CS-499

Milestone Two

Logan Riedell

4/15/2025

**Briefly describe the artifact. What is it? When was it created?**

The artifact I chose is the same Appointment Management System that was created during a Client/Server development course in 2024. It manages appointments, tasks, and contacts, and I improved its logic and structure for algorithms and data handling.

**Justify the inclusion of the artifact in your ePortfolio. Why did you select this item? What specific components of the artifact showcase your skills and abilities in software development? How did the enhancement improve the artifact? What specific skills did you demonstrate in the enhancement?**

I selected this artifact because it already had working features but needed stronger algorithm design to handle real-world cases. I added conflict detection for overlapping appointments and implemented task prioritizing using a heap structure to clean things up. These enhancements showcased skills in algorithmic thinking and choosing the right data structures for practical problems instead of just using what was simple.

**Reflect on the process of enhancing the artifact. What did you learn as you were creating it and improving it? What challenges did you face? How did you incorporate feedback as you made changes to the artifact? How was the artifact improved? Which course outcomes did you partially or fully meet with your enhancements? Which do you feel were not met?**

While working on the artifact, I realized how critical it is to consider performance and real-world applications when choosing algorithms and data structures. One frustration I faced was to ensuring that appointment conflicts were correctly identified without slowing down the system. I used feedback from previous courses to emphasize the importance of clean logic and efficiency by using a simple binary search approach instead of manually checking each appointment. The priority system was used to optimize the artifact's scheduling and task management. I successfully completed the course objectives for algorithmic principles and efficient problem-solving. I do not believe any outcomes were overlooked in this enhancement.