Timothy R Kemp

125 Ginger Cake Dr.
Fayetteville, GA 30214
(614) 563-8911 (cell)
tim@ephehm.com
(electronic version of resume: www.kempresume.com)

Summary

Software and hardware developer with over 20 years experience. Has contributed at all design process levels, from technical project leadership and developing product specifications to debugging hardware and software. Involved in a wide variety of industries developing embedded microprocessor based products. Contributed to numerous successful products.

Skills (years of experience/most recent year used)

General

- Works well independently, as a team member and as a team leader. (20+/2016)
- Quickly grasps architecture of complex systems. (20+/2016)
- Adept at developing new system architectures and incorporating new features into existing systems. (20+/2016)

Software

- Extensive experience programming in:
  - C (20+/2016)
  - C++ (14/2016)
  - Numerous assembly languages
    - 68000 family (7/1997)
    - 8086 family (5/1994)
    - AVR (5/2004)
    - 68HC05 family (3/1991)
    - 8051 family (2/1991)
  - BASIC for applications for small test and utility programs (20+/2010).
  - Using Microsoft Visual Studio for C and C++ development (19/2016)
- Thorough understanding of special needs of embedded software and hardware (20+/2016).
- Experience with a large number of communications protocols (20+/2016).
- Experience with a variety of embedded environments:
  - Embedded Linux (3/2004)
  - Polling loop - i.e. no operating system (20+/2016)
  - pSOS (6/1997)
  - VxWorks (2/2010)
- Experience writing test, utility and diagnostic software in real-time embedded, UNIX/Linux and Microsoft Windows environments (20+/2016).
- Experience developing web sites using HTML, PHP and Macromedia Flash (20+/2016).
- Experience with many different source code version control systems (20+/2016).
- Experience with UML (1/2004).
- Experience developing for the PIC-18 and PIC-24 using Microchip and HI-TECH C compilers and MPLAB (5/2016).

Hardware

- Extensive experience developing microprocessor/microcontroller based products (20+/2009).
- Broad knowledge of components and technologies (20+/2009).
- Sound knowledge of programmable logic (19/2003).

- Experience with VHDL (3/2003).
- Experience prototyping and debugging digital and analog circuits using oscilloscopes, logic analyzers and emulators (20+/2009).

Work History

2014 - Present – *Eaton Lighting*, Peachtree City, GA - www.cooperindustries.com
Position: Lead Embedded Engineer

- Develop and maintain firmware for a number of Microchip and AVR processors.
- Firmware developer for all of company's occupancy sensors.
- Develop and implement algorithms for monitoring passive infrared sensors.
- Develop and implement algorithms for controlling light output levels for daylight harvesting.
- Author firmware group's code inspection process.

***2012 -* 2014** – *General Electric Transportation*, Erie, PA - www.getransportation.com
Position: Lead Software Engineer

- Develop control and monitor software for locomotives.
- Implement new customer features.
- Create implementation guides for adding features to existing subsystems.
- Write a variety of utility programs to streamline the development environment (Windows command line).

***2010 -* 2012** – *Whirlpool Corporation*, Benton Harbor, MI - www.whirlpool.com
Position: Senior Electrical Engineer

- Develop software for LCD touch-screen graphical user interfaces. Develop new software and maintain existing product software for a number of different appliance categories including cooking, laundry and refrigeration.
- Work in various software teams and individually with graphic artists, user interface specialists and test groups to successfully develop multiple products. Use agile methodologies to improve development process.
- Developed an Adobe Flash simulation environment to simplify software development and for outside groups to experience and evaluate the appliance interface software.

***2008 -* 2010** – *John Deere IVS*, Urbandale, IA - www.deere.com
Position: Senior Product Engineer
(Contract through Volt Information Services - www.volt.com)

- Maintain firmware and develop new features for in-cab touch-screen computer to control and monitor agricultural equipment and farming processes.

2008 - *Electrolux*, Springfield, TN - www.electrolux.com
Position: Senior Product Engineer

- Developed a high efficiency, event driven, embedded operating environment for appliances.
- Developed a Windows simulation system for the operating environment using Adobe Flash to simulate the user interface and other peripherals. This allowed development of the embedded application with both Microsoft Visual C++ and GCC/GDB.
- As last remaining individual from the Electrolux development team, responsible for maintaining firmware for all Electrolux cooking appliances: ranges, cooktops and wall ovens.

2007 - 2008 - *Electrolux*, Springfield, TN - www.electrolux.com
Position: Contract Engineer
(Contract through Carlton National Resources - carltonnational.net)

- Worked with a large team to develop firmware for a variety of cooktops and ranges.

- Supported both engineering and production with troubleshooting problems and when appropriate correcting them.

