Automated Inventory System

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BACKGROUND

Over the years, companies and businesses have faced challenges in managing their inventory and supply chain processes either by using memory, pen and paper or spreadsheets which has proven to not be very efficient.

This is because inventory may be sold, purchased, or held without accurately updating inventory levels to reflect the transaction.

With the help of FSR sensors, we were able to create a device to measure the weight of the supplies and notify the worker wirelessly. This can reduce time consumption.
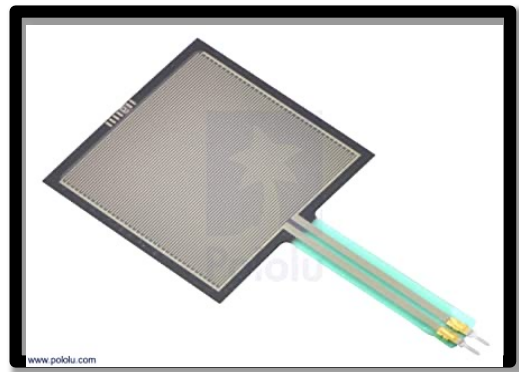
PROPOSED SOLUTION

Our proposed solution is to build an automated inventory system using sensors to determine the level of supplies and then automatically send a notification to the user when supplies need to be restocked. We plan to achieve this goal by building a system that provides an IoT solution that transfer data from the device to a phone app with Bluetooth connectivity.
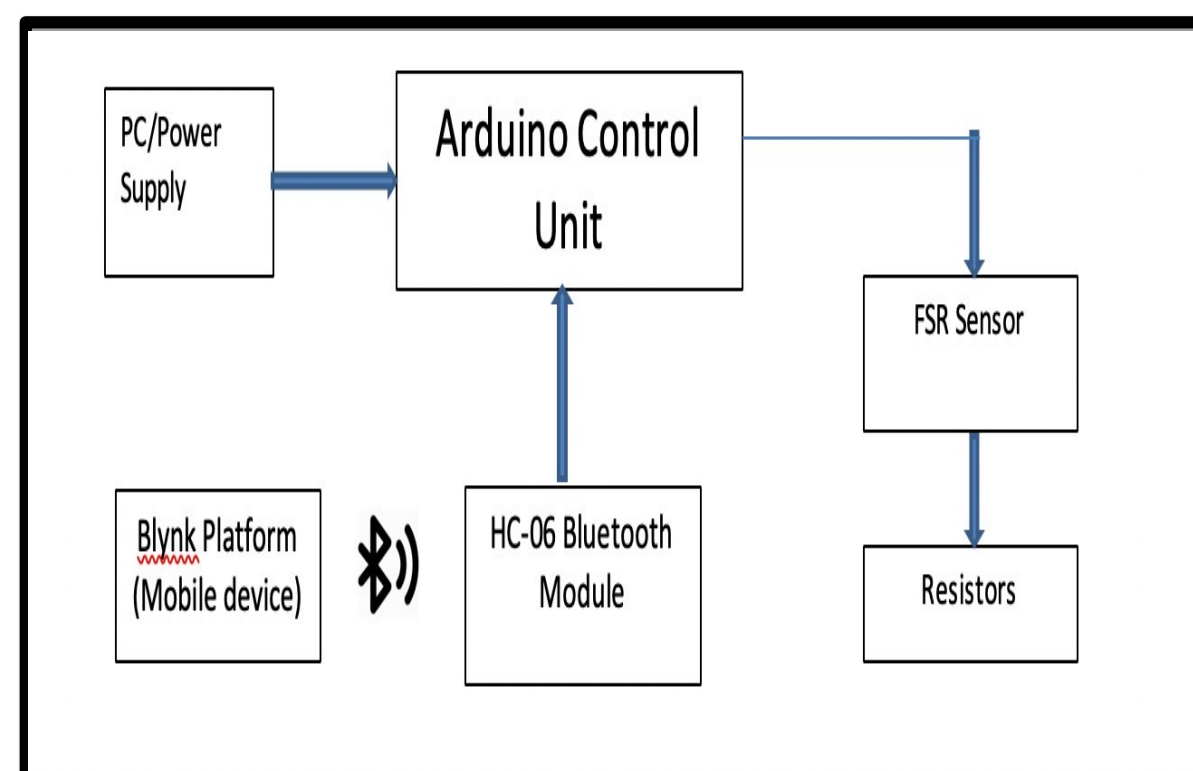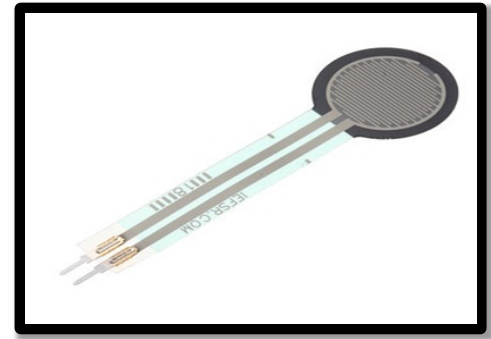

