**CAPSTONE PROJECT**

The problem statement is regarding pharmaceutical companies. As we all know that during the manufacturing of tablets at company, the temperature of the tablets has to be maintained between some threshold values. But there are some cases where the temperature crosses its threshold values causing huge loss to the company. To overcome this huge loss we came up with a solution called Capstone project by using IOT. This project helps us in overcome the huge loss by sending the SMS or email when the temperature crosses the threshold limits, so that the company owner will get alert and set the temperature values back to its threshold limits, thereby reducing the loss.

**The contents of the Capstone project are as follows:**

* Building the circuit for temperature monitoring system, using the Bolt and LM35 sensor.
* Creating a product on the Bolt Cloud, to monitor the data from the LM35, and linking it to the Bolt.
* Writing the product code, required to run the polynomial regression algorithm on the data sent by the Bolt.
* Keeping the temperature monitoring circuit inside the fridge with the door of the fridge closed, and letting the system record the temperature readings for about 2 hours.
* Setting the boundaries for the temperature within the fridge using the reading received in the 3 hours.
* Writing a python code which will fetch the temperature data, every 10 seconds, and send out an SMS alert, if the temperature goes beyond the temperature thresholds.
* Modifying the python code, to also do a Z-score analysis and print the line “Someone has opened the fridge door” when an anomaly is detected.
* And also tuning the Z-score when someone opened the fridge door.

Here in this project we used the fridge instead of the chamber, which company will use to store the tablets.

Hosting the Project:

As this Project works on real time implementation,we are implementing our project on Cloud by using VM ware to write the code and by connecting that bolt to Cloud.