人可比喻作一个丰富的矿藏，
蕴藏着不可估量的宝石．
唯有教育能使之显露出来，
使人类获得裨益．

Regard man as a mine rich in gems of inestimable value.
Education can, alone, cause it to reveal its treasures, and allow mankind to benefit therefrom.

The One Laptop Per Child (OLPC) XO-1 Laptop

and the Sugar Interface

Problem

How can technology assist education of children in the third world, to improve their economic situation?

Analysis of technology

- More interactivity than traditional means
- New content can be acquired easily
- Wider variety of uses
- Increases students' familiarity with technology
- Simplified collaboration with other students, even over large distances
- Higher up-front cost
- Thus less students can use it
- Lesson plans must be changed

Solution: OLPC XO

- Low up-front cost (200USD/child)
- Large volume of pre-existing educational content that has been adapted from other sources
- No software royalties, entirely Free Software
- Makes use of open content (textbooks, artwork) so that students can share information with each other without violating laws.

Background

- Nicholas Negroponte co-founder of the MIT Media Lab in 1985

- The Media Lab was founded on principles of constructionist learning

- Laptop projects previously tried in Senegal, Pakistan, Columbia and Cambodia

- Nicholas steps down from Media Lab in 2004 to form 503 c(3) non-profit, One Laptop Per Child

- OLPC founded on the bold notion that every child in the developing world should have their own laptop to use as they would a pencil

- SugarLabs separate from OLPC to focus on Sugar development

不闻不若闻之，闻之不若见之，
见之不若知之，知之不若行之。
荀子

Tell me, and I'll forget.
Show me, and I may remember.
Involve me, and I'll understand
Xun Zi

Why OLPC and Sugar

Computers can be a

powerful **tool**

for education

child-centric

educator driven

teacher assisting

Why OLPC and Sugar

Computers can be a

powerful **tool**

for education

child-centric

educator driven

teacher assisting

Why OLPC and Sugar

Computers can be a

powerful **tool**

for education

child-centric

educator driven

teacher assisting

Why OLPC and Sugar

Computers can be a

powerful **tool**

for education

child-centric

educator driven

teacher assisting

The Laptop: XO-1

- Extremely durable plastic case
- 1 gigabyte of solid state storage memory
- Advanced "dual mode" color high-resolution screen works in sunlight
- 3 USB ports and SD card slot
- AMD Geode Processor
- Wifi and laptop-to-laptop "mesh" networking
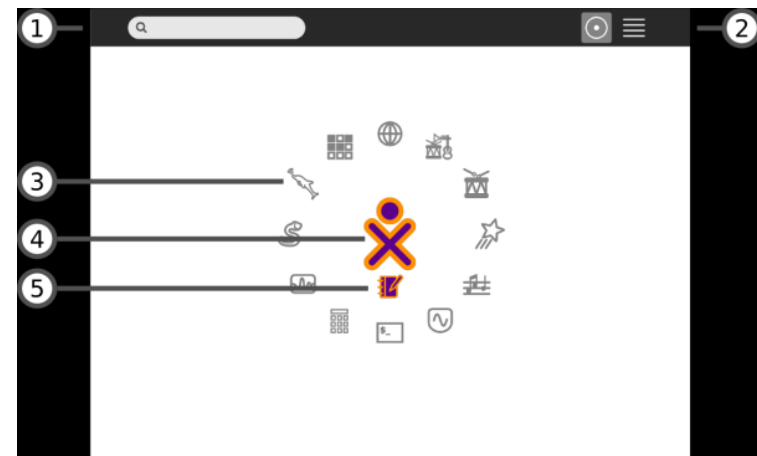- Long life Lithium Phosphate battery

