**Title: 5-Minute Heart Rate Recovery (HRR) Test App**

**Overview:**  
This repository contains a Shiny application designed to conduct a 5-minute Heart Rate Recovery (HRR) test. The HRR test is a valuable metric for understanding an individual’s cardiovascular fitness. After a period of exercise at a set intensity, the test measures how quickly the heart rate returns to normal. The faster it recovers, the better the cardiovascular fitness level.

**Key Features:**

* **Athlete Profile Management:**  
  Allows users to input and store personal details including name, sex, date of birth, rowing discipline, and maximum heart rate.
* **5' HRR Test Input:**  
  Users can record their average watts over 5 minutes, HR at 5 minutes, HRR values at 1 and 2 minutes post-exercise, and Rate of Perceived Exertion (RPE).
* **Individual Results Analysis:**  
  Enables users to view their HRR test results over time, filter by date ranges, and analyze trends in heart rate recovery metrics. Visualizations highlight improvements or changes in cardiovascular fitness.
* **Team/Crew Results (Planned Feature):**  
  Future enhancements may include aggregate results for teams or crews, helping coaches and support staff monitor and compare multiple athletes’ HRR performance.

**How It Works:**

1. **Set Up Athlete Profile:**
   * Navigate to the "Athlete Profile" tab and enter your details.
   * Submit the information to store it in the system.
2. **Conduct the 5-Minute HRR Test:**
   * Move to the "5' HRR Test" tab and input the required heart rate and power data following your exercise.
   * Submit the data to record your test results.
3. **View Individual Results:**
   * Switch to the "Individual Results" tab.
   * Filter by name, date range, and other criteria as needed.
   * Review the plotted trends for HRR values and efficiency metrics over time.
4. **Interpret Your Data:**
   * Look for improvements in HRR percentages and efficiency (Watts per BPM).
   * Use the visual trends to guide training adjustments or monitor recovery status.

**Technology Stack:**

* **Shiny (R)** for building the interactive web application.
* **ggplot2** for data visualization.
* **dplyr** for data manipulation.
* **Bootstrap** and related libraries for styling and layout.

**Additional Notes:**

* Always ensure your maximum heart rate value is accurate.
* Use consistent testing protocols to ensure comparability over time.
* The application is intended for research, fitness monitoring, and general interest. It should not replace professional medical advice.