



OLPC and **sugarlabs**

Invite You To Come Play With Us!

Presented by Caryl Bigenho
OLPC and Sugar Labs Volunteer

SCaLE 9X

Los Angeles, California
February 26, 2011

play (plā)

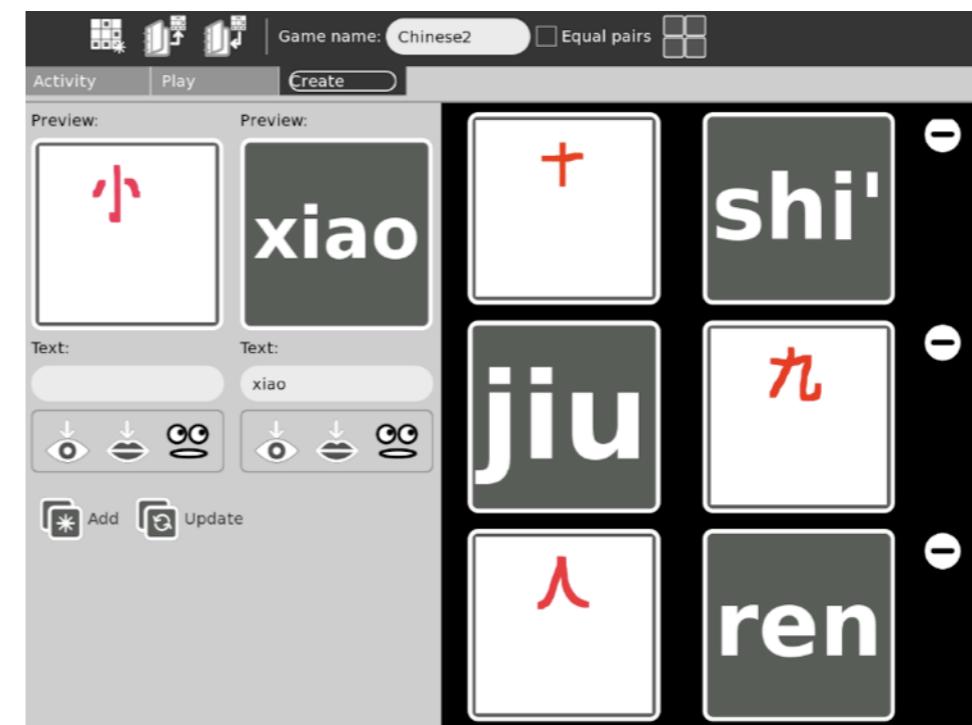
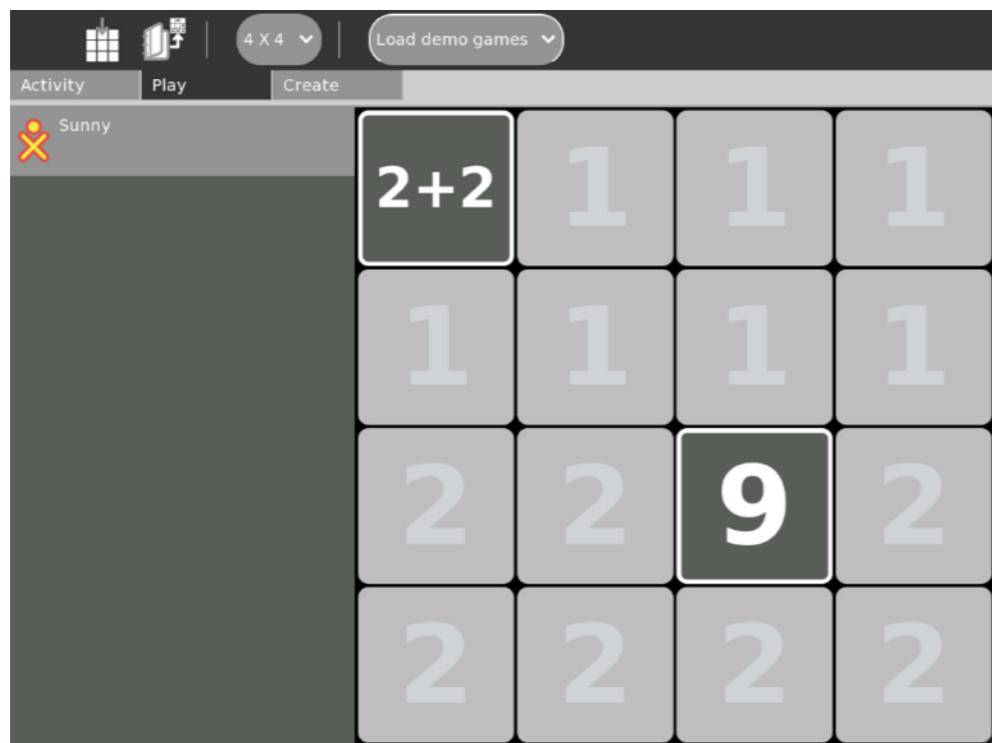
v. played, play·ing, plays

v.intr.

