inspiration

" Hence that general is skillful in attack whose opponent does not know what to defend; and he is skillful in defense whose opponent does not know what to attack. "

by Sun Tzu, the Art of War

Step 3

Configure the script for your needs.

Replace with paths to your files

```
<property name=“user.path” value=“/Users/jessefreeman”/>
<property name=“build.dir” value=“${basedir}/build” />
<property name=“deploy.dir” value=“${basedir}/deploy” />
<property name=“swc.dir” value=“${basedir}/lib/swcs” />
<property name=“fla.dir” value=“${basedir}/lib/flas”/>
<property name=“site.dir” value=“${user.path}/Sites/tommy-pub/swf”/>
<property name=“src.dir” value=“${basedir}/src”/>

<property name=“main.fla” value=“${fla.dir}/TommyGlobal.fla” />
<property name=“output.path” value=“${site.dir}/${swf.filename}.swf” />
<property name=“swc.path” value=“${site.dir}/${swf.filename}.swc” />
<property name=“font.path” value=“${site.dir}/FontsLibrary.swf” />
<property name=“local.path” value=“http://tommy.local/”/>
<property name=“log.path” value=“${user.path}/Library/Preferences/Macromedia/Flash Player/Logs/flashlog.txt”/>


<target name=“compile” >
    <exec executable=“${python}” failonerror=“true”>
        <arg line=“${flash.command}” />
        <arg line=“-e “ />
        <arg line=“-c “/>
        <arg line=“-s ${main.fla} “/>
        <arg line=“-o ${output.path}”/>
    </exec>
 </target>
```

Will automatically get values from above properties.

Step 4

Run the Ant Script when you want to compile. Since flashcommand opens the default version of Flash installed on your computer it should open Flash CS 4, your default FLA, and compile it into the supplied output path.

The compile time is dependent on how long it would normally take to do it in the IDE. Unfortunately there is no speed increase but since we use Ant you can automate the build, rsync or ftp the compiled files to a server and have the browser open when the Ant script is done.

Step 5 - Optional

FlexBuilder, Python and Ant have a little problem with the spaces in your default Flex Builder 3 workspace name.

To get around this try making a symlink link (or alias) to your workspace called FlashBuilder3.

```
ln -s ~/Documents/Flex\ Builder\ 3 ~/Documents/FlexBuilder3
```

Next change the base path in the Ant Script to an absolute path back to your project but through the symlinked folder like so:

```
basedir=”/Users/jessefreeman/Documents/FlexBuilder3/TommyGlobal/”
```

Flash Player 10’s ~~3D~~ 2.5D

Things You Should Know

- Flash Player 10 doesn’t do true 3d.
- Main missing feature is 3D depth sorting.
- This is more like 2.5D you get x, y, and z on any DisplayObject.
- 3D property manipulation is now hardware accelerated.

2.5D

(two-and-a-half-dimensional)

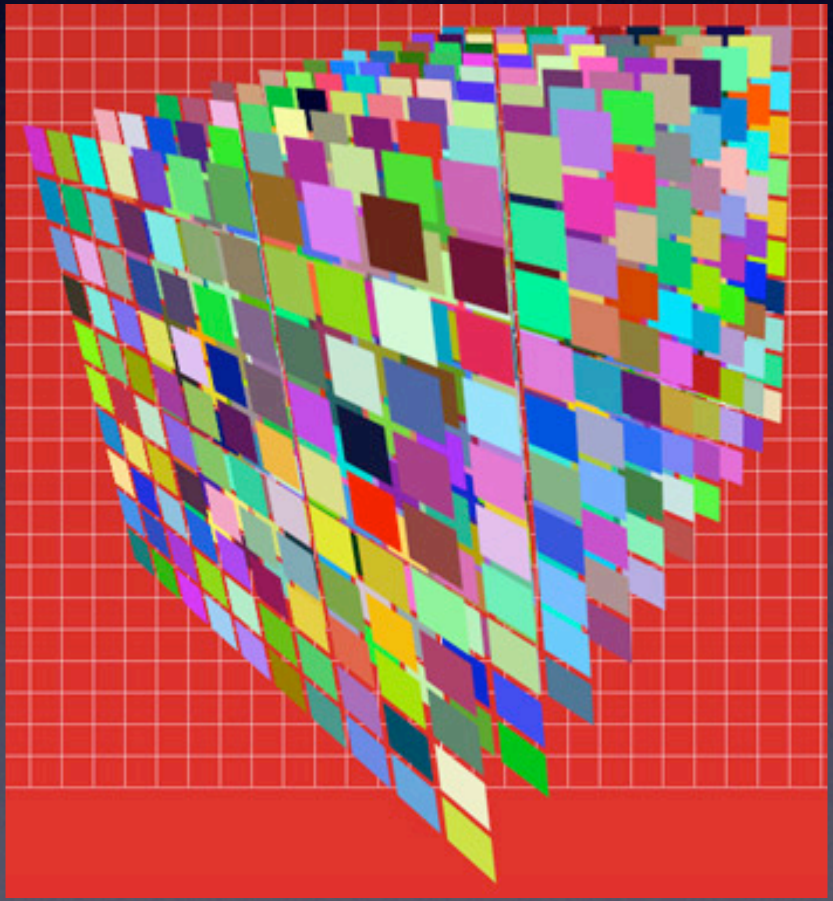
“is an informal term used to describe visual phenomena which is actually 2D with 3D looking graphics... The term is usually used with computer graphics, especially video games, where a computer system uses 2D computer graphics to visually simulate 3D computer graphics. One such method is where a 2D image has an added "depth" channel or Z-buffer which may act like a dumb height map.”

