iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 6 **Issue:** V **Month of publication:** May 2018

DOI: http://doi.org/10.22214/ijraset.2018.5230

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 6.887
Volume 6 Issue V, May 2018- Available at www.ijraset.com

Four Level Door Security Systems

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***Abstract*: Security gaining more and more importance in recent years. Door lock security has changed a lot from the last century and will be changing in coming years. The OTP and fingerprint based door lock security system is proposed to complement the drawbacks of the different security systems such as a digital door-lock and mechanical door-lock based system. The proposed method does not need user's help to get access to the facility but the user must have the registered mobile phone to get the OTP and it is also possible to unlock door if mobile phone is discharge. User has to first enter fingerprint for authentication, an OTP send to his registered mobile number and he has to enter that OTP to unlock the door. If above case fails, then the system asked 4 digit pin which is already register by user. If user fails to generate correct pin, then he has to answer a security question display on the screen. The proposed system can overcome the problems of loss or theft in conventional door lock security system**

***Keywords*: Four level security system,OTP Based security system, Door unlock security system ,Smart lock system.**

I. INTRODUCTION

1]Security represents protection of life and property. Ensuring safety of human being and also important things is quite essential to prevent unauthorized access. And hence mainly focusing on door lock security is very important to avoid the further problems in monitored area. Even with the use of mechanical locks, the crime, robberies get happen due to the fact that such locks are easily broken. So there is a need to invent other kind of locks which cannot be easily broken. Recently, digital door locks have been widely used in houses and offices.This work is on the design and construction of such a door lock with a keypad to be mounted on the door which can only access through OTP every time or fingerprint. Authentication claims user's identity, and currently ID/Password based authentication is most widely used. However, there is a big problem to verify user's identity with simple information. drawbacks to generate a password on each time. Is overcome by one-time password technology and access of door lock through fingerprint. first enter fingerprint for authentication, an OTP send to his registered mobile number and he has to enter that OTP to unlock the door. If above case fails, then the system asked 4 digit pin which is already registered by user. If user fails to generate correct pin, then the authentication is done by question tag. The proposed system can overcome the problems of lost or theft in conventional door lock security system.

[2] Security becomes an important aspect for everything. The earlier security systems were generally expensive very hard to monitor, for some systems man power is required and some are time consumed. In traditional intruder alarm system, the amount of alerts becomes unmanageable; however, our door lock security system offers more reliability. As a result, it is difficult to understand by user. Some are password based in which it was found that there may be possibilities of leaking or hacking of password. Some require internet connection due to this it may be complicated and expensive and also possibilities of internet range problem. To overcome all such problem smart lock system is developing which is based on fingerprint as well as OTP. Which will provide high accuracy by OTP and if mobile phone is discharge it is also possible to unlock door using fingerprint

II. BLOCK DIAGRAM

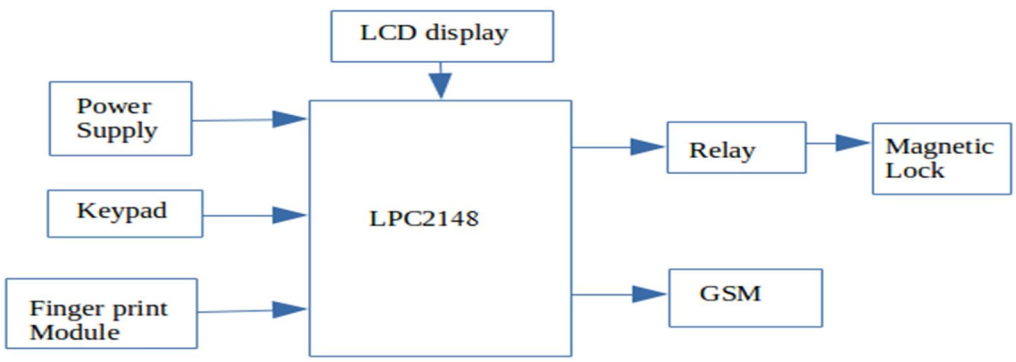


Fig.1. Block Diagram of proposed system

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ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 6.887
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III.BLOCK DIAGRAM DESCRIPTION

block diagram of locker system based on FINGERPRINT and GSM technology is shown in above fig. In this system when we want to open the locked door, user will scan the fingerprint then user will request to access the facility and the system will generate the OTP and send to user's mobile phone within a few second by the GSM model [SIM 800 C] then user will enter the OTP through 4x4 keypad on the door and door will open. Sometimes it may happen that user mobile will be switch off; specific delay will be given to the controller so that the controller would show another option that would be the PIN code which will be already register in the controller and even if for more better security if the PIN is also forget then authentication question tag will be asked which will be stored already the 15-character answer with numeric number is taken as the output for the question tag LCD [16x2] display is used to display the message of door lock and unlock condition.

Thus, we get a four-stage secure door unlock system using various stages. 1] Our proposed system overcomes all the security problems in existing system and provides high security and efficiency. This is a perfect/optimal solution for saving/protecting one from the hassle of stolen/lost key or an unauthorized entry. Fingerprint is a boon solution for these problems which provides high level of recognition accuracy. The skin which is on our hand and soles have pattern like flow of ridges called friction ridges. The pattern of friction ridges on each finger is unique and immutable. This makes fingerprint a unique identification for everyone. Fingerprint door lock incorporates the proven technology. Fingerprint scanner scans the fingerprints of users and used for ensuring authentication. Fingerprint scanning is more accurate and also duplication is not impossible. A Fingerprint recognition system can easily perform verification. In verification, the system compares an input fingerprint to the enrolled fingerprint of a specific user to determine if they are from the same finger. Now the security of our home/office is in our hands or rather on our fingertips.