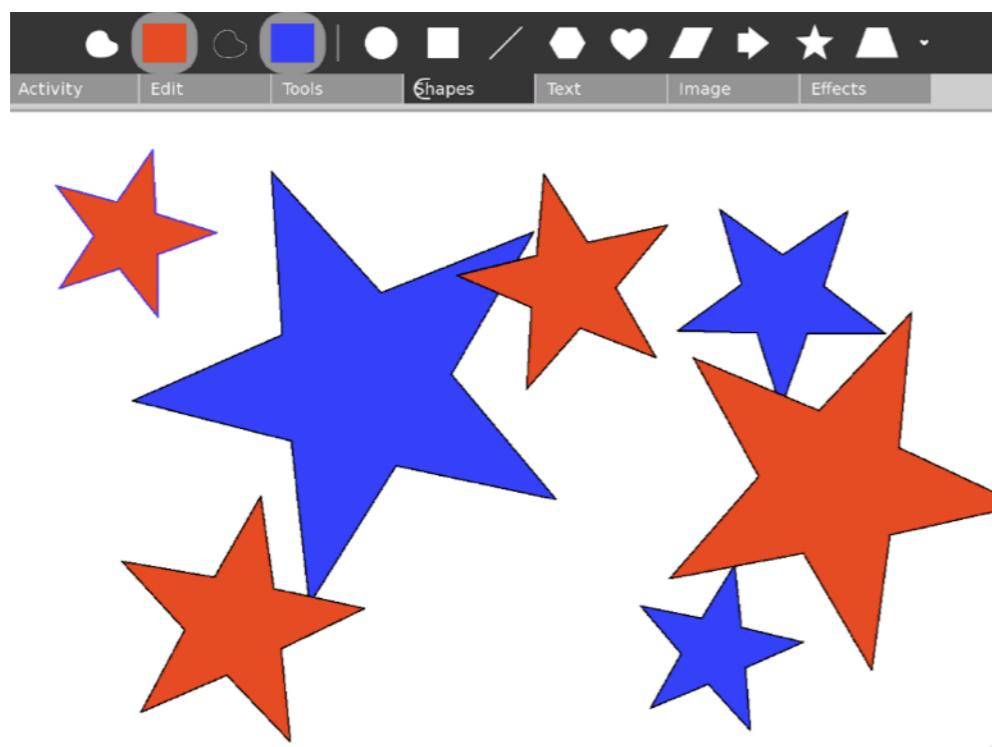
1. To occupy oneself in amusement, sport, or other recreation.

**Sugar Turns
Learning Into Play
And
Play Into Learning**

In Memorize You Can Make Your Own Games



Create Art With Paint



Make Your Own Story In Write

A screenshot of the Write Activity application. The title bar says 'Write Activity' and 'Share with: Private'. The main content area features a title 'Planting A Bird Garden' and a paragraph of text: 'If you want to attract birds to your yard, you can plant flowers that they like. Hummingbirds like morning glories and daylilies.' Below the text are two images: 'Morning Glory' and 'Daylily'.