SYSTEM DESIGN

Breadboard is essential to connect all the elements in the project via wires.
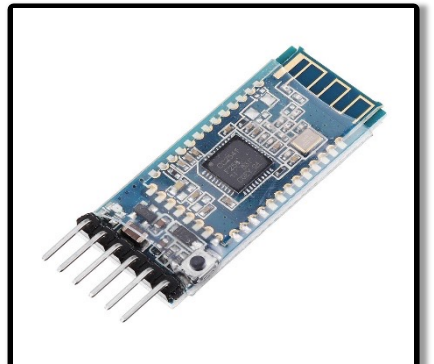
Arduino is the brain of our project. With Arduino we can input and output information as desired by coding.
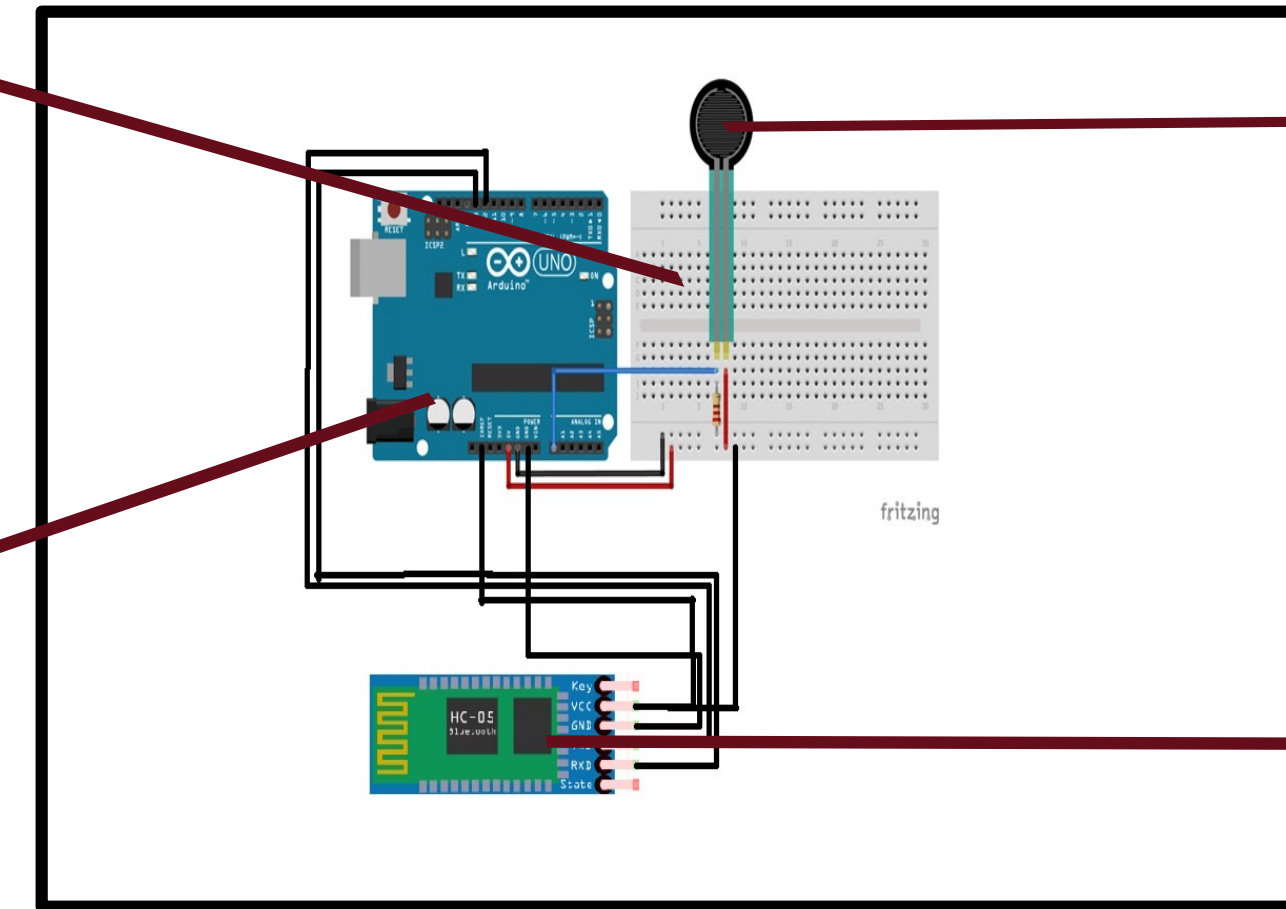
Sensing pressure through decrease in resistance with an increase in force applied to it and sending that information to the Arduino.

