Full Resume for
Gilbert Healton

Linux, Unix, C, Perl, Shell Scripts, much SQL heavy Backend, Apps, migrations

GILBERT HEALTON

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(working please email)

Freehold, NJ

Recruiters must have permission before submitting information herein to potential external employers. This includes any distribution that may cause conflicts with future employers.

U.S. Citizen.
Some travel acceptable.
Status: Actively looking

This resume should list all professional and educational experiences. Please visit Gilbert's personal "resume web site", shown above, for more resumes at different details. This includes his most recent job search information.

GOALS:

Geography: some flexibility in my area but seriously looking for remote positions. Also interested in Philadelphia area, especially somewhat North of I-276.

Ideal Job: grow into different activity beyond being a developer. Enjoy new and interesting technologies where I keep on learning and teaching. Developing requirements and documentation is actually a positive for me.

Business: tend to be more interested in the job, people, and customers, than any particular technology. Have particularly enjoyed jobs where working in multiple arenas of interest.

SUMMARY:

In addition to technical skills, experiences include working with diverse people across corporate structure as well as customers, including international customers.

Personal: Innovative solutions for the small to big challenges. Engage in lots of work, taking deadlines seriously. Very hard worker with staying power, even on projects that are not fun. Working a variety of tasks from customer facing to single-person projects. Have been on front lines of annoyed customer support issues with badly behaving software. A strong optimist by nature, with a brain that seems to be "wired" for understanding the details of computers.

Experience: Three decades of experience working on the larger and more difficult software projects employers have to offer. Much experience in new, current, and legacy products in mission critical, high-pressure environments, across all phases of software life cycle from requirements gathering to retirement. This includes customer support and writing documentation. Have also survived inheriting nasty nightmare legacy projects. Most serious development has been in UNIX environments though have also done non-trivial perl development under Windows.

Philosophy: Greatly believe in designing programs well, writing well, and testing well. Designing coding for testing always improves reliability of code. Constantly seeking better way of doing old tasks. Rely greatly on internal diagnostics (including php's **-l;** gcc's **-Wall;** perl's **-w, use strict,** perlcritic (perl critic); and **HTML** validation services) along with automated testing. A fiend on documenting changes committed to source archives.

Documentation: Unlike most programmers, writing designs, specifications, documentation, and regression tests, are regular activities. Finished documents include everything from one-page cheat sheets to 300+ page manuals. Much of this was very well received.

Results: positive reviews from customers and coworkers. Success in legacy swamps that stalled others. Have quickly written specifications and plans on very short time schedules. Delivered software with some

of the lowest defect rates. Have delivered small to large projects. Contribute to design and evolution of products.

Customers: My software has, and is, running in major companies. Verizon Wireless for Point Of Sale and phone activations. AT&T for cell tower monitoring. Avaya for high-volume ordering software. Schlumberger, match.com. Newspapers and magazines include *Dow Jones*, *The Los Angeles Times, , Time* magazine, *US News And World Reports*. Manufacturing facilities include Boeing Aircraft, McDonnel Douglas, and John Deer Tractors. Change management software for consumer billing at AT&T.

Environment: thrive in small to medium sized teams.

EXTERNAL REFERENCES:
- Top 11% poster at http://stackoverflow.com/users/693294/gilbert as of 2023-Aug at 3,730.
- https://www.linkedin.com/in/ghealton
- https://github.com/GilbertsHub

TECHNICAL BACKGROUND:

Core Strengths: UNIX environments, including shell scripts, clients and servers utilities, etc. (21 years); perl-5 (15 yrs), UNIX shells: Korn (`ksh`), Bourne (`sh`), C (`csh` and `tcsh`), and Bourne Again (`bash`); UNIX utilities; C (21 yrs); including cgi-bins (14 yrs), Template Toolkit, OO Perl (12 yrs), POD (14 yrs); Perl::Critic, HTML (14 yrs); Designing and documenting software applications, full software life-cycles, mentoring. UNIX IPC. Working with people.

Experience Arenas: infrastructure programming, telecommunications, communications, help desk products, software tools, networking, interfaces, network security, presales support, customer support (usually tier-3 or tier-4), customer training.

Recent Languages: C (ISO and GNU); perl; SQL with many hundreds of tables; PHP; HTML with CSS; cgi-bin; mod_perl; shells; awk; sed.

Languages: Perl (Perl CGI.pm, Perl DBI.pm, Perl GD.pm, perl_mod, perl critic); PHP; C (ANSI, GNU); UNIX shells (Bourne Again [bash], Korn [ksh], Bourne [sh] , and C [csh and tcsh]); UNIX utilities (awk, csplit, grep, gawk, regular expressions, and sed); C++; and SQL. Some Java. In the far past have used IBM mainframe (MVS, JES3, JCL, BAL), and many odd languages.

Network and World Wide Web: SNMP; TCP/IP; ssh, scp, sshfs/libfuse; nmap and NSE scripts; HTML (DTD 2.0, DTD 3.2, DTD 4.01); IBM MQSeries; generated HTML; cgi-bin; Apache web servers; mod_perl; Perl CGI.pm; Perl GD.pm; DHTML. PHP; JavaScript; RPC, and SNMP.

I/O Drivers: Patched drivers in FreeBSD kernel. Linux I/O driver experience. Heavy experience under some proprietary operating systems that includes various types of serial communication links and analog modems, disk systems, magnetic tapes, parallel communication links, assorted conventional and laser printers, terminals, photo-typesetters, memory mapping hardware, custom hardware devices, and devices attaching to IBM mainframe I/O channels.

Composition Control Languages: triple-I PII, UNIX troff/nroff/ditroff/groff, PostScript, Autologic ICL/GICL, QMS QUIC, CORA, ...

Hardware: Touch screens under X; IBM-compatible PCs, IBM RS/6000, Sun Microsystems workstations and servers (Sun Enterprise line, Ultra-SPARC, SPARCstations, Sun-3, and Sun-2), triple-I/15 (variation on PDP/15), PDP 10, General Automation 18/30, General Automation SPC-16, IBM 3033 ...

Some knowledge of hardware diagnostics, repairs, and upgrades.

Operating Systems: Development and some administration on UNIX (includes Solaris, Linux [CentOS, Debian, Ubuntu, Red Hat Enterprise, Slackware, and Caldera], FreeBSD, Solaris, AIX, HP-UX), and MS-

DOS, and many older proprietary operating systems. User of Windows® 95/98/NT/XP, IBM MVS, RTOS. Light administration of Windows.

Standards used: Partial list includes ANSI C & C99, RFC 821 (SMTP), RFC 854 (telnet), RFC 1918 (private IP addresses), RFC 1939 (POP3), RFC 1945 (HTTP/1), RFC 2822 (date format), ISO 8601 (date format), ISO 9001 (quality), CCITT X.25 (serial communications).

