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CS 499

Data Structures and Algorithms Enhancement

The artifact I chose for Enhancement Two: Algorithms and Data Structures is my Inventory App, which I developed during my previous course, CS 360. This app is designed to track items in a warehouse using SQLite databases to store inventory items, as well as user logins and passwords. I selected this artifact for enhancement because I wanted to significantly improve it by incorporating more sophisticated algorithms and data structures.

Initially, my app utilized fundamental CRUD operations, (Create, Read, Update, Delete), and lists as its primary algorithms and data structures. For this enhancement, I implemented a feature that enables sorting items alphabetically in both ascending and descending order. Users can long click an item to select it and highlight it in red and use the “Sort Alphabetically” button to arrange items using a sorting algorithm implemented using Java’s built-in ‘List.sort()’ method. This enhancement aligns with the course objectives by illustrating the use of advanced sorting algorithms and enhanced data structure management. It highlights my skill in incorporating algorithms to optimize app functionality and improve user experience. I am planning on adding more additional algorithm sorts for more variety as well.

During the enhancement process, I faced many challenges with getting the sorting algorithm to function correctly and update the activity as intended. However, I overcame these issues through extensive research and trial and error. These experiences have helped me immensely by enriching my understanding of algorithms and data structures and inspired me to add even more in the future.