Sugar Interface

platform independent

learning environment
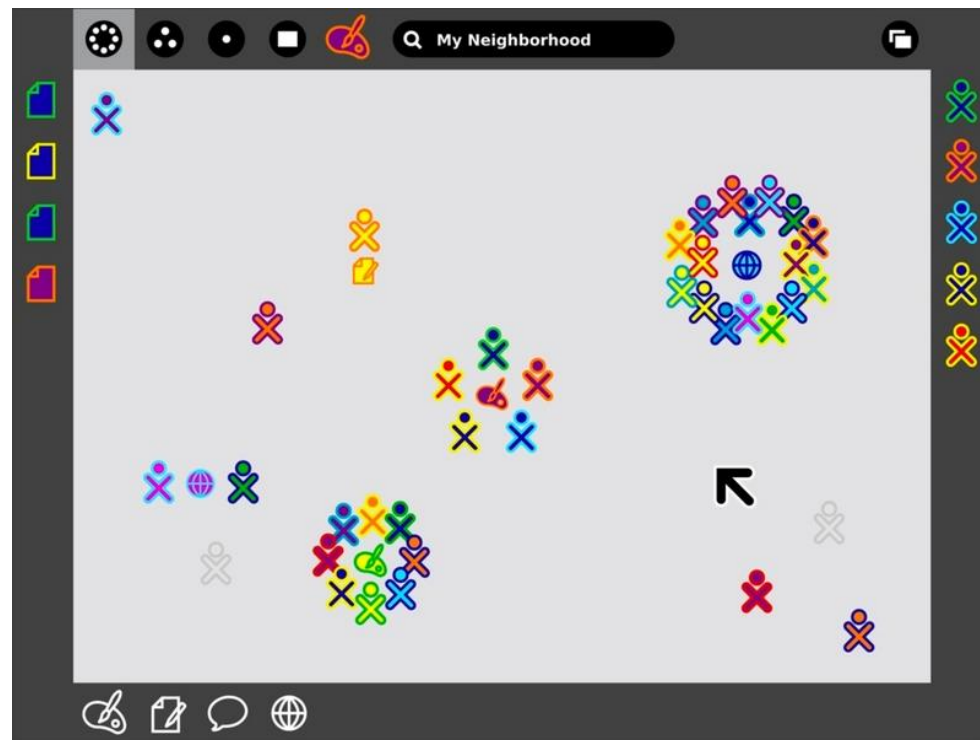
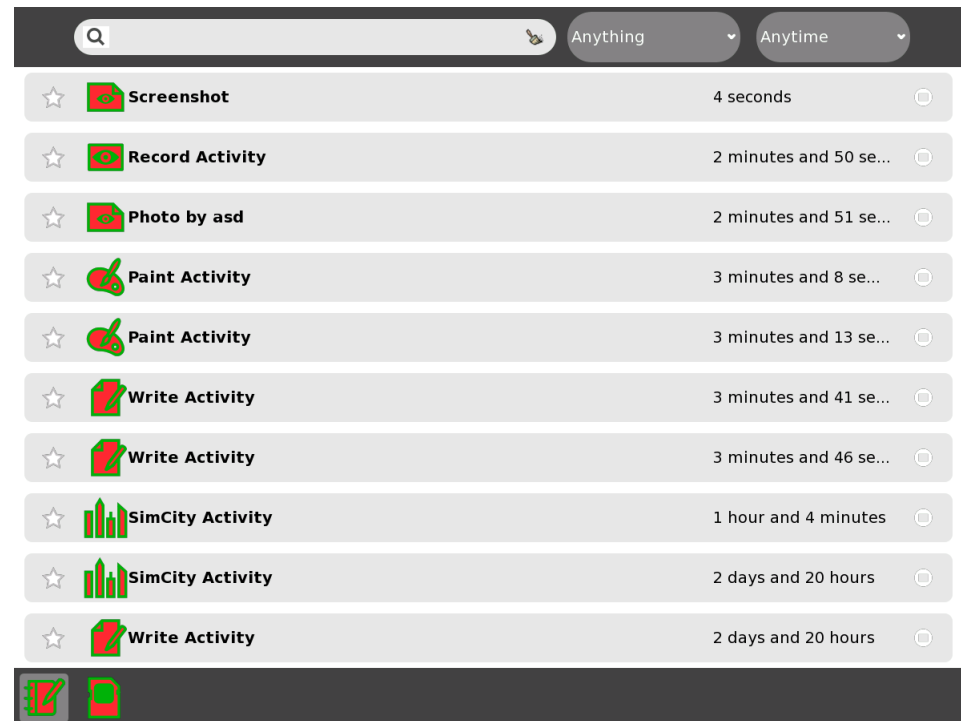Collaboration

