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12/08/2024

CS-499-18232

Computer Science Capstone

Southern New Hampshire University

Enhancement Three: Databases

The artifact I chose was the mobile applications that takes the inventory of products. There is a login page, inventory page, settings for SMS notifications, a profile page, and a new username search page. This artifact was originally created earlier this year, in 2024.

I selected this artifact because I wanted to add a database to find other users. The app felt basic and by adding the ability to search for other users in a database, it felt alive. This artifact was improved to add yet another page, to make the app more detailed.

Previously, I had an array list that allowed the user to type their own lists and bio. I now used a database to show a long list of usernames and allowed the user to search the list for one they were looking for. In this username database, I used a filter to find a name that I wanted from the list. This is an important feature because not only can you see the database, but you can search it as well. Having an available database allows for information to be stored and accessed by the user.

By allowing the user to access a database of names, I have completed the final outcome (number 5).

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

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

3. Design and evaluate computing solutions that solve a given problem using algorithmic principles and computer science practices and standards appropriate to its solution while managing the trade-offs involved in design choices.

4. 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.

5. 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.

When upgrading this artifact with a database, I have learned that it takes precise coding and attention to complete the process. I ran into many problems such as an outdated gradle, the whole page refusing to work, usernames not allowing to be searched, and usernames not showing up. I overcame these obstacles by reviewing the code and figuring out what the next step was.

The data base uses a list view and array list to keep the data contained. I chose to allow the user to see the usernames, but there were over a hundred names. I used a listener, along with TextWatcher and CharSequence to allow the user to search for a username. The dataset was then filtered and notified the user instantly what it found.

Overall, I believe I have improved this artifact and learned how lists and databases work. I would like to use this artifact in the future for job opportunities and to make even more improvements.