Recent Applications: git, github; PhpStorm IDE; phpUnit; PhpStorm/xdebug; slack; Virtual Box, vagrant; Cygwin; OpenNMS; rrdtool; Libreoffice; Open Office; Fire Fox; Fire Bug; CVS; TWiki; Apache **httpd** with **mod_perl** and **SSL**; cc/gdb; Adobe Acrobat & Distiller; Corel Draw 12; Internet Explorer; Mozilla; Samba; VMware Workstation; Microsoft® office suite and Visio; Micrografix® Picture Publisher; sendmail, Thunderbird; and webmail.

Other Applications: Brixton RJE product from CNT; ClearQuest and ClearCase by Atria; Corel suites (Corel Draw, Word Perfect, ...); NetScape; Sablime Change Management tool; SNiFF+ by WindRiver (formally TakeFive); Star Office; and Wine; Virtual magnetic tapes.

Reuse of code: spend time searching the lesser known libraries and commands to use available solutions. Look for existing libraries that seem to meet needs, including ease of adoption.

Software Lifecycles: Requirements capture and writing. Specification writing. Working with appropriate people to ensure previous are correct. designing to provided or my Software design. Software implementation. Software testing. Builds and releases. Basic software documentation. Defect tracking. Defect corrections. Writing, and distributing, release notes. Releasing software on magnetic tapes, CDs, and web.

WORK HISTORY:

Major Accomplishments: Integrated new features into legacy software where the code I had to change presented a horde of nightmare difficulties.

Monitoring of large networks using OpenNMS and custom software. Perl class to allow local mod_perl modules to send objects over port 443 to remote systems in a type of secure remote procedure call do drive core product's distributed operations. First person to get field upgrades to work on a regular basis. Created auto-build system for product. Much documentation.

Connecting Sun SPARC stations to IBM mainframes via RJE. Migrating application from mainframe to said SPARC system. Much Year-2000 work at many levels and responsibilities. Providing technical information to different people to help them solve their problems.

Connected Sun SPARC stations to IBM mainframes on multiplexer channels to act like virtual tape drives.

Other Accomplishments: Wireless 802.11(b) network control software under Linux kernel. Generating graphic charts for web pages. Worked with Linux kernel involving Ariel RS4200 cards. Mapletree MTN2100 modem pool cards. ClearCase and Perl under Solaris. C/C++ under AIX. Helped lead AT&T Labs Y2K office that oversaw the compliance of *all* AT&T Labs self-maintained equipment.

Job: Computershare < Macrosoftinc.com 100% remote Nov 2023 to Jan 2024 code commit

Job Title: Perl script Developer Consultant

Skills: perl, Windows 10, Windows 10, git command line

- Help finish complex converter for many new report types from existing bank. Scraped information and setting report types for down stream processing. Legacy **.afp** files come in and replacement .pdf files formatted to latest requirements are produced for bulk mailings.
- Code committed for a very successful code review once my debugging and pier reviews complete.

Job: Enterprise Holdings Inc < [NTTDATA](#) < NLBTech ; April 2023 to Aug 31 wind down; 100% remote

Job Title: Consulting C and shell script programming team for HP-UX to AIX migration.

> Skills: AIX 2.7, C, shell scripts, SQL, Oracle Pro*C SQL, ksh shell, git, GitLab. Atlassian Jira and Confluence. Microsoft Windows 11. Okta Verify, Microsoft Authenticator, SecurID.

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- Closing part of massive HPUX to AIX migration effort for many hundreds of C, Pro*C, and shell apps.
- Machine code debugging with dbx to find location of problematic core dump in UAT builds compiled without -g debugging symbols. Learn enough of the Power Architecture to somewhat debug in machine language.
- Shell scripts to automate repeated migrations to get work done more quickly.
- EHI management quietly told me they wished I was in at the beginning of the project as they expected a lot of pain could have been avoided in the early stages of the project.
- Work with IBM Workload Scheduler (IWS) to research, migrate, and test jobs on AIX.
- Commit changes to BitBucket. Review pull requests.
- Helped other developers research difficult problems.
- Do whatever random research need to be done during slow times.
- Consolidate scattered documents so they are easier to find.
- Showed interested parties using unknown or underutilized UNIX tools and migration tips to become more efficient at doing common work. Included vim, ksh, nawk, and avoiding ssh session timeouts on idle.
- Made notes on avoiding common Unix/POSIX migration troubles I've seen multiple places.

Job: ECS Tuning: Remote NJ ; Sep 2022 to November; 100% remote

Job Title: Consulting Perl Developer

> Skills: perl 5, perl OO, perl Test::More, perl Moose. MySQL, MySQL Workbench, bash shell, sqitch, git, GitLab. Ubuntu Linux. Atlassian Jira and Confluence. Google office suite. Microsoft Windows 10.

- Add features to existing perl modules for inventory searches,
- Write new Test::More perl scripts and corresponding shell scripts for unit testing.
- Wring documentation on the undocumented items causing the most confusion.

Job: Verizon; City: Remote NJ ; Feb-2022 to Aug finance cuts; 100% remote

Job Title: Senior C Backend Developer consultant

> Skills: C (data structures), Solaris CC compiler and dbx, Oracle SQL, Solaris, shell scripts, RESTful APIs, MQ, git, GitLab. . Helping and training new-hires. Agile development with Atlassian tools including Confluence, and Jira.

> Sudden budget cuts for renewing contractors this month surprising my area's management after they submitted a renewal request.

- Enhancements and fixes to distributed C applications spread across regional server clusters.
- Selected for working priority changes on legacy applications, some of which no one had experience with.
- Researching those legacy applications to determine trouble locations. Often need help to point me at the application and some hints about it. Proper grooming? Let's not be silly. Testing nightmares.
- Helped more junior programmers with onboarding and assignments.
- Writing New Hire guide that was getting big enough to be split up. No such luck anymore.
- Using python rather than perl or shells for some throw-away scripting.

- Finished last day, one day notice, writing up where I was and stuff to do. Normally track such but this time fixed it up.

Job: AT&T – Remote – Feb 2020 to June 2021
Job Title: Backend UNIX/C Developer in Compliance
Skills: Skills: C, Linux, RHEL, bash, ksh, perl, documentation.
- Help manage disk storage system for production on disk too full alerts. Update related documentation.
- Update Daytona DB Cymbal code to capture an additional column on incoming feeds.
- Enhance existing data barn utilities to help migrate report and maintenance applications utilities clearing obsolete files, monitoring blob use from Azure cloud using azcopy, and reports of recent disk usage.

Job: Message Systems – Remote – Feb 2020 to June 2021
Job Title: Software Developer SMTP Delivery
Skills: perl, C, bash, Lua, AWS (includes EC2 spin up of AL1 Linux boxes, Athena SQL, use build pipelines), REST APIs and Postman, MacBook Pro laptop, Chaotic environment. Strong use of Jira, Kanban, and Confluence. Cycle: continuous release.
- Enhanced features and fix bugs in MTA product and supporting apps using perl, C, shell scripts, and Lua.
- Work with people across company to understand requirements.
- Update perato help testing and automate repeating activities.
- Connect to Restful APIs as well as some work on them.
- Make test and production builds and deployment. AWS environment. Use Athena and Circonus
- Use Atlassian cloud based Jira ticketing and Confluence documentation tools.
- High-volume network. Used Ansible to run commands and copy files across host groups in clusters.
- Poor documentation meant lots of discovery time in source code and what documentation there is.
- Created and improved documentation for both Google and Atlassian products.
- Write documentation, including on boarding to mostly help me but also help others.

