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Gear Checkout and Tracking System for Hoofers Outing Club

Since the project proposal we have attempted to create a GUI using QT that would allow us to display data from a sports database. Given the difficulty we encountered using QT, we opted to switch to a gear tracking system for Hoofers Outing Club.

The club wanted a system to keep track of the gear people are currently using and when the gear can be expected back so we will be creating a persistent list of all people who are using gear that includes the expected return dates and quantities of all items in use. We intend to create a GUI to make the program more user friendly than a command line application.

We plan on developing the project in stages. First we will create the basic program with command line interaction and persistence through writing and reading from a .txt file. The next phase will be to switch to a SQL database. From there we hope to create a GUI that allows the user to enter their user name, the list of gear they used, and select the expected return date. If time permits, we plan on including a separate database of all items that need repair or require frequent maintenance.

Matt will outline the functions needed to create the functionality the club needs and the GUI, and Brian will spearhead the SQL integration. Both of us will work on implementing the functions.

We have created a GitHub repository with which we plan on sharing the code that each has developed.

We plan on using the libraries included with the QT development framework and the standard library. Since we will eventually be implanting SQL, we will include the necessary libraries, but we haven't reach the point to know exactly what those will be.

Currently we have the command line menu functioning and the read and write functions nearly complete. The check in, check out, and view checked out gear are mostly complete. The skeleton has been defined so we will continue to flush that out. The GUI has not yet been started, but since it will only need to take user text, we do not expect it to take as long as the baseball field visualization would have.

The challenges we have faced so far have been primarily in the development of the baseball GUI. After watching several QT tutorials on YouTube and attempting some user interfaces for ourselves, we found that the for the baseball would have been more than we could chew.

The general outline for our program will be:

Main: Checks if the needed files are present, calls functions to run the menu, and gear methods

Menu: Displays the main menu and has the option to quit with 'q'

Check-out: Allows the user to enter their name, desired gear and expected return date. There will be some validation to ensure that they're input is in the correct form.

View users: Allows Hoofers Officers to view what gear is in use and when it will be returned by showing a list of all users with gear out and by giving the ability to see what that user has checked out

Check-in: Allows users to return the gear that they are using. Allows for 'return all' and item by item.

Get user input: Given a prompt it will retrieve information from the user to avoid filling the program with cout's

Read File: Reads the contents of the gear database (Currently .txt, but we plan on transitioning to SQL)

Write File: Writes the updated list of users to a .txt file (Later SQL)

Once we have SQL working we will create a GUI that will be run when main starts. It will replace the menu function and should feed input to the existing functions.