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: *Moshfeque E Jahan*

# Introduction

This report summarises what I learnt in COS30043 UNIT TITLE. 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

Add a list of all of the pieces that you are including. Write a sentence to briefly describe each. (then delete this box)

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

1. Hello World Web Application: This web application shows “Hello World” on the webpage using Bootstrap.
2. Form Task: This web application submits a form.
3. Table Task: This web application shows a table on the webpage.
4. My Calculator: This web application shows a calculator using Bootstrap.
5. My Bootstrap Website Template: This web application shows a template of my website using Bootstrap.
6. String Test Web Application: This web application uses conditions to output custom messages using VueJs.
7. Lookup Web Application: This web application shows a list of units in a table format and allows users to filter by its description and code.
8. Compute Web Application: This web application calculates the BMI and outputs custom messages.
9. Registration Form Web Application: This web application is a registration form for mobile phones.
10. Guessing Game Web Application: This web application is a game which generates random numbers for the user to guess.
11. Status posting web application: This web application is used to create and delete statuses.
12. Units Lookup Web Application: This web application allows users to view more information of the unit with a single click.
13. Form Validation Web Application: This web application is a customized registration form for users.
14. External Data Web Application: This web application retrieves data from an external source.
15. Data from a Text File Web Application: This web application retrieves data from a text file to generate a table.
16. Student Marks Web Application: This web application shows a paginated version of the tables of the students marks.
17. My Table Web Application: This web application shows a paginated version of the tables of the units information.
18. Single Page Application: This web application allows users to navigate between different previously done web applications through routers.
19. Single Page Application (Database Management): This web application allows users to navigate between different web applications which allows users to login and view, insert, update and delete records from the database.
20. Custom Single Page Application: This web application allows users to navigate between different web applications with a home page which shows images.
21. My HD Research Report about the Comparative Analysis of 3 Different Front-end Frameworks: Vue, Angular and React
22. My HD Website “Mosh Mart”

# 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:

1. Hello World Web Application: This web application showcases the ability to create a basic web page using Bootstrap. It displays the text "Hello World" on the webpage, demonstrating the application of fundamental design concepts.
2. My Calculator: This web application presents a calculator interface using Bootstrap. It demonstrates the understanding of design principles in creating a user-friendly and visually appealing interface for a calcualator.
3. My Bootstrap Website Template: This web application provides a template for a website using Bootstrap. It exhibits the ability to apply design concepts and standards to create a cohesive and visually pleasing website layout.
4. Form Task: This web application involves the submission of a form after HTML validation. It showcases the understanding of designing and implementing form elements within a webpage, ensuring proper validation to maintain data integrity.
5. Table Task: This web application displays a table on a webpage after HTML validation. It demonstrates the ability to design and present tabular data in a visually organized and accessible manner, adhering to design principles and standards.
6. My HD Website

Overall, these pieces reflect the application of fundamental design concepts and standards in the development of user interfaces, showcasing the individual's understanding in relation to ILO 1.

## ILO 2: Use Frameworks

Use contemporary frameworks to create dynamic user interfaces.

1. Lookup Web Application: This web application utilizes HTML, Bootstrap, and frameworks to present a table format of units. It allows users to filter the units by description and code, showcasing the ability to implement dynamic features using frameworks.
2. External Data Web Application: This web application retrieves data from an external source, demonstrating the knowledge and skills required to integrate external data into a web application, making use of frameworks for dynamic display.
3. Data from a Text File Web Application: This web application involves the retrieval and utilization of data from a text file. It showcases the ability to work with data from different sources, demonstrating proficiency in implementing dynamic user interfaces with frameworks.
4. My HD Website

These examples highlight the individual's competence in utilizing contemporary frameworks to create dynamic user interfaces, aligning with ILO 2.

## ILO 3: Develop User Interfaces

Design and develop user interfaces optimised for a range of devices and platforms.  
The third intended learning outcome (ILO) revolves around designing and developing user interfaces optimized for various devices and platforms. The included pieces reflect proficiency in this area:

1. Compute Web Application: This web application calculates BMI and outputs custom messages. It demonstrates the ability to design and develop user interfaces for specific functionalities, optimizing the display for an enhanced user experience across devices.
2. Registration Form Web Application: This web application is a registration form specifically designed for mobile phones. It showcases the ability to develop user interfaces that are tailored to specific devices, ensuring optimal usability and accessibility.
3. My HD Website
4. Guessing Game Web Application: This web application is a game that generates random numbers for users to guess. It exemplifies the capability to develop interactive user interfaces optimized for different platforms, providing an engaging experience for users.
5. Status Posting Web Application: This web application enables users to create and delete statuses. It showcases the ability to design and develop user interfaces for specific functionalities, ensuring usability and accessibility across devices and platforms.
6. Single Page Application: This web application allows users to navigate between different previously done web applications through routers. It demonstrates proficiency in designing and implementing user interfaces that enable seamless transitions and optimal usability.
7. Single Page Application (Database Management): This web application allows users to navigate between different web applications, enabling login and database management operations. It showcases proficiency in designing user interfaces optimized for database interactions.
8. String Test Web Application: This web application utilizes conditions to output custom messages. It demonstrates the ability to design and develop user interfaces with dynamic content, ensuring an interactive and personalized experience.
9. My HD Website

These examples highlight the individual's ability to design and develop user interfaces optimized for a range of devices and platforms, aligning with ILO 3.

## ILO 4: Evaluate User Interfaces

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

1. Units Lookup Web Application: This web application allows users to view more information about a unit with a single click, utilizing Vue Pagination, Bootstrap, and VueJs. It showcases the ability to enhance usability and accessibility by providing additional details in a user-friendly manner.
2. Form Validation Web Application: This web application is a customized registration form that incorporates Bootstrap and VueJs. It demonstrates the understanding of appropriate techniques for validating form inputs, ensuring data integrity and improving usability.
3. Student Marks Web Application: This web application presents a paginated version of tables displaying students' marks, employing Vue Pagination, Bootstrap, and VueJs. It showcases the ability to improve usability by organizing and presenting data in a structured manner.
4. My Table Web Application: This web application exhibits a paginated version of tables containing units' information, utilizing Vue Pagination, Bootstrap, and VueJs. It demonstrates the ability to enhance accessibility and usability by providing a well-structured and organized display of information.
5. Custom Single Page Application: This web application enables users to navigate between different web applications, featuring a home page with images. It showcases the ability to propose improvements by designing intuitive navigation and visually appealing elements, improving usability and engagement.

These examples reflect the individual's proficiency in evaluating user interfaces and proposing improvements based on usability and accessibility considerations, aligning with ILO 4.Top of Form

# Reflection

## The most important things I learnt:

Throughout the duration of this unit, I have gained valuable knowledge and practical skills that have greatly enhanced my understanding in this field. Reflecting on my learning experience, there are several key points that stand out to me as the most important things I have learned:

1. Proficiency in VueJs: One of the most significant takeaways from this subject is the development of my proficiency in VueJs. I started with a basic understanding of the framework and its core concepts, but through hands-on practice and project work, I have gained a deeper understanding of VueJs's capabilities and how it can be leveraged to build dynamic and interactive user interfaces. Learning about Vue components, data binding, and reactivity has been particularly valuable, as they form the foundation for building powerful single-page applications.

2. Utilizing Bootstrap for Responsive Design: Another key aspect of this subject was the incorporation of Bootstrap for responsive design. Bootstrap provided me with a robust framework for creating visually appealing and mobile-friendly interfaces. I learned how to leverage Bootstrap's grid system, components, and utility classes to ensure that my applications are optimized for a range of devices and platforms. This knowledge has enabled me to deliver user interfaces that seamlessly adapt to different screen sizes and provide a consistent user experience across devices.

3. Implementing Routers for Single-Page Applications: Learning how to utilize routers for creating single-page applications was a crucial skill acquired during this subject. I gained a comprehensive understanding of how routers can be used to manage navigation and render different components based on the URL. This knowledge has allowed me to create seamless transitions between different pages within a single application, enhancing the overall user experience and enabling efficient content delivery.

4. Usability and Accessibility Considerations: Throughout the subject, I developed a greater appreciation for the importance of usability and accessibility in interface design. I learned about best practices for designing intuitive and user-friendly interfaces, such as proper form validation, error handling, and clear user feedback. Additionally, I gained insights into accessibility standards and techniques, ensuring that my applications are inclusive and usable by individuals with diverse abilities and needs.

Overall, I am pleased with the knowledge and skills I have gained in this subject. I believe I have achieved my initial goals and expectations, as I now possess a solid foundation in interface design and development using VueJs, Bootstrap, and routers. This subject has equipped me with the necessary tools to create compelling and user-centric web and single-page applications. Going forward, I am eager to apply these skills in real-world projects and continue expanding my expertise in this field.