Job: DXC Technology / Energy Harbor - Remote – May 2020 to July 31.
Position: Shell scripting consultant using SQL, PowerCenter, and perl for energy sector client.
Skills: bash, ksh, csh, PowerCenter, perl, RHEL, Oracle SQL, Apache configurations.
Helped to finalize migration of energy sector customer AutoSys remote client scripts and PowerCenter scripts using "lift and shift" and Greenfield server migration after corporate split to get working in new company.
- ycle: migrate with discovery, test, deliver, and retire a few.
- Discovering and documenting layout in large undocumented code base.
- Writing scripts to scan code base for candidates for change and automating changes.
- Bringing automated tests to environment without any.
- The hardest part was discovering all the unknowns.. unknown scripts, unknown web servers, unknown FTP hosts, and many other unknowns. Timeline and process driven by required timelines rather than proper IT policies.
- Grabbing lead of stalled work. Documenting and mentoring.
- Re configuring scripts for new environment. Migrating scripts from AIX to RedHat RHEL.
- Helping migrate PowerCenter workflows from AIX to RedHat RHEL.
- Helped migrate Apache configuration files for a part of the migration outside of my normal work area.
- Collected list of observed potential issues, from error recovery to security to turn in for future work.

Job: W3Global/CSSCorp/Estée Lauder Aveda Loyalty Programs 2019-Mar to 2019-Oct RIF
Remote out of Manhattan, NY.
Position: Senior perl backend developer for Aveda brand customer loyalty program
Skills: perl-5, templates, MVC, Oracle, high-volume traffic, back-end processing, RHEL, 2019RESTful, Postman). Agile. environment using Atlassian tools such as Confluence and Jira.
- Help follow up migration of RESTful API from old vendor to a new vendor with JSON payloads.

- Research and bug fixes in huge MVC perlgem code base and templates for global servers.
- Work with external RESTful API with JSON payloads and testing with PostMan.
- Poposed API changes to stop painfully expensive issues.
- Wrote tool to very efficiently extract information from poorly designed logs.
- ocument procedures to reduce observed confusions and lost time.
- Wrote documentation to help existing developers and future developers learn system quicker.
- Report serious difficulties with logs on some hosts.

Job: Datanomics / Verizon Wireless   2016-Oct to 2019-Apr

Point Of Sale for Verizon's wireless services and cell phones, wireless machine-to-machine operations, etc.

Position: Consulting Software Engineer on Backend systems within Verizon Point Of Sale. (Oracle Solaris, high-volume traffic, perl, back-end processing, Oracle SQL, byte swapping, shell scripts, data structures).

- Cycle: design and implement, test new apps, update legacy apps. Non-agile continuous release.
- Helped migrate shipping and related inventory and billing off of a home-grown middleware platform to a SxAxP connected platform. Major effort that resulted in greatly reduced costs of operations. Updates and changes continue to this day.
- Updated backend applications and daemons in C, Pro*C, Oracle SQL, and shell scripts for high-volume servers.
- Wrote utilities shell and perl scripts to monitor operations, test and validate updates, and produce reports. Used perl critic.
- Became resource for testers and others needing more details on backend operations and orders.
- Reached out to PM, testers, and others to obtain information needed to do my job when normal contacts too busy to help.
- Worked on documentation to speed up on-boarding of new backend developers. Recovered much documentation from prior years at Verizon.
- Backend communicates with variations of XML, Oracle Message Queue, IBM Websphere MQ, straight TCP/IP, X.12 EDI, and other technologies.
- Fixed bugs in various operations, including financial calculations and tracking down buffer overruns.
- Approaching absolute term limit for contractors with Verizon.

Job: SmartLink / Vonage 2016-Mar to 2016-July   (221.8 million)

Distributed team migrating several recent acquisitions into a common system

Position: contracting PHP developer also working in perl and shell scripts on Internal product for managing all facets of Vonage Premier accounts, from prospects to disconnects.
- Wrote notes that became "amazing documentation" from on boarding to technical details of product.
- Improved password security of one customer portal. Required architecture meetings, understanding stories, constructing new dev environment, driving QA becoming functional, complex coordination across four deliveries to keep risk low.
- Improved automated FTPing of files from one host to a customer portal. Again, architecture changes were required.
- Helped train a series of new hires that on boarded after myself.
- PHP, Linux, PhpStorm, vagrant, VirtualBox, perl, shell scripts, Libre Office, docs.google.com, slack.com.

Job: kforce / Isenpai remote work early 2016 to 2016-May with fixed end date for budget.

Member of short-term team under strong Non-Disclosure Agreement. Still unknown what I can publish here.

Position: CentOS Software developer, creating delivery bundles, and completing/editing documentation.
- Heavy development burst of unclassified project with RDP.
- Required reading included many parts of NIST.SP.800.
- Was recruited for Linux/bash skills though skills actually used went far afield from those skills.
- Multiple technologies seen elsewhere in this resume.
- In the closing weeks was assigned to producing delivery bundles for Linux and Microsoft Windows environments and working with another team member to produce over 70 pages of administrator and developer level documentation for the project converting inconsistent originals from team members into a consistent whole.
- Cycle: design scripts to run apps, such as nmap, on a more automated basis.

Job: IDT   2015-Nov to 2016-Jan.   ($1.6 billion)

Small team developing new point of sale product targeting existing customer base.

Position: Linux Engineer for package building and system provisioning software and git repositories.
- Heavy use of Lubuntu Linux and Debian packaging and AWS. Also shell scripting and PostgreSQL queries.
- Makefiles to compile code and build Debian packages for publishing on Amazon Web Server (AWS S3).

- Wrote package maintainer scripts.
- Wrote installation scripts to configure hardware and Linux software, including touch screens under X. Bash shell and php scripts.
- Lubuntu, Debian packages, touchscreen configurations, PHP, PHP Composer, inotifywait, building UFE boot drives, TightVNC, PostfreSQL,

Job: *Insys Group* / **AT&T Labs**   2013-June to 2015-Sept.   at AT&T (billions and billions)

Monitoring cell tower performance and usage for Network Engineering. Very high-volume data flows.

Position: member of production support team since May, providing 24x7 support for about 40 "Big Data" applications across hundreds of servers. Heavy use of Linux and Oracle/Sun Solaris servers.

- Analyze and communicate performance and operational issues as well as supporting users in multi-server clusters. For the high-volume products code efficiency was always a concern, which is one reason most applications were written in C rather than C++.
- Develop scripts to automate manual processes, adding users, monitoring servers and networks, etc. Write programs to manually respond to some queries when waiting for automated code to be completed.
- Corrected much obsolete documentation as well as write much new documentation, mostly on Media, including templates and transcluded text.
- Scripts and queries against this rather large database.
- Major applications where I inherited one of the more difficult applications. Software developer before that.
- Help in adding and removal of users under applications after manual reviews and approvals. Wrote scripts to start automating some of this process.

