Weekend

A weekly update of One Laptop per Child December 22, 2008

G1G1

Brussels: Thanks to the packing, repacking, upgrading and labeling team led by Adam Holt (and including Niklaus Giger), almost 300 kids all over Europe already are enjoying their holiday XOs. Some even had their machines personally prepared by Nicholas, who lent his welcome help to the effort. The UK orders were complicated because the CE marks inadvertently were left off the chargers, and needed to be affixed. The UK laptops are just arriving in country now and will be shipped by the end of the month.

Learning

Cambridge: A group from Ghana came to 1CC for a week-long workshop to prepare for their national laptop initiative. There already are 1100 laptops in country, where work has begun in two schools. The delegation was led by a finance ministry official, who is also a key member of the Baah-Wiredu foundation that will direct the laptop initiative.


Scenes from the Ghana workshop.

The goal of the workshop was to continue to develop the Ghanaian core team's overall understanding of laptops and learning, with particular focus on the 1:1 approach to learning in schools and in communities. The workshop also covered technology and the logistics of successful implementation.

The delegation was very enthusiastic about the program. In addition to talks and discussions, the group participated in an XO storytelling exercise led by Barbara Barry; learned about the details of other OLPC initiatives from Juliano Bittencourt and Robert Fadel; reviewed the deployment workbook with Reuben Caron; planned for content development with Claudia Urrea; took apart and re-assembled their laptops with Reuben and Brian Jordan; visited the South End Technology Center and the Learn to Teach: Teach to Learn program led by Ed Baafi and Mel King; finished planning for 2009; carried on a lively Q&A with Nicholas and, finally, were wowed by a huge snowstorm, a novel experience for most of them.

Julia Reynolds organized the event and recruited the children. Barbara led groups of children in an XO and storytelling activity in preparation for introducing it to other countries. Edith Ackermann collaborated with Barbara and observed the interactions as part of the new assessment work on "Making Learning Visible." As always, the children surprised everyone by creatively taking activities in new directions.

Claudia worked with John to incorporate a simple magnetic sensor in the XO for use in community mapping exercises. This is part of work by Claudia, Barbara, Cynthia Solomon and others to provide a greater number of rich laptop learning activities for children.

Dale Joachim's demonstration of his work on environmental projects was another highlight of the Ghanaians' visit. We will work with Dale, who is at the Media Lab, to make these types of projects available in all our deployments.

Technology

Testing:

1. The QA team prepared to test the upcoming 8.2.1 release. Joe Feinstein worked on NANDblast and improved connectivity with WPA-secured access points. Mel Chua has created test cases and stubs for the test plan and will hold a test meeting focused on 8.2.1, with an emphasis on the RF/wireless testing.

Battled wiki spam, as Henry mentioned - volunteers Chris Leonard and Joachim Pedersen were real heroes on this one, and should be recognized.

2. Oceania is taking off with community testing in a wonderful way. Along with the Wellington testers in NZ, Pia Waugh, Donna Benjamin, and Joel Stanley are running Activity test sprints in Sydney, Melbourne, and Adelaide this weekend. These sprints would not be possible without the infrastructure work done by Carl Klitscher, Tabitha Roder, Alastair Munro, Skierpage, and many others. Photos of the Wellington testers: http://www.flickr.com/photos/tabitharoder/sets/72157610061263130/

Brian Pepple from the Fedora-on-XO test group has stepped up to run the http://lists.laptop.org/listinfo/Friends_in_Testing initiative for 8.2.1 candidate builds, the first time this has been run by a community member.

3. This is an open meeting for technical design review of 9.1.0 features. See the agenda and sign up to participate here: http://wiki.laptop.org/go/XOCamp_2. Thanks to Skierpage, all well defined feature requests are now tracked in a single queryable table: http://wiki.laptop.org/go/Feature_roadmap#All_features. Target features are here: http://wiki.laptop.org/go/9.1.0_requirements#Top_Priority

SysAdmin:

4. Volunteers and OLPC employees joined to revert and block an unusual spike in OLPC wiki vandalism that peaked December 17th. Many thanks to Mel, SJ Klein, Michael Stone and others who helped with this late night effort. Especial thanks to volunteers cjl, joachimp and others who assisted. Henry Edward Hardy closed his 1100th successfully resolved sysadmin help ticket on December 18th.

Community and Support:

5. Skierpage (S) built query-able and sortable pages using Semantic wiki for Activities, Tests, Releases, and now Features. He also documented it and created "to do" lists so that other people can make their own pages or extend his work. This was first class software engineering: http://wiki.laptop.org/go/Semantic_MediaWiki .

Open Firmware:

6. In preparation for submitting OFW + XP to bSquare for certification testing, Mitch Bradley fixed a few low-level aspects of the open firmware support for Windows XP, mostly in the area of installation from USB keys and USB CD-ROMs.

