

Title of the project : 89C51 Microcontroller based Coin Operated Fortune Telling System with Dancing LED Effect

Domain : Embedded Systems Design

Software : Embedded C, Keil, Proload

Microcontroller : AT89C51

Power Supply : +5V, 500mA Regulated Power Supply

Display : a) LCD
b) LED

LCD : HD44780 16-character, 2-line (16X2)

LED : 5mm White-in-Red, 5mm White-in-Blue

Crystal : 11.0592MHz

Input : LDR-LED for sensing coin insertion

Developed By : M/S Wine Yard Technologies
3-6-148/1/A, Opp HDFC Bank,
Liberty Road, Himayathnagar, Hyd – 29

Phone : 040-65178887, www.wineyard.biz

ABSTRACT

The Project 89C51 Microcontroller based Coin Operated Fortune Telling System with Dancing LED Effect is an interesting project which uses 89C51 microcontroller as its brain. It uses a Light Dependant Resistor (LDR) for sensing the coin insertion. LED-LDR arrangement is made in the coin box so that the light of LED directly falls on the LDR. If a coin is inserted in the coin box assembly the light falling on the LED is interrupted. This interrupt signal is sensed by the LDR and an NPN transistor sends a low signal to the microcontroller. By sensing the low signal the 16X2 LCD displays a fortune message which is already preprogrammed in the microcontroller.

The 89C51 microcontroller contains four ports of each eight pins. In this project two ports are dedicated for LEDs to generate dancing light effect. 16 LEDs are connected with different colour light emissions. A simple yet powerful program is written in assembly language to generate different lighting effects.

READY LED is provided to indicate the status of the microcontroller whether it is ready to accept the coin or not. If the LED is glowing means the system is ready to accept the coin.

A buzzer is provided for audio effect of the coin insertion. Whenever a coin is inserted in the coin box, the system acknowledges the coin reception by a short beep sound. This buzzer is driven by an NPN transistor.

This project uses regulated 5V, 500mA power supply. 7805 three terminal voltage regulator is used for voltage regulation. Bridge type full wave rectifier is used to rectify the ac out put of secondary of 230/12V step down transformer.

BLOCK DIAGRAM

