



Fast Footwork

Heeltoe's Notes on the Embedded World

Spring 2006

News...

Heeltoe did a lot of work in 2006 providing support for PowerPC, ARM and X86 cpu's. We also did more work involving CPLD's and FPGA devices, such as the Spartan 3 from Xilinx. We did simulation work in Verilog and VHDL. And, as always, Linux porting and driver work.

Interesting New Hardware:

- Philips LPC3000
- Philips ISP176x USB controller
- Motorola PPC 82xx
- TI DM642 DSP
- ADI Blackfin BF651

Interesting New Software:

- AJAX for web ui
- ucLinux on the ARM7
- Other PPC Linux distros – Centos

What we do...

Heeltoe Consulting provides hardware, software services and consulting for embedded systems. We specialize in Linux on a variety of platforms and CPUs such as the Motorola PowerPC, Intel ARM, MIPS and x86. Many projects involve small portable devices. We also design and develop embedded applications on small microprocessors such as PIC and Atmel.

Heeltoe uses flexible design and development teams with an interdisciplinary approach. We can help with any software and hardware design and system level issue.

Heeltoe provides design services to take a product from concept to manufacturing. We have relationships with local contract manufacturing houses and national PCB board manufacturers. We have the expertise to help you bring your product to market quickly and reliably.



Motorola 82xx cpu

What does 'Heeltoe' Mean?

The phrase "heel-toe" is a term used in automobile racing when a driver shifts the transmission and uses both feet to synchronize the gears and engine. It's used to move quickly through the gears while going as fast as possible. See our

web site (<http://www.heeltoe.com>)
for more details.

Recent Projects

- *SNMP/AJAX web user interface*

Heeltoe helped create a web user interface for a diagnostic computer, based on parsing the SNMP MIB definition file. The web code was automatically generated from the SNMP MIB.

- *SAM7S firmware*

We wrote and debugged a large portion of the embedded firmware in a chemical monitoring device. This involved writing a serial boot loader, flash writing routines and a number of hardware drivers. The device logged data to an MMC card with an MS-DOS file system.

- *SAM7S hardware & firmware with Xilinx CPLD*

Created SAM7 design with CPLD for controlling a target device via JTAG and parallel i/o pins. Included TCP/IP interface over Ethernet.

- *uclinux ARM set top box applications*

Ported application to ucLinux environment for set top box.

- *PowerPC 82xx + Xilinx FPGA, VHDL debugging*

Debugging of problem linux port using PPC8248 and Xilinx FPGA. Debugged problems in VHDL code.

- *PowerPC 82xx + Philips ISP176x USB linux driver*

Debugging and validation of linux driver for ISP176x USB host controller.

- *Wireless radio explorations*

Reading and analysis of packet radio prototype using linux and a DSP cpu.

- *Philips LPC3000 linux mini-port*
Created port from scratch for LPC3000. Booted to shell prompt.

- *ADI Blackfin BF561 exploration*
Basic Linux exploration, making sure Linux boots and runs.

- *TI DM642 video & audio encoding*
Optimized video encoding code to work with video player running on Linux.

YOUR PROJECT HERE

Contact Information:

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