Computer Graphics
Course work Part 1 - Report

Dimitar Hristov
40201757@live.napier.ac.uk
Edinburgh Napier University - Computer Graphics (SET08116)

Abstract

The aim of this project is to create a realistic 3D scene, rendered in real-time using OpenGL and the skills developed in the Computer Graphics module at Edinburgh Napier University. The project is inspired by the series Games of Thrones and previous years projects found on the games society website at Edinburgh Napier University. The scene is meant to be visually intriguing and more importantly it is meant to demonstrate core understandings of Computer Graphics principles. A wide variety of graphics techniques were used to create the 3D scene, from multiple lights and light types to shadowing, material shading and transform hierarchy.

Keywords – 3D scene, OpenGL, C++, GLSL, lighting, shadows, normal mapping, real time, phong

1 Introduction

Project Aims You should cite References like this: [1]. The references are saved in an external .bib file, and will automatically be added ot the bibliography at the end once cited.

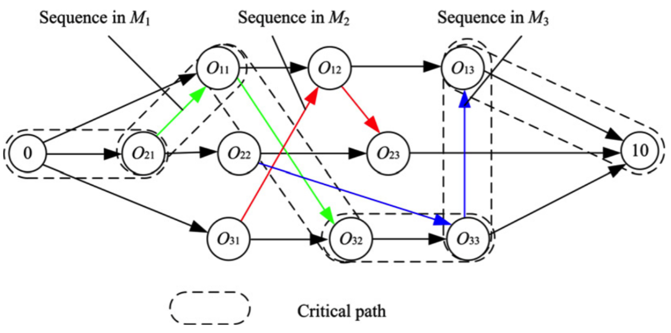

Figure 1: **ImageTitle** - Some Descriptive Text

2 Formatting

Some common formatting you may need uses these commands for **Bold Text**, *Italics*, and underlined.

2.1 LineBreaks

Here is a line

Here is a line followed by a double line break. This line is only one line break down from the above, Notice that latex can ignore this

We can force a break
with the break operator.

2.2 Maths

Embedding Maths is Latex's bread and butter

$$J = \left[\frac{\delta e}{\delta\theta_0}\frac{\delta e}{\delta\theta_1}\frac{\delta e}{\delta\theta_2}\right] = e_{current} - e_{target}$$

2.3 Code Listing

You can load segments of code from a file, or embed them directly.

Listing 1: Hello World! in c++

```
#include <iostream>

int main() {
  std::cout << "Hello World!" << std::endl;
  std::cin.get();
  return 0;
}
```

Listing 2: Hello World! in python script

```
print "Hello World!"
```

2.4 PseudoCode

```
for $i = 0$ to $100$ do
    print_number = true;
    if i is divisible by 3 then
        print "Fizz";
        print_number = false;
    end
    if i is divisible by 5 then
        print "Buzz";
        print_number = false;
    end
    if print_number then
        print i;
    end
    print a newline;
end
```

Algorithm 1: FizzBuzz

3 Conclusion

References

[1] S. Keshav, “How to read a paper,” *SIGCOMM Comput. Commun. Rev.*, vol. 37, pp. 83–84, July 2007.