

## License Based Vehicle Ignition System 2

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**Abstract** - Nowadays, we can see that many people who doesn't have license (specially children below age 18) are driving vehicles without thinking about the accident or problem it can create for them and as well as others. Our goal is to make a system which will allow driving only to the person who has license. For this purpose we plan to install a system in vehicle. For input we use keyboard and for output digital screen will be used. Now the person who wants to drive has to type their license details (numerical & alphabets) and the system will verify it with the central data. If the input details are wrong then the system will not allow ignition to turn on and the person cannot drive the vehicle. If the input details are right then the system will allow ignition and the person can drive the vehicle now.

**Key Words:** Driving License, Ignition System of IC engine, Microcontroller device, User Authentication, Theft Prevention

### 1. INTRODUCTION

Nowadays children below age 18 drive vehicle without license. Driving without license is against the rules and is also very dangerous for that children and others around him. The life of children and people around him is at risk. So we found a way to stop children from driving without license and also increase vehicle safety.

This is our 2<sup>nd</sup> paper on this topic we are publishing. The name of the first paper is "License Based Vehicle Ignition System" and published in IRJET journal Volume: 07, issue: 12. Our previous paper was on research bases and we only knew about components which we are going to use. But we didn't know how to properly connect them.

This paper is the result of research done on how to connecting the components together with each other.

### 2. Aim

To build a system which will stop the people, who are driving the vehicle without valid driving license (Mostly children under age 18).

### 3. Connection of Components

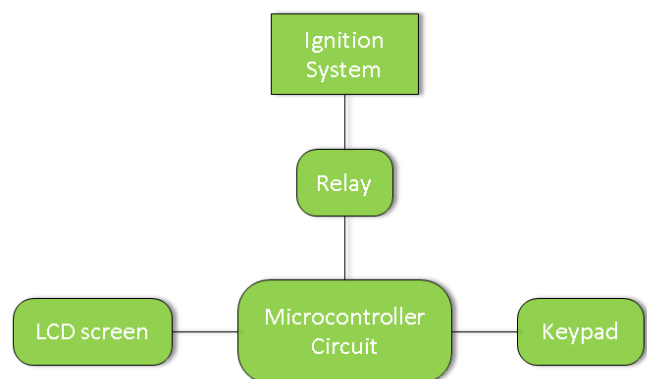


Fig -1: Connection of components

As you can see in the image above that the ignition system is connected with the relay. And the relay will be connected to the microcontroller circuit Arduino Uno. And we will also connect LCD screen and keypad with Arduino Uno.

Here are some images of the project.

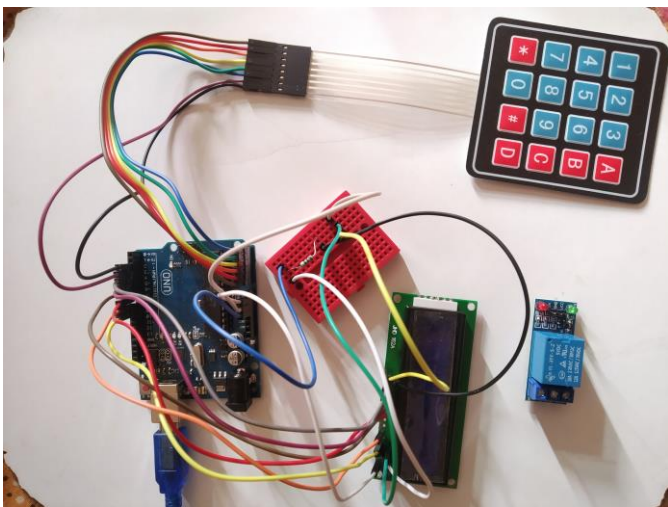


Fig -2: Connection of components

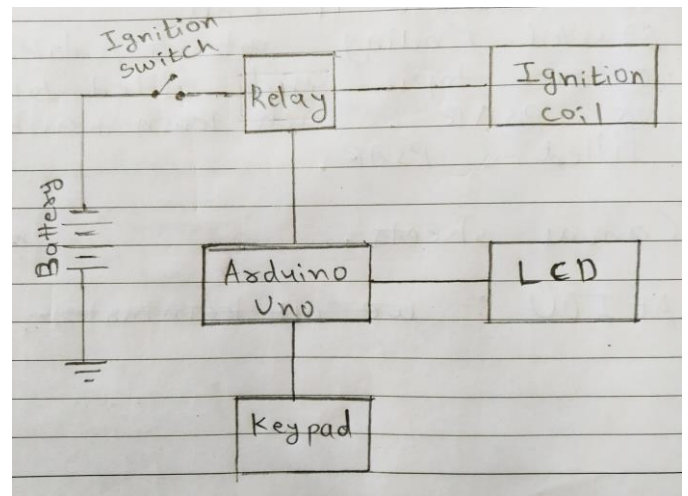


Fig -5: Connection of components

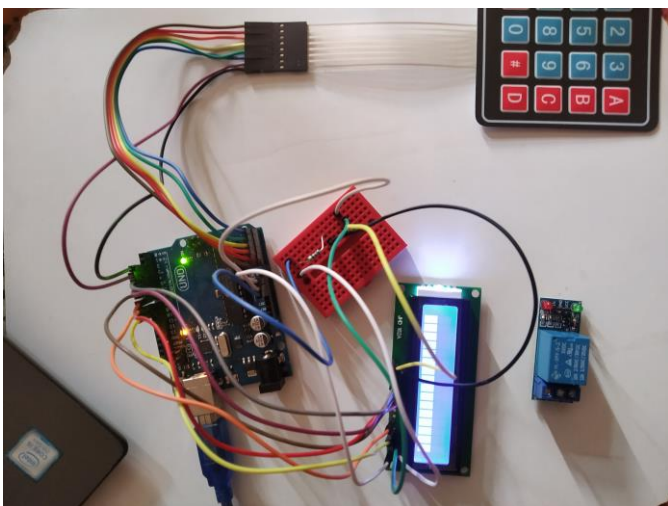


Fig -3: Connection of components

#### 4. Joining components together with coding

The Arduino Software (IDE) can be very helpful for writing and uploading codes in the Arduino Uno board. We downloaded the IDE software and wrote codes in it. This codes that we wrote were obtained by us with the help of different websites on internet and watching different videos on YouTube. We learned how to code the Arduino Uno board for it to work on our commands given to it by codes.

