John A Griswold
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+1(617)834-5787

John A Griswold

Motivated senior software engineer experienced in developing software on a variety of platforms with PPC, Intel, and several microcontroller architectures. Strong background in Linux and C device driver development, hardware bring-up and verification, system integration, and manufacturing test. Technical and project leadership skills to advance projects from specification through development, manufacturing, and customer acceptance.

Proficient in

- C, Perl, PHP, MySQL, svn, MS Office, gcc, gdb, shell, Keil
- TCP, IP, UDP, UART, SPI/SSI, ADC, DAC, PWM, XML, GUI, SNMP, CAN

Experience with

- C++, STL, Java, Eclipse, git, BLE, Perforce, Android Studio, Greenlight.Guru, Jira, Confluence, CubeMX, DSP
- Oscilloscopes, function generators, frequency counters, power supplies
- Logic and spectrum analyzers
- Debuggers, emulators, JTAG, programmers
- Protocol analyzers

Platforms

- Linux, Windows, Windows Mobile
- Bare 8/16/32 bit microprocessors/microcontrollers (Z80, 8051, PIC, Atmel, ARM Cortex M3/M4/M7, STM32)
- Arduino, Raspberry Pi, Android

"Side" projects include:

- Android-deployed data view application for a handheld instrument communicating via Bluetooth Low Energy (BLE). Designed and implemented multipage UI incorporating data presentation, photographic capture, data value weighting.
- Microcontroller-based dual-port gas oven controller to safely control gas flow and ignition while monitoring flame and external "call-for-heat" signals.
- Microcontroller-based gas ignition voltage converter to allow US-spec (120-150V) igniters to be used in Europe
- Embedded-system instructive blog (http://www.johngriswold.tech/embedded)

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Work Experience

Senior Software Engineer

Mar 2017 – Present	Vivonics, Inc	Bedford, MA

Vivonics develops medical technologies that improve human health and performance

- FDA compliant environment (IEC 62304, ISO 13485)
- Inter-cranial pressure (ICP) monitor firmware (multi-processor, DSP, ADC, STM32)
- Multi-sensor physiological monitor firmware (BT, ECG, SpO2, HR, HRV, PIC)
- Mentor junior engineers, hardware design review, hardware/software interface, board bring-up

• Principal Firmware Engineer

Aug 2016 – Feb 2017	Echo Therapeutics	Littleton, MA

Responsible for design and development of embedded firmware for a continuous blood glucose monitor

- VC++ abrasion system monitor running on PC
- Bluetooth (BLE) control of battery-powered abrasion system
- ARM-based skin preparation system
- ARM-based continuous blood glucose monitor (CGM)
- Automation of test station software for abrader validation
- Medical device environment (IEC 62304, ISO 13485)
- Android based CGM display app

Principal Firmware Engineer (Contract)

Oct 2015 – Mar 2016	Rigaku Analytical Devices	Wilmington, MA

Responsible for design and development of embedded C++ firmware for a handheld spectrum analyzer product line

- Linux driver development on Freescale IMX6 quad-core processor
- C++ middleware, C++/Qt presentation layer
- Refine and integrate camera driver for photo and bar-code applications

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- Redesign and enhance ADC and DAC controls for an improved laser controller board, API development
- Implement power-control scheme to capture and control an unexpected power-off event
- Implement production software to capture and display calibration and quality assurance data

Principal Firmware Engineer (Contract)

Jul 2014 – Mar 2015	Bruker	Billerica, MA

Responsible for design and development of embedded C++ firmware for a line of field instruments

- Maintained and enhanced TI Cortex M3 and M4 microcontroller platforms
- Developed inter-processor communication via CAN bus, developed dynamic addressing to reduce data latency
- Enhanced mass spectrometer control board, adding ADC and DAC channels (SSI) to ARM M3 core
- Upgraded ARM Cortex M3 and M4 software managing ADC and DAC in field instruments
- Developed low-overhead five-channel interrupt-driven pulse counter
- Participated in hardware design reviews
- Enhanced PDA presentation layer under Windows Mobile using C#
- Maintained and enhanced test/manufacturing/configuration platform in Java (Eclipse)

Senior Software Engineer

Jan 2002 – Sep 2013	Aware, Inc	Bedford, MA

Responsible for design and development of Linux drivers and Linux and Windows application code

- Expanded test engine scripting language (VC++) critical to overnight software test
- Developed and supported customer ports of device drivers for proprietary DSL modems (C)
- Designed and developed Linux applications in DSL modem for flagship diagnostic product (C)
- Implemented comprehensive scripted system tests for manufacturing validation (bash)
- Developed scripted test metrics to guarantee manufacturing quality standards, capture data (XML, SQL)
- Expanded manufacturing data capture, archiving, reporting (SQL, Perl, Excel)
- Designed and developed PIC front end keyboard/display controller for DSL diagnostic handheld (PIC ASM)

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- Developed SNMP data gathering software for DSL carrier-side diagnostic product suite (Java)

Principal Software Engineer

Aug 1997 – Oct 2001 | Teloquent | Billerica, MA

Responsible for design and development of Windows drivers and applications software in a call center system

- Developed Visual C drivers for ISDN and POTS telephone devices
- Developed Visual C++ system software for call synchronization and server communications
- Maintained Visual Basic GUI for agent display and configuration
- Managed Visual Source Safe version control system
- Responsible for configuration and build management

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Principal Software Engineer

Aug 1996 – Aug 1997	SystemSoft	Natick, MA

Responsible for design and development of PCMCIA device drivers for laptop PCs from various client manufacturers

- Customized drivers to support chip features and characteristics across multiple manufacturers' product lines (VC++)
- Developed customized diagnostics (VC++)
- Validated operation of multiple functions/brands of PCMCIA expansion cards across all platforms

Senior Software Engineer / Hardware Design Manager

Mar 1986 – Aug 1996	IDEAssociates	Bedford, MA

Responsible for firmware and software design across a varied product line; responsible for management of hardware and PWB design for a line of PC peripherals and video display terminals

- Designed and developed 8031 firmware for PC removable disk drive controller peripheral
- Worked in team development of 68000 based video display terminal (C, 68000 ASM)
- Managed design team of three hardware engineers, two PWB layout engineers, and two software engineers
- Developed Windows self-installation and configuration software for video display terminal format PC
- Designed and developed data conversion utilities to support automated test team using GenRad in-circuit testers (C)

Software Engineer

Jan 1983 – Mar 1986	Datachecker/DTS	Maynard, MA

Responsible for design and development of Point-of-Sale peripherals in 8031/8051 ASM

- Implemented Slave side of Master-Slave RS-485 addressed communications protocol used across all products
- Designed and developed hardware for dual-8031 processor implementation of laser bar-code scanner
- Designed and developed firmware for dual-8031 laser scanner including inter-processor communications
- Designed and developed firmware for two different interrupt-driven dot-matrix receipt printers
- Designed and developed firmware for 8 x 8 key matrix keyboard with N-key rollover
- Designed and developed firmware for CRT interface controller

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Education		
BS, Computer Systems Engineering	University of Massachusetts	Amherst, MA
AS, Engineering Studies	Springfield Technical Community College	Springfield, MA
US Citizen		
US Navy Veteran, Honorable discharge		Norfolk, VA