Horse Racing Game Trial Day – Front-End Case Study

In this project, we would like you to create an interactive horse racing game.

Requirements:

1. **Technology**: You may use VueJs
2. **Generate Horse List**: The horse list should contain between **1 to 20 horses**, randomly generated.
3. **Generate Race Schedule**: Upon clicking the **Generate** button, a race schedule must be created consisting of **6 rounds**.
4. **Start the Race**: When the **Start** button is clicked, the races should begin, running **one round at a time**.
5. **Display Race Results**: The results for each race should appear in the **Results field**, shown sequentially as each race concludes.
6. **Animated Horse Movement**: The horses should visibly move during each race.
7. **Coding Style**: Please structure your code in a way that demonstrates clean and maintainable practices, as if for a large-scale project.

Rules and Conditions:

1. The game should have a **total of 20 horses** available for racing.
2. Each horse should be represented with a **unique color**.
3. Each horse's **condition score** should range from **1 to 100**.
4. Each race should consist of **6 rounds**.
5. For each round, select **10 random horses** from the available 20.
6. **Round Specifications**: The rounds must occur at different lengths in the following sequence:
    - **Round 1**: 1200 meters
    - **Round 2**: 1400 meters
    - **Round 3**: 1600 meters
    - **Round 4**: 1800 meters
    - **Round 5**: 2000 meters
    - **Round 6**: 2200 meters

Technical Expectations:

1. **Vuex Store**: Implement state management to handle and manage the game's data.
2. **Component-Based Design**: Use Vue components to organize the structure of your code effectively.

Additional Notes:

1. This project is an opportunity to show your approach to component structure, code organization, and how you would handle state management within a complex feature. Aim to write code that is clear, organized, and adaptable for future scaling.
2. You are encouraged to ask questions at any time if you encounter uncertainties. Enjoy the challenge!

Bonus

1. Unit Test
2. E2E Test

Example: