CASHLESS PAYMENT VENDING MACHINE WITH AUTOMATIC HAND SANITIZER

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ABSTRACT

Cashless Payment Vending Machine is introduced to reduce the man power, time and cash payments. It is similar to which we get the required items at vending machine any time & any place 24*7. We proposed a cashless payment vending machine which dispenses stationary items likes as pen, pencil, erasers and sports items etc also for school/college students etc.

Keywords : vending machines, GSM module cashless payment, IOT, Fingerprint, ultrasonic sensor

I. INTRODUCTION

Sale of products using automated systems known as vending machines. Vending machines are placed in public places and directly contact the many user. Assume if items costs are Rs.5 and Rs.10 but user don't have cash or coins . In that case user make payment cashless by e payment or UPI transition. So in our project we use AVR long with Arduino controller to reduce the problem of cash money. Automatic vending machines are not that common in our country. The availability of the items is also checked. It finds machine that sells product per day and save data on server by IOT (Internet of things). We solve the problem of cash money, which is required for machine due to that reason we make a vending machine which accepted E payments (cashless payments).The machine also have many new features like automatic Hand Sanitizer which used to clean user hand from viruses and dust .

➢ **Block diagram**
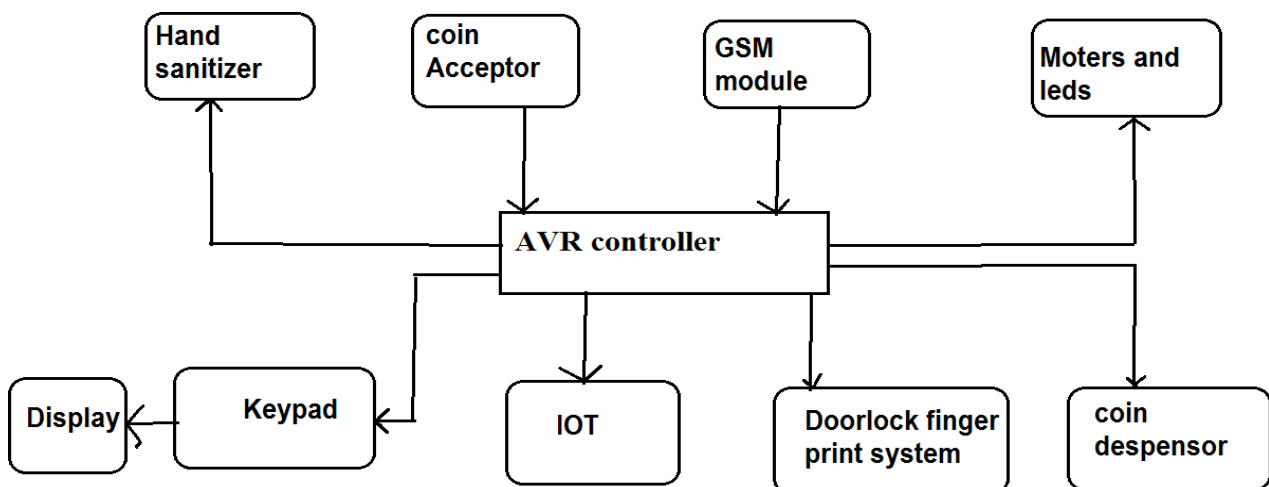
The block diagram shows the number of sensors are conncted to the AVR controller . In which hand sanitizer system ultrasonic sensor and servo motor is used . when the user used the vending machine first the user wash or clean their hand before used machine . The sensor is on when the user put their hands in front of the sensor An ultrasonic waves are reflected to the Rx of ultrasonic sensor at that time servo motor is rooted and spread sanitizer liquid. Then coin acceptor accept the coin and machine also accept the online payment. Keypad and display is used to type the number of product to dispense from the machine and LCD display shows the number of that product which is selected by the user. GSM module is used for the accepting the online payments by inserting a gsm sim in that module .

By proper selection of product the motor is turn on for few milliseconds till the product despense. Dispenser system is used dispense the coins when coin is remain user. These system work on when user add their money and shopped items or products, machine calculated the produced cost and when the user money is zero formed in calculation the machine not gives the coin to user but when the some coins of user are remain then machine despense the remaining value of coins .IOT finds the machine that sells product per day and save data on server by IOT (Internet of things).Doorlock system is secuired by the fingerprint sensor which take number on samples of user fingers and

save the data of user when the owner of machine is come to unlock the machine then fingerprint sensor sens and matched the sample with machine data of fingers ,when the sample is matched then machine is unlock and allow the owner to add items and take machines money.

