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MILK ATM MACHINE BASED ON RFID SUBSCRIPTION.

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Abstract— *The vending machine which provides the Milk without interving any manual interference is called as milk Atm In India milk production and distribution is facing many challenges hence we had proposed the solution for uniform untouched hygienic milk/ration distribution process This paper presents system which operates not on coin or note, it operates on RFID system. This type of systems can be installed in local area so that it will minimizes the spread of contamination born diseases like chorela,Covid-19 etc. Here we put forward a fully automated RFID based milk dispenser system using Arduino and Relay. The system is capable of fully automated milk dispensing using solenoid tap and sensors. The system also senses if glass is placed at the counter to avoid milk spoilage if there is no glass placed at the counter panel. This system gives the access through only RFID which avoid the misuse of machine***.

Keywords— ***RFID, ATM, GSM, milk, vending machine.***

INTRODUCTION

Now a day's client needs to commit to obtain something from the super market, looking complicated, food order, etc., use majorly charge account credit, credit card, UPI payment, case payment to avoiding the carrying the money and waiting time of standing queue for paying their expenses. In Milk/Ration purchases from Milk/Ration store currently a days waiting time is incredibly a lot off, thanks to problem in Milk/Ration measure and collection money payment of Milk/Ration for each individual client.For avoiding this drawback oftenness identification card area unit used. Before victimization this card initial got to recharge the cardboard. Each individual client got to obtain separate RFID card. During this card simple to hold like charge account credit and master card. When client got to show this card for client identification, when victorious identification Milk/Ration pump the Milk/Ration through Milk/Ration flow meter up to desired amount. Automated vending machines are in demand these days that make numerous tasks and activities easier and efficient. Such machines need minimal human intervention to do this job. .

LITRATURE SERVEY

Vending machine is a machine that dispenses item such as snacks, beverages, alcohol cigarettes, lottery ticket ensured to customer automatically after the customer. These machines are likely used in various area like commercial, industrial, shops, organization etc.

Automatic regular coffee vending machine including coffee powder or coffee beans, sugar, and milk powder stored in chamber. It also includes the hot water chamber where the water is heated. After giving command through a switch the machine add that specific amount of ingredients in the hot

water. And then it gets delivered in the cup. The controlling mechanism like heating is done by the use of microcontroller.

With an aim to extend banking services to its member Milk producers, diary giant Amul on Wednesday launched its micro ATM services from Anandpar village in Rajkot Wednesday.

The service was launched with the secretary of Anandpar village cooperative Milk/Ration producers society associated with Gopal Dairy (Rajkot District Cooperative Milk Producers Union Limited) facilitating cash withdrawal through an electronic data capture (EDC) machine with finger scanner option. Shamal Patel, chairman of Gujarat Cooperative Milk Marketing Federation (GCMMF), vice-chairman Valamji Humabal, GCMMF managing director R S Sodhi and Gopal Dairy chairman Gordhan Dhameliya attended the event through video-conferencing.

The service called Amul Micro ATM system has been developed with joint efforts by GCMMF, fin tech firm Digivridhi with banking partner Federal Bank. As part of the arrangement, the Federal Bank would deliver cash to the Anandpar village cooperative society on 9, 19 and 29 of every month and secretary of the village cooperative would function as its banking correspondent while Digivridhi will act as bridge between the bank and the village cooperative society.

PRAPOSED WORK

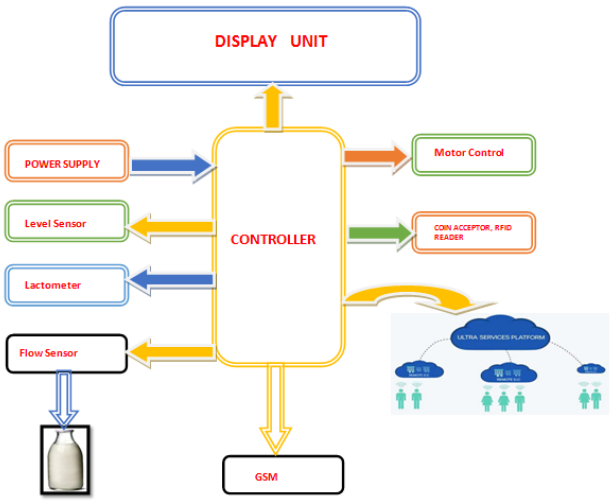

Fig.1 Working Of Project

This. system consist of ARDUINO UNO Controller for controlling process. The controller is interfaced with LCD display, RFID reader, EPROM, motor. The RFID reader stores the employee data(e.g name, unique ID), when reader scans the RFID tag given to employee it compares with saved data and allows access to the machine meanwhile the IR signal from IR sensor is required for detection of cup at machine. The AC motors are used for the flow control of Milk. LCD display is used to show details of process operation

