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Radio Frequency Identification (RFID) Door with Contactless Sanitizer

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ABSTRACT: The paper presents a layout of a relatively inexpensive Wireless security based applications have rapidly increased due to the dramatic improvement of modern technologies. Many access control systems were designed and implemented based on different types of wireless communication technologies by different people. Radio Frequency Identification (RFID) is a contactless technology that is widely used in several industries for tasks like access control system, as well as An automatic body sanitizer dispensing machine is automated. According to the **WHO**(world health organization) guidelines it is highly suggested to maintain a social distance and healthy hand wash/ sanitation habits.to prevent from corona. So the main objective of this project is to enhance the security, and to lower down the transitivity of corona virus.

KEYWORDS: Modern technologies; Enhance security; lower down the transitivity.

I. INTRODUCTION

The need for an advanced door lock security systems using new technologies is increases day by day as security become a very important or serious issue for everybody. Due to the recent trends in various methods of security for home, buildings, companies" vehicles etc. there is no need to worry about this security any longer, as automatic security systems are here to deal with it. This paper tries to focus all recent door lock security systems in a comprehensive way. These types of security systems used for digital door lock are utilizing inactive RFID tags(passive). With the help of this, it ensures that only valid person can get entry. These system work in real time basic for opening the door in which the RFID detector detects the user tag and then the entry way gates are opened simultaneously the user data is stored in the central service. By using such type of system attendance and personal tracking is achieved These systems only permits the people that are authorized in the security system access. This system ought to have the capacity to minimize the trained or specialized human error during secured door access as well as the hand sanitizer is an exceptional bit of late innovation during 19th century. In late 1960's during which few influenza pandemics where spread over the globe, alchohol based hand sanitizer where invented. Then the measure reason behind the contamination was principally through skin-to-skin contact. In the current pandemic situation according to **WHO** (world healthorganization) regulations it is binding to have a healthy sanitizing habits,yet the major issue is we do it with physical touch instead it can be done in a contactless manner. An automatic hand sanitizer can be set in the premises of work which is portable and contactless for the user.The Gadget setup uses ultrasonic sensors for movement detection of the users and further sprinkles the sanitizer on the human body as per the set time is the central system.

II. RFID METHODOLOGY

The algorithm aims to accurately detects the access card of the card holder and opens the door and simultaneously an automatic body sanitizer dispensing machine will be automated.Central database system which can be applied in three spaces that includes same or different part of offices, School, Colleges, Hotels etc. This system uses both software as well as hardware. The hardware components are RFID reader, tags, USB connections and connecting cables etc. In

