

#### ASSIGNMENT DETAILS

Unit Code	Unit Title
Tutorial/Lab Group	Lecturer/Tutor Name
Assignment Title	
Due date	Date Received

#### DECLARATION

For both individual and group assignments, in the case of assignment submission on behalf of another student, it is assumed that permission has been given. The University takes no responsibility for any loss, damage, theft, or alteration of the assignment.

To be completed if this is an individual assignment

I declare that this assignment is my individual work. I have not worked collaboratively, nor have I copied from any other student's work or from any other source/s, except where due acknowledgment is made explicitly in the text, nor has any part been written for me by another person.

Student Details	Student ID Number	Student Name	Student Signature
Student 1			

To be completed if this is a group assignment

We declare that this is a group assignment and that no part of this submission has been copied from any other student's work or from any other source except where due acknowledgment is made explicitly in the text, nor has any part been written for us by another person.

Student Details	Student ID Number(s)	Student Name(s)	Student Signature (s)
Student 1			
Student 2			
Student 3			
Student 4			
Student 5			

#### MARKER'S COMMENTS

Total Mark	Marker's Signature	Date
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#### EXTENSION CERTIFICATE

This assignment has been given an extension by

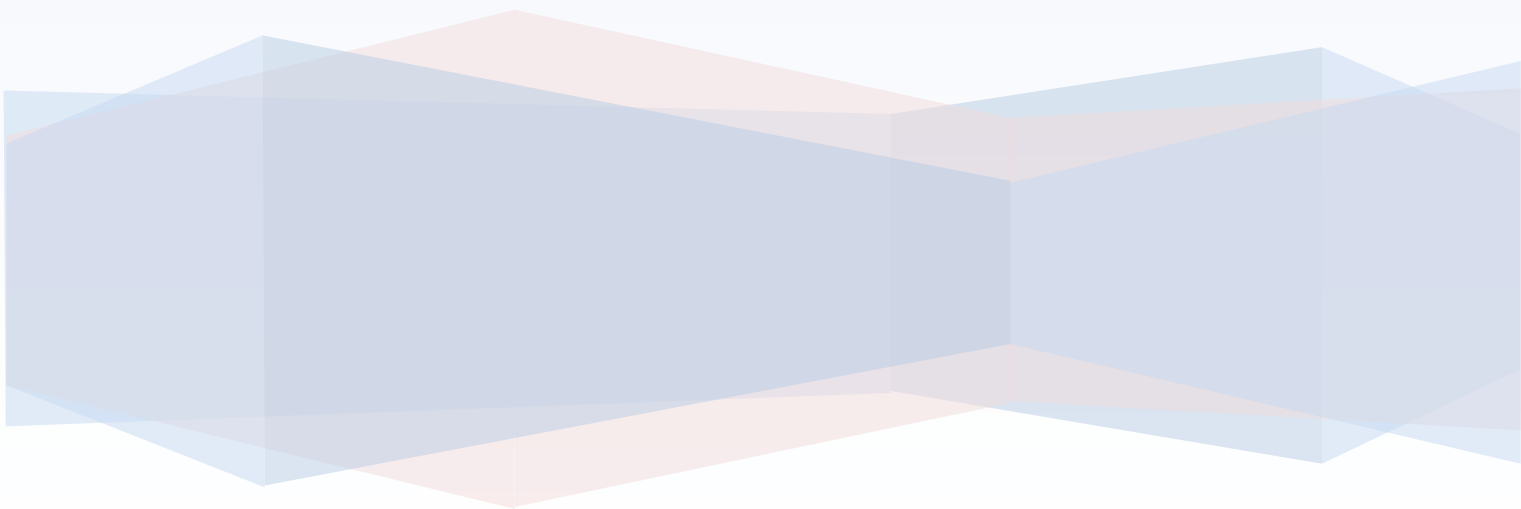
Unit Convenor	
Extended due date	Date Received

# COS30043 – Interface Design and Development

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*Learning Summary Report*

Jason Ang Chia Wuen (100087252)



## Self-Assessment Details

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

	Pass (D)	Credit (C)	Distinction (B)	High Distinction (A)
Self-Assessment (please tick)		✓		

### Self-assessment Statement

	Included (please tick)
Learning Summary Report	✓
Use of Bootstrap that demonstrate coverage of core concepts	✓
Use of AngularJS that demonstrate coverage of core concepts	✓

