

#### ON THE CD

All the files required for the tutorial can be found on the CD in the folder Tutorials\Part.

#### TIME NEEDED

1 hour

#### SKILLS

- Flash CS3
- Papervision3D component 1.5

#### INFO



Designer Paul Wyatt specialises in design for the internet and motion graphics. He's produced websites and animated creative for clients such as Smirnoff, 2Entertain, Fanta and Sony/BMG. Find out more at [www.paulwyatt.co.uk](http://www.paulwyatt.co.uk).

## → FLASH CS3 • PAPERVISION COMPONENT PART 2 OF 3

# INTRODUCTION TO PAPERVISION3D

In the second part of our *Papervision3D* tutorial, Paul Wyatt further explores the interactive options of the real-time 3D *Papervision3D* component and shows you how to produce a COLLADA file

→ You may have heard that you need an A+ in ActionScripting to bring your own low poly 3D models into *Flash*. However, with the *Papervision3D* component, this has been made much easier for you, giving you time to concentrate instead on the look and interactivity of your model.

Following from the first part of this *Papervision3D* tutorial in our previous issue (CA 140), here we'll look at how to create a COLLADA file. COLLADA files are the data files that contain all the information about your model. It's a low poly model all in one file, which *Flash* uses to import the object. Understanding how they work is

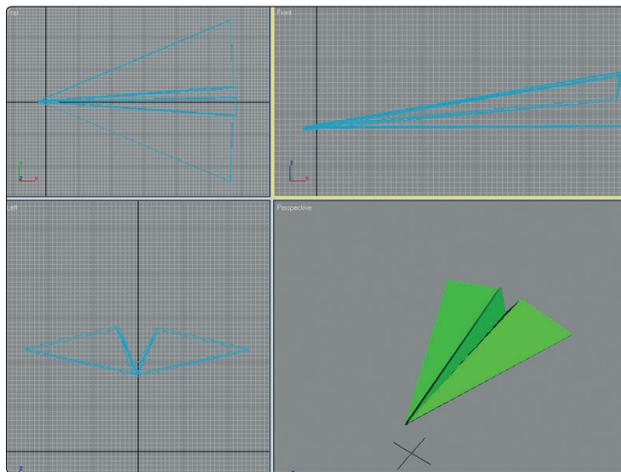
essential before we move on to creating a fully textured mapped model.

We'll create a basic shape and export it as a COLLADA file. We'll then add a basic texture and some interactivity courtesy of the latest enhancements that John Grden has made to his *Papervision3D* component. And that's it – you'll then be up and running with bringing 3D to *Flash*. It really is that simple.

**Tutorial and illustration by Paul Wyatt**  
[www.paulwyatt.co.uk](http://www.paulwyatt.co.uk)

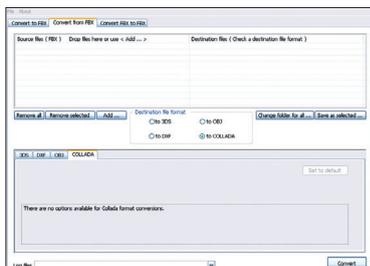


1 Install the *Papervision3D* component from this issue's CD, or visit <http://code.google.com/p/papervision3d/downloads/list> to check for any updates. This is a great repository of the latest *Papervision3D* downloads. Keep this link handy for new releases, additions or modifications to the component.



**2** For this example we're using *3ds max* to create a simple low poly model. To export the COLLADA file, which turns your 3D model into a file containing all the model details and information on textures and lights, you'll need to install the *ColladaMax* plug-in. This plug-in is included on this issue's CD, or check for updates from Feeling Software at [www.feelingsoftware.com/content/view/65/79/lang,en](http://www.feelingsoftware.com/content/view/65/79/lang,en)

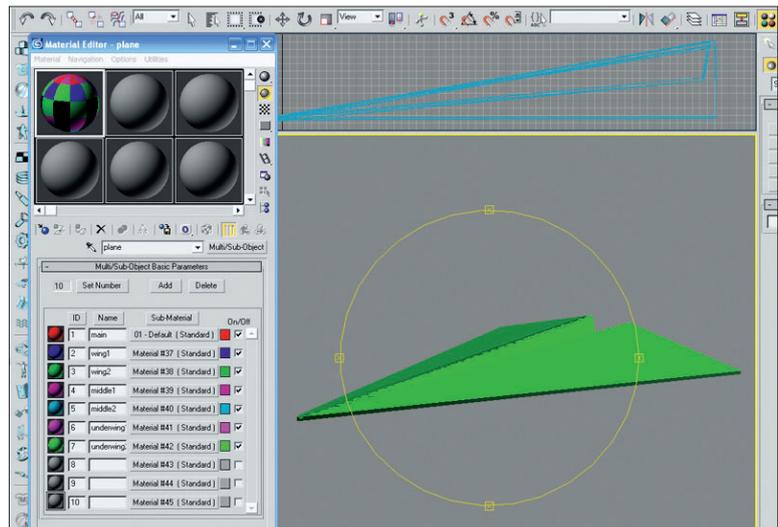
**3** The *ColladaMax* plug-in is suitable for *3ds max* versions 7 (service pack 1), 8 and 9. If you're using *Maya*, *ColladaMaya* is also on the CD or available from Feeling Software. This plug-in is suitable for *Maya* version 7, 8 or 8.5.



