Introduction to Programming

High Distinction Task 11.4: High Distinction Project

Overview

To be eligible for top marks in this unit, you must demonstrate significant depth of understanding of the topics and concepts related to the unit learning outcomes.

Purpose: Demonstrate that you have developed a significant depth of understanding of the topics and concepts related to the unit.

Task: Complete one of the tasks suggested, or a similar task, in order to develop evidence of your understanding. **Please check the marking rubric to determine what the requirements are for each grade based on the HD Project.**

Time: This must be completed before you submit your portfolio, but it is advisable to submit drafts and plans earlier for feedback.

Resources: Web, library, course materials, journal articles, etc.

> **Note**: You should only start this task when your custom program meets the High Distinction standard. This research on its own is not sufficient evidence for your portfolio to be eligible for a High Distinction.

Submission Details and Assessment Criteria

You must submit the following files to Doubtfire:

- Details of your evidence in a PDF document, with additional files attached to your portfolio.

Make sure that you discuss the task and your plan with the lecturer and/or your tutor before starting.

> **Note**: Do not start this task until you have completed your custom program.

Instructions

The aim of this task is to demonstrate significant depth of understanding related to the unit's topics and concepts. Several ideas are presented, but you are free to do this in any way you see fit.

This task works in conjuncture with the HD standards on the Custom Program. With the custom program you are demonstrating that you can apply the concepts learnt, whereas in this task you are demonstrating that you can explain and discuss the concepts with similar depth of understanding.

There are a number of things you can do to help demonstrate your ability to explain and discuss programming concepts at depth. The following types of suggestions indicate appropriate projects in ascending order of grade level for this task:

- **Basic:** Provide a tutorial on the use of Gosu, Tcl/Tk or other Ruby gems to accomplish a task.

  - This could be a walkthrough to write a game, or use some more advanced features (networking, web, sprites, physics, etc).

  - For higher grade levels you should relate use of the libraries/gems to coding with good program design and abstraction.

- **Intermediate:** Explain a concept. The concept must be challenging, and you should do BOTH the following:

  - Write a research report on the concept explaining it and drawing on the literature.

  - Suitable concepts could be programming pattern or design principle.

  - Produce a video. Explain your concept. Maybe show example code to help with this.

- **Advanced:** Conduct a small research project aiming to answer a question related to programming or program design, or propose a new design pattern or practice.

  - Create a plan to outline the question and method for your research project.

    The **research question** is the question you aim to investigate in the project.

    The research method describes how you will approach answering the question.

    Collect evidence to address your research question.

> **Tip**: Discuss your ideas with the tutor and lecturer before starting the project! **Make sure you check the marking rubric on Blackboard for this task before starting.**