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.