MUUGLines

The Manitoba UNIX User Group Newsletter

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Next Meeting: May 13th, 2014

Presentation and RTFM:

The presentation this month will, once again, include an application of the Raspberry Pi. Wyatt Zacharias will talk about using cameras with that hardware.

The May RTFM will feature Gilbert Detillieux, talking about the ImageMagick suite of graphic tools.

Where to Find the Meeting

1L12 Lockhart Hall, University of Winnipeg

Important: MUUG Has Changed the Room for This Month

Our home this month is at the University of Winnipeg in Lockhart Hall, **Room 1L12**; indicated on the map with the L. Lockhart hall is on the south-east corner of Spence and Ellice. Parking is available on the surrounding streets. Look for signage once you're at the building, or ask a security guard.

Upcoming Meeting

June 10, 2013

Topic: TBD

Location: Again in 1L12 Lockhart Hall, University of Winnipeg

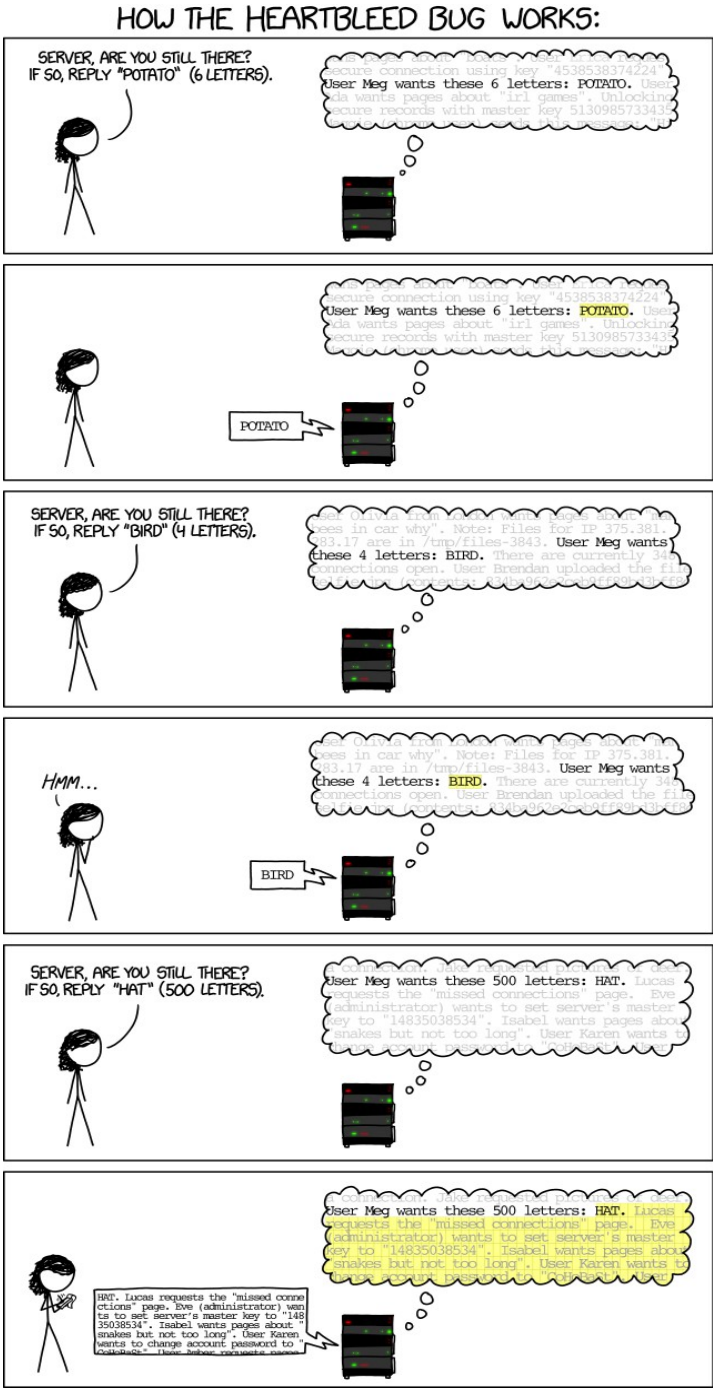
What's Popular

According to DistroWatch.com, the most popular Linux distributions, as measured by hits per day, are:

- Linux Mint at 3889
- Ubuntu at 2215
- Debian at 1822
- Mageia at 1508
- Fedora at 1432
- Open SUSE at 1385

What is Mageia, you ask? In their own words:

> Mageia is a fork of Mandriva Linux formed in September 2010 by former employees and contributors to the popular French Linux distribution. Unlike Mandriva, which is a commercial entity, the Mageia project is a community project and a non-profit organisation whose goal is to develop a free Linux-based operating system.



