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A Research on ChocolateVending Machine

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Abstract: ***This paper proposes the planning of Automatic chocolate slot machine. The first purpose of the thought is to dispatch new innovation application within the spotlight. Slot machine that sales completely different sort of merchandise. Here we have a tendency to uses frequency Identification (RFID) beside Arduino, to beat the coin primarily based slot machine that doesn't came back the balance quantity if no modification out there. This paper includes chocolate dispensing machines that are an integrated system. The most objective of our project is to launch new technology application in society. This machine will operate by UPI also as card so as to dispense needed quantity Chocolate. This technique is predicated on RFID card and UPI payment system during which if any card or UPI payment is detected then chocolate can get distributed from the nozzle betting on choice of chocolate. It aims at advanced management of the complete chocolate slot machine antecedently used. The machine is also accustomed dispense chocolate into container; such chocolate-dispensing machine are helpful in any places like railway stations, bus depots, public areas, colleges, huge establishments, government offices, courts, holy places, hospitals, etc. and particularly in extremely inhabited countries.***

Keywords: RFID tag, chocolate management, UPI payment, DC motor, Raspberry Pi, vending machine.

I. INTRODUCTION

A coin machine is an automatic machine that gives vending of things one at a time like snacks, beverages, lottery tickets to customers once cash, a MasterCard, or specially designed card is inserted into the machine. The first modern merchandising machines were developed in European country within the early 1880s and distributed postcards. Merchandising machines exist in several countries, and in additional recent times, specialized vending machines that offer fewer common merchandise compared to ancient coin machine things are created and provided to customers. As the coin machine business speedily moves forward, so do the payment systems on the market. Money is changing into a issue of the past and cashless merchandising could be a growing trend in merchandising machines. Cashless technology allows the patron to use their MasterCard, visa or yank categorical cards to create a purchase from a coin machine using credit or debit cards.

This type of cashless merchandising technology doesn't need any human efforts and so creates a fast and straightforward experience for the patron on the go. Today's intelligent merchandising machines supply tremendous opportunities for business transformation through the net of things (iot) and cloud-based technologies. Coin machine homeowners and operators will foresee to more practical ways in which to interact customers, increase sales, and save cash through remote management and prognosticative maintenance.

Advanced information analytics helps them higher match machines and stock to every location, still as acquire valuable insights on the effectiveness of promotions, pricing, location, weather, season, and alternative factors. The implementation of IoT primarily based coin machine helps the client to dispense the chocolate. Simply ought to choose the kind they need and just click on button and dispense chocolate. The amount of product is unendingly monitored and before they get empty in the machine. The notification alert is send to the concerned department to fill the specified chocolate. During this paper we tend to additionally used RFID cards for money less payment. In an intelligent coin machine, the client will organize things employing a personal organizer while not having to figure with the confectionery machine. Reckoning the diplomacy of a machine will increase the unpredictability consequently.

Because the value of sensors continues to decrease, it's vital to equip a complete workplace with sensors in each rack, in each area or in each winding. Additionally, programming forms and configurations need regular updates. These concerns arouse the interest of outlets who wish to modernize existing confectionery machines for the globe nowadays. The main objective of our project is to launch new technology application in society. This machine will operate by UPI as well as card so as to dispense needed quantity chocolate.

This technique relies on RFID card and UPI payment system in which if any card or UPI payment is detected then chocolate can get distributed from the nozzle betting on choice of chocolate. It aims at advanced management of the complete chocolate coin machine antecedently used.