**4** The *Cinema 4D* user community are putting pressure on Maxon to add support for COLLADA export. In the meantime, a workaround is to use Autodesk's FBX converter. From *Cinema 4D* export your model in the FBX format, then use this application to convert it to a COLLADA file. Available for Mac and Windows, it can be downloaded at <http://usa.autodesk.com/adsk/servlet/index?siteID=123112&id=6839916>.

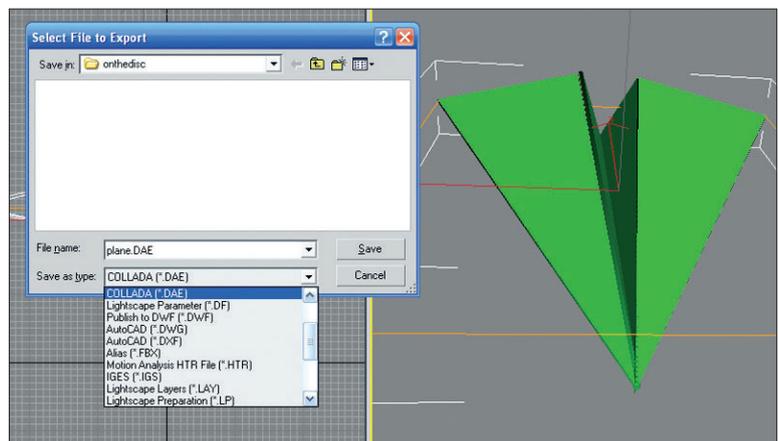
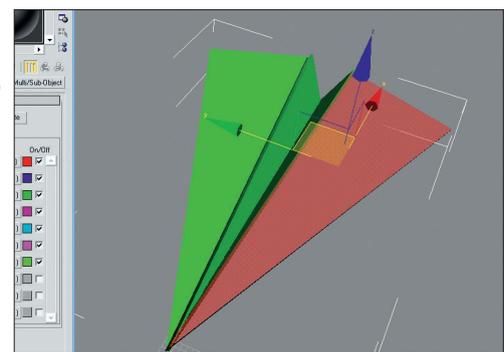
#### TURBO SQUID

Not into the whole 3D modelling game but still want to add 3D to *Flash*? If so, Turbo Squid ([www.turbosquid.com](http://www.turbosquid.com)) is the site for you. Over 172,000 royalty-free 3D models and textures are available on the site. Yes, you have to pay for most of them, but dig a bit deeper and you'll find quite a number of free ones, too.



**5** Open the example *plane.max*. This is a very simple model of a paper plane, which has a very low poly count. Part three of this tutorial will be devoted to creating a low poly model, texturing and unwrapping to add textures to your *Papervision3D* creations. For now we'll examine how this object's COLLADA file is produced and set up in *Flash*.

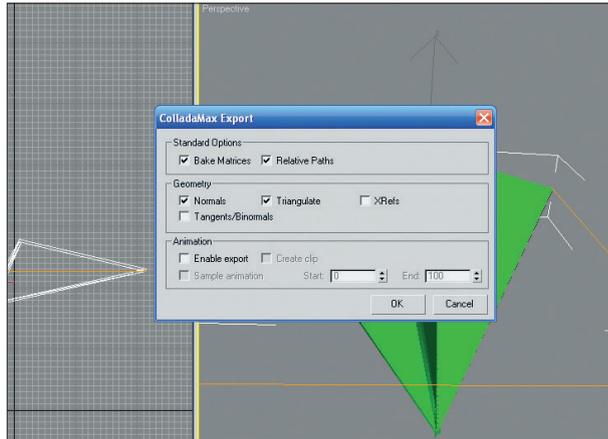
**6** For the best results in *Papervision3D*, your model needs to be optimised to have as low a poly count as possible. Unwanted and extraneous faces and vertices will only cause poor results in *Flash*. For essential tips and tricks for merging vertices and crushing your poly counts, visit [www.infinitee-designs.com/Tutorials-3DSMax-1.htm](http://www.infinitee-designs.com/Tutorials-3DSMax-1.htm)



