Elton Francis Pinto

E-mail : eltonpinto007@gmail.com Phone : 9769120524

Address: A11, Jai Shiv Shakti CHS, kopar cross road, shashtrinagar, Dombivli west, Thane, 421202

Abstract



9+ yrs of experience in development of various Industrial and Medical system using various hardware ( PXI, cRIO, PLC, Microcontrollers) and software platform (LabVIEW, PLC, Embedded C, Matlab, CAN) in research based organization. Earned Certified LabVIEW Developer (CLD) certification by National Instruments.

Skills



1. Software: LabVIEW, LabVIEW FPGA, LabVIEW Realtime, LabVIEW OOPS, Matlab
2. Hardware: 8051 and ARM cortex-M4, Embedded C, VHDL, PLC
3. Protocol : CAN, SPI, I2C, RS232,
4. VHDL programming on Actel & Xilinx FPGA.

Projects



**1) Development of MRI spectrometer**

Magnetic resonance imaging (MRI) is an imaging technique used primarily in medical domain to produce high quality anatomical images. MRI is based on the principles of nuclear magnetic resonance (NMR), a spectroscopic technique based on a RF transceiver and associated 3 axis gradient pulses.

Team Size: 4



Role: Team Member



Hardware: Chassis (PXIe-1082), CPU (PXIe 8135) ADC (PXIe 5170R), AWG (PXI 5451), FPGA based I/O card Software: LabVIEW, Labview FPGA



Responsibility:



Firmware development for realization of Pulse Sequence in an accurate and synchronized fashion. Generation of RF signals which involves interpolating, modulation and trigger based generation. Generation of 3 Channel gradient signal



Acquisition and down conversion of signal from multi-channel receiver coil Generation of trigger associated control signal for MRI subsystem.



Implemented various design loops patterns such as state machine, Master-Slave, FPGA code, DMA FIFO, Rendezvous for synchronization, Queues & TCP/IP for data transfer to achieve the task.



**2) Vacuum Assisted Radio Frequency Dryer**

Vacuum Assisted RF dryer (VARF) is an industrial high power dryer based on the principle of dielectric heating at lower atmospheric pressure. It operates at 27.12MHz and uses 25kW triode tube for RF generation. Applicator plates are used to apply the RF to the product.

Elton Francis Pinto 1

Team Size: 3



Role: Embedded Engineer



Hardware: Siemens CPU S7-200XP PLC, HMI



Software: Microwin step 7 PLC software, ESA polymath for HMI programming



Responsibility: Coding for controls and monitoring of all interlocks in PLC and GUI development. Control of conveyor speed, vacuum level, applicator plate to product spacing and monitoring of tube & filament current, tube temperature, door interlocks, blower interlocks, arcing interlock forms the essences of the code.



**3) Firmware developer for Multi-Leafed Collimator (MLC) system**

The development of indigenous MLC used for cancer treatment by radiotherapy. MLC is a device that shapes the X-ray beam as they exit the Linear Accelerator machine to conform to the shape of the patient's tumour. It is achieved by moving 80 independent tungsten “leaves” in and out of the path of the X-ray beam in order to block it.

Team Size: 4



Role: Technical Team leader



Hardware: c-RIO 9025, CAN and Digital I/O C-series module



Software: LabVIEW Real-Time Module, LabVIEW FPGA Module, CAN protocol.



Responsibility: Developing a CAN based network code for electronic movement mechanism of 80 DC servo motor driver leaves using LabVIEW. Analysis/debugging of CAN network using oscilloscope. LabVIEW based GUI development for operator.



**4) RADIO FREQUENCY DRYER**

RF dryer is an industrial high power dryer based on the principle of dielectric heating. It operates at 27.12MHz and uses 25kW triode tube for generation of RF. Applicator plates is used to apply the RF to the dielectric product.

Control of conveyor speed, applicator plate to product spacing and monitoring of tube & filament current, tube temperature, door interlocks, blower interlocks, arcing interlock forms the essences of the embedded code.

* Team Size: 2
* Role: Embedded Engineer
* Hardware: Siemens CPU S7-200XP PLC, HMI
* Software: Microwin Step 7 PLC software, ESA polymath for HMI programming
* Responsibility: Coding for control and monitoring of all interlocks in PLC and GUI development.

**5) Service Engineer in Electrolab Pvt. Ltd.**

* Installation, calibration and servicing of various medical equipment such as Tablet dissolution tester, hardness tester etc. needed in pharmaceutical company.
* Ability to troubleshoot and implement corrective action

**6) EMI/EMC Test Engineer**

* Involved in carrying various EMI/EMC test on Industrial, Scientific and Medical equipment to test conformance/compatibility to CE standards. It involved setting of test setup as per standard and handling of several test generators and EMI receivers.

Work experience



|  |  |
| --- | --- |
| Society for Applied Microwave Electronics | May 2011 — Present |
| Engineering and Research (SAMEER) |  |
| Principal Research Scientist |  |
| Electrolab India Pvt. Ltd | Jan 2011 — May 2011 |
| Service Engineer |  |
| Society for Applied Microwave Electronics | Aug, 2005 — July,2007 |
| Engineering and Research (SAMEER),kharghar |  |
| EMI/EMC test engineer |  |
|  |  |

Education



|  |  |
| --- | --- |
| Degree in Electronic & Telecommunication | July 2007 — May 2010 |
| Engineering |  |
| Shivajirao S. Jondhale College of Engineering |  |
| First class with 65.37% |  |
| Diploma in Electronic & Radio Engineering | July 2003 — May 2005 |
| St. Xavier’s Technical Institute |  |
| First class with 84% |  |
| H.S.C | July 2001 — June 2002 |
| Royal Junior College |  |
| Second class with 59% |  |
| S.S.C | June 1999 — Mar 2000 |
| S.H. JONDHALE VIDHYA MANDIR |  |
| First class with 60.00% |  |

Publications



International Conference on Computer Science & Information Technology held at Mumbai on 20th January,2013 for the paper "*Motion Control of CAN based DC Motor using FPGA* "

Academic Projects



**Diploma:**

Title: Wireless RF speakers using digital Audio processor:

The aim of this project was to eliminate the cables running from the audio source to the speaker thereby making a wire-free and positioning independent speaker. A FM transmitter connected to the sound system is used to transmit the base band audio signal after FM modulation. A FM receiver tuned at the transmitter frequency is placed inside the speaker box, which demodulates the signal and base band audio signal is extracted. This signal is then given to a digital processor for frequency equalization and volume adjustment via a remote. The processed signal is then fed to the speaker via the power amplifier stage.

Elton Francis Pinto 3

**Degree**:

Title: Tele-surgery using Robotic Arm:

In this project a 5 joint mechanical structure depicting the five movements made by a human arm, is simulated. Each joint has a geared dc motor driven by H-bridge motor driver. Micro-switches were used to sense the motion of the human arm and an appropriate command is generated with the help encoder, which outputs a unique code for the respective combination of switches pressed. This code is then transmitted by a RF transmitter. All these five motor movements are controlled via 8052 core based microcontroller, which receives command from a decoder via a RF receiver operating at 432 MHz.

Personal details



1. Date of Birth : 14th March, 1985
2. Marital status : Unmarried
3. Hobbies : Reading, swimming and trekking
4. Passport : H-1B visa valid till 2025

References



1. Mr. Thakur Samruddha

Mail: thakur.samruddhanitin@in.bosch.com Mb: 9004817500

1. Mr. Yavalkar Sanket

Mail: sanket.yavalkar@gmail.com Mb: 7738458494