**CS 499**

**3 - 1 Journal**

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**3-1 Journal: Marketing With ePortfolios and Artifact Update**

**Part One**

**1. How might you use an ePortfolio for the benefit of self-promotion?** An ePortfolio is an excellent tool for showcasing my skills, knowledge, and accomplishments to potential employers. It allows me to present a curated body of work that demonstrates my technical capabilities and highlights specific projects I have completed, such as the enhanced To-Do List application. By including detailed project descriptions, code snippets, and explanations of my development process, I can illustrate my problem-solving skills and expertise in areas like software design, algorithms, and databases. Additionally, linking my ePortfolio on my resume, LinkedIn profile, and job applications can create a seamless way for employers to evaluate my work and differentiate me from other candidates.

**2. How might you mitigate risks while maximizing the marketing potential of the ePortfolio?** To mitigate risks, I will ensure that no sensitive or proprietary information is included in the ePortfolio. For example, I will avoid sharing private intellectual property or any information that violates confidentiality agreements. Additionally, I will focus on showcasing generalizable skills and projects that highlight my abilities without exposing security vulnerabilities or oversharing technical details. I will also host my ePortfolio on a secure platform, such as GitHub Pages, to ensure data integrity and easy accessibility.

To maximize marketing potential, I will include a professional biography, clear project descriptions, and high-quality visuals or screenshots of the applications I have developed. I'll also optimize the structure of the portfolio to make it easy for recruiters and hiring managers to navigate.

**3. Describe possible downsides or risks—for instance, the risks of posting intellectual property online for public consumption.** One of the risks of posting intellectual property online is that others might misuse or replicate my work without permission. This could devalue the originality of my projects and potentially harm my reputation if the copied work is used inappropriately. There is also the risk of exposing code that contains vulnerabilities, which could be exploited if not properly managed. Lastly, public exposure of detailed project work might unintentionally reveal strategies or solutions that could give competitors an advantage.

**4. Which course outcomes have you achieved so far, and which ones remain?** So far, I have achieved course outcomes related to designing, developing, and delivering professional-quality computing solutions, as demonstrated in the enhancements to my To-Do List application and sorting algorithms project. I have also used well-founded techniques in implementing software engineering practices, such as refactoring, GUI development, and database integration.

The remaining outcomes include further refining my security mindset and ensuring that all artifacts in my portfolio anticipate and mitigate potential vulnerabilities. Additionally, I need to finalize my enhancements for the database category to fully align with industry standards and course requirements.

**Part Two**

**1. Software Design and Engineering** For the software design and engineering category, I have been working on enhancing the To-Do List application originally developed in CS 250. The enhancements include refactoring the code for readability, introducing error handling, and adding a graphical user interface (GUI) using JavaFX. The refactoring is complete, and the GUI development is halfway finished. Next, I plan to integrate SQLite for persistent task storage, which will add scalability and practical value to the application.

**2. Algorithms and Data Structures** In the algorithms and data structures category, I am enhancing the Sorting Algorithms Comparison project from CS 260. So far, I have implemented additional sorting algorithms, such as Radix Sort and Heap Sort, to expand the comparison. I am also working on visualizing the sorting processes using a graphical library to help users better understand how the algorithms work step-by-step. The visualization feature is 60% complete, and I plan to finalize it in the coming weeks.

**3. Databases** For the databases category, I have selected the Library Management System developed in IT 340. The primary enhancement involves migrating the database from MySQL to MongoDB to improve scalability and handle unstructured data more effectively. I am currently testing data migration scripts to ensure a smooth transition. Additionally, I am developing a web-based interface to make the system more accessible and user-friendly. This enhancement is approximately 70% complete, and I will focus next on refining the interface and implementing advanced security features like encryption and user authentication.