Tim Toombs

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Strengths	
	▪ A proven track record working at the interface between hardware and software.
	▪ Breadth of experience with a variety of products and platforms in industries ranging from vending to telecommunications, from woodcutting to road building.
	▪ Many years experience designing and building both hardware and software real-time embedded systems.
	▪ Numerous examples of delivered products currently in service.
	▪ Exceptional ability and excitement for quickly learning new cool stuff, and playing well with others.

Experience

1999-Present   Automation Engineering Group   Apex, NC

Consultant

- Designed and built hardware and software for Fuel Cell Safety monitor for high-voltage, high-power fuel cells (Motorola 6808)
- Designed and built very low level control software for POTS service cards (MicroChip PIC) in 3 months. Did same for ISDN service card in another 3 months.
- Added Fiber (OC-3) transport to existing copper transport system (C++ on pSOS).
- Added ADSL and OC-3c service card support to Fiber transport system (PowerPC).
- Supported TI DSP (TMS320) based telephone line test product (Code Composer Studio)
- Designed and wrote software for automated aggregate separator (8051).
- Wrote complex motion control software and PLC code for patented hydraulic press.

1996-1999   Barr-Mullin, Inc.   Raleigh, NC

Director of Engineering

- Introduced several new mainstay products using both DOS and Windows NT including automatic chop saw and high-powered laser scanner for wood products.
- Instituted new policies for product development including documentation and build procedures.
- Managed engineers, technicians and contractors.
- Designed and implemented corporate and department budget process.

1994-1996   Broadband Technologies   Durham, NC

Consultant

- Ported OS (pSOS) to new hardware, including driver level code for high-speed ATM switches.
- Built load and debug environment for new system over Ethernet and custom LAN.
- Built several simulation and test systems to be used for load testing.

1990-1994   Automation Engineering Group   Apex, NC

President

- Built hand-held device for pharmacy time management project.
- Automated a sewing machine to attach labels to private label tee shirts.
- Built a prototype high-speed chop saw.
- Designed and built control systems for flower vending machines.

Continued on Reverse

	1987-1990 Senior Software Engineer • Ported OS (OS/9) to new hardware. • Wrote developer manuals.	Matrix, Inc.	Raleigh, NC
	1984-1987 Software Engineer • Wrote software for paper inspection system. • Invented algorithm for paper grading system. • Built, installed and supported security thread tracking system for currency paper.	Integrated Automation, Inc.	Alameda, CA
	1982-1984 Software Engineer • Designed and implemented memory management system for new hardware.	Wang Labs, Inc.	Lowell, MA
Education	1978-1982 • B.S. Computer Science • Minor in Business	University of Illinois	Urbana, IL
Skills	• SDS C++ for 680x0 and PowerPC. Borland C/C++, Microsoft Visual C++ on DOS and NT. • Target operating systems: OS/9, VxWorks, pSOS, DOS • Avocet Cross compilers for the Motorola family of processors. Microchip and Parallax assembly for PIC. Archimedes C Compiler for 8051. • EST and HP emulators for PowerPC. Orion and Huntsville Emulators for 680x0 and 6809. Parallax emulators for SX-family, ICEPIC for Microchip family. Metalink for 8051. • Various Logic Analyzers, Oscilloscopes and general test equipment • ORCAD schematic capture and most general purpose PC tools • Sun UNIX, X-Windows, and most general UNIX tools • Mitsubishi PLC's, Ladder Logic programming for PLCs		
Interests	Basketball, camping, canoeing, electric cars.		