

# Solar System Model

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## Abstract

The aim of this project was to render a realistic scene using the skills developed in the Computer Graphics Module at Edinburgh Napier University using OpenGL and C++. The scene produced in this project is a solar system, inspired by my adoration for the stars and the Star Wars movies add reference later. The report will cover the different techniques used in the project, including transformation hierarchy, shadowing, lighting, texturing and material shading. These techniques are widely used in a variety of games.

**Keywords** – Shadowing, Lighting, Multi-Texturing, Sky-box, Multiple Cameras, Material Shading

## 1 Introduction

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

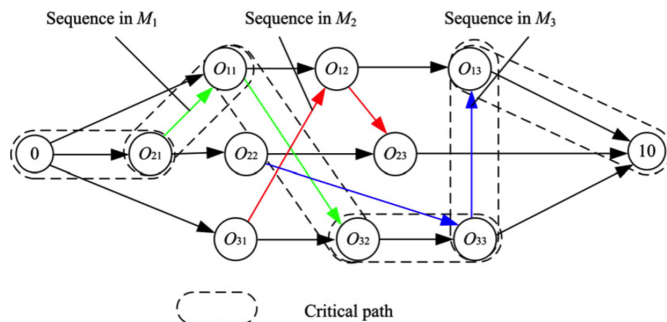


Figure 1: ImageTitle - Some Descriptive Text

## 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++

```
1 #include <iostream>
2
3 int main() {
4     std::cout << "Hello World!" << std::endl;
5     std::cin.get();
6     return 0;
7 }
```

Listing 2: Hello World! in python script

```
1 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.