Mess Tracker Using Machine Learning

COE16B012
CED16I012
CED16I016
CED16I024
CED16I027

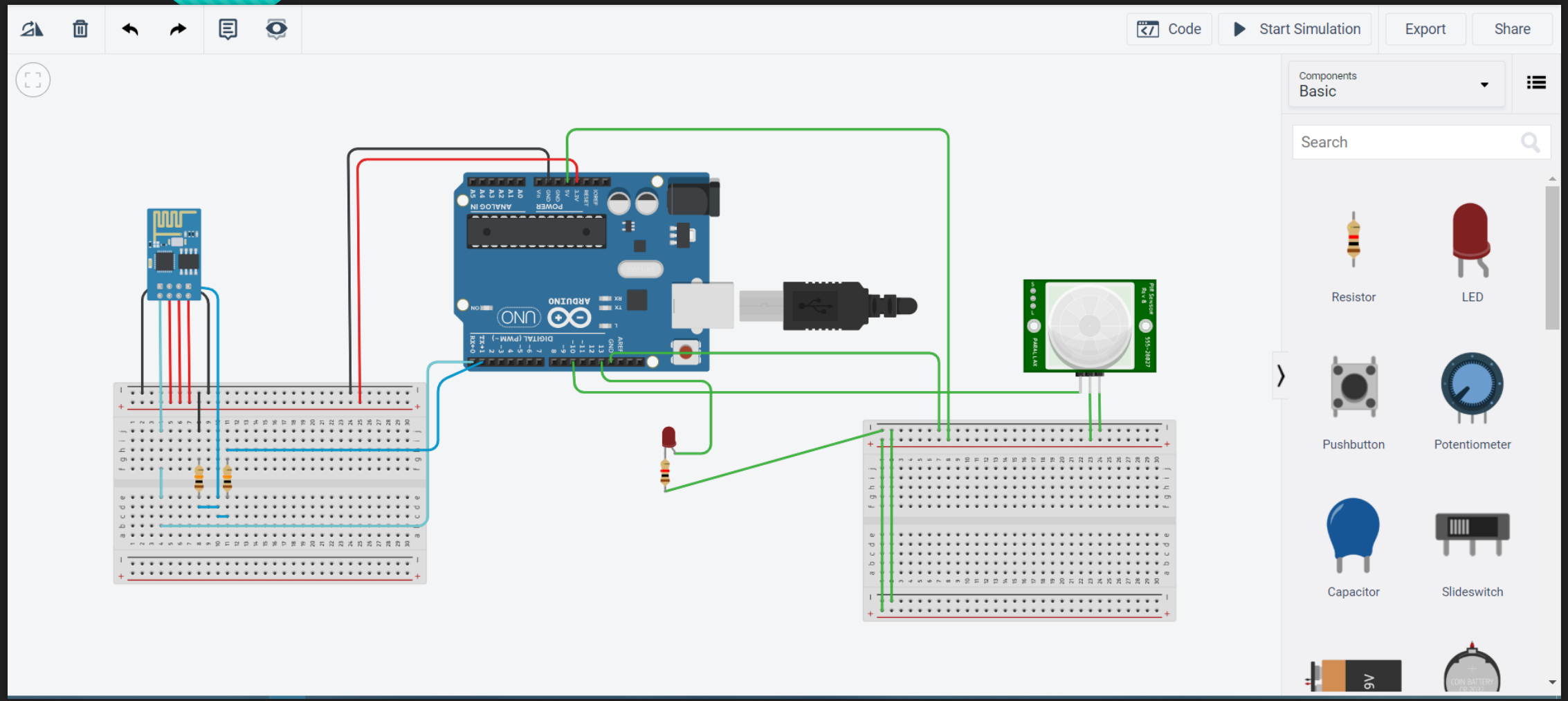
Problem :

- It is required for the mess management to get a count of people entering mess.
- So, they place fingerprint sensor to count persons.
- But there is going to some line formation due to rush sometimes.
- Also, there has to be a person to check that everyone is placing fingerprint.

