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ABSTRACT

industries, the operations are still carried out by humans which involved some imperfections. The automation of bottle filling involves the use of PLC which are used in large-scale industries and are very costly.The study emphasizes on reduction in cost using the Arduino micro-controller. The manual filling process has many problems like spilling water while filling it in a bottle, etc. This work generally emphasizes small industries and we aim to make these small-scale industries more efficient and to eliminate problems faced by small-scale bottle filling industries. With this technique that operates automatically, every process can be smooth and the process of refilling will cut back the hands price and operation time.

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LIST OF FIGURES

CHAPTER 1: WHAT IS THE AUTOMATIC BOTTLE FILLING AND CAPPING MACHINE SYSTEM USING ARDUINO

1.1 Introduction

The common use of micro-controllers is to make simple logical control decisions. The automation in the bottle filling industry comes with increasing demand currently and in the future. Each component in the system is important to be studied in ordered to comprehend how each part works in the system. This study mainly includes the designing and a control system for an automated bottle filling system which can be an alternative to or plc in the market in an affordable price.The control system. The manual filling process in small scale industries are facing many problems because the operations are done manually. This problem faced by small industries compiles to design this system. This system is meant for small scale industries. It aims to eliminate problems faced by small scale industries which involve filling of bottles. With the help of this system that is automated every process can be done effortlessly and the cost be reduced and the production will be more efficient. [1]

. So we have made a project on the automatic bottle filling system using Arduino UNO. The objective of this project, automatic bottle filling system using a Arduino microcontroller. [2]

1.2 The Main Purpose of the Project

- To provide easy access to the company which cannot afford plc and are in need of an alternative which they can afford.
- This type of project is mainly used in the sanitizer and medicine manufacturing company in which liquid is Automatically Filled in the Bottle.

Figure 2-1: Shows the water bottle filling and capping system.

2 CHAPTER 2

2.1 Motivation

a. This problem faced by small industries compels to design this system. This proposed system is meant for small industries. It aims to eliminate the problem faced by small scale bottle filling system for smooth process and can reduce worker cost and operation cost.

2.2 Methodology

2.2.1 Equipment:

1. 2* DC motor (12v).
2. 1* Stepper motor (12v) and Driver.
3. 1*Micro Servo Motor.
4. 1*Air Pump.
5. 1*Water Pump.
6. 4*Relay Module (5v).
7. 1*Arduino Uno.
8. 1*8mm shift 40cm
9. 1* 20*4 LCD.
10. Wires.
11. 1*
12. 2*
13. 2*
14. 6*
15. 6*
16. 4*
17. IR Infrared Sensor Module**.**
18. A4988 motor driver

3 CHAPTER 4

3.1 Conclusion

This was to develop a liquid filling and capping system based on certain specifications. This was successfully implemented. A lot of additional features like user defined volume specification etc. Were added in the different stages in our work and the desired results were obtained. More features can be added to this system as follows: depending on the size, shape and weight of the containers, filling operations can be implemented.

3.2 Reference

[1]Automatic Water Tank Filling System Controlled Using Arduino TM Based Sensor" for home applicatio