METHODOLOGY

. The Concept behind the Milk ATM is very simple. We will use a HCSR04 Ultrasonic Sensor to check if any object such that the glass is placed before the dispenser. A solenoid valve will be used to control the flow of milk, which is when energized the milk will flow out and when de-energized the milk will be stopped. So we will write an Arduino program which always checks if any object is placed near the tap, if yes then the solenoid will be turned on and wait till the object is removed, once the object is removed the solenoid will turn off automatically thus closing the supply of milk. Learn more about using RFID Reader with Arduino here. The solenoid valve used in this project is a 12V valve with a maximum current rating of 1.2A and a continuous current rating of 700mA. That is when the Valve is turned on it will consume about 700mA to keep the valve turned on. As we know an Arduino is a Development board which operates with 5V and hence we need a switching driver circuit for the Solenoid to turn it on and off. The switching device used in this project is the IRF540N N-Channel MOSFET. It has the 3 pins Gate, Source and Drain from pin 1 respectively. As shown in the circuit diagram the positive terminal of the solenoid is powered with the Vin pin of the Arduino. Because we will use a 12V adapter to power the Arduino and thus the Vin pin will output 12V which can be used to control the Solenoid. The negative terminal of the solenoid is connected to the ground through the MOSFET's Source and Drain pins. So the solenoid will be powered only if the MOSFET is turned on.

The gate pin of the MOSFET is used to turn it on or off. It will remain off if the gate pin is grounded and will turn on if a gate voltage is applied. To keep the MOSFET turned off when no voltage is applied to gate pin, the gate pin is pulled to ground though a 10k resistor. The Arduino pin 12 is used to turn on or off the MOSFET, so the D12 pin is connected to the gate pin through a 1K resistor. This 1K resistor is used for current limiting purpose. The Ultrasonic Sensor is powered by the +5V and ground pins of the Arduino. The Echo and Trigger pin is connected to the pin 8 and pin 9 respectively. We can then program the Arduino to use the Ultrasonic sensor to measure the distance and turn on the MOSFET when an object is detect. The whole circuit is simple and hence can be easily

build on top of a breadboard. Mine looked something like this below after making the connections

FLOW CHART

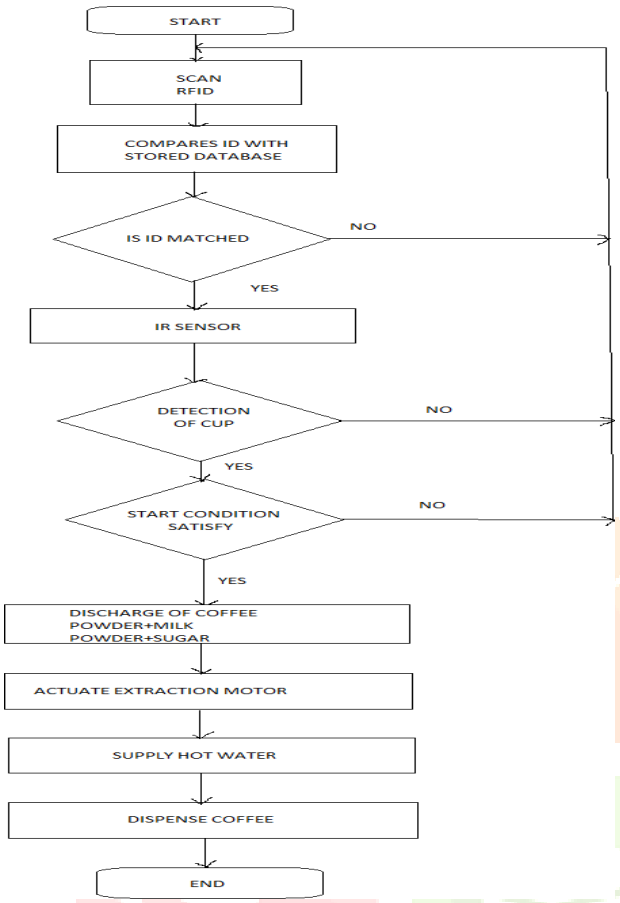

Fig.2 Flow Chart of Project

CONCLUSION

The proposed work programmed milk distributing gadget working extremely quick and decreases current all issues looked in people groups. This plan structure was a simple and minimal effort powerful strategy. Gadget capacity and dealing with mode likewise easy to use This project focuses on automatic Milk vending machine using the arduino controller and RFID technology which is used to control the contamination & hygine of product and also reduce the waste of product in low budget by minimizing manual interferences and also minimizes the spread of viral diseases like Covid-19.

RESULT

In this way we had design and implemented the physical model of milk ATM. We had successfully deliver the required quantity of milk by using RFID card.

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