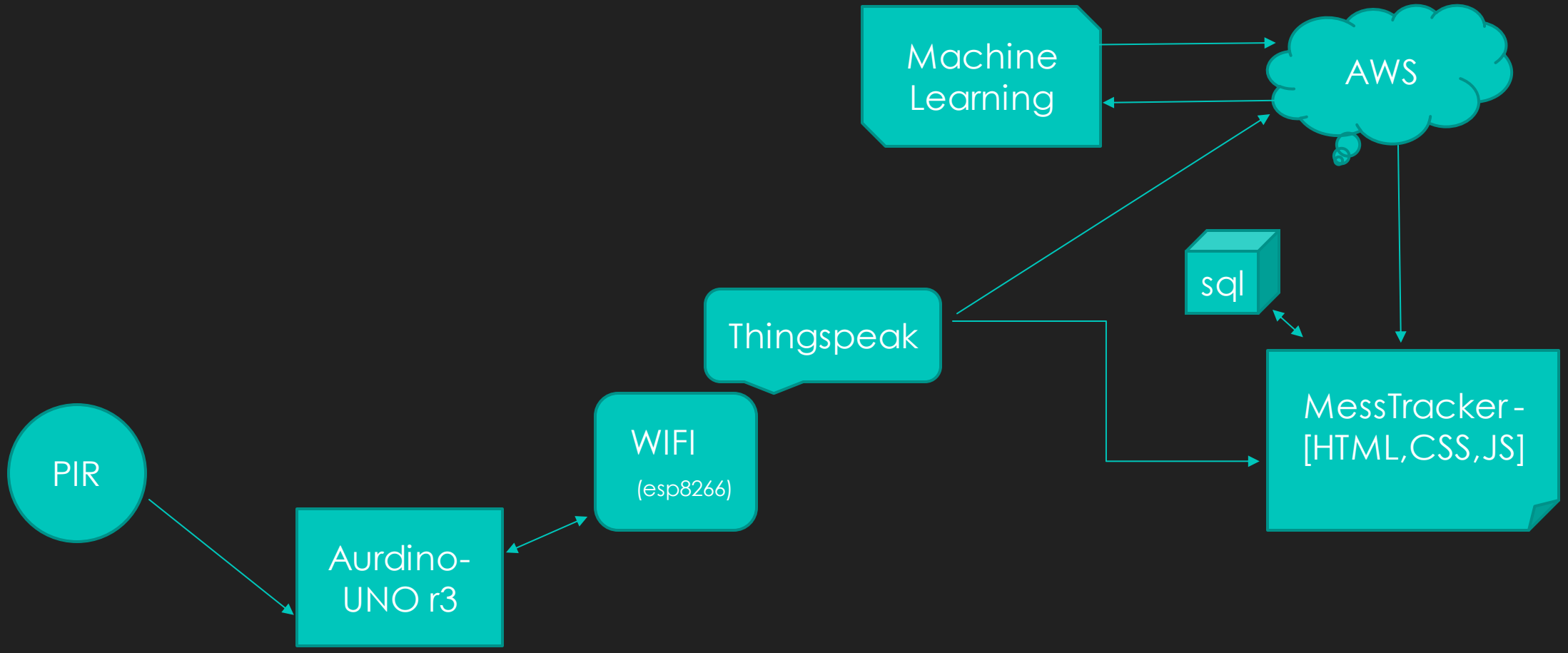
Solution :

- Here's the solution to overcome it: MessTracker
- We place a PIR motion sensor to count the persons entering the mess.
- We send the input data using Aurdino and WIFI-Module to Thingspeak which gives us the graph and the required JSON data so that we can use that data to be shown on our website.

Simulated-Design :

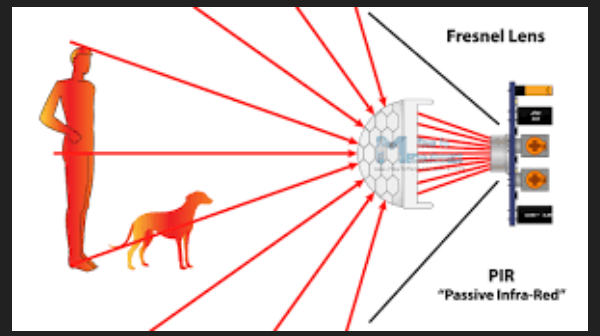


WorkFlow:


Machine Learning
AWS
sql
Thingspeak
MessTracker - [HTML,CSS,JS]
WIFI (esp8266)
PIR
Aurdino-UNO r3

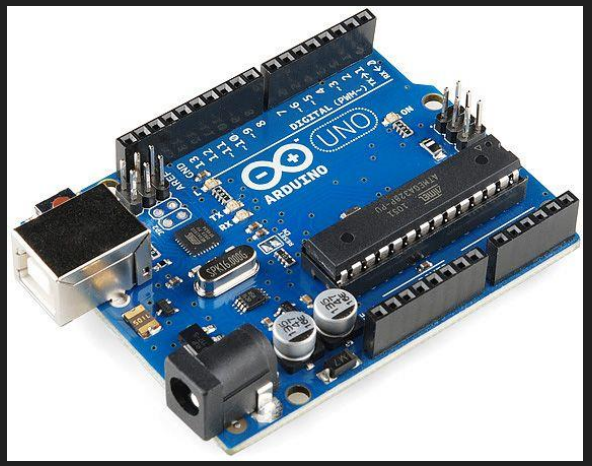
PIR Motion Sernsor:

- An individual PIR sensor detects changes in the amount of infrared radiation impinging upon it.
- When an object, such as a human, passes the temperature at that point in the sensor's field of view will rise from room temperature to body temperature, and then back again.