http://en.wikipedia.org/wiki/2.5D

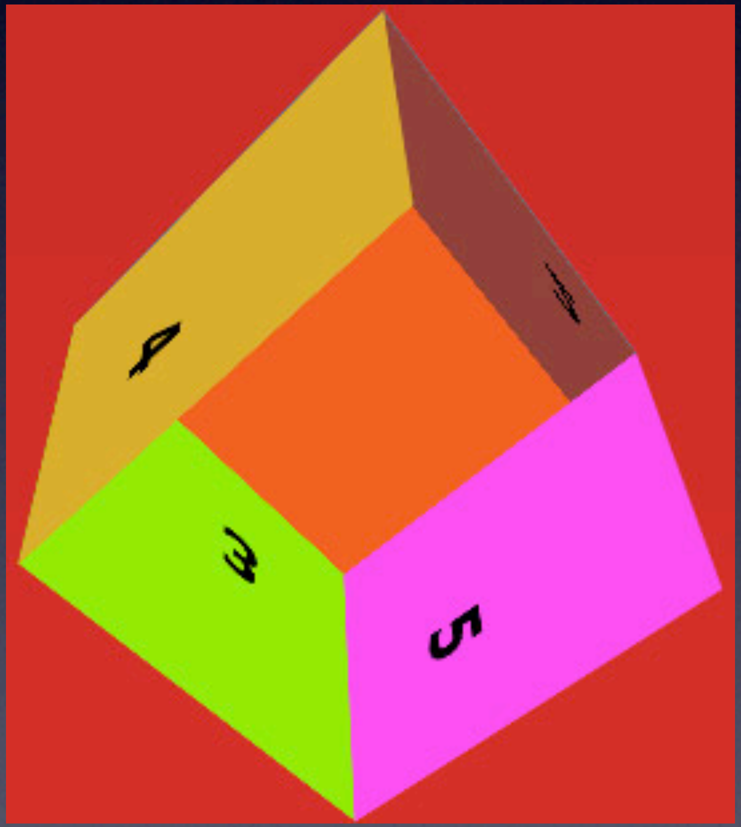
Why 2.5D?

http://www.sakri.net/blog/2008/10/16/trying-out-flash-player-10-3d-features/

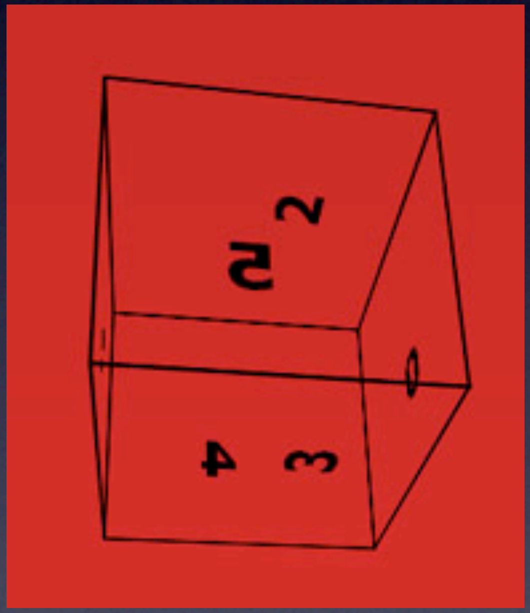
Here are some examples showing distortion because the sprites that make up the 3d objects and not correctly being sorted.