7. One outstanding bug in release 8.2 has been a screen glitch on resume (#8893). Mitch looked into doing a "screen deglitching on resume" in OFW, which has code for that from OLPC's pre-Cambrian era, but it is bit-rotten. It shouldn't take too long to make that work again, instead of relying on X.

Future Hardware:

8. Gen 2 advanced this week, with plans for early software development prototypes in Q2 of 2009, though still not in a dual screen configuration. One challenge with Gen 2 has been to obtain the desired system on a chip, while at the same time avoiding an exclusive arrangement with a single processor vendor. We hope soon to announce progress in this area.

9. Testing of possible non-volatile storage devices for future hardware continues. At this point, five of Toshiba's LBA-NAND devices have failed, three of them catastrophically; that is, the laptop motherboard would have to be replaced. All data on the laptop would be lost after about two TB were written to each. They have been sent back to Toshiba for failure analysis. UBIFS is now being tested on three laptops, and SD cards from a second manufacturer on three other machines. Over the next week, John Watlington hopes to add a power cycle test (randomly interrupting power to the device while writing) to the test bed. This is an area where JFFS2 has performed well, but OLPC has little data on its possible successors. Marvell will be sending some of their SSD controllers to add to the test bed. Recent test results are logged at http://dev.laptop.org/~wad/nand/ .

Networking:

10. Ricardo tested the Libertas firmware 22.p23, which passed regular test. He also fixed a wol signature based filter issue. It is now possible to set wake on arp requests (#3732) and also wake on dhcp requests targeted at the XO (and hence enable the gateway – mpp- functionality in a suspended XO).

He worked with the team at UFF on the sparse wireless test bed, investigating the effects of increasing the tx power (with test kernel) in order to improve throughput and decrease frame loss. Results will be added to the wiki soon. He dedicated a lot of time trainning the students at UFF in all aspects related to wireless tests with the XO. The 30 laptops donated by OLPC are finally green-lighted by customs and should reach the lab next week.

Finally, Ricardo was awarded a grant from the Institute for Systems and Computer Engineering of Porto to work on mesh networking and p2p applications. Ricardo will be moving with his wife to Portugal. We congratulate him and wish him the best!

System

11.C. Scott tackled 8.2.1 bugs this week, starting with the ones related to sugar-update-control (thanks to a good start in patches by dsd and saymindu) and moving on to olpcrd (pioneering work here by mstone). aHe also set up a 'staging' branch on xs-dev for testing 8.2.1-series builds, based on the 8.2 stable repositories. Other work included dusting off the partition support in olpcrd and olpc-update (trac #616, 4156, 3581, 6246, 8111, 8919). He also implemented a inotify-based indexing frontend for journal2 work, learning too much about kernel/userland race conditions in the process and forwarding those concerns upstream to the linux-kernel mailing list.

12. Erik Garrison published rpmXO [1], a small build system in the style of DebXO which rests on the work of Steve Kemp on the rinse [2] rpm build system. The work is not yet complete, but can be used to make lightweight RPM-based XO-bootable images from Fedora 10 repositories. He provided patches to Steve Kemp to add Fedora 10 package lists to rinse.

Erik published a small script, the OLPC Image Digestor [3], which can be used to create the placement control files used by OFW during the reflash process. These files are the only requirement which OLPC must place on deployments to provide the signature files required to unlock the Bitfrost secure reflash lock. In the past the size of images and the poor upstream connectivity common in most deployment offices have frustrated the process of producing these signature files. He translated the documentation [4] to Spanish to encourage use of the system by interested deployments in South America.

Erik discussed the porting of Socialcalc [5] to the XO with Dan Brinklin. He is excited by the web-service-as-application model which the software suggests, and hopes the OLPC community investigates it further.

Erik also met (along with Richard Smith, Paul Fox, and C. Scott Ananian) with Dulmandakh Sukhbaatar, the new technical lead of the Mongolian deployment. He ran a demo of the multicast NANDBlaster [6] for Duluu so that he would be more prepared to use it on return to Mongolia.

Erik also continued work with the customization of XFCE for the XO and started investigations into the use of a NAND partition as swap to help relieve memory pressure on the system.

[1] http://dev.laptop.org/git?p=users/erik/rpmxo;a=summary
[2] http://www.xen-tools.org/software/rinse/
[3] http://dev.laptop.org/git/users/erik/image-digestor
[4] http://wiki.laptop.org/go/OS_Image_Digestor/lang-es
[5] http://www.socialcalc.org/
[6] http://wiki.laptop.org/go/Multicast_NAND_FLASH_Update

13. Simon Schampijer landed wired interface support for NM. While doing that he reviewed and reworked the device appears logic with Eben. He also fixed a bug which could cause the wireless dialog to not appear.

He also did help to get the Sucrose 0.83.3 out of the door. More information can be found at http://sugarlabs.org/go/DevelopmentTeam/Release/Releases/Sucrose/0.83.3 and in the upcoming Release announcement.

