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### Project Three Summary

Creating a virtual file system proved to be a challenging, yet highly rewarding, endeavor. Initially, I attempted to develop the contiguous, indexed, and chained implementations concurrently; however, the complexity was overwhelming, and I was forced to scrap most of what I had. Breaking down the project into manageable components became my new strategy, allowing me to use a more incremental development strategy. This approach helped me make consistent progress to a finished product as well as create more efficient, cleaner code. A different, more specific, challenge I faced during the development of the indexed and chained implementation was an issue that was causing only the last block of a particular file to be saved. After taking some time away, I was able to come back and find the issue: there was a declaration for a pair inside of the loop for these implementations, causing the beginning index to be overwritten in my pairs structure.

Throughout the project, the incremental design strategy proved to be a crucial decision. Unlike previous projects where I could defer testing until I had a mostly completed project, project three required that I had to be rigorous in testing to ensure things worked as intended. I believe that this project has improved my overall coding skills in addition to improving my knowledge of C++. I found that I had to use enumerations, structures, and classes which I have used in the past, but the projects I used had them as requirements rather than actually being critical to the solution of the project. Moreover, I feel that I gained insight into how contiguous,

indexed, and chained file storage implementations and how they actually work rather than just studying how they work.

In conclusion, the resulting program successfully executes a clear menu with helpful and concise error messages to let a user know what the program expects as input, creates a fully functional file storing simulation while also helping me better understand some of the topics in this class. This, along with the semaphore project, have been some of the most difficult projects that I have done at The University of Texas at Dallas, but also two of the most rewarding in terms of coding ability and knowledge of how software interacts with hardware.