Candidate Coding Exercise

Toy Robot Simulator

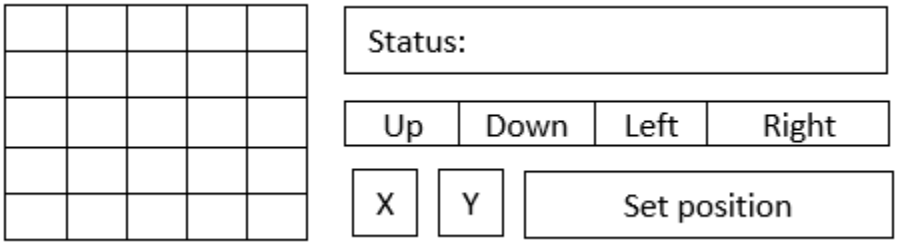
Description

Build a React SPA of a toy robot simulation moving on a square tabletop, the robot can move in a 5x5 grid and there are no obstructions.

How it works

- The robot is free to roam around the board via clicking the of Up, Down, Left and Right buttons or using the keyboard arrow keys.
- A status bar should also frequently update to show the current position of the Robot.
- If the robot is at the edge of the board, it must be prevented from falling over.
- To start or reset the robot's position, it should be done via text box. Supply the X, Y position and a button to confirm.

Sample UI Blueprint



Constraints

- The robot must not fall off the tabletop. This includes the placement of the robot.
- Robot must ignore invalid commands.
- The page must be responsive.

Bonus Points

- CSS Animations
- Images (avatar of the robot)
- The robot responds back to the user when it receives invalid commands.

- An item/treasure spawned at random location when robot's position is first placed, and the robot should respond to the discovery of the item when it's in that location.
- Code is to be production ready (well documented, linted, good test coverage).

Tips

- Usage of existing node/library packages is encouraged. It is ok to over engineer the code to demonstrate your ability.
- We are looking at your usage of patterns and the way you structure your code.

Deliverable

Please provide your source code, readme and/or any test code you used in developing the solution.