**Narratives of Progress Updates**

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**Software Design and Engineering Updates**

The artifact I am basing my capstone off is a project from a very early class in my computer science degree. I believe it was in 2021 in class IT-145.  I was tasked with creating pseudo-code for a pet company. Using the pseudocode, I thought it would be a great idea to develop a mobile application utilizing android studio. This will show the skills of what I’ve learned throughout my computer science degree career. I enjoyed learning how to use Android Studio in one of my classes and wanted to apply my knowledge there to this application. By developing the application from scratch, I was able to enhance the software design and engineering by creating the mobile application. The artifact was improved as I turned pseudocode into code.

This project is more than I expected, and I am struggling with my limited knowledge in Android Studio. I was able to create a log in screen, user registration screen, multiple views for tables relating to the pet space availability, adding new pet spaces, deleting pet spaces, updating pet spaces, deleting the entire table, and adding a button for another future function to check in pets. I also created all the code for the next function of pet check in. However, I’m having problems with the application crashing when I click the button. I believe it has something to do with my recycler view. I believe that it would be best to only have one recycler view and just apply that to all functions, like the DBAdd class I have. However, I just have not had the appropriate time needed to complete this new change. I will try my best in the next week to do so. I hope to finish the original plan by the end of this course. The program outcome I originally had listed for this enhancement is 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. To develop this application, I’ve had to forego various design choices of the application layout. To make the application work, I have focused on building the code needed to successfully run the code. The design choices are not my favorite, but in terms of priorities it must take a back seat to the actual code. Building the application is my main priority. The design features can be changed at any time in the future after the code is complete.

**Algorithms and Data Structures Updates**

I was able to create a log in screen, user registration screen, multiple views for tables relating to the pet space availability, adding new pet spaces, deleting pet spaces, updating pet spaces, deleting the entire table, and adding a button for another future function to check in pets. Where I am struggling is adding multiple tables into the database. I thought I had everything figured out, but Android Studio produced many errors letting me know that my database helper add class was implicit. When I deleted some functions relating to the second table, the issue was fixed. However, after scouring the internet, I am still trying to figure it out. I am proud of what I’ve accomplished so far, even though I have not completed the development process. I may change the scope of my application to add functions to create an all-information table about the pets who have stayed in the hotel and adding and removing entries. As the weeks of this course go by, it is difficult for me to balance work and school. I hope to be able to finish my original plan. However, I know that may not be possible. While I have demonstrated some ability to use well-founded and innovative techniques, skills, and tools, to implement this application, there is always room for improvement. I am constantly looking for ways to improve my skills and knowledge in this field.

**Database Updates**

The artifact was improved as I turned pseudocode into code.  I have been attempting to create a single recycler view in Android Studio to see if that will fix the issue with my application crashing when the button for the second function is pressed. However, I’m not finding that this is the solution needed. It has been difficult to find the necessary time to make changes as I have a full-time job and this is my busy season. I find that my health is being affected by all the work that must be done for school and work with very little time to relax. I’ve decided to take a few days off both work and school to see if I have a breakthrough moment to fix the problem with the application. I am hoping that I will be able to complete the application as planned. The program outcome I originally had listed for this enhancement is design, develop, and deliver professional-quality oral, written, and visual communications that are coherent, technically sound, and appropriately adapted to specific audiences and contexts.

. To develop this application, I have created many paper prototypes of screens and received feedback from friends and family on how to make them more efficient. Utilizing user feedback is very important when building or updating any application. In some cases when I don’t know which option to go with, I created a small marketing strategy called A/B marketing. I would give the paper prototypes in group A to 5 users and then the paper prototypes in group B to another 5 users. Based on the feedback I received, I would go with the more positive paper prototype group. It has been very helpful in making certain design decisions. This has also helped me with enhancing my communication strategies with end users. Asking questions based on whether they had pets or not would help me with understanding what they would like to see in an application real time versus hypothetically. As the application has been progressing, I will continue to use these skills.