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II. REVIEW OF LITERATURE

1) V. Kanagasabapathi, K. Naveenraj, V. Neelavarnan, S. Naveen Raj, "Automatic chocolate vending machine", 5thInternational Conference on Advanced Computing & Communication Systems (ICACCS), IEEE, 2019
This paper proposes the planning of Automatic chocolate coin machine. The first purpose of the thought is to dispatch new innovation application within the limelight. Coin machine that sales totally different sort of merchandise. Here we tend to uses oftenness Identification (RFID) at the side of Arduino, to beat the coin primarily based coin machinethat doesn't came back the balance quantity if no modification on the market. The client will choose the merchandise before the RFID is browse, when card is scanned the merchandise are often collected at the chocolate collector. There square measure 3 units square measure gift within the machine, the cashless payment provided by the RFID within the first unit. In second unit, Arduino UNO dead the programming section and eventually, the machine delivers the merchandise and shows the data on the display. This paper created resolution to the machine that don't returns the balance quantity in an exceedingly coin primarily based coin machine.

2) Prof. S. S. Desai, Sayali Maruti Jadhav, Priya Shivaji Patil, Giri Neeta Sambhaji, "Automatic Chocolate Vending Machine By Using Arduino Uno", International Journal of Innovative Research in Computer Science & Technology (IJIRCST), Volume 5, Issue 2, March-2017
This paper proposes the look of Automatic vending machine. The most objective of our project is to launch new technology application in society. This can be Arduino based slot machine that sales completely different variety of chocolates from machine. This paper arrange to give answer in coin based slot machine that isn't came back the quantity of money that's no any amendment from machine. The set up is to use Radio frequency Identification in conjunction with Arduino. Once RFID is to be scan then User will choose the merchandise once card is scanned and collects the merchandise at output unit. There are three halfs; 1st part is scanning of RFID card that provides cashless payment. The second is programming unit which is enforced using arduino. The third half is show information and deliver product at output. This paper attempt to give answer on coin based mostly slot machine which isn't returning the cash.

3) S Dour, R Shukla, D Makwana, N Satuluri, L Mahiwal , "Vending Machine Using 8051 Micro Controller", IJARSE. INC., vol. 6, no. 05, May 2017
This projected System sales differing types of Chocolates. Here they used RFID card together with Arduino Uno, The external devises like data input device, stepper motor, show may be connected through the assorted pins on the Arduino Uno. The Stepper motor is connected to the spiral ring, those chocolates area unit inserted within the ring, Finallythe merchandise may be selected then the motor rotates to deliver the merchandise. This paper plan to offer answer in coinbased mostly coin machine that isn't came the number of cash that's no any modification from machine. The set up is to use frequency Identification and UPI together with raspberry pi. Once RFID is to be scan then User will choose the merchandise once card is scanned and collects the merchandise at output unit. Additionally user pays mistreatment Qr scan code via UPI application and dispense the merchandise.

III. METHODOLOGY

Our main objective behind Health ATM is to form convenience of chocolate a one stop resolution to a client for many of the look issues and additionally to attach individuals with style and flavor of various chocolate in a very higher, modernize, simplified, simple and correct method. It's kind of like associate degree ATM through that we have a tendency to get the specified cash at any time & anyplace. A similar system is followed for the chocolate additionally. The fundamental theme of this project involves dispensing of chocolate as per the user's necessities. A keypads used as associate degree input device, then it's forwarded to the raspberry pi for process and for taking the specified choices so as to proceed forward. The raspberry pi, with the assistance of the motor drivers, drives the involved medicine chest having the chocolate that the user desires. These motor drivers management the rotation of the motor that dispenses chocolate from the chocolate cupboard. The motor rotates the spring connected to that, that incorporates a cavity below it. The chocolate falls and arrives at the outlet of that cavity. Thus, the chocolate dispensing operate is totally controlled by the motor drivers. The user will then acquire the chocolate from the outlet. And every one the required sensors for the fundamental check-ups ar placed connected to the machine.

The main motive of making such ATM is to use them at places like hostels, airports, railways and rural areas wherever individuals will select any needed chocolate for youths. This device is been functioned by the user who is in would like of chocolate. This device consists of chocolate, chocolate, bittersweet chocolate, bittersweet Chocolate, dark chocolate, sugarless Chocolate (or Baking Chocolate) chocolate, Sweet German Chocolate.

