COS30043 – Interface Design and Development

Learning Summary Report

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Self-Assessment Details

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Pass (D) | Credit (C) | Distinction (D) | High Distinction (HD) |
| Self-Assessment (please tick) |  | x |  |  |

*Self-assessment Statement*

|  |  |
| --- | --- |
|  | Included (please tick) |
| Learning Summary Report | x |
| Use of Bootstrap that demonstrate coverage of core concepts | x |
| Use of VueJS that demonstrate coverage of core concepts | x |

*Minimum Pass Checklist*

|  |  |
| --- | --- |
|  | Included (please tick) |
| Progress on Credit Tasks | x |
| All Pass Tasks signed off | x |

*Minimum Credit Checklist, in addition to Pass Checklist*

|  |  |
| --- | --- |
|  | Included (please tick) |
| Credit and Pass Tasks done, and Progress on Distinction Tasks. | x |
| 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.

Signature: Tran Quang Minh Nguyen

# Introduction

This report summarises what I learnt in COS30043 - Interface Design and Development. 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…

· 1.1P: A web project that I have completed and submitted in COS10026-Computing Technology Inquiry Project

· 1.2P: Hello World app

· 1.3P: Form validation using Total Validator

· 1.4P: Table accessibility using Total Validator

· 2.1P: Setup Bootstrap and answer given questions

· 2.2P: Design a mock-up calculator app using Bootstrap

· 2.3P: Create a Bootstrap template for a corporate website

· 3.1P: String test app using VueJS

· 3.2P: Unit look-up ap

· 3.3C: BMI calculator app

· 3.4C: Cloud service registration app

· 4.1P: Number guessing game app

· 5.1P: Status posting app

· 5.2P: Menu list app

· 5.3C: Unit information app using vue-router

· 6.1C: Registration form using Vuetify

· 7.1P: Get data from public API

· 7.2P: Get data from a text file

· 8.1P: Add pagination to a table

· 8.2C: Unit look-up app with pagination

· 9.1P: Create a single-page application

· 9.2C: CRUD single-page application

· 10.1P: Single page application using vue-cli

· 11.1P: 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: Apply Design

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

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

* 2.2P: Utilize Bootstrap's grid system to design a responsive mock-up calculator interface adaptable to various screen sizes.
* 2.3P: Employ Bootstrap's grid system to craft a corporate web template, detailing wireframes and element placements.
* 3.2P: Organize the unit look-up application using Bootstrap's grid system and table classes.
* 3.4C: Design the cloud service registration application with Bootstrap's grid system.
* 5.3C: Arrange the unit look-up application utilizing Bootstrap's grid system and table classes.
* 6.1C: Develop the registration web application using Bootstrap's grid system and Vuetify.
* 7.2P: Style the Units table with Bootstrap's grid structure and relevant table design classes.
* 8.2C: Implement pagination in the Unit look-up application using vue-paginate-next and Bootstrap.
* 9.2C: Develop a single-page application with CRUD operations structured using Bootstrap.

## ILO 2: Use Frameworks

Use contemporary frameworks to create dynamic user interfaces.

* 3.1P: Develop a simple application using conditional directives to display custom messages on the web.
* 3.2P: Implement a unit lookup in the provided dataset using JavaScript's sort and filter functions based on user inputs.
* 3.3P: Create a BMI calculator that uses conditional directives to calculate BMI from user input of weight and height.
* 3.4P: Design a cloud service registration application that captures various types of user inputs.
* 4.1P: Develop a number guessing game featuring methods to generate random numbers, check guesses, give up, and restart the game.
* 5.1P: Use components to build a status posting application.
* 5.2P: Construct a menu using props to pass values from parent to child components.
* 5.3C: Integrate a router into the unit lookup application.
* 6.1C: Create a registration form application using Vuetify and its validation rules.
* 8.2C: Add pagination to the unit lookup application using vue-paginate-next.
* 9.2C: Develop a single-page application with CRUD functionalities using various components and a backend.
* 10.1P: Build a single-page application with custom views and routing using vue-cli.

## ILO 3: Develop User Interfaces

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

* 2.2P: A calculator app built with a compact view that remains responsive to different screen sizes.
* 2.3P: Develop a scalable corporate website template using wireframes to position elements accurately.

## ILO 4: Evaluate User Interfaces

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

* 2.3P: Design thinking and implementation of the grid layout for a web template.

# Reflection

## The most important things I learnt:

## Throughout my journey in the "Interface Design and Development" course, I've explored various vital topics that have significantly enriched my comprehension of crafting dynamic and user-friendly interfaces. Here are some notable insights and takeaways from my learning experience:

## 1. Embracing Design Principles: A crucial lesson I've gleaned is the importance of adhering to design principles and standards when creating interfaces. These principles encompass elements such as layout, color, typography, and user-centered design approaches, ensuring a seamless and intuitive user experience.

## 2. Practical Exposure to Development Tools: This course has introduced me to contemporary frameworks and development tools essential for building interactive interfaces. Hands-on experience with technologies like Vue.js has been invaluable for crafting dynamic user experiences.

