OUTCOMES

The BoxBot consists of a web interface, a server hosted on the Raspberry PI, and lights and motors controled by an arduino uno.

The web interface is writen in javascript and CSS and is accessed at localhost:8000 through a web browser. the computer and raspberry Pi must be connected to the same network.

The web interface has buttons that tell the raspberry Pi to send serial comands to the Arduino. The arduino then interprets these comands and turns on lights and motors via digital pins and adusts motor speeds via analog pins.

The web interface buttons are as follows:

Forward -   runs both motor forwards
Left -   runs the right motor forward and the left motor in reverse
Right-   runs the left motor forward and the right motor in reverse
Reverse -   runs both motors in reverse
Halt-   stops all motors

signal left -   toggles the blinking of the left turn LED - turns off the right turn LED
signal right-   toggles the blinking of the right turn LED - turns off the left turn LED

speed 1 -   sets motor speed to low
speed 2 -   sets motor speed to medium
speed 3-   sets motor speed to high

Dance-   runs the motors in a programed sequence. cannot be stopped until the dance is over.