

Bluetooth devices based access control system without built-in application

The Project aims at developing an intelligent access control system using Bluetooth devices like mobile phones, Bluetooth headsets, Bluetooth in laptops etc... The system implements the concept of using wireless access controlling through Bluetooth technology.

The physical key is an integrated part of most people's life. It is a well-tested and well-known technology. The problem with physical keys has even bigger implications for companies in the business of mail or goods delivery. These companies need access to many different private buildings. Doors spread over a wide geographical area and governed by many different owners. Personnel need to carry keys for each single door on the delivery route. Carrying all these keys is a hassle in the daily use and vulnerable to theft. To overcome from carrying bunch of keys and physical contact, the present system is proposed.

In the proposed system the user can carry any Bluetooth device, which is registered with the locker system. The locker system automatically detects the presence of the Bluetooth device in its range and takes the decision of access control. The main controlling device of the locker system is a Microcontroller. Bluetooth modem, locking mechanism, LCD and buzzer are interfaced to Microcontroller. The microcontroller receives the information of Bluetooth devices through the Bluetooth modem and takes the decision of their authenticity. The system opens the locker, if registered Bluetooth device is used. Otherwise, the system horns an alarm to alert security officials. The status of door can be seen on LCD display. To perform, this intelligent task, Microcontroller is loaded with an intelligent program written in embedded 'C' language.

The main objectives of this project are:

1. To avoid carrying key bunches.
2. To avoid physical contact.
3. Development of wireless authentication system.

The learning's provided by the project are:

1. Bluetooth technology.
2. Interfacing protocol between Bluetooth modem and Microcontroller.
3. LCD interfacing techniques.
4. Embedded C programming.

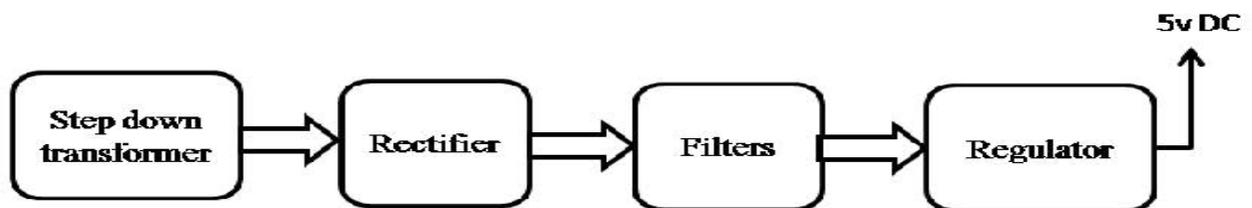
The major building blocks of this project are:

1. Regulated Power Supply.
2. Microcontroller.
3. Bluetooth modem.
4. Locker mechanism.
5. LCD display unit.
6. Buzzer with driver
7. Crystal oscillator.
8. LED Indicators.

Software's used:

1. PIC-C compiler for Embedded C programming.
2. PIC kit 2 programmer for dumping code into Micro controller.
3. Express SCH for Circuit design.
4. Proteus for hardware simulation.

Regulated Power Supply:



Block diagram:

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