Position: Consulting Software Engineer on servers receiving, and analyzing, cell-network traffic (Intel Itanimum servers, Solaris Servers, Red Hat Enterprise Linux ksh scripts, C, multithreading, clustered servers, shared memory, perl, gawk, high-volume servers, terabytes of file transfers, HP-UX, Daytona Database, DSQL, Cisco VPN, AT&T Connect VNC, XML).

- Applications ran on distributed "clusters", most applications having dedicated clusters for distributed processing. Some high as 64 servers of 64 cores.
- Determine internal algorithms used by code to better use, and especially modify, it.
- Improve network monitoring software application in multi-hold parallel processing cluster. Red Hat Enterprise, intense C, intense ksh, SSH certificates, wiki, documentation. High-volume network data flows.
- Improve performance of large volume Daytona Database using the Cymbal language of Daytona (Daytona was designed to handle well data volumes that choke Oracle).
- Improve performance of major hourly report by reducing time from 90 minutes to well under 60 minutes, with potential to cut down to under 20 minutes using multithreaded perl if effort deemed worthwhile. ksh, ssh, parallel processing, multi-processor clusters.
- Create installer script to install in-house application for development and testing in a much more reliable manner along with much greater speed. Much documentation written.
- Determination of cell phone models to do real-time determination of phones whose responses to queries to build statistical models were not reliable enough as to not even attempt to probe them for information.
- C, perl, and shell script programs to collate and merge incoming information. Also some C++.
- Bug fixes and feature enhancements.
- sshfs mounts between development hosts for more efficient bulk file transfers for development and research.
- Cycle: design, implement, and test new apps, such as installer scripts, and data movement. Continuous release environment, though not Agile.

Job: *Datanomics* / *Verizon Wireless*   2011-Mar to 2013-Jun. $3+billion

Large provider of wireless services and cell phones, wireless machine-to-machine operations, etc.

Position: Consulting Software Engineer and Analyst on Backend systems within Verizon Wireless Point Of Sale. (HP Superdome server, high-volume, high-reliability, large scale server clusters, parallel processing, HP-UX, VMS, back-end processing, perl, HTTPi web server, EDI, Oracle SQL, byte swapping, VMS, RDB, VPN). This was a semi-Agile environment.

- Create tests as I develop code to more quickly produce reliable deliveries.

- Enhanced multiple high-volume server applications written in C as needs arose.
- Designed and implemented high-volume server applications in C to coordinate operations across two other servers and the front end systems. Includes gathering information for statistical reports and notifying customers when selected conditions arise in the SQL database.
- Inherited and improved virtual warehouse software used to ship virtual phones in test environments as testers create orders that need to be "shipped". Improved entire process, including manual order processing. This required reverse engineering some of the existing processes and datasets.
- Wrote web application to allow testers and developers to monitor progress of orders from the view of backend systems. Provided diagnostic information on orders, and status of virtual warehouse, not available on regular front end systems. Greatly speeds of diagnosing of orders in troubles.
- Provided substantial, and sometimes the only documentation, across various subjects. On-boarding tips, server application software development, configuring Windows workstations, and more. On both SharePoint and a Wiki.
- Helped migrate VMS C applications to HP-UX UNIX C on back-end servers.
  - Understand algorithms used by code, and VMS specific quirks, to better migrate to UNIX.
  - Wrote perl utility to automate simpler migration efforts involving syntax, #include files, etc.
  - Wrote C library to better simulate some VMS actions, such as logical variables, selected DCL commands, on UNIX to minimize efforts.
  - Migrated DCL commands in system() and pipe() calls to shell script commands.
  - Worked with application layer of MessageQ, and to a lesser degree, MQ Series, middleware message queue systems.
  - Wrote byte-swap code to allow for endianness differences between VMS and HP-UX.
  - Proposed solutions to a problem with too many instance of the "watcher" program running that was responsible for bringing servers up.
  - Migrated COBOL code on VMS to C
  - SQL: Migrated RDB and Pro*C code on VMS to Oracle Pro*C.
- Cycle: design, implement, and test new apps, such as installer scripts, and data movement. Continuous release environment, though not Agile.

Wrote utility to work with AccuRev to populate $Header$ records in source files using appropriate version information from AccuRev.

Job: *Numara Software*   Perl shop   2008-Jan to 2011-Mar

A premier provider of software for Help Desk, Service Desk, Asset Management, and more. FootPrints product worked in both Microsoft Windows and UNIX/Linux environments.

Position: Software Engineer (HP-UX, perl, Net::FTP, Module::Build, HTML, JavaScript, VMware, Virtual Box, Virtual PC, IIS, C, make, gdb, XML, shells, Linux, Windows XP, Sharepoint, putty, pscp, ssh, sshfs, LogMeIn VNC, DBI::Informix, IBM MQ Series, Informix SQL, ISQL, team environment, FireBug)

- Minor to major customization enhancements to OO perl FootPrints product. Most enhancements were merged into the product.
  - Built many VMs for Windows (Servers, XP) and Linux systems (Debian, CentOS, …). Including a SME Server used as a mail server, LDAP server to reduce consumption of corporate IP addresses.
  - Heavy use of perl's Test::More to make regression tests with custom Test::Harness front end
  - Improve security of product logins by enhancing login rules.
  - Diagnosed and fixed critical, and highly highly visible, serverity-1 problems at major customers.
  - User Interface design for new features being added to FootPrints product.
  - SQL: Microsoft, Oracle, MySQL, and Postgres.
  - Apply a bit of reverse engineering to understand parts of the application that nobody new, but I had to change.
- Provide crisis support to Software Development and Support departments for urgent and critical troubleshooting problems, sometimes directly working with unhappy customers who usually became better when they saw my intensity of focus on their problems.
- Helped train programmers new to FootPrints in application.
- Proposed changes to the perl style guide to improve programs.
- Estimated effort for customization requests from customers, including writing User Interface Specification, Requirement discovery, requirement specifications, and system design Specifications.
- Wrote Statement Of Work (SOW) for proposals for customers to accept, decline, or ask for mondifications.

- Wrote more documentation on various subjects than any other developer.
- sshfs (libfuse) mounts between development hosts for more efficient bulk file transfers for development and research.
- Cycle: design, implement, and test new server apps. Receive, research, and modify requirements.

Job: *Case Interactive /Avaya*   2008-Jan to 2008-Jul - short term W2 contracting position $5 billion
  Major leader in enterprise communications and unified communications, including IP telephony solutions.

Position: Software Engineer (HP-UX, C, Solaris, gdb, make, XML, Sablime, sccs, shells, make, Linux, perl, LWP, DBI::Informix, Net::FTP, Module::Build, IBM MQ Series, Informix SQL, ISQL, team environment. Build scripts and programs, including make and ANT. Light exposure to SAP systems.)

