

Touch screen and Zigbee based wireless communication assistant For Dumb/Illiterates in Airlines

The main aim of this project is to construct a user friendly multi-language communication system for illiterate/dumb people traveling by Airlines. As we have different languages in our world and its impossible for us to know all the languages. So, in this project we are building a device that helps them in expressing their needs with other language people (Air hostess) i.e. request them if we need anything in the flight like coffee, tea, drinks etc.

In this project we use Touch screen Technology to make it easy even to illiterates as it is also included with images, which indicates the needs. This even reduces the difficulty to airhostess in receiving the customers with different languages. Here for wireless communication purpose we use Zigbee technology.

ZigBee is a wireless technology developed as an open global standard to address the unique needs of low-cost, low-power, wireless sensor networks. Zigbee is the set of specs built around the [IEEE](#) 802.15.4 wireless protocol. As Zigbee is the upcoming technology in wireless field, we had tried to demonstrate its way of functionality and various aspects like kinds, advantages and disadvantages using a small application of controlling the any kind of electronic devices and machines. The Zigbee technology is broadly adopted for bulk and fast data transmission over a dedicated channel.

This project consists of Zigbee based system that transmits the wireless signals according to the input given by the user using touch screen. At the receiver (airhostess) end the information will be displayed on LCD in English language. Here when user sends his need through touch screen, then micro controller transmits that information through Zigbee transmitter. The information received by the Zigbee receiver will be displayed on LCD.

The main objectives of the project are:

1. Wireless data communication.
2. Image based system.
3. Touch based input system.

The applications of this project are:

1. Very useful even for illiterates.
2. Faster and secure data transmission.
3. User friendly and easy to install.
4. Helpful in abroad to express user's needs.
5. Deaf and dumb people also can interact with others.
6. Can be used with any languages.

This project provides us with the learning's on the following aspects:

1. Interfacing touch screen sensor with Microcontroller.
2. Characteristics of touch screen sensor.
3. LCD User Interface design.
4. Zigbee Technology.
5. Interfacing Zigbee modules to Microcontroller.
6. Embedded C programming.
7. PCB designing.

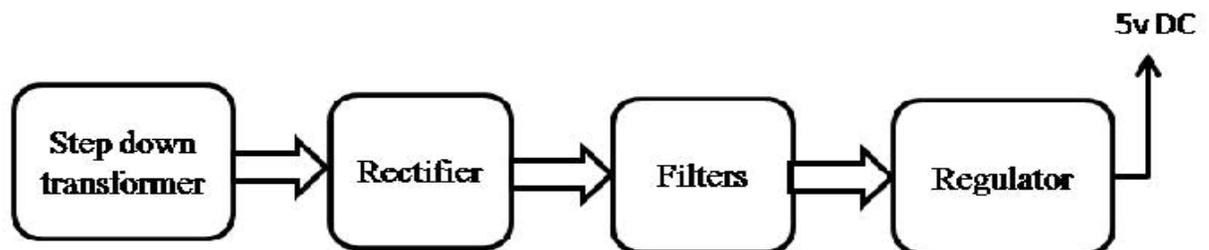
The major building blocks of this project are:

1. Regulated power supply.
2. Microcontrollers
3. LCD with Driver.
4. Crystal Oscillator.
5. Touch Screen with Driver.
6. Zigbee modules.
7. Reset.
8. LED Indicators.
9. Buzzer with driver.

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.

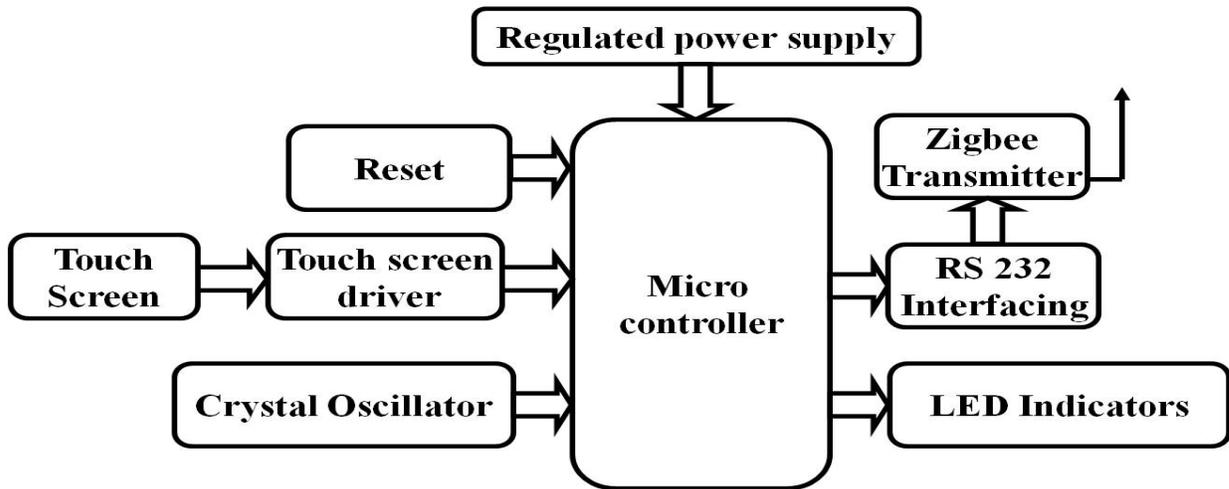
Regulated Power Supply:



Block diagram:

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1. Transmitter Section



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1. Receiver Section