Reflection

Discovery

Sugar Interface

platform independent

environment for

learning learning

Collaboration

Reflection

Discovery

Sugar Interface

platform independent

environment for

learning learning
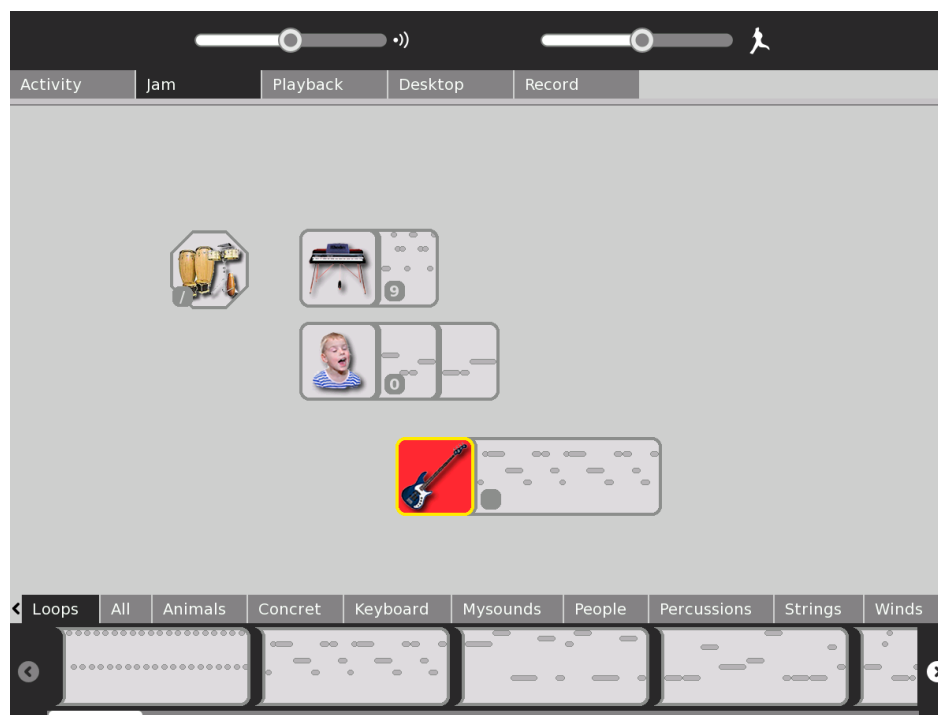
Collaboration

