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)				✓

Self-assessment Statement

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

Signature: 

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:** Best web page files that I created in COS10005 - Web Development
- **1.2P:** Hello World web page
- **1.3P:** Form addressing and fixing using TotalValidator
- **1.4P:** Table addressing and fixing using TotalValidator
- **2.1P:** Hello World web page with Bootstrap
- **2.2P:** Calculator layout
- **2.3P:** Template designing for a framework
- **3.1P:** String Test web app with VueJS
- **3.2P:** Lookup web app
- **3.3P:** Compute web app
- **3.4P:** Registration Form web app
- **4.1P:** Number guessing web app
- **5.1P:** Status posting web app
- **5.2P:** Menu listing web app
- **5.3P:** Unit information web app
- **6.1C:** Registration form using Bootstrap and VueJS
- **6.2HD:** Custom Web Application
- **7.1P:** Data retrieving from an external source
- **7.2P:** Data retrieving from a text file to generate a table
- **8.1P:** Student Marks web page using pagination
- **8.2C:** Units Lookup web app using pagination
- **9.1P:** Single Page application using router and pagination
- **9.2C:** Single Page application using router, tab and pagination
- **10.1P:** Single Page application using Vue CLI
- **10.2HD:** High Distinction Project
- **11.1P:** Learning Summary Report

Coverage of 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: Calculator layout:** Designing the layout and user interface for a calculator web application, incorporating common design patterns and standards for calculator UIs.
- **2.3P: Template designing for a framework:** Creating a reusable template or theme for a web development framework, which would require applying design principles and standards to ensure a consistent and visually appealing user experience.

- **6.1C: Registration form using Bootstrap and VueJS:** Designing a registration form user interface that uses the Bootstrap CSS framework for styling, and the VueJS framework for interactivity and functionality.
- **6.2HD: Custom Web Application:** As the project is constructed with the row-column system, all pages and components adhere to the top navigation and grid layout.
- **9.1P: Single Page application using router and pagination:** Designing the user interface and navigation for a Single Page Application (SPA), including the use of a routing system and pagination controls to create a smooth and intuitive user experience.
- **9.2C: Single Page application using router, tab and pagination:** Similar to the previous task, but also incorporating tab-based navigation, which would require careful consideration of layout, information hierarchy, and interaction design.

ILO 2: Use Frameworks

Use contemporary frameworks to create dynamic user interfaces.

- **3.1P: String Test web app with VueJS:** This task involves creating a web application using the VueJS framework, which is a popular JavaScript framework for building dynamic user interfaces.
- **6.1C: Registration form using Bootstrap and VueJS:** In this task, both the Bootstrap CSS framework and the VueJS framework are used to create a dynamic registration form user interface.
- **6.2HD: Custom Web Application:** Integrating vue-router, axios to create the custom web application.
- **9.1P: Single Page application using router and pagination:** Building a Single Page Application (SPA) likely requires the use of a front-end framework like VueJS, React, or Angular, which provide the tools and architecture to create dynamic, client-side applications.
- **9.2C: Single Page application using router, tab and pagination:** Similar to the previous task, this involves creating a SPA with advanced features like tabbed navigation, which would benefit from the use of a modern front-end framework.
- **10.1P: Single Page application using Vue CLI:** This task specifically mentions the use of the Vue CLI, which is a command-line tool for setting up and managing VueJS-based projects.

ILO 3: Develop User Interfaces

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

- **2.2P: Calculator layout:** Designing a calculator user interface would require consideration of the optimal layout and interaction patterns for both desktop and mobile devices.
- **6.2HD: Custom Web Application:** Developing a responsive app across three screen sizes: desktop, tablet and mobile.

ILO 4: Evaluate User Interfaces

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

- **1.3P: Form addressing and fixing using TotalValidator:** This task likely involves evaluating and fixing issues with a web form using a tool like TotalValidator, which can assess the accessibility and usability of form elements.

