David King

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CS 499

Professional Self-Assessment

My coding experience began in high school, with enlistment into the software engineering branch of the STEM program. There I learned the basics of java via the eclipse IDE and worked on projects centered around application and game design. I maintained a personal hobby of game modding until and after pursuing my associates of Computer Science at Tidewater Community College. While at TCC I was able to learn a variety of additional languages such as C++ and Python. In addition to this, my work as an office specialist at Chesapeake’s Department of Human Services had me redesigning their website via WordPress. This included teaching myself how to manipulate HTML elements and create new ones based on limited knowledge of the language. During this time, I also finished a career study certificate in cyber security.

The Southern New Hampshire University degree program refined and expanded my skillset to include knowledge of database management systems such as MySQL, as well as advanced coding concepts like dynamic testing through Maven. I also learned about office-side workflow methodologies such as agile and turning stakeholder requests into coded features. One course included methods for building and training path-finding AI to demonstrate how machine learning can be applied to applications. An emphasis of most of the coding classes was security, through means such as testing and industry-standard practices like input validation and dependency review.

My ePortfolio includes three artifacts that demonstrate improvement in the categories of software design, data structures, and databases. The first is a buffer overflow checker that has been improved with a wider range of checks, more robust error handling, and clearer error messaging. The second artifact is a hash table that was recoded with improved collision handling and dynamic resizing. Finally the third artifact was a database manager that was improved with indexing and input validation, as well as restructured to lend modularity.