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

![Support History Diagram]
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?