- **1.4P: Table addressing and fixing using TotalValidator:** Similar to the previous task, this involves evaluating and improving the usability and accessibility of a table-based user interface.
- **6.1C: Registration form using Bootstrap and VueJS:** Creating a registration form user interface would require consideration of best practices for usability and accessibility.
- **8.1P: Student Marks web page using pagination:** Implementing pagination can impact the usability of a user interface, so evaluating the effectiveness of the pagination feature would be important.
- **8.2C: Units Lookup web app using pagination:** The use of pagination would necessitate an evaluation of the usability and accessibility of the overall user interface.
- **9.2C: Single Page application using router, tab and pagination:** Designing a complex SPA with features like tabbed navigation and pagination would require a thorough evaluation of the user interface to ensure a smooth and accessible experience.

Reflection

The most important things I learnt:

The coursework on user interface design and development has been a valuable experience, providing me with a solid foundation in several critical areas.

1. Leveraging Front-end Frameworks: I have become quite proficient in creating flexible and adaptable user interfaces with modern frameworks like as Bootstrap and VueJS. My ability to use these frameworks' potent capabilities has been especially noteworthy, as it has enabled me to create web-based applications with an exceptional level of responsiveness and interaction. A notable example of how I may integrate framework features with complex navigation and pagination features is the "Single Page Application using router, tab and pagination" assignment.

2. Optimizing for Device Diversity: The significance of creating user interfaces that function flawlessly on a variety of platforms and devices has been one of the main lessons learned. Because they guarantee that the structure, interaction patterns, and user interface components are customized to the unique needs of every device, flexible design concepts have emerged as a major area of concentration. A profound understanding of the subtleties of user interface design and development has been ingrained by the difficulties faced in the "Single Page Application" task, which necessitated negotiating the trade-offs and design considerations for a sophisticated, multifaceted user interface.

3. Evaluating User Interfaces: The activities did not specifically address user interface review, although it was clear that usability and accessibility assessments were necessary. I understand how critical it is to include these evaluations early on in the design phase instead of putting them off. In order to improve my skill to evaluate user interfaces thoroughly, I want to increase my understanding of evaluation approaches including heuristic evaluation, user testing, and accessibility audits in the future.

The things that helped me most were:

● **Hands-on Experience with Front-end Frameworks:** It was really helpful to have the chance of interacting alongside modern frameworks like Bootstrap and VueJS. My practical abilities and confidence in producing flexible, dynamic web apps have been much enhanced by developing fluid interfaces and utilizing these frameworks' tremendous features.

● **Emphasis on Responsive Design:** It has changed the game to concentrate on creating user interfaces that work flawlessly across a variety of devices. My awareness of user-centric development has expanded as a result of having learned about the significance of adaptable design concepts and how to modify design, interaction patterns, and UI components to meet the needs of different device types.

● **Exposure to Usability Evaluation:** While not covered in-depth, the tasks highlighted the need for proactive usability and accessibility assessments. This has sparked my interest in learning more about evaluation techniques, such as heuristic evaluation, user testing, and accessibility audits. Incorporating these assessments throughout the development process is a key takeaway that I plan to implement going forward.

I found the following topics particularly challenging:

● **Comprehensive Usability Evaluation:** While the coursework emphasized the importance of user interface evaluation, the specific methods and techniques were not covered in-depth. I would have benefited from more hands-on experience in conducting heuristic evaluations, user testing, and accessibility audits. Expanding my knowledge in this area would better equip me to proactively assess the usability and accessibility of the web applications I develop.

● **Integrating Accessibility Considerations:** Though the need for accessible design was touched upon, the practical implementation of accessibility best practices could have been explored more thoroughly. Ensuring web content and interfaces are inclusive and usable by all users, regardless of their abilities, is a crucial skill that I would like to further develop through targeted learning and practice.

I found the following topics particularly interesting:

● **Responsive Design Principles:** One of the coursework's highlights was the thorough investigation of responsive design ideas. My method of developing user-centric websites has been greatly influenced by my grasp of how to modify the layout, interaction patterns, and user interface components to fit different form factors of devices. I now have a deeper understanding of the subtleties of adaptive layout after researching the implications and requirements for providing seamless interactions throughout all types of devices.

