London Bus

Karishma Patel
Aishwarya Thakkar
Lyea Palathurthil Polachan
Reddy Nagendra Darsha

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London Bus Set #40220

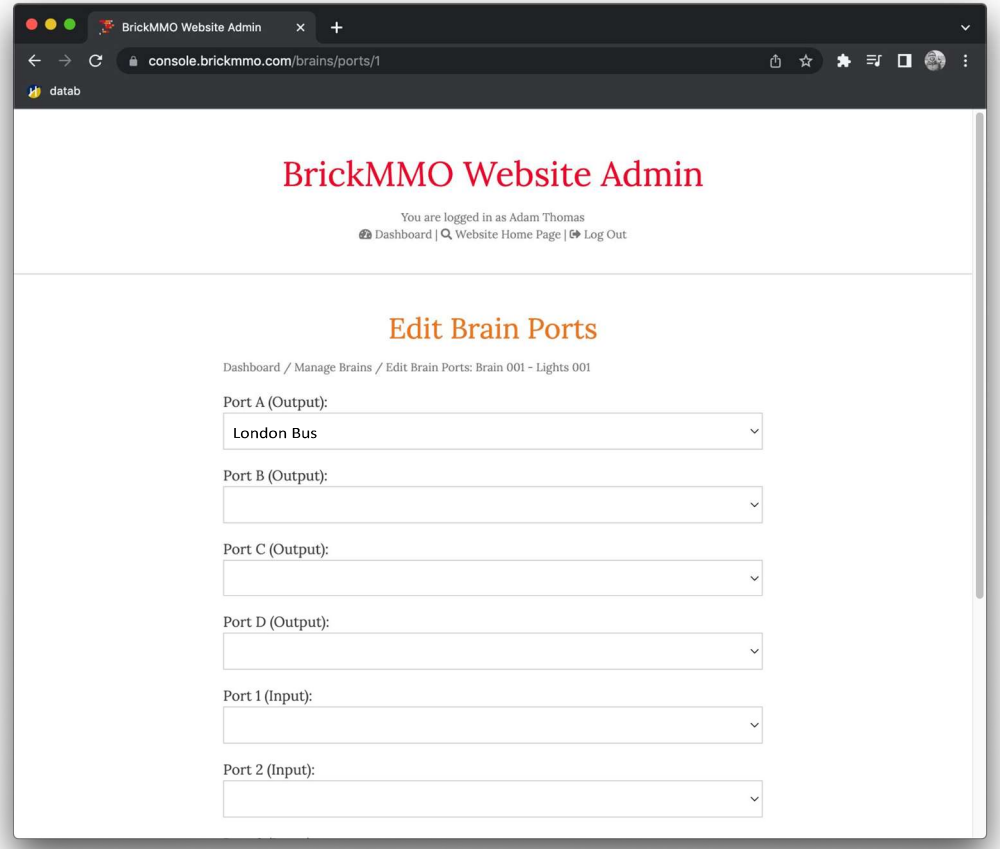
The LEGO Group. (n.d.). London bus™. Retrieved 2022, from. https://www.lego.com/en-ca/product/london-bus-40220

Module Description

London Bus is our module so basically when the bus goes from one stop to another with the use of sensor the bus doors will automatically open 10 seconds and if passengers is not there the bus will automatically close its doors. Apart from this one feature we would like to add is that when the moving vehicle passes or comes in front of the bus to a certain distance of 10 meters and so the bus will automatically honk.

Requirements

- Sensor
- Actuators
- Power Supply

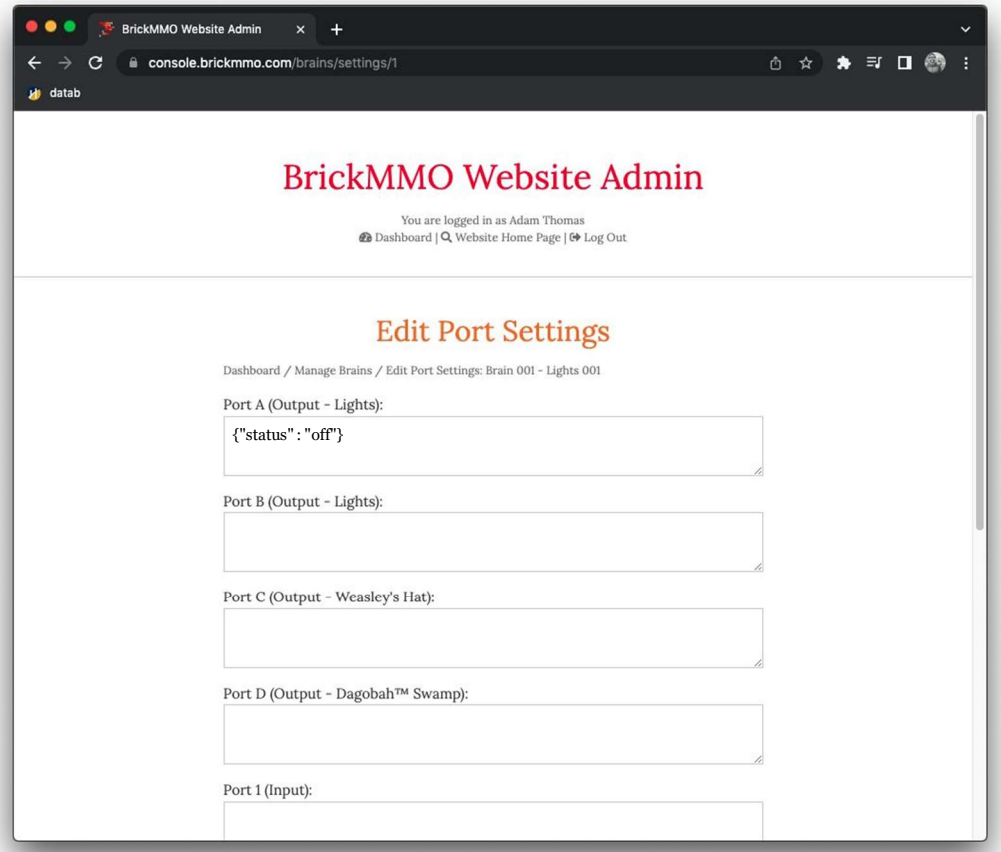


Sensors and Motors

- Automatic door control
- Proximity-based Horn System

Port Settings

- **Port is “on” for 10 seconds when the bus will stop to the station and automatically “off” after bus starts.**
- **Port is “on” when the moving vehicle comes in front of the bus otherwise it will be “of”.**



IOT Loop

Door_open_Time: 10 seconds

Vehicle_distance: 20 meters

Check for passengers at the bus stop

```
if   Bus_stop():
      open_doors()
     BusStop_detected = True
      wait_for_time(DOOR_OPEN_TIME)
      close_doors()
```

else:

BusStop_detected = False

Check for nearby moving vehicles

if detect_vehicle_proximity() and not passenger_detected:

activate_horn()