TURNING ON THE BIKE USING FINGERPRINT

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Abstract

The main objective of this project is to prevent the two-wheeler thefts. In searching of ways to prevent the two-wheeler thefts, there are many security systems available in the market but somehow they are not meeting the common man needs. We know finger print lock system is unique , simple and more secured, for marking this we need Two-wheeler, fingerprint sensor, Arduino ,Relay module ,Jumper wires and 9V battery etc. we know finger print lock system is unique , simple and more secured.Connect all the vcc and grounds commonly and connect the relay module to input to digital pin 12 of Arduino. Similarly, connect Tx and RX pin of the fingerprint sensor to digital pin 3 and 2 of Arduino.Connect power supply of bike to relay module and place the fingerprint scannerwhichever being more convenient, placement on handle was more convenient.When the finger is scanned,verification process takes place,if it is done,we get the exact output.

KEYWORDS:Two-wheeler, Fingerprint,Modification, Scanned, Security

1. INTRODUCTION

Nowadays every household has a bike and it became an important mode of travel. They are best forexploring local and non local areas. On an average at least fifteen bikes are stolen everyday in our state . Most of these are stolen from outside homes or roadside parking zones and generally during night. Motorcycles are commonly stolen by thieves and broken down into parts, that is why fitting security devices can help us to prevent from stealing our motorbikes. There are some existing systems present in our society but however each of them have few drawbacks. There must be a solution to solve this consequence.Fingerprint recognition technology allows access to only those whose fingerprints that are pre stored in the memory. It can only be opened when an authorized user's fingerprint is scanned, since there are no keys or combination to be copied or stolen, or locks that can be picked. The fingerprint based lock therefore provides a wonderful solution to conventionally encountered inconveniences. This helps in increment of

security. This is simply structured but secured one.

2. RELATED WORK

Basically focuses on the replacement of keys with the biometric specially fingerprint based lock systems in the vehicles because fingerprints are the oldest and most widely used form of biometric identification and also provide a robust security mechanism for various security domains. Their prototype consists of fingerprint software module used to store the database of the valid users, a hardware unit for interfacing and the ignition system module to ignite the vehicle. Database of the valid users is stored in the module. Now when a person tries to operate the vehicle then the arduino matches the fingerprint of the person with the stored database if the match result is successful then the vehicle is ignited and otherwise not. Programming can be done with the help of Visual Basics, Visual C and Visual C++.

3. IMPLEMENTATION

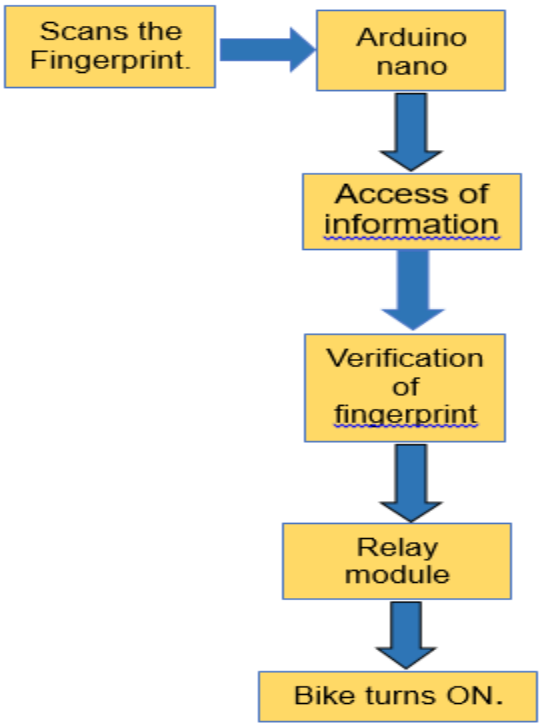
Humans have invented locks since ancient times, to protect their privacy and personal belongings. A while ago it seemed like smart bike locks were the future. They were everywhere. All over the internet but you didn't see many being used on actual bikes in the street! And either I've stopped taking as much notice or there's less hype around futuristic bike locks these days. So we came up with a solution namely "Turning on bike using fingerprint".Which is not only a affordable but also can be used if intiated everywhere.Two-Wheelers have became the most preferable source to travel these days and there is at least 1 per house From past years two wheeler theft has been increased, on an average 15 bikes are stolen everyday in telangana and hence, farness created among the people.It is widespread problemwith all kinds of bikes being stolen from everywhere. For thefts of two-wheeler increment , there is a call for the need of system that prevents thefts of bikes as well as ensures the security.The main aim of our project “TURNING ON THE BIKE USING FINGERPRIT” is to develop a system that give the secures the bikes. As we know now-a-days bike thefts are generally happend . Inorder to overcome this problem , our prototype is helpful in giving security for the bike which is not available in the market yet.

