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Education: Bachelor of Science in Computer Science - December, 1991
Texas A & M University, College Station, TX
Minor in Electrical Engineering

Github: https://github.com/smcameron

Work Experience:

January 2015 - October 2017 (2.7 years): Google - Site Reliability
Engineer (Level 5)

I worked as a site reliability engineer on the systems that Google uses to crawl the
web and to fetch latency sensitive web content for users. This involved reviewing
designs for parts of the the system and working with developers and members
of my team to ensure designs were robust, reliable, scalable, and monitorable
with good visibility for troubleshooting problems, designing and implementing
testing regimes, deployment systems, and monitoring systems along with day
to day operations of the systems and being on call to fix or mitigate problems
when incidents occurred.

April 1997 - September 2014 (17 years): Hewlett Packard (originally
Compaq Computer Corporation) Houston, TX – Senior Systems Software
Engineer

Since about 2002, I worked on the linux storage drivers for HP's Smart Array
line of RAID controllers, first the "cciss" driver for which I added support for
SCSI tape drives, and later the current "hpsa" driver. I am the primary author
of the hpsa driver. I also worked on a SCSI-over-PCIE driver for about a year
in collaboration with SanDisk which I presented at the 2013 Linux Storage
Filesystem and Memory Management Summit.

I worked on enhancements to the hpsa driver to use the new (in 2014) SCSI
multiqueue enhancements and remove all the locks from the main i/o path to
enable performance of nearly 1 million IOPS on a single controller to a single

logical drive. I have been invited to the Linux Storage Filesystem and Memory Management Summit in 2013 and 2014. Some of my linux kernel commits may be found here: https://git.kernel.org/cgit/linux/kernel/git/torvalds/linux.git/log/?qt=author&q=scameron

Additionally I worked on various Smart Array related storage utilities such as SNMP agents, array configuration utilities, smartmontools, and various other small utility programs.

In 2000, I worked on a driver for Smart Array RAID controllers for about a year for IBM's and SCO's Project Monterey, which was a unix derivative of SCO Unixware and IBM's AIX that was supposed to run on IBM POWER, PowerPC, IA64 and IA32 processors. Project Monterey didn't really go anywhere though, as linux kind of came along and ate its lunch.

From April 1997 to September 1998, I was responsible for supporting SCO Openserver on Compaq's "SmartStart" CD. The SmartStart CD contained a number of system specific drivers, most importantly storage drivers, and a modified version of SCO's install media to enable injecting those drivers during the install process.

During that time (1997-1998) I was also the system administrator for one of Compaq's source code servers, which contained all the source for the drivers and utilities that made up Compaq's drivers and software for SCO Openserver, Unixware 2, and Unixware 7. That entailed the usual backups, user administration, etc. Also, I set up and initiated the CVS source code control system then in use. Prior to my arrival they were using just RCS.

I also automated the build process, and incidentally this was how I got into driver development. Floppy diskette images needed to be created and Unixware lacked any block loop device, so I wrote a driver for one to avoid the time consuming and medium-error prone use of actual floppy diskettes.

July 1992 - April 1997 (5 years): McDonnell Douglas Corporation (now Boeing) 16055 Space Center Blvd, Houston TX, 77062-6208 – Unix Systems Administrator/Programmer

Since April 1995 I was the primary system administrator for a network of approximately 60 Sun workstations (Sparc 5s, Sparc 20s, an Enterprise 3000 and an Enterprise 5000) running SunOS 4.x or Solaris 2.x and 3 HP-9000s running HP-UX 9.x. My responsibilities included hardware installation, OS installation, software installation, licensing and configuration management, backups, user account administration, network administration, and general troubleshooting to name a few. Probably the most impressive thing I did in the Sys Admin vein was a very elaborate NIS/amd automounter setup. Seeing as how this was 1995, and mostly SunOS/Solaris, you might say I was a "classically trained sysadmin".

Prior to taking on system administration duties I worked as an Ada/C/X/Motif/SQL

programmer and my responsibilities included design, implementation, testing and documentation of an Ada interface to an Oracle database and VMS file system and various programs which used the interface. In a related project, I was responsible for porting a portion of a real-time simulation control program written in Ada from a VAX ELN environment to a DEC Alpha/OSF/1 (later Compaq Alpha/Tru64 Unix) environment. This involved writing Ada interfaces to many Unix system calls such as those dealing with semaphores, message queues, and signals to name a few.

