CS 499 Milestone Four

Written by: Leah Marshall

The original artifact I decided to upgrade is my Pet.java project from IT145. I coded this roughly a year and some change ago and recently did a major upgrade 2 weeks ago. This class was very simple with just a constructor, setters, and getters that are presumably used for an array list. I chose to rework this artifact because I wanted to showcase my mobile development skills within the android environment. I wanted to show that I could take a simple piece of code and requirements and create a working, professional-level application for it. Two weeks ago, I made the main screens which allowed you to enter in the pet’s data into a main screen application, this week, I altered it to where this information would be entered into and stored in a database. Plus, I included two new screens: a login and signup screen which also allows a user to enter and have their information stored in a separate database (Marshall, 2024).

For the upgrade, the user is given the home screen of logging in. If the user has previously signed up, they are able to enter their information, (email & password), if not, they are able to press a button which takes them to a signup screen which prompts them to enter an email, password, and confirm this password. This information then gets stored into a database which can be accessed through an SQL interface.

I met all the course objectives I planned to meet with this enhancement.

* The first one: 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.
  + This was met by creating a pet-check in application which takes a simple, non-user friendly class and resolved this problem by implementing a more than user friendly mobile application and creating an arithmetic solution to data collection.
* I have met my second course outcome of: 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.
  + Because of my ability to use Java in a different setting: an Android application, plus how I was able to drastically change the original piece of code into this new application,
* Finally, because of my work within the first two artifacts, I have met my third course outcome of: 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.
  + Upon finishing my second artifact, I went back to look at my first artifact, the PetCheckInApp and noticed that it could use a login/signup screen to keep a user’s experience personal and secure.

In order to maintain the security practices I had been keeping up until now, I had to create a more in-depth plan for this artifact. I updated the original artifact from the first enhancement to include more proper security such as the login screen. The most difficult part of learning how to improve this artifact was implementing SQLite throughout the application in order to safely store user’s data to easily be retrieved for the next screen.

References

Marshall, L. (2024) ‘Milestone Two Narrative’. Southern New Hampshire University. Unpublished Essay.