

A Novel Automatic Sanitizer Dispenser

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Abstract - Sanitizing hands are a must to forestall COVID-19. As squeezing the container spout is unhygienic, there is a need for Auto Sanitizer that will guarantee a legitimate cleanliness and wellbeing in broad daylight spaces which is better solution for industry plants, workplaces, emergency clinics, shopping centers, railroads, shops and homes. Touch-less Completely Programmed sanitizer has been proposed with an inbuilt Ultrasonic sensor (HC-SR04) that detects hands when put beneath the gadget and administers the fluid sanitizer. Additionally the proposed unit provides the required amount of spillage and gets prepared for the next action rapidly within 4 seconds of duration.

Keywords—COVID-19; Sanitizer.

I. INTRODUCTION

The hand sanitizer is an exceptional bit of late innovation during 19th century. Alcohol based hand sanitizers were developed during 1960's nevertheless increased broad prominence during 1990's the point at which a few influenza pandemics spread over the globe. The contaminations are spread principally through skin to skin contact. In this current situation of pandemic it is exhorted by WHO (world health organization) to keep up the healthy sanitizing habits, yet the fundamental issue is that the manner in which we do it, that is by the physical touch to the container which doesn't fulfill the purpose.

Therefore by utilizing ultrasonic sensor movement, automatic hand sanitizer can give better solution for hygienic hand cleanliness. An automatic hand sanitizer gadget can be set in any area and effortlessly moved when required.

II. LITERATURE SURVEY

John M. Boyce, M.D. and Didier Pittet, M.D talked about the significance of hand washing with individual cleanliness. For ages, hand washing with cleanser and water has been viewed as a proportion of individual cleanliness. The idea of purging hands with a germicide specialist most likely rose in the mid nineteenth century. As ahead of schedule as 1822, a French drug specialist exhibited that arrangements containing chlorides of lime or soft drink could destroy the foul smells related with human bodies and that such arrangements could be utilized as disinfectants and sterilizers. In a paper distributed in 1825, this drug specialist expressed that doctors and different people going to patients with infectious illnesses would profit by soaking their hands with a fluid chloride arrangement.

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

Survey (for 2000) were utilized to enhance NNIS information. The level of patients with a HAI whose passing was resolved to be caused or connected with the HAI from NNIS information was utilized to gauge the quantity of passing. (Sources from the American health bulletin)

III. PROPOSED BLOCK DIAGRAM

The Ultrasonic sensor has an echo and trig pins which are receiver and transmitter respectively, by the algorithms the sensor is adjusted to get trigger within the particular distance, when the hand is placed in the required distance, the sensor send the signals to the Arduino nano then the Arduino sends signal to the 5V relay board, which is triggered and activate the motor to pump sanitizer.

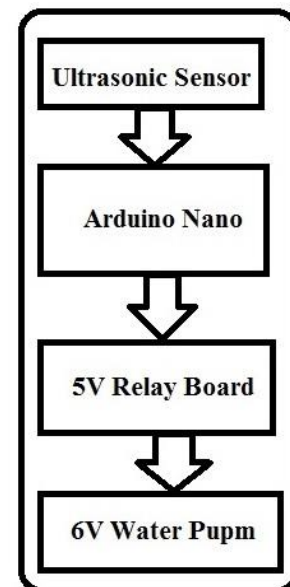


Fig. 1. Proposed Block Diagram

IV. PROPOSED ALGORITHM

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

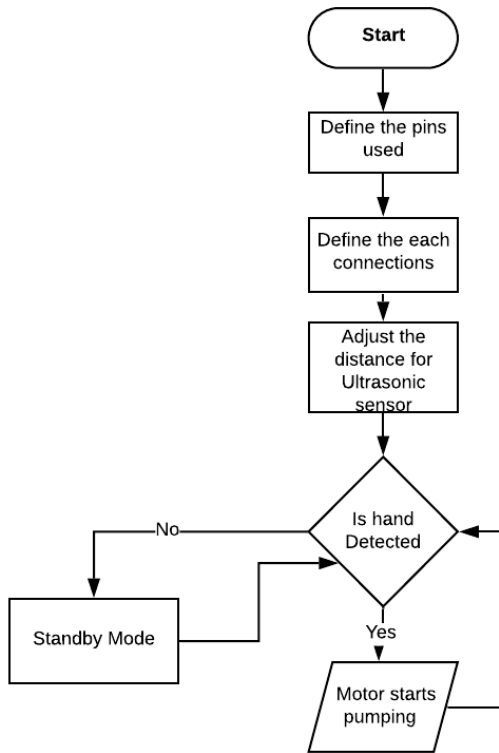


Fig. 2. Flow Chart of the proposed method

V. RESULTS AND DISCUSSIONS



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



Required quantity of the sanitizer gets pumped out of the sanitizer tank



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

VI. CONCLUSION

The utmost goal of this project was to use current advanced technologies to develop an Automatic hand sanitizing machine to improve hygiene and prevent the infectious viruses entering our body.

Automatic hand sanitizers are priced less when compared to any other hand sanitizing tools or dispensers. At the same time it is environment friendly as because the disposable wastage is very minimal, since it can be refilled easily without any technical assistance. These automatic hand sanitizer machines are developed keeping in mind about its affordability by underprivileged sections of the society as it can be purchased by lower income groups in pursuit of their well being and also they are easily available and can be used by everyone without any hassle.

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