



One Laptop per Child

Software Roadmap

May 20, 2008

Software Technologies

- Many new technologies in one laptop:
 - Power Management
 - Mesh Networking/Collaboration
 - Sugar User Interface
 - Datastore and Journal
 - Security
- Infrastructure Support
 - School Server
 - Power devices



Creating the Roadmap

- Gather feedback
- Prioritize features and bug fixes
- Evaluate the work effort
- Determine the resources and time frame
- Come up with Roadmap

Gather Feedback

- Feedback from:
 - Deployments (teachers, administrators, technical)
 - Uruguay, Peru, Mongolia, others
 - Market Development (sales/marketing)
 - G1G1 program
 - Support
 - Community: Educators and Developer

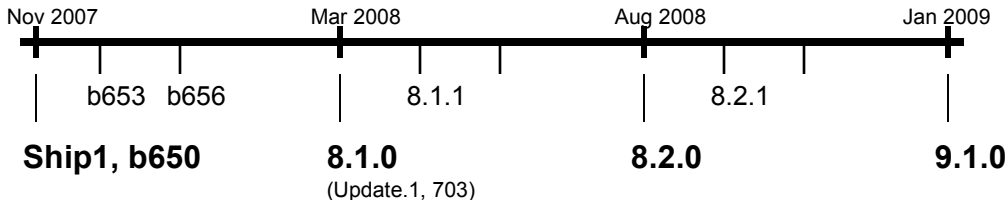
Prioritizing the Work

- Fix Touchpad
- Improve Keyboard tearing problem
- Getting Started Guides, Videos, Manual
- Easier XO upgrades
- Better battery life
- More reliable activity collaboration
- XO backups to school server

Prioritizing (cont)

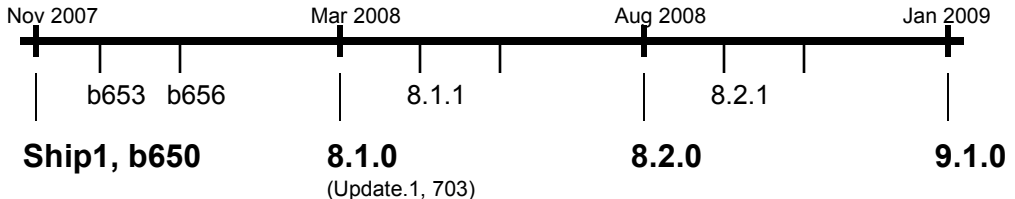
- Sugar UI performance, Browse features
- Preload Flash
- Sugar emulator for training
- Journal/Datastore fixes and enhancements
- User or teacher defined 'groups'

SW Release Roadmap



- Major release every 4-5 months
- Minor or bug fix releases in between
- Developer builds available continuously

SW Release Roadmap



- 8.1.0 - power button suspend; first level activity isolation (security); bug fixes; wifi solution for >20 laptops
- 8.2.0 - improved collaboration/mesh, some improvement in battery life, UI response, XO backups
- 9.1.0 - better scalability with collaboration; dynamic suspend/resume (battery life); robust, reliable datastore

Power Management

- Available today:
 - Hardware ready for suspend/resume
 - Update.1 has support for sleep on lid close or button
 - About 4 hours of battery life during normal use
 - 14-16 hours of battery life in sleep mode
- Future:
 - OHM management for suspend/resume
 - eBook mode to >10 hours
 - Aggressive CPU suspend

Mesh and Collaboration

- Available today:
 - 802.11b/g - via infrastructure access point
 - Small groups of simple mesh, wifi school server
 - Collaboration in small groups
- Future:
 - Track 802.11s evolution, address scaling, develop robust middleware/APIs
 - Corner cases - many students start up at once
 - More robust server process for sharing outside of local mesh
 - Better sharing at activity level

User Interface

- Available today:
 - Views: Home, Group, Neighborhood, Activity
 - Frame: People, Places, Objects, Actions
 - Emphasize collaboration and simplicity
 - Invite or share activities with others
- Future:
 - Better performance
 - Flesh out the concept of Groups or Friends
 - Support for other desktops (KDE, Gnome)
 - Port to other platforms (HW and OS)

