

Labview Expertise

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Ben Vaessen, Born on August 4th, 1980
Owner and Software Engineer at Launch IT
Developer of technical information systems

Tel. +31 614 144 983
bvaessen@launchit.nl
<http://www.launchit.nl/>

FOM- Rijnhuizen

(Fundamenteel
Onderzoek der
Materie / Detached at
Forschungszentrum
Jülich, Germany)

- Have been responsible for almost 3 years for the control systems of two processes at an experimental nuclear fusion reactor called and was first line support officer for a third process. These processes are Electron Cyclotron Resonance Heating (ECRH), Charge Exchange Recombination Spectroscopy (CXRS) and Thomson Scattering (TS), which are installed at the reactor called TEXTOR, at the Forschungszentrum in Jülich.
- Designed and prototyped software for a proof of principle FPGA controller by National Instruments for real-time detection of phase differences in a plasma, for detecting Magnetic Islands.
- Specified, designed, implemented, commissioned and tested a 32 channel Data Acquisition System (DAQmx, National Instruments), including triggering, timing, the user interface, training to other personnel and integration into a Web Server using HDF5 data files.
- Integrated and improved the Human Machine Interface for a servo system into the overall user interface in Labview, using a RS232 connection to the servo controller.
- Created the remote human machine interface in Labview to an Arbitrary Wave Generator (AWG) written in FPGA using XPORTs for conversion from RS232 to Ethernet using the telnet protocol.
- Integrated a 4th camera in an existing control system for CXRS using Labview. Later, almost completely rewritten the code for the control system to better integrate 2 framegrabber cards running under MS-DOS, 1 framegrabber card under Windows NT and an USB 2.0 connection to the 4th camera with an internal DAQ, operated on Windows XP. Implemented error handling, integration with a webserver serving FITS files, integration to the central timing system and more.
- Designed a Labview subroutine for automatically reporting bugs and problems to a central bugs database in order to professionalize bug and problem handling.
- Designed, implemented and Integrated a HDF5 web server into an Apache Webserver (Tec Web Umbrella, TWU) for general purpose, written in C++ on UNIX using Emacs and VI as editor. Created client routines for Labview for this purpose.