



## Bike Security System

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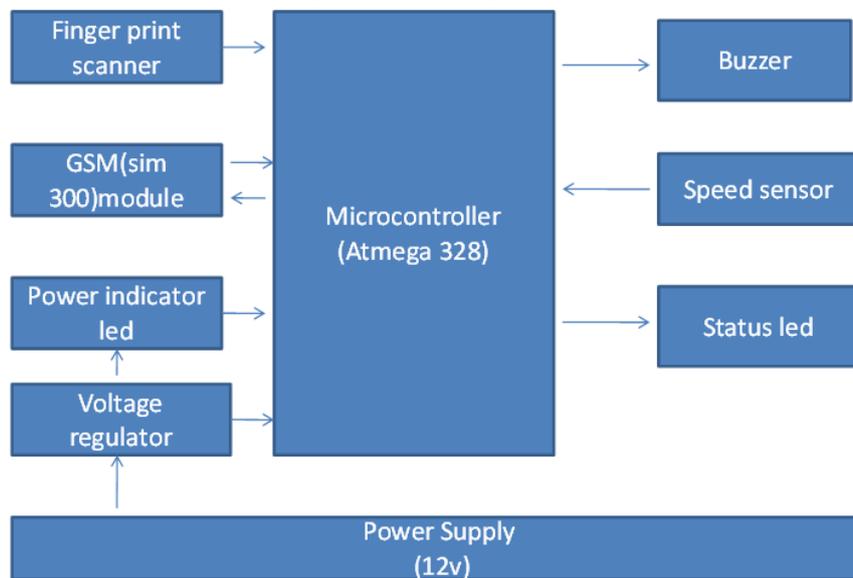
**Abstract:** Theft is one of the most common and oldest criminal behaviours. From the invention of the first lock and key to the introduction of RFID tags and biometric identification, anti-theft systems have evolved to match the introduction of new inventions to society and the resulting theft of them by others. An Bike Security System is a device used to prevent or deter the unauthorized appropriation of items considered valuable. This device have evolved to counter new theft techniques as they have appeared in society. Security and surveillance are the two important aspects of human being. In this paper we propose finger print detection & Biometry for proper identification of owner of the vehicle. Biometry is about providing security in terms of person identification in specific area. This project aims to create one more step towards solving of this serious problem.

**Keywords:** RFID, CRT, ALU

### I. INTRODUCTION

Under normal circumstances, theft is prevented simply through the application and social acceptance of property law. Ownership is often indicated by means of visual marking (license plates, name tags). When clear owner identification is not possible and when there is a lack of social observance, people may be inclined to take possession of items to their own benefit at the expense of the original owner. Motive and opportunity are two enabling factors for theft. Given that motives for theft are varied and complex and are generally speaking not within the control of the victim, most methods of theft prevention rely on reducing opportunities for theft. This project deals with a framework for crook detection via submitted data of the person. The proposed method provides a new approach to high level security. This project proposes an Finger Print technique in an embedded system based on Aruino.

### II. SYSTEM DESCRIPTION



1. Finger print reader: Fingerprint scanners are security systems of biometrics. It scans the finger print and stores it in its database.

2. Motor Speed sensor : Here is a motor speed sensor module, the major goal is to check the rate of an electric motor. The module can be used in association with a microcontroller for motor speed detection, pulse count, position limit, etc. In principle, any rate meter simply measures the rate at which some event occurs.

3. LCD display: LCD (liquid crystal display) is the technology used for displays in notebook and other smaller computers. Like light-emitting diode (LED) and gas-plasma technologies, LCDs allow displays to be much thinner than cathode ray tube (CRT) technology.

4. Atmega 328 Microcontroller:- The ATmega328 is a single chip microcontroller created by Atmel in the mega AVR family. In this project we are going to use atmega 328 microcontroller. The AVR core combines a rich instruction set with 32 general purpose working registers.

### **III. HARDWARE DESCRIPTION**

1. Atmega 328 Microcontroller: In this project we are going to use atmega 328 microcontroller. The AVR core combines a rich instruction set with 32 general purpose working registers. All the 32 registers are directly connected to the Arithmetic Logic Unit (ALU), allowing two independent registers to be accessed in one single instruction executed in one clock cycle. The resulting architecture is more code efficient while achieving throughputs up to ten times faster than conventional CISC microcontrollers.

2. Motor Speed sensor: Here is a motor speed sensor module, the major goal is to check the rate of an electric motor. The module can be used in association with a microcontroller for motor speed detection, pulse count, position limit, etc. In principle, any rate meter simply measures the rate at which some event occurs. Usually this is done by counting the events for a given period of time (integration interval) and then simply dividing the number of events by the time to get the rate.

3. Finger print reader: Fingerprint scanners are security systems of biometrics. It scans the finger print and stores it in its database. There are two types of fingerprint scanners: the optical scanner and the capacitance scanner. The basic function of these two types of scanners is to get an image of a person's fingerprint and find a match for this print in the database. The capacitance scanner is better, because the images are more exact and precise. Scanners are used for scanning.

4. LCD display: LCD (liquid crystal display) is the technology used for displays in notebook and other smaller computers. Like light-emitting diode (LED) and gas-plasma technologies, LCDs allow displays to be much thinner than cathode ray tube (CRT) technology.

### **IV. SOFTWARE DESCRIPTION:**

I. Embedded C: C is the most widely used programming language for embedded processors/controllers. Assembly is also used but mainly to implement those portions of the code where very high timing accuracy, code size efficiency, etc. are prime requirements. It is small and reasonably simpler to learn, understand, program and debug. C Compilers are available for almost all embedded devices in use today, and there is a large pool of experienced C programmers.

Due to the wide acceptance of C in the embedded systems, various kinds of support tools like compilers & cross-compilers, ICE, etc. came up and all this facilitated development of embedded systems using C.

II. Matlab: MATLAB (matrix laboratory) is a multi-paradigm numerical computing environment and fourth-generation programming language. A proprietary programming language developed by Math Works, MATLAB allows matrix manipulations, plotting of functions and data, implementation of algorithms, creation of user interfaces, and interfacing with programs written in other languages, including C, C++, Java, Fortran and Python.

### **V. ADVANTAGES**

1. Simple to operate and easy to install which makes it very user-friendly.
2. Low maintenance cost and easy to maintain.
3. Much more efficient than any other system.
4. More reliable and provide better safety solution.

### **VI. APPLICATION**

It will be used for two wheeler possessions.

1. It will be used to prevent the theft of personal vehicles.

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