

JEFFREY SAFIRE
dba Shadow Cliffs Engineering
Software, Firmware, Web programming
and Expert Witness/Consulting

Curriculum Vitae

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EXPERIENCE:

September, 2012 - Present *Expert Witness/Consultant*
Calabasas, CA
Trade secret, copyright, and breach of contract for source code and reverse engineering. Mac OSX software.

November 2012 - January, 2013 *Expert Witness/Consultant*
Saratoga & Palo Alto, CA
Forensic analysis of USB memory card readers in notebook and desktop computers for patent infringement.

April 2011 - January, 2012 *Expert Witness/Consultant*
Redwood Shores, CA
Pre-filing forensic analysis of competitive products for patent infringement of hard disk duplicators and erasers. (IDE, SCSI, USB)

June, 2012 - July, 2012 *Firmware Engineer - Consultant*
Sunnyvale, CA
Quick design and implementation of calibration code for manufacturing of embedded device. ('C', Python)

March, 2012 - May, 2012 *Firmware Engineer - Consultant*
Fremont, CA
Evaluation and debugging of firmware for medical device about to go into production. ('C')

April, 2011 - January, 2012 *Expert Witness/Consultant*
Redwood Shores, CA
Pre-filing forensic analysis of competitive products for patent infringement of hard disk duplicators and erasers. (IDE, SCSI, USB)

September, 2010 - June, 2011 *Expert Witness/Consultant*
New York, NY and San Francisco, CA
Analysis of defendant's hard disk drive firmware involving three servo-system patents.

January, 2009 - November, 2010 *Expert Witness/Consultant*
Chicago, IL and Redwood Shores, CA
Expert Consultant analysis of public software tools for Hard Disk Drives in a patent infringement lawsuit involving a hard disk manufacturer and a software company.

July, 2009 - September, 2010 *Firmware Engineer - Consultant*
San Jose, CA
Architecture design and firmware development of automotive engine diagnostic equipment. ('C', Java, CAN-Bus, USB, Ethernet, Xylinx)

April, 2008 - November, 2008

Fremont, CA (Nanochip, Inc.)

Firmware Engineer - Consultant

Firmware and software consultant responsible for architecture of read/write, defect management, boot code, "flash" translation layer, ONFI flash and USB interfaces for a novel nano-scale memory storage device. ('C', Java)

December, 2006 - September, 2007

Washington, DC

Expert Witness/Consultant

Expert Consultant conducting extensive forensic analysis of competitive hard disk in search of patent infringement. (ITC)

September, 2007 - October, 2007

Princeton, NJ

Expert Witness/Consultant

Expert consultant conducting research for prior art in a PCI Bus-like patent to determine possible infringement of a modern system. Patent was removed from the preliminary contentions after one month.

October, 2006 - January, 2008

Los Angeles, CA

Expert Witness

Expert Witness conducting research for prior art in Audio/Video-capable hard disks, against an invalidation complaint, including a declaration.

November, 2005 - April, 2006

Washington, DC

Expert Witness/Consultant

Expert Consultant conducting research for prior art in early SCSI devices, and testing of several SCSI host adapters for interface operation and parameters.

August, 2004 – April, 2006

Austin, TX

Expert Witness

Expert Consultant research on patent involving host computer system – hard disk communication. Including patent interpretations, claim charts, electronic, firmware and operational analysis, court tutorial, expert report.

February, 2005 – September, 2005

Washington, DC

Expert Witness

Expert Consultant engaged in forensic electronic and operational analysis of hard disk drive. Including multiple patent interpretations, claim charts, extensive electronic and operational analysis, court tutorial, expert report. (ITC)

January, 2004 – September, 2004

Irvine, CA

Expert Witness

Expert Consultant research work involving multiple hard disk drive patent infringement studies. Including multiple patent interpretations, claim charts, forensic electronic analysis of device, and expert report. (ITC)

September, 2003 – December, 2003

Austin, TX

Firmware Consultant

Consultant advisory role for Hardware, Firmware, and Software design of SCSI-based military-spec Flash "drive". (SCSI-1,2, 'C', Java, VHDL, Xylinx)

December, 2002 – June, 2003

San Francisco, CA

Software Consultant

Application Design for small business customer/contact list, invoicing, and inventory control system. ('C', MS Access, Windows 2000)

May, 2002 – November, 2002

Hayward, CA (Denoptix/ALARA)

Firmware Consultant

Firmware development for a small bone-density scanner medical device with integrated printer. ('C', ASM, x86, USB)

February, 2002 – June, 2002

Boise, ID (Wolf Creek Software)

Firmware Consultant

Development of DMA hardware and firmware for a large medical x-ray device. ('C', 80C386, PC-104, USB 2.0, P-1394-Firewire)

July, 2001 – January, 2002

Hayward, CA (Denoptix/ALARA)

Firmware Consultant

Development in C for a stand-alone medical scanning device. Included data acquisition, power-on diagnostics, and scanning control of x-ray device. (683xx, 'C', ASM, QNX, USB 2.0)

January, 2001 – March, 2001

Santa Clara, CA (Auspex)

SCSI/TCP/IP Consultant

Provided solutions for reported SCSI problems for NAS manufacturer. (SCSI, RAID, Solaris, TCP/IP, 'C')

July, 2000 – July, 2001

San Jose, CA (Infineon)

Firmware Consultant

Designed C code for optimization of disk drive servo system. Developed SCSI code for WD controller and Read/Write code for new Read Channel IC. (Infineon '266)

November, 1999 – April, 2000

Menlo Park, CA (System Surety Group)

Expert Witness/Consultant

Expert consultant responsible for the study and comparison of source code for two high-capacity floppy drive designs for possible patent infringements. Claim charts, expert reports. (80C196, 'C')

July, 1998 – November, 1999

Santa Clara, CA (Siemens)

Firmware Consultant

Optimized DSP servo control code for a DVD drive, coded using four separate microprocessors/DSP's for comparison. Architected servo firmware for chosen design. ('163/263, Sharc, Tricore)

September, 1997 – August, 1998

San Francisco, CA

Expert Witness/Consultant

Expert witness representing a disk drive manufacturer, defending Intellectual Property, Trade Secrets, and Patents. Included source code comparison, patent clarification, claim charts, and expert reports.

