7-1 Final Project Submission

Professional Self-Assessment

CS-499-Computer Science Capstone

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Throughout my journey in the Computer Science program, I have developed both the technical expertise and the professional mindset necessary to thrive in today's technology-driven workforce. Fortunately, I have had the opportunity to work within the Software Development Life Cycle (SDLC). For me, the process of building my ePortfolio goes beyond just documenting my skills; it has served as a summary of the skills, knowledge, and values I've acquired through hands-on experience, collaborative coursework, and especially personal growth. The professional self-assessment offers a glimpse into my experience, highlighting the accomplishments that set me apart and demonstrating how I am not only prepared to enter the field of computer science but also a valuable contributor.

From the beginning of the program, I was challenged to expand my technical abilities while strengthening my communication and collaboration skills. Each course required me to solve real-world problems using a blend of critical thinking, algorithmic design, and creative application. As I progressed through the program, I gradually became more proficient in industry-standard programming languages, including Java, Python, and SQL. I became more confident working with tools like IntelliJ, Visual Studio Code, Android Studio, and GitHub. The structured development of software through analysis, design, and testing became second nature. I also learned how to adapt to unfamiliar technologies quickly, for example, by dealing with relational and non-relational databases, which is a critical skill in the ever-evolving tech landscape.

One of the most valuable outcomes of the program was learning how to collaborate in a team environment. Working with classmates on projects and in online discussion forums

allowed me to build on my collaboration skills in a real-world dynamic. This experience not only enabled me to improve but also taught me how to share responsibility, resolve conflicts, and contribute effectively to a team goal remotely. Whether leading a testing initiative or reviewing a peer's code, I have learned the importance of professional conduct, timely communication, and accountability.

Equally important was communicating with stakeholders. Many assignments required me to produce written documentation, diagrams, and presentations that clearly explained technical decisions to a non-technical audience. This participation prepared me for my current work role, where I present live demos of stakeholder testing, enabling me to apply what I learned quickly in practice. Learning how to balance technical accuracy with business relevance and essential skills for ensuring project alignment with organizational goals was invaluable. Additionally, through additional feedback and revision, I improved my ability to write project proposals, user stories, and requirement documents in ways that support both developers and business decision-makers.

Building on what I learned in previous courses, my improvements in data structures and algorithms were demonstrated in several classes where I was tasked with developing efficient solutions to computational problems. I worked with arrays, linked lists, hash maps, stacks, and queues. I became comfortable evaluating algorithm complexity using Big-O notation. I am most proud of optimizing a search and sort utility that showed a measurable performance gain. These exercises not only improved my problem-solving skills but also illustrated the importance of writing clean, efficient, and maintainable code.

In the areas of software engineering and database management, I developed and enhanced full-stack applications that integrated front-end user interfaces with back-end storage systems. I became proficient in using SQLite databases to manage persistent data and learned how to construct normalized schemas, enforce data integrity, and implement CRUD (Create, Read, Update, Delete) operations in mobile environments. I also employed version control practices and applied modular programming principles to maintain a scalable and testable codebase.

The importance of security was emphasized throughout the computer science program. I learned how to apply best practices to mitigate risks such as SQL injection, buffer overflows, and unauthorized access. Assignments focused on secure coding principles helped me develop a "security-first" mindset, which I carried into my final capstone project and now apply consistently when writing code or considering system designs.

My ePortfolio showcases this journey and brings it all together through the NuMe weight-tracking app, which serves as the central artifact of my professional development. This application demonstrates my ability to design and build a real-world mobile app from scratch using Java and Android Studio. It incorporates interactive user interfaces, algorithmic logic for weight analysis, persistent data management through SQLite, and a notification feature that simulates real-world application behavior. This was done by implementing enhancements that integrate three key areas: software engineering and design, algorithms and data structures,

and databases. These enhancements reflect my growing ability to critically assess and improve software in a meaningful, scalable way.

The NuMe app serves as the core element of this portfolio, as it demonstrates a functional application that showcases my comprehensive learning experience. The application demonstrates my professional readiness for software projects through tangible evidence, showcasing my development approach based on computer science fundamentals.

My ePortfolio and the NuMe app not only reflect what I've learned but also how I've evolved. It highlights my capabilities as an analytical and security-conscious developer who is ready to contribute meaningfully to a collaborative software development team. I am excited and look forward to applying these skills in roles that value innovation, critical thinking, and continual learning. My experience in the Computer Science program reinforces these traits and more.