Xkcd Does It Again

The cartoon appearing above is from xkcd and is as good an explanation of the heartbleed overrun bug as you will find. What a tour de force!

Are You Heartbleed Vulnerable (I)?

It's easy to check for heartbleed vulnerability on Linux systems. First, as superuser or using `sudo`, check to see what version of openssh you are running. Use the command:

```
openssl version -a
```

The response will start with something like:

```
OpenSSL 0.9.8k 25 Mar 2009
```

The version number in this case is 0.9.8k. If your version number is 1.0.0 or older, you have no problem. If your version number is at 1.0.1g or later, you also have no problem. Otherwise, try to get the build date using

```
openssl version -b
```

You will see something like

```
built on: Mon Apr  7 20:33:29 UTC 2014
```

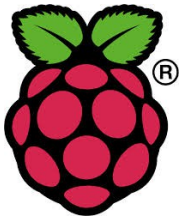
If the build date is April 7 or later, all is OK. Otherwise, use `apt-get` or `yum` to update your current version of openssh.

Are You Heartbleed Vulnerable (II)?

If you have one of these implementations, make sure you update!

- Debian Wheezy (stable), OpenSSL 1.0.1e-2+deb7u4
- Ubuntu 12.04.4 LTS, OpenSSL 1.0.1-4ubuntu5.11
- CentOS 6.5, OpenSSL 1.0.1e-15
- Fedora 18, OpenSSL 1.0.1e-4
- OpenBSD 5.3 (OpenSSL 1.0.1c 10 May 2012)
- OpenBSD 5.4 (OpenSSL 1.0.1c 10 May 2012)
- FreeBSD 10.0 - OpenSSL 1.0.1e 11 Feb 2013
- NetBSD 5.0.2 (OpenSSL 1.0.1e)
- OpenSUSE 12.2 (OpenSSL 1.0.1c)

Easy as (Raspberry) Pi?



Has Wyatt inspired you to get the Raspberry Pi? You want it, but with no hassle? It's on **Amazon.ca** for $44.95. Add the case and wireless card and the price is $73.93.

Dartmouth College Celebrates 50 Years of BASIC

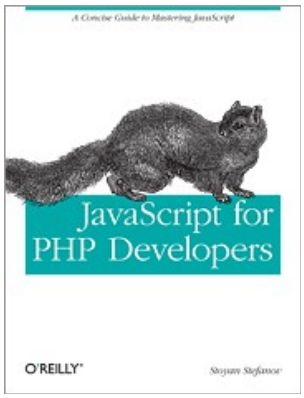
There was a huge turnout at Dartmouth's party on April 30 to celebrate the 50th anniversary of the BASIC programming language and the Dartmouth Time Sharing System, which were launched during an all-nighter that spilled into the early morning of May 1, 1964.

"There were a lot of all-nighters. Afterwards, we went to bed; John Kemeny went to teach. He'd have to go to some freshman math class," said John McGeachie '65 at the celebration Wednesday. McGeachie, along with Mike Busch '66, solved the problem of enabling different GE computers to communicate in 1964.

Kemeny, at the time head of the Dartmouth math department and later president of the College, and math professor Tom Kurtz explained years later the magnitude of these undergrads' effort by noting that one of the computers "did not even have a manual, since it was never intended to be programmed outside the factory."

Book Review: JavaScript for PHP Developers by Stoyan Stefanov

When I first looked at **JavaScript for PHP Developers**, I thought that this would be something like reading a Piper Cub manual for 747 pilots. Since I have completed several projects that used PHP code extensively but have little experience with JavaScript, I was intrigued by this book. After all, it is slim (less than 150 pages), so why not spend a little time with it? Somewhat to my surprise, it turned to be a good read. The author really assumes no prior JavaScript knowledge (not even how to run JavaScript within a browser) and assumes no particular working environment.



So it is easy to just sit down and start inputing. Many of the differences given between PHP and JavaScript are completely trivial (for example, variables start with a $ in PHP and need not do so in JavaScript). Others are somewhat more subtle, and make the book interesting. When you finish the book, will you be a proficient JavaScript programmer? Probably not, but this book will send you in the right direction.

Memory Lane 1: What Was BYTE?