2007 - *Rockwell/Collins*, Cedar Rapids, IA - www.rockwellcollins.com
Position: Contract Engineer
(Contract through Volt Information Services - www.volt.com)

- Wrote software to generate configuration files for equipment in an aviation network (ARINC 429.)
- Developed requirements for network configuration tools.
- Modified existing subsystem to bring it into compliance with specifications.
- Member of cross-functional team.
- Created architectural documents for configuration generation tools.

2005 - 2006 - *Lucent Technologies*, Columbus, OH - www.lucent.com
Position: Firmware Design Engineer
(Contract through Engineering Resource Group - www.engineeringresource.com)

- Developed firmware portion of a GPS reference replacement for an Assisted GPS application.
- Acted as Lucent's technical liaison with new GPS receiver manufacturer.
- Updated vendor GPS receiver specifications.
- Ported development tools from UNIX to Windows.
- Developed time based task dispatcher.
- Improved performance and maintainability of existing product line firmware.

2005 - *Nova Systems Solutions*, Cincinnati, OH - www.nova-eng.com (parent company website)
Position: Senior Software Engineer
(Contract through Engineering Services Group Inc. - (973) 334-4844)

- Worked on OFDM Software Defined Radio implemented on TI DSP.
- Developed a series of system verification tests in C++.
- Member of cross-functional team to solve critical problem at customer site.

1992 - 2004 - *Applied Innovation*, Dublin, OH - www.aiinet.com
Position: System Architect/Staff Engineer (1994-2004)

- Involved in development of all major product architectures.
- Developed several products, from inception to production.
- Developed hardware and software using PowerQUICC and AVR processors, Altera FPGA and PLDs, LVDS Transceivers, a variety of parallel and serial memories, C, C++ and assembly language.
- Contributed as architect, team leader and developer of both hardware and software.
- Acted as chief engineer for engineering department managers.
- Created and maintained design documents, schedules and task assignments.
- Worked as part of team to transition products from X.25 to TCP/IP. This allowed the product to follow this trend in the telco industry and allowed better remote management.
- Developed several internal websites. Supported engineering administrative assistant in maintaining some of these and some developed by others.

Position: Engineering Group Manager (1993 - 1994)

- Managed team of four engineers while working as contributing engineer.
- Major contributor to ISO 9000 engineering procedures.
- Developed hardware and software using the Motorola 68000, C and assembly language.
- Developed and directed the development of several important Applied Innovation technologies including: AutoID, ROMID and software download.

Position: Software Engineer (1992 - 1993)

- Software Engineer responsible for AI181 CLC (Common Logic Controller - device responsible for configuration and call routing of entire product line).
- Developed several important Applied Innovation product features including: aliases, macro language, unified window transactions, multiplexed connections and alternate call routing.
- Developed software using the Motorola 68000 assembly language.
- Increased CLC performance by orders of magnitude.
- Restructured CLC code to allow porting to a new platform, the AI199.

1991 - 1992 - *Salient Systems*, Dublin, OH - www.salientsystems.com
Position: Senior Software Engineer

- Designed, developed and maintained several software modules of Wheel Impact Load Detector (WILD) system. This system used a 68020 processor and ran the OS-9 operating system. Development was performed on Sun workstations.
- Developed train simulator using assembly language and C on a PC platform.

1989 - 1991 - E*ricsson-GE Mobile Communications*, Lynchburg, VA
Position: Staff Engineer

- Wrote firmware in assembly language for 68HC05 I/O processor in handheld digital trunking public service radio. Modified existing 8051 main processor assembly language code in the same radio to support new user interface and additional new features.
- Lead engineer of American team on first US/Swedish joint engineering project.
- Worked several months in Sweden developing completely new code for the 8051 in the above radio to support a completely different signaling scheme used in Swedish radios.
- Employed initially as part of American team and later hired by Ericsson in Sweden as part of the Swedish engineering team.

1982 - 1989 - *Columbus Instruments*, Columbus, OH - www.colinst.com
Position: Design Engineer

- Developed product specifications from customer and management input.
- Developed software, hardware, mechanical assemblies, user documentation and marketing literature for laboratory equipment manufacturer.
- Designed hardware using the 6502, 68000, 4000 series CMOS, TTL, PLDs, static RAM, EPROMs and a variety of analog devices. Used a variety of early PC schematic capture and board layout tools including the DOS version of Orcad.
- Developed software using assembly language, BASIC and C on both PCs and embedded processors.
- Provided customer support.
- Introduced several concepts to company including embedded processors, programmable logic and the C programming language.
- Developed one of the company's most successful products, a standalone system which monitored several aspects of animal behavior using a video source.
- Used a wide variety of sensor types to monitor most externally discernible physiologic parameters of animals.

Education

1981 - 1984 - *DeVry Institute of Technology*, Columbus OH
Graduated with BSEET