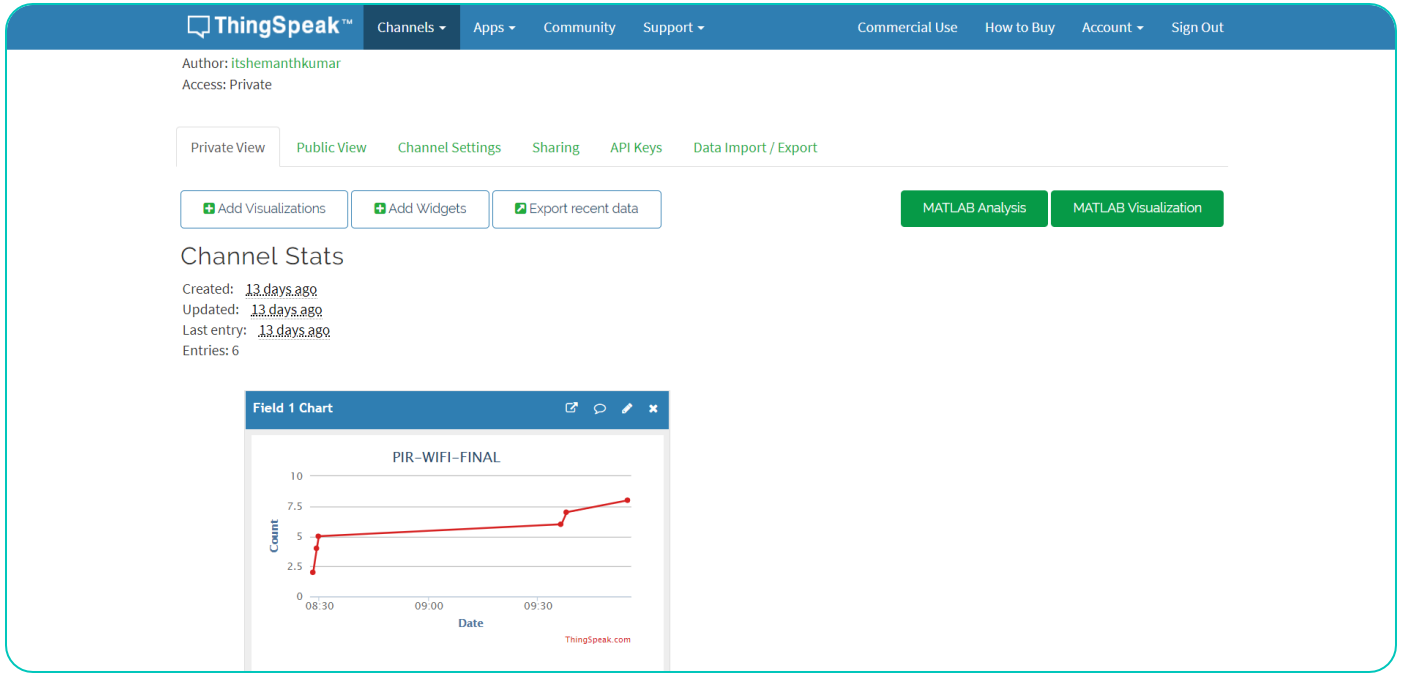
Aurdino UNO r3:

- The Arduino UNO is an open-source microcontroller board based on the Microchip ATmega328P microcontroller and developed by Arduino.cc.
- The board has 14 Digital pins, 6 Analog pins, and programmable with the Arduino IDE (Integrated Development Environment) via a type B USB cable.



WIFI Module(esp8266) :

- The **ESP8266** is a low-cost Wi-Fi microchip with full TCP/IP stack and microcontroller.
- The **ESP8285** is an ESP8266 with 1 MiB of built-in flash, allowing for single-chip devices capable of connecting to Wi-Fi.

