

Razlika Weighting Machine

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Abstract- It is common to see that, in all type of industries uses the weighting machine to measure the weight. But the question is arrive of to measure the difference weight that can't be work automatically. Now a day also it is manual work. So, we provided the solution for this industrial problem by "Razlika weighting Machine".

It can measure the weight and difference weight at run time. It uses the raspberry pi for processing purpose. It can be easily connect to cloud storage.

Index Terms- Weighting Machine, weight measure Raspberry pi2, load cell, difference weight.

I. INTRODUCTION

Now a Day In The Industries Various Weighting Machines Are Available But That Machine Can Measure The Weight At The Time Only. But In Many Industries Facing Problem For Finding The Consuming Amount of Material. This Similar Problem Is Found In The 'Sanman Capacitor'. This Machine Can Overcome This Problem.

Razlika (Difference) Weighing Machine Can Measure The Amount of Zinc Wire Consumed At Run Time. In The 'Sanman Capacitor' Industries Found One Problem Regarding To Measure The Consumption of Zinc Wire. All This Work Are Doing Manually, So There Is Scope To Measure This Amount of Wire Consumption. So This Machine Can Give The Solution For This Problem. This System Not Only Measure The Amount of Wire Consumed But It Can Also Monitor The Data Using The Iot Technology. All The Data Is Available For Organization At Any Location So They Can Take The Required Steps. The Labors Can Not Take Any Interrupt Steps. Because of This Machine Can Overcome The Manual Work. The Data Is Available For The Organization Very Accurately And At A Punctual Time.

II. RELATED WORK

S.Sainath, et al [2] designed the automated shopping cart system integrates shopping cart with two set of barcode scanner placed at two different checkpoints the entry and exit points respectively. It facilities the user to self- scan the barcode of the purchased products. Wrongful entries can be corrected by making use of keypad.

Komal Ambekar, et al [3] designed a new smart shopping trolley using RFID this implementation is used to assist a person while shopping and avoid standing in long queue and thus save time. The smart shopping trolley would consist of microcontroller, android device, RFID reader and display

Komal Manchhirke et al[4] a new technology smart shopping cart using RFID and ZIGBEE, they are proposing smart shopping cart facility to browse available product list on screen in the display connected to Microcontroller which is situated in smart cart.

III. PROPOSED WORK

The 'Razlika weighting machine' is taking the input from load cell. The raspberry pi 2 is used as the brain of system. The output taken by the load cell is send to the RPI2. The output produced by the sensor 'load cell' is not that appropriate level to be processed, so it is required to be amplified. For amplification process 'HX711' is used to amplify the data of sensor.

A.BLOCK DIAGRAM

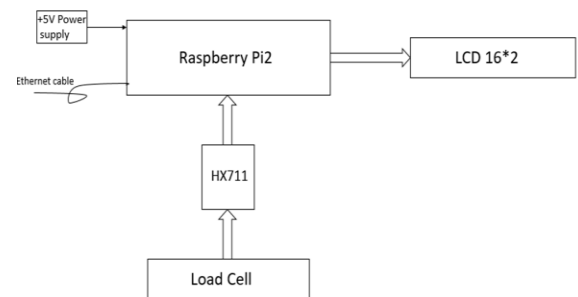


Fig. 1. Block diagram

The appropriate input taken from the load cell is required to be calibrated first. The calibration process is gives the output that can be user.

Calibration Process:

Output given by load for 1kg mass=92860

So, $1000\text{gm} = 92860/\text{DF}$

$$\text{DF} = 92.86$$

Here, DF=Division Factor

After the calibration, machine is finding the difference weight. For the calculate the difference between two output here used two variables. The first variable can store the weight at first instant of time and then after some time delay, again it store the exact weight at that instant and calculate the difference between this two instant.

Calculated amount of weight at every instant is displayed on 16*2 LCD display. Also the calculated amount of difference weight is displayed on screen for allocated time slot.