Reflection

Discovery

Sugar Interface
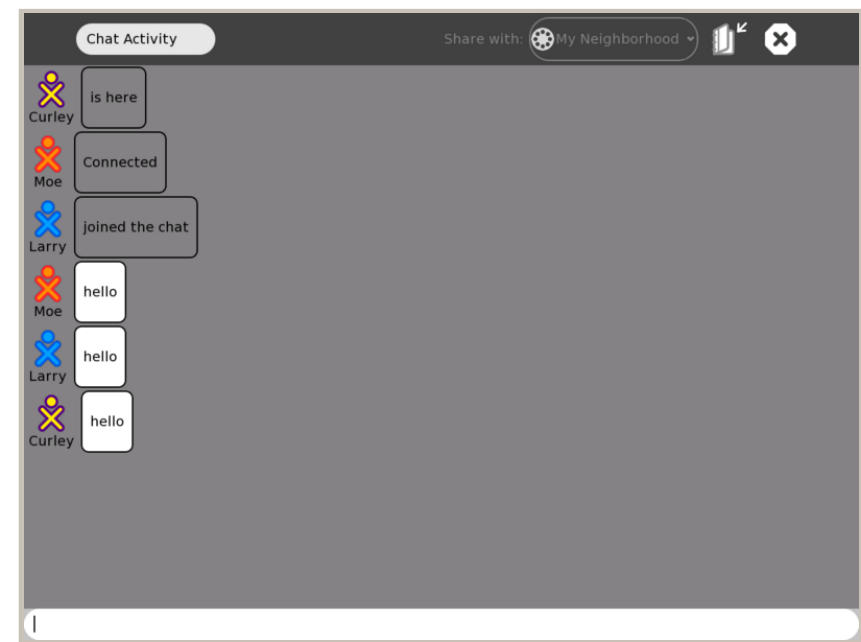
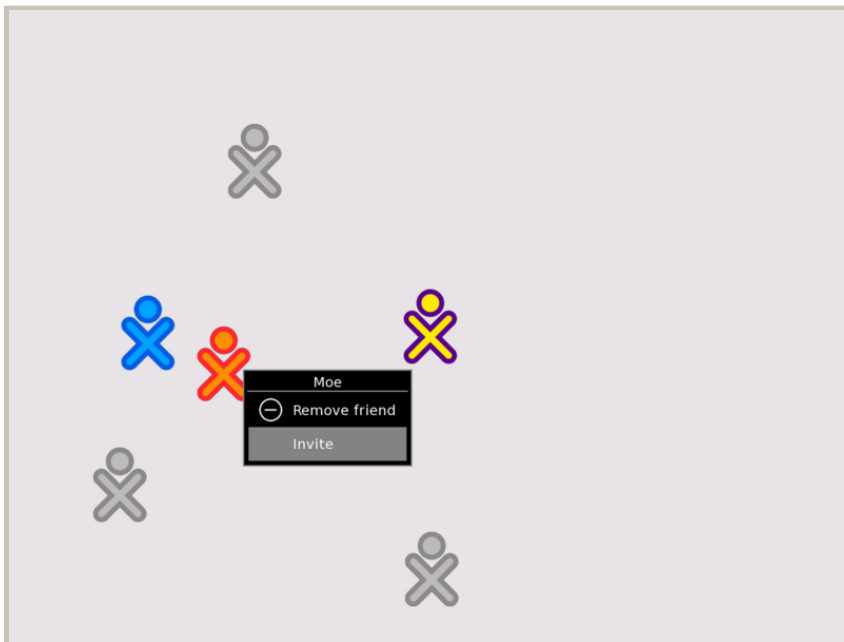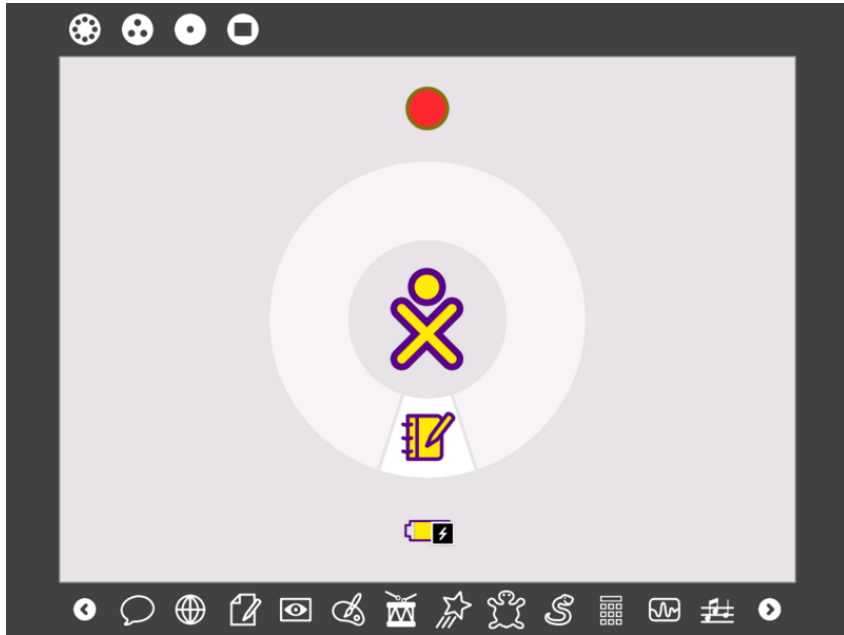*platform independent environment for learning learning*
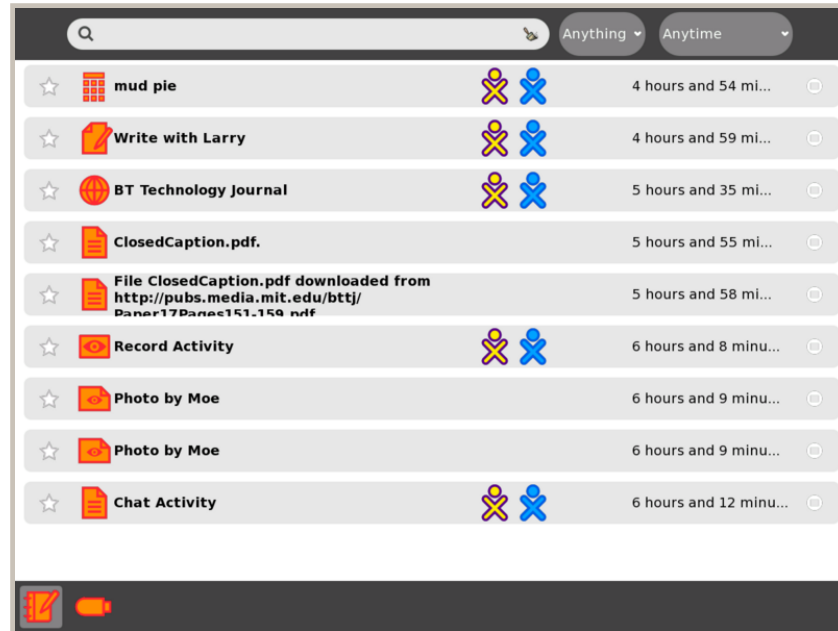
Collaboration