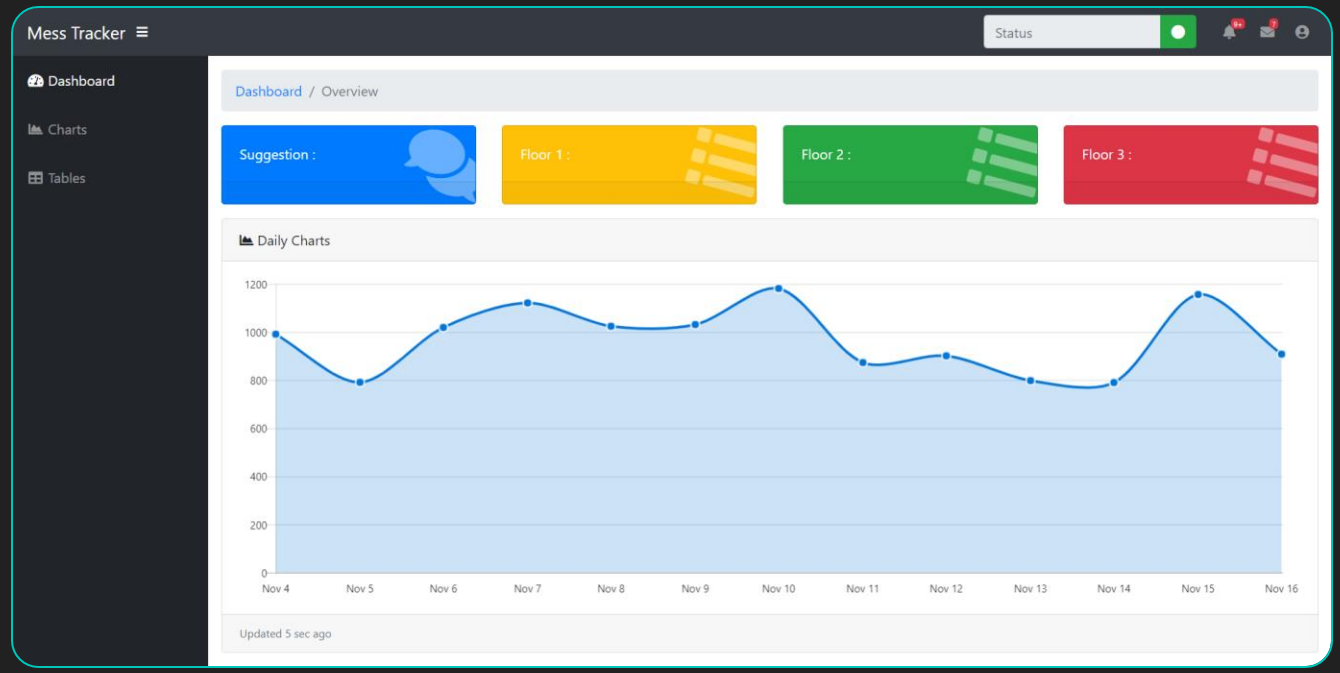


Thingspeak:

- ThingSpeak is an open source Internet of Things application and API to store and retrieve data from things using the HTTP protocol over the Internet.
- Data taken from the PIR and the Arduino will be uploaded to Thingspeak.

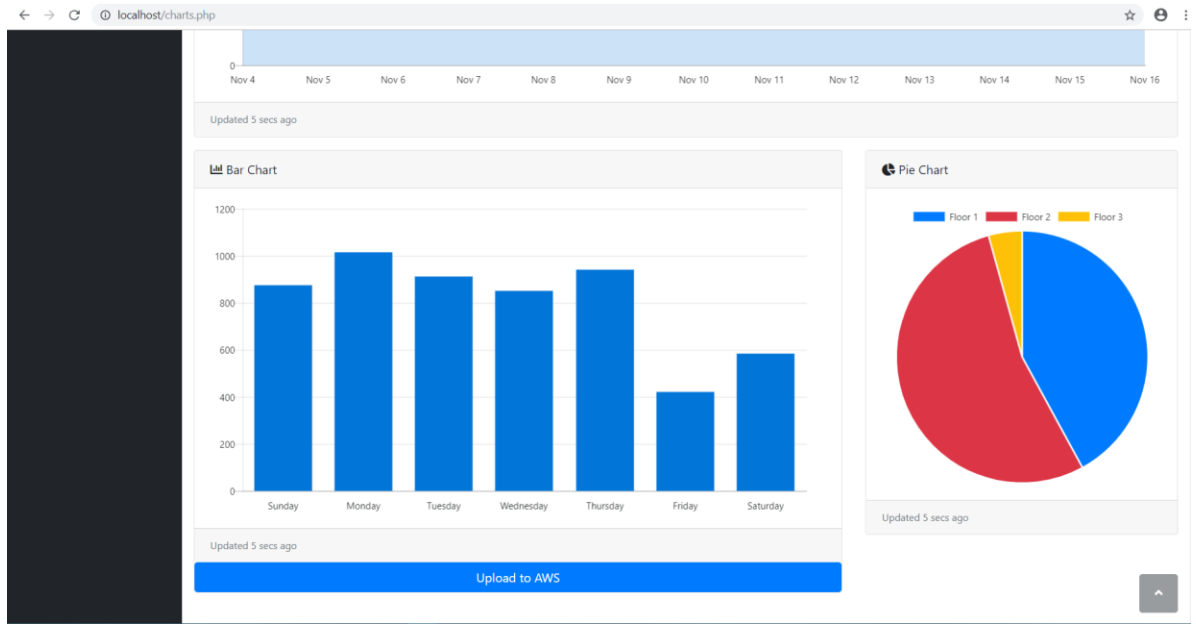
Mess Tracker :

