Learning Summary Report

SIT120 Introduction to Responsive Web Apps

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Content

Self-Assessment Details

Tasks	Included	Comments on the quality of your submissions (Optional)
Week 1	☑	
Week 2	☑	
Week 3	☑	
Week 4	☑	
Week 5	☑	
Week 6	☑	
Week 7	☑	
Project Proposal	☑	Uploaded separately in the LMS
Web Page	☑	Uploaded separately in the LMS

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: **Charitha Pieris**

Portfolio Overview

This portfolio includes work that demonstrates that I have achieved all Unit Learning Outcomes for SIT103 Data and Information Management Unit Title to a **Higher Distinction** level.

I am writing to explain why I deserve the Higher Distinction grade for the tasks I have completed. I have successfully applied all of the Unit Learning Outcomes in achieving the higher distinction tasks. Here's why I believe I deserve this grade

I made sure to understand the main ideas and practical applications related to each learning outcome. This gave me a strong foundation to work from and helped me apply the knowledge effectively. I didn't just memorize information. I applied what I learned to solve problems and complete the tasks. I thought carefully and critically to find the right concepts and theories that could help me address complex challenges. I went beyond what was expected and explored new ideas. For this I use various types of google materials, and I refer to youtube videos. This showed my ability to think critically and come up with unique insights and solutions. And also I recognized the importance of looking at problems from different angles. I brought in ideas from different subjects and combined them to gain a comprehensive understanding. This helped me analyze problems in a broader and more innovative way. I constantly sought feedback from others and reflected on my work. This helped me identify my strengths and areas where I could improve. By doing this, I continuously enhanced my understanding and performance based on the Unit Learning Outcomes.

I believe I have met the requirements for the Higher Distinction grade in the tasks I have completed. I consistently applied the Unit Learning Outcomes, considered different perspectives, showed creativity, communicated well, and continuously improved. I am confident in my abilities and committed to achieving the highest academic standards.

Week 01 Summary

In this Week 1 assignment, I've learned about creating a basic personal website using HTML. The assignment provided a practical example of structuring an HTML document, including elements such as headings, paragraphs, images, and links. It highlighted the importance of proper HTML formatting and the use of attributes for styling elements, such as setting background color and image dimensions. Additionally, I observed the significance of organizing content into sections and the use of headings to structure information hierarchically. The assignment also emphasized the inclusion of contact information and educational background, showcasing the importance of presenting personal information on a website effectively. Furthermore, I gained insights into the use of unordered and ordered lists to create bullet points and numbered lists. This exercise served as a fundamental introduction to web development, setting the stage for more advanced web design and development concepts in the future. Overall, it was a valuable introductory exercise in building a basic personal webpage using HTML.

Week 02 Summary

In this Week 2 assignment, I've learned several important aspects of web development and design. First and foremost, I gained insights into creating a responsive and visually appealing web page by applying CSS to style different elements. The use of CSS for styling the navigation menu, text, and background allowed for a more aesthetically pleasing and organized layout. The navigation menu with links to different sections of the webpage enhances user experience and provides easy navigation.I also learned about the importance of structuring the webpage with semantic HTML elements, using <section> and tags to organize content effectively. This semantic structure not only aids in better presentation but also plays a crucial role in search engine optimization and accessibility.

The inclusion of a project section with buttons linking to various project pages is a valuable addition, demonstrating how to create interactive elements on a webpage. The use of hover effects on buttons and project cards adds interactivity and engagement to the site.Additionally, the application of CSS to create responsive design elements and transition effects on hover provides a more dynamic and visually appealing user experience. I also observed how to embed images using CSS and apply backgrounds, which contribute to the overall aesthetics of the webpage.
Lastly, the footer section with copyright information adds a professional touch to the webpage, emphasizing the importance of giving credit and maintaining the rights to one's work. Overall, this assignment has deepened my understanding of web development, CSS, and the importance of structuring and styling a webpage effectively to create an engaging and visually pleasing online presence.

