

## FINGERPRINT AND RFID BASED BIKE AND CAR ACCESS

### **AIM:**

Design and Development of Fingerprint and RFID based bike and car access system.

### **PURPOSE:**

Vehicle security is very important for transport industry and others like personal vehicles, cabs...etc. Regular vehicles have keys and remotes. Duplication of these things is very easy and vehicle theft possible. Here we want to provide security to vehicle with fingerprint and license ID. Here license ID is RFID cards. Here project title is fingerprint and RFID based bike and car access system using Arduino.

### **DESCRIPTION:**

This project includes Finger print module (R307-biometric), which is connected to Arduino through UART interface. RFID module (EM-18) connected to Arduino UART interface. L293d connected to Arduino digital pins. Button and buzzer connected to Arduino digital pins.

### **WORKING:**

In this project we will provide two level securities for Vehicle access with license card and fingerprint. Initially User has to register finger prints in module by pressing enroll button. When user wants to access vehicle then user have to swipe RFID card (Here RFID card is license card), if it is valid then user need to access his finger on module. If RFID and Fingerprint are matched then vehicle will start. If it doesn't match then buzzer will be ON. All this information displayed on 16X2 LCD display.

## TECHNICAL SPECIFICATIONS:

### HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
Finger Print Module	:	Bio-metric Module (R307)
RFID Module	:	EM-18
H-bridge IC	:	L293D
Motor	:	DC gear 12V DC
Buzzer	:	5vDC
Power Source	:	12v 2 amp Adaptor

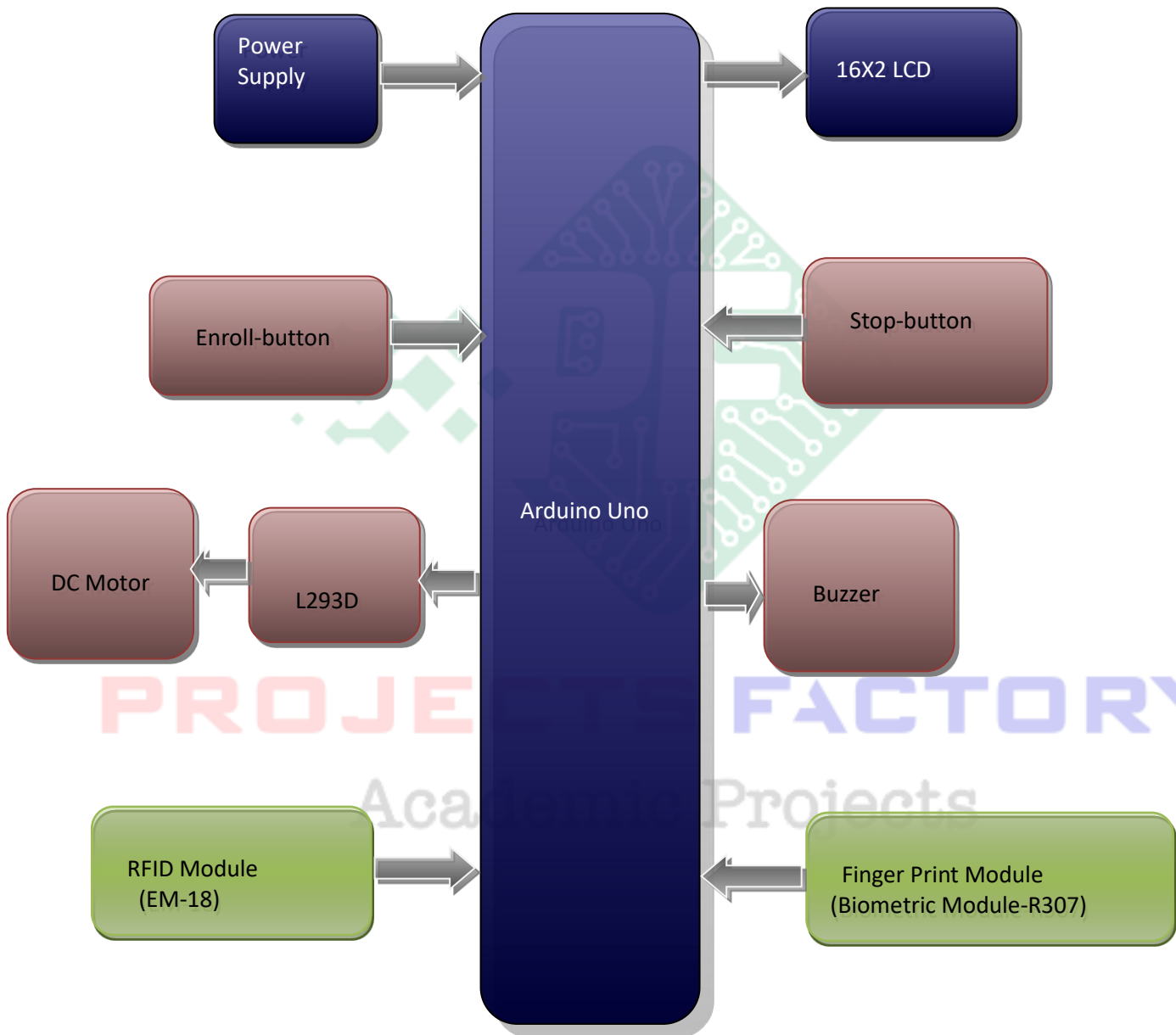
### SOFTWARE:

Arduino IDE  
Proteus based circuit diagram

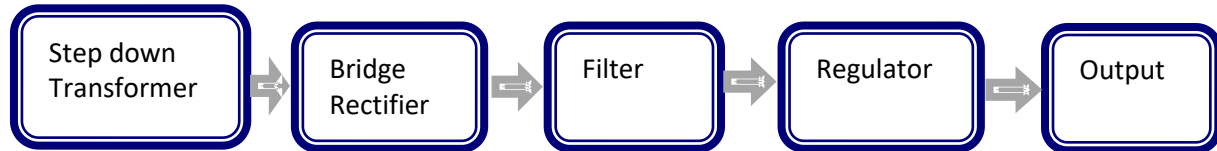
### APPLICATIONS:

- Vehicle Security Application

**BLOCK DIAGRAM:**



## POWER SUPPLY BLOCKDIAGRAM:



## INTERFACES COVERED:

- We have covered finger print module (R307-Biometric Module) interfacing
- L293D h-bridge IC interfacing
- RFID (EM-18) module interfacing

**PROJECTS FACTORY**  
Academic Projects