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Milestone 2

The final project of IT-145 Fundamentals of Application Development is a Java application designed for a cruise line company to track passengers, cruise ships and active cruises. This application was developed in my junior year at SNHU. This artifact was chosen for inclusion in my ePortfolio to showcase my ability to enhance existing code for greater functionality as well as improve existing code for reusability. This artifact was also chosen for improvement since my experience and education of software engineering has improved greatly since its creation.

To showcase my ability to enhance the applications functionality and improve the user experience I designed and implemented a direct search algorithm for a given cruise ship, passenger, or active cruise. If the given information is not in the system, then a “Not in database” message will display on the terminal. This functionality directly improves the effectiveness and efficiency of the application to quickly report information within the database without the need for the user to manually search for information.

Other improvements to the application include renaming Driver.java to LuxuryCruiseLine.Java making it a more meaningful description of the program as well as reducing the length of the main driver class by creating four new classes: ShipList.java, CruisList.java, PassengerList.java and ValidInput.java. Methods from the driver class were moved to one of these new classes based on their respective functionality making the code more reusable, easier to read and debug if necessary. Comments were added to explain each class and method. All indentation was updated to ensure uniformity. All variables were converted to camel case as well as given more meaningful names. These enhancements help to showcase my ability to upgrade legacy code to modern coding standards and improve code reusability.

With these enhancements I was able to meet the course objectives as planned in module one. However, after further inspection, I have also decided to enhance this application further by implementing file input and output. This enhancement will allow the user to update and store data to the local file system. At this time, the application relies on hard coded data to operate but will accept new input. Any new input added will be erased upon exiting the application which does not provide much value to the user.

The only issue I ran into while enhancing the Luxury Cruise Line application to expand its functionality with a direct search feature was using the compareTo() function within the for loop conditional statement. I received an error that an integer could not be converted to a Boolean. The mistake that I was making was that I was only comparing the strings which returns a -1, 0 or 1 depending whether the strings were less than, equal or greater then each other in terms of their lexicographic order. To resolve this, the conditional statement was adjusted to compare the return value of the string comparison to zero. This would then return either a true if the strings were the same or a false if they were different.

Another issue I discovered while enhancing the application was that it is not always that easy to find a class for new code. For instance, the switch statement that handles the processing of the menu option for the direct search feature contains a nested switch statement to handle the user input based on what they are searching for. Since this functionality was directly related to menu processing, I decided to leave this code within the switch statement. However, the functionality that is associated to searching for a cruise, ship or passenger was implemented within their respective classes.