

EFY GROUP AT A GLANCE

PUBLICATIONS

- Electronics For You (efymag.com)
- Open Source For You (opensourceforu.com)
- Electronics Bazaar (electronicsb2b.com)
- Facts For You (ffymag.com)
- EB Times (electronicsb2b.com)

EVENTS

- EFY Expo India (efyexpo.com)
- EFY Expo West (west.efyexpo.com)
- Electronics Rocks (electronicsrocks.com)
- EFY Awards (efyawards.com)
- ELCINA EFY Awards
- IPCA EFY Expo
- Open Source India (OSI Days) (osidays.com)

ONLINE PUBLICATIONS

- EFYTimes (efytimes.com)
- Electronicsforu (electronicsforu.com)
- OpenSourceForU (opensourceforu.com)
- eleb2b.com (eleb2b.com)

DIRECTORIES

- Electronics Annual Guide

TRAINING

- EFY Tech Center (efytechcenter.com)

ASSOCIATES

- Kits 'n' Spares (kitsnspares.com)

To whomsoever it concerns

This is to certify that Mr. Nitin Kumar, M.Tech (Embedded Systems), Roll No.13MTES08,Batch 2013-15, student of "School Of Electronics, Devi Ahilya University, Indore" had done internship for 12 months from 7th June , 2014 to 28th May, 2015 at EFY Enterprises Pvt. Ltd., New Delhi . His designation was Trainee on Designing and Testing of Embedded Systems under the guidance of Col. N C Pande (B.Tech , IITD).

During the period of internship he completed major project namely **"Collision Detection System In Automobiles Using ARM Cortex-M3 Processor"** .

He also tested the following Projects and Circuit Ideas at EFY LAB which were published in EFY Magazine :-

Projects:-

1. Solar Emergency Lamp - based on solid-state MOSFET relay (PS7141-1A), adjustable switching voltage regulator (LM2678), 5V switching voltage regulator (LM2576-5), BiMOS operational amplifier (CA3140), npn switching transistor (BU505), p-channel (IRF9530) and n-channel (IRF840) MOSFET.
2. Wireless Hotel Ordering System – based on CMOS 8-bit mcu (ATmega8), 433MHz transmitter and 433MHz receiver modules.
3. Mini Offline UPS- based on (12V,3C/O) relay with 6A contact rating, dual JK FF (4027) and npn power transistor (2N3055).
4. Four-Channel Video and Audio Sequencer – based on (12V,2C/O) relay, decade counter (4017B) and switching diode, (1N4148).
5. Wireless Gesture-Controlled Robot- based on ATmega328 mcu, 3.3V Voltage regulator (LM1117-33), Encoder (HT12E) and Decoder



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(HT12D), dual H-bridge motor driver(L293D).

6. Long Delay Timer with Real-Time Clock Display – based on AT89C51 mcu and 16*2 LCD.

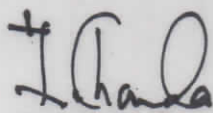
Circuit Ideas:-

1. Audio Buffer and Line Driver with Low Quiescent Current- based on quadruple operational amplifier(TL064) and rectifier diode(1N4148).
2. Low-Cost 6-Bit DAC - based on Hex inverter buffer (7406), positive -adjustable regulator(LM317) and rectifier diode(1N4007).
3. Simple Adjustable Staircase Waveform Generator- based on Hex inverter Schmitt trigger(74HC14),4-bit binary counter (74HC93),8-channel analogue multiplexer(74HC4051) and low-power dual-operational amplifier (LM358).
4. Laser Based Security Lock - 12V electric strike, decade counter (4017B),dual timer(NE556) ,timer(NE555) and photo Darlington transistor sensor(L14F1).

He successfully completed training in the stipulated period and to the satisfaction of the institution. While he performed his work with diligence and sincerity, he also displayed a great deal of enthusiasm in learning new concepts.

We at EFY wish him all the best in his future endeavors.

Authorized Signatory



Col. N C Pande

(Jt. Director,EFY Tech Center)

22 July 2015