- A bootstrapped website made using HTML, CSS, JS to check the daily count as well the suggestions for mess administrators to cook the quantity of food for each day.



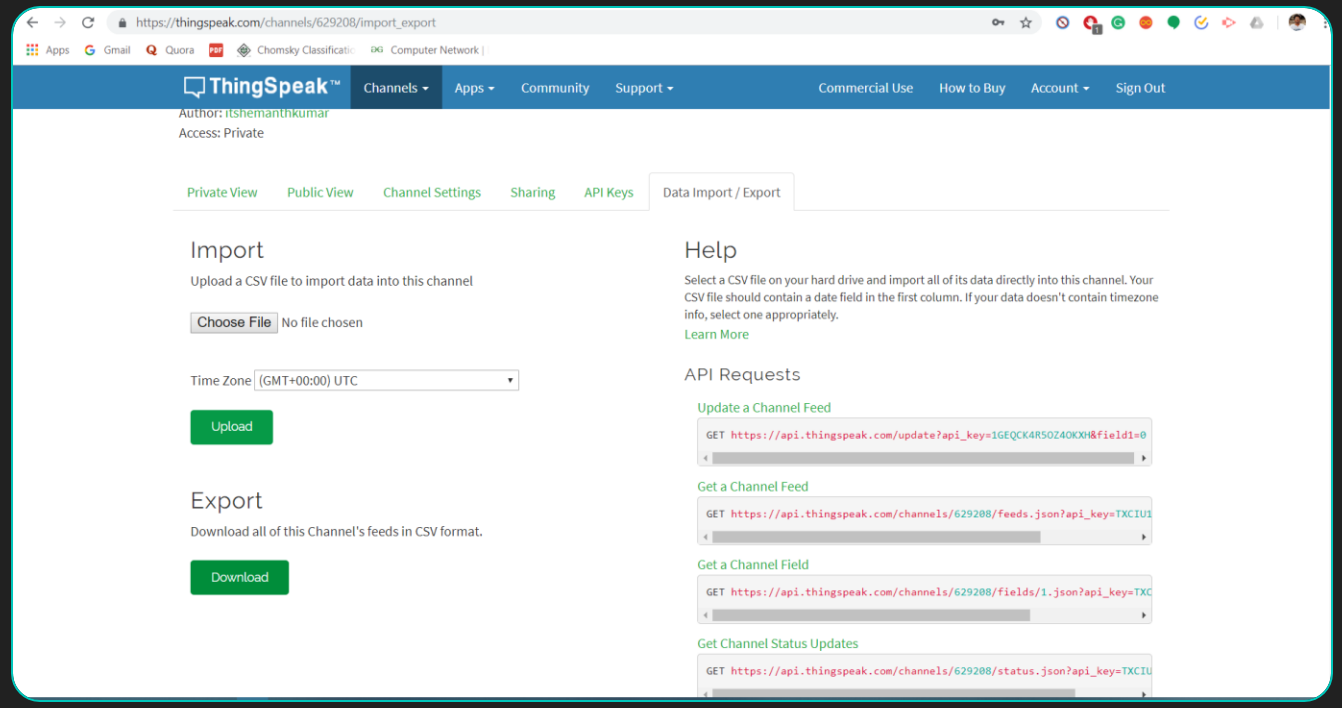
Mess Tracker :

