Ellis Lauman
Software Engineer - PSG Controls, Inc

Willow Grove, PA - Email me on Indeed:

Authorized to work in the US for any employer

WORK EXPERIENCE

Software Engineer
PSG Controls, Inc   -   Perkasie, PA - August 2011 to Present

Responsible for the software development of new products and the customization requirements
specified by Original Equipment Manufacturing (OEM) customers
• Developed several new temperature control products using the STM32F0 ARM Cortex series
microcontrollers. Two of these products are battery based and required minimum power
requirements during operation to achieve desired battery life.
• Engineered the coordinate measurement and touch activation systems along with the accompanying product
software for a resistive touch screen interface that used the
STM32L152 controller. This was a new product segment as the company never had a touch
screen product.
• Utilized STMicro's SP1ML-915 low power RF modules to create a product that consisted of central control
device that had the capability of communicating with up 55 remote devices.
• Develop software to manage and control air conditioning and process chillers. This project
required the monitoring of fluid pressures and temperature. Control logic and software
managed the compressor operation, liquid solenoid lines, hot gas valves, recirculation and system pumps
along with fan cooling operations. Fan operations involved conventional fan
control along with EC fans. The EC fans are controlled with pulse width modulation (pwm) over a 0 to 10 vdc
range.
• Implemed adaptive learning software that anticipated classroom schedules and then
acclimated the room environment 30 minutes prior to the expected occupancy. When the room was
unoccupied, the temperature would automatically set back to save energy costs.
• Updated existing OEM products that used the MSP430 micro-controller to work with the new wireless
EnOcean 902 Mhz devices along with updated communication protocols. These
products were originally designed for use with the EnOcean 315 Mhz devices.
• Developed a control module for Package Terminal Air Conditioning (PTAC) systems that
limited room temperature based internal temperature setpoints. This project was based on the
PIC24F microcontroller.

Manager of Software and Electrical Engineering
Numonics Corporation   -   Montgomeryville, PA - 1998 to August 2011

Responsible for planning, organizing and managing internal and external resource requirements for new
product development activities, product line maintenance and upgrades along with custom requirements for
OEM customers
• Coordinated and managed several new product releases into manufacturing. Major tasks
required coordination with outside vendors, FCC, CE and UL approvals, design
validation/verification, product documentation and automated test fixtures. Implemented
design changes to replace the ADSP 2105 with the newer version ADSP 2184.

• Modified timing characteristics of an 83.333 KHZ coil signal generated by a PIC16F54 to operate at a 50 KHZ frequency.

• Designed an on board method for programming the PIC16F54 controller in order to eliminate the need for purchasing multiple board assemblies and to reduce manufacturing labor costs.

• Redesigned electronics module for digitizing product to incorporate both the ADSP 2184 and Cypress CY7C64713. Product development required the use of C for high level functions and assembler for low level, time critical operations.

• Implemented several production line automated testing hardware fixtures and software applications for manufactured products for cost reductions and improved quality.

• Responsible for creating and revising internal product documentation.

• Identified and implemented several product cost reductions.

• Responsible for obtaining product agency approvals including UL/CSA, FCC, CE and VCCI along with any required maintenance or updates associated with these approvals.

• Embedded controller experience including Cypress CY7C64713, 8040, 8032, MC68HC705C8FN, PIC16F54, 8085 and 8080

• Worked directly with all OEM customers, domestic and international in defining and implementing custom product requirements.

• Defined and implemented company ISO 9001 engineering procedures.

• Responsible for the management of Technical Support personnel.

• Converted VB6 screen graphics and drawing applications over to VB.Net platform.

• Updated product device driver to operate with Vista and Windows 7

• Developed an OSX device driver.

EDUCATION

Bachelors of Science in Electrical Engineering
TEMPLE UNIVERSITY

Associates in Applied Sciences
Montgomery County Community College