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A Review on Automatic Sanitizer Dispenser

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ABSTRACT: This is review paper on automatic sanitizer dispenser. Sanitizing our hands are important to reduce and stop spreading COVID-19. As touching the sanitizer container is not safe, there is a need for Automatic Sanitizer dispenser. Touch-less Programmed sanitizer completely has been combined with an inbuilt Ultrasonic sensor that detects our hands when we put under the dispenser and administers the fluid sanitizer. Additionally the proposed unit gives the required correct amount of spillage and gets prepare for next operation rapidly within 4 seconds of time duration. We can use this type of automatic hand sanitizer dispenser at many places like hospitals, shopping centers, offices, workshops and in industries.

KEYWORDS: COVID-19; Automatic hand Sanitizer dispenser, sensor.

I.INTRODUCTION

Demand of the hand sanitizers are increased as the corona virus is spread around world. Alcohol based hand sanitizers are usually applied on the hand by squirting the sanitizer liquid or gel when press a pump with one hand. This causes many people came into a contact with the handle of pump, which increase the chance or risk of viral transmission. Virus are spread through skin to skin contact or from some distance. In current situation as per the information from world health organization that keep our hands sanitized time to time because it is necessary. Thus the physical touch to the container which doesn't fulfill the purpose of social distance.

Therefore by using ultrasonic sensor movement, automatic hand sanitizer are gives better solution for hygienic hand cleanliness as possible. An automatic hand sanitizer machine can be install in any area and effortlessly moved when it required.

II.LITERATURE SURVEY

R. Monina Klevens, et al., used a multi-step approach and three data sources. The main source of data was the National Nosocomial Infections Surveillance (NNIS) system, data from 1990–2002, conducted by the Centers for Disease Control and Prevention. Information from the National Hospital Discharge Survey (for 2002) and the American Hospital Association.

Rakshith L, Department of Electronics and Telecommunication Engineering, SSIT, SSAHE, Tumkur-572105. This project focus on the proximity sensor based automatic sanitizer dispenser which reduce the human contact. The best application of this type of dispensers are used at public places where the social distancing and hygiene is important.

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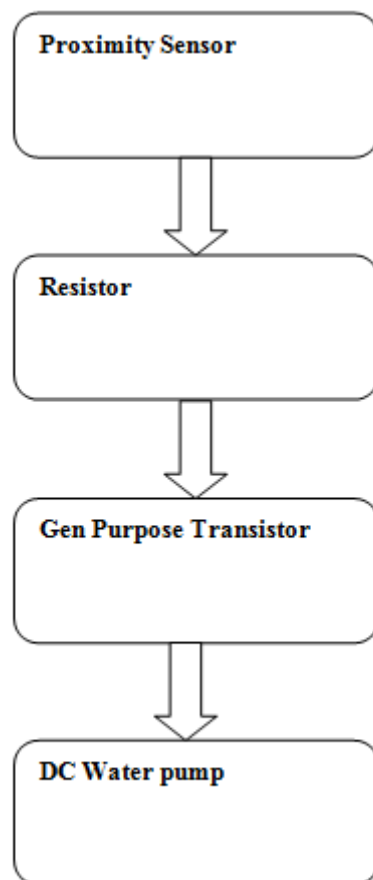


hygiene is important.

Akshay Sharma A S Student, Department of Electronics and Communication Engineering, Vidyavardhaka College of Engineering Mysore, India. The alcohol based hand sanitizers are more effective than soaps, and also easy to use. The paper also says that non contact dispensing is again important to prevent pathogen spreading and finally, hand hygiene is most important and must be part of our daily life.

III.PROPOSED BLOCK DIAGRAM

In first the IR proximity sensor detect or sense the physical object like our hand and turn the OUT pin LOW. When the out pin goes low it turn on the PNP transistor and pump also become start. Between the base of transistor and the sensor OUT, 1k resistor is connected which helps the transistor from burn out.



Block Fig. 1 Diagram for components

IV.PROPOSED SYSTEM DEVELOPMENT

1. Proximity sensor:- A proximity sensor often emits an electromagnetic field or a beam of electromagnetic radiation (infrared, for instance), and looks for changes in the field or return signal. The object being sensed is often referred to as the proximity sensor's target. Different proximity sensor targets demand different sensors. For example, a capacitive proximity sensor or photoelectric sensor.

Proximity sensors can have a high reliability and long functional life because of the absence of mechanical parts and lack of physical contact between the sensor and the sensed object.