### Minimum Pass Checklist

	Included (please tick)
Progress on Credit Tasks	✓
All Pass Tasks signed off	✓

### Minimum Credit Checklist, in addition to Pass Checklist

	Included (please tick)
Credit and Pass Tasks done, and Progress on Distinction Tasks.	
Custom program meets Distinction criteria	
Design report with screenshots for custom program	

### Minimum Distinction Checklist, in addition to Credit Checklist

	Included (please tick)
Research report, and associated pieces	
Custom project meets HD requirements	

### Minimum High Distinction Checklist, in addition to Distinction Checklist

## Declaration

I declare that this portfolio is my individual work. I have not copied from any other student's work or from any other source except where due acknowledgment is made explicitly in the text, nor has any part of this submission been written for me by another person.

I understand that I can be penalized (including failing the unit) which are specify in the unit outline for submitting any work / part of work that was not done by me.



Recoverable Signature

X

J A S O N A N G C H I A W U E N

J a s o n A n g

S i r

S i g n e d b y : e 9 f 8 0 8 4 e - 9 1 b a - 4 d 6 f - 9 6 1 7 - 5 b c b 9 b a 3 1 c e 5

Signature:

## Introduction

This report outlines what I have learnt in the unit COS30043 Interface Design and Development. It includes a self-assessment against the benchmark described in the unit outline, a description of the pieces included, details of the scope of the unit's intended learning outcomes, and a reflection on my learning experience in this unit.

## Overview of Pieces Included

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

1. Pass Task 1: Web Accessibility
2. Pass Task 2: Grid Layouts
3. Pass Task 3: AngularJS – Expression & Conditional Directives
4. Credit Task 1: AngularJS – Conditional, Loop & Filters
5. Pass Task 4: Creating Controllers
6. Pass Task 5: Creating Module and Controllers
7. Credit Task 2: Creating Custom Filter & Directive
8. Pass Task 6: Web App Development Principle
9. Credit Task 3: Revisiting Design Consideration & Website
10. Pass Task 7: Mid Semester Assessment
11. Credit Task 4: Consuming External Services
12. Credit Task 5: Weather Forecast App
13. Pass Task 8: Evaluating Custom Framework
14. Pass Task 9: Learning Summary Report

## 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 Concepts and Standards

*Apply fundamental design concepts and standards to the development of user interfaces*

The following pieces demonstrate my ability in relation to this ILO:

- Pass Task 1 demonstrates my ability to apply WCAG guidelines when developing websites. I can develop websites that provide accessibility to a lot of users.
- Pass Task 2 demonstrates my competence to use grid layouts on a website using Bootstrap. I am able to structure elements of a website more appropriately.
- Pass Task 6 showcases my understanding of the web application design principles, concepts and standards to be applied on a website. I have substantial understanding on the basic concepts of user interface development on a website and know how to explain them.
- Credit Task 3 indicates my ability to apply the web application design principles that I've learned on a website. I can develop a website that has pleasant and nice-looking UI using Bootstrap designs all while being compliant to WCAG guidelines on accessibility.
- Pass Task 7 proves my understanding of knowledge of web designs principles to be applied. I am able to get most of the questions correct on the online quiz, showing that I have good understanding on web design principles.

### ILO 2: Language Syntax

*Use contemporary frameworks to create dynamic user interfaces.*

The following pieces demonstrate my ability in relation to this ILO:

- Pass Task 2 demonstrates my capability to use Bootstrap to create grid layouts. I am able to use the Bootstrap framework to position web elements accordingly using its features.