October, 1996 - September, 1997

Milpitas, CA (Adaptec)

Firmware Consultant

Designed 'C' code to bridge a SCSI host controller to the packetized IDE (ATAPI) interface. Included SCAM level-2 support and full ATAPI command set.

May, 1996 - October, 1996

Sunnyvale, CA (Denoptix/ALARA)

Firmware Consultant

Designed hardware and coded SCSI interface for a new-technology medical/dental scanning device. (80C196, AIC-8321, C, asm)

January, 1996 - March, 1996

San Jose, CA (Samsung)

Firmware Consultant

Responsible for coding and bringing-up read channel for a 3.5" multi-GByte SCSI-2 disk drive. (68C340, AIC-8325, C)

February, 1995 - December, 1995

Fremont, CA / Boulder, CO (Syquest)

Firmware Consultant

Architected and coded read channel for a 3.5" SCSI-2 disk drive. (80C196, AIC-8321, C, asm)

April, 1994 - October, 1994

Milpitas, CA (Adaptec)

Firmware Consultant

Added firmware for new RAID features on RAID controller. ('C')

December, 1993 - June, 1995

San Jose, CA (Conner Peripherals)

Firmware Consultant

Architected, modeled, and coded 3.5" multi-GByte headerless M-R SCSI-3 disk drive for Audio/Video applications. Power-on optimization, read channel control. (TI320C52DSP, AIC-8321, C)

December, 1992 - June, 1993

Santa Clara, CA (Iota Memories)

Firmware Consultant

Converted controller firmware of a 2.5" disk drive with ATA/IDE interface to SCSI-2 interface. (80C196,SH-360, asm)

September, 1992 - January, 1993

San Jose, CA (Samsung)

Firmware Consultant

Responsible for a SCSI-2 firmware implementation of 3.5" 500MB disk drive. (80C196,SH-451, asm)

March, 1992 - August, 1992

Milpitas, CA (Avatar)

Firmware Consultant

Converted SCSI interface 2.5" 80MB disk drive to IDE interface. (80C196,AIC-7110/7160,C,asm)

Sept, 1990 - March, 1992

Iota Memories Corporation (Startup), Santa Clara, CA

Senior Engineer

Controller firmware for a 2.5" removable cartridge 40MB disk drive, including IDE interface, read/write, diagnostics, ZDR support, and defect management. (80C196,SH-360,8086,C,asm)

May, 1988 - September, 1990

Maxtor Corporation, San Jose, CA

Staff Engineer

Developed embedded SCSI controller firmware for a high performance disk drive, including advanced commands and new enhancements to support SCSI-2 features. (8051,HPC,53C90,C,asm)

July, 1986 - May, 1988

Seagate Technology Inc., Scotts Valley, CA

Senior Firmware Engineer

Responsible for writing and maintaining all hard disk BIOS code for XT and AT compatible controllers and SCSI host adapters. (8086,8051,C,asm)

May, 1985 - June, 1986

Data Technology Corp., Santa Clara, CA

Staff Engineer

Responsible for writing hard disk firmware and BIOS code for XT/AT controllers, SCSI controllers, and device drivers for CP/M, PRO-DOS, MS-DOS and XENIX. (8080,Z80,8086,C,Pascal,asm)

April, 1980 - May, 1985

Xerox - Printing Systems Division, Hayward/Fremont, CA

Firmware/Systems Engineer

Developed control firmware for daisywheel printers and software drivers for daisywheel and laser printers. Also, system BIOS for a Xerox proprietary computer. (8049,8051,Z80,8086,68000,Pascal,C,UNIX)

EDUCATION:

1979 - 1980

Heald Institute of Electronics

San Francisco, CA

1977 - 1979

San Diego State University

Courses/Program: BSEE, English

1976 - 1977

University of California, Irvine

Course/Program: Mathematics/Physics

SKILLS:

Assembly language, 'C', Awk, Fortran, SQL, Forth, Basic, dBase, Pascal, C++, HTML, JavaScript, PHP, Python; MS Windows, MacOS, Unix, Linux; RTOS, Nucleus, QNX; SCSI, FC (Fibre Channel), SSA, RAID, AT/IDE/ATAPI, SATA, SAS, iSCSI, Flash, USB, Firewire, Read/Write, Servo; DSP, RISC; Oscilloscope, Logic-analyzer, In-circuit Emulation; MS: Word, Excel, Powerpoint, Access, Schedule; Matlab. CodeMatch/CodeSuite certified.

MEMBERSHIPS and AFFILIATIONS:

IEEE – Institute of Electrical and Electronics Engineers
IEEE-CNSV Consultants' Network of Silicon Valley (Director)
IDEMA – International Disk drive Equipment Manufacturers Association
STA – SCSI Trade Association
FCIA – Fibre Channel Industry Association
SNIA – Storage Networking Industry Association
IEEE Magnetics Society
IEEE Computer Society
IEEE Consumer Electronics Society
PATCA – Professional and Technical Consultants Association

BOARD / ADVISORY POSITIONS:

Director, IEEE-CNSV – Consultants' Network of Silicon Valley
Flash Memory Summit, Conference Advisory Board
Chairman, IEEE-CNSV Consulting Practices Program (seminars for engineers)

References available upon request.