

Performance evaluation of Programmed Orange Juice Vending Machine

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Abstract:

The viewpoints are 3 ft. level and 1.5 ft. in width and 1.5 ft. length. The two rollers and three edges are used to dispose of the juice from orange. A DC motors are used to drive the roller and sharp edges and IR sensor sense the coin which we implant in the coin expansion box. The sharp edges are used for the cutting justification for orange. The two DC motors are used for turning the edges and roller. In this machine doesn't anticipated that some other stuff should pressing movement, for extraction of crushed orange. Two edges are fitted agreed with each other and one edge underneath the equivalent sharp edge, due to this pressing movement can achieve capably. The ability of roller in this machine it can isolate juice from small amounts of orange which squash by edges. The normally worked mechanical unit includes several motors, moves, roller and bleeding edges. The stuff bundling was assembled using 2mm thickness of delicate steel sheet. The electronic parts include the control unit, sensor and moves. The 3 motors are attached with L293D motor driver IC which is obliged by 8051 microcontroller. The sensor is used for the noticing the PH of juice.

Expressions: Vending Machine and system, DC motors, microcontroller, Rotating wheel

I. Introduction

Modified Orange Juice Vending Machine is the groundbreaking plan to sell the Fresh, ordinary Juice to the client with close to no tremendous cost. The oranges are most notable natural items for juice reason orange regular item is a particular kind of berry contain L-ascorbic corrosive'. Oranges are used for building and stay aware of immunity. It contains a couple of normal acids like citrus remove and various parts; which give it an unquestionable flavor; and high proportions of supplements A, B and C. It gives originality and energy for humanbody.

The structure start with various parts anyway it contain basic controller part which controls the movement of machine Automatic pressed orange machine give extraordinary juice to the client with less effort. Client need to implant coin in the expansion box, IR sensor the coin and working of dispersing start. It gives fix measure of juice to the client i.e a glass. Ph and temperature sensor is used for showing the sharpness and alkalinity of the juice it gives data to client. The machine can move beginning with one spot then onto the following with for all intents and purposes no work. Adequacy of machine is extraordinary difference with other machine.

II. Material And Stages

- Stages
 1. First Stage: Manual operation
 2. Second Stage: Orange rotating wheel
 3. Third stage: Cutting movement and variety of juice inbox

- Material
 1. Microcontroller 8051
 2. Motor Driver ICL293D

III. Process Methodology

1. **First Stage:** Manual operation
 - a) Switch on power. Insert coin., IR sensor sense coin., Place orange in the orange tray, Rotating wheel start.
2. **Second Stage:** Orange rotating wheel
 - a) Rotating wheel accumulate the orange at express time stretch which is set in microcontroller program.

3. **Third stage:** Cutting action and arrangement of juice inbox

- a) Crusher accumulate oranges from spinner to divide orange in little pieces.
- b) Roller press the pieces at high strain due to this crushed orange stream from the pressed orange plate and assemble in box.
- c) Roller and Crusher is the center of the system.

A. IR Sensor:

IR Sensor is used as a coin identifier. Exactly when we implant the coin in coin expansion box. It distinguishes the coin due to advance in electromagnetic radiation. Its functioning voltage is 5v.

B. PH and Temperature Sensor:

PH and Temperature sensor is used for measuring (monitoring) pH and temperature of crushed orange.

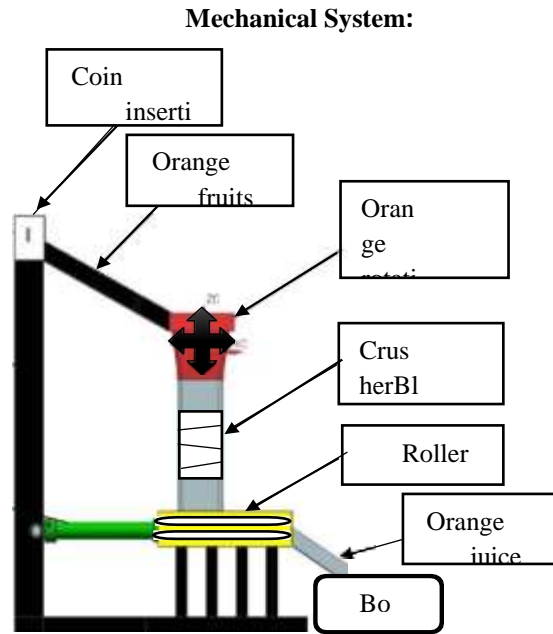


Figure3: mechanical Diagram vending machine

IV. Conclusion

In this system, we present a quick customized sweets machine which have some command over the movement of crushed orange. To execute the structure we encourage a sensor and DC motor mix which contains a rollers, motors, sensors, and controllers. The past is presented in the machine and the later helps out a client. By the application, a client characterizes the cleaning status of the machine as well as information sources his/her own tendency on the kind of juice. The viability of the system is more as because of DC motor which is related with the stuff get together. The influence disaster is less. The Time expected for the juice is least and it is more significant.

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