Imagery 3D v 0.1

A General 3D File to 3DMF Converter for PowerPC Macintoshes with Quickdraw 3D

By Jeff Lewis

Changes for v0.1.6
Added desktop thumbnails and removed the between file view delay.

Changes for v0.1.5
Added STL stereolithography , and RAW files

Changes for v0.1.4
Added better file type tests for Atari 3D2 format (thanks to Harman Smith for this one).
Problems with 3DS reading mesh colour (could cause crash) and large meshes (>32767 faces or points)
fixed (Thanks to Benjamin M. Hill for this one).

Changes for v0.1.3
Added POL format. Untested since I can't find a sample POL file.
Bug in Wavefront OBJ code that causes the app to hang reading these files is fixed

Changes for v0.1.2
Bad startup test which would stop the app from running on most machines is fixed

Introduction

This is the 0.1 version of Imagery 3D, a general 3D file to 3DMF graphics converter. As you can probably deduce from the "0.1" version, it's not finished - and for that matter, it's barely started, but I wanted to get this out so that people would have something convenient with which to convert file from the myriad 3D file formats into Quickdraw 3D format.

Requirements

Imagery 3D runs on Apple Macintosh PowerMacs or clones and requires Quickdraw 3D which is included in MacOS 7.5.5 and later, or can be obtained at <http://quickdraw3d.apple.com/>. A Windows95 version for Quickdraw 3D for Windows and for Direct3D may appear in the future, but I can't say when or if it will.

Warnings and Gripes

Let me make this reallyclear. This is not a final or even complete program.

A lot of error checking is missing both on my side and on QD3D's side. That means that quite simply, you use this - you use it at your own risk. I can assure you with an almost 100% certainty that you'll get crashes. However, at the moment, it's pretty stable overall so I figured it was time to pop out a copy.

There are two major problems with Imagery 3D at the moment. One is that it probably will not handle all features of any given file format. Simply put, 3DMF just doesn't support a lot of things like animation and even some basic geometry forms. I've tried to compensate where possible, but I'm still working out the details.

The other is that it is actually possible to use a valid sequence of QD3D calls, all returning successful status messages, and get a 3DMF file which can crash the viewer. Even using the debugging version of QD3D doesn't show any problems, so it's hard to fix this.

That being said, I have to muddle through this the hard way which means this taking longer than I'd have liked.

One other thing

Wouldpeople please **stop using text** for 3D graphics files? I mean really - how many people actually sit down and type in a complete 3D model by hand? This is throwback to the old WordPerfect days when people felt they had to be able to manually edit the tags in a file. Build a modeller already and go binary. It takes **way** less space and is much easier to parse. It also forces file designers to actually think things out before coding them than just dumping out text and hopefully fixing it later.

Formats

At this time, the following formats are supported - textures are NOT supported in any format, lights are in some:

Tested (more or less)
.3D2	Atari CyberCad 3D2	
.3DS	3DStudio 3DS	(colour supported)
.3DX	Atari 3DX	
.COB	Caligari COB	(colour supported)
.LWO	Lightwave LWO	(colour supported)
.NFF	Neutral File Format	(see note below)
.ENF	Neutral File Format	(see note below)
.OBJ	Wavefront OBJ	
.FIGURE	Fractal Poser v2.0 'figure' ACTR resources.	
.TPL	TPoly	
.TNP	TPoly	
.BYU	BYU Movie BYU	
.RAW	RAW files	
.STL	Stereolithography file	

Untested (if you have a sample of these files, let me know...)
.SGO	Silicon Graphics SGO
.POL	InnovMetric IMCompress Polygon files

Under development now
.DXF	Autocad DXF R13
.ASC	3DStudio ASCII
.RIB	Renderman RIB files

DXF files are partially supported and R13 is being rolled in at the same time except for '3DSOLID' groups which are proprietary and I don't have time to reverse engineer them (and I don't have any samples of these anyway...).

NFF/ENFF/ENF Files

"A foolish consistancy is the hobgoblin of an simple mind." - H D T.

"A foolish inconsistancy is the hobgoblin of an arrogant programmer." - Me.

There are TWO completely different and more or less unrelated files which use the NFF file extension. In fact, there are TWO relatively different and *related* file formats which use the NFF file extension. If I could find the people who did this, I would have them taken out and shot, slowly. I find it hard to believe that two independent groups of people could hit on such a lifeless and unimaginative name as 'Neutral File Format', so I have to assume that someone did this on purpose. At least one of them had the sense to change their variant's file extension to '.ENF'.

Well, Imagery 3D handles them all automatically. So there. :)

To be added (not in any particular order)
Imagine TDD
OFF
Inventor
StrataStudio 1.5
Infini-D 3.x
URay
Radience
VRT
MDSL
P3D
QRT
Rayshade
VIZ
POV-Ray (yikes)
X3D
YAODL
RIB
SFF
PRT
PLG
NURBS
OOGL
MGF
MAZ
GLC

Inclusion in this list does not constitute a guarentee that any listed format will ever be supported, only that I'll try. For example, POV-Ray is virtually a programming language and converting a file in that format to 3DMF is almost impossible without writing an entire interpreter.

How to use Imagery 3D

Couldn't be easier. Select the files you want to convert - any format that's supported. Drag it onto the Imagery 3D icon. Sit back and watch the show. As each file is converted, a gauge bar will show how much of the file is done. At the end of the file, a miniviewer window will pop up and show you what the converted file looks like while the next file converts for for 10 seconds after the last file (or until you click). If you want to cancel, click on the 'Cancel' button. Imagery 3D can operate in the background.

All the files created will be in the same folder as Imagery 3D with the same name as the original files with '.3dmf' added to the end. All created files are set for SimpleText and are '3DMF' type files. This means that you cannot run Imagery 3D from a locked disk or from a CD-ROM - yet. V0.2 will fix this.

One important note: Imagery 3D, like it's 2D cousin, relies on the filename extension to figure out what the file format is. It will do some basic checking, so it's not going to explode if you lie (well - actually, it probably will) but much like bitmap files, in a lot of cases it's hard to tell that the format is wrong until the thing blows up in your face. The case of the name isn't important.

For example:

     ds9.lwo or DS9.LWO are both Lightwave LWO files.

Hey, what's with the whacky colours in the progress bar?

Each colour indicates some specific process - adding an object, colouring faces... that sort of thing. At the moment, the colour use is not consistant, I'll fix that later. You'll also notice that with some formats, the gauge is filled several times for one files - some formats have to be scanned several times. Other formats (Amiga files typically) will have the gauge going back and forth because the file is read as a database rather than linearly.

Basically, use the progress bar more as a 'is it still working?' indicator.

Getting in contact

I can be reached via email at:

werewolf@vargr.com

Imagery 3D's home page is

http://www.vargr.com/imagery