addition we have used actuator (stepper motor for this purpose). The implementation of a digital security system contains door lock system using passive RFID. A centralized system is being deployed for controlling and transaction operations. The door locking system functions in real time as when the user put the tag in contact with the reader, automatically the door open and automatic body sanitizer dispensing machine gets activate and spreads the sanitizer on the body with the help of using arduino and by that time the Central server stores the information of the user while the process of check-in. With the help of RFID technology we can keep an secure access of the users in the space
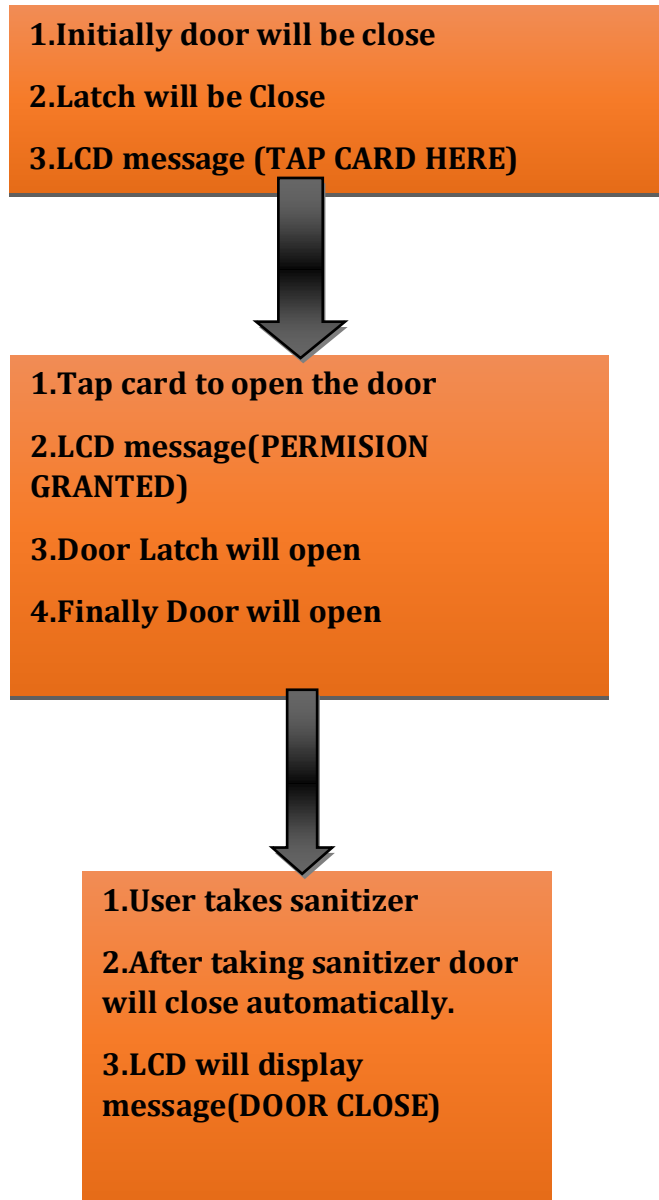
III. **3D MODEL VIEW**
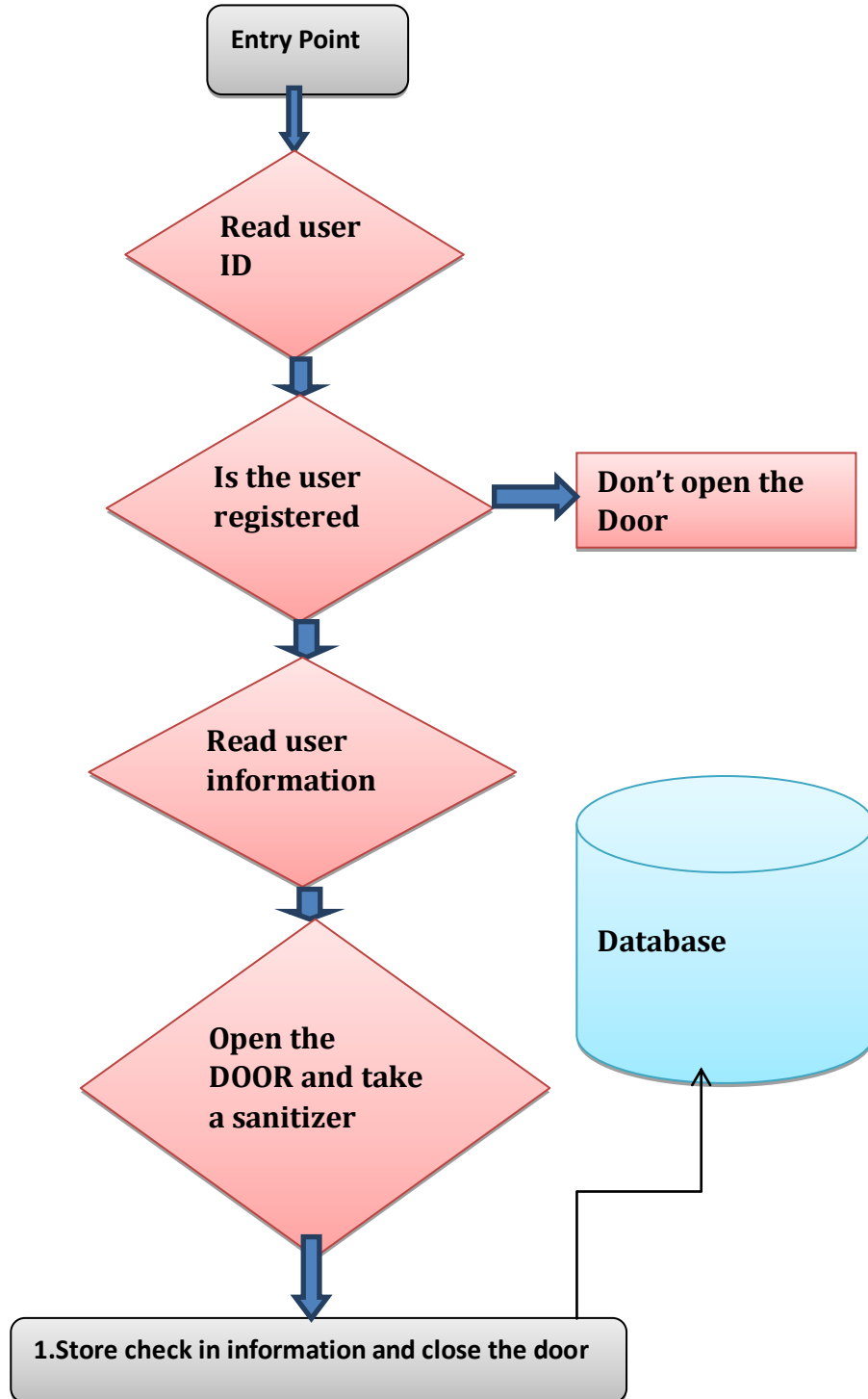
Fig1-:Front View of model