Week 03 Summary

The assignment on developing a website for "TROVOL," a travel agency, has underscored the intricate balance between creativity and technical expertise in the realm of web development. It becomes clear that crafting an effective website involves not only aesthetically pleasing designs but also an emphasis on user experience. Through the use of captivating imagery, intuitive navigation menus, and interactive forms, the assignment showcases how web developers can create a visually appealing and user-friendly space that simplifies travel planning for visitors. It also subtly suggests the importance of responsive design to ensure compatibility across various devices and highlights the significance of a comprehensive "Contact Us" section for user engagement. Consistency in branding elements and an informative "About Us" section further contribute to establishing trust and connection with the audience. In essence, this assignment serves as a practical example of the synergy between design, functionality, and user engagement in web development.

Week 04 Summary

In Week 4's assignment, I observed a practical implementation of a quiz application using HTML, CSS, and JavaScript. This assignment was a hands-on exercise that demonstrated several key concepts. Firstly, it highlighted the structure of a web page with HTML, where elements such as questions and answers were defined. The use of CSS for styling was evident, with elements like the quiz box, buttons, and timer displaying various design properties.

Moreover, the JavaScript portion of the assignment introduced essential programming logic. It illustrated how to manage questions and answers within an array, validate user responses, keep track of the user's score, and implement a timer to add time constraints to the quiz. The use of event listeners for user interactions, along with dynamic content updates, was a fundamental aspect of the assignment.This assignment's core learning points included the integration of HTML, CSS, and JavaScript to create a functional and visually appealing web application. It emphasized the importance of efficient data structures and logic to manage the quiz questions and user responses. Additionally, it showcased how to provide immediate feedback to the user through the styling of correct and incorrect answers. Overall, this assignment served as a practical exercise to reinforce web development and programming fundamentals.

Week 05 Summary

In Week 5's assignment, I encountered a JavaScript calculator application that reinforced various important web development concepts. This assignment highlighted the integration of JavaScript functions with HTML and CSS to create a functional user interface. I learned how to capture user input and perform calculations, which are essential skills for building interactive web applications.

The assignment demonstrated the use of JavaScript functions like calcNumbers, clearDisplay, deleteLastCharacter, and calculateResult to manipulate the calculator's display and evaluate mathematical expressions. I observed how event handlers, triggered by user clicks, interacted with the DOM elements. Additionally, the styling of the calculator using CSS was crucial in making the user interface visually appealing and responsive. Furthermore, I learned how to structure an HTML form for user input and utilize JavaScript to handle that input for calculations. This assignment served as a practical exercise in combining HTML, CSS, and JavaScript to create a fully functional and interactive web application, providing a solid foundation for building more complex applications in the future.

Week 06 Summary

In Week 6's assignment, I encountered a web application developed using Vue.js, a popular JavaScript framework for building interactive and dynamic user interfaces. The assignment focused on creating a task list application that allowed users to add, categorize, and manage tasks. This assignment provided valuable insights into several key concepts and techniques. I learned about the Vue.js framework and how to use it to create data-driven applications. Vue's reactivity system was central to the assignment, enabling real-time updates to the UI based on changes to the underlying data. I also learned about Vue's two-way data binding, which simplifies the process of capturing user input and updating the application's state.

The assignment introduced the use of Vue directives like v-model, which facilitates the binding between data and form inputs, and v-for to loop through tasks and render them dynamically. Additionally, the concept of methods in Vue.js was covered, demonstrating how to create functions that could be called in response to user actions, such as adding or deleting tasks.

Understanding how to structure Vue components and how to integrate Vue.js into an HTML document was another key takeaway. The assignment highlighted the power of Vue.js in making web applications more responsive and user-friendly, making it a valuable tool for modern web development. Overall, Week 6's assignment provided a practical opportunity to grasp the fundamentals of Vue.js and the principles of building dynamic web applications, which are highly relevant in today's web development landscape.

Week 07 Summary

In Week 7's assignment, I encountered a more advanced web application developed using Vue.js, which extended upon the concepts learned in the previous week. The assignment focused on building a To-Do List with Time Management features, allowing users to add tasks, set deadlines, and manage their tasks effectively. Several key learnings emerged from this assignment:

Data Management: I learned how to manage more complex data structures using Vue.js. Tasks now included descriptions, deadlines, completion status, and whether they were past due. Vue's reactivity system was crucial in keeping the UI synchronized with these data changes.

