Regulating Kitchen and Daily Eating Order

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Project Description

Our project was regulating and creating healthier eating order. Our solution was giving the user the data of what he/she ate, in other word tracking the eaten food. We made an smart box to collect data of food. Our system is understand food inside of box using image recognition and tracking weight and temperature with sensors. With the given data user can see what and he/she eat. We used Raspberry Pi to use cloud technologies easily.

Our system sends the collected data to cloud using Wifi. Then, Android application takes the data from cloud and shows the food, weight and temperature to user.

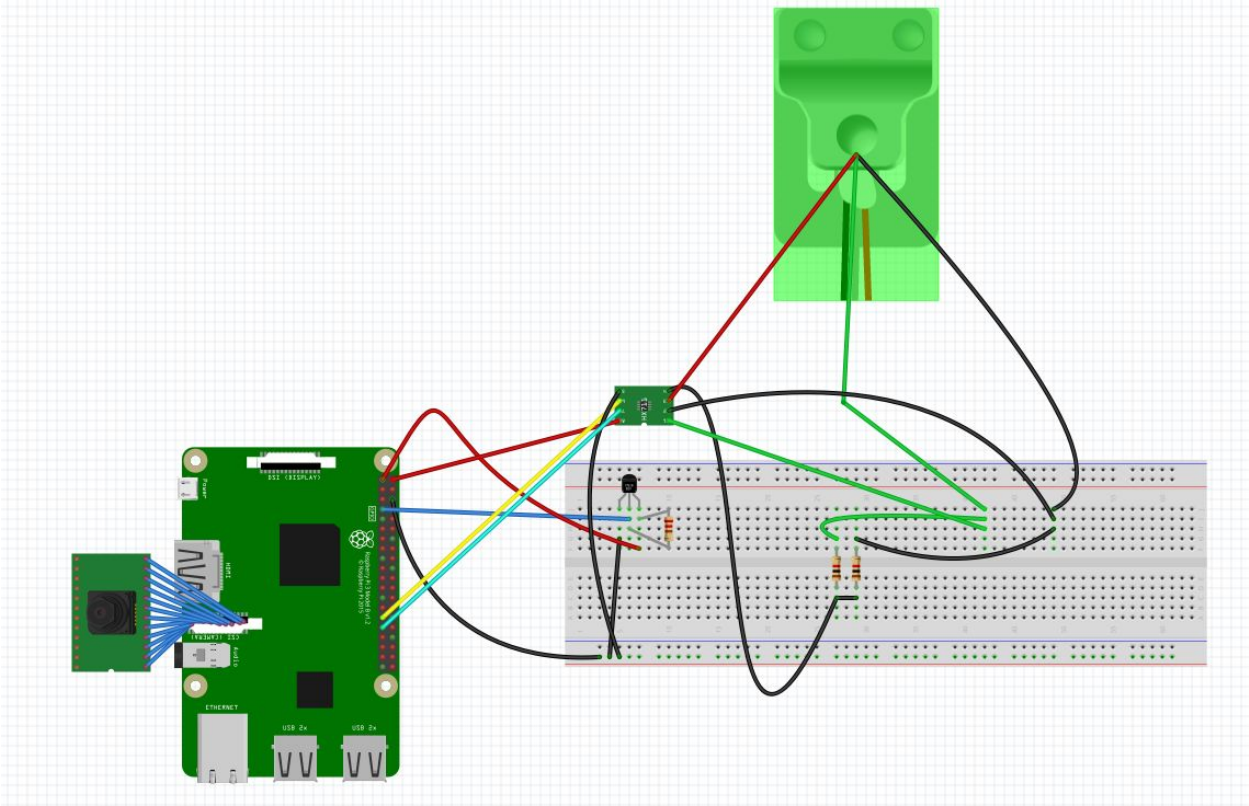
Parts Used

- Raspberry pi 3
- Raspberry Camera Module V1
- Weight Sensor
- Temperature Sensor (ds18b20)
- HX711
- RGB Led
- Button
- 1kΩ Resistor

Services Used

- Amazon DynamoDB - For cloud data storing
- Amazon S3 - For cloud image storing
- Amazon Rekognition - For image recognition cloud computing
- Android Studio - For Creating App