Reflection

Discovery

Demo – Software – "Sugar" User Interface

Demo – Software – "Activities"

Current Projects
(green: pilot schools, purple: countries, orange: g1g1 donations)
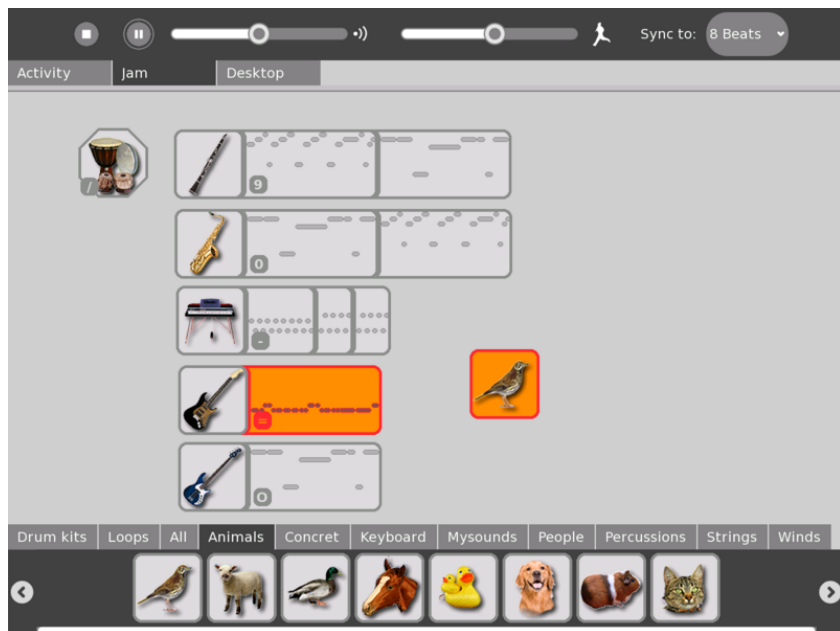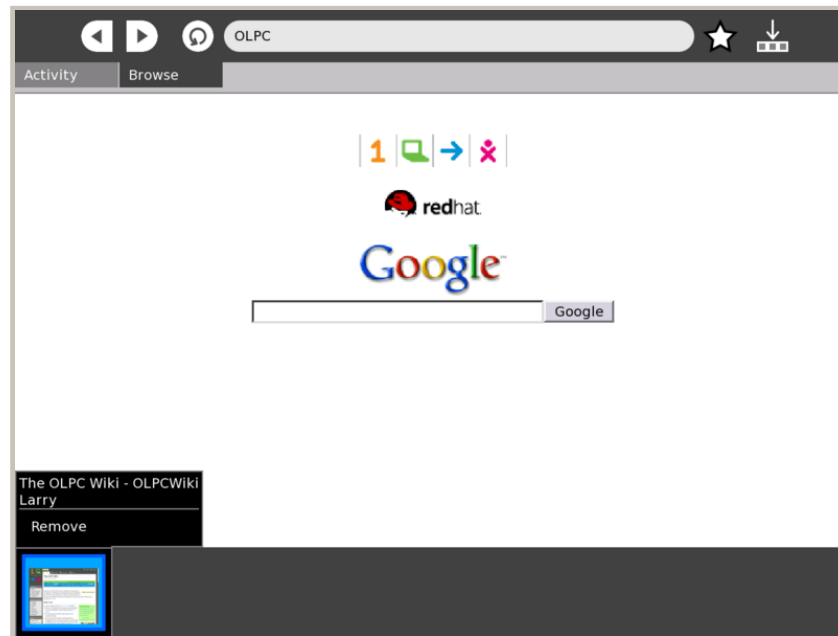
Deployment Statistics

