
ABSTRACT

The main goal of this paper is to design and implement a security of bike based on RFID and GSM technology which can be used in bike. In this system only authentic person can be use bike. We have implemented a secure bike based on RFID and GSM technology containing RFID Tag using RFID which can activate, authenticate, and validate the user. Else unlock the bike in real time for BIKE SECURITY. The main advantage of using passive RFID and GSM is more secure compare to other systems. This system have of microcontroller (89c51), RFID reader, GSM modem, and LCD, in this system. The RFID reader reads the ID number from passive tag and given to the microcontroller, if the ID number is valid & passwords are matched the bike will be opened otherwise it will be remain in locked position and send Tag ID which is used at that time. This system is more secure than other systems because to RFID Tag (password) required for verification.

KEYWORDS: GSM, RFID module, LCD, Microcontroller (89c51)

INTRODUCTION

In this present age, safety of bike has becomes an essential issue for most of the people especially in the rural and urban areas. In this paper we have implemented safety of the bike by using RFID and GSM technology which is more secure than other systems. Radio-frequency identification (RFID) based access-control system allows only authorized persons to unlock the bike with RFID technology. Basically, an RFID system consists of an antenna or coil, Transceiver (with decoder) & Transponder (RF tag) have unique number. There are some different types of RFID systems available in market. These systems classified on the basis of their frequency ranges. Generally, used RFID systems are low-frequency (30-500 kHz), mid-frequency (900 kHz-1500MHz) and high-frequency (2.4-2.5GHz). The passive tags are lighter and less expensive than the active tags. Global system for mobile communication (GSM) is all world accepted standard for digital cellular communication. GSM is a European mobile telephone standard for a mobile cellular radio system operating at 900 MHz In the current work, SIM300 GSM module is used. The SIM300 module is standard interface. It provides voice, data and fax in a small form factor with low power consumption. in this paper we have designed and implemented a bike security system based on RFID and GSM technology. In this system only authentic person can be unlocked bike.

HARDWARE DISCRPTION**1. Power Supply –**

Here in our application we need a 5v & 12v DC power supply for all electronics involved in the project. This requires step down transformer, rectifier, voltage regulator, and filter circuit for generation of 5v DC power.

2 .Global System for Mobile Communication (GSM)-

GSM, which stands for Global System for Mobile communications, reigns (important) as the world's most widely used cell phone technology. Cell phones use a cell phone service carrier's GSM network by searching for cell phone towers in the nearby area. Global system for mobile communication (GSM) is a globally accepted standard for digital cellular communication. GSM is the name of a standardization group established in 1982 to create a common European mobile telephone standard that would formulate specifications for a pan-European mobile cellular radio system operating at 900 MHz It is estimated that many countries outside of Europe will join the GSM partnership.

3 .Liquid Crystal Display (LCD)-

The LCD used here has 14 pins. The functions of each pin is given below

Table:- pin description

Pin	Symbol	I/O	Description
1	VSS	---	Ground
2	VCC	---	+5V power supply
3	VEE	---	Power supply to control contrast
4	RS	I	RS=0 for command register, RS=1 for data register
5	R/W	I	R/W+0 for write, R/W+1 for read
6	E	I/O	Enable
7	DB0 TO DB7	I/O	The 8-bit data bus

4. Radio Frequency Identification (RFID)-

RFID is the use for the purpose of identification and tracking using radio waves. An RFID system consists of RFID tags. The system will also include a facility for entering or programming data into tags. There may also be present antennas for communication between the tag and the reader. A typical RFID system is made up of three components: 1.Tags, 2.Readers 3.Host computer system.

Type of RFID tags as followed-

1. Active Tag
2. Passive Tag

METHOD

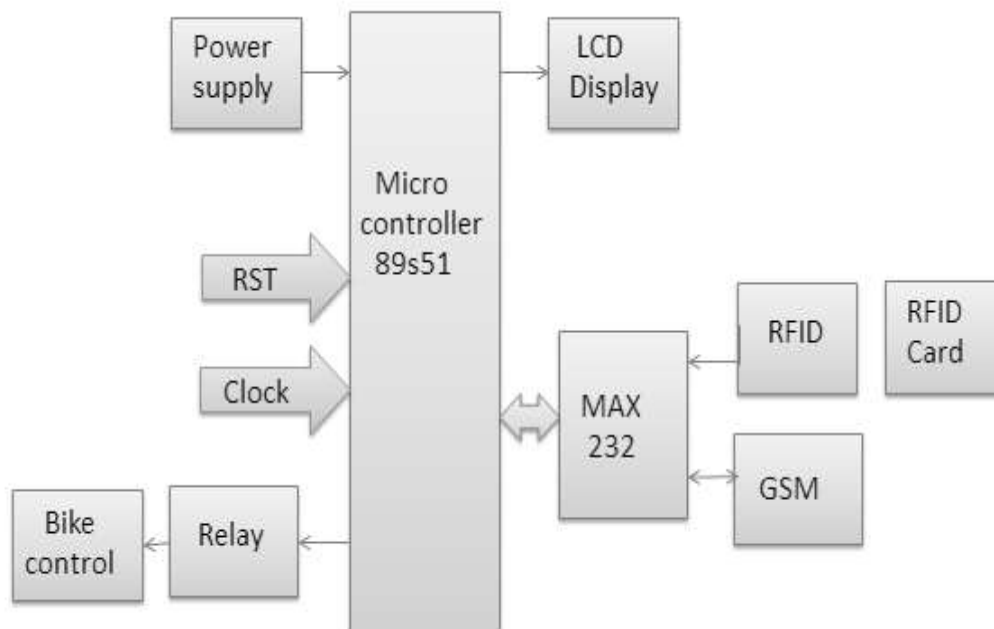


Fig: Block Diagram Secure Bike using RFID&GSM

RESULTS AND DISCUSSION

The project provides best bike security for us.

CONCLUSION

We have implemented a bike security system using passive RFID and GSM.

It is a low cost.

Low in power conception.

Compact in size and standalone system.

If this smart card (passwords) is correct the microcontroller provides necessary control signal to unlock the bike.

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