Methods and Event Handling: The assignment reinforced the concept of Vue.js methods and event handling. The addTask, deleteTask, and scheduleAlerts methods were used to add, delete tasks, and manage task alerts effectively. Events were bound to user interactions, like clicking buttons, enabling seamless task management.

Computed Properties: Computed properties were introduced to dynamically modify the tasks' display based on their deadlines and completion status. This allowed for the categorization of tasks into "past-due" and "upcoming" based on the deadline and highlighting them with different colors.

Dynamic Styling: Styling was an essential aspect of this assignment. The introduction of CSS classes like "past-due" and "upcoming" showed how dynamic styling could be applied to tasks based on their properties, enhancing the user experience and conveying task status visually.

Two-Way Data Binding: The use of two-way data binding, primarily through the v-model directive, remained fundamental in capturing user input and updating the application's data state in real-time. This provided a smooth and intuitive user interface.

Date and Time Input Handling: The assignment involved capturing and formatting date and time inputs, which required some familiarity with handling datetime-local input fields and converting date formats.

Overall, Week 7's assignment delved deeper into Vue.js and web application development, covering more advanced aspects of data management, dynamic styling, and event handling. It reinforced the practical application of Vue.js concepts to create feature-rich, interactive web applications. These skills are valuable for building user-friendly and efficient web apps, which align with modern web development practices.

Reflection

The most important things I learnt:

HTML and CSS Fundamentals: These weeks laid the foundation with fundamental knowledge of HTML for structuring web content and CSS for styling. Understanding elements, attributes, and basic styling is crucial in web development.

JavaScript Essentials: Week 3 introduced essential JavaScript concepts, including variables, data types, conditionals, and loops. These are fundamental for creating interactive and dynamic web applications.

Responsive Web Design: Building on the basics, Week 4 covered responsive web design principles using CSS media queries. This ensures that web applications work well on various screen sizes and devices.

JavaScript for Interactivity: Week 5 focused on using JavaScript to add interactivity to web pages. This included event handling, DOM manipulation, and building a simple JavaScript calculator.

Introduction to Vue.js: Week 6 introduced Vue.js, a popular JavaScript framework for building user interfaces. Key concepts like data binding, methods, and computed properties were explained, leading to the creation of a task list application.

Advanced Vue.js and Styling: Week 7 built upon the Vue.js knowledge by exploring more complex data management, event handling, computed properties, dynamic styling, and interaction with datetime inputs. The task list application demonstrated practical use cases for Vue.js in real-world web development.

Effective Web Development Workflow: Throughout these weeks, the importance of an effective workflow was emphasized. This includes separating HTML, CSS, and JavaScript, using version control, and testing on various devices to ensure cross-browser compatibility.

Problem-Solving Skills: The assignments often required creative problem-solving, such as building a responsive layout or managing tasks with different properties. These challenges enhance problem-solving skills, which are essential for web development.

Good Coding Practices: Learning to write clean, readable, and well-structured code is a crucial takeaway. This includes proper indentation, commenting, and adhering to best practices.

UI/UX Considerations: The assignments emphasized user interface and user experience considerations. These include responsive design for different devices and providing feedback through dynamic styling.

The things that helped me most were:

- Progressive Learning: The materials follow a progressive structure, starting with fundamental HTML and CSS and gradually moving into JavaScript and more advanced concepts. This logical progression helps learners build their knowledge step by step.

- Introduction to Frameworks: Week 6 introduces Vue.js, a popular JavaScript framework. Learning about frameworks is essential in modern web development, as they streamline the development process and enhance productivity.

- Responsive Web Design: The emphasis on responsive web design (Week 4) is crucial. With the diversity of devices and screen sizes, understanding how to create web applications that adapt to different environments is essential.

- JavaScript Interactivity: JavaScript is a cornerstone of web development, and Week 5 provides a strong foundation in JavaScript concepts and practical usage, such as building a calculator. This interactivity is key to modern web applications.

