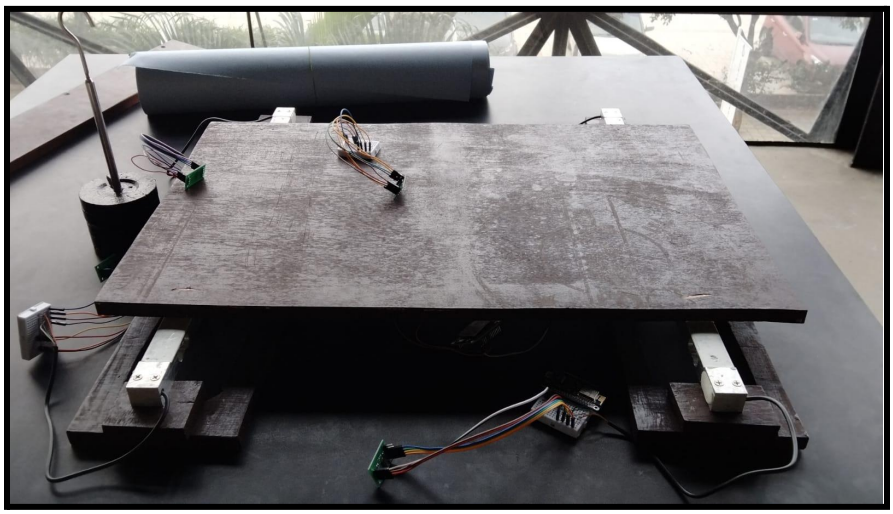
Optiweight_Arduino

About project

The Arduino project Optiweight is a machine connected to an App intended to be utilized in buses, lorries, tempos, and other vehicles that transport big loads of people and commodities. If the user's load is concentrated on one side of the vehicle, Optiweight will indicate which sides have less weight so that the user can move the weight to that side. It will also indicate whether the user's load has surpassed the vehicle's total weight capacity. In addition, Optiweight informs the user whether the car is in its usual alignment or is skewed to one side as a result of the weight being kept on it.



How it works

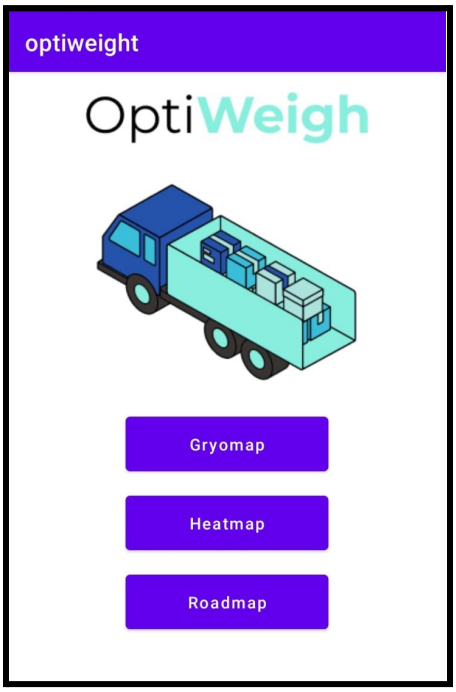
Optiweight is made using a load cell, gyro sensor, firebase to store data, and ESP8266.

Consider the brown level above as the loading bay of a vehicle with a gyro sensor in the center. When weight is placed on the loading bay, the load cells located at its corners compute the weight using the tension they experience and communicate the readings to the ESP8266. ESP8266 uses its built-in wifi module to transmit this reading to the Firebase database. which the app then uses to display the heatmap.

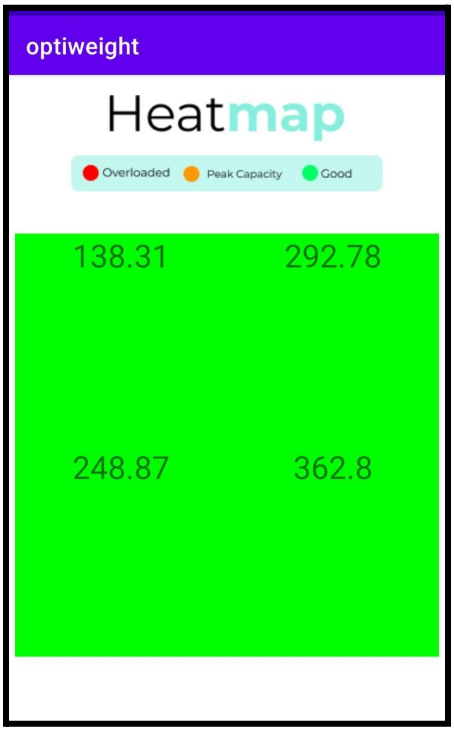
The gyro sensor, which is located in the middle of the loading bay, determines whether or not the vehicle is tilted to one side or the other as a result of the weight on the loading bay. This is important because there are times when a vehicle will roll out when turning when too much extra weight is placed on it or when all the weight is placed on one side.

App UI

The home page of the Opti-weight app.



The heat map page of the app.



The gyro map page of the app