

Web Development – Mr. Turner

Project – Robot Builder

Project Overview

Create a page that allows for the interactive design of a robot. Your robot will have 6 basic features and the user will be able to manipulate those features through the use of a control panel. Of the 6 features, 3 will be numerical (power level, top speed, structural integrity), 2 will be toggles (scanners and defensive systems), and 1 will be a choice between power types (hydro, nuclear, solar).

Display

The display will consist of a control panel that the user can manipulate to adjust the values of each of the robot's features. The color scheme and layout of the control panel is up to you.

- For each of the 6 features, the page should display the name of the feature and its current value. Each feature should also have control buttons placed intuitively near the values.
 - The numerical features have 2 adjustment buttons (a plus and a minus).
 - The toggles have a single button which either turns the feature on or off.
 - There are 3 power type buttons, including solar, hydro, and nuclear.
- A chassis will show the look of the robot.
 - Add a group of at least 5 "thumbnail" images to your page. Each image should display a different looking robot.
 - Add a single large image to the display, which should default to an empty box.

Functionality

The system must keep track of the values of each of the robot's features.

- Each of the numeric features starts at 0.
- Each of the toggles starts off.
- The power type should default to "No Power Installed".

Whenever the user clicks on one of the buttons, the value of the appropriate property should change and the page should update the display accordingly.

- When a plus or minus button is clicked, add or subtract one from the appropriate value.
 - Numerical properties should not be allowed to fall below 0.
- When one of the toggle buttons is clicked, change the value of the appropriate toggle to "ON" if it's on or "OFF" if it's off.
- When one of the power type buttons is clicked, change the value of the power type to match what it says on the button.

If the user clicks on one of the chassis thumbnails, the large image will change so that it represents the selected thumbnail.

Enhancements

- Upper Limits
 - Numerical and toggle buttons should have no effect until a power type has been selected. Alert the user if they try to adjust something without first having selected a power type.
 - Each power type creates its own maximum limits for the numeric feature.
 - Solar
 - Power limit is 10
 - Speed limit is 10
 - Structural integrity limit is 10.
 - Hydro
 - Power limit is 8
 - Speed limit is 12
 - Structural integrity limit is 10
 - Nuclear
 - Power limit is 12
 - Speed limit is 14
 - Structural integrity limit is 4
 - The system should prevent the user from increasing the numeric features beyond their limits.
 - If the user should change the power type and any numeric values are beyond their new limits, they should be adjusted to their new limits.
- Finalization
 - Add a “Finalize” button the the display.
 - When the Finalize button is clicked, all of the buttons and thumbnails will become invisible.