GD2P04 **Advanced Graphics for Games**	**Summative Assignment** **Summative 3** **Weightage: 40%**	**Date: 26th May, 2017** **Submission Dates:** **16th June, 2017** **Time: 10:30 a.m**

Submission filename:
YYYY-MM-DD – GD2P04 – Summative3 – Student Name.zip

Technical Demo:

Create an environment in which the following are demonstrated.

1) LOD with Tessellation Shader.
2) Add FPS/ Over shoulder camera. Shoot objects in the direction you are facing. Camera should follow the terrain in the Y axis.
3) Generate procedural terrain using Perlin Noise or Diamond Square algorithm.
4) Add Post processing to the Scene (Edge detection or Blur or Greyscale).
5) Add toon shader to one of the objects.

- Document report explaining how each effect is implemented.

Build Quality:
The source code is required to display the following features:

- Compiling code:
  - **Code must build as submitted** in both Debug and Release.
  - No warnings or errors present at Warning Level three for all build targets.
- A folder containing an electronic source code must be included with the submission.
  - Visual Studio 2008/2010/2012/2013/2015 solution file, project file, and source files are required.
  - Required external game resources, libraries and dlls.
  - **All other files must be removed.**

Coding Standards:
The source code is required to adhere to the Media Design School's Game Development Faculty's Coding Standard.

Runtime Quality:
The application must not have the following issues:

- Memory leaks.
- Bugs.
- Crashes.

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Technical Features:
The game is required to demonstrate the following features:

- Appropriate, effective and correct usage of:
  - C++.
  - Shader/Stencil buffer/Texturing
  - OpenGL Pipeline
  - Shaders files
  - Shader variables (getting them and setting them)

Interface Features:
The executable is required to provide an intuitive interface with the following features:

- Clear instructions are provided both in demo and an external readme file.
- Controls are clearly identifiable and intuitive while playing.
- The interface design makes effective use of screen space.
- The demo can be restarted without exiting the executable.

Release Build Zip:
A release build executable must be zipped and included with the submission. This is equivalent to the final build of the game which is about to be mastered for release. Ensure that project settings are set to Release when creating this build.

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Submission Checklist:

Source code folder:

- Solution file (.sln).
- Project file (.vcproj).
- Source files (.cpp, .h).
- Library files, if any (.lib).
- External files such as .ini,.mp3
- **Intermediate files have been removed.**

Release build zip:

- Stand alone executable (.exe) file.
- Readme file (.txt).

Document

The file structure and file names of the submission must follow the file hierarchy listed below. Replace the underlined portions with the appropriate values; italic text identifies the required folders.

- **YYYY-MM-DD – GD2P04 –** Summative3 **– Student Name.zip**
  - ***Source – Student Name***
    - **Game Name.sln**
    - …Project and source code, etc.

ASSESSMENT CRITERIA:

Grade D:
- No work submitted **OR**
- Work submitted but the executable does not work **OR**
- The executable works but it does not demonstrate the tasks enlisted
- Only one technique is implemented.
- Documentation submitted explaining the effect implemented

Grade C:
The development of an application that has:
- Only two items are implemented.
- Demo that can be restarted without exiting the application
- Documentation submitted explaining the effects implemented

Grade B, as per grade C and:
- 4 items are implemented
- The interface makes good use of screen space. Application runs with minimum bugs and errors
- Documentation submitted explaining the effects implemented

Grade A, as per grade B and:
- 5 items are implemented in a professional manner
- The interface makes excellent use of screen space. Application runs with negligible bugs and errors.
- Documentation submitted explaining the effects implemented

Grade A+, as per grade A and:
- Add any one of the following
    - Motion Blur post processing effect
    - Compute shader - computation for physics calculation in physics assignment.
    - Add Shadow effect (e.g. Shadow Mapping). Objects should cast shadow on the terrain.
- Documentation submitted explaining the effects implemented