- Pass Task 3 establishes my ability to use AngularJS to create programs that dynamically respond to user input like calculating input and providing an appropriate output. I am able to use AngularJS to obtain user input from input elements like textboxes, perform computation and provide an appropriate output like a certain text or a number.
- Credit Task 1 proves my ability to use AngularJS to create conditional functions, loop, and filters on a website to make it more dynamic. I am able to use AngularJS to perform Boolean logic, create list items using loops, and display certain elements only using a filter.
- Pass Task 4 demonstrates my ability to utilise AngularJS to create controllers on a website. I am able to use AngularJS to make controllers that control the flow of input and output of a website.
- Pass Task 5 showcases my skill to use AngularJS to create custom modules and controllers for a website. I am able to use AngularJS to make different modules with different controllers in order for more modularity.
- Credit Task 2 demonstrates my qualification to use AngularJS to create custom filters to display values in a unique way and custom directives to duplicate certain elements in a website easily. I am able to make custom filters that is able to turn an input into a certain and appropriate output as well as duplicate web elements with similar layouts with custom directives.
- Credit Task 3 demonstrates my skill to use both Bootstrap and AngularJS to visually enhance the user interfaces of a website. I am able to use the Bootstrap framework to apply grid layouts and other visual enhancing features on a website as well as AngularJS to give the website more functionalities.
- Pass Task 7 demonstrates my understanding of Bootstrap and AngularJS frameworks. As I am able to acquire high marks for the online quiz, this shows that I have a substantial knowledge of Bootstrap and AngularJS as well as their features.
- Credit Task 4 showcases my capability to use AngularJS to call on services like HTTP to extract data from a file and HighChart framework to visualise data in charts. I am able to extract data from a JSON file and visualise the said data into a bar chart using the HighChart extension.
- Credit Task 5 indicates my qualification to use AngularJS to communicate with external APIs like Accuweather. I am able to use AngularJS to communicate with the Accuweather API in order to obtain information in a JSON format to visualise it in a way that makes more sense.
- Pass Task 8 exhibits my capability to use a custom-made framework called ngPigeon and perform some operations with it. I am able to use ngPigeon to retrieve data from a local hosted database and visualise it in into charts like bar chart or graphs.

### ILO 3: Writing Programs

*Design and develop user interfaces optimised for a range of devices and platforms.*

The following pieces demonstrate my ability in relation to this ILO:

- Pass Task 1 demonstrates my ability to apply WCAG guidelines on a website so it can support a range of devices and platforms. I am able to create a website that is accessible to a lot of users regardless of their types of devices, screen sizes, or physical disabilities.
- Pass Task 2 proves my knowledge on how to use Bootstrap grid layouts in a way that it can support multiple device screen sizes. I am able to use Bootstrap to ensure that the web elements are able to fit perfectly on a big screened device or a small screened device.
- Credit Task 3 shows my competence to use develop a website with advanced web elements that is optimised for a range of devices and platforms. I am able to develop websites that is able to be used on a range of devices and platforms without much difficulties in terms of accessibility.

## ILO 4: Functional Decomposition

*Evaluate user interfaces with respect to usability and accessibility using appropriate techniques and propose improvements.*

The following piece demonstrate my ability in relation to this ILO:

- Pass Task 1 demonstrates my ability to develop websites that are following the WCAG guidelines. I am able to develop websites that are compliant to WCAG guidelines that prioritise accessibility for users.
- Pass Task 2 shows my understanding on how to develop websites using Bootstrap that enables web elements automatically adjust themselves into different screen sizes. I can use Bootstrap features that allow web elements in a website to fit into multiple screen sizes that promotes website usability.
- Pass Task 6 and Credit Task 3 demonstrate my competence to develop websites that promote both usability and accessibility. I am able to use the Bootstrap framework to create tables that are accessible to most users as well as create an interface for a website that is usable to a lot of users.
- Pass Task 8 demonstrates my skill to evaluate ngPigeon, a custom-made framework and its coding styles, user interfaces, and others while proposing an improvement to the framework for future uses. I am able to test the features offered by ngPigeon, use it to develop several web elements, and provide a constructive feedback in order for the development team to be able to improve the framework even further.

## Reflection

### The most important things I learnt:

Among the things I have learned from this unit, an important subject that I have gained from this unit is regarding the Bootstrap framework. This is because this framework allows one to dynamically style and design a website easily by applying a class attribute to an element. This is handy as I do not have to style a certain element from scratch, and just use a framework to do it for me. It also prevents me from “reinventing the wheel” as I can just follow what others have already done years ago.

The second important thing is the AngularJS framework. This framework is also important as it gives a website more interactivity and it can dynamically process information from user input. It also allows one to extract data from a file and communicate with an external API to obtain information, which is really handy.

### The things that helped me most were:

As for the things that have assisted me during the course of this unit, it was the demonstration videos that the lecturer made during the course of this unit. With those demonstration videos, I can better understand the lecture materials and be able to work on the tasks without much hiccups. Another thing that helped me were the online materials related to the tasks. The reference in the Internet helped me better understand what I was supposed to do for a task.