Fig2-:Back view of model
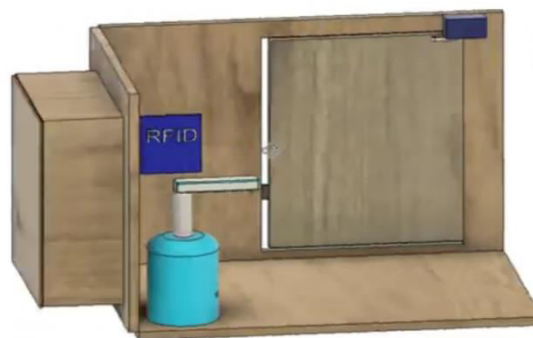
At the initial stage the door of the model will be closed as shown in Fig1.At the front the model has one LCD display which shows the Message "Tap card here" i.e. when user will tap the card then it will give signal to server motor which will open the latch of the door and grant permission to user to enter. After entering the user have to place the hand under the sanitizer it will automatically dispense sanitizer and then only the door will close automatically.

1.Initially door will be close

2.Latch will be Close

3.LCD message (TAP CARD HERE)

1.Tap card to open the door

2.LCD message(PERMISION GRANTED)

3.Door Latch will open

4.Finally Door will open

1.User takes sanitizer

2.After taking sanitizer door will close automatically.

3.LCD will display message(DOOR CLOSE)

IV. **ARCHITECTURAL STRUCTURE**

V. RESULT AND DISCUSSIONS

In this study, we have implemented Radio frequency identification gateway which will avoid physical contact with door and sanitizer in which the sanitizing machine will fully automatically automated with the help of using ultra sonic sensor which will detect the object and dispense the sanitizer and can have safe and secure entry .RFID cards provide better convenience and safety to the user as well as it provide data evaluations of performance also it enhances the security of the user as well as working place further leading for a better business for everyone. It is also proved as a cost effective way for the working system.This project aims to deliver automatic hand sanitizer machine with advanced technology to prevent health and improve hygiene and infectious viruses from entering into the body. Automatic hand sanitizers are budget-friendly as compare other sanitizing tools at the same time it is environmental friendly as it does not dispose wastage and without using any technical assistance it can be refilled easily.

VI. CONCLUSION

The need for an advanced door lock security systems using new technologies increases day by day as security become a very important or serious issue For everybody . Due to the recent trends in various methods of security for home, buildings, companies vehicles etc. there is no need to worry about this security any longer, as automatic security systems are here to deal with it. This paper tries to focus all recent door lock security systems in a comprehensive way as well as ,also to prevent from various diseases we are using contactless-sanitization with the RFID door lock system to provide secure and safe entry.

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