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CS 499: Computer Science Capstone

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Milestone Four: Enhancement 3- Databases

The artifact being worked on is the ContactServiceTest java file part of the Grand Strand Systems project from the CS 320 Software Testing, Automation, and Quality Assurance course in June of 2023. The ContactServiceTest file is a Junit test that checks if the ContactService file from the project performs the tasks that are necessary. In the project, the ContactService allowed for changes to be made using the Contact file as well where the contact requirements were stated. The ContactServiceTest java file throws tests for the ContactService file by giving an input that would throw an exception, or not meet the requirements. I selected this item because it incorporates the use of a database, although it is all in-memory data, the logic could still be used when applying the software to the final system. One component that I would like to point out is that the tests called for the uniqueId variable assigned to a contact, and once found it would ensure that the tests would pass or fail. During the enhancement portion of the artifact, I was sure to create constant variables to be called on when testing. Instead of creating a new test for each iteration, I grouped the components of the testing together and named it depending on what it was testing. This helped use less lines of code and kept the code clean and organized. This also allowed the code to be easier to navigate and decipher. In addition, I was sure to add comments throughout the code, showing proper etiquette and coding technique so the next developer to look at it would understand what the code was performing. I believe I have reached the course outcomes thus far, however still being young minded in the computer science field, I know I have a lot to learn! To continue to grow my knowledge, I plan to keep improving this artifact and play around with the tests and service tasks to perform. As enhanced the artifact, I was able to learn how changing the code in the main file will cause issues within the testing now that there may be new variables or new processes to follow. Luckily, I was able to overcome the challenges that came about, such as having to reread and remember what the code was doing, how it connected to the other functions being called throughout the project just to understand how implementing the tests would work out. It has been a journey reworking through the project and bringing it back to life.