Datastore / Journal

- Available today:
 - How docs are created; by whom
 - Easy use; auto save
 - Chronological list of activities/objects
- Future:
 - Scaling and Robustness
 - Bulk file transfers, transfers outside of the Journal
 - Versioning, XO to XS backup

Security

- Available today:
 - Signed software (both OFW and OS)
 - Activities isolated from filesystem
 - Linux desktop
- Future:
 - Anti-theft of the delivery chain - activation lease
 - Activity isolation from network, Address root access issues
 - Passive and Active kill
 - Activity signing, Identity authentication

XS School Server HW / AP

- XS Hardware Specifications:
 - 1GHz+ x86 processor, 1+ GB main memory
 - Four to six USB interfaces and an external disk drive
 - One 300-500GB+ 3.5in SATA drive
 - Power and space for a second disk drive
 - Two 100baseT network interfaces
- Cost: approximately \$600 - \$1000 USD (or more)

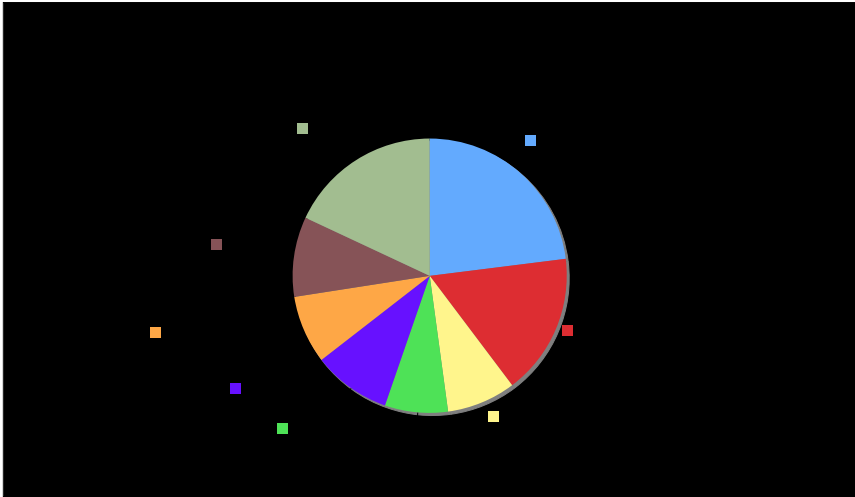
- Access Point Specifications:
 - 802.11b/g
 - Zoom 4400 has been tested at OLPC
- Cost: approximately \$40

XS School Server SW

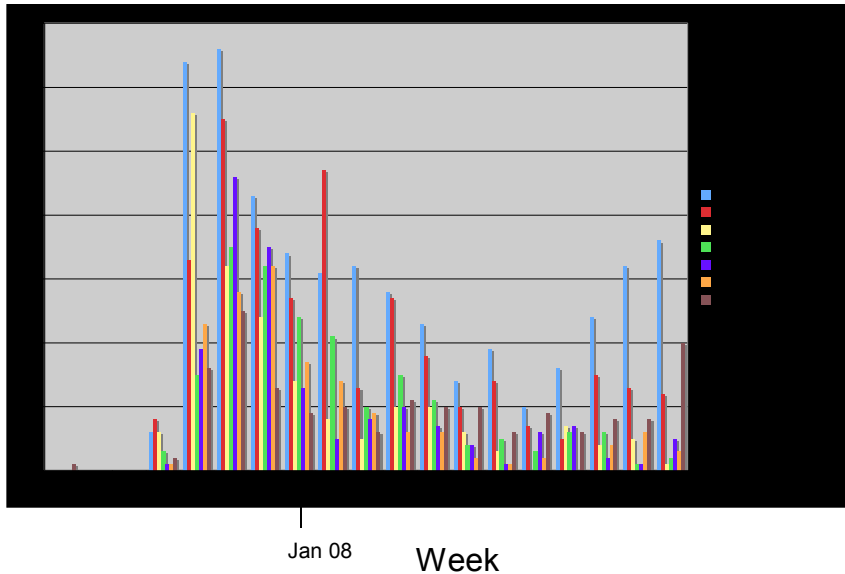
- Available today:
 - Fedora-based OS; standard services (DHCP, DNS, Apache, uplink)
 - Web cache, local content and upgrades for XOs
 - Presence server for collaboration
- Future:
 - XO backup/restore to XS
 - Remote management of XS
 - Filtering, Scalability