- Short, but intense, period. Was kept on for maximum contract length due to my ability to work odd jobs in different arenas.
- Writing software development design requirements from functional requirements before making enhancements after reviewing higher requirements. These documents were used by others as well as myself.
- Documenting aspects of complex legacy application. This included a document for using the application and a document for software development aspects.
- Enhancing legacy middleware to work with new system being added to host, which includes writing code for a new MQ queue. Includes C, shell, MQSeries, and ISQL embedded SQL.
- Wrote application to extract active rows from legacy Informix DB to migrate to Oracle DB on new system.
- Spontaneously taking on some project lead responsibilities.
- Application to extract rows of selected tables to migrate them to a new application.
- Implementing middleware perl program that exchanges files between a remote server on the public Internet and a local server using perl's Net::FTP package. The file transfers must follow specific rules for application software on both servers as well as have extensive logging and error recovery. Used Module::Build to bundle as perl module to make installation easier.
- Created a special test environment that allowed me to pre-test modules without having to wait for an official build and install.

Job: *Cheetahmail*   2007-Apr to 2007-Dec   *(Manhattan, NY)*

Position: Software Engineer (Linux)   Perl shop.

- Linux, Apache, mod_perl, SQL. CVS environment with very high transaction levels.
- Primary work was on main web based, mod_perl, GUI to control product for specialized Internet service using mod_perl and Template Toolkit. Enhancing UTF-8 support.
- Debugged perl application using combinations of "warn" statements, "httpd -D" debug mode, and other techniques.
- Use of design patterns.
- Left trail of documentation on what I learned.
- Worked in various parts of the mod_perl environment for the product.

Job: *Vonage Holding*   2006-Aug to 2007-Mar restructuring   *(Monmouth County, NJ)*
Position: Software Engineer (Solaris and Linux)

- Primary Solaris and Linux environment using perl and shell scripts.
- Extensive documentation and design documents written in OpenOffice as well as TWiki pages.
- Worked in team that was responsible for improving the monitoring of the Vonage TCP/IP network used for VoIP using existing tools, such as OpenNMS, as well as custom tools to produce more detailed reports and work with scales beyond OpenNMS's design. [Red Hat Enterprise Linux, Solaris, Perl, shell scripts, CVS, Apache, cgi-bin, make, SQL, snmpget, snmpwalk, Subversion, C, RPM package builds, Solaris package builds, Debian debuild, XML, SOAP]
- This included using rrdtool to produce graphs and text reports under Apache cgi-bin programs.
- Also included perl cgi-bin to capture interactive queries from Network Engineers about network nodes.
- Cycle: design, implement, and test new server server and web apps.

Job: *Lumeta Corp*   2004-Mar to 2006-Jul   (Somerset, NJ)

Position: Software Engineer (FreeBSD). Perl shop.

- Primarily professional services and sales support but frequently borrowed by development.
- OO perl and shell script environment with notable C operations. Some C++ work. Distributed processing.
- In-house expert in perl, shell scripts, C, CVS, and FreeBSD sysinstall.
- Introduced mod_perl into product for specialized HTTP authorization on SSL servers while exchanging objects over port 443 to perform distributed services as well as to speed up Apache response times. This object exchange between distributed perl programs is key to operations of distributed IPsonar server systems where, on high security networks, port 443 is the only port guaranteed to be routed.
- Improved automated installation of FreeBSD OS, and the product itself, for both software development team, QA testing, and the manufacturing of systems.
- Designed perl class allowing cgi-bin or mod_perl server processes in a high-security network to connect to remote web servers that could be in less secure networks. The remote server would run a type of custom remote procedure call. [perl, mod_perl, OpenSSL]
- Enhancements to FreeBSD PXE loader scripts to dynamically select products to be loaded at netboot time, improve error recovery at wrong operator responses, and to record PXE loader configurations for use by the installed FreeBSD system.
- Produce custom builds of FreeBSD for delivery with product. Developed patches to apply to base source code rather than maintaining FreeBSD distribution in parallel. Created new patches to fix kernel problems and submitted to FreeBSD, some of which were accepted. [perl, cron, sendmail, shell scripts]
- Troubleshoot customer problems.
- First person to successfully create CD based upgrade for products installed in the field.
- Became build master for products to automate builds and improve quality of releases.
  - Automated builds to the point of nightly, and on demand-builds, that produced E-mails identifying any code breaking builds. This reduced turn around time to getting code repaired.
  - Worked on web server that could monitor builds and start on-demand builds to reduce my involvement in the process. Perl, PHP, HTML, CVS.
- Produced archival backup CDs for each release for deposit with external archival company.
- Wrote extensive technical documentation [Open Office, TWiki, Microsoft Office; PDF; and Visio].
- Cycle: design, implement, and test new server server apps.

Job: Consulting 2001-May to 2004

- Setting up Linux system as router for wireless ISPs using 802.11(b) networking. Included extra logic to better restrict network access to registered users and restrict bandwidths of users. The maximum bandwidth of each user can be individually set to prevent one user from saturating the channel. Generating graphic charts for web page reports. [Red Hat 7.1, 2.4 Linux kernel, Linux traffic shaper shapecfg, arp, route, kernel modules, TCP/IP network, IPC, Linux administration, Apache administration, SSI, Perl, C, cgi-bin, CGI.pm, JavaScript, CVS, requirements capture, development, documentation, burning CDs, delivery]
- Web based report generation [Apache, perl, sockets, SQL]
- Enhancing software previously written for Los Angeles Times. [requirements capture, documentation, AIX, C, ditroff, PostScript, shell scripts]
- Technical writing [Ms Word, **HTML**].
- Cycle: requirement gathering, design, implement, and test new back end apps and web pages.

Job: *Ariel Corporation*   2000-Jul to 2001-Mar   (Cranbury, NJ. Company is now closed)

Business: RAS (Remote Access Service) products

Position: Linux Software Engineer (Red Hat).

- Fixed problems in the Linux Kernel causing system crashes under heavy loads. Enhanced kernel's net/core/dev.c to support large number of network devices [C, make, rpm].
- Fixed bugs in pppd and ipppd processes to reduce zombie processes left by daemons and better recover from EAGAIN fork errors [C, shell scripts, make, rpm].
- Primary assignment: Linux device driver for the analog modem portion of Ariel's RS4200 product for up to 96 modems, 182 in dual-board, on a single computer over four T1 or E1 lines [C, make, shell scripts, distributed application, queues, kernel modules, defect tracking, requirements capture, software testing].
- Diagnosed and repaired problems reported by customers.

- Wrote software in Perl to better interface Linux clients to ClearCase running on Sun 3 system. Also wrote Perl programs to automate software update notes. Would modify the SQL queries generated by ClearCase to meet my own special needs. [perl, shell scripts, sockets].
- Enhanced Users Guide in general and document dual-board installations in particular. Provided tips to documentation dept. for using Microsoft Word with large documents.
- Software that connected to POP3 E-mail server to send and receive E-mail reports.
- Misc. technology: IPC: atomic pipes, kernel semaphores, signals; ClearCase; ClearQuest; VMware; and TCP/IP for clients and servers. Worked on automating regression testing of modem system.

Job: _Tyco Telecommunications, Ltd._   2000-Jan to 2000-Jul   (Eatontown, NJ)

Formally Tyco Submarine Systems, Tycom Submarine Systems, AT&T Submarine until spun off from AT&T and purchased by Tyco.

