

Overview:

This week we will be learning how to use the Open Asset Import Library (Assimp for short) to load your program's models.

Materials Provided:

Week6-CodeProvided - A compilable source to start with for this week's assignment.

Objective:

The objective for this week is to learn how to use Assimp to import and work with models of any size and complexity

Assimp:

The Assimp website can be found here: <http://assimp.sourceforge.net/>

The Assimp documentation can be found here: http://assimp.sourceforge.net/lib_html/index.html

Description:

If you want to install Assimp on your own Linux computer, follow the following steps: download the latest version of Assimp from their website. You will also need Boost and CMake. Once you've extracted ASSIMP, you need to build it:

- cd into the **assimp--x.x.x-sdk** directory
- **mkdir build**
- **cd build**
- **cmake ..**
- **make**
- **sudo make install**

After Assimp is installed, in your makefile, you will need to add the path to Assimp. At the end of your library declarations, add: -lassimp

To include Assimp in your project, use:

```
#include <assimp/Importer.hpp> //includes the importer, which is used to read our obj file
#include <assimp/scene.h> //includes the aiScene object
#include <assimp/postprocess.h> //includes the postprocessing variables for the importer
#include <assimp/color4.h> //includes the aiColor4 object, which is used to handle the colors from the mesh objects
```

To read an object file, use the Assimp::Importer::ReadFile function:

```
Assimp::Importer importer;
importer.ReadFile("/File Name/", aiProcess_Triangulate);
```

This function returns the Assimp class aiScene. An aiScene contains materials, meshes, and textures and more, and when assigned the output from the Importer::ReadFile function, it will contain everything from the object file that you will need. (You can check the documentation to see the names and types of the aiScene object members)

The aiScene object contains the member mMeshes, which contains the vertices (mVertices and mNumVertices), faces (mFaces and mNumFaces), and colors (mColors) that you will need to populate your model matrices.

Tutorials:

<http://ogldev.atspace.co.uk/www/tutorial22/tutorial22.html>

<http://www.lighthouse3d.com/cg-topics/code-samples/importing-3d-models-with-assimp/>