OBJ Files

Oregon State University

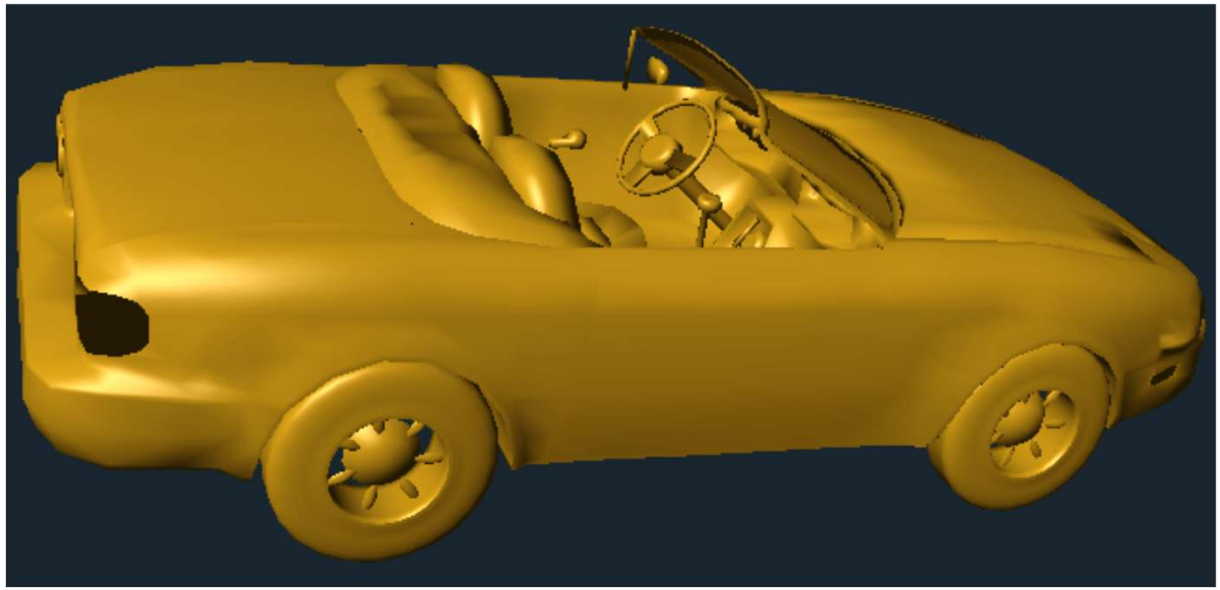
Mike Bailey

mjb@cs.oregonstate.edu

Oregon State University
Computer Graphics

OBJ Files

An OBJ file is a way to transmit 3D geometry information from one program to your OpenGL program. As there are thousands of free OBJ files out there (and a lot of paid ones too), this is a great way to get fun geometry into your program without you having to create it yourself.



The Parts of an OBJ File

v 2.229345 -0.992723 -0.862826
v 2.292449 -0.871852 -0.882400
v 2.410367 -0.777999 -0.841105
v 2.407309 -0.974980 -0.805091
. . .

Vertices

vt 0.202747 0.304978
vt 0.201052 0.414168
vt 0.137383 0.357003
vt 0.263749 0.402974
vt 0.102404 0.424003
. . .

Per-vertex Texture Coordinates
(if there are none of these, you cannot texture this model)

vn 0.628361 -0.426126 -0.650830
vn 0.437900 -0.250054 -0.863549
vn 0.709718 -0.453838 -0.538824
vn 0.720876 -0.356662 -0.594247
. . .

Per-vertex Normals
(if there are none of these, you can only apply per-face lighting to this model)

f 11/11/26 12/15/25 13/19/27
f 13/19/28 12/15/29 15/24/30
f 12/15/29 14/28/31 15/24/30
f 15/24/32 14/28/33 16/34/34
f 16/34/35 14/28/36 18/33/37

Faces
(for each vertex of a face, the numbers are vertex number **/** texcoord-number **/** normal-number)
(to make it more confusing, the texcoord number and the normal number don't need to be there)
(to make it even more confusing, these indices are 1-based, not 0-based)

OBJ File Samples

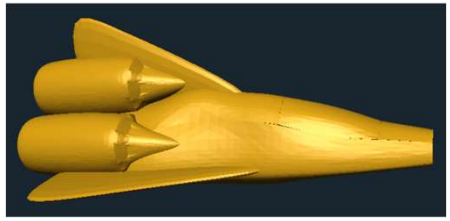
cow.obj

dino.obj

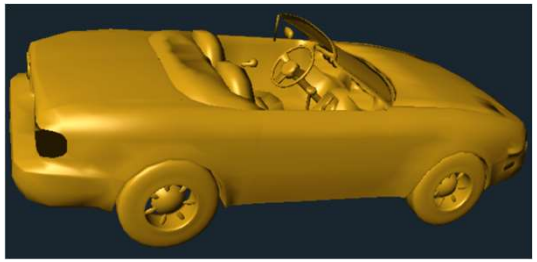
deer.obj

cat.obj

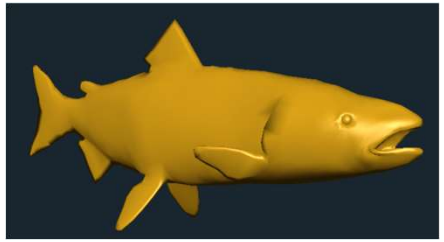
skeleton.obj



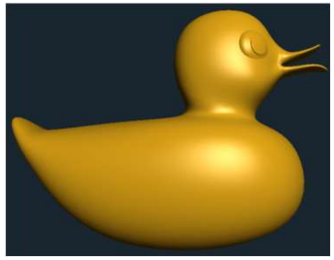
spaceship.obj



car.obj



salmon.obj



ducky.obj

OBJ File Samples

You can find these and more at: http://cs.oregonstate.edu/~mjb/cs557/Obj/

Or, look at the end of the Class Resources Page

Or, Google the phrase: ***Free OBJ Files***

Or, my favorite go-to site for free models (and paid ones) is: https://www.turbosquid.com/

We are Giving You a Function to Load an Obj File into Your Program

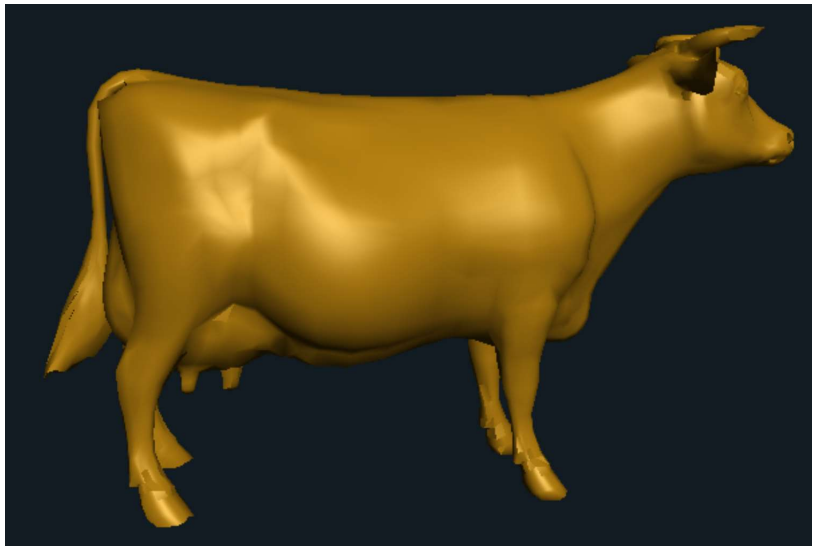
The code for this is in the file: **loadobjfile.cpp**

I usually use this by reading the .obj object into a display list, like this:

```
// create a global variable:
GLuint  DL;

. . .

// do this in InitLists( ):

DL = glGenLists( 1 );
glNewList( DL, GL_COMPILE );
        LoadObjFile( "spaceship.obj" );
glEndList( );

. . .

// do this in Display( ):

glCallList( DL );
```

But, you need to use Lighting!

You are advised not to use these models until we have covered OpenGL lighting!



With lighting – cool!

Without lighting – blech!