The coding for Arduino Uno is not hard. It is easy compared to different coding languages like JAVA, C++, C, etc. First we thought how we will be able to write codes for Arduino Uno. How can we learn it? It is hard or easy? But as we searched through internet and asked our guide about it, we got the answer that we can do it. And it is not very hard.

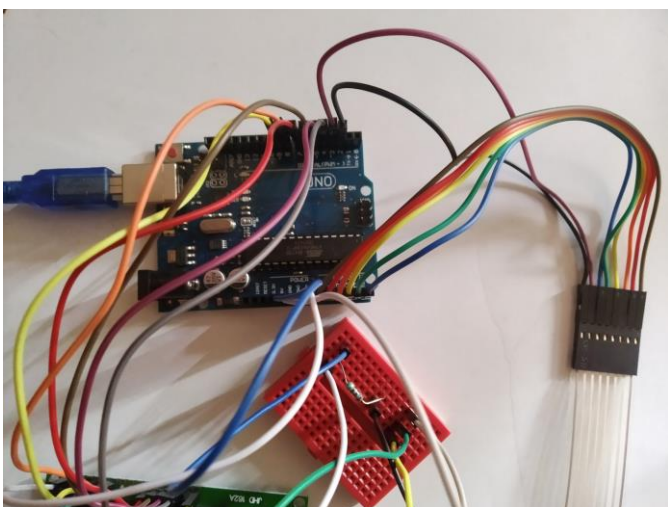


Fig -4: Connection of components

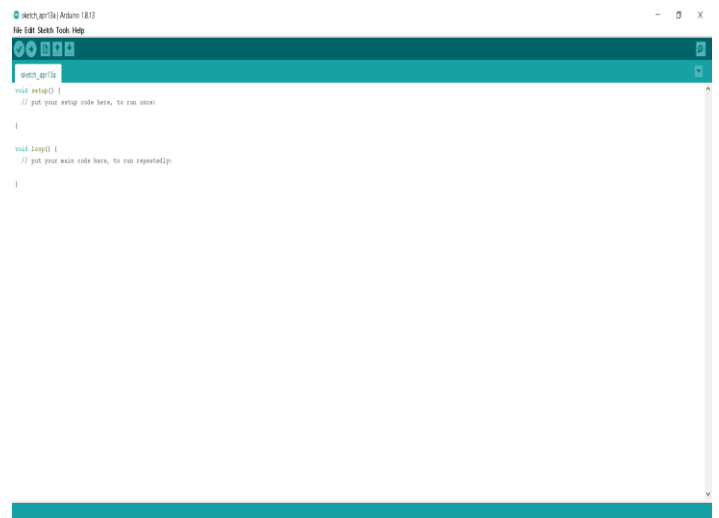


Fig -5: Arduino IDE Software

#### 4.1. Connecting Arduino Uno with 4x4 keypad

First we have to let the Arduino know about the keypad so we will write a code (sketch). We have to let Arduino know which pin of Arduino Uno is connected to which output of the keypad. We learned how to connect keypad with Arduino Uno. There were many websites which we used for understanding the coding. The pins of the the keypads will send the signal to the pins connected to the Arduino Uno. Arduino Uno based on this inputs will send signal to the LCD via pins.

#### 4.2. Connecting 16x2 LCD with Arduino

It is same as connecting keypad with Arduino Uno. We have to let it know which pin of LCD is connected to which pin of the Arduino Uno. Mostly the pins on LCD will receive input from Arduino Uno and show us, what we are typing on the keypad.

#### 4.3. Connecting one channel Relay with Arduino Uno

It is the same for relay as LCD and keypad. Some pins of relay will be connected to the Arduino Uno and Arduino Uno will send signal to this pins. The other part of the relay will be connected to the Ignition system of the I.C. engine.

So we use all this codes to create a code for connecting all of the components together. Writing sketch so that the Arduino can know which pin is used for output and which is used for input according to us.

As you connect all this together with the help of wires. And then you write a code which will act as you want. The code is important because the whole system is controlled by the code, you use code for keypad and LCD and Relay and connect them together to create a new code.

### 5. CONCLUSIONS

Up till now from our project we can conclude that a system which will check the details of license of a person and verify it can be made, it is possible. The ignition control of the system can be controlled by that system. We also have learned the coding required for connecting the components with Arduino Uno. So the system that we want to build is possible to build. And we practically did it.

Writing the codes were first looking simple but there were many problems while writing the codes. And the connection of components was also little difficult. Finding the right pin and connecting it and then write a code about that particular pin connection. We did all this work in this project.

### 6. Future Scope

We can use biometric data of a person for verification. Biometric data such as Fingerprints, Face, Voice etc. we can

make a website and verification will be on that website. We can also use aadhaar card for verification instead of license number. There are many new things we can add in this project for benefits.

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