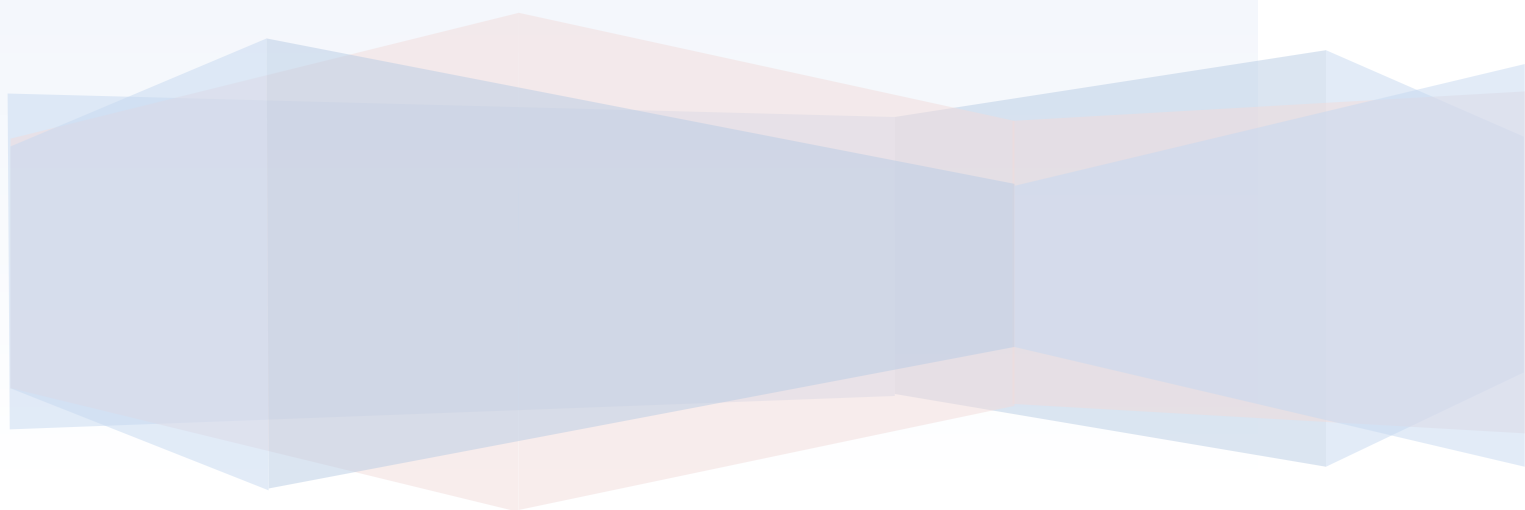# COS30031 Games Programming

Learning Summary Report

Khang Trinh - 102118468

Self-Assessment Details

The following checklists provide an overview of my self-assessment for this unit.

	Pass (P)	Credit (C)	Distinction (D)	High Distinction (Low HD)	(High HD)
Self-Assessment (please tick)	☒				

Self-assessment Statement

	Included? (tick)
Learning Summary Report	x
Time-boxed Demonstration Activity (Lab Test) in Doubtfire	
Complete Pass ("core") task work, approved in Doubtfire	

Minimum Pass Checklist

	Included? (tick)
Additional non-core task work (or equivalent) in a private repository and accessible to staff account.	
Spike Extension Report (for spike extensions) in Doubtfire	
Custom Project plan (for D and/or low HD), and/or High HD Research Plan document in Doubtfire (optional)	

Credit Checklist, in addition to Pass Checklist

	Included? (tick)
Custom Project Distinction Plan document, approved in Doubtfire	
All associated work (code, data etc.) available to staff (private repository), for non-trivial custom program(s) of own design	
Custom Project "D" level documents in Doubtfire, to document the program(s) (structure chart etc) including links to repository areas	

Distinction Checklist, in addition to Credit Checklist

	Included? (tick)
Custom Project "HD" level documents in Doubtfire, to document the program(s) (structure chart etc) including links to repository areas	

Low High Distinction Checklist, in addition to Distinction Checklist

	Included? (tick)
High Distinction Plan document, approved in Doubtfire	
High Distinction Report document, in Doubtfire, which includes links to repository assets	
All associated work (code, data etc.) available to staff (private repository) for your research work	

High High Distinction (Research) Checklist, in addition to D/Low HD Checklist

Introduction

This report summarises what I learnt in COS30031 Games Programming. It includes a self-assessment against the criteria described in the unit outline, a justification of the pieces included, details of the coverage of the unit's intended learning outcomes, and a reflection on my learning.

Overview of Pieces Included

This section outlines the pieces that I have included in my portfolio…

Describe the pieces you have included in your portfolio.

This should contain a __list__ of all the pieces, along with a short statement of __why__ each piece was included.

- In this unit, I've learned about data structures and programming patterns and optimization skills - ways to optimize my program. All tasks included are to demonstrate this.
- I've also included 2 pieces from my side project, one is a discord bot (created in Js) to demonstrate my understanding of task 13 – Command pattern, the other is a health script for components (created in C#) to demonstrate my understanding of task 21 – Messaging system. Since I was not able to complete these tasks on time, these pieces should hopefully be enough to demonstrate my already understanding of the concepts.

