SMART LOCK SYSTEM USING OTP

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Abstract

Humans have invented locks since ancient times, to use them to protect their privacy and personal belongings. They are constantly evolving over the ages for better protection. But the problem is that locking the door these days is not safe and can be easily bypassed. Our doors can be forgotten, and this is a common occurrence for most people. Locks are trying these days to depends on technology by using a code or phone or by card to make our things safer. But there are limits, which are the lack of features to be combined in one place. also, the lack of high-security features. To solve this problem, we need to combine all the modern security features into one lock as well as monitoring features.Thus, we have high security, comfortable opening, and closing systems, and features that help us easier and faster, all requirements do not conflict and help to make our homes safer than before. Today, the provision of a home security system has become an important study in adopting the latest technology to achieve this goal. Wireless network is one of the technologiesused to provide remote monitoring and control of household items. This paper aims to propose a key departmental security system based on Raspberry pi technology where cameras, keypad and pi-lids are used to provide a terrific powerful system to notify the owner, and to inform visitors by giving them a User ID. For this reason, only authorized people will be allowed to enter the departments.The system works by capturing guests with a summary with a code and a camera mounted on the doors at the same time, such snippets will be sent to the owner. The proposed system could beexpanded to accommodate various facilities and services such as banks and offices.

1. INTRODUCTION

Locks have been in use for 6000 years, With the onset of the Industrial Revolution in the late 18th century and the concomitant development of precision engineering and component standardization. Locks and keys were manufactured with increasing complexity and sophistication. The lever tumbler lock, which uses a set of levers to prevent the bolt from moving in the lock, was invented by Robert Barron in 1778. His double acting lever lock required the lever to be lifted to a certain height by having a slot cut in the lever, so lifting the lever too far was as bad as not lifting the lever far enough. This type of lock is still used today.

The smart lock came and is an electromagnetically locked that receives

instructions to lock and unlock the door from an authorized device using an encryption key and a wireless protocol.

Smart locks are starting to be used more commonly in residential areas, and they are often controlled with smartphones. Smart locks are used in co-working spaces and offices to enable key less office entry. Additionally, electronic locks cannot be selected using conventional tools.

Home automation system is a computer-based application that can connect various electrical devices for the purpose of monitoring and controlling household items. The automated home automation system is an area that has received a lot of attention from both academic and business fields. The first attempt at the home security system relied on local wireless networks but, due to the proper planning and construction activities required to provide a cable house, those efforts are often inadequate. As a solution to this problem, wireless connectivity has already provided a flexible platform where installation costs are much lower than cable. Therefore, it has been used in a variety of home safety systems to provide alarms for critical threats such as intrusion or other natural hazards such as gas leaks or fire.

2. RELATED WORK

In this project, we are going to make a smart OPT-based locking system. This smart lock can generate a new password every time you unlock it, which further enhances your security level. This new device is much safer than the traditional key-based system and electronic wireless lock system. If you are still using the key-based system, you are likely to land in a

big problem if your key gets lost or stolen. The electronic wireless lock system is not safe either. You might forget the password and there is also a high risk being hacked. For our safety and security, we bring DIY smart lock that has the capability to remove all these security threats and problems.At these times, all human beings have a place of their own in which they keep their property with the help of locks to limit the penetration of their personal property or privacy. There are many defects in these locks, such as easy penetration poor security. The difficulty of dealing with the lock-in one way, which is the traditional key and there is no other way. In this project, we are going to make a smart OPT-based locking system This smart lock can generate a new password every time you unlock it, which further enhances your security level.This new device is much safer than the traditional key-based system and electronic wireless lock system. If you are still using the key-based system, you are likely to land in a big problem if your key gets lost or stolen. The electronic wireless lock system is not safe either. You might forget the password and there is also a high risk being hacked. For your safety and security, we bring to you a DIY smart lock that has the capability to remove all these security threats and problems.
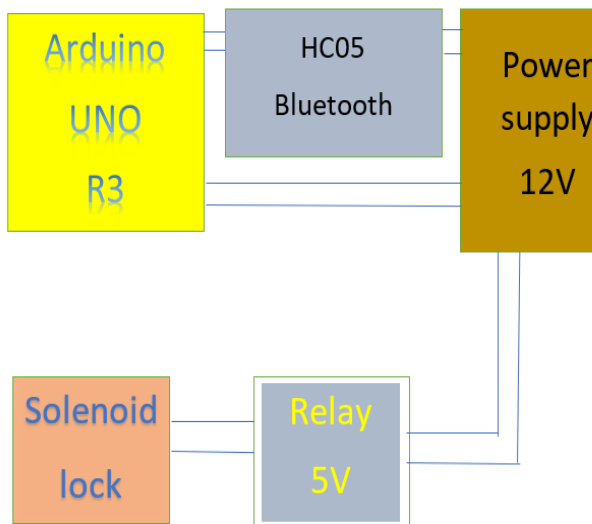
3. IMPLEMENTATION