Business: lay and service undersea fiber optic cables
Position: Sr. Software Engineer in AIX environment.

Primary job was helping to maintain and enhance legacy C program enterprise "Line Monitoring Equipment" (LME) product in an ISO-9001 environment and heavy networking. The LME is part of a larger networked family of systems purchased by TSSL customers for operating undersea fiber optic cables for major communications companies. The LME involves complex hardware where my knowledge of hardware and software proved very useful. [AIX, C, make, shell scripts, Perl, IPC, SQL, distributed application]
- Repaired bugs recorded against various models of the LME product line. Along with general bug repair and enhancements, addressed problem involving incorrect processing of savings time changes and application deaths due to child processes hanging. [C, shell scripts, make, Sablime]
- Produced release tape cartridges s for the product as needed for delivery to System Test and later the Customers [AIX, mksysb, make, cpio, tar, gzip, ksh, physical magnetic tapes, virtual magnetic tapes]
- Improved procedures for duplicating and distributing official releases for products still using magnetic tape cartridges. Allowed library of tapes to be saved as disk files on a "tape file" server. All characteristics of the tapes are recorded in the "tape image" files. "Tape clients" down-loaded tapes from multiple hosts on the network to reconstitute exact copies of the original magnetic tape. Users were able to turn out truly identical tapes in substantially less time. [AIX, magnetic tape, ksh, scp, ssh, Perl]
- Produce regular MR (Modification Requests), tracking bug reports and enhancement requests for the product. Wrote Perl program to help automate production of software update reports. [Solaris, AIX, Win98, Microsoft Word, Sablime, Perl]
- Wrote Perl program that migrated customer databases in Daytona to Mini SQL.
- Wrote internal utilities to help automate regularly performed tasks. [shell scripts, Perl, C++]
- Working with the User Documentation Department, revised critical user documentation to make the documented processes workable. [Adobe Acrobat, PDF, Microsoft Word]
- Improved and documented procedures for producing LME releases by writing what was learned to share on various mediums. This documentation was written for practical use and in ISO-9001 audits. [Adobe Acrobat, MS Word, PDF, make, Perl, shell scripts]
- Automated backups of development and customer systems. [shell scripts, mksysb, tar]
- Other technology pipes, shared memory; SCCS; and TCP/IP for clients and servers. Also RPCs, including enhancing makefile to automate merging of RPC stubs from rpcgen into production code rather than relying on manual steps. Regression and other tests for selected software changes.
- Cycle: Built releases from makefiles. Implemented new code and apps. Tested.

Job: _AT&T Labs._   1996-Jul to 2000-Jan   (Lincroft, NJ)

Business: Research and support for AT&T telecommunications
Position: Sr. Software Engineer in multiple environments.

Part of a department that provided technical consulting services to internal AT&T customers during times of high work or when the challenge is technically beyond them. Enhanced, developed, and designed software that:
- Supported the AT&T Labs Y2K office in the form of web server, analyzing tools, and testing [Solaris, Win98, Win NT, C, ksh, Perl, script, Apache installation and administration, cgi-bin, DHTML, make, mod_perl, sendmail, IPC, LDAP, Excel .csv, CVS, defect tracking, sendmail, working with many people].

First use of early PHP 4 (maybe PHP 3) was on this web server.

- Scanned incoming update files for common problems, cleaning them up before entering information into databases. Languages scanner was aware of included C, COBOL, Fortran, the "javas", and Perl. [Perl].
- Implemented popular program to scan source files for various languages for potential Y2K impacts [Perl, execution performance tuning, automated testing].
- Tested assorted applications or system functions that were critical to various operations.
- Migrated enterprise mainframe application to Sun workstation along with making them Y2K compliant. Provided support to migration of mainframe database to Oracle database on the Sun system. This was a major multi-year project [Sun Server, C, make, shell scripts, CNT Brixton, IBM mainframe, MVS, UX, JCL, RJE, embedded SQL, named pipes, signals, regression testing, requirements capture, migration, defect tracking, delivery]].
- Provided on-line "data dictionary" to help document Informix database. This involved reading and parsing the database description tables internal to Informix from a Perl cgi-bin program [Perl, cgi-bin, Informix SQL, internal Informix tables].
- Allowed submitters to write news reports for web distribution without having to know HTML. [Perl, cgi-bin, Apache]
- Processed incoming E-mail reports to extract attachments, determine type of report, subject matter, etc., and build archives of reports on web pages. Generate E-mail reports. [perl, sendmail, UNIX utilities]

Other activities include:

- Helped assess programs used throughout the Labs for Y2K issues.
- Repaired Y2K issues with numerous programs [Solaris, HP-UX, C, C++, Perl, shell scripts].
- Help coordinate the corporate Y2K program throughout all of AT&T Labs using self-maintained equipment or software. Including writing much documentation. Was the Y2K technical point man for all self-maintained equipment in all of AT&T labs (tracked thousands of computers). [Apache installation and administration, cgi-bin, SSI, Perl, cgilib.pl]
- Installed Perl on problem CFO systems that regular administrators could not compile a Perl executable for. [HP-UX]
- Remote backup of work on customer systems using ssh and tar type backups.
- Other technology: Performance tuning; IPCs: atomic pipes, signals, shared memory, FIFOs, message queues; RCS; SCCS; TCP/IP for clients and servers; C++;
- Earned a total of four certificates of merit.
- Cycle: designed, installed, and implemented Labs Y2K web server. Migrated apps. Delivered many modifications and some other apps.

Job: *Consultant.*   1993-Feb to 1996-Jul   (Albuquerque NM)

Business: computer software and web consulting

Position: Computer Consultant for UNIX / Internet / World Wide Web / etc.

- Trained clients on using computers, various commercial products, along with my own software. [Solaris, Linux, requirements capture, design, documentation, delivery, defects tracking, support]
- Install assorted software packages. Linux, and some Solaris, administration. [Linux Admin, Solaris Admin]
- Design custom software for various applications. Included moving accounting data between different systems and file formats [C, shell scripts, Perl, distributed applications, excel .csv].
- Work on existing applications or download open source applications [C, C++, make, shell scripts, Perl]
- Design, build, and maintain web pages for various people. Includes scanning of various pictures, creation of graphic art, cgi-bin programming. The largest project was an early Internet shopping mall with on-line orders. Wrote programs to generate web pages and automatically E-mail hit and other reports. Tuning of web server performance. [Solaris, Linux, Perl, Windows 3.11, Corel Draw, Photoshop, many web browsers, NCSA HTTPd, Apache httpd, SSI, cgi-bin, sendmail]
- Designing software to help install and maintain complex and very large web page systems. [C, Perl, shell scripts]
- Constantly improving my library of C/Perl functions and cgi-bin programs. These libraries gave me significant advantages to developing reliable applications in their target areas.
- Backup development source archives and key information to magnetic tapes.
- Created perl modules with ExtUtils::MakeMaker.
- Phone, sometimes modem, consulting to triple-I customers with systems triple-I is no longer supporting.
- McDonnel Douglas / IBM: helped track down a diagnose network values between mainframe and SunOS UNIX workstations that struck during heavy loads after network was reconfigured. Failures adversely

