COS30043 – Interface Design and Development

Learning Summary Report

LUONG TRAC DUC ANH (103488117)

Self-Assessment Details

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

	Pass (P)	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	X
Design report with screenshots for custom program	X

Minimum Distinction Checklist, in addition to Credit Checklist

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

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: Trac Duc Anh Luong

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 COS10005 - Web Development
- 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 app
- 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
- 6.2D: the my cocktail app is submitted in 6.3HD, fulfilling all requirements for D level
- 6.3HD: my cocktail app, design document, wireframes, and screenshots
- 7.1P: get data from public API
- 7.2P: get data from a text file
- 8.1C: unit look-up app with pagination
- 9.1C: CRUD single-page application
- 10.1P: single page application using vue-cli
- 10.2HD: tutorial for concepts in week 7 (API)
- 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: Implementing the grid system in Bootstrap to create a mock-up calculator interface that is responsive across different screen sizes.
- 2.3P: Implementing the grid system in Bootstrap to create a web template for a corporate site with wireframes and placement of where each element is placed.
- 3.2P: Structuring the unit look-up app using Bootstrap's grid system and table classes.
- 3.4C: Structuring the cloud service registration app using the grid system in Bootstrap
- 5.3C: Structuring the unit look-up app using Bootstrap's grid system and table classes.
- 6.1C: Structuring the registration web app using Bootstrap's grid system and Vuetify.
- 6.3HD: Structure the app using the Bootstrap grid system, pages and components comply with the grid structure and the navigation on top.
- 7.2P: Format the Units table using Bootstrap's grid structure and classes relating to table design.
- 8.1C: Apply pagination to the Unit look-up app using vue-paginate-next and Bootstrap.
- 9.1C: Structure a single-page application with CRUD functionalities using Bootstrap.
- 10.2HD: I use Bootstrap to style and structure a simplified version of my High Distinction app.

ILO 2: Use Frameworks

Use contemporary frameworks to create dynamic user interfaces.

The following pieces demonstrate my ability in relation to this ILO, all of which involve the VueJS framework:

- 3.1P: A simple app that uses conditional directives to render custom messages to the web.
- 3.2P: Look up units in the given dataset using the sort and filter functions in Javascript based on the user’s inputs.
- 3.3P: Calculate the BMI based on used’s inputs of weight and height using conditional directives.
- 3.4P: Cloud service registration app that displays various types of inputs from the user.
- 4.1P: Number guessing game with different methods: generate a random number, check the user’s guess, give up, start over the game
- 5.1P: Using components to create a status posting app.
- 5.2P: Using props to construct a menu by passing value from parent to child components.
- 5.3C: Implement router to the look-up unit app.
- 6.1C: Creating a registration form app using Vuetify and the library’s rules.
- 6.3D: Using vue-cli, vue-router, and Axios to create a cocktail look-up single-page application.
- 8.1C: Using vue-paginate-next to implement pagination to the unit look-up app.
- 9.1C: Create a single-page application with CRUD functionalities using various components and a backend.
- 10.1P: Build a single-page application with custom views and router using vue-cli.

- 10.2HD: Tutorial on building a single-page application that uses data from an external API.

ILO 3: Develop User Interfaces

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

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

- 2.2P: A calculator app built with a compact view that remains responsive to different screen sizes.
- 2.3P: Scalable template site for a corporation.
- 6.3HD: Develop a scalable app across three interfaces: desktop, mobile portrait, and mobile landscape.

ILO 4: Evaluate User Interfaces

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

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

- 2.3P: Design thinking and implementation of the grid layout of the web template.
- 6.3HD: I researched and tried another available web app to see their design structure on the web on mobile and implemented what I learnt to the custom app.

Reflection

The most important things I learnt:

Throughout the "Interface Design and Development" course, I've delved into various crucial topics that have significantly enhanced my understanding of creating dynamic and user-friendly interfaces. Here are some key takeaways and insights from my learning journey:

1. Design Principles for Effective Interfaces: One of the most important lessons I've learned is the significance of adhering to design principles and standards while crafting interfaces. The principles encompass aesthetic aspects like layout, colour, typography, and user-centred design approaches that ensure a seamless and intuitive user experience.

2. Hands-On Experience with Development Tools: This course has introduced me to contemporary frameworks and development tools instrumental in building interactive interfaces. The practical experience with technologies such as Vue.js has been invaluable for creating dynamic user experiences.

3. User-Centric Approach to Design: The course has highlighted the essence of designing interfaces with users in mind. I've gained insights into user interface design patterns and techniques prioritising usability and accessibility, making the end product more engaging and inclusive.

4. Responsive Design and Cross-Platform Optimisation: Learning to create interfaces that adapt to different devices and screen sizes has been a game-changer. Responsive design ensures users have a consistent experience, whether on a desktop, tablet, or smartphone.

