

Analog Clock using Arduino

Features

- ▲ Full -fledged analog clock face display with hour, minute and seconds hand
- ▲ Real-time animation of all clock hands
- ▲ Start/stop action using on-board switches
- ▲ Provision for setting time using on-board switch



Hardware

- ▲ Arduino UNO board based on the 8-bit ATmega328 microcontroller working at 16 MHz
- ▲ Sparkfun's Color LCD Shield based on the Nokia 6610 color LCD with a resolution of 128 x 128 pixels
- ▲ Interface between microcontroller and LCD :
 - * Serial Peripheral Interface (SPI)

Firmware

- ▲ Based on the Arduino programming language
- ▲ Uses the ColorLCD library which provides primitives for drawing points, lines, rectangles and circles
- ▲ Uses basic trigonometric functions to calculate next position of each hand
- ▲ Animation effect created by re-drawing earlier line with background color and drawing new line with foreground color