impacted building of current aircraft. [SunOS, shell scripts, C, SunLink, IBM mainframe channel diagnostics, automated testing]
- Boeing: some support to the same mainframe connection project.
- Others: technical questions about different applications answered to help work around problems or gain new functions.
- Other technology: performance tuning; IPCs: pipes, signals, shared memory, semaphores; RCS; SCCS; and TCP/IP for clients and servers, some SQL.
- Los Angeles Times:
- Software to automate reformatting and typesetting of reprint requests. [AIX, C, ksh/csh shell scripts, Perl, ditroff, distributed application, requirements gathering, requirements documentation, documentation, training, automated testing]
- Articles retrieved from Time's database (BRS DBMS) are paginated into PostScript® files suitable for local printers or FAX servers. Highly configurable program with many run-time decisions to allow for differing department requirements and cope with less than ideal data. Program controls execution of other programs.
- As the database stored files as "line printer" text files, without any composition codes, my software had to analyze the software to reconstruct headings, paragraphs, tables, and other features of the original story. This required extensive data scrubbing to clean up historic problems in some older data.
- Trained technical personnel in use of program.
- Cycle: full cycle from requirements gathering to implementation and customer training.

Job: [Information International, Inc.](#) *a.k.a. triple-I.* 1980-Jun to 1992-Dec   Culver City, CA.
Business: typesetters, scanners, etc., for pre-press graphic arts
Last Position: Sr. Staff Software Engineer III. Business: pre-press graphic arts.

Customers were newspapers, magazines, major manufactures with in-house publishing, or other businesses with large volume, high resolution, or complex printing requirements. My work involved extensive work in both kernel and application level programming. Designed, tested, implemented, and supported software that:

- Controlled disk, printer, typesetter, magnetic tape, interface, etc., from low-level kernel level device drivers and higher level application programs [III-OS, assembler, SunOS, C, make, requirements gathering, working with hardware engineers, reading prints, working with logic analyzers, regression tests, creating hardware diagnostic software, multithreading].
- Formatted disk partitions at low and high level formatting. Installed file systems on freshly formatted disks. [IiiOs, assembler, low-level disk formatting, file system formatting, file system analysis and repair]
- Controlled more exotic devices, such as typesetters, that involve more complex tracking and feedback of the device state [SunOS, C, make, smart data conversion, regression tests].
- Software that controlled devices such as magnetic tapes, typesetters, and other equipment that was embedded within the devices [SunOS, SunLink, C, make, shell scripts, IBM VMS, IBM JCL, mainframe I/O channels, regression tests, virtual magnetic tapes]
- Backed up and restored disks using 9-track magnetic tapes.
- Implemented virtual tape image solution to be able to duplicate tapes on single tape-drive systems by using intermediate disk file. Was also able to immediately deliver tapes to remote sites over networks by transferring files to site with need to physically move a tape. This solution was used by products across all architectures and was extended to allow multiple virtual tapes to be placed into a single physical file. A later change wrote a tape index giving locations of "tape mark" records within the file to greatly reduce times required to complete "skip to next tape mark" operations.
- Other kernel functions for triple-I's proprietary OS.
- Controls communication software for CCITT X.25 and other LAN/WAN protocols [III-OS, assembler, test suites]
- Gathered various statistics on system use to track performance and analyze failures [SunOs, C, make, shell script, III-OS].
- Software to connect to SMTP server using RFC 821 to automate sending of E-mail reports to people in the company.
- Received data from other computers while converting the information between different file formats. This allowed customers to use existing software for typesetters from other companies to send pages for typesetting to our typesetters. This required a lot of intelligent data conversions and data scrubbing to cope with common errors and mistakes in the input. [serial ports, parallel ports, networking]

- Solved many network connectivity/data conversion issues. WAN and LAN [III-OS, SunOS, assembler, C, TCP/IP, sockets, reverse engineering of data formats].
- Replaced manual routing of stories through the various steps of preparing them for printing with an automated routing system [SunOS, C, make, shell scripts, TCP/IP].
- Started making Y2K repairs to software components.
- Provided assorted utility operations to perform needed small and medium sized jobs [SunOS, C, make, shell scripts, III-OS, assembler].
- Manipulated pictures stored as half-tone files [SunOS, C, make].
- Automated production of software, documentation, and delivery to obtain more consistent, and reliable, product deliveries [Solaris, C, make, shell scripts, *roff].
- Other technology: performance tuning; IPCs: pipes, shared memory, signals, message queues; SCCS; C++; and TCP/IP sockets for clients and servers, SQL, Fortran. [SunOS]
- Cycle: full cycle from requirements gathering to implementation and customer training. Writing documentation.

   Other activities:

- Tier-3 support to customer support, and even customers, for more complex problems across many products.
- Wrote large amounts of user and programmer documentation. Worked extensively with the documentation department to produce documents to their specifications.
- Kept data libraries of problematic files for regression testing and archival purposes.
- Administered different computer systems (III-OS, networking, SunOS)
- Provided software support to Engineering during the development of new hardware products.
- Helped field service locate difficult hardware problems, in house and at customer sites, by reviewing kernel crashes. Worked with the most senior field service personnel in the company at these times.
- Taught advanced classes on programming to both triple-I personnel and customers. Also taught other, more informal, training.
- Helped support legacy applications in accounting [magnetic tapes, COBOL].
- Distributed "tip of week" to software developers about technical matters that were becoming important for department members to know about. Maintained on-line archive of these tips people could reference.

Job: Tal-Star Computer Systems, Inc.   1974 to 1980.   (Princeton Junction, NJ)
Business: front-end systems for newspaper and other publishing businesses.

Last position: Computer Programmer.

Designed, tested, implemented, and supported software that:
- Programmed text editing terminal for T-410 composition system (early word processor) [assembler, requirements gathering, documentation, implementation, release production, bug tracking, implemented cross assembler].
- Fixed errors in software performing text composition and text layout [TalOs, assembler]
- extracted information from classified ads to help customers bill their customers [COBOL, Fortran]
- Software drivers for system classified and editorial systems attached to [TalOs, assembler]
- Interfaced Tal-Star systems to other systems [TalOs, assembler, Fortran, IBM OS, IBM JCL, hardware diagnostic software].
- Performed utility operations for typesetting and business system12 - s [TalOS, TDMS, assembler, Fortran, COBOL, General Automation RTOS (Real Time Operating System), COS, C,].
- Performed intelligent data conversion programs to prepare data for movement between systems [TalOs, COS, RTOS, IBM VM, assembler, Fortran, C, PL/I]
- Maintained and enhanced Tal-Star's proprietary operating system [TalOs, TDMS, kernels, assemblers, Fortran. COBOL].
- Controlled disks, printers, terminals, typesetters, LANs, WANs, and other devices. Designed programs for new hardware during development [TalOs, TDMS, assembler, hardware diagnostic software, requirements gathering, working with hardware engineers, reading prints, working with logic analyzers, regression tests, creating hardware diagnostic software]
- Formatted disk partitions. This included low and high level formatting [TalOs, assembler]
- Cycle: full cycle from requirements gathering to implementation and customer training and documentation.