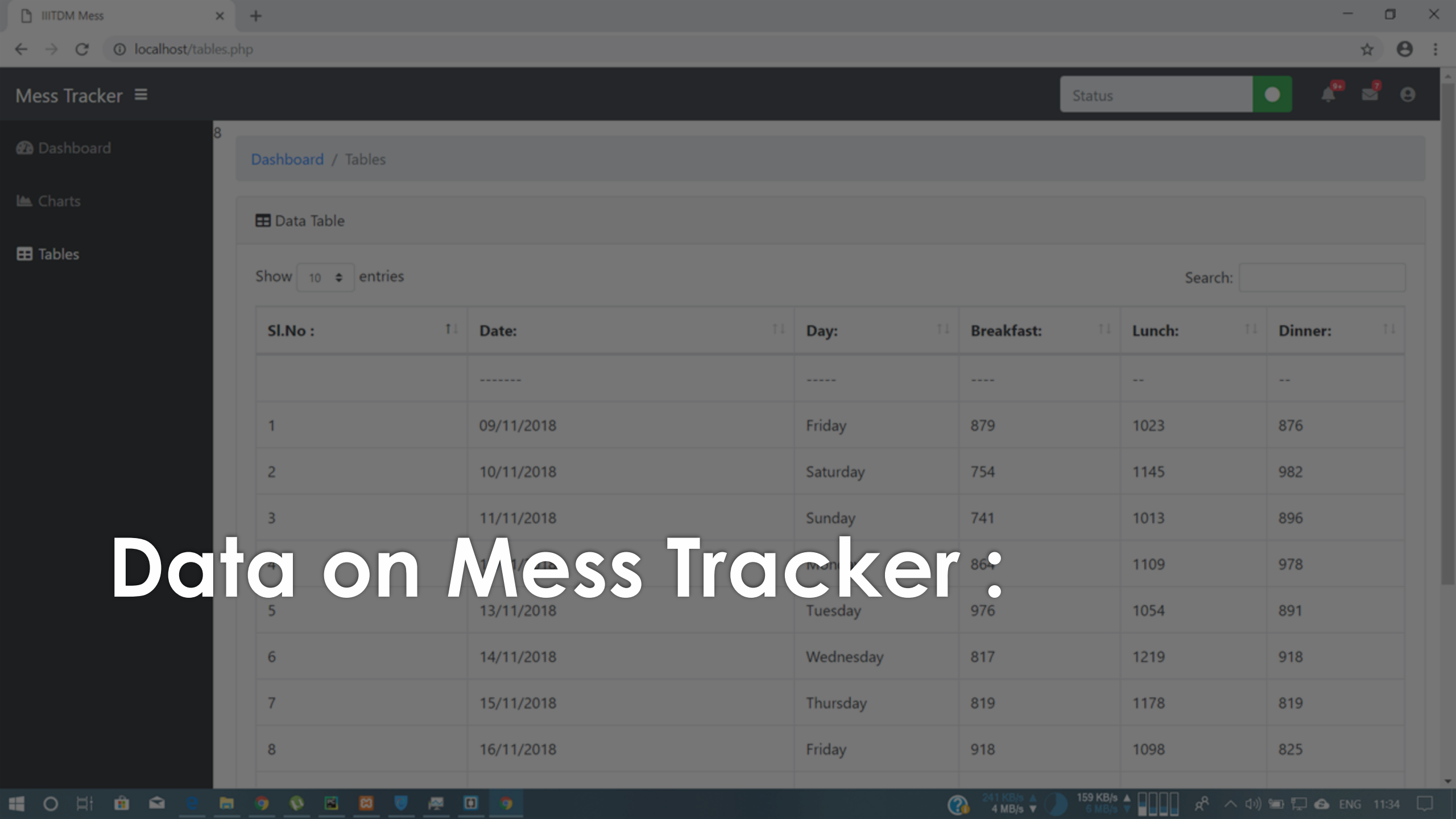
- We will get the suggestions whenever we upload a csv file to AWS from our website.
- We also get floor-wise pie chart for detailed analysis.
- CSV file can be downloaded from Thingspeak.



