Tennis Game – Skills alignment exercise

Software Engineer skills alignment exercise

Introduction

You are required to develop a basic tennis game app which receives various tennis scores and prints out the relevant score.

Tennis game assessment

Stack

Backend:
- Out-the-box Laravel

Front-end:
- Vue JS

Structure:
- Type: Monolith (One application)
- API: Recommended to use Inertia JS for simplicity
  - https://inertiajs.com/

The rules

The rules for the 'game' are:

- Zero to three points are given the terms "Love", "Fifteen", "Thirty", and "Forty" respectively.
- If both players have the same score below three points ("Forty") then the score is suffixed with "All" (Example: "Thirty All").
- If at least three points have been scored by both players, and the score is equal, then the score is "Deuce".
- If at least three points have been scored by both players but one player has one more point than the other, then the score for the player ahead is "Advantage".
- A game is won by the first player to score at least four points in total and at least two more points than their opponent.

Expected use-case

- User can add two scores to two input fields and the outcome is displayed (on submit)
- Example:
  - Enter: "**15**" & "**15**"
  - Displays: "**Fifteen All**"
- Example 2:
  - Enter: "**30**" & "**0**"
  - Displays: "**Thirty : Love**"

Additional notes

- You only need to implement the logic for the "game" component. The "match" and "set" scoring are out of scope.
- No styling / UI design is required. Default HTML inputs, and default text / styling is expected
- If you are unsure how tennis scoring works please read this article: https://www.sportingnews.com/us/tennis/news/tennis-scoring-explained-rules-system-points-terms/7uzp2evdhbd11obdd59p3p1cx

Submission

- Upload to your Github account as a public repository and share with chris@advantagelearn.com.
- Provide any unique set-up instructions for a local application (standard Laravel / SPA set-up assumed).

Skills tested

- MVC structures used
- Laravel components and structuring
- Vue components & structuring
- Back-end logic and design thinking
- Coding best practices