2. TIP32 C PNP transistor:-TIP32 C is a three layer PNP device within the working range, the collector current I_C is a function of the base current I_B , a change in the base current giving a corresponding amplified change in the collector current for a given collector emitter voltage V_{CE} .

Features:-

- Low saturation voltage.
- Simple drive requirements.
- High safe operating area.
- For low distortion complementary designs.
- Easy to carry and handle.

3. Mini submersible water pump:-

DC 3-6 V Mini Micro Submersible Water Pump is a low cost, small size Submersible Pump Motor which can be operated from a 2.5 ~ 6V power supply. It can take up to 120 liters per hour with a very low current consumption of 220mA. Just connect tube pipe to the motor outlet, submerge it in water and power it.

Make sure that the water level is always higher than the motor. The dry run may damage the motor due to heating and it will also produce noise.

4. USB cable:- Universal Serial Bus (USB) is an industry standard that establishes specifications for cables and connectors and protocols for connection, communication and power supply (interfacing) between computers, peripherals and other computers and electronics gadgets or equipments.A broad variety of USB hardware exists, including eleven different connectors, of which USB-C is the most recent.

5. Resistor:- Resistors are common elements of electrical networks and electronic circuits and are ubiquitous in electronic equipment. Practical resistors as discrete components can be composed of various compounds and forms. Resistors are also implemented within integrated circuits.

V.PROPOSED ALGORITHM

The proposed algorithm is as shown in the Fig.2 below.

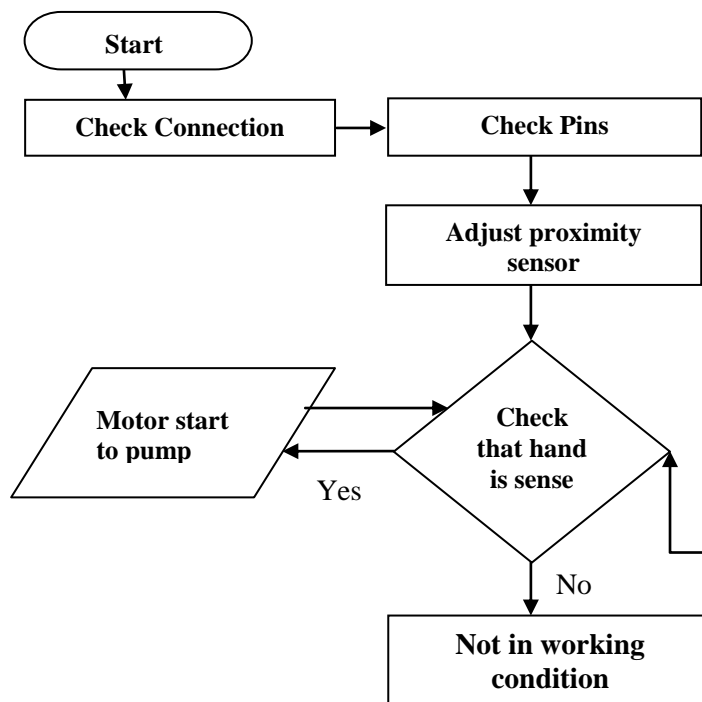


Fig. 2. Flow Chart for proposed method



VI.RESULTS AND DISCUSSIONS



Place your hands below the bottom of the dispenser at the middle



Dispenser becomes ready for the next person quickly within 4 seconds.

Actual circuit diagram shown in Fig.3 below.

