Databases Artifact

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Briefly describe the artifact. What is it? When was it created?

The artifact I selected is part of my CS-250 Software Development Lifecycle class. This artifact is a slideshow project build in Java that goes through 5 destinations with photos and descriptions of each destination. The GUI has a photo, a next button, and a previous button.

Justify the inclusion of the artifact in your ePortfolio. Why did you select this item? What specific components of the artifact showcase your skills and abilities in software development? How was the artifact improved?

This project was an interesting addition to my ePortfolio. Since I changed the project's focus to be 5 Random activities, I figured it'd be a great idea to store each activity generated by the API into a database to eventually make the application run offline. Since all of the generated activities will be stored in the database, overtime running offline through the local database would be a great implementation.

Did you meet the course objectives you planned to meet with this enhancement in Module One? Do you have any updates to your outcome-coverage plans?

How I met each of the course outcomes:

Demonstrate an ability to use well-founded and innovative techniques, skills, and tools in computing practices for the purpose of implementing computer solutions that deliver value and accomplish industry-specific goals (software engineering/design/database).

In the industry databases are widely used to store a significant amount of data in applications since it's easy to make relations between other data bases. So, I met this outcome by adding a database to my slideshow project to store the data gathered by the API. Doing this in Java was more difficult than I expected but being able to do so demonstrated my ability to use well-founded and innovative techniques, skills, and tools. On top of this, using databases is a much nicer and cleaner way to deal with data rather than using files for storage.

Employ strategies for building collaborative environments that enable diverse audiences to support organizational decision making in the field of computer science.

By pushing the project to a git repository, it created more of a collaborative environment as others could add to the code easily. I commented on the code where the new changes were made to have a well explained code when it comes to functionality and intent. The naming conventions were also elaborately created so that the code can be legible.

Develop a security mindset that anticipates adversarial exploits in software architecture and designs to expose potential vulnerabilities, mitigate design flaws, and ensure privacy and enhanced security of data and resources.

By keeping a security mindset in building this code, I set it to deallocate the memory and hosted the database locally. I have commented on each part of the code that has been edited to mitigate design flaws when other users build onto the code.

Reflect on the process of enhancing and modifying the artifact. What did you learn as you were creating it and improving it? What challenges did you face?

The first issue I ran into when implementing the database was that there was no loading in the library itself to use SQL Lite. Initially I tried to use Maven as the build project but that turned out to be more complicated than I thought, so I ended up using the jar version of the library. Once I uploaded the jar library and was able to build with it I realized that I was just exporting it from my local machine so I needed to find a solution to make it local to the project. In order to do this, I created a lib folder in the directory of my project and uploaded the jar file there and referenced it through the project. Once I accomplished that I started to implement creating a database and creating tables so that the data from the slides would be stored in the database. So yet again there was another issue with the database being local to my machine. I had to reference that through the project as well.