Laptops	Deployment Date	Country
300000	Dec 2007–Aug 2008	Uruguay (100000)
5000	Apr 2008	Ethiopia (g1g1)
10000	Apr 2008	Rwanda (5000, g1g1)
270000	May 2008	Peru (20000)
20000	May 2008	Mongolia (10000, g1g1)
13000	May 2008	Haiti (6000, g1g1)
83500	Dec 2007-May 2008	Give one, Get one (USA, Canada)
4500	July 2008	Pacific Islands (g1g1)
500	July 2008	Niue (g1g1) FIRST FULL DEPLOYMENT
4000	Feb 2009	Paraguay
6600		Nigeria
50000		Mexico, Mexican billionaire Carlos Slim
65000		Colombia
15000		USA, Alabama
15000		Turkey
30500		G1G1 donations
892600		
Pilots running in: Afghanistan (3000), Brazil (200), Cambodia (1000), Ghana, India (500), Iraq, Italy (600), Mali, Nepal, Nigeria, Pakistan, Papua New Guinea, Philippines, Senegal (1000), Tanzania, Thailand		

OLPC Community

- Many community groups all over the world
- Demonstrations
- Lobbying
- Testing
- Localization
- Development
- Cooperation with OLPC in local projects

OLPC in China

- OLPC is partnering with Nortel to translate the interface to chinese

- Maybe there will be a deployment of laptops in China soon.

- OLPC France is working on porting the School server (XS) to the Lemote Mini PC from China.

- Start an OLPC local group in Beijing?

Contact

- OLPC
  - Hardware and Operating System Development
  - http://laptop.org/
  - http://wiki.laptop.org/
  - IRC: #olpc at freenode.net
- SugarLabs
  - Sugar Interface
  - http://sugarlabs.org/
  - IRC: #sugar at freenode.net
- Weekly community news
- Wiki
- Mailinglists
- BLUG: http://beijinglug.org/

Thanks

based on slides created by

Luke Faraone
© 2008 GNU GFDL + CC-by-sa

Christoph Derndofer
© 2008 CC-by

photos OLPC © 2008 CC-by

edited by Martin Bähr
© 2008 CC-by-sa

Demo

- Write
- Chat
- Browse
- Record
- TamTam

- Squeak
  - Authoring system for children
  - Based on Logo, Smalltalk and Hypercard
  - play with and construct the ideas using motion, vision, sound and symbols.
  - paint objects
  - drag+drop actions
  - transition to smalltalk source