May 1989 - Jan 1992 (during summers and Christmas break from school) Advanced Computing Solutions, Inc. (ACSI, later RealData, probably no longer exists.) Houston, TX Data Systems Engineer

My responsibilities included design, coding, and testing of various programs and components of ACSI's (pre-WWW) on-line real estate information service (Oracle based), including programs to estimate adjustments to real estate property values, programs to efficiently search large volumes of data (for instance, all the property tax records for Harris County TX, numbered in the millions (remember, this is circa 1989 when "millions" was a big number) and generate reports in ASCII, PostScript, and troff formats. In addition I worked on ACSI's Commercial Multiple Listings Service (CMLS) and the billing system for the CMLS. I also worked on the redesign and conversion of a nationwide security alarm monitoring system from COBOL to C. This involved writing several cooperating C programs which communicated with each other in nearly every way possible, via sockets, shared memory, semaphores, message queues and FIFOs. All that work was done on a combination of HW, Suns, Data Generals, Masscomps and some AT&T 386 boxes running some beta release of SVR4. Languages/Software used included C, Pro*C, Bourne shell, C shell, SQL*plus, SQL*report, SQL*Forms (version 2.0 –gasp!) awk, and troff. This work was all done during summer and Christmas breaks between semesters while attending Texas A & M. (total: 14.5 months)

Jan 1987 - Jan 1989 Mitre Corp. Nassau Bay, TX – Technical Aide

My responsibilities at Mitre included adding a sophisticated (for its time) user interface to a queueing analysis program written in Turbo Pascal on a DOS machine. The interface included pull-down menus, windows and a spreadsheet-like data entry module. I also extended the analysis portion of the program by adding two new types of queues. I was also responsible for conversion of a Space Station requirements database prototype from DBase III to Oracle. This involved teaching myself to be my own Oracle DBA, teaching myself C, and integrating the emacs editor into my application. I also created a C program (the 2nd I ever wrote, after "hello, world!" of course) to read raw DBase III files and produce output in a form importable by Oracle (SQL "insert" statements and SQL*plus "create table" statements) This work was done during summer and Christmas breaks between semesters while attending Texas A & M.

Other Interests:

In January of 2013 I founded the Houston Recreational Computer Programming

meetup and ran it until November or 2014, and was a co-organizer of the Houston Game Developers Show and Tell meetup.
http://www.meetup.com/Houston-Recreational-Computer-Programming-Group/
http://www.meetup.com/Houston-Game-Devs-Show-and-Tell/

I was an active member of Houston's hackerspace, TX/RX Labs from 2010 until 2015. See: http://txrxlabs.org Occasionally I taught a 2-day "Intro to C programming" course and a 2-day "Intro to Linux Device Driver programming" course there.

I'm also currently working on an open source multiplayer starship bridge simulator called "Space Nerds In Space" in my spare time. http://smcameron.github.io/space-nerds-in-space/

I built a cyclekart, which is a little car that's part way between a go-kart and and an art project.
In progress: https://www.youtube.com/watch?v=7ocrvACdmN8 Finished: http://imgur.com/a/dY7PB#0

In 2007, I wrote a video game called Word War vi similar to the old arcade game Defender with a "vi vs. Emacs" theme, and later helped modify it to run on a home-made openlase driven RGB laser projector. The game may be found here: http://smcameron.github.io/wordwarvi/, The music, sound effects and voiceover work is substantially my doing as well.

In 2014 I presented a technique I came up with for generating somewhat realistic looking gas giant planet graphics which looks better than anything else I've seen out there (better than what's in Elite: Dangerous, for example) http://smcameron.github.io/space-nerds-in-space/gaseous-giganticus-slides/slideshow.html

In 2014 I ported Kurt Spencer's OpenSimplex noise algorithm to C and in 2018 my port was incorporated into the Godot game engine. See https://www.patreon.com/posts/godot-engine-my-21539216

References available upon request.