OTP (One Time Password)This project is the next to the existing password protected security systems because in this project special feature of one-time password is added. When the fingerprint will be detected then the OTP will be generated. Following are some reasons which make this system this system strong. These few characteristics make the OTP a strong authentication protocol.The password is valid once and for a short time.

3]PIN generation is another option when the cell phone will be switch off then the OTP cannot be send to the user so for unlock the PIN which is a fixed no. Will be entered4] When the PIN code will not be match then there will be another option of the question which may consist of a question which is answered only by the authorized person e.g. 'Birth date'

IV. RESULT



fig.(1) Hardware system

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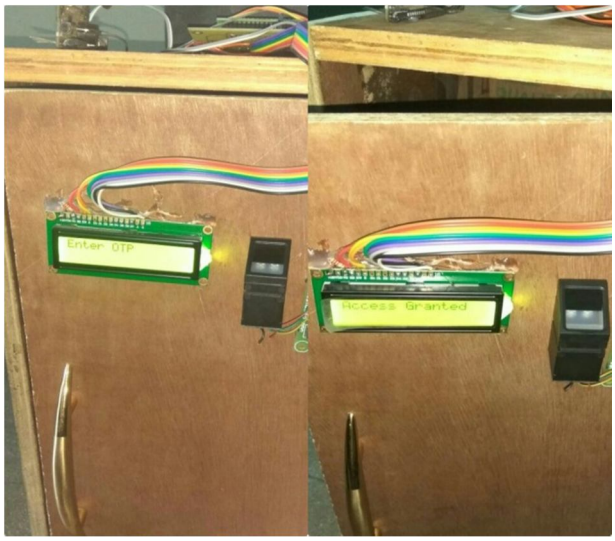


fig.(2) OTP Access



fig.(3) :-PIN Access



fig.(4) :-DOB Access

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V. CONCLUSION

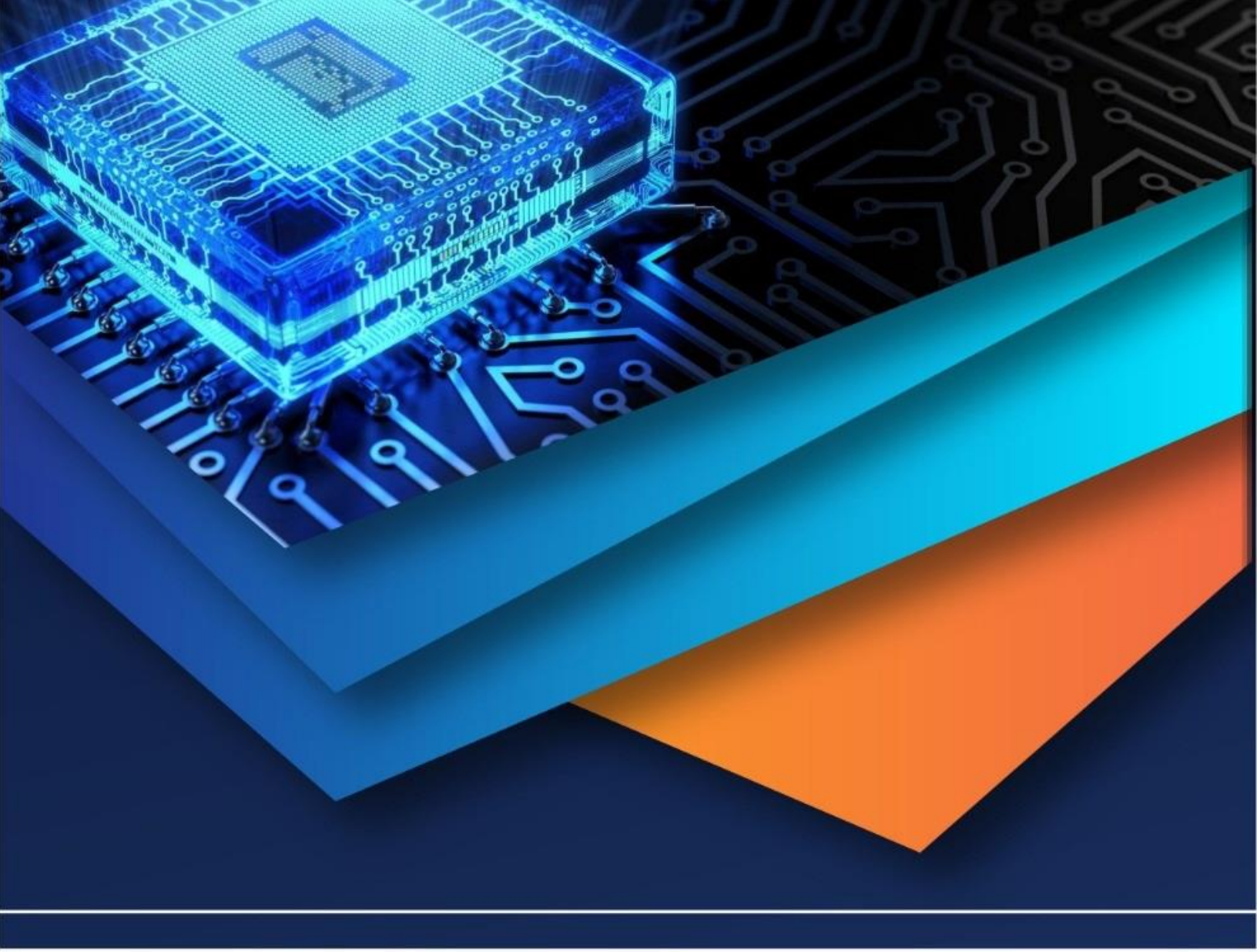
In this paper we a have achieved four level security system which give us highly secure and accurate system

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