Community News

A weekly update of One Laptop per Child October 20, 2008

Learning

Elana Langer visited several pilot schools as well as ones that received XOs during the ceremonies in June. In School 51, Elana found many of the teachers were using the computers in interesting ways. A two-day workshop is scheduled for this weekend to help advance the skills of teachers and students primarily in Schools 4 and 20. Elana also worked with teachers in School 4 to re-flash their computers into Mongolian.

Bulgan, a member of the core team, finished the translation of Turtle Art and Scratch this week. The project unit is distributing versions of the program to all laptop schools.

A Peace Corps volunteer in Hatgal is doing some wonderful work supporting the XO in the local community. There are 200 computers at his school and he is trying to work with teachers and students at each grade level to strengthen their skills and bolster their self-confidence on the computer. He has been asked to help at a neighboring village, and will do so next weekend.

Elana updated the national donors' meeting on OLPC's progress in Mongolia. This was an opportunity to thank Minister Otgonbayar in the presence of the members of the donor committee for his swift attention to the challenges the laptop initiative has been facing. It was also a chance to reintroduce the need for local partnerships to the donor community, which included ADB, World Bank, World Vision, UNICEF, UNESCO, GTZ, JICA, Save the Children and several other organizations. The reception to the project goals was extremely positive. After the meeting, representatives from many of the organizations, including ADB, World Vision, UNICEF and UNDP, approached Elana about collaborations.

Cambridge: After attending the recent OLPC learning workshop, two Cambridge city officials discussed bringing the XO laptop to local schools and community centers. The meeting was attended by Ken Reeves, a city council member and former mayor of Cambridge; Mary Wong, the executive director of the Cambridge Kids' Council;

research assistant John Clifford; and Stephanie Guirard, a resident of Newtowne Court. By the end of the meeting, the group was "unequivocally" behind an XO deployment, they said, and decided it would be best to implement a laptop project throughout the city. This is an exciting possibility, as it would provide a local deployment to show visitors, as well as a convenient site for testing the technology under real-life conditions.

Their plans were announced Friday night at the Cambridge Kids' Council meeting. Board members were very supportive. One parent on the board called the idea "brilliant." The next step is for Cambridge to approve funding.

Work also continues on developing support materials for more powerful learning activities, such as storytelling that incorporates programming and a variety of media.

Technology

Tech Support:

1. For large country deployments, we have begun a more formal process of regular meetings with the technical contacts, together with a process for them to escalate their bugs and feature requests through an email-based ticketing system. We expect this will help both deployment teams who want their issues tracked with follow up, and OLPC staff who want regular feedback from our deployments. The support group will provide a regular summary of the results of country calls to OLPC. They will also provide a presentation of all the information we have been collecting for the technology roadmap planning in mid-November.

2. Reuben Caron continued working and testing with Ejabberd on jabber.laptop.org. He worked with deployments in Birmingham and Mongolia this week. Reuben also worked with the QA team to see how we can help automate some of their procedures. Discussions are on-going between Kim Quirk and representatives of Cambodia about their keyboards, as well as with Perú on support for their upcoming conference and their list of feature and bug requests.

SysAdmin:

3. OLPC's Volunteer Infrastructure Group (VIG) secretary Stephan Unterhauser has modified and extended the Debian program "meetbot" to do automated logging of the online OLPC VIG meetings, as well as formatting them, and posting them in real time to the wiki.

Action items, topics and agreements can be automatically called out, indexed and highlighted.

Testing:

4. The QA team (Joe Feinstein, Frances Hopkins, Mel Chua, Reuben Caron and Kim Quirk) continued performance/capacity testing of the setup with many XOs connected

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to a school server. Since the last "Weekend report", we conducted the first real-life "Chat on school server" tests at 1cc. We had 62 laptops connected to (and registered with) a school server. Every laptop was running the Chat activity. 20 laptops were given to 20 people at 1cc; they were asked to actively chat with each other using the Chat activity. We had this going for ~ 15 minutes.

After several minutes some of the laptops experienced noticeable delays while our "children" were doing chatting (ticket ##8806). Moving a couple of laptops ~ 60 feet from the school server (to the finance office near the OLPC's entrance) caused these two laptops to stop chatting even while they were still connected to the school server. Moving them back closer to the school server restored chatting (ticket #8823).

Some of the laptops stopped collaborating completely, while being located close enough to the school server and still connected to it (ticket #8808).

We continue testing with the school server while limiting to 50 - 55 the number of laptops connected to a single access point. We also plan to test other performance-enhancing configurations (including more than one access point connected to the same school server). We also plan to conduct performance testing in the "access point, no school server" setting.

Mel Chua and Frances Hopkins organized and conducted a pilot usability testing at the MIT Museum last Saturday. The feedback from the event will allow us to help plan future usability testing (not necessarily in the MIT Museum).

Joe and Reuben started working on the "system level" test automation approaches, while Mel has been investigating the "software level" test automation possibilities. Mel continued working with volunteers willing to participate in our test efforts. She also visited Google to learn their test practices.

