**Enhancement Two: Algorithms and Data Structures**

Anderson Forestal

Science department, Computer Science

CS-499-T4250 Computer Science Capstone

Southern New Hampshire University

Brooke Goggin

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The artifact is a binary search tree that accommodates several methods, which manage the creation of a search tree, insertion of nodes, deletion of nodes, and searching and displaying specified nodes. The objective of the artifact was to allocate resources to an acceptable performance to ensure that the best possible performance was being achieved. Speaking of enhancing the artifact, I chose the selected artifact because an understanding of complex data structures and algorithms is extremely helpful in situations where it is necessary to complete a task in a short amount of time with efficiency and using fewer resources. Moreover, It is necessary when searching and sorting through data tables to analyze interesting instances and solve real-life problems that companies are faced.

The knowledge of data structures and algorithms like binary search trees goes a long way in solving problems efficiently. Therefore, demonstrating my proficiency, knowledge, and skills in implementing techniques to complete a polished project and the ability to solve complex problems is one step to securing an interview because employers are interested in a candidate who can apply various algorithms and tools to solve a given challenge. This paper explains why the selected artifact was chosen and demonstrates my ability to use collaborative tools and techniques to implement the project to solve the given problem like binary trees to add and remove data from the structure.

Completing the project refinement has made it clear that an understanding of data structures and algorithms, their capabilities, and limitations is key to success in solving real-world problems. With that said, a similar technique was applied to improve the artifact. For example, a binary search trees technique was implemented to facilitate the use of resources at its minimum and increase performance to search the structure for data.

While modifying the artifact, I faced a challenge I had never encountered before. To overcome the challenge, I continuously research stack overflow and open source communities websites to find a fix for the CSV parser fetal error file or directory not found. The challenge was; when the CSVparser.hpp file was invoked, the file content was not displayed. When looking at the CSVparser.cpp, the included library is included. To resolve the fatal error, I copied the CSVparser.hpp as a text file and replaced the original file with the text file. Unfortunately, the problem persisted. Thinking the CSV file may be outdated, I update the file with the newest version of CSV. This time the marker from the CSVparser.cpp is gone, but the compiler still reported a fatal error: CSVparser.hpp file or directory not found. When clicking on the run project as a local C/C++ application, the application launcher opens with an error message: launch failed: binary not found. To this point, I think the eclipse IDE environment is configured incorrectly. So, I clicked on windows > preferences to resolve the launch error. From there, I modified the built environment and makeFile project binary parser set up to PE windows parser, then ran configurations. The issue is still not Resolved. Ultimately, I decided to verify if project properties > run/debug setting and under launch configuration contained the project executable. If so, I can edit it to point to the location of the executable. The issue is still not Resolved. To this end, I Verified the project properties to ensure the C/C++ build GCC compiler linker was configured properly. Surprisingly, the GCC compiler setting was not configured correctly. I configured GCC compiler setting and the project executed as expected.

While working on the project's implementations, I benefited greatly from this research by strengthening my skills and integrating components to develop practical techniques to accomplish the goal. Furthermore, I have developed an understanding of how data structures and algorithms will help me in my future endeavors.

References

https://learn.zybooks.com/zybook/SNHUCS260AY16-17/chapter/6/section/2