# Learning summary report

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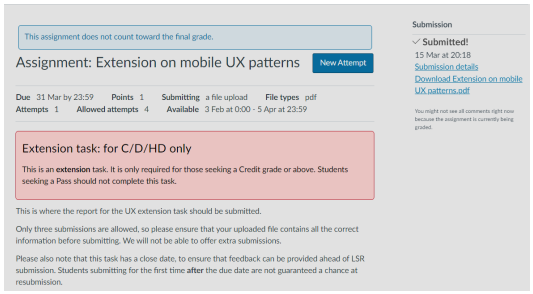
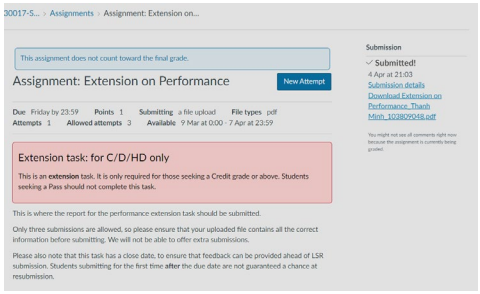
## Overview

I have served as a practical application of the skills and knowledge gained throughout the learning process. This project likely encompasses aspects of design, development, and implementation, showcasing their ability to create functional software solutions.
For the custom application, I developed a scheduling and deadline management app tailored for students. The app show user's class schedules, assignment deadlines, and important dates, providing reminders and notifications to help them stay organized and on track with their academic responsibilities. Additionally, the app includes features for tracking assignment completion status and managing tasks effectively.

## Evidence (in Portfolio Pieces)

I have completed the following assignments. I aim for D grade.

- All Core outcomes
    - Core 1: https://github.com/SoftDevMobDev-2023-Classrooms/core1-MinMinis
    - Core 2: https://github.com/SoftDevMobDev-2023-Classrooms/core2-MinMinis
    - Core 3: https://github.com/SoftDevMobDev-2023-Classrooms/core3-MinMinis
- All Extension tasks.
    - Extension on UX pattern
        - 

    - Extension on performance
        - 

- A project at Level 1: https://github.com/SoftDevMobDev-2023-Classrooms/customproject1-MinMinis

## Learning Summary

Throughout this semester, I've actively engaged in tasks that not only solidified my understanding of core software development principles but also highlighted the crucial distinctions between mobile development and its web-based or desktop counterparts. One particularly insightful exercise involved a comparative analysis of mobile and web development. Here, we delved into the significant factors that differentiate the two domains, such as screen size limitations on mobile devices, the shift from keyboard and mouse input to touch interaction. This analysis provided a strong foundation for appreciating the unique set of considerations that come into play when designing and developing software specifically for mobile environments.

Core 1, Core 2, Core 3 assignments served as practical battlegrounds where I could translate theory into action. While designing mobile applications, I constantly had to juggle the demands of functionality with the inherent hardware restrictions of mobile devices. This included meticulously considering factors like screen size (both large and small displays), available memory for smooth operation, and processor capacity to ensure optimal performance without compromising the user experience. By grappling with these limitations, I gained a deeper appreciation for the intricate dance between user needs, technical feasibility, and resource optimization that is central to successful mobile development.

## Challenges in Mobile Development

Beyond the initial learning curve, several aspects of mobile development presented themselves as particularly challenging and deviated from my initial expectations. Here are some key areas that demanded my full attention:

- User Interface (UI) Design: Crafting intuitive and user-friendly interfaces for a multitude of screen sizes and resolutions proved to be a formidable task. Unlike web development where a certain level of display consistency can be assumed, the sheer diversity of screen sizes and aspect ratios across the Android ecosystem forced me to adopt a more fluid and adaptable approach to UI design. This involved prioritizing core functionalities, employing responsive design techniques, and conducting thorough testing across various devices to ensure a seamless user experience.
- Performance Optimization: Striking a balance between feature-rich applications and smooth operation on devices with varying hardware capabilities was another hurdle. Concepts like code efficiency, memory management, and leveraging hardware acceleration techniques became paramount in ensuring that applications wouldn't

become sluggish or resource-intensive on less powerful devices. This required a meticulous attention to detail and the ability to identify potential performance bottlenecks early in the development process.

- Compatibility Testing: The dream of a single, unified Android platform turned out to be a gentle illusion. Compatibility testing across different Android versions, device manufacturers, and hardware configurations emerged as a significant challenge. The fragmentation of the Android ecosystem necessitated a robust testing strategy that involved emulators, real devices, and a keen eye for potential compatibility issues. This highlighted the importance of not just developing the application but also ensuring it functions flawlessly across the intended user base.

These challenges served as valuable learning experiences, emphasizing the crucial role of thorough testing, optimization strategies, and a user-centric approach in crafting successful mobile applications.

## Assumptions and Expectations

Coming into this unit, I harboured certain assumptions about mobile development, presuming it to be a simplified extension of traditional web or desktop development. However, this perception was swiftly shattered. While the core principles of software development remain fundamentally the same, mobile development introduces a unique set of constraints and considerations. Limited processing power, touch-based interaction paradigms, and the ever-evolving nature of mobile operating systems demanded a distinct design and development approach. This unit challenged my preconceived notions and instilled the importance of possessing platform-specific knowledge and the ability to adapt to the unique demands of the mobile environment.

## Explorations

My learning journey extended beyond the confines of the unit curriculum. I actively sought out additional resources and tools to broaden my mobile development skillset. Online tutorials, developer forums brimming with valuable insights, and comprehensive platform documentation became my constant companions. Participating in discussions on forums allowed me to learn from the experiences of seasoned developers and troubleshoot challenges faced by others.

Week 12's custom app feedback session proved to be an invaluable exercise. Here, I had the opportunity to analyse and critique real-world mobile applications. This exercise provided a

glimpse into industry best practices, exposed me to common pitfalls to avoid, and fostered a critical eye for evaluating user interfaces and user experiences.

Looking forward, I'm eager to delve deeper into specific areas of mobile development that pique my interest. Advanced UI/UX design principles are at the forefront, as a well-crafted user interface can make or break a mobile application. To fuel this exploration, I plan to leverage online courses, embark on personal hands-on projects, and actively participate in relevant communities and events.

## Final Words

The most useful thing I will take away from this unit is the ability to adapt and innovate in the rapidly evolving field of mobile development. Through hands-on experience and exploration, I've gained a deep understanding of the unique challenges and opportunities inherent in designing and building software for mobile devices. This unit has equipped me with the knowledge and skills to navigate the complexities of mobile development effectively, empowering me to create impactful and user-centric mobile applications in the future.