

Volleyball Scoreboard Manual (Python Tkinter Version)

Usage

1. Click the **TeamA +** / **TeamB +** buttons in the title bar to add one point to the respective team.
2. If a team scores while not serving, it is treated as a side-out: the rotation deque rotates one step clockwise and service switches to the scoring team.
3. The **Swap Serve** button (enabled only when the score is 0-0) lets you manually toggle the serving team.
4. Click the **Undo** button to revert to the previous state (score, rotation, server, set number).
5. Click the **Reset** button to return to the initial state (0-0 score, initial rotation, Team A serving, set 1).
6. You can edit the team names, set number, and player jersey numbers by clicking on the corresponding labels.

Data Structures

- `self.teamA_rot, self.teamB_rot` (`collections.deque`):
Deques holding each team's jersey numbers. Index 0 indicates the serving position.
- `self.teamA_pos, self.teamB_pos` (List of (`row, col`)):
Grid coordinates for each player cell using `grid(row, col)`. Matches the rotation order.
- `self.server_team` (str): "A" or "B".
- `self.teamA_score, self.teamB_score` (int): Current scores.
- `self.set_count` (int): Current set number.
- `self.history` (List of dicts):
Undo history stack. Each entry is a dict containing score, rotation, server_team, and set_count.

Process Flow

1. **add_point_A / add_point_B:**
 - Saves current state to `self.history` via `save_state()`.
 - Increments the scoring team's score by 1.
 - If the scoring team was not serving, calls `.rotate(-1)` on that team's deque and switches `server_team`.
 - Calls `update_rotation_display()` to refresh the UI.
2. **undo:**
 - Pops the last state from `self.history`, restores all variables, and refreshes the UI.
3. **swap_serve:**
 - Toggles `server_team` between "A" and "B" only when both teams have 0 points.
4. **reset_game:**
 - Calls `init_state()` to reset score, rotation, server, and set count to their initial values.
5. **Editing:**
 - Uses `simplifiedialog.askstring` / `askinteger` to edit team names, set count, and jersey numbers.