## 3. Prioritizing a User-Centric Design Approach: The course has emphasized the significance of designing interfaces with the user in mind. I've gained insights into user interface design patterns and techniques that prioritize usability and accessibility, resulting in more engaging and inclusive end products.

## 4. Embracing Responsive Design: Learning to create interfaces that adapt to various devices and screen sizes has been transformative. Responsive design ensures users enjoy a consistent experience across desktops, tablets, and smartphones.

## 5. Evaluating Usability and Accessibility: A key learning point has been evaluating user interfaces in terms of usability and accessibility. Understanding techniques for assessing how easily users can interact with the interface and ensuring inclusivity has been enlightening.

## 6. Exploring Single Page Applications (SPAs): I've delved into the realm of Single Page Applications, which have the potential to revolutionize user experiences. The ability to dynamically update content without reloading the entire page aligns with modern user expectations.

## 7. Integrating External Services: Learning to integrate external services into interfaces through APIs or other means has expanded my skill set. This knowledge provides opportunities to enhance the functionality and user experience of my projects.

## The things that helped me most were:

## Modern Frameworks and Tools: The course emphasized modern frameworks and tools like Vue.js, equipping me with the ability to efficiently develop dynamic and interactive interfaces. Gaining proficiency with these tools accelerated my development process and familiarized me with industry-standard practices.

## I found the following topics particularly challenging:

## During the "Interface Design and Development" course, I felt engaged and confident in understanding the various topics covered. Reflecting on the course content, I didn't encounter any significant challenges, which highlights my familiarity with the subject matter and the effectiveness of the instructors' teaching methods.

## Rather than facing difficulties, I experienced a seamless learning journey where each module built upon my existing knowledge. I enthusiastically explored concepts such as user interface design principles, client-side scripting languages, and responsive design techniques with ease.

## I found the following topics particularly interesting:

## Responsive Design: The idea of creating interfaces that adapt fluidly to different devices and screen sizes appealed to me greatly. The ability to provide a consistent and user-friendly experience across multiple platforms is technically exciting and adds a valuable element of creativity to my work.

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

## Responsive Design:

## In Task 2.2P, I created a responsive calculator app that dynamically adjusts layout across devices, demonstrating my understanding of responsive design principles.

## Task 2.3 required me to create a website template for a corporation, with a focus on responsiveness to offer an excellent user experience across several screens.

## Single-Page Application:

## In Task 9.1C, I created a CRUD single-page application to better understand the mechanics of SPAs.

## In Task 10.1P, I used vue-cli to create a single-page application, which helped me better comprehend the concept.

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

1. State Management with Vuex: While I have a solid foundation in designing dynamic user interfaces with Vue.js, I understand the need to explore more complicated state management scenarios using Vuex. Using state management frameworks such as Vuex, I will be able to easily manage and share data between components, resulting in more organized and scalable apps.

2. Backend Integration Beyond Public APIs: Although I have successfully integrated public APIs into my applications, I am aware that integrating with backend systems brings unique hurdles. I hope to broaden my knowledge by working on projects that need connecting to backend databases and developing bespoke APIs, thereby improving my ability to construct end-to-end apps.

## My progress in this unit was …:

My progress in the "Interface Design and Development" unit has been satisfactory. From the beginning of the semester till now, I've made significant progress in learning and applying key ideas.

I've actively engaged with the course material, attending lectures, tutorials, and hands-on tasks. Topics such as responsive design, API integration, and single-page applications piqued my interest, leading to extensive research and practical implementation.

Feedback from both my instructor and peers has been beneficial. It helped me fine-tune my work and discover areas for improvement. This collaborative learning atmosphere improved my comprehension and allowed me to gain from other views.

## This unit will help me in the future:

The "Interface Design and Development" unit has shown to be a transforming experience with measurable outcomes. I am happy to announce that I have been invited to an internship interview as a result of having my outstanding assignment from this course on my resume. This success demonstrates the relevance and quality of the skills I learned during the unit.

Although the final internship offer is still pending, I am extremely happy for the opportunity to complete this course and learn from my committed instructor. My awareness of interface design concepts, responsive design, API integration, and other topics has grown, and it has directly impacted my career interests.

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

## If I were to retake the "Interface Design and Development" subject, I would make a few changes based on my previous experience and observations. Here's how I'd approach things differently:

## 1. Early Engagement with Complex topics: I would actively engage with complex topics, such as state management with Vuex, early in the course. By devoting more time to understanding and practicing these difficult topics, I may improve my skill and grasp the subject matter from the start.

## 2. Consistent Practice with Backend Integration: Recognizing the importance of backend integration, I would aggressively seek out opportunities to work on projects that involved connecting to backend databases and developing bespoke APIs. This hands-on experience would allow me to effectively bridge the gap between theory and practice.

## 3. Effective Use of Office Hours: I would make better use of the lecturer's office hours. Participating in discussions, getting clarification on questions, and requesting extra direction would allow me to expand my understanding and address any issues more quickly.