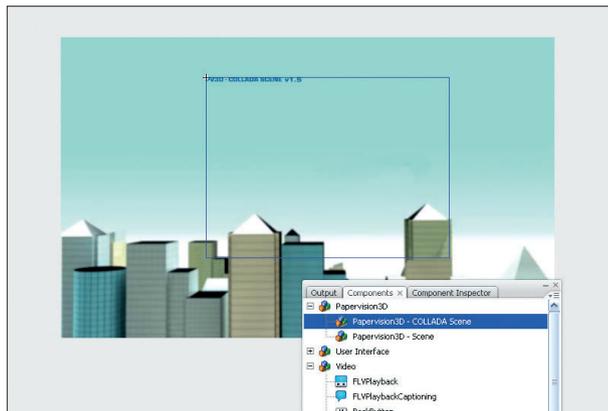
**7** We need to keep our resulting COLLADA file as lean and mean as possible. This is why we keep the poly count of our model as low as possible. The higher the poly count, the bigger the COLLADA file, which will be hooked up to the *Papervision Flash* component. Choose File→Export and enter 'plane' in the file name box. In the 'Save as type' dropdown menu, go to COLLADA(\*.DAE) and then click on Save.



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**8** In the ColladaMax Export dialog box, be sure to select Bake Matrices and Triangulate. Navigate to your saved COLLADA file. You can open this in a text editor to view its contents. It may look like a mess of text but holds details of your model's structure, material and light names – it's a 3D model in a document. We'll examine this more when we bake textures to our model in the next part of this tutorial.

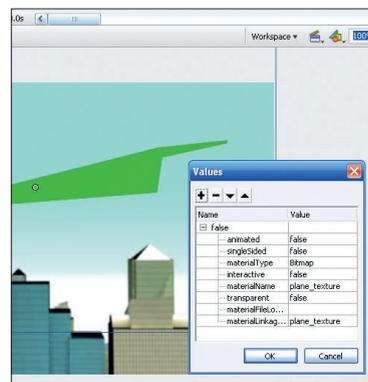
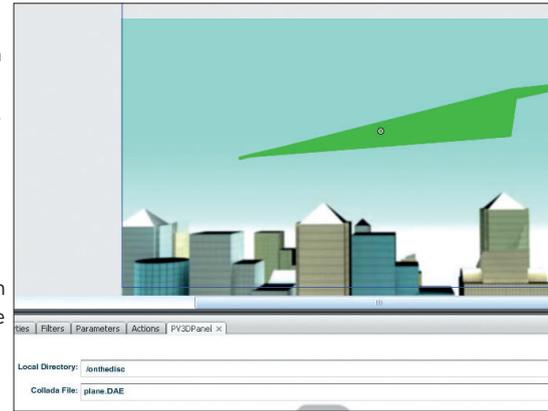


**9** Open *Flash CS3*. Create a new AS 3 document (650x400). Create two layers: 'Background' and 'COLLADA Scene'. Import the bg.jpg image on this issue's CD as your background. From the Components panel drag out a Papervision3D – COLLADA Scene onto the stage and give it an instance name of Scene. Rescale the COLLADA Scene to match the movie and position it at X 1.5 and Y -56.6 in the properties inspector.

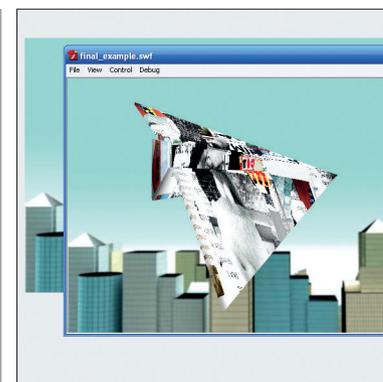
### WIKI WHACK

In this ever-changing *Papervision3D* world, keep an eye on the very informative wiki [http://wiki.papervision3d.org/index.php?title=Download\\_from\\_SVN](http://wiki.papervision3d.org/index.php?title=Download_from_SVN). The *Papervision3D* community is very active, and examples and assistance can be found on the message boards and portal.

**10** Select the PV3Dpanel tab. In Local Directory navigate to your working directory. Under Collada File choose plane.DAE. The outline object should appear on the stage. If not, select the Camera panel and adjust the zoom and camera Z sliders. The latter moves the camera in 3D space to where it can 'see' our 3D object.



**11** To assign a material to the object go to File→Import to library. Choose texture.jpg, then Open. In the *Flash* library right-click on this file and select Linkage. Check the 'Export for ActionScript' box and name it plane\_texture. In the Parameters box select the materials list; in the Values box hit the + button. In the materialLinkage ID box enter the linkage name plane\_texture.



**12** The *Papervision3D* component makes it easy to add mouse interactivity to your model. Click the Parameters panel and select Scene rotation. Click the drop-down option next to it and select True. Hit Ctrl+Enter to preview your movie. Drag your mouse up and down, left and right to control the position of the 3D object.

**13** The two parts of this tutorial have introduced the *Pv3D* component and using COLLADA files. You've also seen how to add mouse interactivity without having to write a line of ActionScript. Now it's time to create a model in *3ds max* and use the Render to texture option to 'bake' textures, which we can then use in *Papervision3D*. In part 3 next issue, we'll create a fully realised 3D model. **arts**