## The things that helped me most were:

Self-Reflection on Completing the Subject on Interface Design and Development

Throughout the course on the fundamental concepts of interface design and development using VueJs, Bootstrap, and routers, I have gained valuable knowledge and skills in creating Single Page Applications (SPAs) and web applications. Reflecting on my learning journey, there were several factors that significantly contributed to my progress and understanding. The following are the key elements that helped me the most:

1. Comprehensive Course Content: The course content was well-structured and comprehensive, covering all the essential aspects of interface design and development using VueJs, Bootstrap, and routers. The lectures, tutorials, and assignments provided a solid foundation and gave me a clear understanding of the concepts and techniques involved.

2. Individual Assignments: The opportunity to work on the individual assignments played a crucial role in my learning. The practical application of concepts through projects such as the Single Page Application and web applications allowed me to put my theoretical knowledge into practice. It helped me grasp the intricacies of VueJs, Bootstrap, and routers while honing my development skills.

3. Supportive Learning Environment: The presence of a supportive learning environment was invaluable in my learning journey. My facilitator, Grace Tao, was always available to provide guidance, answer questions, and offer feedback and she is an amazing tutor. Her support and collaboration fostered a positive atmosphere where I felt comfortable exploring new ideas and sharing my work. I was so blessed to have for this unit!

4. Canvas Resources: The availability of clear documentation and canvas resources, especially the lecture videos, proved to be immensely beneficial. These enabled me to explore advanced functionalities and troubleshoot issues effectively.

5. Practical Examples and Code Samples: The provision of practical examples and code samples was instrumental in my learning process. The course materials included well-documented examples and code snippets that illustrated the implementation of various features and functionalities. By studying and analyzing these examples, I was able to grasp best practices, learn from real-world scenarios, and apply them to my own projects.

## I found the following topics particularly challenging:

[ List and explain – if none explain why ]  
Throughout this subject, I encountered various topics related to interface design and development using VueJs, Bootstrap, and routers. While I found the overall subject engaging and informative, there were a few areas that presented challenges for me. These included:

1. Advanced Routing: I found the concept of advanced routing with routers to be particularly challenging. Understanding how to set up nested routes and handle dynamic routing parameters required a deeper understanding of the router's functionality. It took me some time to grasp the concept and implement it effectively in my projects.
2. Data Management with VueJs: Working with data management in VueJs was another area that posed challenges for me. Implementing two-way data binding and managing component communication forced me to dive deeper into the documentation and practice extensively to gain a solid understanding.
3. Responsive Design with Bootstrap: While I was familiar with the basics of Bootstrap, implementing responsive design principles using Bootstrap was a bit challenging. Ensuring that my web applications rendered appropriately on different devices and screen sizes required careful consideration and testing. It took me some time to grasp the grid system and breakpoints to create responsive layouts effectively.

Despite these challenges, I actively sought solutions and resources to overcome them. I extensively studied the documentation and tutorials, participated in online forums and communities, and experimented with different approaches to enhance my understanding and skill set.

## I found the following topics particularly interesting:

1. [ List and explain – remove if none ]  
   Single Page Applications (SPAs): Learning about the concept of SPAs and their advantages fascinated me. The idea of building dynamic web applications that load once and provide a seamless user experience without page refreshes intrigued me. Understanding how VueJs, Bootstrap, and routers work together to create SPAs was both enlightening and motivating.
2. VueJs Components: Exploring the world of VueJs components was incredibly interesting to me. The ability to create reusable and modular components that encapsulate logic and visuals appealed to my desire for clean and maintainable code. Learning about component-based development and the VueJs component lifecycle provided me with a solid foundation for building scalable applications.
3. Responsive Design with Bootstrap: Discovering how Bootstrap facilitates responsive design piqued my curiosity. I enjoyed learning about Bootstrap's grid system, responsive breakpoints, and utility classes that allow for seamless adaptation of web applications across different devices and screen sizes. The ability to create responsive layouts effortlessly opened up new possibilities in designing user-friendly interfaces.
4. Routing and Navigation: The concept of routing and navigation within Single Page Applications using routers fascinated me. Understanding how to set up routes, handle dynamic parameters, and create nested routes was both challenging and rewarding. It empowered me to build applications with multiple views and navigate seamlessly between them, enhancing the overall user experience.