For this project we mainly used ARDUINO UNO R3, BLUETOOTH HC-05, SOLENOID LOCK, MOBILE APP which runs whole project. SOLENOID LOCK is used for controlling on and off system, while BLUETOOTH HC-05 is used to connect both ARDUINO UNO R3

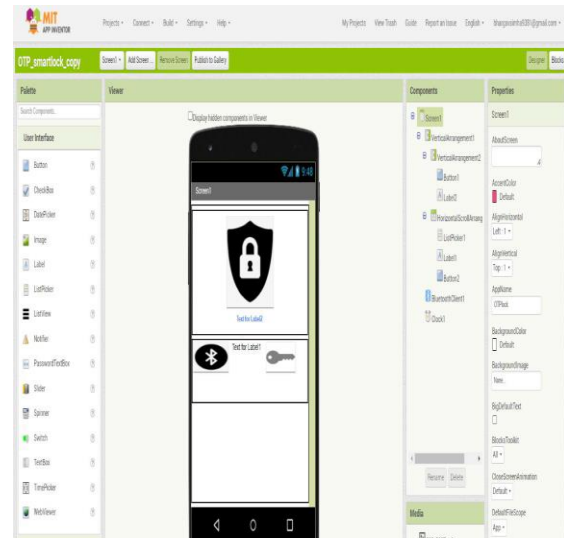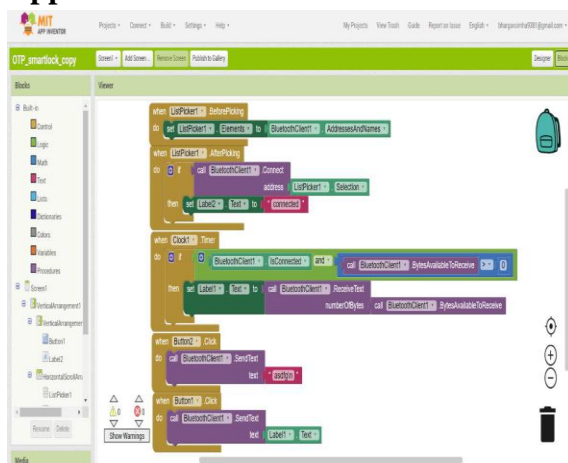and ANDRIOD APP.At last, POWER SUPPLY places a crucial role in providing power to entire circuit.
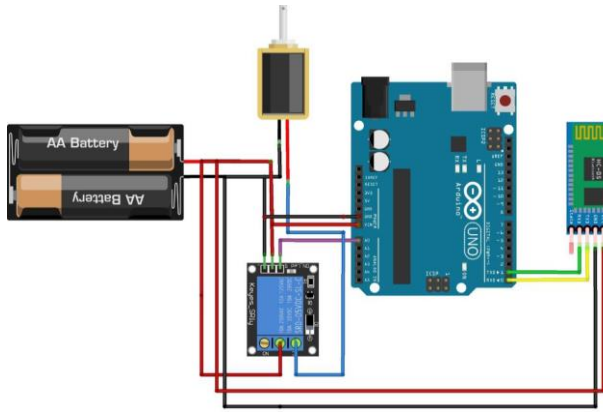
Circuit diagram

Block Diagram

4. EXPERIMENTAL RESULTS

App Interface

5. CONCLUSION

By our Idea in this project. we can conclude that we can highly secure our passwords by changing it every time when the door unlocked by sending an OTP to your mobile there is no issue if we forget the passwords.Since our proposed system is built over wireless sensor network, it is a flexible, and easily installable system without any cabling and construction works.

6. REFERENCE

https://realpars.com/servo-motor/
https://www.arduino.cc/en/Guide
https://automation-insights.blog/2017/06/07/what-is-a-capacitive-sensor/
https://www.keyence.co.in/ss/products/sensor/sensorbasics/proximity/info/

1. Khan, M., Ansari, M.D., "Security and privacy issue of big data over the cloud computing: A comprehensive analysis", International Journal of Recent Technology and Engineering, 2019, Vol. 7-Issue 6, PP-413-417.

2. Venkataiah, V., Mohanty, R., Nagaratna, M., "Application of hybrid techniques to forecasting accurate software cost estimation", International Journal of Recent Technology and Engineering, 2019, Vol. 7-Issue 6, PP-408-412.

3. Das, S., Nayak, S.C., Nayak, S.K., Sahoo, B., "A GA-based polynomial FLANN with exploration and incorporation of virtual data points for financial time series forecasting", International Journal of Recent Technology and Engineering, 2019, Vol. 7-Issue 6, PP-422-430.

4. Sruthi, P., Premkumar, L., "Attribute-based storage supporting secure de-duplication of encrypted data in cloud", International Journal of Recent Technology and Engineering, 2019, Vol. 7-Issue 6,PP-418-421.

5. Mishrara, R., Khare, V., "Low cost HD video surveillance and recording system using raspberry Pi", International Journal of Recent Technology and Engineering, 2019, Vol. 7-Issue 6, PP-22-25.