**Shebin Sajan**

**CS 499 – Final Project**

**Professional Self-Assessment**

**Introduction**

As I conclude my Bachelor of Science in Computer Science at SNHU, I reflect on a transformative academic journey that has shaped both my technical abilities and professional identity.This program provided not just theoretical knowledge but also hands-on experience through various projects, collaborative exercises, and structured problem-solving approaches. My ePortfolio stands as a testament to this journey, showcasing key enhancements made to projects across software engineering, algorithms, and databases.

### Academic and Professional Growth

Throughout the program, I developed a strong foundation in core computer science disciplines such as object-oriented design, software development lifecycles, and data management systems. The capstone project allowed me to enhance real-world applications like Travlr Getaways, a full-stack web application, reinforcing my passion for full-stack development.

My ability to design modular MVC architectures, implement filtering logic with optimized algorithms, and structure efficient NoSQL database schemas highlights the range of skills I’ve built. Courses like CS 320 (Software QA), CS 260 (Data Structures), and CS 465 (Full Stack Development) especially helped me grow from a student into a solutions-oriented developer.

### Collaboration and Communication

Over the duration of this program, I learned the value of clear, professional communication through written narratives, GitHub documentation, and oral presentations. Collaboration was key in many team-based assignments where I learned to integrate feedback constructively. Peer reviews and instructor input taught me how to approach code reviews professionally and improved my ability to document technical concepts for non-technical audiences.

### Security Awareness

In each enhancement, I applied a security-first mindset by validating inputs, sanitizing data, and managing exception handling. I now understand how design flaws can be exploited if left unchecked and actively anticipate such vulnerabilities in my work.

### Skills Demonstrated Through Artifacts

* **Software Engineering**: Refactored UI code to separate concerns via MVC architecture, improved responsiveness, and integrated build tools like Ant.
* **Algorithms and Data Structures**: Applied optimized filter and search logic, improved time complexity, and used efficient data structures.
* **Databases**: Refactored MongoDB schemas, embedded documents appropriately, applied validation, indexing, and created seed scripts for data testing.

### Portfolio Integration

Each artifact included in my portfolio reflects a distinct aspect of my growth:

* **Software Design** shows my grasp of modular design and build integration.
* **Algorithms** reflects logical thinking and performance optimization.
* **Databases** demonstrates structured schema design and data integrity techniques.

Together, these artifacts tell the story of a well-rounded developer ready to contribute to dynamic development environments.

### Career Goals and Future Outlook

My goal is to work as a full-stack developer with a focus on scalable web applications. I am passionate about solving real-world problems through code, and I intend to continue learning technologies like cloud computing, AI-assisted development, and advanced database systems. This program has equipped me with a mindset of lifelong learning and professional discipline.

### Conclusion

This capstone experience and the resulting ePortfolio have enabled me to showcase my readiness for the professional world. I leave this program not just with academic achievements, but with practical skills, a professional portfolio, and a clear vision of my future in computer science.