Journal Entry #3

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CS-499-10941-M01 Computer Science Capstone 2024 C-4

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**Part One: Career Reflection**

My career plans have evolved significantly throughout my Computer Science program studies. Initially, I aimed to become a software engineer focusing on full-stack development. However, after extensive research on the software engineering job market, I realized the intense competition and saturation in the field. This led me to explore other career options and decide to transition to data science. Data science is a relatively newer field with a growing demand for skilled professionals. The market is more open, offering numerous opportunities for growth and innovation.

This transition occurred within the past month. My thinking about my career has shifted from a narrow focus on software engineering to a broader perspective that includes the possibilities within data science. This field leverages my existing programming skills and allows me to delve into data analysis, machine learning, and predictive modeling, which I find intellectually stimulating and professionally rewarding.

I have completed research on data science as a career, examining job roles, required skills, and industry trends. This research has been enlightening, reinforcing my decision to pivot to data science. It has also made me consider further education and certification. I am now contemplating pursuing advanced degrees or certifications in data science, such as a Master’s in Data Science or machine learning and big data analytics, to enhance my expertise and marketability.

So far, I have achieved several course outcomes, including designing and evaluating computing solutions and demonstrating the use of well-founded and innovative techniques. I have successfully enhanced my software design and engineering projects, optimizing them for performance and usability. However, I still need to focus on building collaborative environments and developing a security mindset, which will be addressed in my final ePortfolio enhancements.

**Part Two: Status Checkpoints Table**

**Software Design and Engineering**

* **Name of Artifact Used:** 3D Graphics Project (CS330: Computational Graphics and Visualization)
* **Status of Initial Enhancement:** Completed dynamic rotation and texture mapping.
* **Submission Status:** Initial enhancement submitted for review.
* **Status of Final Enhancement:** Refining interactive controls and optimizing performance.
* **Uploaded to ePortfolio:** Not yet uploaded.
* **Status of Finalized ePortfolio:** Pending final enhancements and instructor feedback.

**Algorithms and Data Structures**

* **Name of Artifact Used:** Animal Shelter Management System (CS340: Advanced Programming Concepts)
* **Status of Initial Enhancement:** Optimized data processing algorithms and implemented advanced filtering.
* **Submission Status:** Initial enhancement submitted for review.
* **Status of Final Enhancement:** Implementing interactive visualizations.
* **Uploaded to ePortfolio:** Not yet uploaded.
* **Status of Finalized ePortfolio:** Pending final enhancements and instructor feedback.

**Databases**

* **Name of Artifact Used:** Family Tree Database (SQL Project)
* **Status of Initial Enhancement:** Added parent IDs and implemented inner joins.
* **Submission Status:** Initial enhancement submitted for review.
* **Status of Final Enhancement:** Normalizing database schema and optimizing queries.
* **Uploaded to ePortfolio:** Not yet uploaded.
* **Status of Finalized ePortfolio:** Pending final enhancements and instructor feedback.

In this journal entry, I have reflected on my career development, provided progress updates on my ePortfolio artifacts, and documented each category's current status in the Status Checkpoints table. This structured approach ensures I am on track to achieve the course outcomes and build a comprehensive and professional ePortfolio.