

'Real Time' Applications using LabVIEW with Arduino

This workshop aims at giving hands-on experience of implementing real-time applications using Arduino with LabVIEW graphical programming. LabVIEW is a most widely used visual/graphical system design platform and development environment for data acquisition, instrument control and industrial automation. Arduino, an open source hardware platform, is an easy to use, simple hardware, beginner's first choice microcontroller development board. This workshop integrates the above two powerful and industrial used platforms to practice implementing real-time applications. The workshop is suitable for beginners interested to start their work in the embedded. At the end of the workshop, the participants will be able to interface Arduino with LabVIEW.

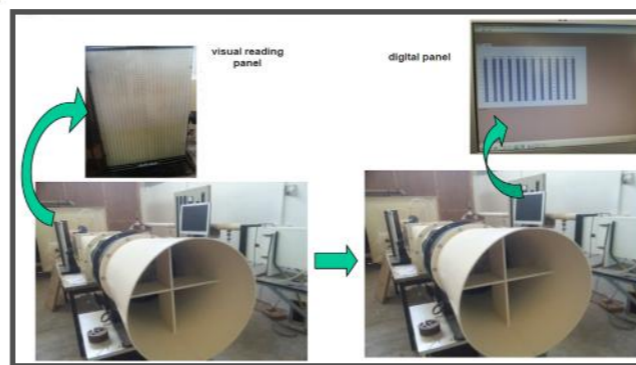
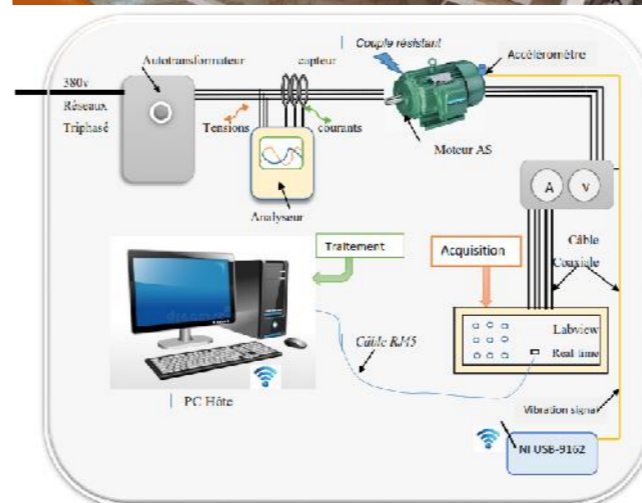
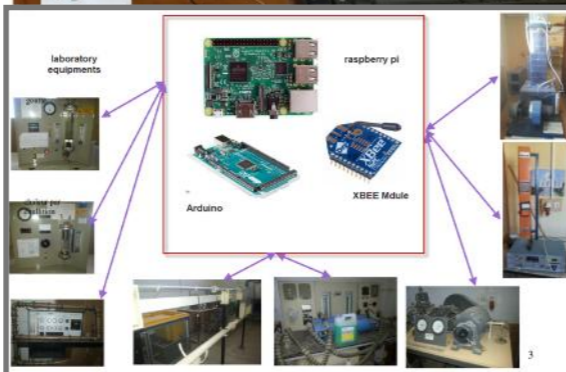
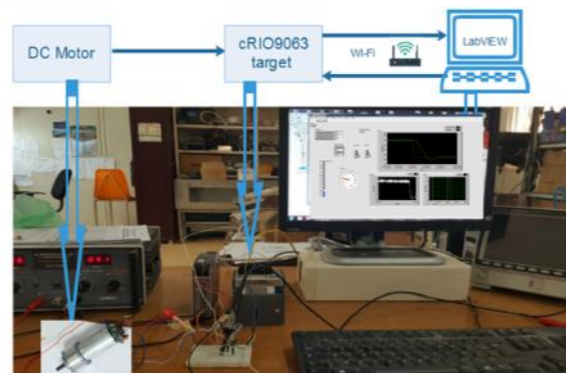
TOPICS

- ◆ Getting Started with LabVIEW
- ◆ Programming techniques in LabVIEW
- ◆ Understanding NI Data Acquisition Cards
- ◆ Introduction to Arduino Platform
- ◆ ADC and Sensor Interfacing
- ◆ FPGA tools in LABVIEW
- ◆ LabVIEW Interface for Arduino
- ◆ Real-time applications (Fault Diagnosis and Control)

In this workshop we will explain also how can use a low cost technology like (raspberry, arduino and xbee) to upgrade equipment's and we will use LabVIEW as a program to design the interface



Today's Technology requires faster and easier methods of controlling equipment. Direct Current (DC) motor is one of such equipment. In this paper, we present a novel hardware design of PID controller to supervise and control the speed response of the DC motor, a virtual instrument LabVIEW and a National Instrument hardware platform, i. e. the Compact RIO 9063 data acquisition and processing embedded kit, to implement a PID controller are used. The controller coefficients K_p , K_i and K_d are identified by MATLAB program. The results show that the proposed approach is better speed regulation and less shudder. The proposed strategy is easy to realize and has stronger robustness

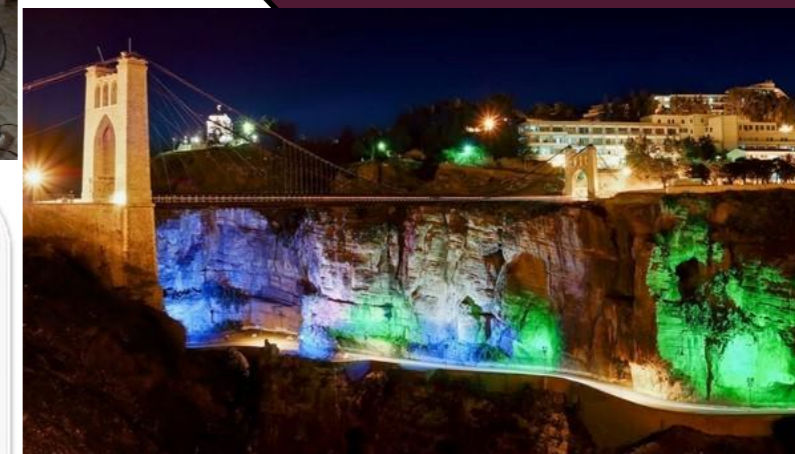


LABVIEW Workshop

Fourth International Conference on Electrical Engineering And Control Applications

ICEECA'19

December, 17-19th, 2019, Constantine, Algeria



The Workshop is open for Conference participant, Phd Students and University researchers who deals with the use of Labview in Real Time Applications

The Team Organizer are :

- ◆ TOUATI Said, Senior Researcher in Nuclear Research Center of Birine, Electrical Engineering and Instrumentation and Control.
- ◆ ZAHRA Billel, Assistant Researcher in Nuclear Research Center of Birine, Electronics Instrumentation and Control.
- ◆ GOUDIAH Nouredine, Engineering in Nuclear Research Center of Birine, Electronics Instrumentation and Control.



Address: Centre de Recherche Nucléaire de Birine, Bp 180, Ain Oussera 17200. Tel: +213 (0) 27 809 806 / 804 Fax: +213 (0) 27 809 813



Address: Département d'électronique, Faculté des Sciences de la Technologie, Université frères Mentouri Constantine 1, Constantine, 25000, Algeria, Tel: +213 (0) 31 819 010 Fax: +213 (0) 31 819 010