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

1. [ List and explain – if none explain why, refer to your pieces for evidence to support your claims ]  
   VueJs Fundamentals: I have developed a solid understanding of the core concepts of VueJs, such as Vue instance, components, directives, computed properties, and methods. My ability to implement these concepts effectively in my projects, as evidenced by the various pieces I have completed, demonstrates my proficiency in VueJs.
2. Bootstrap Framework: I have gained a thorough understanding of Bootstrap and its features, including its responsive grid system, CSS classes, components, and utilities. This understanding allowed me to design and develop responsive and visually appealing user interfaces, as evident in the pieces I have created using Bootstrap.
3. Routing and Navigation: I have successfully grasped the concepts and implementation of routing and navigation using routers in VueJs. The various single-page applications I have built showcase my ability to create routes, handle dynamic parameters, and implement nested routes effectively.
4. User Interface Design Principles: I have developed a strong understanding of fundamental user interface design principles, such as layout design, typography, color schemes, and usability considerations. The pieces I have completed demonstrate my application of these principles to create visually pleasing and user-friendly interfaces.
5. Data Management with VueJs: I have acquired a solid understanding of data management in VueJs, including Vue's reactivity system, two-way data binding, and Vuex state management. The various web applications and single-page applications I have developed exhibit my ability to manage and synchronize data effectively across components.
6. Evaluation and Improvement: I have demonstrated proficiency in evaluating user interfaces with respect to usability and accessibility. The pieces I have created, such as the Units Lookup Web Application and the Student Marks Web Application, incorporate appropriate techniques to enhance usability and propose improvements.

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

[ List and explain – if none explain why, refer to your pieces ]  
While I have made significant progress in various aspects of the subject, there are still some areas that I acknowledge require further improvement. These areas include:

1. Advanced Routing Techniques: Although I have grasped the basics of routing and navigation using routers in VueJs, I recognize the need to delve deeper into advanced routing techniques. This includes exploring more complex routing scenarios, such as nested routes with multiple levels or implementing route guards for authentication and authorization. By dedicating more time and practice to these advanced routing concepts, I can enhance my proficiency in this area.
2. Responsive Design Best Practices: Although I have worked with Bootstrap and have a grasp of responsive design principles, I believe there is still room for improvement in implementing responsive layouts more effectively. This includes refining my understanding of media queries, utilizing Bootstrap's responsive utilities, and ensuring consistent experiences across different screen sizes and devices. I can further enhance my skills in this area by studying best practices, analyzing responsive design patterns, and experimenting with different layout structures.

## My progress in this unit was …:

My progress in this unit has been significant and fulfilling. I have dedicated time and effort to grasp the concepts, apply them in practical projects, and expand my knowledge in the field of interface design and development. Throughout the unit, I have experienced notable growth in various aspects, including technical skills, problem-solving abilities, and understanding of best practices.

I have successfully completed a range of projects and pieces that demonstrate my proficiency in applying fundamental design concepts, utilizing frameworks, developing user interfaces optimized for different devices, and evaluating user interfaces for usability and accessibility. These pieces serve as evidence of my progress and showcase my ability to work with VueJs, Bootstrap, and routers effectively.

Additionally, I have actively engaged with learning resources, such as documentation, tutorials, and online communities, to enhance my understanding of the topics covered in the unit. This proactive approach has allowed me to deepen my knowledge, explore advanced concepts, and address any challenges I encountered along the way.

Moreover, I have actively sought feedback from peers and mentors, which has provided valuable insights and helped me identify areas for improvement. By incorporating this feedback, I have been able to refine my skills and ensure continuous growth throughout the unit.

While there are areas that require further development and improvement, as mentioned in my previous responses, I am committed to continuing my learning journey in interface design and development. I recognize that progress is a continuous process, and I am excited to build upon the foundation I have established in this unit.

Overall, my progress in this unit has been positive and rewarding. I am proud of the accomplishments I have achieved, and I am confident that the knowledge and skills I have acquired will serve me well in my future endeavors in web development.

## This unit will help me in the future:

Completing this unit on the fundamental concepts of interface design and development using VueJs, Bootstrap, and routers will undoubtedly have a significant impact on my future studies and career. The knowledge and skills I have acquired throughout this unit will serve as a solid foundation for my further academic pursuits and professional endeavors.

First and foremost, the ability to design and develop user interfaces using VueJs, Bootstrap, and routers is highly sought after in the field of web development. These technologies are widely used and recognized for their efficiency and effectiveness in creating dynamic and responsive applications. By mastering these tools, I have equipped myself with valuable skills that are directly applicable to the industry's demands.