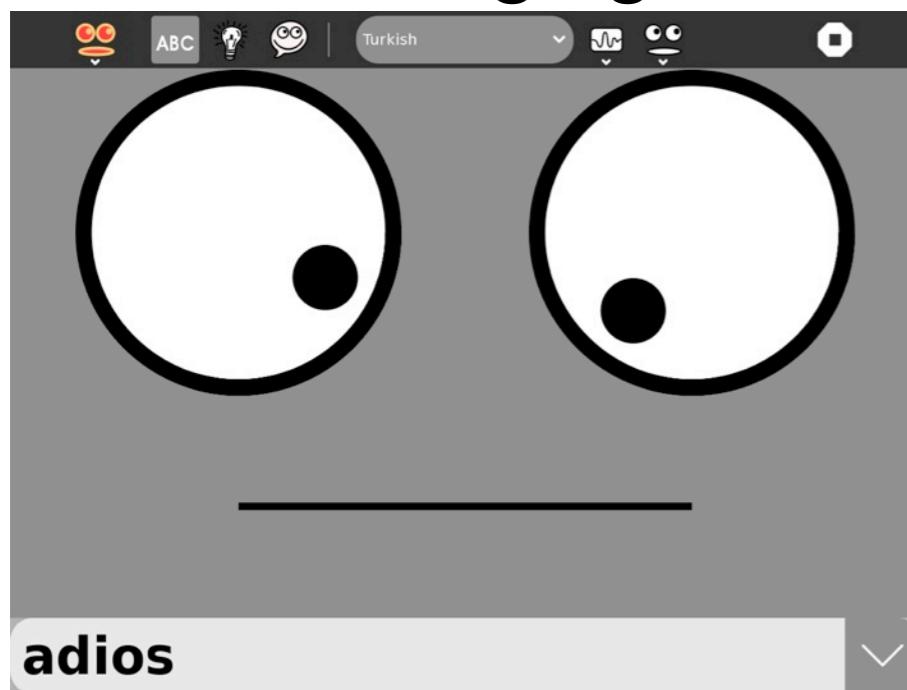
Planting A Bird Garden

If you want to attract birds to your yard, you can plant flowers that they like. Hummingbirds like morning glories and daylilies.

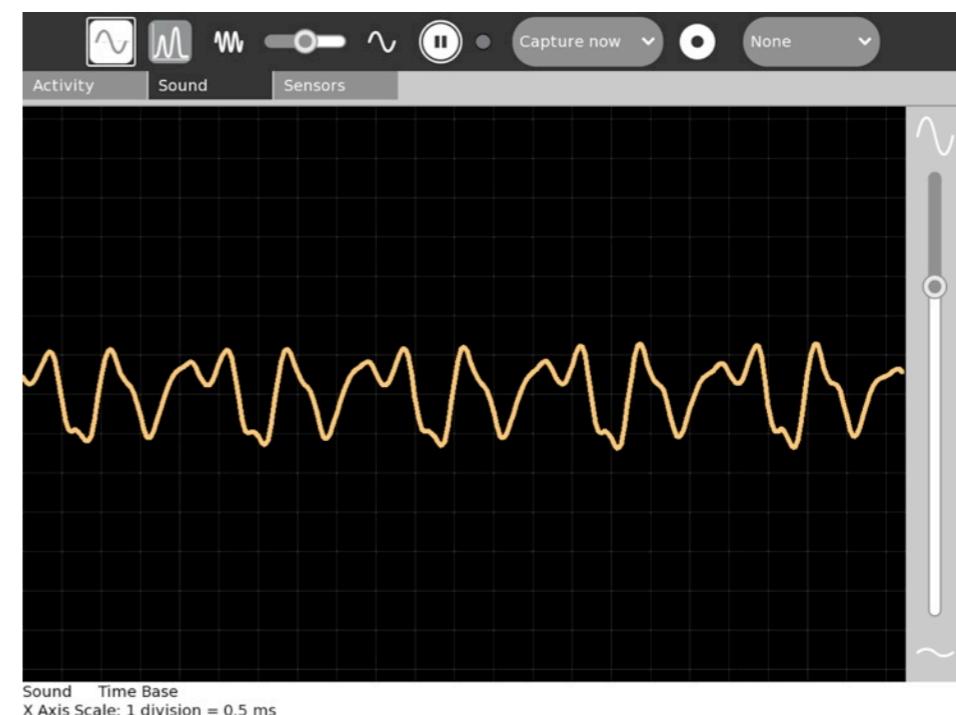
Morning Glory

Daylily

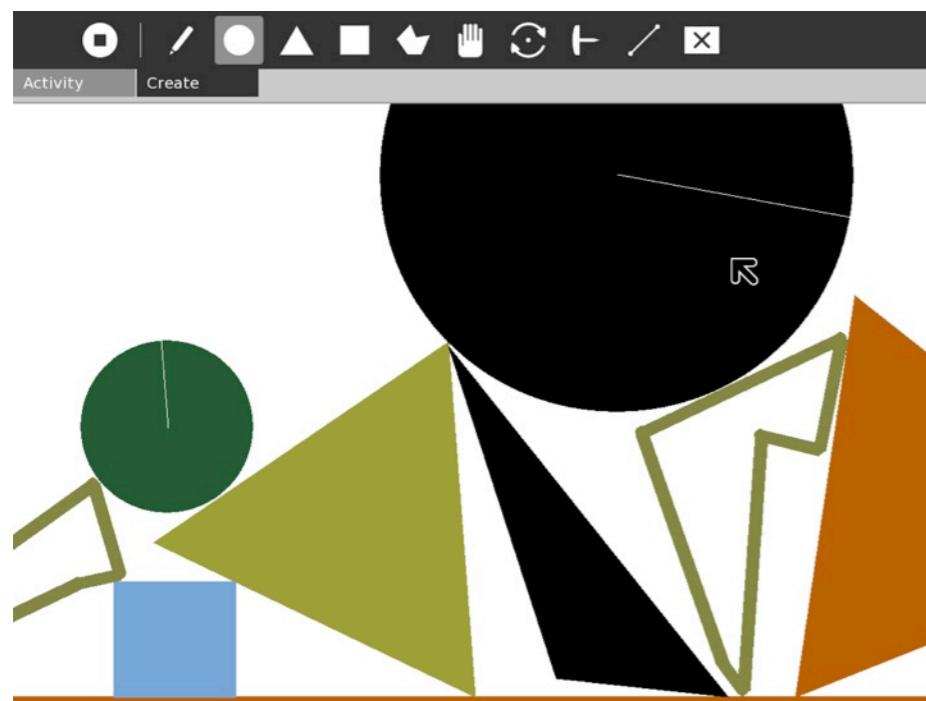
Make Your Computer Speak 30+ Languages!