II. RESULT AND TESTING

1. **Lcd and keypad testing** for creating menu of products and display the number of particular product with aurdino avr.
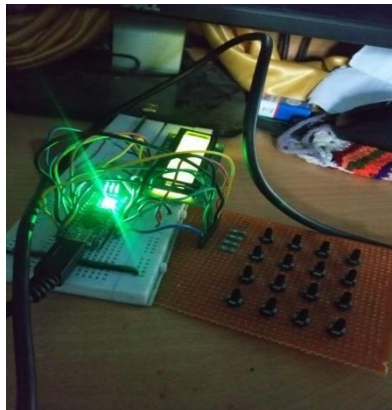
2. **Coin acceptor :**Testing of coin acceptor and self programming of coin acceptor .for selecton of coins and save the price of coin we have to make coine acceptor program and its very difficult
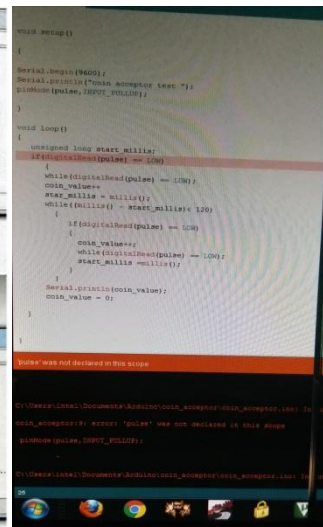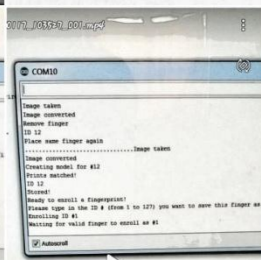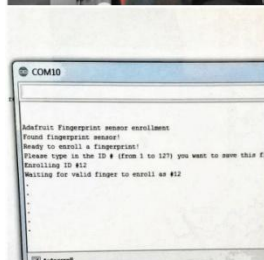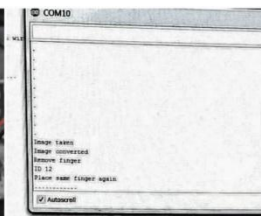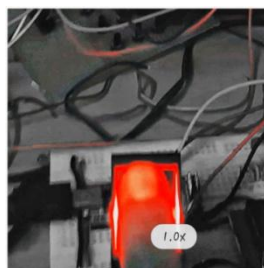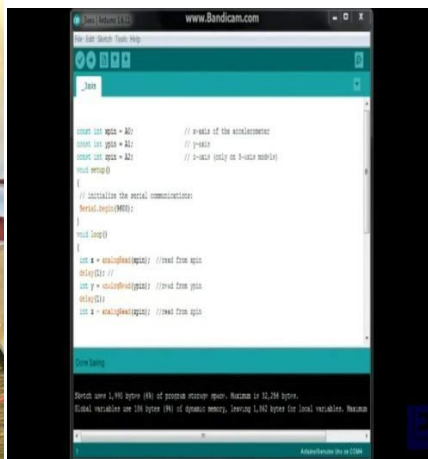
3. **Control panel** : Which used to control the machine and control panel also have fingerprint sensor coin, acceptor ,keypad and display and it used for controlling the motor.

III. CONCLUSION AND FUTURE SCOPE

From the literature review, it is seen that, many authors had been proposed different kind of vending machines using various processors. The drawback of using those methodology is progress the limitations of product, and time delay. Also few more than the drawback of not returning the exchange amount if the product cost is less than the coin to be inserted. Here we are proposed a vending machine that has a unique function of online payment by using a QR code. Inserting a coin, Also the proposed machines is using a feeds to compare to the coin inserted. For security purpose we use a fingerprint door lock system. The machine save all data base of per day selling products by using IOT so, this proposed methods provides better perform Compared to existing machines.

➢ **Advantages**

1. Cashless E payment and cash also.
2. Less man power easy to use.
3. For good health we use sanitizer system which from viruses and dust.
4. It takes per day products sell records with the help of IOT.

IV. REFERENCES

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