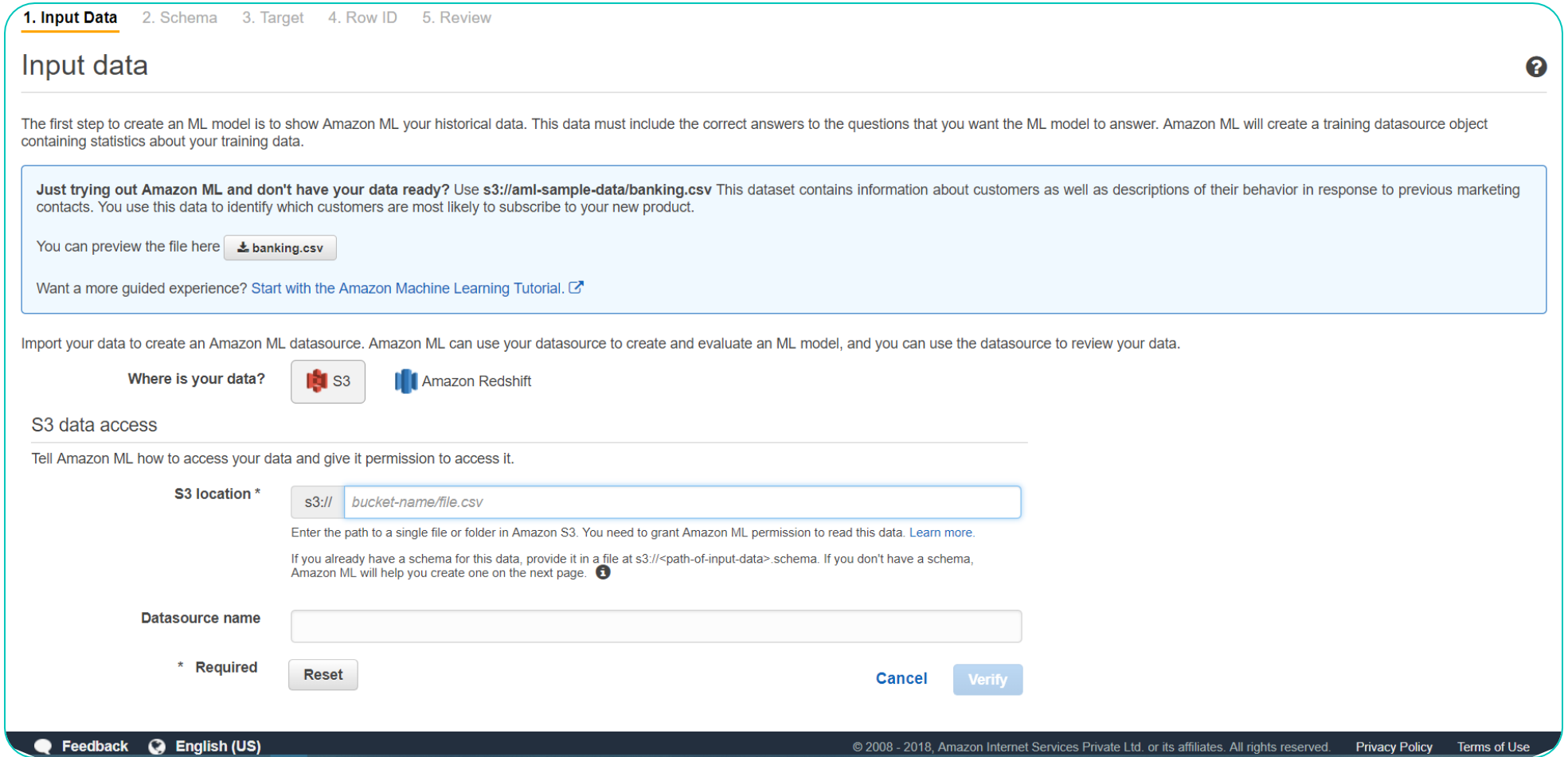
CSV from Thingspeak :

CSV file can be dowloaded from Thingspeak.




IIITDM Mess
localhost/tables.php
Mess Tracker
Status
Dashboard
Charts
Tables
Dashboard / Tables
Data Table
Show 10 entries
Search:
Sl.No :
Date:
Day:
Breakfast:
Lunch:
Dinner:
1 09/11/2018 Friday 879 1023 876
2 10/11/2018 Saturday 754 1145 982
3 11/11/2018 Sunday 741 1013 896
1109 978
5 13/11/2018 Tuesday 976 1054 891
6 14/11/2018 Wednesday 817 1219 918
7 15/11/2018 Thursday 819 1178 819
8 16/11/2018 Friday 918 1098 825
Data on Mess Tracker :

Amazon ML :


