

Robert Heller

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Computer Programmer / Linux System Administrator

Highly accomplished technology professional with broad experience in technical support, system administration, and process optimization in educational environment. Proven track record of effective systems operations and support demonstrated through hands-on development, and maintenance of network and software connectivity applications. Able to apply innovative ideas, to solve complex problems and satisfy project needs. Skilled technology expert; able to direct multiple tasks and quickly master new technologies.

Areas of Expertise

- **Systems Implementation & Design**
- **Performance Optimization**
- **Troubleshooting & Problem Resolution**
- **Technical Mentoring**
- **Hardware/Software Purchase Evaluation**

Technical Proficiencies

- **Platforms:** VAX/VMS, SunOS, Ultrix, Irix, Linux (Slackware 3.0, RedHat 4.0 through 9, WBL 3.0 (GPL Clone of RHEL 3.0)), True64.
- **Software:** ENVI, AutoCAD, KBVision, Khoros, various open source/FSF programs (compilers mostly).
- **Languages:** C, C++, Tcl/Tk, LISP, FORTRAN, BASIC, COBOL, Pascal, Java.

Professional Experience

Linux Performance Help 7/2012–8/2012 Chiliad Publishing, Inc., Amherst, MA

Helped Chiliad Publishing with some disk I/O (particularly NFS) performance problems that they were having.

Linux System Admin and general Linux guru 1/2008–present Wendell Free Library
Provide on a part time, semi-voluntary basis support for the computers used by the library patrons and the library staff. This includes keeping the Linux systems up-to-date, doing backups, and generally keeping things running smoothly.

Owner / Programmer / System Administrator 12/1993–present Deepwoods Software Wendell, MA

Wrote several C/C++ and Tcl/Tk cross-platform applications for both my own use and as open source projects. Completed customized projects for customers.

Managed Deepwoods Software Web, Mail, and FTP server, running RedHat 6.2, RedHat 7.3, and (currently) CentOS 4.5. Deepwoods Software's server hosts a number of web sites.

- ◇ Created the Home Librarian system, first as a C++ coded command-line and terminal screen based system (Version 1) and later as a C++ and Tcl/Tk GUI based system for managing a home library of books and other materials. Version 3 is in the works, a nearly pure Tcl/Tk version using a SQL back end database system. (See <http://www.deepsoft.com/HomeLibrarian.>)

- ◇ Implemented the Role Playing Database system, a C++ and Tcl/Tk program designed to help “table-top” Role Playing gamers manage their not so trivial game information. (See <http://www.deepsoft.com/RolePlayingDB>.)
- ◇ Developed substantial parts of the Model Railroad System (still under active development), a collection of programs and libraries in a mixture of C/C++ and Tcl/Tk to aid model railroaders in various aspects of running their model railroads. (See <http://www.deepsoft.com/MRRSystem>.)
- ◇ Programmed Mylex-UI, a pair pure Tcl/Tk applications (one terminal based, the other graphically based) that interface with the DAC960 RAID Driver under Linux. (see <http://freshmeat.net/projects/mylexui/>.)
- ◇ Coded TkNewsII, a QWK/NNTP news and E-Mail client, written in Tcl/Tk with some C-coded support programs. (See <http://freshmeat.net/projects/tknewsii/>.)
- ◇ Created a Shopping Cart CGI script in Tcl connecting to PayPal for Celestine Press.
- ◇ Deepwoods Software <http://www.deepsoft.com/> 2000–present, both as system administrator and webmaster.
- ◇ The Wendell Full Moon Coffeehouse <http://www.wendellfullmoon.org/> 2001–present, both as system administrator and webmaster.
- ◇ The Town of Wendell <http://www.wendellmass.us/> 2002–present, both as system administrator and webmaster.
- ◇ Celestine Press <http://www.celestinepress.com/> 2005–present.
- ◇ Francis Doughty <http://www.francisdoughty.com/> 2006–present.
- ◇ Gnomes and Fairies <http://www.gnomesandfairies.com/> 2007–present.
- ◇ Hadama Dance <http://www.hadamadance.com/> 2008–present.

In addition, Deepwoods Software has provided programming, system installation, and administration services on a contract basis:

- ◇ Aided the New Salem Board Of Assessors with wireless networking issues with a Linux-based laptop. 11/2007.
- ◇ Did contract programming for Dr. Howard Schultz of the Computer Vision Research Lab (in the CS Dept. at Umass/Amherst) in C and Tcl/Tk for his Terrest Project from 1/2006 through 12/2006.
- ◇ Did contract programming work for Prof. Allen Hanson, also of the Computer Vision Research Lab, in C and Tcl/Tk to finish up the Korean project from 1/2006 through 8/2006.
- ◇ Provided sub-contracted programming work for Objectxx (Stuart G. Mentzer) in Tcl/Tk from 12/2005 through 5/2006.
- ◇ **Installed Solaris and Linux** 1/2006–2/2006 Epistemic, Longmeadow MA
Installed Solaris 10 on a SunFire V20z server and Linux (CentOS 4) on an 4 processor AMD server.