For those of us of a certain age, BYTE was a magazine that introduced us to microcomputing. It published from September 1975 through July 1998, and both the advertising and articles were of great interest. Over time it became enormous, with monthly issues running to over 600 pages. It gave much coverage to the UNIX OS when it was still new and unknown. Gone for 15 years now, many of us still have warm and fuzzy feelings about it. The history of BYTE after it ended as a print magazine is an interesting case study of attempting to adapt to a changing technological environment. Check out Wikipedia for more information. Looking back at past issues (from my basement) gives an interesting view of the technology changes over the years. For the old guys, it can be nostalgic. For younger ones, it is interesting to see just how few resources were available, even on high-end machines.

Memory Lane 2: Home Computing 30 Years Ago; a Review from October 1983

In the October 1983 issue, the brand new Radio Shack TRS Model 4 was reviewed. It is interesting to compare that computer with the Raspberry Pi mentioned above. Here is what BYTE had to say:

The least expensive Model 4 is the $999 tape-based version. For $1699 you can get a Model 4 with one disk drive; most people will probably buy the two-drive system, priced at $1999. You can start with any

model and upgrade in stages all the way to the top of the line. Separately priced options include 64K bytes of memory for $149, the first disk drive for $649, the second disk drive for $240, and a 5-megabyte Winchester disk drive for $1999. There is an additional installation charge (not specified) for any upgrade. Radio Shack plans to offer a high-resolution (640 by 240 pixels) monochrome graphics plug-in card for $249.95.

The cassette version of the Model 4 looks and acts a lot like a TRS-80 Model III in a white case. It includes 16K bytes of RAM, Microsoft BASIC in ROM (read-only memory), a 16-line by 64-column upper- and lowercase display, a parallel printer port, and a cassette I/O (input/output) port. The keyboard has been upgraded to include a control key, a caps lock key, and three function keys. Those are the only new features that are standard with the cassette-based Model 4. You must add at least one disk drive to get any other Model 4 features, even the internal speaker.

The single-disk system includes the above features plus one 180K-byte single-sided double-density disk drive with 40 tracks. The $1999, two-drive system also adds an RS-232C serial port.

A disk-based Model 4 is a dual-personality machine. When you run Model III software, it mimics a Model III exactly. But when you boot the TRSDOS 6.0 disk that comes with any disk system or upgrade, the real Model 4 and all of its features emerge. CP/M Plus, an extra-cost option not available at the time of this writing, will also run in Model 4 mode.

Any Model 4 can be upgraded to 128K bytes of RAM. Because the Z80 can address only 64K bytes of memory at a time, the extra memory is switched in and out of the top 32K-byte bank of the Z80's address space. TRSDOS 6.0 software can use the extra memory for a printer spooler or memory disk.

Memory Lane 3: UNIX Workstations; a Review from May 1989

In 1989, UNIX workstations usually only appeared in Engineering labs. The Sun SPARCStations changed all that. At the time it seemed to have almost miraculous capabilities. Here is a review of the first model; it appeared in BYTE in May 1989.

The SPARCStation 1 features a SPARC CPU with a clock speed of 20 MHz. The machine comes standard with an FPU that offers performance of about 1.5 million floating- point operations per second (MFLOPS), which is about 10 times the performance of the Motorola 63882 FPU used in the Mac II, the NeXT computer, and the Sun-3/80.

The SPARCStation comes with 4 megabytes of RAM and is expandable to 16 megabytes. The system board currently uses 1-megabit single in-line memory modules, but it will accept 4-megabit SIMMs when they become available. The logic board includes two serial ports, one Ethernet port, one SCSI port, and three expansion slots controlled by a new proprietary bus called the S-Bus. Externally, the SPARCStation 1 and the Sun-3/80 are identical machines. The system unit for each is a sleek 16- by 16-inch package, only 2 inches high, designed by Frog Design, which is also responsible for the NeXT computer's external design. It features a universal 85-watt power supply and bays for one 1.44-megabyte 3½-inch floppy disk drive and two 100-megabyte 3-inch hard disk drives. The 100-megabyte drives have an average access time of 23 milliseconds and throughput of about 1.2 megabytes per second. An optional expansion box is also available that can store a 327-megabyte 5¼-inch hard disk drive as well as a 150-megabyte tape backup unit.

Both the 3/80 and the SPARCStation come with an optical mouse and an IBM PC AT-compatible keyboard (called the Type 4 keyboard), which has been standard on the 80386-based Sun386i, introducedlast year (July 1988 BYTE). This keyboard is now standard on the entire Sun product line.

A variety of monitors are available with the systems. They range from 17- and 19-inch monochrome and gray-scale monitors to 16- and 19-inch 8-bit color monitors, all with 1152- by 900-pixel resolution.