Coverage of the Intended Learning Outcomes

This section outlines how the pieces I have included demonstrate the depth of my understanding in relation to each of the unit's intended learning outcomes.

ILO 1: Design

Discuss game engine components including architectures of components, selection of components for a particular game specification, the role and purpose of specific game engine components, and the relationship of components with underlying technologies.

- *Please refer to Doubtfire's rationale*

ILO 2: Implementation

Create games that utilise and demonstrate game engine component functionality, including the implementation of components that encapsulate specific low-level APIs.

- *Please refer to Doubtfire's rationale*

ILO 3: Performance

Explain and illustrate the role of data structures and patterns in game programming, and rationalise the selection of these for the development of a specified game scenario.

- *Please refer to Doubtfire's rationale*

ILO 4: Maintenance

Explain and illustrate the role of data structures and patterns in game programming, and rationalise the selection of these for the development of a specified game scenario.

- *Please refer to Doubtfire's rationale*

Reflection

The most important things I leant:

The name of the patterns and how I've already learned these, I just didn't know what they were called and how beneficial they are

The things that helped me most were:

Tutor, cpp reference, Stack Overflow

I found the following topics particularly challenging:

Graphs, Engine vs Framework

I found the following topics particularly interesting:

SDL related tasks

I feel I learnt these topics, concepts, and/or tools really well:

Collisions, Messaging, Graphs, Data structures

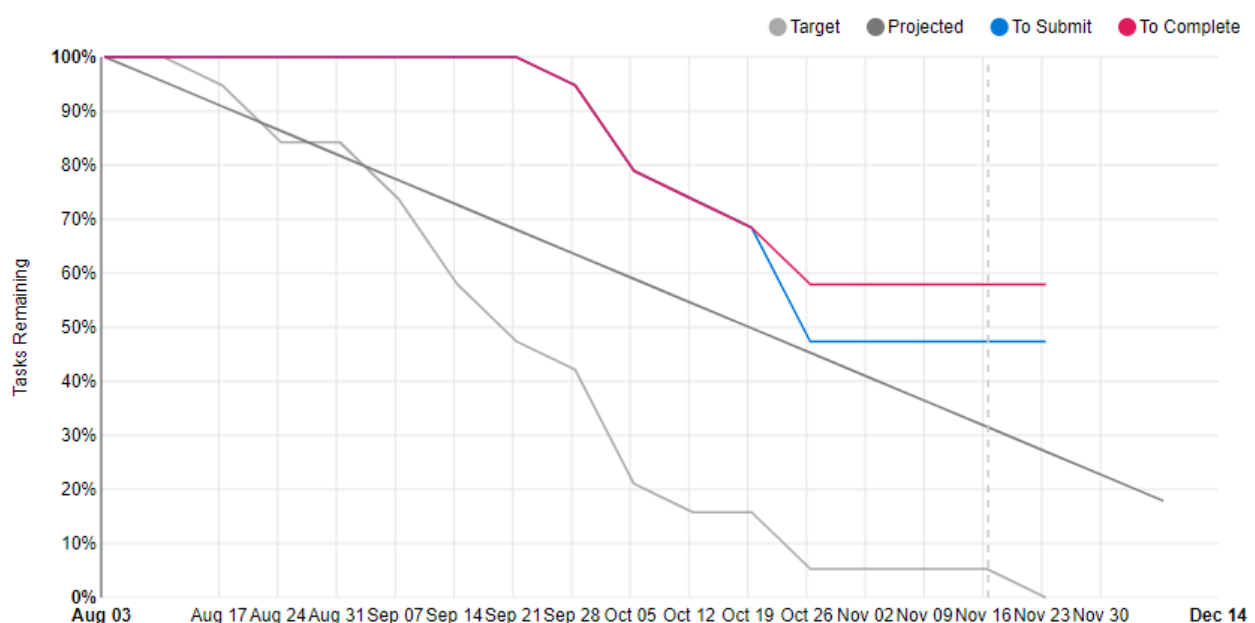### I still need to work on the following areas:

Task specific:

Messaging system: I still don't have a good solution for dependency issues between the container class containing the references of the receivers while the receiver require the container class to subscribe themselves

General:

Commit messages: I've tried

My progress in this unit was …:

This unit will help me in the future:

My up coming capstone for programming degree.

If I did this unit again I would do the following things differently:

I had a capstone unit for my games degree, so I pretty much left this unit no time for completion. If I were to do this unit again, I'd definitely not do it alongside a capstone unit, or if I did, include only these 2 in the same semester and no other units.

Other…:

Conclusion

In summary, I believe that I have clearly demonstrate that my portfolio is sufficient to be awarded a …. grade.

It'd be a fair conclusion to say what I've submitted here won't be enough to even achieve a pass, but I hope to show with my other work that I've grasped the concepts of these topics, I just didn't have time to complete them to this unit's standards.

If I did this unit again I would do the following things differently: