

**OBJ Files**



**Oregon State University**  
Mike Bailey  
mjb@cs.oregonstate.edu



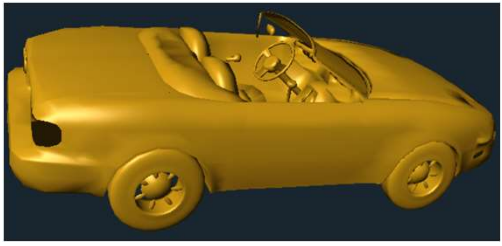
This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](https://creativecommons.org/licenses/by-nc-nd/4.0/).






OBJfiles.pptx mb - August 22, 2022

**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.



mb - August 22, 2022

**The Parts of an OBJ File**

```

v 2.229345 -0.992723 -0.862826
v 2.292449 -0.871852 -0.862400
v 2.410367 -0.777999 -0.841105
v 2.407309 -0.974980 -0.805091
...
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
...
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
...
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



```

**Vertices**

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


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

**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)





mb - August 22, 2022


**OBJ File Samples**




cow.obj




dino.obj




deer.obj




cat.obj




spaceship.obj



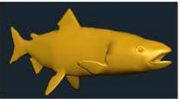
ducky.obj





skeleton.obj



car.obj



salmon.obj

mb - August 22, 2022

## OBJ File Samples

5

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/>



mb - August 22, 2022

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

6

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

I usually use this by placing 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 );
```

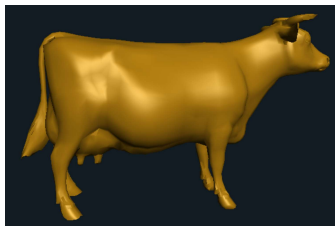


mb - August 22, 2022

## But, you need to use Lighting!

7

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



With lighting – cool!



Without lighting – blech!



mb - August 22, 2022