Looks good, basic z index and y rotation.



3d Box with sides clipping without z depth sorting.

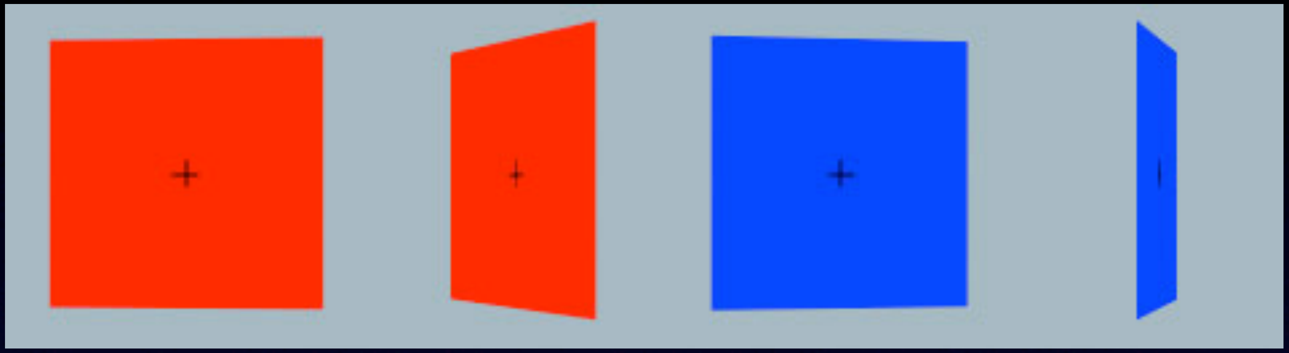


3d Box without fill but still has overlap display issue; its juts harder to notice.

X, Y, Z and Rotation

- In addition to x, y, and z properties, all DisplayObjects now have rotationX, rotationY and rotationZ.
- By changing these values we can change the appearance of the DisplayObject in 3d space giving the illusion of perspective.
- Coupled with the z property we can move the DisplayObject closer and farther from the "camera"; Flash's point of view.

