After the Hype

The current state of

One Laptop per Child and Sugar Labs

[26C3, 2009-12-28]
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@random_musings
The history of OLPC and Sugar Labs
Status Quo
What FLOSS can do
A little history
or
How the hype got started
The $100 laptop...

Source: wiki.laptop.org/go/Image:Laptop-crank.jpg
An ambitious education project
Since the 60ies

Source: Viewpoints Research Institute
One Laptop per Child

- Nicholas Negroponte, MIT Media Lab / Wired
- Founded in early 2005 (non-profit)
- First prototype: late 2005
- Production: November 2007

Source: www.laptop.org
The Five Principles

Child Ownership
Low Ages
Saturation
Connectivity
Free and Open Source
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Child Ownership
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Every children gets a laptop
A special laptop

Source: www.flickr.com/photos/olpc/sets/72157605729498226/
Hightech
Display

7.5“ Dual Mode TFT (colour, B/W)

1200 x 900 pixel (200dpi)

E-book mode

0.1W ~ 1W power consumption
Hardware Specs

CPU: AMD Geode LX-700 (433MHz @ 0.8W)
RAM: 256MB
HDD: 1GB Flash
I/O: 3x USB, SD-Card, Audio
WiFi: 802.11s Marvell 8388
Camera: Omnivision OV7670
Where is the crank?
Power consumption (1)

Source: www.flickr.com/photos/curiouslee/2720751393/
Power consumption (2)

Source: One Laptop Per Child Afghanistan
Extremely robust
„S*** happens!“
(Thank you Forrest Gump)

Source: olpcaustria.soup.io/post/15559316/Before
10 minutes later
10 million units or else!
$100 Laptop
$188 Laptop
Microsoft #1

• May 2008: Windows XP for the XO-1...
  – Walter Bender
  – Ivan Krstić

• Loss of a lot of FLOSS good-will
Sugar Labs

• Sugar: more than just UI -> platform for learning
• Free and Open Source
• Independent since mid-2008
• Initially focus on hardware independence
Collaborative learning
Learning by making

Activities
<table>
<thead>
<tr>
<th>Screenshot</th>
<th>4 seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record Activity</td>
<td>2 minutes and 50 seconds</td>
</tr>
<tr>
<td>Photo by asd</td>
<td>2 minutes and 51 seconds</td>
</tr>
<tr>
<td>Paint Activity</td>
<td>3 minutes and 8 seconds</td>
</tr>
<tr>
<td>Paint Activity</td>
<td>3 minutes and 13 seconds</td>
</tr>
<tr>
<td>Write Activity</td>
<td>3 minutes and 41 seconds</td>
</tr>
<tr>
<td>Write Activity</td>
<td>3 minutes and 46 seconds</td>
</tr>
<tr>
<td>SimCity Activity</td>
<td>1 hour and 4 minutes</td>
</tr>
<tr>
<td>SimCity Activity</td>
<td>2 days and 20 hours</td>
</tr>
<tr>
<td>Write Activity</td>
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Sugar on a Stick

Source: www.flickr.com/photos/curiouslee/3358546796/
FSF Windows 7 Sins Campaign – Education:
“Negroponte, desiring the financial support of Bill Gates and Microsoft, ignored them and proceeded with his decision. As a result, it is expected that the main effect of the OLPC project -- if it succeeds -- will be to turn millions of children into Microsoft dependents. That is a negative effect, to the point where the world would be better off if the OLPC project had never existed.”
XO-1.5

Source: http://www.flickr.com/photos/curiouslee/
XO-3

Source: blog.laptop.org
XO-3

ONE LAPTOP PER CHILD DRIVES BREAKTHROUGH ADVANCES IN REVOLUTIONARY XO CHILDREN’S LAPTOP Product Road Map to Deliver Unprecedented High Performance, Low Power Consumption and Design Innovation at Lower and Lower Cost
XO-10

- will produce electricity while in use
- will print money
- consume CO²
- cure cancer
- include a kitchen sink
- ...and brew Club Mate
>1,000,000 children using XOs and Sugar today
OLPC is currently in >30 countries:

Afghanistan  Lebanon  Russia
Austria      Mali       Rwanda
Bhutan       Mexico     Senegal
Brazil       Mongolia   Solomon Islands
Cambodia     Mozambique South Africa
China        Nepal      Thailand
Colombia     Nigeria    United States
Ethiopia     Niue       Uruguay
Ghana        Pakistan   
Haiti        Palestine  
India        Papua New Guinea
Iraq          Paraguay  
Kazakhstan   Peru       

Today children are being prepared for tomorrow, using yesterday’s methods.
Primary education spending
### Primary education spending

<table>
<thead>
<tr>
<th>country</th>
<th>population (age 0-15)</th>
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© Copyright 2006 SASI Group (University of Sheffield) and Mark Newman (University of Michigan). Source: www.worldmapper.org/data/nomap/207_worldmapper_data.xls
and tomorrow?
“So much has changed in technology in the last 12 years, how can we know what will 2020 look like? In education, how do we prepare children for a world we cannot predict? What should education be when information is just a few clicks away?