Additionally, the understanding of user interface design principles gained from this unit will greatly contribute to my future studies and career. User experience (UX) design has become increasingly crucial in today's digital landscape, and being able to create intuitive and user-friendly interfaces is paramount. The concepts of layout design, typography, color schemes, and usability considerations that I have learned will enable me to design interfaces that not only look visually appealing but also provide an optimal user experience.

Furthermore, the knowledge of responsive design acquired through working with Bootstrap will be invaluable in my future endeavors. With the ever-increasing variety of devices and screen sizes, the ability to create responsive layouts that adapt seamlessly across different platforms is crucial. This skill will allow me to develop applications that can reach a wider audience and provide consistent experiences regardless of the device they are accessed from.

The unit has also provided me with a strong understanding of data management using VueJs and the Vuex state management pattern. This knowledge will be beneficial in handling complex data flows and ensuring efficient communication between components in larger-scale applications. Understanding how to manage and synchronize data effectively is a valuable skill that will enhance my ability to develop robust and scalable applications.

Moreover, the experience gained in evaluating user interfaces for usability and accessibility using appropriate techniques will be advantageous throughout my career. Usability testing and ensuring accessibility compliance are essential aspects of developing successful applications. The ability to evaluate and propose improvements to user interfaces based on usability and accessibility principles will not only enhance the quality of my work but also contribute to a positive user experience.

In conclusion, the completion of this unit has equipped me with a diverse set of skills and knowledge that will undoubtedly benefit my future studies and career. The ability to design and develop user interfaces using VueJs, Bootstrap, and routers, combined with an understanding of user interface design principles, responsive design, data management, and usability evaluation, will position me as a valuable asset in the field of web development. These skills will not only enable me to excel in my academic pursuits but also open up opportunities for a successful and fulfilling career in the industry.

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

[ List and explain, how will you approach learning in the future? What things worked well, but what could you change to make sure you did better next time?]  
If I had the opportunity to redo this unit, there are several things I would do differently to enhance my learning experience and outcomes. Reflecting on my past approach, I have identified areas for improvement and adjustments that I would make for future learning endeavors.

1. Time Management: One aspect I would address is optimizing my time management. While I was able to complete the required tasks and projects, I believe I could have allocated my time more effectively to delve deeper into certain concepts or explore additional resources. To improve, I would create a structured study plan, set realistic goals, and allocate specific time slots for learning, practicing, and reviewing the material. By being more mindful of time management, I can maximize my learning potential and ensure a more comprehensive understanding of the subject matter.

2. Seeking Additional Resources: Although I engaged with learning resources such as documentation and tutorials, I realized that there were additional resources available that I did not fully utilize. To enhance my learning experience, I would actively seek out supplementary materials such as books, articles, and online courses that provide in-depth explanations and practical examples. Expanding my resource pool would expose me to different perspectives, reinforce my understanding, and provide me with a more comprehensive knowledge base.

3. Collaboration and Feedback: While I sought feedback from peers and mentors, I believe there is room for improvement in fostering collaboration and seeking input from a broader community. In future endeavors, I would actively participate in online forums, discussion groups, or coding communities where I can engage with like-minded individuals, share my work, and receive valuable feedback. Collaborative learning environments can provide diverse insights, stimulate discussions, and expose me to different approaches and perspectives that can enhance my learning process.

4. Deeper Understanding of Core Concepts: Although I completed the required tasks and projects, I recognize the importance of developing a deeper understanding of core concepts rather than just focusing on implementation. In the future, I would invest more time in studying the underlying principles, mechanisms, and best practices associated with the technologies and frameworks used in the unit. This deeper understanding would enable me to apply the concepts in a more flexible and creative manner, expanding my problem-solving abilities and empowering me to tackle more complex challenges.

5. Reflection and Iterative Improvement: While I engaged in self-reflection during the unit, I would place greater emphasis on reflective practices in the future. Regularly pausing to reflect on my learning progress, identifying areas for improvement, and devising strategies to address them would be integral to my learning approach. Additionally, I would adopt an iterative improvement mindset, actively revisiting previous projects and pieces to enhance and refine them based on newly acquired knowledge and skills. This iterative process would reinforce my understanding and solidify my learning outcomes.

By adopting a more structured and strategic approach to learning, seeking additional resources, fostering collaboration, aiming for a deeper understanding of core concepts, and engaging in reflective practices, I believe I would optimize my learning experience and achieve even better outcomes in the future. Embracing these changes would enable me to continuously grow and excel in my studies and future career pursuits.