

Automatic Ration Management System

Chinamay Sharma¹, Himanshu Bairwa², Koustoobh Pareek³, Namrata Joshi⁴

^{1,2,3}B.Tech Student, Department of ECE, Swami Keshvanand Institute of Technology, Management and Gramothan

⁴Assistant Professor, Department of ECE, Swami Keshvanand Institute of Technology, Management and Gramothan, Jaipur, Rajasthan, India

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Abstract— *The Internet of Things (IoT) is changing the way we live. Having become ubiquitous in the consumer economy, IoT is now emerging as a force in all industries. This is no coincidence. The Internet of Things creates measurable value for private and public organizations alike. It was unique back then, but by some point in 2008 or 2009, the number of things connected to the Internet came to exceed the world's human population for the first time in history. Since then, the "Internet of Things" (IoT) has experienced a rapid expansion. Some 27 billion devices are now connected to the data network worldwide, including sensors, household appliances, machines, wind turbines, medical devices, and cars – with dramatic increases expected. According to predictions, the number of "things" will exceed 30 billion in 2020 and 75 billion in 2025. At that point, there will be almost ten things connected to the Internet for each human on earth. The IoT market will also explode, from an estimated \$248 billion in 2020 to roughly \$1.6 trillion in 2025. We will make a Weighing Scale Machine which can measure weights up to higher-value like 40KG. We need to calibrate the load cell and find the calibration factor. Once the calibration is done, we can include that factor in our code. Thus, this will make the scale precise and accurate. This data is then further sent to the application via cloud and processed there for the desired result.*

Keywords— *Ration Management System, IoT, Weighing Scale Machine.*

I. INTRODUCTION

The main aim of the project is to develop a system that is capable of reading data from the load cell at real time and process it then send that data to the device containing the application via cloud. This real time data is then retrieved in the application where it is processed to give the desired output depending on the conditions given.

II. KEY FEATURES

1. The system is easy to implement and operate.
2. Custom alerts via notifications are generated on real time basis.
3. The system restricts access for those who are not authorized.

4. You can check the analytics of the data via cloud.
5. No Prior knowledge required to operate.
6. Very Low maintenance cost.
7. Custom maximum and minimum weight limit.
8. Hazard proof system.
9. Plug and Play system.
10. One time installation.

III. WORKING

The project works in the manner that it contains a Load Cell which is fixed under a container in which the measuring quantity is placed. The load cell is directly connected to the PCB which connects itself to the cloud via WiFi connection

and the PCB itself converts the weight measuring data and sends that data to the cloud and from cloud it is retrieved inside the application where its is processed accordingly. The generated data is then checked on the three major conditions given inside the application and accordingly the notification is displayed. The 3 Condition include:

1. If 0-30% - Insufficient Supply
2. If 31-70% - Half Filled Supply
3. If 71-100% - Sufficient Supply

IV. CIRCUIT DIAGRAM

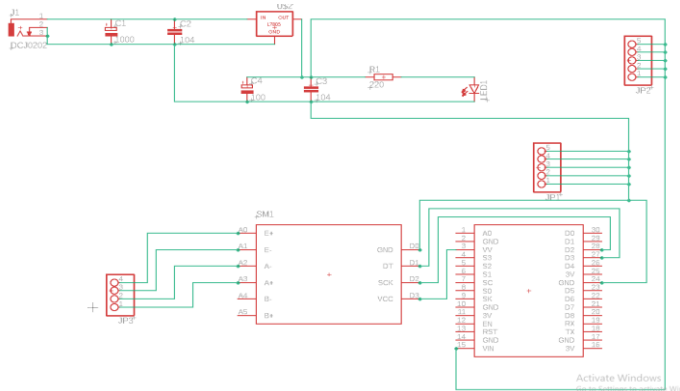


Fig.1: Circuit diagram for ARMS

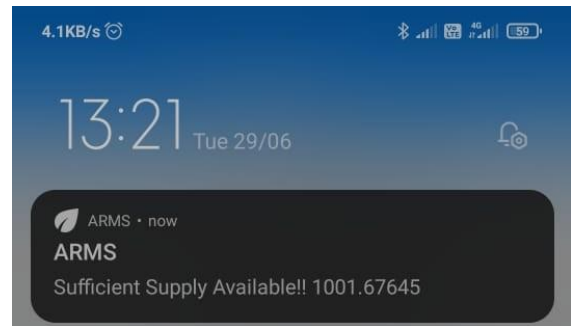
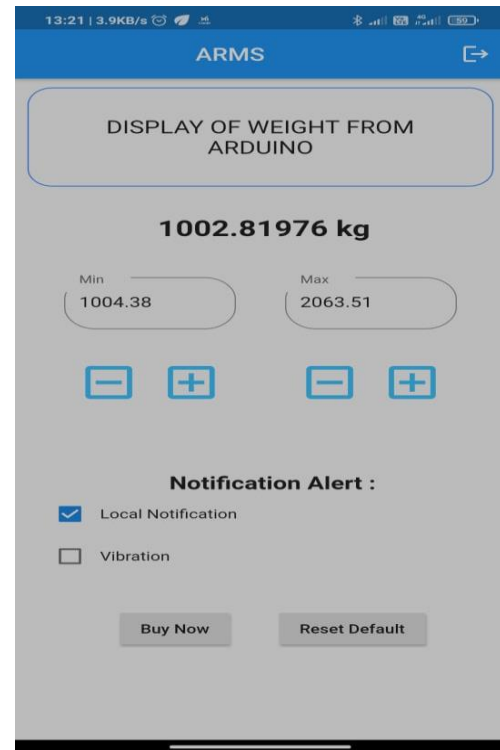
V. RESULT & CONCLUSION

The system operates in accordance with the code and the desired results are generated which are shown in the table below:

Condition	Actual Result	Expected Result
0-30%	Insufficient Supply	Insufficient Supply
31-70%	Half Filled	Half Filled
71-100%	Sufficient Supply	Sufficient Supply

We can conclude that with the bloom in the IOT sector various new systems arise that connects different areas to IOT and this system is an attempt in connecting Kitchen management to IOT.

Notifications Results:



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