B. SYSTEM SPECIFICATION

There are different components are used in this system to run Difference weighting Machine. The specifications of these components are as follows:

- Raspberry pi 2: Raspberry is the main on board computer of the system. It will control all the operations of the system. It is the 28 GPIO pin and Total 40 pin IC operates on 5V supply.
- Liquid Crystal Display(LCD) : In this system, 16*2 LCD is used. It will display the project details such as project name, Student Roll no and Final Difference weight.
- HX711 Amplifier: It is used for amplifirer purpose output Differential value comig From Brige sensor
- Load cell : It takes the analog value i.e weight operates on 5V.

IV. RESULT

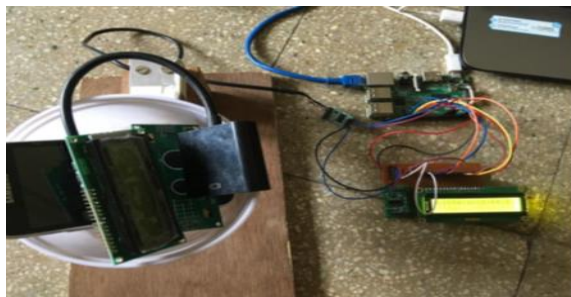


Fig2 Inserting weight

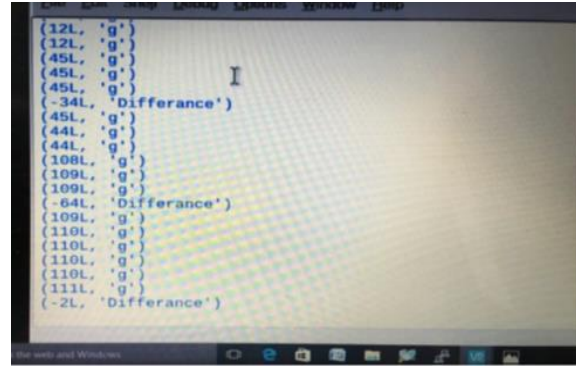


Fig3.Weight on Monitor

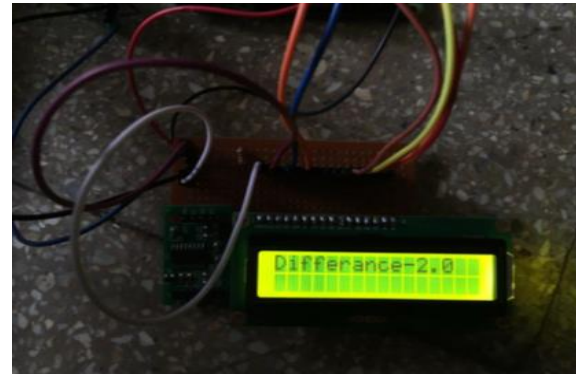


FIG 4. RESULT

V. CONCLUSION AND FUTURE WORK

There are several machine are now a days in industries that weight can be calculated, but some industries are needed the machine that can calculate the difference weight. The industry are using traditional method of calculating the difference measurement. This time consuming process and the need of industry is full fill by 'Razlika Weighting Machine '. This project use free and independent source RPI2 , and python language for development . So the cost of machine is low and efficiency is high. This machine can be implemented in various industries.

In industries can be directly used as difference weight machine. In the shopping industries, it can be used for calculate amount of goods taken or put. It can be used to calculate the amount of goods with respect to its weight.

VI. REFERENCE

- [1] Kunal.D.Gaikwad, Dr.P.B.Dahkar, "Weighing System", International Journal of Scientific & Engineering Research, Volume 5, Issue 10, pp. October-2014

- [2] P Bhaskar Rao et al, “Home Automation System” International Journal of Computer Science and Mobile Computing, Vol.4 Issue.5, pp. 797-803, May- 2015
- [3] IJSRD - International Journal for Scientific Research & Development Vol. 4, Issue 02, 2016 pp. 1045-1051 25 July 2015
- [4] Er. G. Jalalu1 , Er. Polepogu Rajesh2 “Wireless Electronic Notice Board Using Raspberry Pi 3”, Volume 5 Issue VI, June 2017 IC Value: 45.98 ISSN: 2321-9653
- [5] <https://www.elprocus.com/ever-wondered-lcd-works>
- [6] https://en.wikipedia.org/wiki/Load_cell
- [7] <https://learn.sparkfun.com/tutorials/load-cell-amplifier-hx711-breakout-hookup-guide>
- [8] <https://opensource.com/resources/raspberry-pi>