5. Mel also focused on recruiting volunteers to be part of the community test team. Newcomers, young people, and non-technical people are especially invited. There will be both formal and informal opportunities to learn about QA. For more information, join the testing mailing list, http://lists.laptop.org/listinfo/testing

Software Development**:**

6. The entire software development group began future feature planning with preparations for next month's technical mini-conference at OLPC. The call for proposals has gone out. See the planning page for this event and submit proposals at http://wiki.laptop.org/go/XOcamp_2X

XO OS Software**:**

7. C. Scott Ananian spend the week working on the Journal. He gave a talk at 1cc on Wednesday and prepared screencasts of his work: all the media is available at http://wiki.laptop.org/go/Journal_reloaded (and source code, too, for the brave).

C. Scott also helped get the ball rolling on the joint OLPC/Sugarlabs 9.1/0.84 planning meeting to be held the week of Nov 17, now called "XOcamp2" apparently, and made a number of talk proposals for the meeting on devel@. He hopes that lots more proposals from otherpeople will follow!

Finally, C. Scott and Sam Klein are leaving on Saturday morning for Peru, to spend over a week there. C. Scott, SJ, and Walter Bender will be presenting at the Open Source Jam in Lima, working with Hernan Pachas, and trying to encourage a local community of XO developers.

8. Erik Garrison spent the week testing various hierarchical file managers which could potentially be used in Sugar and working on UI performance issues. To close the week he published a set of potential modifications to the OLPC software distribution which dramatically improve user interface performance
http://lists.laptop.org/pipermail/devel/2008-October/020404.html

9. Eben Eliason participated in several meetings focused on approaches and planning for a revised Journal. Work in this area seems very positive so far; Eben will begin working on revised screenshots and use case scenarios next week so design and implementation can be brought together early in the next release cycle. He also focused part of his efforts on the website redesign, creating a new interactive laptop "360" and an interactive slideshow fed by OLPC's Flickr stream. These will be featured on the main "laptop" and "children" pages of laptop.org, respectively, to increase the visual appeal and impact via dynamic content.

10. Paul Fox continued the EC software merge effort after successfully setting up a work environment with the new firmware compiler.

11. Chris Ball worked on a power management feature[1] -- when entering idle suspend, we should set a wakeup alarm for five minutes later, and should move to sleep mode (saving power from DCON and others) if we're woken by the alarm. The first step was a kernel patch[2] to tell us whether we were woken by a clock alarm, and the next step is to set the alarm and act on being woken by it.

Chris also released a prototype of a Screencast activity[3]. This activity allows a movie to be created using the content of the display along with narration over the microphone; it could be useful for creating shareable tutorials and walk throughs both for learning how to use the XO and for learning in general. Chris is trying something new with this activity: after getting it barely functional, he doesn't have time to polish it and so is

looking for someone to volunteer to take over ownership of it, with no activity development experience necessary -- let him know if you're interested.

THE OLPC JOURNAL

12. Michael Stone, together with SJ Klein, wrote the 0th issue of "The OLPC Journal" at http://wiki.laptop.org/go/OLPC:Journal in order to have a good place to publish the devel@ mailing list.

XS School Server Software**:**

13. Martin Langhoff finished off the initial Moodle implementation for the school server, made networking changes to accommodate large schools using APs and battled some last issues with the build toolchain. Douglas load-tested ejabberd, completed the OTP work (for root password management) and the XS trust model for administration scripts.

Sugar / Activity Software**:**

14. Morgan Collett debugged connections to jabber.laptop.org, and tried to make presence service more reliable in the face of network delays seen in this setup. He worked on API documentation for activity authors, and discussed 9.1.0 goals for collaboration.

15. Marco Pesenti Gritti wrote a proposal about API stability policy for Glucose and discussed it in the Sugar irc meeting, he will add it to the wiki with the changes that was agreed. He wrote a list of work items to make Sugar window management more standard compliant and better host normal desktop applications, Sayamindu offered to help with some of those. He discussed the next generation Journal design and he is excited about the perspectives, hopefully next week we will also make progress on the UI side, with mockups by the design team. Marco fixed the various issues when running multiple Browse instances; file pickers and downloads are associated the appropriate window. He started refactoring the zoom level window management logic, which is complicated and currently messy, basing on patch by Benjamin to fix the home view annoying flickering.

16. Tomeu Vizoso worked on the following smallish tasks:
– Added to Browse the possibility of downloading links and images to the journal, these new options have been added to the palettes that appear on right-click.
– Added a removable storage device icon to Sugar's frame and a way for Shell components to react to new devices, this is in preparation of further improvements to the handling of usb sticks.
– Made the shell start 70% faster by not checking the well-formedness of each installed bundle each time we boot. These results are on a regular laptop with

a conventional hard disk, I expect the improvement to be smaller on the XO because small non-sequential reads from NAND are faster, but is still a good deal of work that we stop doing at startup.
  – Added previews to the text snippets placed in the clipboard side of the frame.
  – Did some inconclusive performance tests on ubifs, will continue next week.

