



Object Oriented Programming

High Distinction Task 6.4: HD Level Custom Program Design

Overview

At this stage you should have enough understanding of programming to start thinking about creating your own custom program.

- Purpose:** Plan out the overall structure for your custom program — this forms the start of your Custom Program for High Distinction
- Task:** Create a plan with high level overview to discuss with your tutor
- Time:** This task should be completed before you start your custom program.

Note: If you are not currently up to date you should skip this task and return to it once you are up to date with the Pass Tasks. Do not allow Distinction Tasks to delay you in keeping up with the unit's Pass Tasks.

Submission Details

You must submit the following files:

- A basic overview of your program (extend the D level custom program design template)
- A picture of your class diagram (photo or scan)
- A picture of one or more sequence diagrams

Instructions

In this task you will extend your D Level Custom Program design and provide a plan for elevating your program to a HD level. Using your D Level Custom Program design as a starting point, add details on:

1. Any design patterns you plan on using.
2. What complexity or additional functionality you will add to elevate your program to a HD level.

You should update your UML class diagram where appropriate.

Note: This plan is an extension of the D level custom program plan. You only need to make one custom program, but you need to complete both plans to show how your program will meet both the D, then HD criteria.

Here are some steps to get you started:

1. Make a copy of your D level custom program design.
2. Reflect on any additional features or complexity you could add.
3. Identify opportunities for applying design patterns, or places where you may have already used a design pattern. We would expect to see at least 2, or 3 if you are using a simpler pattern such as Singleton.
4. Describe the design patterns you will use and why.
5. Update your UML class diagram to include the design patterns you have chosen.
6. Describe what makes your new program design more complex and/or well done than a D level custom program design.
7. Show your plans to your tutor, lecturer, help desk staffers, and/or friends to get some feedback.

Tip: One great way to show complexity to a HD-level is to demonstrate how your program design can handle increased scale. For example, how easy would it be to add more functionality to your program, to refactor or replace components, or reuse classes in other programs?

Note: Your program should be different from the Pass and Credit task programs and from the lecture demonstration programs. You want to demonstrate that you have learnt from these tasks and can apply what you have learnt to some other program design.

If you are aiming for a High Distinction, review the related High Distinction Project document for details on how you can ensure this program meets the HD requirements.