

## Indoor wireless person tracking and voice enabled announcement system

The project aims at designing a wireless system that enables to find out the present location of a person and also voice enabled announcement system in a multi room college building. This project also helps in authentication as well as automatic attendance registering.

The technologies used in the project are RFID (Radio Frequency Identification) and Zigbee. Usage of technology has penetrated to the all parts of life and it is make things very simple where ever it is used. The project makes it a step ahead into it using wireless technology call Zigbee is a WPAN technology based on IEEE 802.15.4 standard.

And the other technology which provides a key role is RFID. The hunger for automation brought many revolutions in the existing technologies. One among the technologies which had greater developments is RF communications. The result of this is the RFID cards which transmit a unique identification number. The number transmitted by the RFID card can be read with the help of a RF reader.

The controlling device of the whole system is a Microcontroller. This project has three systems out of which one is a centralized system and other two systems are in different rooms. Each student is given an RFID tag. The student need to show the RFID tag to reader which automatically opens the door if the card is valid and stores this information (attendance). Whenever any person inputs his number in the central system which will be transmitted wirelessly to all the rooms and the system in the room in which the person/student is responds by sending reply back and also announces this information in the room. To perform these operations, Microcontroller is loaded with a program written in embedded ‘C’ language.

**The main features of the project are:**

1. Automatic Attendance system.
2. To track a person in multiple room building.
3. Voice based announcement system.

**This project provides exposure to the following technologies:**

1. wireless Zigbee technology
2. RFID technology.
3. Interfacing Zigbee and microcontroller.
4. Interfacing RFID reader and Microcontroller.
5. Embedded C programming.
6. Design of PCB.

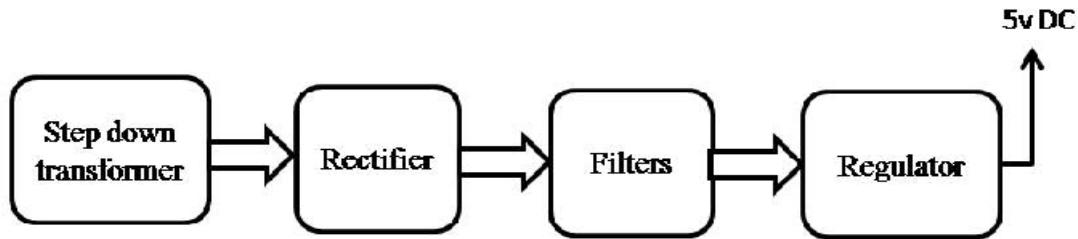
**The major building blocks of this project are:**

1. Regulated power supply.
2. Microcontroller.
3. Zigbee module.
4. RFID reader.
5. DC motor with driver.
6. LCD with driver.
7. Crystal oscillator.
8. Voice circuit
9. Reset
10. LED indicators

### Software's used:

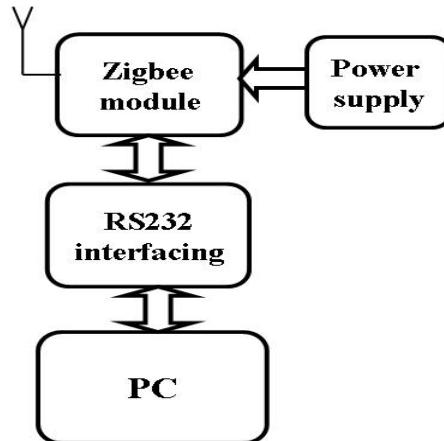
1. PIC-C compiler for Embedded C programming.
2. PIC kit 2 programmer for dumping code into Micro controller.
3. Express SCH for Circuit design.
4. Proteus for hardware simulation

### Regulated power supply:

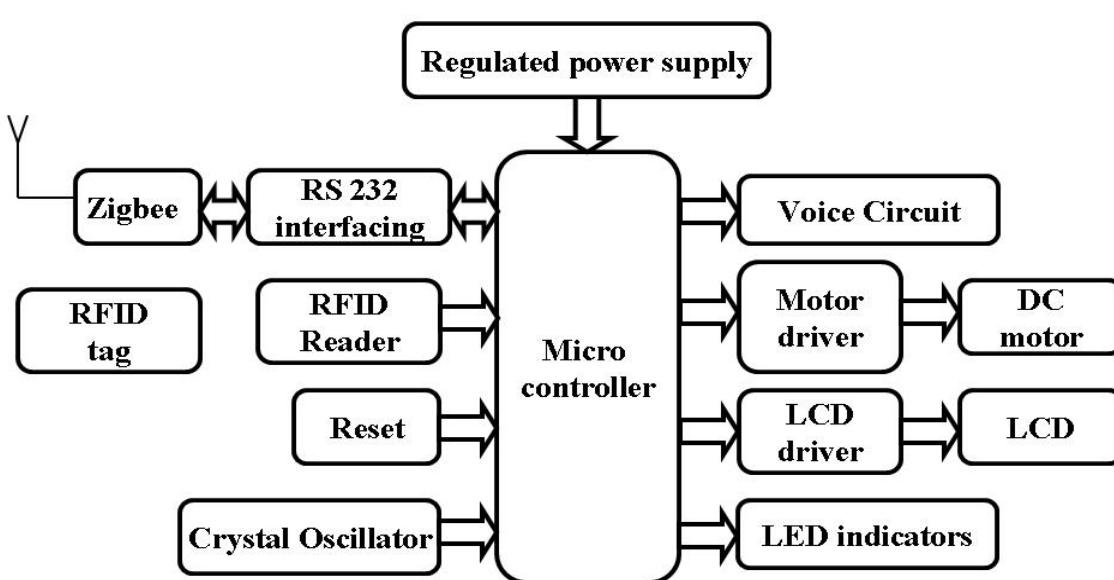


### Block diagrams:

**Indoor wireless person tracking and voice enabled  
announcement system**  
**1. Central system**



**Indoor wireless person tracking and voice enabled  
announcement system**  
**2. At room1**



## Indoor wireless person tracking and voice enabled announcement system

### 3. At room 2