17. Simon Schampijer has been landing the use of gconf for the profile in sugar-jhbuild. The profile is now using gconf to store the preferences. The old API in sugar/profile has been kept around to not break activities using it, for example to request the nickname or the color of the user. You can keep on running multiple instances of the emulator by using the 'SUGAR_PROFILE=username sugar-emulator' command. This keeps on working since we use gconf-dbus in sugar-jhbuild and therefore run one gconf daemon per instance.

18. Sayamindu Dasgupta worked on revising the Khmer keyboard layout so that it adheres to the national NiDA standard as closely as possible. He also worked on adding fallback language support for translations (eg: an Aymara user would like to see Spanish translations as fallback if Aymara ones are not available instead of the default English). In the Sugar department, Sayamindu continued his work on Read and added support for handling external hyperlinks in the underlying evince python bindings.

Laptop Power Measurements:

19. Richard Smith spent the week looking further into the power logfiles, plus the ones coming in from the community. To date he has 53 files that have held up to his initial screens plus additional processing. Most of the data came from builds 766 and 767, but a few Joyrides and earlier builds were in there as well. More logs arrive about every four hours. Some stats so far:

Ave Power range: 5.7 - 6.7 Watts
 Run time range: 2.7 - 3.44 hours
Min-Max idle power: 4 - 7.7 Watts
Min-Max Wh: 17.7 - 19.5 Watt Hours

Min idle power is an educated guess. The transition from full to discharging is not synchronous with the start of the 15 seconds measurement period, resulting in a power reading that is not accurate. So the min reported can be too low.

Richard is not yet able to establish a baseline. More investigation on where that one watt of variance is going is needed plus looking at the two Wh of battery life difference. Further tests with more controlled conditions are probably needed. Richard is specifically thinking about a no-wireless test where the WLAN is put into reset.

Thanks to everyone for taking the time to run the tests and to submit logfiles - especially the people who ran multiple tests. Having data from the same build, same machine, same battery on multiple runs is very useful as he attempts establish a idle

power baseline measurement. Please continue. More data is good. In the process several people learned that they had the start of the charge balance problem and were able to take steps to correct it.

Future Hardware:

20. John Watlington discovered that the first designs for the XO (pre-A1) included an IDE/NAND bridge (Phison 3002), which was dropped in favor of CaFE/JFFS2. This decision is being revisited for future hardware. The Asus EEE uses an IDE/NAND bridge, and a disk model that John has been considering. One partition uses SLC (single bit per transistor) for reliability and stores the OS, while a second partition uses MLC (multiple bits per transistor) to provide less reliable user storage.

21. UBIFS testing is on hold while Deepak Saxena and the UBIFS developers work on identifying and fixing a bug which cropped up immediately in John's tests.   JFFS2 testing has been slow due to the hassle of having to reboot the test laptops on an almost daily basis. He also worked with Erik Garrison to determine some next testing steps for UBIFS.

22. Pre-production samples of keyboards with the thicker rubber membrane have been installed in a small number of machines, and are being tested. Barring any problems, these should start appearing in production laptops in November.

23. Pre-build laptops with the new touchpad and keyboard controller have been shipped from Quanta, and should arrive on Monday. These are now expected to enter production in December.

Open Firmware:

24. Mitch Bradley added mesh support to open firmware for the multicast updater. He did some performance work on the USB stack, and tried to answer a bunch of questions from Quanta.

Networking:

25. Deepak continued to work on flash file system replacement options for the 9.1 release.

26. Guillaume Desmottes implemented the last bits of the new search protocol in Gadget. He released Gadget 0.0.2 which should contain all the requested features.

On the Gabble front he finished to implement the new protocol as well and merge the new Gadget API branch. In order to drastically simplify Gadget integration in Sugar, he investigated a new path where buddies in views where advertised as online by Gabble. He implemented it as a proof of concept and was able to very easily request views and making their activities and buddies appear in the mesh view without (almost) any PS

change! He also released telepathy-python 0.15.2 which contains new API which are needed to perform Gadget searches.

27. Ricardo Carrano has spent the week in:• tests with the XO acting as an access point, working with students at UFF to build a wireless sparse mesh test bed http://wiki.laptop.org/go/Wireless_Sparse_Testbed and working with Cozybit on the remaining WPA timing issues.

28. Javier Cardona worked on driver support for the "wakeup on lan" (WOL) functionality that currently is implemented in the wireless firmware. We can now wake up the XO based on the presence of a number of predefined 4-byte patterns in the received wireless frames, making possible scenarios such as waking up on ARP requests for its IP address.

And in other news…

Maureen Orth has posted a touching entry about the XO deployment at *Escuela Marina Orth* to the *Vanity Flair* blog. Maureen helped build the school in the 1960s as a Peace Corps volunteer in Medellín.

http://www.vanityfair.com/online/politics/2008/10/maureen-orths-school.html