COMP350: Algorithms & Optimisation

1: Module Intro & The Optimisation Process

Learning outcomes

By the end of today's session, you will be able to:

- **Recall** the key stages of the graphics pipeline
- **Explain** the differences between a CPU and a GPU
- **Write** basic programs using SDL and OpenGL

Module Introduction

Module Aims

- Gain in understanding of techniques used professionally in the management of computing resources.
- Acquire knowledge and experience of concepts used to predict and model resource use.
- Acquire the knowledge and experience to enable critical evaluation of trade-offs to generate optimisation and efficiency.

Assignment Details

Assignment Overview

- Optimisation Task - 50%
- Porting Task - 30%
- Research Journal - 20%

Assignment 1 - Optimisation Task

- Take an existing project and optimise
- You have to identify the tools required for optimising
- I am more interested in your **process** during the task
- First Submission - **Friday 9th of February at 5pm**
- `https://github.com/Falmouth-Games-Academy/bsc-assignment-briefs/raw/2017-18/comp350/1/comp350_1.pdf`

Assignment 2 - Porting

- Continue on with the project from Assignment 1
- Port your project to one of the following Platforms - PS4, Android, iOS
- You will have to fulfil some of the Technical Requirement for that platform
- `https://github.com/Falmouth-Games-Academy/bsc-assignment-briefs/raw/2017-18/comp350/2/comp350_2.pdf`

Assignment 3 - Research Journal

- Write a 1200 word research journal on optimisation & porting
- Contribute to a community Wiki
- `https://github.com/Falmouth-Games-Academy/bsc-assignment-briefs/raw/2017-18/comp350/3/comp350_3.pdf`

Optimisation

Optimiser Mantra

1. Benchmark
2. Measure
3. Detect
4. Solve
5. Check
6. Repeat

Coffee Break

Housekeeping and Admin

Supporitng Hardware

Debrief

- **Recall** the key stages of the graphics pipeline
- **Explain** the differences between a CPU and a GPU
- **Write** basic programs using SDL and OpenGL