Here are some things we do know about the school leavers of 2020:

• They will be competing for jobs on a global market
• They will be working with as yet undeveloped computational devices, many in still to be imagined industries, in digitally connected communities;
• They will need 21st century skills to succeed: information literacy; critical thinking; innovation & creativity; open-ended problem solving; technological fluency…”

[“One Laptop per Pacific Child” Concept Note]
„Laptops are the pencils for the digital age.“

[David Cavallo, OLPC]
Case Study: Uruguay

Uruguay

- 3.5 million inhabitants
- ~€500 average monthly income
- 98% literacy
- HDI: 0.865 (rank 50 of 182)
Uruguay

396.727 XOs
Uruguay

396,727 XOs
One Laptop per Child
(1st – 6th grade)
Uruguay

396,727 XOs
One Laptop per Child
(1st – 6th grade)
$276 / child
(4-year TCO)
Uruguay

• 2068 schools
• 18,000 teachers
• 1500 volunteers
• cooperation w/ post
• Blogging
• Evaluation

Source: www.flickr.com/photos/dcmetroblogger/
presentation: http://tr.im/iadb_uuy_salzburg (.PPT)
Case Study: Nepal

Nepal

- 28 million inhabitants
- ~€30 average monthly income
- Less than 50% literacy
- HDI: 0.534 (rank 144 of 182)
- Load shedding
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OLE Nepal

- Founded 2007
- 35 employees
- Close collaboration with Ministry of Education
- Supported by Danish IT Society
E-Paath

Interactive learning activities
subjects: English, Mathematics, Nepali
grades: 2, 3, 6
inkl. Teacher‘s Note and Lesson Plan
Technology: Flash
1 देखि 1999 सम्मकाका कुनै सङ्ख्या टाइप गर र सङ्ख्या वराबरको घनहरू हेर।

सङ्ख्या बकसमा लेख 1434

Source: OLE Nepal
E-Pustakalaya
Karma

FLOSS toolkit for creating interactive learning activities
HTML 5 + JavaScript
GSoC 2009 sponsored
www.karmaeducation.org

Source: Christoph Derndorfer
Karma

Where is the capital of Rocha?

Source: Christoph Derndorfer
Power

Source: Christoph Derndorfer
Connectivity

Network Diagram For Makwanpur Schools

Source: OLE Nepal
2200 XOs | 26 schools | 6 provinces

Source: Christoph Derndorfer
What FLOSS can do
OLPC SF
(wiki.laptop.org/go/OLPC_SanFranciscoBayArea)

OLPC Learning Club DC
(olpclearningclub.org/)

...and many more.
To develop educational tools in the form of open technologies, platforms, software and content for (not only) developing countries.
Austrian pilot project

Source: elearningblog.phst.at/?p=236
What’s been done

- Translating software and documentation into French, German, etc.
- Testing software
- Writing learning activities
- Running pilot projects
- Working on wireless networks
- Spreading the word
- ...

What needs to be done

• Teachers
• Technologists
  – Software testing, software writing, package maintaining, networking stuff, etc.
• Twitterers
• -> Even if you don’t care about education, politics and development: There’s lots of interesting technical challenges to be solved! ;-)

ICT for Education (ICT4E)

• Connexions: http://cnx.org
• Curriki: http://www.curriki.org
• iTunes U (TU Graz, University Innsbruck)
• MIT OpenCourseWare: http://ocw.mit.edu
• ...

ICT for Development (ICT4D)

Inveneo

Ndiyo
Conclusions
Don‘t believe the (counter-)hype
>30 countries
a dozen grassroot communities
>1 million children
Lots of things to be done with FLOSS
Thank you!
Further information

www.laptop.org  www.olpc.at
www.sugarlabs.org  www.olpcnews.com

Contact

christoph@olpcnews.com