

A Novel Light-Sensor-Based Information Transmission System for Indoor Positioning and Navigation

This project aim is to identifying the different blocks in the organization by using the RF transmitter. And the employer can be able to find where the employee in the organization. All the multinational companies are having more than 50 blocks in a single building those are working for different projects. So it is difficult to find by the new employee to know which block is belongs to which category. For this we are going to develop a new project which is apt for the new employee's to know the different blocks in the organization.

The internal architecture of the mechanism consists of a GPS receiver to track the position of the employee when he was at outside and a RF receiver receives the information from the individual blocks transmitters and he can be able to see the information which is regarding the block in the LCD display when he was entered in to indoor. For synchronizing all these blocks we arranged a micro controller for receiving the information through RF receiver and transmitting the position of the employee details. Every block in the organization is having a RF transmitter which is capable of transmitting the relevant information about the block name and relevant details about it. All the RF transmitters can be placed in 30m distance for avoiding the signal interference. We can increase the number of transmitters according to the organization requirements.

GPS is the acronym for global positioning system which receives the information from the satellite anywhere in the world and provides the same for controller. The GPS provides us the data like location, time, and speed. The controller accepts these data in a sequence of steps as per instruction set as provided to the controller.

The main objective of this project is:

1. GPS enabling tracking system.
2. Works anywhere in the organization.
3. Displays the information of various blocks when the employee entered.

The project provides the following learning's:

1. GPS technology.
2. RF communication.
3. Embedded C programming.
4. PCB designing.
5. Interfacing of GPS & RF receiver blocks to the micro controller.

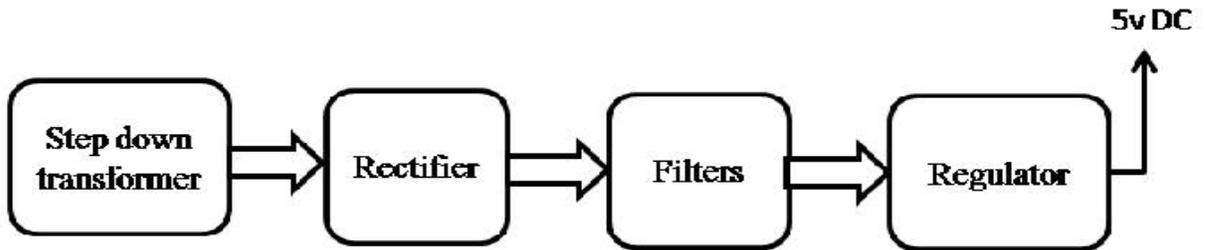
The major building blocks of this project are:

1. Regulated power supply.
2. GPS receiver.
3. RF transmitter.
4. RF receiver.
5. LCD display.
6. Crystal oscillator
7. LED indicator
8. Reset.
9. Micro controller.

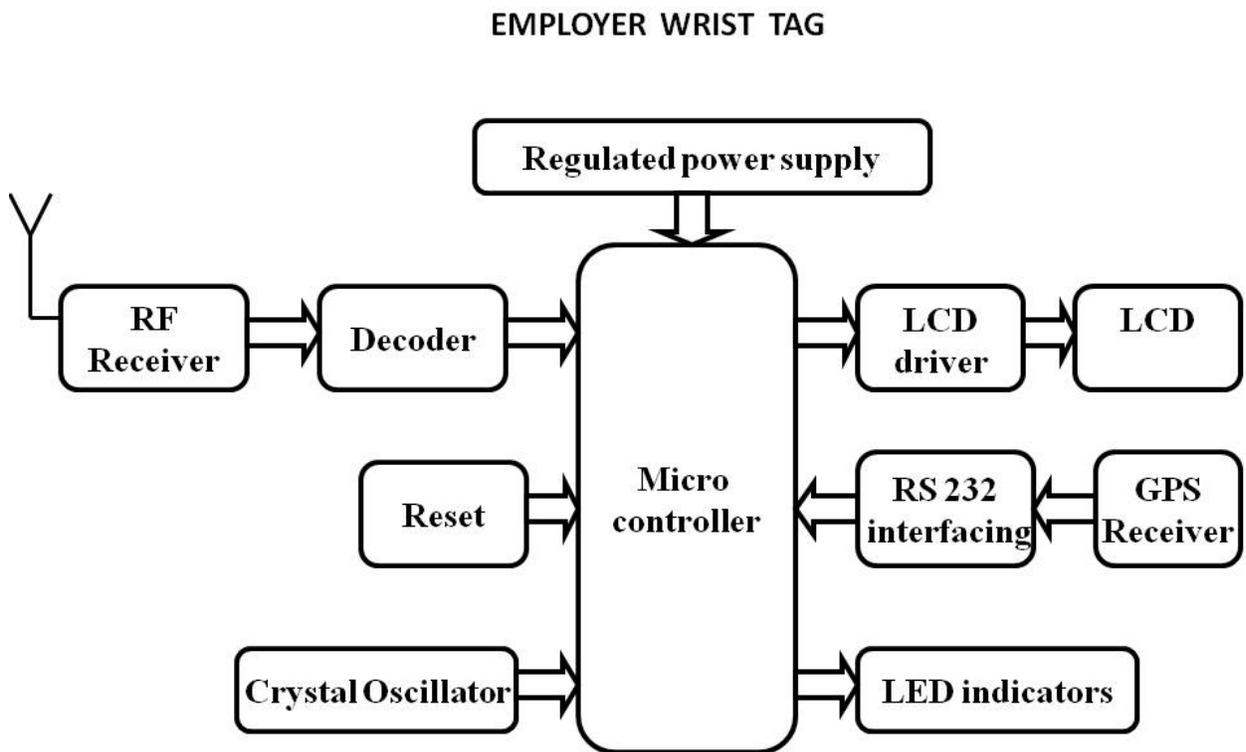
Software's used:

1. PIC-C compiler for embedded C programming.
2. PIC KIT 2 programmer for dumping the code into micro controller.
3. Express SCH for circuit design.
4. Proteus for hardware simulation.

Regulated Power Supply:

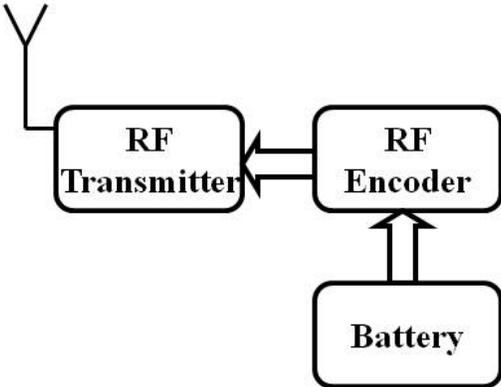


Block diagram:



RF transmitter's in the building:

Block-1 RF Transmitter



Block-2 RF Transmitter