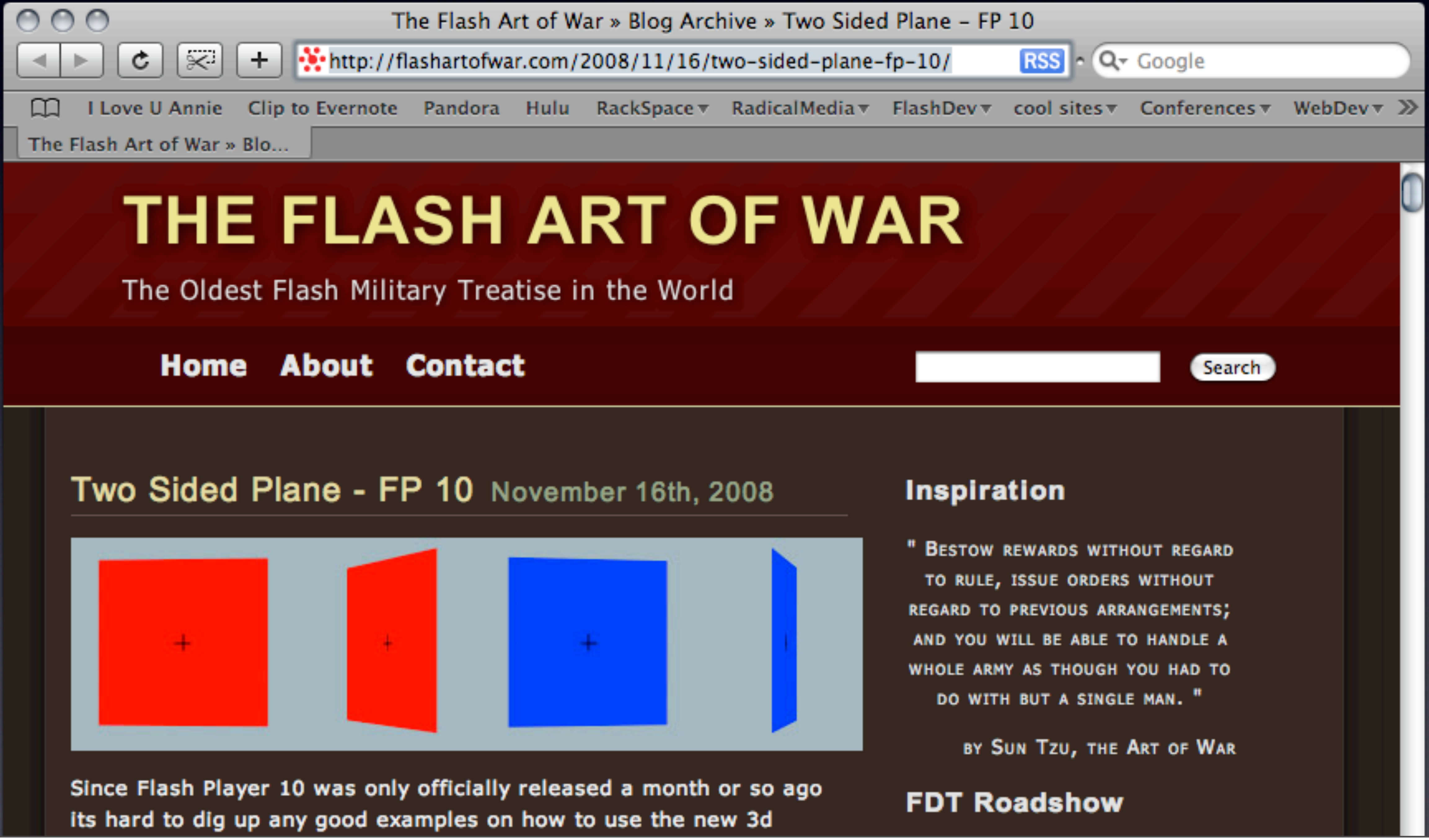
Two Sided Plane



- Since there is no native support for depth sorting we have to write our own logic for displaying the front and back of a DisplayObject as we rotate its Y axes.
- We simply override the rotationY setter to test the rotation’s degree and add/remove the correct front or back graphic.

Full Tutorial

http://flashartofwar.com/2008/11/16/two-sided-plane-fp-10/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Two Sided Plane - FP 10 November 16th, 2008

Since Flash Player 10 was only officially released a month or so ago its hard to dig up any good examples on how to use the new 3d

Inspiration

" Bestow rewards without regard to rule, issue orders without regard to previous arrangements; and you will be able to handle a whole army as though you had to do with but a single man. "

by Sun Tzu, the Art of War

FDT Roadshow

Front/Back Setup

We use two DisplayObjects to create a front and back for the two sided plane. Its important to remember that anything we display when the plane is flipped over will be reversed so we take the time to set the scaleX to negative one to flip it and change its x offset to compensate for the scaleX flip.

Each display is stored in a Dictionary.

```
// Set up front image
_sideInstances[FRONT] = front;
_sideInstances[FRONT].x = -50;
_sideInstances[FRONT].y = -50;

// Set up back image
back.scaleX = - 1;
_sideInstances[BACK] = back;
_sideInstances[BACK].x = 50;
_sideInstances[BACK].y = -50;
```

Override rotationY

In order to add the logic to correctly display the front or back side we have to override the parent's rotationY.

First we pass the rotationY to the super, this helps correctly set the rotationY. Next we check the value and see if it is greater then 90 degrees or less then 270 degrees. If it falls within that value we display the back side, if its not within that range we display the front side.

* We test for an instances "stage" value to see if its actually on the stage. DisplayObjects will return null if they are not on the display tree.

```
override public function set rotationY(value:Number)...

    super.rotationY = value;

    if(rotationY >= 90 && rotationY <= 270){
            if(_sideInstances[FRONT].stage)
                    removeChild(_sideInstances[FRONT]);
            addChild(_sideInstances[BACK]);
            _flipped = false;
    }else{
            addChild(_sideInstances[FRONT]);
            if(_sideInstances[BACK].stage)
                    removeChild(_sideInstances[BACK]);
            _flipped = true;
    }

    if(rotationY >= 360) rotationY = 0;
```

Flash Player 10 Extras

Class Documentation

http://help.adobe.com/en_US/AS3LCR/Flash_10.0/index.html

Cool New Classes

- flash.text.engine New Flash Text Engine
- fl.ik Flash Inverse Kinematics
- Matrix3d, Orientation3D, Utils3D and Vector3D
- flash.ui.MouseCursor Full control over the Mouse Cursor
- And a few other goodies you should look up!

AS Programming Pushes Us
Flash Meetup

http://flash.meetup.com/148/