Software Design/Engineering Artifact

Daniel Little

CS-499 Computer Science Capstone

Professor Spencer

04/20/2024

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?

I selected this item for my ePortfolio because I found it'd be a great project to test some great enhancements on. The project was basic enough to require a lot of enhancement, and it seemed as though the project lacked character and enough features for a large usage, so I created a more usable program. I changed the direction of this program and implemented API usage into it. The application now gathers 5 random activities when ran and cycles through them. The user can also select random to jump to a random activity. By implementing this functionality, I will be reaching the first category of this project, being Software Engineering and Design.

I improved this artifact's design and functionality while also getting rid of redundant code.

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?

Here are the outcomes I have met through this enhancement.

Design, develop, and deliver professional-quality oral, written, and visual communications that are coherent, technically sound, and appropriately adapted to specific audiences and contexts.

In this project I added the feature to call an API endpoint which enhanced the project by incorporating a technique often found in the industry. This allowed for a more professional implementation of the software which is technically sound and relative to specific audiences.

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).

For this project I decided to create a random function which is an innovative technique to add when choosing a random task from the app. Adding the API also accomplished industry specific goals in the sense that it uses a common technique to pull data from another database.

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

By pushing this project to a git repository, I reach this course outcome. It creates a great team environment where several coders can make changes and push them to the repository. I also made sure to leave comments in the code where major changes were made.

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?

One of the challenges was acquiring an API that wasn't paid was hard to find. When trying to extract the values from the json there was some garbage data that was coming from the parsing but later I was able to figure out which attribute it required to parse the data properly. Another challenge that was faced was re-engineering the design so that it would display the new description strings in the slideshows. Implementing functionality for fetching a random slide was tricky, I couldn't just assign a random variable to the slide, but I had to pass a one slide at the time for a number of times at random.