5. Usability and Accessibility Evaluation: A significant learning point has been the evaluation of user interfaces in terms of usability and accessibility. Understanding techniques for assessing how easy it is for users to interact with the interface and ensuring its inclusivity has been eye-opening.

6. Exploring Single Page Applications (SPAs): I've gained insights into the world of Single Page Applications, which have the potential to revolutionise user experiences. Dynamically updating content without reloading the entire page aligns with modern user expectations.

7. Integration of External Services: Learning to integrate external services into interfaces through APIs or other means has expanded my skill set. The material provides opportunities to enhance my projects' functionality and user experience.

8. Portfolio Development and Practical Projects: The emphasis on building a portfolio has been crucial. The practical projects I've worked on throughout the course have reinforced my learning and provided tangible examples of my skills that I can showcase to potential employers.

The things that helped me most were:

1. Practical Application through Projects: One of the most beneficial aspects was emphasising practical projects. Applying the theoretical concepts directly to real-world projects allowed me to tangibly grasp the intricacies of interface design and development. This hands-on experience helped solidify my understanding and boosted my confidence in creating functional interfaces.

2. Contemporary Frameworks and Tools: The course's focus on contemporary frameworks and tools, such as Vue.js, provided me with the means to efficiently create dynamic and interactive interfaces. Learning to work with these tools accelerated my development process and introduced me to industry-standard practices.

3. Usability and Accessibility Emphasis: The dedicated attention to usability and accessibility principles was incredibly enlightening. Understanding how to design interfaces that cater to a diverse range of users, including those with disabilities, highlighted the importance of inclusivity in modern design practices.

4. Feedback and Improvement: The iterative feedback process throughout the course played a pivotal role in my learning journey. Receiving constructive feedback from instructors and peers allowed me to identify areas for improvement and refine my design and development skills over time.

5. Structured Learning Schedule: The well-organized week-by-week schedule provided a clear roadmap for the course. Knowing what topics were covered each week allowed me to manage my time effectively and delve into each subject thoroughly.

6. Portfolio Development: The emphasis on building a portfolio was a game-changer. As I progressed through the course, the projects I completed became valuable pieces for my portfolio. This hands-on portfolio-building approach enhanced my resume and future career prospects.

7. Instructor Availability: The availability of the course instructor for consultations and appointments was instrumental in my learning process. Finding clarifications, guidance, and further explanations directly from the instructor greatly enhanced my understanding of complex topics.

8. Reflection and Review: The opportunity to review my work and receive detailed feedback during the portfolio submission process was valuable. This practice allowed me to critically assess my growth over the course duration and identify areas of strength and improvement.

I found the following topics particularly challenging:

Throughout the "Interface Design and Development" course, I found myself engaged and confident in comprehending the various topics covered. Reflecting on the course content, I didn't encounter any particular issues that I would classify as challenging. This experience speaks to my familiarity with the subject matter and the effective teaching methods employed by the instructors.

Instead of facing challenges, I enjoyed a continuous learning journey where each module was built upon my existing knowledge. I was able to delve into concepts such as user interface design principles, client-side scripting languages, responsive design techniques, and more with a sense of enthusiasm and ease.

I found the following topics particularly interesting:

Throughout the "Interface Design and Development" course, I discovered a profound passion for several key areas that have truly captured my interest and fueled my enthusiasm for the subject:

1. Responsive Design: Creating interfaces that seamlessly adapt to various devices and screen sizes resonated deeply with me. The ability to ensure a consistent and user-friendly experience across different platforms is technically intriguing and adds an essential layer of creativity to my work.

2. API Integration: The exploration of integrating external services, mainly through APIs, has been a highlight of my learning journey. The idea of harnessing the power of diverse data sources and functionalities to enhance interfaces' functionality and user experience is exhilarating.

3. Single Page Applications (SPAs): The world of SPAs, where content dynamically updates without full page reload, has fascinated me. This approach revolutionises user experiences and aligns with my appreciation for efficiency and smooth interactions.

4. Debugging and Monitoring with Dev Console: Utilising the developer console for debugging, logging outputs, and monitoring network activity has been a game-changer. The ability to gain insights into HTTP requests and responses, and troubleshoot issues efficiently, has amplified my confidence in identifying and addressing problems.

My keen interest in these specific topics has enhanced my learning experience and ignited a sense of excitement for my future career path in interface design and development. These areas have resonated deeply with me and have inspired me to continue exploring and mastering them, allowing me to contribute positively to the evolving landscape of web technology.

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

1. Responsive Design:

- In Task 2.2P, I crafted a responsive calculator app that dynamically adjusted its layout across devices, demonstrating my grasp of responsive design principles.
- Task 2.3 saw me designing a website template for a corporation, focusing on responsiveness to ensure an optimal user experience on various screens.
- Responsive design ability is also showcased in my cocktail app (Task 6.3HD), where I meticulously ensured that the app remains functional and visually appealing across different platforms.

