

# COMP3320 Introduction to OpenGL

Alex Biddulph

The University of Newcastle, Australia


Semester 2, 2021

# Introduction to OpenGL

- This lecture series aims at providing a brief overview of OpenGL and associated libraries
- A series of C++ code examples are also provided
- The code example try to provide modern C++ wrappers around the C libraries in order to simplify the code



# Libraries

The following libraries are used or have a wrapper in the code examples

Library	Description
 <a href="#">OpenGL</a>	For all of our 3D graphics needs




# Libraries

The following libraries are used or have a wrapper in the code examples





Library	Description
 <a href="#">OpenGL</a>	For all of our 3D graphics needs
 <a href="#">GLFW</a>	Window and input management

# Libraries






The following libraries are used or have a wrapper in the code examples

Library	Description
 <a href="#">OpenGL</a>	For all of our 3D graphics needs
 <a href="#">GLFW</a>	Window and input management
 <a href="#">GLAD</a>	OS-specific library abstraction for OpenGL functions







The following libraries are used or have a wrapper in the code examples

Library	Description
 <a href="#">OpenGL</a>	For all of our 3D graphics needs
 <a href="#">GLFW</a>	Window and input management
 <a href="#">GLAD</a>	OS-specific library abstraction for OpenGL functions
 <a href="#">GLM</a>	OpenGL mathematics library

The following libraries are used or have a wrapper in the code examples








Library	Description
 <b>OpenGL</b>	For all of our 3D graphics needs
 <b>GLFW</b>	Window and input management
 <b>GLAD</b>	OS-specific library abstraction for OpenGL functions
 <b>GLM</b>	OpenGL mathematics library
 <b>SOIL</b>	For loading texture files

The following libraries are used or have a wrapper in the code examples









Library	Description
 <a href="#">OpenGL</a>	For all of our 3D graphics needs
 <a href="#">GLFW</a>	Window and input management
 <a href="#">GLAD</a>	OS-specific library abstraction for OpenGL functions
 <a href="#">GLM</a>	OpenGL mathematics library
 <a href="#">SOIL</a>	For loading texture files
 <a href="#">Assimp</a>	For loading 3D models











The following libraries are used or have a wrapper in the code examples


Library	Description
 <a href="#">OpenGL</a>	For all of our 3D graphics needs
 <a href="#">GLFW</a>	Window and input management
 <a href="#">GLAD</a>	OS-specific library abstraction for OpenGL functions
 <a href="#">GLM</a>	OpenGL mathematics library
 <a href="#">SOIL</a>	For loading texture files
 <a href="#">Assimp</a>	For loading 3D models
 <a href="#">OpenAL</a>	For all of our 3D audio needs

The following libraries are used or have a wrapper in the code examples

Library	Description
 <a href="#">OpenGL</a>	For all of our 3D graphics needs
 <a href="#">GLFW</a>	Window and input management
 <a href="#">GLAD</a>	OS-specific library abstraction for OpenGL functions
 <a href="#">GLM</a>	OpenGL mathematics library
 <a href="#">SOIL</a>	For loading texture files
 <a href="#">Assimp</a>	For loading 3D models
 <a href="#">OpenAL</a>	For all of our 3D audio needs
 <a href="#">libsndfile</a>	For loading audio files

The following libraries are used or have a wrapper in the code examples

Library	Description
 <a href="#">OpenGL</a>	For all of our 3D graphics needs
 <a href="#">GLFW</a>	Window and input management
 <a href="#">GLAD</a>	OS-specific library abstraction for OpenGL functions
 <a href="#">GLM</a>	OpenGL mathematics library
 <a href="#">SOIL</a>	For loading texture files
 <a href="#">Assimp</a>	For loading 3D models
 <a href="#">OpenAL</a>	For all of our 3D audio needs
 <a href="#">libsndfile</a>	For loading audio files

All code examples can be found at the following  [Github repository](#)

COMP3320 Repository

3rdparty

introduction

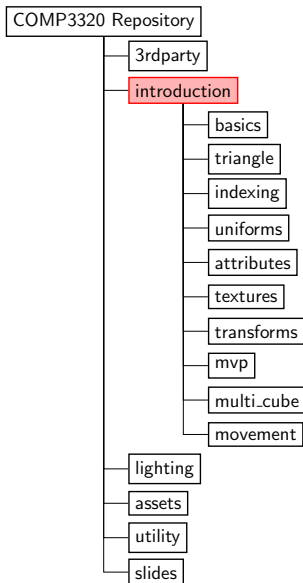
lighting

assets

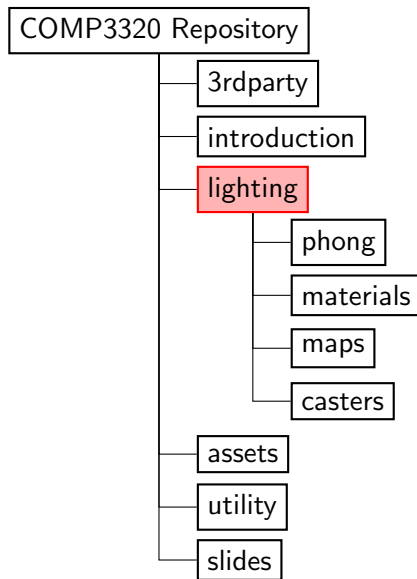
utility

slides

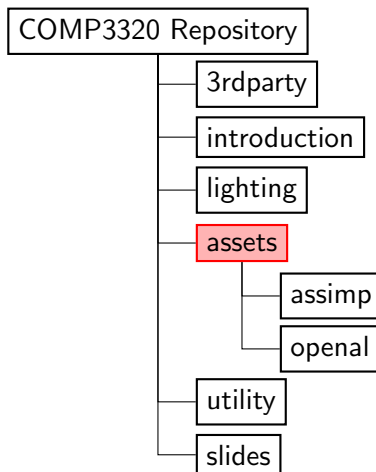
# Github Repository



# Github Repository



# Github Repository



# Github Repository