- Problem-Solving Skills: Web development often involves solving complex problems. The assignments help learners develop problem-solving skills and the ability to think critically when creating web solutions.

- Best Practices: The assignments emphasize good coding practices, clean code, and proper documentation. Following best practices makes code more maintainable and understandable.

I found the following topics particularly challenging:

Normalization: Understanding the intricacies of normalization, especially higher normal forms like BCNF and 4NF, can be challenging as it involves complex rules and a deep understanding of data integrity.

Joins: Creating and interpreting different types of joins, especially when dealing with complex relationships between tables, can be tricky. Topics like self-joins and outer joins can be challenging.

Subqueries: Writing and comprehending subqueries within SQL statements can be challenging, especially when dealing with nested subqueries or correlated subqueries.

Transactions: Understanding the concepts of database transactions, ACID properties (Atomicity, Consistency, Isolation, Durability), and how to handle them correctly can be complex.

Procedural SQL (PL/SQL): Learning PL/SQL can be challenging, as it involves not just SQL but also procedural constructs like loops, conditions, and error handling.

Embedded SQL: Integrating SQL within programming languages can be challenging, particularly when dealing with data type mismatches and runtime errors.

DBMS-Specific Features: Learning the specifics of different Database Management Systems (DBMS) like Oracle, MySQL, SQL Server, or PostgreSQL can be challenging because each has its own features and syntax.

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

JavaScript Complexity: JavaScript, while essential, can be challenging due to its complex nature, asynchronous behavior, and the need for a deep understanding of concepts like closures, promises, and asynchronous programming.

Responsive Web Design: Designing web applications that work well on a variety of screen sizes and devices can be challenging. This involves understanding media queries, flexible layouts, and mobile-first design.

Cross-Browser Compatibility: Ensuring that web applications work consistently across different web browsers can be tricky. Browsers may interpret code differently, leading to compatibility issues.

Server-Side Programming: Learning server-side languages like Node.js or Python can be challenging, as it involves concepts like event-driven programming and server configurations.

Performance Optimization: Optimizing web applications for performance is a continuous challenge. This involves minimizing load times, reducing HTTP requests, and optimizing code and assets.

I still need to work on the following areas:

Advanced JavaScript Concepts: JavaScript, it's an ever-evolving language. Developers often work on improving their knowledge of advanced JavaScript concepts, including ES6 and beyond, design patterns, and functional programming.

Frameworks and Libraries: Staying up-to-date with popular web development frameworks and libraries is crucial. Many developers continuously learn and work with tools like React, Angular, Vue.js, and various JavaScript libraries.

Server-Side and Backend Technologies: Expanding knowledge of server-side programming, databases, and backend technologies is vital. Many developers continue to learn about server environments, databases, and backend frameworks such as Express.js or Django.

This unit will help me in the future:

The knowledge and skills acquired through these units on web development are poised to play a crucial role in shaping my future. First and foremost, they offer a promising pathway to career advancement. In an increasingly digital world, a strong foundation in web development is not just an asset but often a necessity. This knowledge empowers me to adapt to the ever-evolving landscape of technology. As new frameworks, libraries, and tools emerge, the principles I've learned provide a solid base to build upon and remain relevant in the industry. Beyond career prospects, web development nurtures problem-solving abilities that can transcend domains. The logical thinking and creativity fostered by web development will be invaluable, whether I'm solving complex technical challenges or tackling broader issues in various fields. These skills will also serve well in entrepreneurial endeavors and freelancing, providing the technical expertise to bring digital ideas to life. Moreover, web development underscores the importance of continuous learning, a vital trait in an age of rapid technological advancement. It equips me to work effectively in teams, bridging the gap between technical and non-technical professionals. Lastly, it nurtures a sense of innovation and creativity, enabling me to realize ideas, no matter the sector. Even for personal projects and hobbies, these skills will be indispensable, allowing me to create web-based tools or simply build a web presence. As the world becomes increasingly digital, these skills are not just an asset but a form of digital literacy, empowering me to navigate the digital realm proficiently and critically. In essence, the knowledge gained from these web development units is a versatile toolset that will undoubtedly shape my future in diverse and unforeseen ways.