School of Systems Engineering

Assessed Coursework Set Front Page

Module code: SE1PR11

Coursework description: Final Project

Work to be handed in by 10:30 on: 7th March (minor), 21st March (minor) & 19th April (major)   to Room G47

Overall, this piece of coursework is regarded as *major*

NOTES:

All coursework should be handed in at the Student Information Centre (G47).

You must complete and sign a Statement of Original Authorship for each item of coursework. This is a statement that the item submitted is your own work. Copies of the Statement of Original Authorship can be obtained from the Student Information Centre.

When you hand in coursework you should be given a receipt; nevertheless it is a wise precaution to keep your own copy of all coursework.

A *major* item of coursework is one that carries more than 10% of the marks available for a module. Anything else is a *minor* item of coursework.

For *major* coursework 10% will be deducted from your mark if your work is submitted up to a week late (that is 10% of the maximum possible mark). A mark of zero will be awarded if your work is submitted more than a week late. You are however strongly recommended to hand work in by the deadline.

For *minor* coursework a mark of zero will be awarded if your work is submitted late.

If you believe that you have a valid reason for failing to meet a deadline then you should complete an Extenuating Circumstances form and submit it to the Student Information Centre as soon as is practicable.

Introduction

This project is intended to allow you to demonstrate your ability to design, develop and implement a program, in C or C++

You have a **choice** of two different tasks: one is to write a program a grid-based game (Project 1) the second is to develop an image processing toolbox (Project 2).

This is an individual piece of work. Feel free to discuss with other students approaches and ideas. Likewise seek help with programming problems. Such help must be acknowledged. You can use available standard libraries; you must only use C or C++ libraries that are available on the PCs in G56. Your code will be compiled and run there.

Your final submission must be your own work.

Project 1 – Game

This project is to produce a grid-based game. The only constraint is that the grid must be square.

Project 2 – Image Processing

This project is to process an image to either modify it or to extract some characteristics or content relating to the image. For example, to adjust the contrast of the image or to perform simple edge detection. A Visual Studio project is available on Blackboard to get you started. The project allows an image to be read/written from disk and for the image pixel intensities to be accessed. Sample images are included on Blackboard, however you can use your own.

Staged Assessment and Submission – Weeks 8, 9 & 11 & 19th April

1. **The Project Design Sheet must be completed in your assigned practical session and handed in to G47 by 10.30am on** 7th March**.**

2. The **Project Progress Monitoring Sheet** must be **completed during your assigned practical session in week 9** and handed in to G47 by 10.30am on 21st March.

3. The **Final Project Demo Sheet** must be **completed in your assigned practical in week 11** and submitted to G47 together with a **writeup** (see below) by 10.30am on 19th April.

   The writeup should include the following three sections only:
   • **Design**: Provide details of your final design (based on your work in weeks 7-8)
   • **Development**: Provide details of the development (including use of appropriate programming constructs, data and techniques), how it relates to the design specification, and implementation details of your program
   • **Testing**: Provide details of testing with reference to the design specification. Include representative examples.
   • **Conclusions and Review**: Two paragraphs: one paragraph on a review of what you have learnt by doing this piece of work and any difficulties you encountered, and one paragraph on overall conclusions

   Finally, also by the deadline of 10.30am on 19th April, supply a functioning Windows executable, source code and all other project files. This must be in the form of a ZIP file. The ZIP file must be named with your username followed 1 if you do Project 1, or 2 if you do Project 2. **It must be submitted electronically to the SE1PR11 Blackboard upload link provided**. Before electronically submitting be certain that you have removed any directory specific links.