IV. WORKING PRINCIPLE

Our main objective behind Health ATM is to form handiness of chocolate a one stop resolution to a client for many of the look issues and conjointly to attach individuals with style and flavor of various chocolate in an exceedingly higher, modernize, simplified, straightforward and correct method. it's like associate degree ATM through that we have a tendency to get the desired cash at any time & anywhere. an equivalent system is followed for the chocolate conjointly.the fundamental theme of this project involves dispensing of chocolate as per the user's needs. A keypadis used as an input sensing element, then it's forwarded to the RaspberryPI for process and for taking the desired choices so as to proceed forward. The RaspberryPI, with the assistance of the motor drivers, drives the involved cabinet having the chocolate that the user desires.

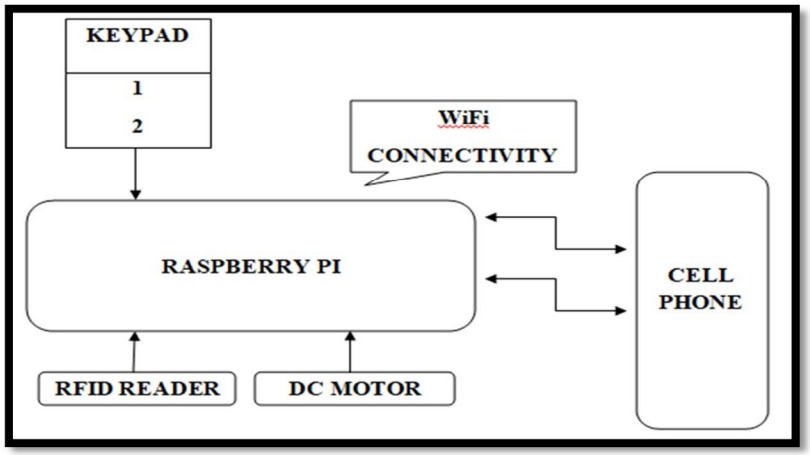


Figure 1: Proposed System

These motor drivers management the rotation of the motor that dispenses chocolate from the chocolate cupboard. The motor rotates the spring hooked up thereto, that encompasses a cavity below it. The chocolate falls and arrives at the outlet of that cavity. Thus, the chocolate dispensing perform is totally controlled by the motor drivers. The user will then obtain the chocolate from the outlet. and every one the required sensors for the fundamental check-ups are placed connected to the machine. The main motive of making such ATM is to use them at places like hostels, airports, railways and rural areas wherever individuals will select any needed chocolate for youths. This device is been functioned by the user who is in would like of chocolate. This device consists of chocolate, chocolate, chocolate, bittersweet Chocolate, dark chocolate, sugarless Chocolate (or Baking Chocolate) chocolate, Sweet German Chocolate.

V. RESULT

For our experiment of Automatic Chocolate slot machine we've thought-about three totally different RFID cards having different serial variety for every card. If one among the cardboard is to be find by RFID reader then user name with their account balance is displayed on digital display screen and at that time 3 product with corresponding prize is displayed on digital display screen. If the user choose one among the merchandise then it'll be obtainable to user at the output of slot machine. This automatic chocolate slot machine provide form of product still as many alternative styles of payment possibility. Within the recent time use of digital is increasing day by day because of their accuracy and practicability. Because of time saving feature folks will use slot machine in busy space like airfield, bank, office, etc. By using the IOT simple to keep up the involved department and counts of chocolate. This method is transportable, affordable, consumes less power and will be created simply obtainable in order that the user can uses this method whenever and no matter.