Bluetooth module (HC-06) gave us the ability to transfer our data from the Arduino to our phone wirelessly.

The app created using the Blynk app displays the weight of the object placed on the sensors. It collects this data from the Arduino via Bluetooth.
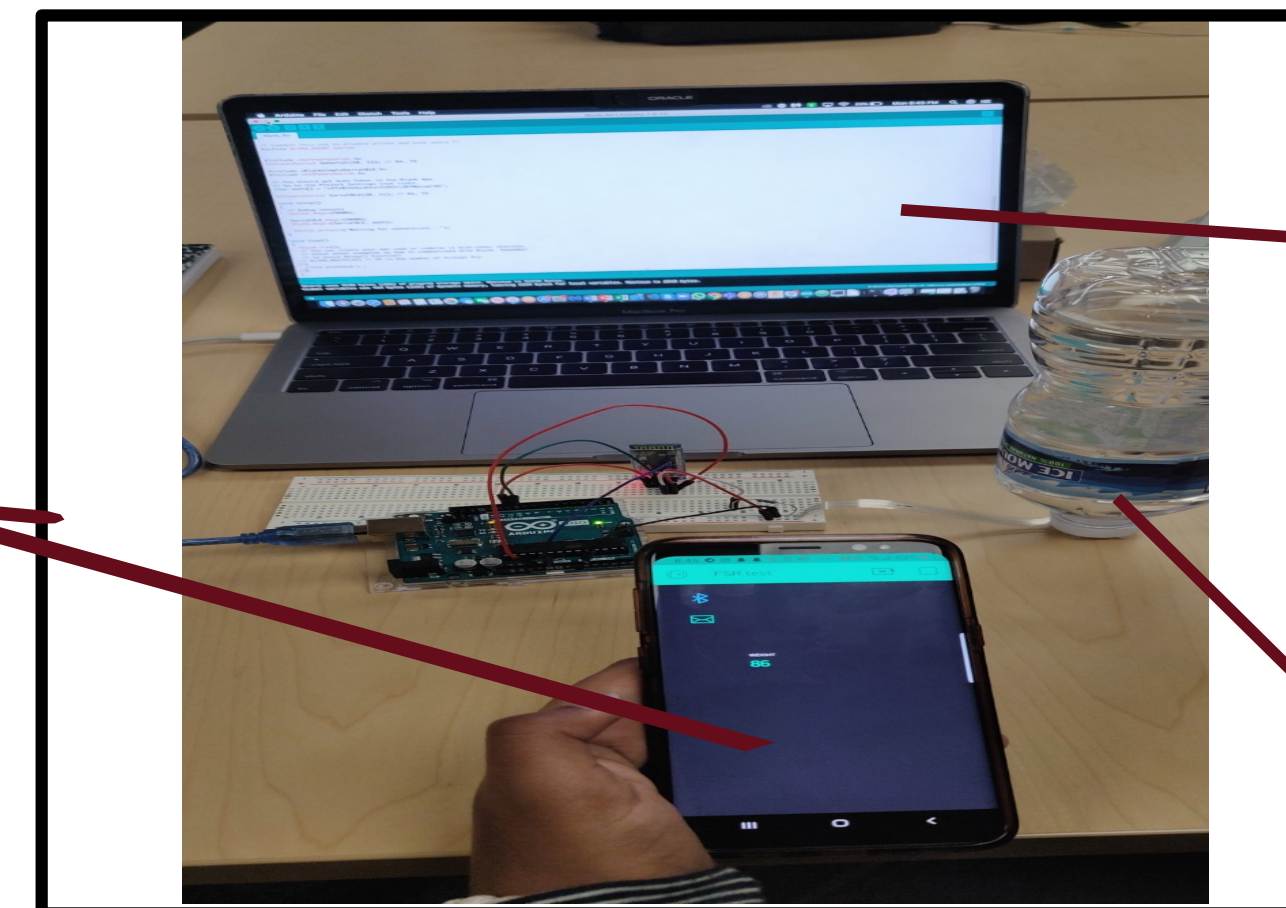
We used the open source Arduino IDE along with the free Blynk IoT platform to write and implement our code.

Water bottle represent the object we wish to measure it's weight.

FUTURE DIRECTION

- Display type and number of components in addition to weight.
- Coordinate with a calendar to set up reminders for purchases
- Show data of purchasing patterns of each component in order to make wiser business decisions.

REFERENCES

- A. S. Sedra and K. C. Smith, Microelectronic circuits. New York: Oxford University Press, 2015.
- "Arduino - Reference," Arduino - Reference, 2017. [Online]. Available: https://www.arduino.cc/en/Reference/HomePage.

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CONTACT INFORMATION

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