Requirement analysis

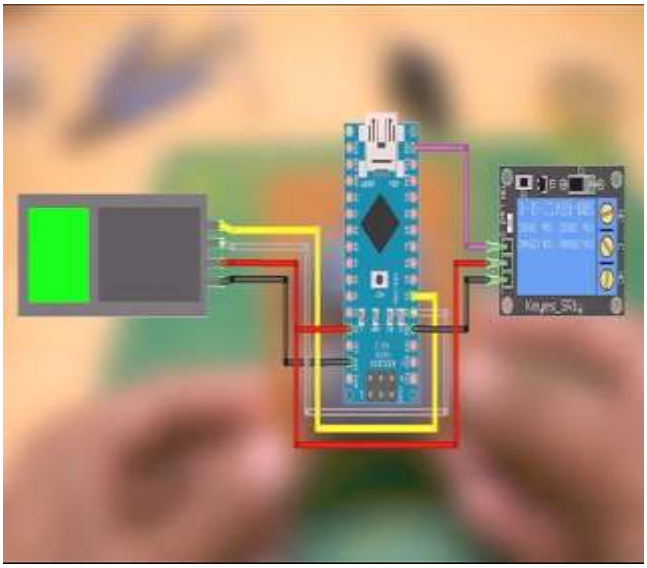
- Arduino nano
- R307 fingerprint
- Relay module
- Jumper wires
- Breadboard
- Battery

Methodology

- Take a two wheeler bike that consists of normal bike lock system(means key lock system)disconnect theconnections of a bike and self lock and insert the fingerprint.
- Before that we have to Interface the relay module,arduino Nano and fingerprint sensor use jumper wires.
- Connect vcc and ground of relay, fingerprint sensor and arduino Nano commonly to a 9 volt battery to for power supply.
- Complete the remaining circutary according to provided information.
- After giving the specific connections as mentioned we will insert fingerprint in the place of self and then place the rest all circuit inside the bike.
- when the input is given at the scannerthen it verifies the input,if it matches then the bike starts automatically.



Block Diagram



Circuit diagram

At the point when an accident or theft happens, data related with those accidents is not recorded, and if the bike is in isolated area emergency numbers cannot be reached to help to be user. Apart from that key is the only way to get the access into the bike. This project aims at the

development of self-starting motorcycle based on finger print. By using this project owner can easily start his motorcycle using fingerprint. Here owner don't have to carry key every time.Another alert is that if the vehicle can be accessed atleast by the 10 fingerprints which are inserted. Here this project proposing another technique for the authentication that is, fingerprint based authentication for the bike and security system with a scanning sensorTake a two wheeler bike that consists of normal bike lock system(means key lock system) disconnect the connections of a bike and self lock and insert the fingerprint.Before that we have to Interface the relay module, arduino Nano and fingerprint sensor use jumper wires.Connect vcc and ground of relay, fingerprint sensor and arduino Nano commonly to a 9 volt battery to for power supply.

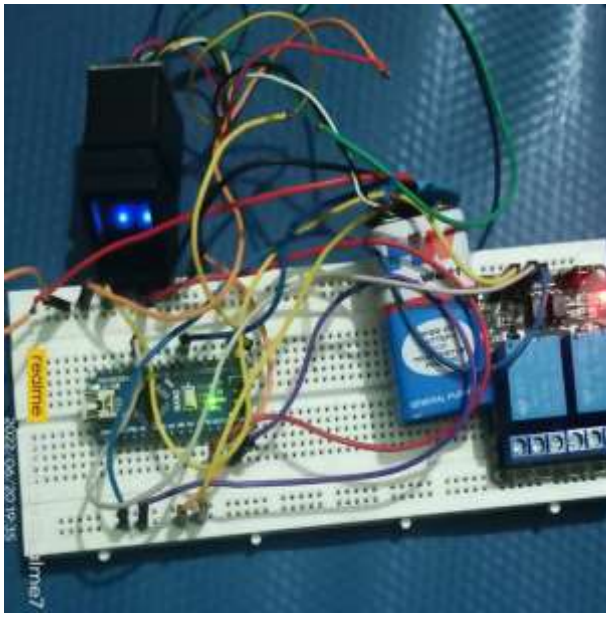
- Complete the remaining circutary according to provided information.
- Arduino Nano is one type of microcontroller board. It can be built with a microcontroller and it is a small size board and also flexible with a wide variety of applications.
- R307 fingerprint module is a fingerprint sensor with a TTL UART interface for direct connections to microcontroller UART or to PC through MAX232 / USB-Serial adapter.

4. EXPERIMENTAL RESULTS

Self is a method of starting internal combustion engine (usually that of amotorcycle) by pushing

with ones foot' Self mechanisms a were almost universally apart of motorcyle engines before the 21stand were century phosed out of production over the next twenty years or so as electric starters became standard equipment. There are still some motorcycles produced that have both self and key lock system.

- The input from fingerprint sensor is connected to the arduino pin D2 and D3 .
- Verification process undergo within the arduino according to the code.
- Verified output from D12 is given to the relay input IN1.
- Connect the self of bike to the relay module.
- According to the output the turns ON or OFF.
- Provide the power supply using battery



5. CONCLUSION

At present motorcycles are becoming an important modes of transportation these are become an source for the species so as to travel from one place to another. As how the usage of vehicles have increased, the theft of the vehicles has been also a major issue which unable to solve inspite of having this much of technology.By our idea in this project ,we can stop vehical theft happening in our society by using simple sensor and normal hardware instead of highly secured gadgets and even we can stop the health issues due to radiation that occurs while using highly secured gadgets.Turning on the bike using fingerprint is done using simple mechanism. we can conclude that fingerprint sensing can decrease the thefts of the motor cycle.

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