PULSE COUNTER USING 8051 MICROCONTROLLER

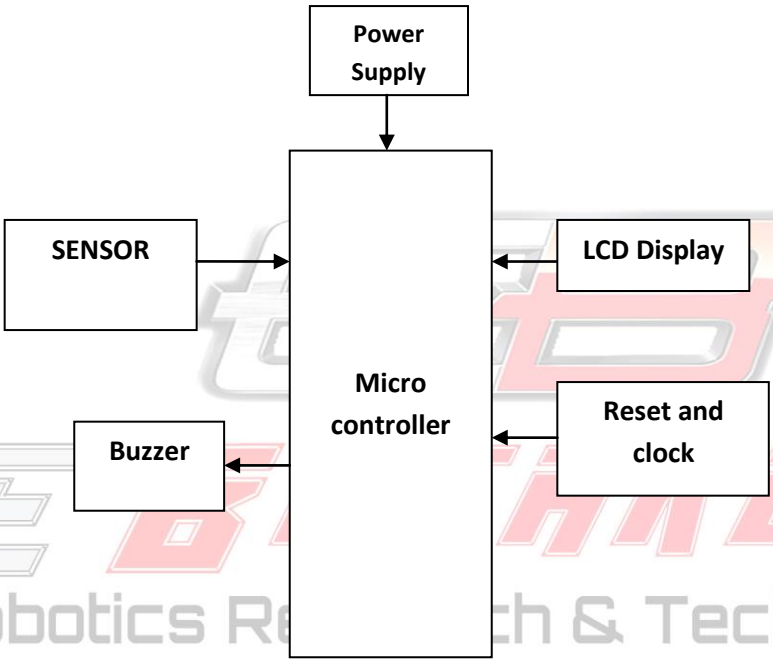
Description:

Pulse counters are widely used in our day-to-day life. Almost all museums and theaters have a visitor counter installed at entry exit to measure the visitor traffic. In industries, counting is done for production control. Market tests too are performed by counting the sold goods. pulse counter could be roughly divided into three parts: a pulse source, an electronic device that counts, stores and prepares outputs, and a display to show the accumulated count.

This pulse counter is based on Atmel AT89C4051 microcontroller. TTL-logic-compatible pulses generated by the source are fed to the counter for counting. The AT89C4051 is a low-voltage, high-performance, 8-bit microcontroller with 4 kB of Flash programmable and erasable read-only memory, 128 bytes of RAM, 15 input/ output (I/O) lines, two 16-bit timers/ counters, a five-vector, two-level interrupt architecture, a full-duplex serial port, a precision analogue comparator, on-chip oscillator and clock circuitry.

System clock plays a significant role in operation of the microcontroller. An 11.0592MHz quartz crystal provides basic clock to the microcontroller (IC1) at its pins 4 and 5. Power-on reset is provided by electrolytic capacitor C3 and resistor R1. Switch S1 is used for manual reset.

Block diagram:



Hardware requirements:

1. Micro controller
2. LCD
3. Sensor
4. Buzzer

Software requirements:

1. Keil software
2. Embedded c