Research Task App

# Related Learning Outcomes

|  | Level |
| --- | --- |
| ILO1 - OO Principles | Extremely High |
| ILO2 - OO Language and Library | Extremely High |
| ILO3 - Design, Develop, Test, IDE | Extremely High |
| ILO4 - UML Diagrams | Extremely High |
| ILO5 - Good Practice | Extremely High |

# Important Details

**OO Principles** – Incredibly fluent understanding of the 4 OO Principles, integrating Inheritance, Abstraction, Polymorphism and Encapsulation into the design of this Distinction Task.

**OO Language and Library** – This demonstrates the use of the following language features:

|  |  |  |  |
| --- | --- | --- | --- |
| Class Declaration | Method Declaration | Parameter Declaration | Variable Declaration |
| Constructor Declaration | If Statement | Assignment Statement | Get Property Declaration |
| Set Property Declaration | While Loop | For Loop | Nested For Loop |
| Foreach Loop | Overriding | Virtual Members | Abstract Members |
| Abstract Classes | Events | Timers | Static Members |

and demonstrates the use of the following library features:

|  |  |  |  |
| --- | --- | --- | --- |
| Console IO | Drawing | Primitives (int, bool) | Objects |
| File IO | Playing Music | Class Creation | Unit Tests |
| EventHandlers | Custom Event Args | Interfaces |  |

**Design, Develop, Test, IDE** – used Xamarin Studio to create unit tests, and generate method stubs for me using the Refactor feature. Also used Xamarin for file management, and file structure. Used IntelliSense to make things quicker.

**UML Diagrams** – Expert use of UML Diagrams to convey the class structure of a custom program, completed without guidance or instruction, other than the briefing. The diagram shows class inheritance, as well as the ways that classes interact, whether that be through one class containing an object otherwise specified in the UML, or through inheritance.

**Good Practice** – Good use of encapsulation, inheritance (abstract and virtual members), polymorphism. Also good use of formatting for code readability, good documentation for all public features and some non-public.

Reflection

The research task application that I designed proved to be rather interesting, and allowed me to work with events, event handlers and delegates. This was really useful for understanding of these concepts.

It also took a long time to make.