● **Leverage of Front-end Frameworks:** Working with modern front-end frameworks like Bootstrap and VueJS has been a really interesting experience. One fascinating component of the course has been learning about the tremendous benefits and potential of these resources and how one can employ them to create engaging and dynamic web pages. Gaining proficiency in framework-based programming has sparked interest in and enthusiasm about the changing front-end environment.

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

● **Front-end Frameworks (VueJS and Bootstrap):** Through the hands-on exercises and projects, I have developed a strong proficiency in using contemporary front-end frameworks like VueJS and Bootstrap. I am confident in my ability to leverage the powerful features and capabilities of these tools to build dynamic, responsive, and interactive user interfaces.

I still need to work on the following areas:

● **Advanced Navigation and Pagination Patterns:** Throughout the tasks in the course highlighted my need for more experience in implementing complex navigation and pagination systems. Despite my strong basis in the foundations, further investigation of advanced interaction patterns and workflow management is necessary for the layout and development

of coherent, intuitive, multifunctional user interfaces. Developing smooth and interesting web pages will need ongoing practice and study in this field.

● **Integrating Accessibility Best Practices:** While the course acknowledged the value of accessible layout, there might have been a more thorough examination of how accessibility considerations are actually implemented in practice. My goal is to enhance my comprehension of WCAG (Web Content Accessibility Guidelines) and acquire skills in integrating accessibility principles into my front-end development process.

My progress in this unit was:

My comprehension of user-centric design concepts and my front-end abilities have improved significantly as a result of the user interface design and development courses.

I have made great progress generally in this unit, even if there are still certain areas where I can improve, such thorough usability review, sophisticated navigation patterns, and accessibility integration. With the information and abilities I've acquired from the course of study, I'm filled to develop interesting, approachable, and accessible online apps.

My front-end development skills have been strengthened by practical assignments and exercises, as well as the thoughtful attention on both functional and design-focused elements. Working on this solid basis and honing my user-centric web development talents is something I'm eager to do.

This unit will help me in the future:

● **Career Preparation:** I will find great value in the lessons I've learned from this course as I prepare for my future profession. The ability to design practical, flexible, and easy to use online apps is becoming ever more essential as the web development business continues to change. My ability to use user-centric design concepts and leverage contemporary front-end technology has given me practical expertise that will render me an appealing and desired applicant in the employment market.

● **Adaptability and Lifelong Learning:** The abilities I have learned, which are highly adaptable and include expertise in widely used frameworks and a solid understanding of adaptive layouts, will allow me to adjust to the constantly changing web development scene. With this foundation, I'll be able to pick up cutting-edge technologies, frameworks, and design trends fast and effectively, which will help me stay valued and in demand throughout my career.

● **Interdisciplinary Collaboration:** The emphasis on user-centric design in this unit has broadened my perspective and equipped me with the ability to effectively collaborate with cross-functional teams, including designers, product managers, and stakeholders. This collaborative mindset and understanding of the design process will be instrumental in delivering successful web projects in the future.

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

● **Dedicating More Time for Experimentation and Exploration:** Even though the course of study gave students a strong basis in the fundamental ideas, I would allot additional time for practical experimentation and inquiry outside of the given tasks. This may entail scheduling a specific time to play around with new front-end frameworks, try out various design schemes, and go more into the fields of front-end structure and interface layout. I could gain a more comprehensive grasp of this topic and find original answers to challenging issues by setting aside this extra time.

● **Enhancing Documentation and Knowledge Sharing:** In order to strengthen my comprehension and establish a useful resource for later use, I would prioritize thorough documenting of the ideas, methods, and code snippets that I come across in this lesson. This may entail writing thorough project README files, keeping an extensive learning log, and participating in pertinent online groups. By creating this knowledge base, I will be able to share my experiences with others and easily review and use the lessons learned in future initiatives.

● **Strengthening Time Management and Prioritization:** While I was able to complete the coursework successfully, I would focus on improving my time management and prioritization skills. This could involve better planning, breaking down tasks into smaller milestones, and actively managing distractions. By optimizing my workflow, I can maximize the efficiency of my learning process and dedicate more time to areas that require deeper exploration.