   Other activities:

- Installed and documented software.

- Primary tier-3 technical support for customer's business programmers [TDMS, Fortran, COBOL, assembler]
- System administration of Tal-Star's proprietary operating systems. [TDMS, TalOs].
- Provided software support to Engineering for new hardware products.
- Worked with backup and produced delivery magnetic tapes [TDMS, TalOS]
- Worked on-site for Times-Mirror in training of Times personnel.
- Provided support to Tal-Star customers on implementing business solutions on Tal-Star systems. This included accounting software and how to avoid floating point round off errors. [TDMS, COBOL, RPG]

Job: Consultant while in college to Norwalk La Mirada Unified School District ~1972

Designed, tested, implemented, and supported software that:
- Read student Basic programs on optical mark Hollerith cards, writing the student cards to disk file that was then processed in batch mode by the IBM-1130 DM2 operating system. [Fortran, Cobol, redirect keyboard input to disk file, magnetic tapes processing].
- Cycle: full cycle from requirements gathering to implementation and customer training.

Job: *Fullerton J. College*   *1970/1973*   (Fullerton, NJ)

Business: student education

Highest position: Lead Lab Assistant.

Designed, tested, implemented, and supported software that:
- Processed several school wide surveys for different areas of the college. [Fortran, COBOL]
- Added accounting operations to IBM DM2 operating systems to track student usage and errors [assembler, Fortran]
- Changed Fortran run-time code to print an error message rather than executing a WAIT instruction with error number in console lights. This greatly improved the throughput of jobs along with more accurately reporting errors to students.
- Rewrote kernel's DISKZ disk driver to better catch sectors and improve performance of system.
- Wrote software do diagnose and repair corrupted disk file systems.
- Worked on financial budget reports for some college units.

Other activities:
- Supported teachers and student activities on computers [Fortran, COBOL, RPG, assembler, APL]
- Taught non-credit workshops about advanced aspects of local computer system.
- Wrote documentation for student use.
- Administered local IBM 1130 system and DM2 operating system.
- Tracked down problems in student programs that the professors or other lab assistants could not discover.
- Independent consulting work: created optical mark reader system for reading software received from elementary schools on optical-marked Hollerith card in the Basic language to be processed at district office. [Fortran, COBOL, BASIC, assembler].

COMMENDATIONS

Numara Software: E-mail from support, and customers, thanking me for helping with nasty problems.

Lumeta: 1) Certificate of Achievement for performance and contribution. 2) Outstanding Teamwork and Personal Commitment. 3) Outstanding Teamwork.

Tyco Submarine Systems: 1) letter stating the first use of my program for producing delivery tapes for all customers allowed tapes to be produced in two days rather than taking at least a week.2) letter asking if an incomplete version of my document could be distributed to all customers when incomplete it was so valuable on a practical level 3) Manager commented very favorably on range of work performed.

AT&T: Certificates Merit. 1) Creating web server on my own initiative that distributed information without our group that increased coordination among members and reduced overhead in maintaining records. 2) Managing logistics of large division meeting with less than 24-hour notice. 3) Y2K scanning tool that saved WorldNet external scanning charges and quicker turn around time in results. 4) Installing perl-4 on new HP-UX system for Y2K that regular system administrators could not install a functional perl on.

Other AT&T recognition 1) Thank you letter for help with Christmas Holiday Celebration. 2) CMTS migration

effort recognition. 3) Indirect: The technical Y2K "office" under my control was never audited by the corporate Y2K office.

Information International: 1) Newsletter referenced quality of my technical documents. 2) Recognition for delivering two projects that previous workers were not able to complete, including one project that defeated two previous attempts. 3) Surprise comment from manager about my productivity levels.

Tal-Star Computer Systems: 1) Customer wrote spontaneous letter appreciating both my on-site support and quick learning curve. 2) Declared "key personal" when company closing to receive extra benefits to stay on as company was closing.

PERSONAL ACTIVITIES

These are services I personally subscribed or subscribe to. Please remember that early web pages were optimized for dial-up modems and perhaps Netscape.

http://www.healton.net 2008 to present   waiting better use. http://resume.healton.net subdomain.
- Linux, HTML-4, CSS, perl, PHP, JavaScript, cron, ssh, scp, sshfs.

http://www.exit109.com/~ghealton/ 1996 to 2004 Defunct**.** Dropped once healton.net online.
- Used in support of my consulting services and education and general personal use.
- NetBSD, Linux, HTML through HTML-4, CSS, perl, php, JavaScript, cron, telnet, ssh, scp, sshfs.
- Early Google user.

http://www.nmia.com/~ghealton/ 1994 to 1996 Defunct. **Dr**opped when moved from New Mexico to New Jersey. Now at https://www..healton.net/ (old at https://nimia.healton.net/).
- Used in support of my consulting services and education.
- Linux, HTML, perl, JavaScript, cron, telnet, ssh.
- GOPHER services to find details on the Internet.
- Early Yahoo! User.
- Signed special agreement with federal government not to use early Internet for marketing. Restriction dropped within a year when Internet went private.
- Victim of original "browser wars".

CompuServe Subscriber   ca 1992. to ca. 1994   Pre-Internet…
- Pre-Internet networking for bulletin boards, support of my consulting services.
- Was subscriber when CompuServe started supporting Internet.
- GOPHER services to find details on the Internet. Used All The Gophers In The World.

Private Local BBS Services (*something I forgot and **Blazing Bytes** dial-up BBS***) ca 1991 to 1994.**
- Pre-Internet networking for bulletin boards and network education.
- Via pre-internet FIDONET was able to send E-mail via FIDONET relays.
- Found some university that allowed public batch FTP access via E-mail to indexes of sites to download free source and interesting educational materials.

EDUCATION:

    AT&T:
        Data security.
        Big Data "Data Lakes"
    Tycom Submarine Systems:
        Laser Safety Training
        ISO-9000 (actually ISO-9001) training.

    AT&T training classes/conferences include:
        I18N/G11N,
        XML,
        World Wide Web,
        UNIX

    Non-credit class room courses on:
        Mainframe BAL, SCRIPT, OS/JCL.

Tal-Star/General Automation Courses (1974 through 1978)
 Data Bases
 General Automation SPC-16 Assembler
 Real Time Operating System by General Automation

1973-1974 California State College at Fullerton.
 Quantitative Methods (computer science) major.
 [college assignments in: assemblers, Fortran, COBOL, PL/I, Algol, ...]

1970-1973 Fullerton Jr. College.
 Electrical Engineering major for one year then changed to a computer major for 1.5 years.
 [college assignments in: assemblers, Fortran, COBOL, RPG, ...]

OTHER ACTIVITIES:
Computer club member.
Former Boy Scout Committee member.
Former Cub Scout Den Leader.
Blood donor.
Voracious reader.
Published writer.
Balloon Artist