CS-499 Module Four Journal

Darrell Lindsey

09/28/2025

**Part One**

1. **Have you changed your career plans? If so, what prompted this change? If not, why have you remained with your original plan?**  
   Yes, I’ve changed my career plans since entering the Computer Science program. I began with a strong background in hardware repair and technical support, expecting to transition into a systems administration or infrastructure role. However, as I progressed through the program, especially through courses focused on object-oriented programming, mobile development, and algorithmic design, I discovered a strong interest in software development. My success in building Android applications and implementing custom data structures prompted a shift toward full-stack Android development. This change was driven by the satisfaction I found in solving complex problems through code and creating user-friendly, maintainable applications.
2. **How has your thinking about your career evolved?**  
   My thinking has evolved from viewing software development as a complementary skill to hardware expertise, to recognizing it as a primary career path. I now approach technical challenges with a software-first mindset, emphasizing modular architecture, testability, and performance. I’ve become more invested in building scalable mobile applications and refining my skills in Kotlin, Gradle configuration, and Coroutine management. This evolution has helped clarify my long-term goal: to become a professional Android developer capable of contributing to both proprietary and open-source projects.
3. **Have you completed any research about your choice of career? How has this impacted your thinking? Have you thought about seeking an advanced degree or certification after earning your undergraduate degree?**  
   While I haven’t conducted extensive formal research into career paths, I’ve gained insight through hands-on experience and coursework. My understanding of what’s expected in professional development roles has grown organically through building real applications, troubleshooting complex issues, and refining my codebase for performance and testability. I’ve reviewed job postings and developer documentation to better understand the expectations for Android developers, and I’ve considered pursuing certifications such as the Google Associate Android Developer credential. As I near graduation, I plan to begin more targeted research into job roles, industry expectations, and continuing education options. According to Pressman and Maxim (2020), effective software engineering requires not only technical proficiency but also a commitment to lifelong learning and adaptation to evolving technologies. This perspective reinforces my intention to continue growing professionally through both experience and formal education.
4. **Which course outcomes have you achieved so far, and which ones remain?**  
   I’ve made strong progress in several course outcomes. I’ve demonstrated the ability to design and evaluate computing solutions using algorithmic principles through my work on custom binary search trees and sorting logic. I’ve also shown proficiency in using innovative tools and techniques in software engineering, such as dependency injection, coroutine integration, and Gradle configuration. My communication skills have improved through technical documentation, code reviews, and ePortfolio development. Outcomes related to building collaborative environments and developing a security mindset are still in progress. I plan to address these more fully in my final project and through additional coursework focused on secure software design and team-based development.

**Part Two**

**Status Checkpoints for All Categories**

|  |  |  |  |
| --- | --- | --- | --- |
| Checkpoint | Software Design and Engineering | Algorithms and Data Structures | Databases |
| Name of Artifact Used | Inventory App – Android Kotlin project with modular architecture and UI validation | InventoryBST – Custom binary search tree with dynamic comparator and full unit test coverage | InventoryRepository – Firebase-backed repository with CRUD operations |
| Status of Initial Enhancement | Completed: Refactored UI logic, added input validation, improved modularity and testability | Completed: Refactored BST for comparator injection, added edge-case handling and performance tuning | Completed: Refactored repository for dependency injection and coroutine support |
| Submission Status | Submitted for Milestone Two | Submitted for Milestone Three | Submitted for Milestone Three |
| Status of Final Enhancement | In progress: Adding CI/CD integration and UI polish | Finalized: Ready for ePortfolio upload | In progress: Expanding test coverage and error handling |
| Uploaded to ePortfolio | Not yet uploaded | Not yet uploaded | Not yet uploaded |
| Status of Finalized ePortfolio | Pending instructor feedback and final polish | Pending instructor feedback and final polish | Pending instructor feedback and final polish |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Optional Feedback**  
I would appreciate instructor feedback on the InventoryBST artifact, specifically regarding the comparator injection strategy and whether the traversal logic could be further optimized. I’m also seeking input on the InventoryRepository’s coroutine implementation, particularly whether the current structure aligns with best practices for asynchronous data access in Android. Additionally, I welcome suggestions on how to better showcase the software design aspects of the Inventory App, including UI responsiveness and modularity, within the ePortfolio.

**Reference**  
Pressman, R. S., & Maxim, B. R. (2020). *Software Engineering: A Practitioner’s Approach* (9th ed.). McGraw-Hill Education. Retrieved from Shapiro Library