2. API Integration:

- Task 7.1P required me to fetch data from a public API, a skill I've further practised and applied in my cocktail app's development.
- In Task 7.2, I successfully extracted data from a text file, showcasing my versatility in integrating data from diverse sources.
- The crowning achievement in API integration is undoubtedly my cocktail app (Task 6.3HD), where I seamlessly incorporated TheCocktailDB API to provide users with real-time drink information.

3. Single Page Application:

- In Task 9.1C, I built a CRUD single-page application, laying the groundwork for understanding the mechanics of SPAs.
- Task 10.1P involved creating a single-page application using vue-cli, further solidifying my understanding of this concept.
- My cocktail app (Task 6.3HD) exemplifies my proficiency in crafting a good-looking single-page application, enhancing user experiences without needing page reloads.

4. Debugging and Dev Console:

- My cocktail app (Task 6.3HD) demonstrated my ability to create a functional interface, highlighting my adeptness at debugging and utilizing the developer console effectively.

- Task 10.2HD, where I prepared a tutorial for concepts in week 7, showcases my knowledge of debugging techniques related to API integration.

5. Client-Side Markup and Scripting Languages: My strong foundation in client-side markup (HTML) and scripting languages (JavaScript) has enabled me to confidently manipulate the DOM, handle events, and create interactive interfaces. I've successfully applied these skills to enhance user experiences in various projects.

6. Directives and Data Binding: I've become proficient in using directives and data binding within frameworks like Vue.js. My assignments and projects showcase my ability to dynamically update interface elements, demonstrating a deep understanding of these core concepts.

My accomplishments in assignments, projects, and practical applications of these concepts reinforce my confidence that I've learned these topics exceptionally well. My ability to apply these skills in various contexts and scenarios attests to my mastery of the subject matter.

I still need to work on the following areas:

1. State Management with Vuex: While I've gained a strong foundation in creating dynamic user interfaces using Vue.js, I recognize the need to delve into more complex state management scenarios using Vuex. Using state management libraries like Vuex will enable me to manage and share data between components efficiently, leading to better-organized and more scalable applications.

2. Backend Integration beyond Public APIs: While I've successfully integrated public APIs into my projects, I'm aware that integration with backend systems presents different challenges. I aim to expand my knowledge by working on projects that involve connecting to backend databases and creating custom APIs, enhancing my ability to build end-to-end applications.

My progress in this unit was …:

My progress in the "Interface Design and Development" unit has been gratifying. From the start of the semester until now, I've seen substantial growth in understanding and applying critical concepts.

I've actively engaged with the course content, participating in lectures, tutorials, and hands-on exercises. Topics like responsive design, API integration, and single-page applications captivated me, leading to dedicated exploration and practical application.

The feedback from both my instructor and peers has been invaluable. It helped me refine my work and identify areas for improvement. This collaborative learning environment enhanced my understanding and allowed me to benefit from diverse perspectives.

I'm particularly proud of the portfolio I've created, showcasing my skill progression over the semester. As the semester concludes, I'm excited to carry forward this newfound knowledge and expertise in my future work in interface design and development.

This unit will help me in the future:

The "Interface Design and Development" unit has proven to be a transformative experience with tangible results. I am thrilled to share that I have secured an internship interview, thanks to including my high-distinction project from this course on my resume. This achievement underscores the relevance and quality of the skills I've acquired during the unit.

Although the final offer for the internship is still pending, I am incredibly grateful for the opportunity to take this course and learn from my dedicated lecturer. The knowledge gained in interface design principles, responsive design, API integration, and more has enriched my understanding and directly contributed to my professional pursuits.

The fact that the project I completed in this course has garnered enough attention to land me an interview is a testament to the practicality and real-world applicability of the content covered. It's a remarkable feeling to see how this course directly impacts shaping my career path in web development.

I extend my heartfelt gratitude to my lecturer and the course for equipping me with skills that have attracted this opportunity. Regardless of the outcome, I am proud of what I've achieved so far and look forward to continuing my interface design and development journey with confidence and enthusiasm.

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

If I were to take the "Interface Design and Development" unit again, I would approach my learning with a few adjustments based on my experience and insights gained. Here's how I would do things differently:

1. Early Engagement with Complex Concepts: I would consciously engage with complex concepts, such as state management with Vuex, early on in the course. By allocating more time to understand and practice these challenging topics, I could enhance my proficiency and better grasp the subject matter from the outset.

2. Consistent Practice with Backend Integration: Knowing the importance of backend integration, I would proactively seek opportunities to work on projects that involve connecting to backend databases and creating custom APIs. This hands-on experience would help me effectively bridge the gap between theory and practical application.

3. Utilizing Office Hours Effectively: I would better use the office hours provided by the lecturer. Engaging in discussions, seeking clarification on doubts, and requesting additional guidance would help me deepen my understanding and address any challenges promptly.

I could optimize my learning experience in the "Interface Design and Development" unit by implementing these changes. These adjustments would allow me to make the most of the course content, enhance my skills more efficiently, and contribute effectively to my academic journey and future career prospects.