FINGER PRINT AUTHENTICATION SYSTEM FOR VEHICLES

AIM:

Design and Development of Finger print authentication system for vehicles.

PURPOSE:

Vehicle security is very important and we can protect them in different ways. There are some security systems which focused on tracking. Tracking is one kind of security for vehicle. But here we want to provide authentication for vehicle at starting stage. Here vehicle will start with ignition key and authorized finger print. To provide this kind of authentication we will suggest system like finger print authentication system for vehicles using Arduino.

DESCRIPTION:

This project includes Finger print module (R307-biometric), which is connected to Arduino through UART interface. L293d connected to Arduino digital pins. Button and relay-siren connected to Arduino digital pins. Ignition key connected to Arduino digital pin.

WORKING:

In these projects only authorized persons can access Vehicle with finger print. Initially users has to store their finger prints in module by pressing enroll button. Whenever user wants to start the vehicle then he has to turn of ignition and keep finger on module then DC motor will ON. Here DC motor nothing but vehicle engine. If any unauthorized finger access then buzzer will be ON. If we turn off ignition then DC motor will be OFF. All this information will display on 16X2 LCD display.

TECHNICAL SPECIFICATIONS:

HARDWARE:

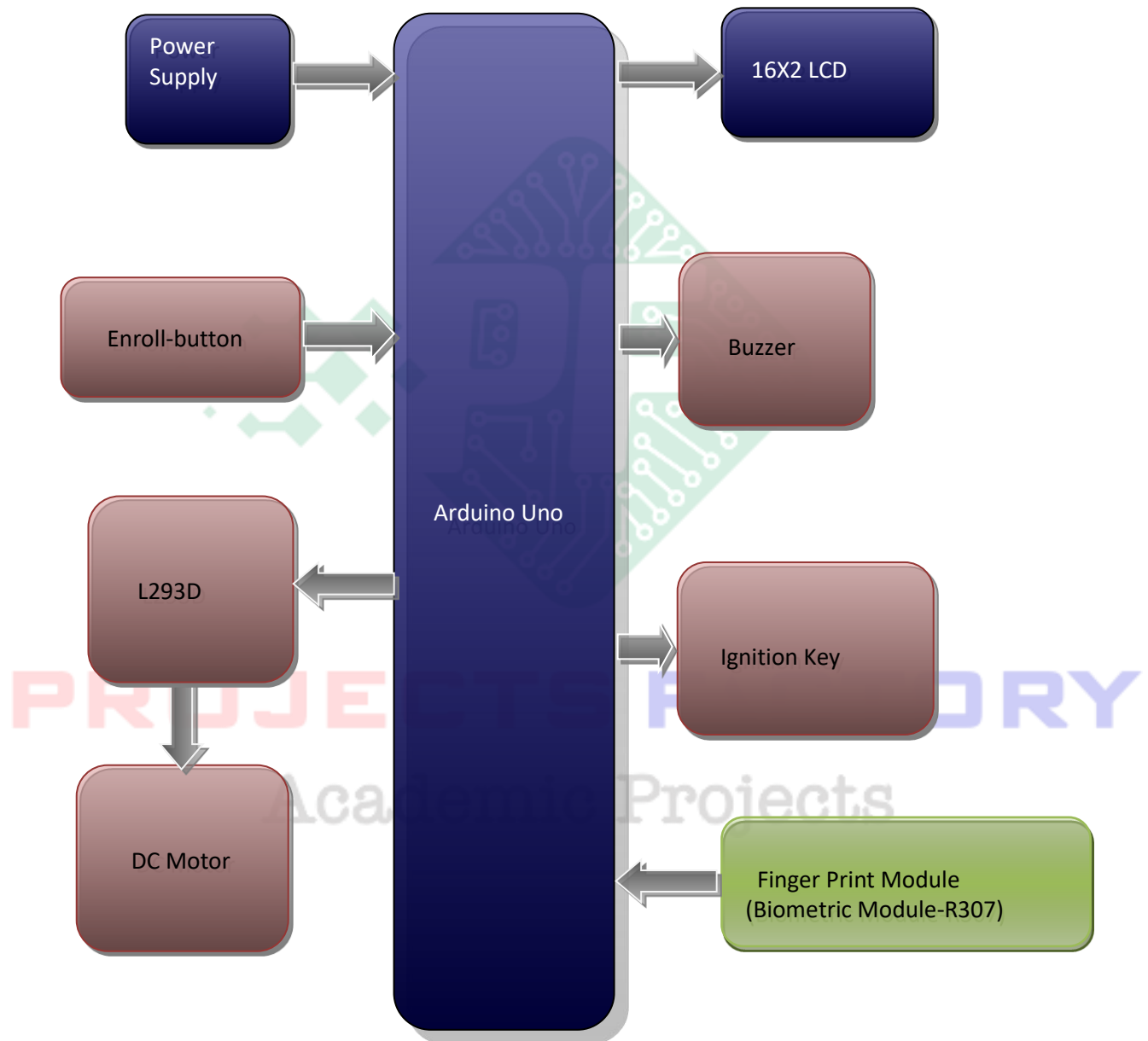|		
Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
Finger Print Module	:	Bio-metric Module (R307)
H-bridge IC	:	L293D
Ignition Key	:	Dc Connected three pole
Motor	:	12V DC
Buzzer	:	5vDC
Power Source	:	12v 2 amp Adaptor

SOFTWARE:

Arduino IDE

Proteus based circuit diagram

APPLICATIONS:

- ➢ Bike Security Applications
- ➢ Car Security Applications

BLOCK DIAGRAM:

```
Power Supply  ──→  Arduino Uno  ──→  16X2 LCD

Enroll-button ──→  Arduino Uno  ──→  Buzzer

L293D  ←──  Arduino Uno  ──→  Ignition Key
  │
  ↓
DC Motor

Arduino Uno  ←──  Finger Print Module (Biometric Module-R307)
```

POWER SUPPLY BLOCKDIAGRAM:

Step down Transformer → Bridge Rectifier → Filter → Regulator → Output
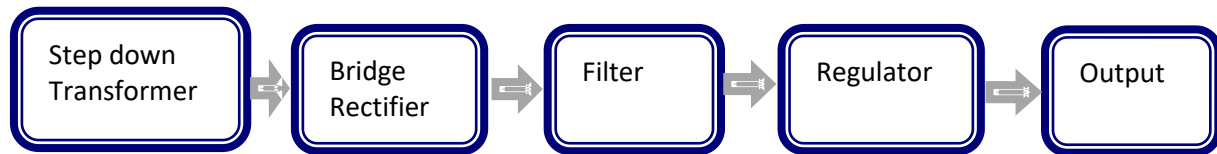
INTERFACES COVERD:

- We have covered finger print module (R307-Biometric Module) interfacing
- L293D h-bridge IC interfacing
- Ignition key interface