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One Laptop per Child

Support & Repair

May 20, 2008

Support & Repair

- Hardware will break, software will malfunction!
- What can we do to help students and teachers deal with this ?
- Country specific solutions needed
- OLPC can work with deployment teams, NGOs, and volunteers to provide help

Support & Repair

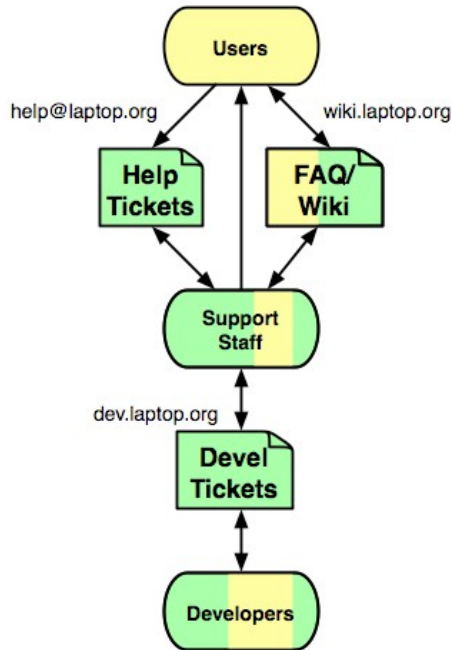
- As a non-profit, OLPC cannot provide the typical solutions:
 - (Global) repair service
 - Hardware warranty
 - Large software support team, working in the local language
- Deployments must provide a first level of software/hardware support, and a repair solution

Support: What is it ?

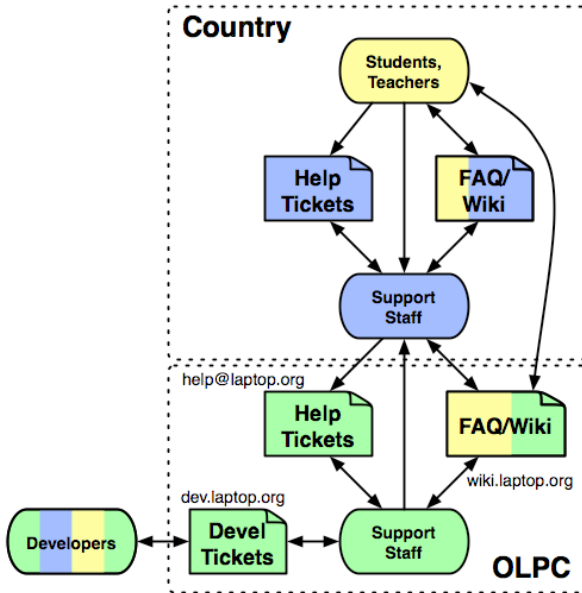
- Provide students and teachers a way of resolving problems with the laptops
- Support must be localized
 - Language
 - Laptop software version in use
 - Activities and content in use
- Support should scale through community involvement

Support: OLPC

- OLPC provides support:
 - help@laptop.org
 - <http://wiki.laptop.org>
- Support staff reports problems to developers using Trac:
 - <http://dev.laptop.org>



Support: Deployments



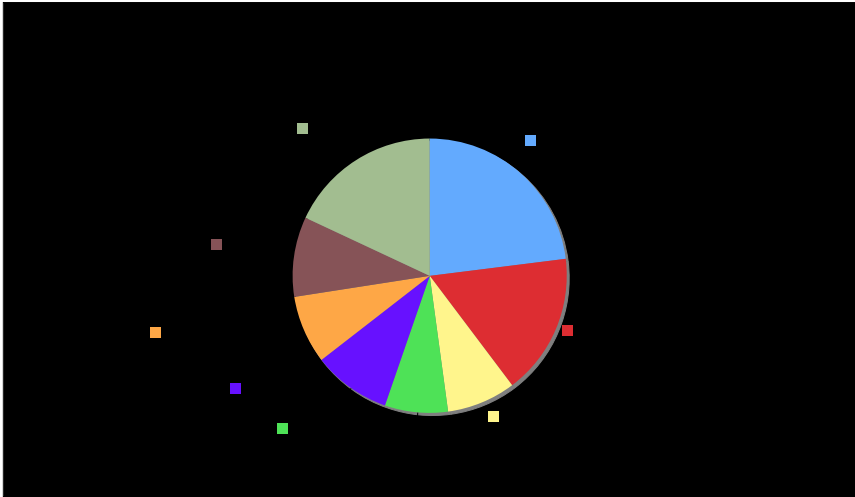
Support: Community

- Activity development, testing, and localization
- Support (FAQ, Wiki, forums)
 - forum.laptop.org
- Development and localization of documentation, tutorials, and teacher's manuals
- Partnerships with local open source groups

Support: Tickets

- Users report problems (hardware or software)
- Independent of reporting method, a ticket is generated
- Tickets both:
 - Track individual problems and resolutions
 - Aggregate information
- Support escalates problems to developers using another ticket tracking system

Support History



Software Upgrades

- OLPC continues to improve Sugar
- Activities on separate release schedules (country specific bundles of activities)
- Upgraded versions released twice a year (minor bug fixes released more often)
- Upgrades delivered over network, from OLPC server, country server, or school server

Repair

- No profits to cover hardware warranty
- 1% extra provided to support “early mortality” of laptops
- Broken hardware can be fixed, given training and parts
- System level repair training available from OLPC
 - Troubleshooting Manual in progress
- Motherboard repair training through Quanta

Repair: Spare Parts

- Major components that break
 - Display
 - Motherboard (no replacements available)
- Components that wear out:
 - Keyboard/Touchpad
 - Main Battery
 - Light bar
- Replacement components purchased in bulk through Brightstar/Quanta

Hardware Problems Seen

- These were seen with early production units, and have been fixed in production
- Bad battery holder, Trac #5231
- Keyboard problems (sticky ALT or CTL key) Trac #5658
- Touchpad problems (one axis only), #5575

Repair

- Local repair center
 - In Schools ? Local TV/Radio repair shops ?
- Parts / Replacement laptops supply chain
 - Ordering process ?
 - Payment methods ?
- Country/Regional repair center
 - Surface mount repair of motherboard
 - Trained through Quanta

Repair Questions

- What pricing models for recycled and replacement parts ?
- What distribution model for these parts (and dead laptops) ?
- Identifying country/regional repair partner for motherboard repair
 - Technical schools ?
 - Commercial enterprise ?