

# City Bus Ignition Control Mechanism using Multilevel Security System

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**Abstract-** This is an overview of multilevel security systems. The implementation of this project is in City Buses. This concept can help prevent theft and hacking of vehicles. This project is different and can be applied in many situations unlike other projects which have only one application. It is relevant in everyday life. It can be used in Trains, cars, Ambulances, private vehicles and govt. vehicles also. It can be applied in areas other than transport like nuclear power plants in industries and in the military. Proposed here is an advanced system. It is being implemented for the first time. This project is important as it is a necessity. The proposed model is sophisticated and developed. It involves the use of a password as a security measure. The previous models are outdated and are expensive. It plays an important role in the transport sector. There is a chance of bus controlling by unauthorised personnel. Therefore we propose an advanced system of bus ignition using a multilevel security system.

**Keywords-** Multilevel, Theft, buses, Mechanism, Authenticity.

## I. INTRODUCTION

The main idea is to implement a security measure. We are using this mechanism to improve authenticity. Unauthorized access will be restricted completely. Security is a necessity these days. We need to improve security measures. Therefore we are implementing this project. The model is a unique one and is very effective. It is also easy to use. This is a rare project. There are two inputs and one output in this project.

We are using devices such as RFID, Zigbee and GSM in one model and not just one device like other projects. There are many applications of this project. Nowadays transport plays a major role in everyone's life. Without transport facility people will struggle with their daily life. Inside transport some roles are very important such as Bus Driver, Bus Depot Master Etc. Our project aims at designing and developing an advanced multilevel

security system in buses. It is an effective and efficient method to enhance security and authenticity. It is a remedy to theft and hacking of buses.

This Project aims at improving overall security and authenticity. It can be used anywhere for security measures. It is mainly used in Transport. Controlling and Hacking of Buses can be stopped by means of this project. We use a security system at many levels. By using this system, only authorized entry is possible.

## II. EXISTING SYSTEM

In existing systems, there is no password protection and security measures are less. The buses are started by using just the key. The present system cannot be used in all applications. Existing systems are very expensive. They consume a lot of energy. They take up a lot of time as well. Existing systems are not effective enough. They don't satisfy all the requirements. There is no method of authentication in existing systems. Theft is easily possible. They are also not efficient. Existing systems do not work at many levels. They are not developed enough and have many constraints. Systems which are present today are outdated and unreliable. They have to be upgraded or replaced.

## III. PROPOSED SYSTEM

We propose an advanced system. The system will have multilevel security. It can be used in any applications. It is a remedy to hacking and controlling of buses. We are using three UART devices namely Zigbee, RFID and GSM in order to create an anti- theft system. The proposed system can be used in industrial applications also.

#### IV. IMPLEMENTATION

Each bus driver has an RFID tag. Each tag has a unique value. The Transmitter section consists of the Bus Driver Unit. The Receiver section is the Bus Depot Master Unit. In order to start the bus, the Bus Driver flashes the RFID tag in the RFID reader. The reader reads the RFID value and a signal is sent towards the Receiver using the wireless protocol Zigbee. Zigbee is used to create a Wireless Personal Area Network. Zigbee is low cost, simple and can handle a number of tasks. GSM is the defacto standard for mobile communications worldwide. The receiver has a GSM modem connected to it and the data is received from the transmitter side. The Receiver now sends the same random password to two places. One is sent through GSM to the bus driver's mobile phone and the other is sent by Zigbee to the bus system. The driver has to enter the right password in the keypad. If the password entered is correct, then the LCD displays "correct password" and the bus starts. Otherwise the display shows "wrong password" and the buzzer rings causing alertion. The buzzer continues to ring until the correct password is entered. This is the working of the project.

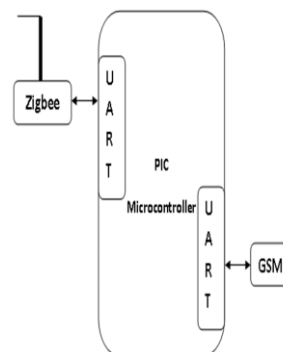


Fig. 2 Block Diagram of Receiver (Bus Depot Master Unit)

#### V. FIGURES

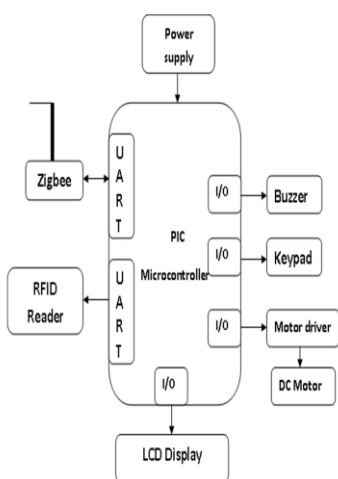


Fig. 1 Block Diagram of Transmitter (Bus Driver Unit)

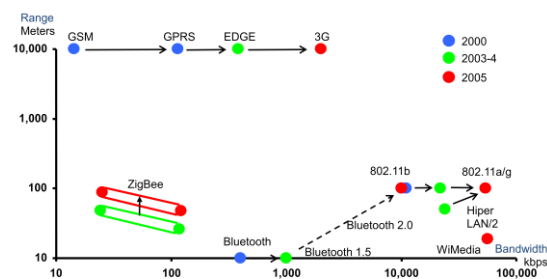


Fig. 3 Wireless Technologies

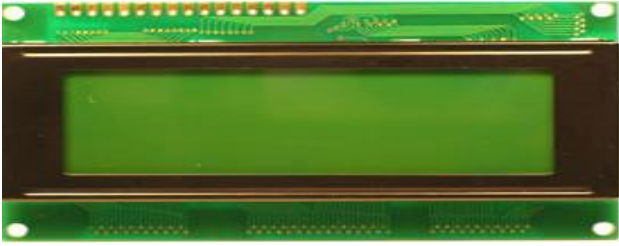


Fig 4. Liquid Crystal Display

## VI. CONCLUSIONS

This paper describes security systems at multiple levels. It can be used to prevent theft. It is used as an authentication mechanism. It is used to prevent control controlling of buses by unknown persons. It can be used in many applications unlike other projects which have only one application. It finds use in transport. It can be used in government vehicles and can also be used in industries for security.

## ACKNOWLEDGEMENT

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