today's leftovers

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7 Alternatives to Google Earth [2]

Google Earth has received so much press coverage that many users will appreciate that it is one of the coolest applications to download. In brief, it is a feature-laden 3D virtual globe, map and geography browser which lets users zoom in on their world with fantastic detail. View satellite imagery, maps, terrain, 3D buildings and even explore galaxies in the sky. This application allows the exploration of rich geographical content, save toured places and share with others. The software maps the earth by the superimposition of images obtained from satellite imagery, aerial photography and GIS 3D globe.

Google Earth is undoubtedly a very impressive application, and it is extremely hard not to admire the wealth of features that it offers. Its satellite images are unrivaled, it provides useful and accurate statistical information, and the software has many practical benefits, such as helping to find locations and give driving directions. In terms of functionality, this application earns our highest praise. We use the software on a regular basis on both desktop and mobile devices (the latter under Android). However, while Google Earth is available to download without charge, Google do not release the software under an open source license.

In the past there have been attempts to reverse engineer Google Earth and implement its features in an open and extensible way. However, these actions were understandably frowned upon by Google. Instead we prefer to see the development of open source virtual globe software which uses freely licensed or public domain data. While the development of open source virtual globe applications may not, in itself, encourage Google to release its application or data under a similar license, it does give users the option to be able to have the freedom to do what they want. This route also helps to foster greater user community support to drive development often in the form of add-ons and plug-ins.

There are a number of applications which are credible open source alternatives to Google Earth. While none of the software applications featured in this article have all of the features
offered by Google Earth (although some offer some different features), and they are not exactly comparable, they are all worthy of investigating.

- **Warzone 2100 Lands Vulkan Renderer, Adaptive V-Sync For 20+ Year Old Game** [3]

  Warzone 2100 as the real-time strategy/tactics game that first premiered in 1999 before becoming open-source in 2004 and then fully open-source with game data in 2008 is now evolving in 2020 with Vulkan graphics support.

  The open-source Warzone 2100 game not only has a Vulkan back-end that was merged today but also OpenGL ES 2.0/3.0 support for those wanting to relive this late 90's computer game on mobile/embedded devices having only GLES drivers.


  My GSoC project under NetBSD involves the development of the test framework of curses. This is the final blog report in a series of blog reports; you can look at the first report and second report of the series.

  The first report gives a brief introduction of the project and some insights into the curses testframe through its architecture and language. To someone who wants to contribute to the test suite, this blog can act as the quick guide of how things work internally. Meanwhile, the second report discusses some of the concepts that were quite challenging for me to understand. I wanted to share them with those who may face such a challenge. Both of these reports also cover the progress made in various phases of the Summer of Code.

  This being the final report in the series, I would love to share my experience throughout the project. I would be sharing some of the learning as well as caveats that I faced in the project.


  The first and second coding period was entirely dedicated to fuzzing rumpkernel syscalls using hongfuzz. Initially a dumb fuzzer was developed to start fuzzing but it soon reached its limits.

  For the duration of second coding period we concentrated on crash reproduction and adding grammar to the fuzzer which yielded in better results as we tested on a bug in ioctl with grammar. Although this works for now crash reproduction needs to be improved to generate a working c reproducer.

  For the last coding period I have looked into the internals of syzkaller to understand how it pregenerates input and how it mutates data. I have continued to work on integrating
buildrump.sh with build.sh. buildrump eases the task for building the rumpkernel on any host for any target.

buildrump.sh is like a wrapper around build.sh to build the tools and rumpkernel from the source relevant to rumpkernel. So I worked to get buildrump.sh working with netbsd-src. Building the toolchain was successful from netbsd-src. So binaries like rumpmake work just fine to continue building the rumpkernel.

- **Full Circle Magazine #161** [6]

- **Bandwidth for Video Conferencing** [7]

For the Linux Users of Victoria (LUV) I’ve run video conferences on Jitsi and BBB (see my previous post about BBB vs Jitsi [1]). One issue with video conferences is the bandwidth requirements.

The place I’m hosting my video conference server has a NBN link with allegedly 40Mb/s transmission speed and 100Mb/s reception speed. My tests show that it can transmit at about 37Mb/s and receive at speeds significantly higher than that but also quite a bit lower than 100Mb/s (around 60 or 70Mb/s). For a video conference server you have a small number of sources of video and audio and a larger number of targets as usually most people will have their microphones muted and video cameras turned off. This means that the transmission speed is the bottleneck. In every test the reception speed was well below half the transmission speed, so the tests confirmed my expectation that transmission was the only bottleneck, but the reception speed was higher than I had expected.

When we tested bandwidth use the maximum upload speed we saw was about 4MB/s (32Mb/s) with 8+ video cameras and maybe 20 people seeing some of the video (with a bit of lag). We used 3.5MB/s (28Mb/s) when we only had 6 cameras which seemed to be the maximum for good performance.

- **Get involved? Meet the TDF team** [8]

Joining a free and open source software project, such as LibreOffice, is a great way to build your skills, gain experience for future career options, meet new people and have fun!

But sometimes, joining a large and well-established project can be a bit daunting at the start. So here we’ll introduce you to the small team at The Document Foundation, the non-profit entity behind LibreOffice. Most team members oversee certain sub-projects in the LibreOffice community. Click on their names to learn more in interviews?
Emacs Builders (Together with Richard Stallman) Focus on Learn how to Construct a Extra ‘Fashionable’ Emacs

Lack of Qualified Linux Talent Impedes Enterprise Move to the Clouds

The Linux Foundation has been working to address the shortage of Linux talent for many years with a combination of training and certification exams. Despite this, the breathtaking growth in Linux adoption, especially as the de facto OS of the cloud, means that there is still a shortage of qualified talent, according to Clyde Seepersad, senior vice president and general manager for training and certification at The Linux Foundation (LF).

?We are always supportive of developments in the training ecosystem which help address this gap. In particular, we are finding that demand for our performance-based certification exams continues to be gated by individuals not feeling adequately prepared,? he told LinuxInsider.

LF?s certification exams include Certified Kubernetes Administrator, Certified Kubernetes Application Developer, Linux Foundation Certified SysAdmin, and Linux Foundation Certified Engineer.

?ACG and LA both have excellent reputations for the quality of their open-source training content so we are pleased to see them come together to better serve the talent development needs of the open-source software ecosystem,? he added.

Last phase of the desktop wars?

Economic pressure will be on Microsoft to deprecate the emulation layer. Partly because it?s entirely a cost center. Partly because they want to reduce the complexity cost of running Azure. Every increment of Windows/Linux convergence helps with that ? reduces administration and the expected volume of support traffic.

Eventually, Microsoft announces upcoming end-of-life on the Windows emulation. The OS itself , and its userland tools, has for some time already been Linux underneath a carefully preserved old-Windows UI. Third-party software providers stop shipping Windows binaries in favor of ELF binaries with a pure Linux API?

?and Linux finally wins the desktop wars, not by displacing Windows but by co-opting it. Perhaps this is always how it had to be.