**Requirements:**

* **Python 3.9**
* **Tkinter**
* **Tkcalendar**

**How to run:**

cd [FOLDER PATH]

pip install -r requirements.txt

python main.py

**Application Logic:**

**Reading Data File**

**Diagram

Description automatically generated**

Example of how each line is stored as data in data\_list:

**Diagram

Description automatically generated**

**Displaying Match Data**

**Diagram

Description automatically generated**

R Gemke 14/TW Wang 12/22-12-2020/22-20 18-21 16-21   
KLA Ng 7/ZJ Lee 5/24-12-2020/15-21 21-12 21-19

**Graphical user interface, application

Description automatically generated with medium confidence**

**Ladder snapshot at specified date logic**

**Diagram

Description automatically generated**

**Swapping positions in ladder**

**Diagram

Description automatically generated**

**Screenshots of Program:**

**Main Menu**

Here, the user can either be a viewer who wants to view the ladder and upcoming matches and query player and match data

**Graphical user interface, application

Description automatically generated**

**Viewer Screen**

The left panel shows the current ladder

The user can query the most active player and least active player by pressing the buttons

The player can also view snapshots of the ladder by selecting the date in the date picker and pressing View Historical Leaderboard. The ladder on the left panel will update accordingly.

In the bottom panel, the user can press “ALL” to view all matches or press “Upcoming” to view upcoming matches that have not been played from today.

The viewer can input a player to filter matches by and press “Filter by Name” to see the matches played by that player.

The viewer can indicate the start and end date of matches they want to filter using the date pickers beside the “Filter by Date” Button, and then pressing the “Filter by Date” Button.

**Graphical user interface, text, application, email

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**Player Screen**

Players can register by indicating their name in the input box and by pressing the “Register” Button. The application will check if there is an existing player with the same name and will reject the input if there is. The application will also check the format of the name such that it must satisfy the condition <First Name> <Last Name> with exactly 1 space.

Existing Players can withdraw by indicating their name in the entry box and pressing the withdraw button. The application will throw an error when players that do not exist in the current ladder tries to withdraw.

Existing players can create a match by indicating their opponent’s name and match date, and by pressing the “Create Match” Button. The application will check if the current player and opponent exists in the ladder, and also check if the scheduled match date is for later than today.

Players may click on the matches below and update their score for each game. The application will handle invalid inputs and tell the user the correct format to use <Player 1 Score>-<Player 2 Score>

The application will automatically determine who the winner is, and update the ladder accordingly

**Graphical user interface, text, application, email

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