

Android based Smart Door Locking System

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Abstract- In today's scenario we are totally dependent on internet to help us. This preview discusses about the Cloud based device with the help of ESP8266 and Arduino. The main aim is to unlock electric door lock using smart phone which has android app which uses IoT.

Keywords: Arduino Uno, Android, BOLT IoT, Smart Phone.

I. INTRODUCTION

Android-based Smart Door Locking System is used to prevent unauthorized access and trespassing and intrusion. This System can be used anywhere ranging from Jewellery shops to Financial institutions as well as private homes. This Door locking system also is equipped with Smart Door Bell which will, in turn, make the entire system complete and secure. This system is made with a vision to make door locks smart with IoT so that one can unlock his/her home door from anywhere

This System works on the cloud provided by Bolt IoT. The Android app is connected to the cloud. Once the user unlocks the door from Android application a request will be sent over the cloud to unlock the door. The devices which are used are Bolt IoT Device(ESP8266[MOD]) and Arduino UNO R3. The Bolt Module will receive this request from the cloud and send a signal to Arduino which will, in turn, unlock the lock. Smart Door Bell is also used which is used when a person who is at the door rings the bell. The Bolt device will send information to the android application which will notify the user that someone is at the door. Also each Bolt device has unique API key which will make the system more secure.

II. LITERATURE REVIEW

Smart Key Door with Wireless Security System using RF Signal [3] and Door Locking System using RFID Technology [4] using different mechanism to lock and unlock the door namely RF identification card (RFID).

Both using PIC 16F87XA as a micro controller. Besides that, the Main Door Security System using SMS [5] propose the uses of Short Message Service Text Messaging (SMS) as a mechanism to control the system via mobile phone to lock and unlock the door. Rabbit Microprocessor is use as a micro controller to perform this operation. Face Recognition Based on Auto-Switching 978-1-4799-5686-9/14/\$31.00 ©2014 IEEE 227 E.I.S Saadon Pusat Pengajian Diploma, Universiti Tun Hussein Onn Malaysia Johor, Malaysia eddy@uthm.edu.my Magnetic Door Lock System using Microcontroller [6] use face recognition as a mechanism to lock and unlock the door.

Recently, lot of researches have been devoted to a technology-based home security and automation. Smart Key Door with Wireless Security System using RF Signal [3] and Door Locking System using RFID Technology [4] using different mechanism to lock and unlock the door namely RF identification card (RFID). Both using PIC 16F87XA as a micro controller. Besides that, the Main Door Security System using SMS [5] propose the uses of Short Message Service Text Messaging (SMS) as a mechanism to control the system via mobile phone to lock and unlock the door. Rabbit Microprocessor is use as a micro controller to perform this operation. Face Recognition Based on Auto-Switching 978-1-4799-5686-9/14/\$31.00 ©2014 IEEE 227

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Table 1 shows the system components and its purposes.

TABLE I. SYSTEM COMPONENTS

Component Name	Purpose
Arduino UNO	Receives signal from Bolt IoT device and unlocks the door lock via relay module.
Relay Module	It is responsible for completing the connection of solenoid lock and the power supply.
Bolt IoT Device	It is used for sending and receiving info to the cloud as well as Arduino UNO.

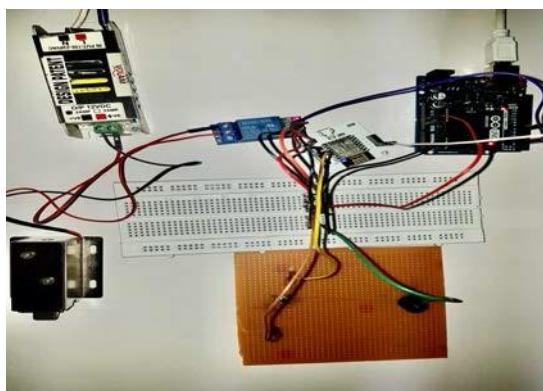


Fig. 4. System Representation

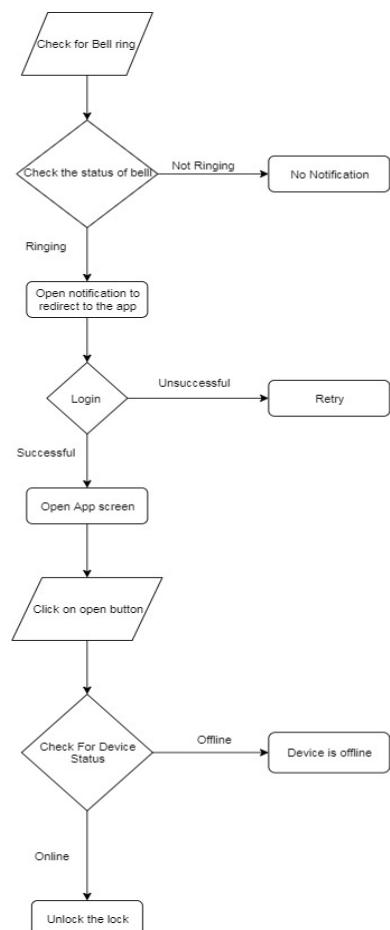


Fig. 5. Flowchart of Proposed Design

V. CONCLUSION

Thus “Android Operated Door Lock System” is a modern successor of the conventional door locking system. The conclusion of the discussion of Android Operated Door Lock using Bolt Cloud is the innovation created from lock system with no more direct contact between the user and the lock. This System is very cost-effective and easy to install. In conclusion, it was discovered that the project performed according to specification and can be implemented.

VI. FUTURE SCOPE

A rechargeable battery can be provided which can give power backup of 3-4hrs in case of power failure. Use of camera can also be done for surveillance. For further security, finger scanner, face recognition can be used. To avoid opening of door every time, voice conversation can also be done with the person on the other side of the door. If the user has smart home then it is possible to give access to the TV, Fan, Lights etc. through Mobile Application.

ACKNOWLEDGEMENT

We would like to thank MIT POLYTECHNIC Management and my guide for their valuable suggestion, constant support and encouragement.

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