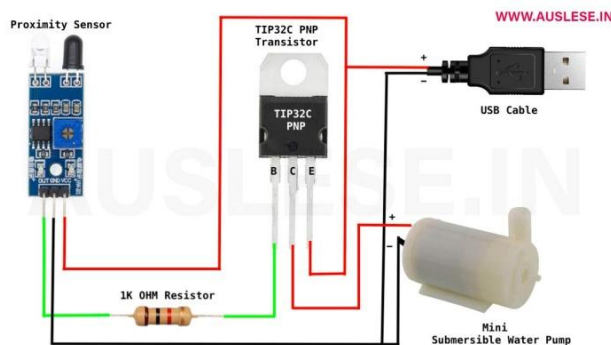


Fig.3 Actual circuit diagram

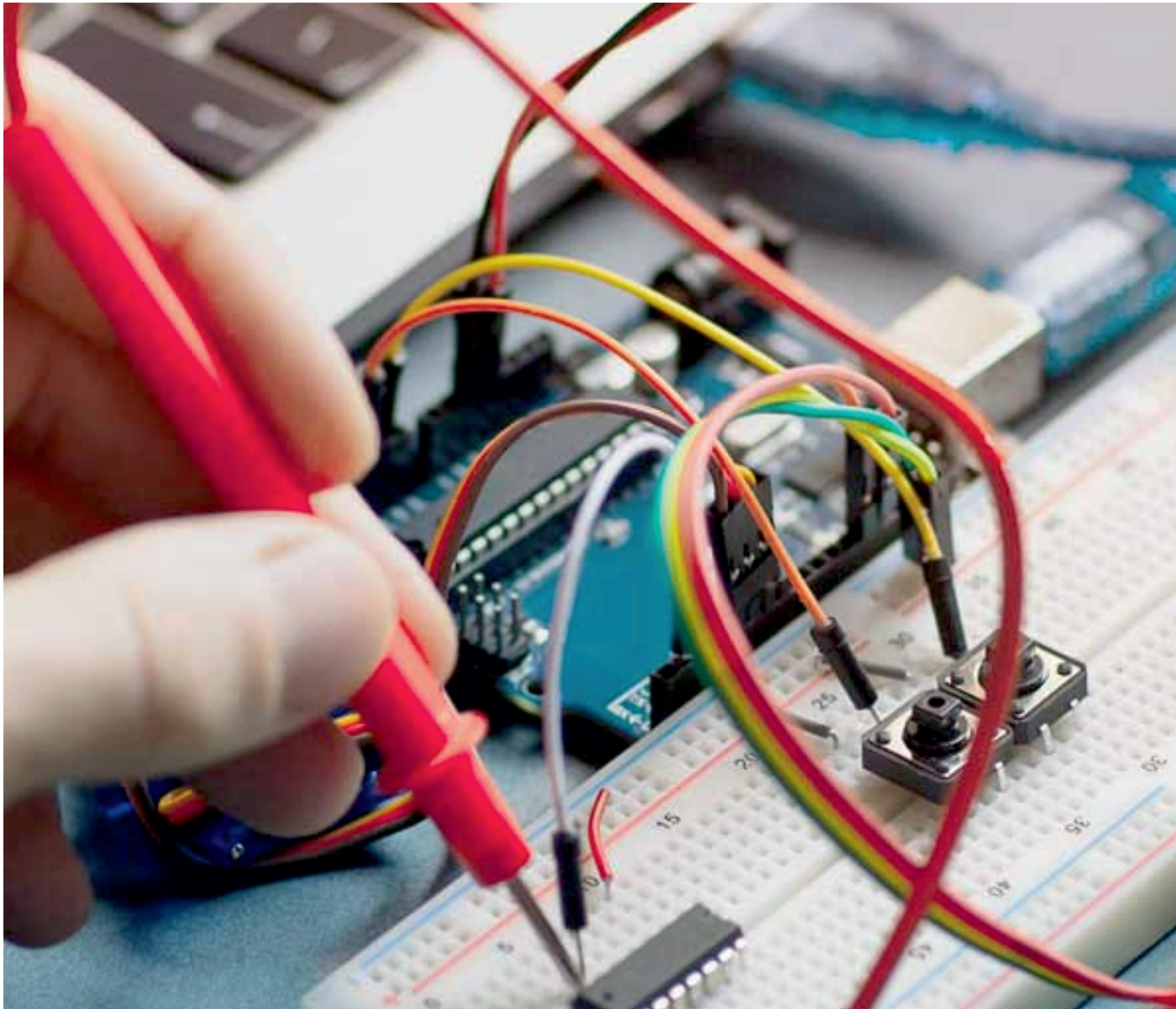
VII.CONCLUSION

The goal of this project is by using the latest or more efficient technologies the automatic hand sanitizer dispenser made by us. Also the process of refilling is easy and waste of disposals also reduced.

In the paper mension above, we conclude that the sanitizer which is made up of alcohol is always preferable than market soaps. As it is automatic sanitizer dispensing machine it is very easy to use rather than soap. It is non contact machine so there is no chances of spreading the germs and different viruses. As hand is very important part of our body through which germs are get contact with mouth so it should clean, so by the help of this machine we can maintain hygiene. Now a days in the affected atmosphere of COVID-19 it's very needy thing. We can mount it on the walls of public places easily.

REFERENCES

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