System Administrator 1998–2000, Coyote Data Security, Leverett, MA

Managed Coyote Data Security’s web and mail Linux-based server, running RedHat 5.2 and RedHat 6.2. Coyote Data Security hosted several web sites in addition to Coyote Data Security’s web site, including Rector Press and Deepwoods Software’s web sites.

System Programmer / System Administrator 9/1980–11/2005, Computer Vision Research Lab, Computer Science Department, University Of Massachusetts, Amherst,

MA

Assisted professors and graduate/undergraduate students with computer programs and software questions. Collaborated on implementation of old LISPF3 based Vision System on VAX-11/780 contributed to getting GRASPER compiled and running under CLisp. Worked on implementation of LLVS (Low Level Vision System). Responsible for system administration in UNIX and Linux environments and computer programming in C, C++, Tcl/Tk, Lisp and original Lisp Compiler for CLisp.

Provided system administration support for a number of different systems from 1980 until 2005 on a number of UNIX and Linux desktop machines (used by graduate and undergraduate students) and several UNIX and Linux servers (file servers (NFS, Net-BIOS, and AppleTalk), web servers (Apache), mail (Sendmail) and database (PostgreSQL) servers – many of the desktop machines were also being used as servers (mostly NFS)). This included VAXStations running several versions of VMS, DECStations running Ultrix, SGI servers and workstations running Irix, Sun workstations running SunOS 4 and Solaris, and DEC AlphaStations and AlphaServers running DEC Unix / OSF / True64. The Computer Vision Research Lab was over this period a very *mixed* environment, with a number of different systems all networked together. Activities included:

- ◇ Conducted major design and implementation of ISR3.1 and ISR3.2 (Intermediate Symbolic Representation, V3.1 and V3.2) in C++, with particular work on the graphics and file I/O support.
- ◇ Translated Dr. Howard Schultz's Terrest System from FORTRAN to C, utilizing Posix threading to make effective use of SMP processing.
- ◇ Created a cross-platform GUI front end for the Camera Calibration system in Tcl/Tk.
- ◇ Created a GUI front-end for the Terrest System in Tcl/Tk. This included generating shell scripts to run the Terrest System as a batch job.
- ◇ Creating accounts for students, professors, and visiting scholars. This generally involved updating the /etc/passwd and /etc/shadow files.
- ◇ Managing disk space, including setting disk quotas and watching over shared file space. Wrote several scripts to help keep track of disk usage.
- ◇ Configuring web (Apache), mail (Sendmail), and file (NFS, Samba, and NetATalk) server daemons. Wrote scripts to handle adding and removing NFS mount points as well as creating and removing file systems on the file server.
- ◇ Installing software, both at a system level and an application level.
- ◇ Performing backups, particularly for graduating (or transferring) students. Wrote several scripts to automate this process.
- ◇ Extracting datasets from various sorts of media and making these datasets available for the researchers. Often this required writing scripts to convert data files to other file formats.
- ◇ Programmed Mylex-UI, a pair pure Tcl/Tk applications (one terminal based, the other graphically based) that interface with the DAC960 RAID Driver under Linux. (see <http://freshmeat.net/projects/mylexui/>.) The Linux file server has a DAC960 RAID controller and this script was written as an admin aid to managing the RAID array. The terminal based script was strongly influenced on the DEC-supplied program used to manage the HZ70 RAID system on the previous (AlphaServer) file server.

Many of the above activities involved writing scripts in a number of scripting languages, including csh, sh, Tcl, and awk. Over the course of his time at UMass, Robert wrote

hundreds of scripts as an aid to both his programming and system administration duties.

Robert daily edited native UNIX configuration files (as native UNIX objects) for the various UNIX services running on the UNIX and Linux systems he administrated.

*Education and
Training*

- **Undergraduate Coursework in Computer Science**

University of Massachusetts, Amherst, MA

- ◇ Programming and System Modules
- ◇ Data Structures
- ◇ Computer Systems (O/S design)
- ◇ Translator Design (Compilers)

- **Professional Development**

- ◇ Show-Plane and Friends User's Manual
- ◇ Using LLVS under VMS
- ◇ Universal LLVS Plane File Format
- ◇ ISR2 User's Guide
- ◇ Home Librarian Reference Manual
- ◇ Role Playing Database Reference Manual V1.1
- ◇ Role Playing Database Reference Manual V2.0
- ◇ Role Playing Database Reference Manual V2.1
- ◇ Space Explorers

References

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