- Support ticket info

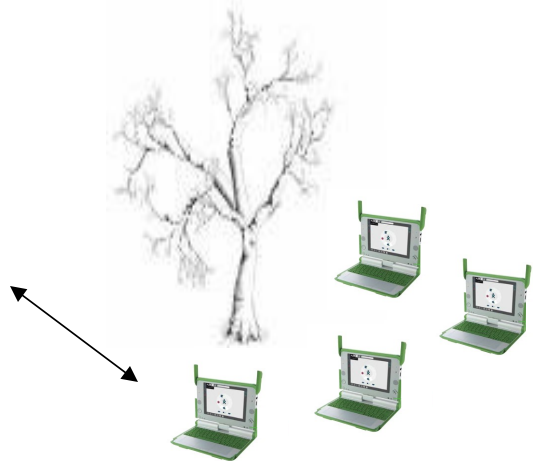
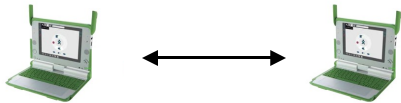
Tech Support Tickets



Tech Tickets



XO under a tree

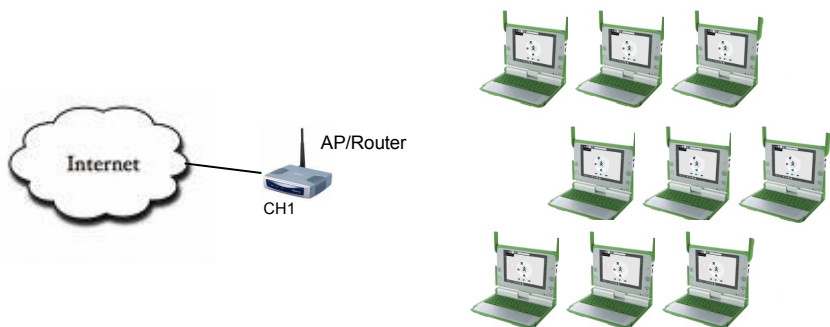


Up to 10 laptops can collaborate with no wireless infrastructure

ONE LAPTOP PER CHILD



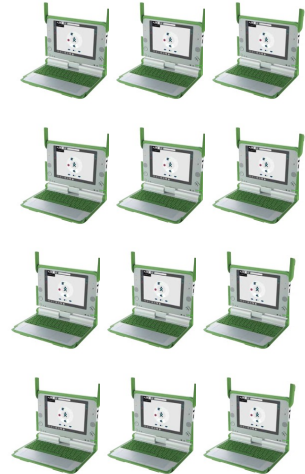
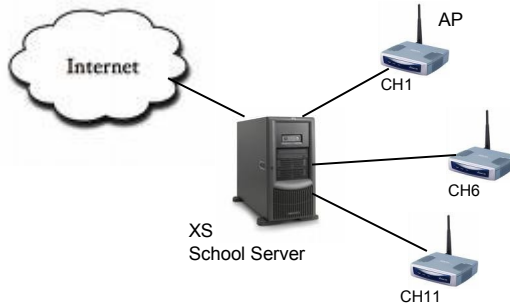
XO with AP



Up to 20 Laptops / Access Point

More than 60 laptops and 3 Access Points requires site survey and carefully designed infrastructure

XO with XS Server



Up to 50 laptops per AP

Up to 1000 laptops per school server
Requires RF site survey and carefully
designed infrastructure

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