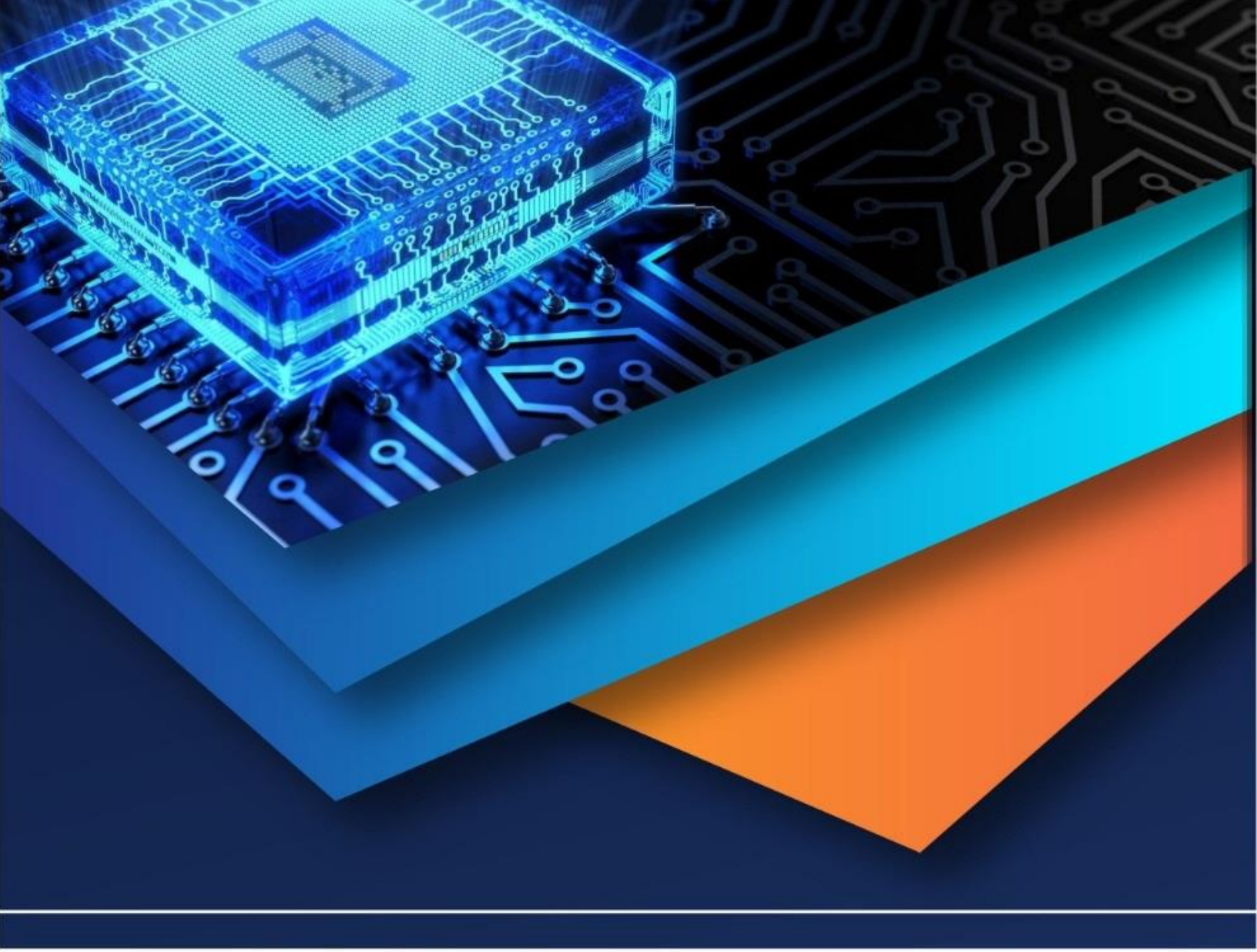
VI. CONCLUSION

In the recent time use of digital is increasing day by day their accuracy and feasibility. This technique is time saving, portable, affordable, consumes less power can and should be created merely accessible so as that the user will use this technique whenever and wherever. Within the contests of world of us area unit most busy. They have no time to discount for getting one thing. Helpful to the time saving of our coin machine of us can use this device in busy house like landing field, Bank and workplace etc. Consistent with approved person dispense the user demand beverages like low or tea additionally solely predicament. For approved person used RFID card with RFID reader. This method is additional possible to avoid wasting precious time of human life. All area unit functions area unit betting on user preferences.

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