14. Eben worked on a hodgepodge of small projects this week. Among them: Reviewing, tidying, and putting out a call for suggestions and assistance in updating the HIG; creating an icon for wired connections; creating an icon set for object transfers; digging up some logos for trademark purposes; working on designs for activity overlay-chat; reviewing the feature roadmap and my trac tickets; discussing process for future laptop.org updates readying some small changes to the site; and finally discussing details of the devices tray with Simon and the object transfer spec with Tomeu.

15. Sayamindu Dasgupta worked on making SCIM work with the latest Joyride builds. He also fixed a critical issue in Pootle with respect to commit support and pushed a large number of new translations into the Git. He also worked with the Sugar team and the Activity authors to ensure that the Pootle-side repositories were properly updated during the migration to git.sugarlabs.org.

16. Paul Fox spent time finishing a prototype of the power button menu, and updating the spec. He met with Dulmandakh Sukhbaatar and Elana Langer and other developers from 1CC. Dulmandakh is the new technical lead for the Mongolian deployment – topics ranged from how to effectively communicate bug and feature requests to how to do specific kinds of machine upgrades. Paul also further assisted with OLPC's email outreach campaigns.

17. Jim Gettys finally have a two way conversation with N-Trig on the touchscreen; it is clear generic parts of the USB HID implementation of Linux need some extensions to support these devices. Microsoft does not seem to be good (so far) about working with the USB organization, though to give them some credit, a document has appeared on Microsoft's web site describing these extensions in November.

18. Morgan Collett added a "Reconnect collaboration server" button to the Sugar control panel to enable switching jabber servers on the fly, without restarting Sugar. He also assisted with the sucrose git migration to git.sugarlabs.org and the evince rebase to 2.24.

19. Walter Bender's recent Sugar digest can be found at: http://lists.sugarlabs.org/archive/sugar-devel/2008-December/010354.html.

School Server

20. Work on ejabberd+Moodle is progressing slowly.A minor XS-0.5.1 release is taking shape, and will probably be available after the weekend. Anna Schoolfield and others have been playing with an XS install on an XO, and seems to be working.

Deployment

Colombia: *Todos @1 Computador,* a government plan to equip all 65,000 primary school children in the department of Caldas with personal XOs, took a significant step forward last week with the deployment of 270 machines at two very different schools.

As Nicholas Bueno Davis, an advisor to Governor Mario Aristizábal Muñoz, explains, Caldas is an economically and culturally diverse department, and this is reflected in their choice of sites. The first was *Escuela Rural Mixta Simon Bolivar*, in the San Lorenzo Reserve. Davis discovered on an early scouting mission that "San Lorenzo Reserve is a small town with high levels of poverty and civil unrest, where the police station looks like a bunker, and there is so much malnutrition that even the dogs are only about half their normal size."



San Lorenzo: Some of the children wore traditional garb for the big event. Others displayed their old "computers."

The closest thing Davis found to a computer in town was "boxes, cartons, beads and string put together in the form of a computer, which comprised their 'computing' class… There was no significant possibility for socioeconomic mobility." The only source of information in the community was a 50-book library, kept in a closet.

Because of *Todos@1 Computador*, San Lorenzo now has electricity, Vsat with a 1MB connection, a server running Debian "at the moment," network coverage to the children's houses and an XO charging rack capable of handling 80 machines at once. The community's entire 180-child primary school population owns personal XOs.


Riosucio's kids inspect their XOs.

The story's a bit different in Riosucio, an urban center where 90 machines were distributed to third-graders at the Catholic *Escuela Normal Superior Sagrado Corazon*, a comparatively large and well-equipped school with an enrollment of 800 or so students, that was already Vsat-enabled.

The point of choosing such different schools, says Davis, was to underscore the department's diversity, as well as the broad inclusiveness of *Todos @1 Computator*. "Eventually," he says, "all will be touched by this project, as the idea is to erase the many barriers that divide the population, not just internally but also from the outside world." Davis also notes that a majority of the members of the departmental legislature, which most vote the funds for the deployment, attended the Lorenzo Reserve ceremony and came away deeply impressed with what they witnessed.

And in other news…

1. Check out this wonderful video from WorldFocus: http://worldfocus.org/blog/2008/12/11/rwanda-aims-for-one-laptop-per-child/3194/

2. The magazine *Revista Don Juan de Colombia,* citing Rodrigo Arboleda's work on behalf of OLPC, has named him one of the country's 100 most important people for 2008. Congratulations, Rodrigo, and happy holidays to all!

3. Greg's user links of the week: Update on pilot in Nicaragua and links to two beautiful videos by the great team at Waveplace: http://waveplace.com/sm/mailing/mail.jsp?id=13&msg=1174

4. New blog for XO deployment in Colombia: http://educacionitagui.blogspot.com/