Circuit Schematics



Example Data

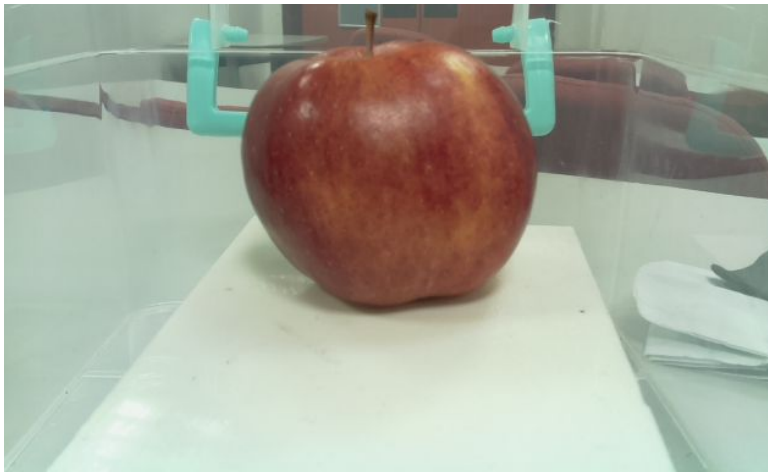
Data shows the name of food, weight of food, temperature of environment and the dates of data sent to cloud in different columns. (Picture is from Amazon DynamoDB).

Scan [Table] box-data: device_id, timestamp

Add filter

Start search

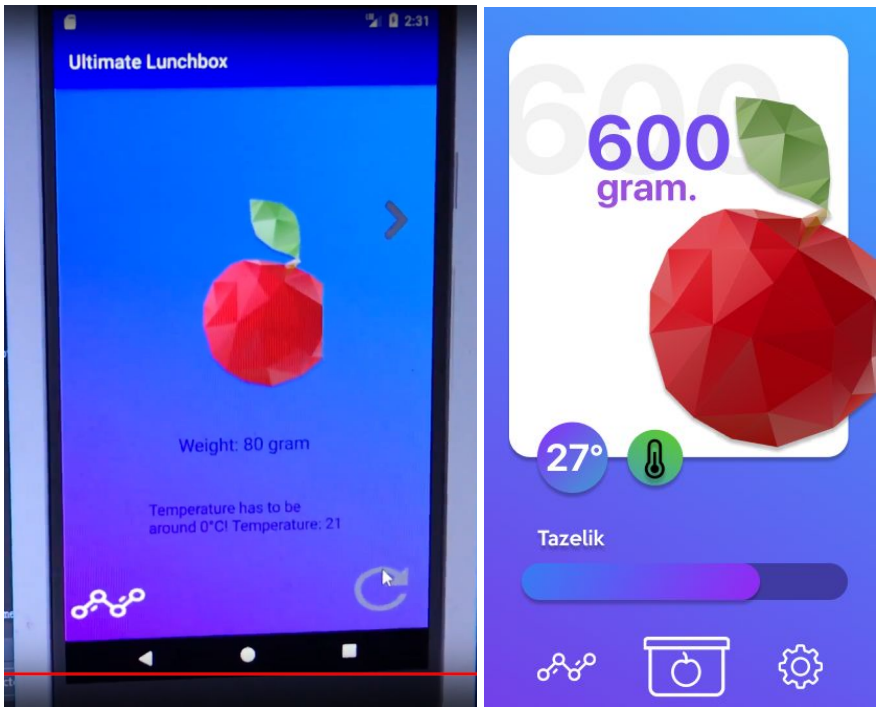
device_id	timestamp	Day	Food	Food Weight	Hour	Minute	Month	Temperature	Year
kap1	10	31	Apple	159	20	15	12	21	2017
kap1	11	31	Apple	137	20	15	12	21	2017
kap1	12	31	Apple	138	20	17	12	21	2017
kap1	13	31	Apple	139	20	19	12	21	2017
kap1	14	31	Apple	139	20	22	12	21	2017
kap1	19	31	Apple	103	18	16	12	20	2017
kap1	20	31	Apple	99	18	17	12	20	2017
kap1	21	31	Apple	97	18	17	12	20	2017
kap1	22	31	Apple	93	18	18	12	20	2017
kap1	23	31	Apple	130	18	21	12	20	2017
kap1	24	31	Apple	80	18	5	12	21	2017
kap1	7	31	Apple	0	20	13	12	21	2017
kap1	8	31	Apple	210	20	14	12	21	2017
kap1	9	31	Apple	158	20	15	12	21	2017



Example Image Used to Create Data

App

App represents food with alternative simple images, weight of food in box and current temperature. Also gives an suggestion for best temperature for storing current food in box.



Current App Screenshot and App Design Prototypes