Vending Machine Based on digital Payment for dispensing Stationary items

Prof. Smt Usha Rani J[1], Rashmi M[2], Dheeksha Raj[3], Lakshmi H R[4], Tejashwini M S[5]
[1]Assistant professor, [2,3,4,5]Students
Department of Computer Science and Engineering, GSSS Institute of Engineering and Technology for Women, KRS Road, Metagali, Mysore-570016.

Abstract : The design of Automatic stationery vending machine. The Primary goal is to dispatch new Innovation applications in the public eye. Vending machines that dispense different types of products. Here we use a servo motor to dispense the item along with Raspberry Pi. To overcome the physical cash we are building a digital payment based on QR code (paytm UPI).The customer can select the product before scanning the QR code. After the successful payment customer will receive the Email from paytm Application and Cloud Servers receive confirmation Email and matches the pattern. After all this payment process the particular servo motor will rotate and dispense the item.

Keyword: Raspberry Pi, Servo motor, LED Lights, Payment through QR code.

I. INTRODUCTION

A Vending machine is an Automatic machine that sells different types of products like packaged sandwich's, chips, hot drinks, tickets, medicine etc.

The first modern coin operated vending machines was introduced in London in the early 1880's, it dispense postcards.

We have seen the importance and need of automations in which fields herewith we have applied the some concept to make stationery items dispenser. This proposed system deals in designing of and electronic device that will be connected to the internet to make it as an IOT device. An Embedded system based on stationery vending machine serves stationery items of your choice. The machine has capability to manage your inventory and provides the stationery items dispensed. This is the solution with integrated paytm QR code through Payment system.

II. OBJECTIVES

The main Objectives of this project are as follows:

1. To use the mechatronics principle and provide solution for the faster delivery of stationery item with digital payment based dispatch.

2. To reduce the wastage of time and the unnecessary crowd near the stationery shops, near educational institutions, during examination season would be avoided.

3. To monitor sales in order to identify which products are selling best or worst to help to increase sales.

III. LITERATURE SURVEY

3.1 "Stationery Vending Machine – IJISET, vol-1, Issue-9, November-2014."

This Proposed System a Microcontroller based Stationery Vending Machine that Dispense the A4 sheet, pencil, pen, etc,. for payment process this system uses a metal coil which when is ordered rotates to release the product using RFID card, once the RFID card is read the customer can select this required item after the RFID card is scanned and item may become available by the machine releasing it.

3.2 "Architecture of Beverage Vending Machine – IJACEN, vol-2, Issue-8, Aug-2014"

This Proposed System ATM Card is the primary required for ordering the Beverage. This Machine Accompanies the request for ATM card number along with the request for PIN, once the PIN has been validated by the financial institution, after this Beverage ordered is debited from the Customer account. Finally Beverage being served to the Customer.

3.3 "Automatic Paper Vending Machine – IJSETR, vol-4, Issue-4. April-2015"

This proposed system design and fabricate an automatic paper vending machine, the payment setup is arranged in such a way that one sheet of paper would be delivered when a one Rupee(Indian Rupees-INR) is inserted, And two sheets of paper would be delivered when a two Rupees is inserted. After coin is inserted to machine delivers the paper when a customer asks for the number of papers, by using IOT devices and microcontrollers based on the mechatronics principles.

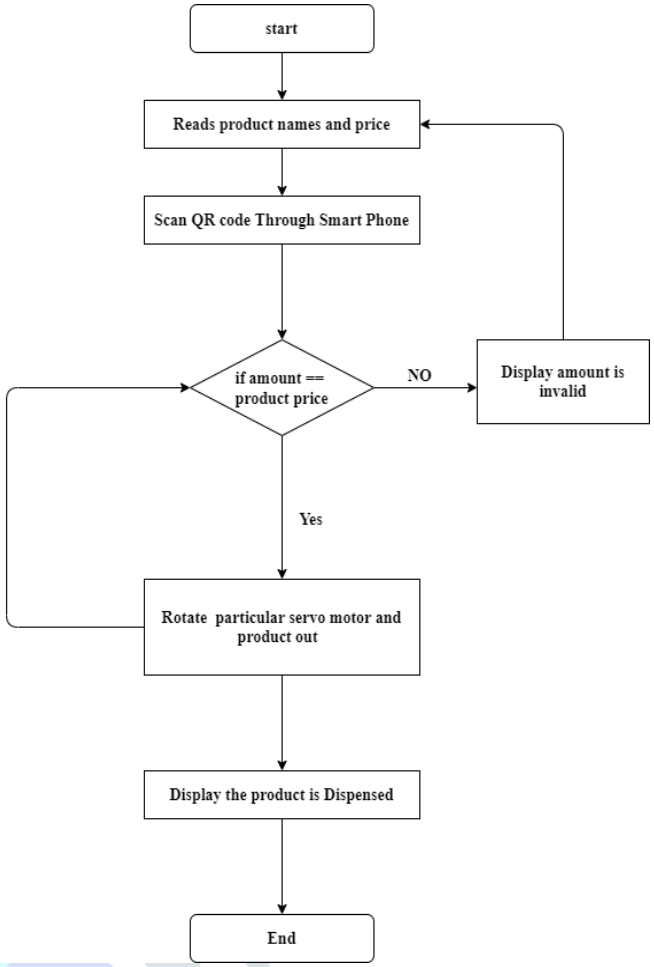
3.4 "A Review Paper on IOT Based Coffee Vending Machine – IJARCCE, vol-6, Issue-10, October-2017"

In this Coffee Vending Machine based on the technology of internet of things and its remote management system. This proposed system is designed in such a way that a customer can order his coffee via a mobile app. It provides Authentication of the customer using RFID reader. This design not only makes the Beverage sales and supply information available, it can survey this information into Cloud Database through WIFI as well.

3.5 "Automatic Chocolate Vending machine – ICACCS, Issue-2019"

This Proposed System sales different types of Chocolates. Here they used RFID card along with Arduino Uno, The external devises such as keypad, stepper motor, display can be connected through the various pins on the Arduino Uno. The Stepper motor is connected to the spiral ring, those chocolates are inserted in the ring, Finally the Product can be selected and then the motor rotates to deliver the product.

IV. METHADOLOGY



V. EXISTING SYSTEM

In this preceding stationery vending machine, the microcontroller is used for whole process and coding is also complex cause the program is written based on C-complier.and for payment process used coin sensor, by inserting fake coin with the material of same density and size. then the coin sensor automatically accepts the coin and the item can be delivered to the end user, this is major drawback of this existing system.

VI. PROPOSED SYSTEM

The proposed stationery vending machine has three units which is interact with each item dispenser.

1. The cashless payment provided by the QR code in the first unit.

2. In second unit, Raspberry pi is act as main processor, is executed the programming section using python complier.

3. Finally the machine delivers the product and display the successful information on LCD display.

VII. CONCLUSION

From this idea we have decide that, The Automatic stationery Vending machine delivers different miscellaneous of items available at any time through scanning the QR code. The particular QR code resembles the kind of payments wallets like Google pay, Phone pay etc. the machine can be implemented in the Scholl, College, Shopping Malls etc. This is machine is time saving, portable, dense and consumes less power so that this machine is used everywhere in this digital world.

VIII. REFERENCE

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