1. Input Data
2. Schema
3. Target
4. Row ID
5. Review
Input data
The first step to create an ML model is to show Amazon ML your historical data. This data must include the correct answers to the questions that you want the ML model to answer. Amazon ML will create a training datasource object containing statistics about your training data.
Just trying out Amazon ML and don't have your data ready? Use s3://aml-sample-data/banking.csv This dataset contains information about customers as well as descriptions of their behavior in response to previous marketing contacts. You use this data to identify which customers are most likely to subscribe to your new product.
You can preview the file here banking.csv
Want a more guided experience? Start with the Amazon Machine Learning Tutorial.
Import your data to create an Amazon ML datasource. Amazon ML can use your datasource to create and evaluate an ML model, and you can use the datasource to review your data.
Where is your data?
S3
Amazon Redshift
S3 data access
Tell Amazon ML how to access your data and give it permission to access it.
S3 location *
s3://
bucket-name/file.csv
Enter the path to a single file or folder in Amazon S3. You need to grant Amazon ML permission to read this data. Learn more.
If you already have a schema for this data, provide it in a file at s3://<path-of-input-data>.schema. If you don't have a schema, Amazon ML will help you create one on the next page.
Datasource name
* Required
Reset
Cancel
Verify
Feedback
English (US)
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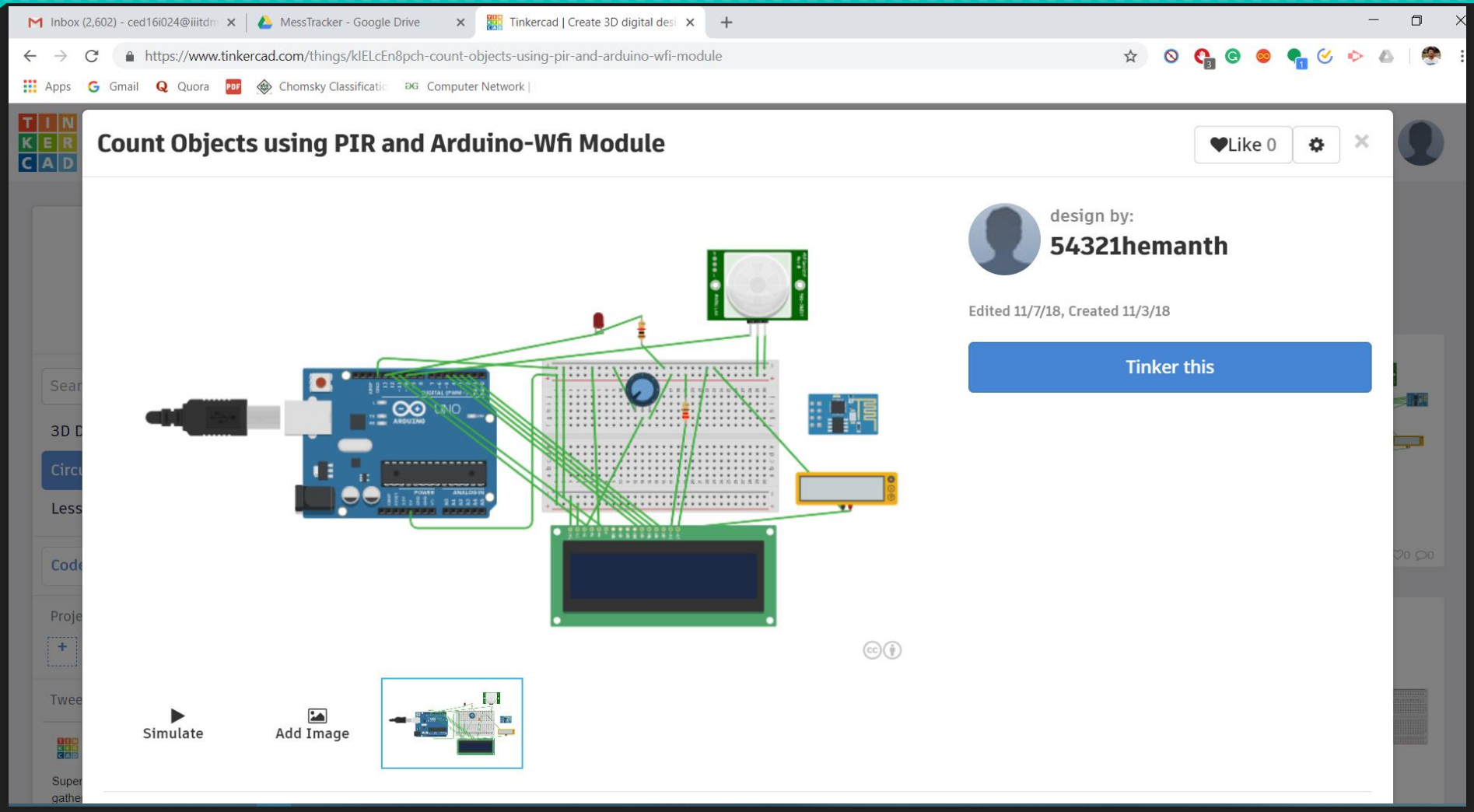
Complete Design :



Souce Codes :

- Drive Link:
- https://drive.google.com/open?id=15EsUnUWfBPbiiup_Im-BmiljSP1U8uiu