### I found the following topics particularly challenging:

There are a few challenging topics found in this unit, and one of them was regarding custom directives in AngularJS. I didn't quite get what it does for a website at first, but after further detailed reading I got what it does. In addition, I found services and communicating with an external API with AngularJS was hard. After many attempts of trial and error, I finally got the hang of it.

### I found the following topics particularly interesting:

There are a lot of interesting topics that I have stumbled upon in this unit, one of them being the grid layout provided by Bootstrap. With this layout, a web developer can easily fit web elements in a website and is able to adapt to any screen size for any device. This is handy as web developers do not have to worry much about those issues as it is handled by the Bootstrap framework.

Another topic that was interesting was using AngularJS to communicate with an external API to obtain data. This is handy as one can use AngularJS to fetch data from an external service that was made by someone else and one doesn't have to recode the same service to obtain the same data again.

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

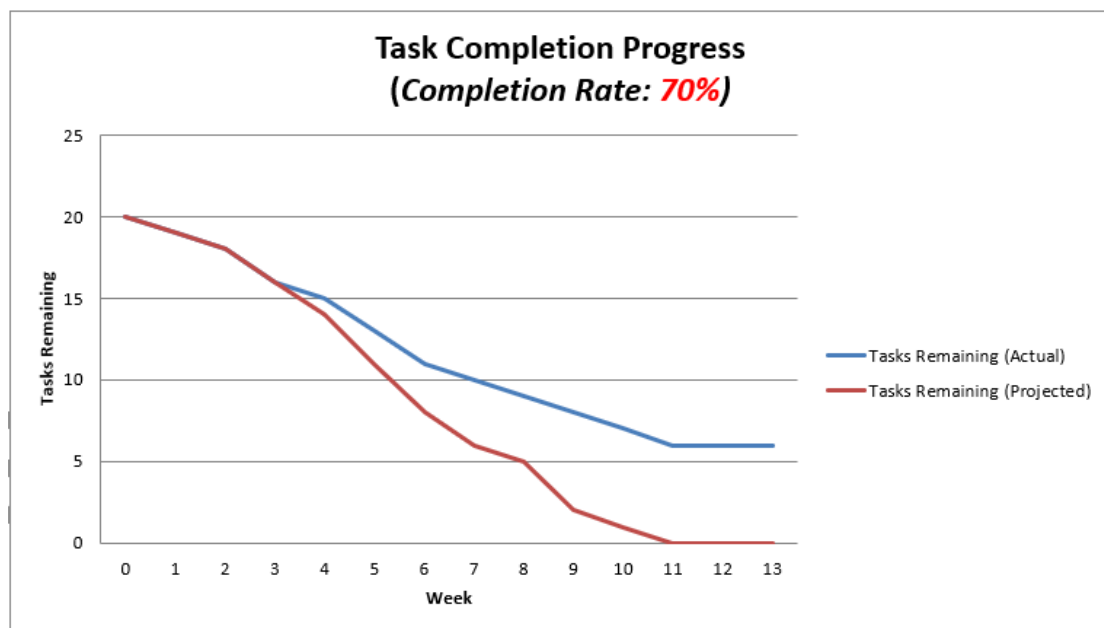
A topic that I've learned well was about the Bootstrap framework. This is because the instructions to use the framework's features are relatively

straightforward and simple. As shown in Pass Task 2 and Credit Task 3, I can use Bootstrap's features with ease.

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

A topic that I have to put my effort is the custom directives in AngularJS. This is because their usages and features are confusing at first. Even though I've done extra reading regarding the said topic, it is only enough for me to complete the tasks related to it. Until now, I'm still not 100% sure what it does.

### My progress in this unit was ...:



Based on the graph, it can be said I've done all Pass and Credit level tasks on time.

### This unit will help me in the future:

By taking this unit, it has helped me in a way that I can further design and develop web applications more dynamically. This is because with Bootstrap, I can style a website accordingly that makes the website look more professional and neater. I can also use AngularJS to create dynamic input and output features for a web application, which can be beneficial for me. I can also visualise data in a web application using the HighChart extension. I can also communicate with external APIs that can greatly enhance a website's ability to obtain information.

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

In the case that I will take this unit in the future, I will attempt to complete the Distinction tasks and High Distinction tasks for this unit. This is because at first, I wanted to attempt those tasks, but poor time management only allowed me to complete tasks up to a Credit level. With this said, I would have proper time management in a way that I can attempt those tasks that were mentioned.