Jael Andre

Narrative Project One

ABCU Course Advising System

CS 499

Professor Alim

08/24/2025

**Description:**

The ABCU Course Advising System was originally created in C++ as a console-based program for loading and displaying course information using a hash table. I developed it during my Data Structures and Algorithms course. In my capstone, I enhanced the project by translating it into Python and implementing a graphical interface with Tkinter.

**Why I Included It:**

I selected this artifact because it demonstrates both my understanding of data structures and my ability to translate projects across programming languages. The enhanced version highlights my skills in software design, modular programming, and GUI development. It shows employers that I can not only write efficient backend logic but also create user-friendly applications.

**Reflection:**

The enhancement process taught me the importance of clean code organization and modularity, especially when moving from C++ to Python. Creating the GUI in Tkinter was challenging because I had to ensure smooth user interaction while keeping the underlying hash table operations intact. I also learned how to debug interface logic and integrate data structures with a front-end component. One challenge I faced was managing input validation and error handling in the GUI, but incorporating feedback led me to design a more intuitive and error-tolerant interface. This artifact demonstrates course outcomes in software design and engineering and partially in algorithms and data structures, though database integration was not a major component in this particular project.