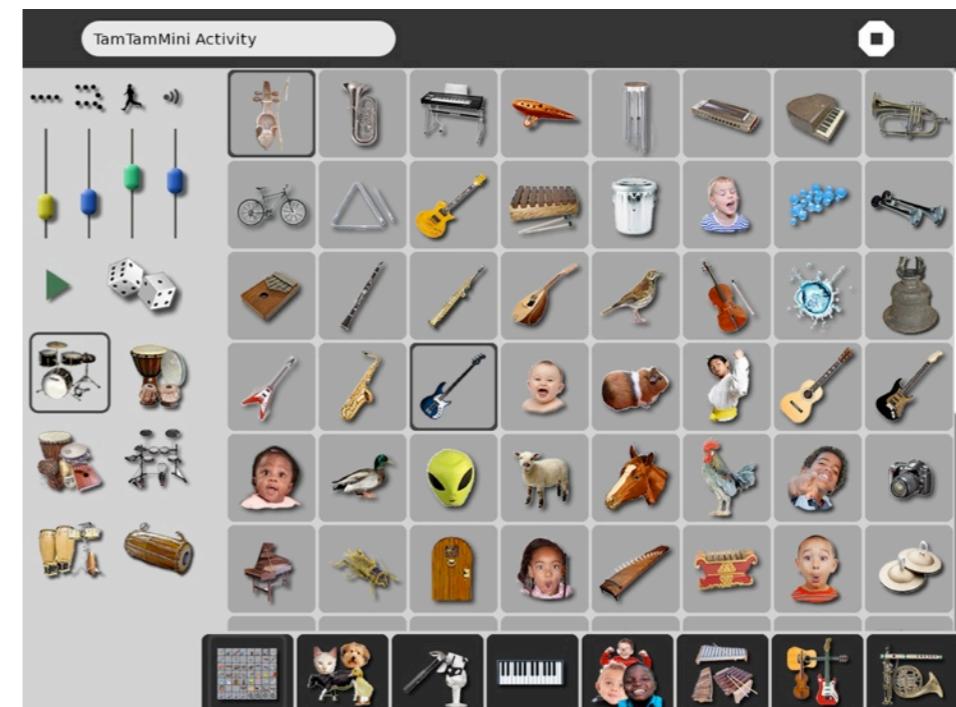
Experiment With Sound In Measure



Experiment With Shapes in Physics



Play Music With TamTam



460 Activities, 4,750,000 Downloads

Activities for Sugar

http://activities.sugarlabs.org//en-US/sugar/

Most Visited ▾ Hotmail Scottrade YaYas RT rtfm YR Geocaching Google Translate CGI:IRC Login GranniesGuide Elluminate vRoom fo... Chinese Flashcards Twitter

Activities for Sugar

4,746,286 activities downloaded

sugar

Categories

- Search & Discovery 47
- Documents 21
- News 3
- Chat, mail and talk 6
- Media creation 31
- Programming 23
- Maths & Science 94
- Maps & Geography 7
- Media players 9
- Games 88
- Teacher tools 131
- Collections

Poll

Should users be logged in to download experimental

search for activities within all activities Advanced

Browse Activities

Recommended Popular Just Added Updated

Etoys by Bert, squeakland **Download Now** recommended

Media authoring environment with graphical scripting for children of all ages. Aren't we all children?

★★★★★ 3 reviews 182 weekly downloads

TamTam Synth Lab by Activity Team, jasg **Download Now** recommended

Music composition and synthesis

★★★★★ 1 review 134 weekly downloads

CeibalRadio **Download Now**

Collections

Collections are a way for you to categorize, mix, match and mingle activities. Subscribe to collections created by other users or create your own.

Popular Collections

GCompris by alsroot

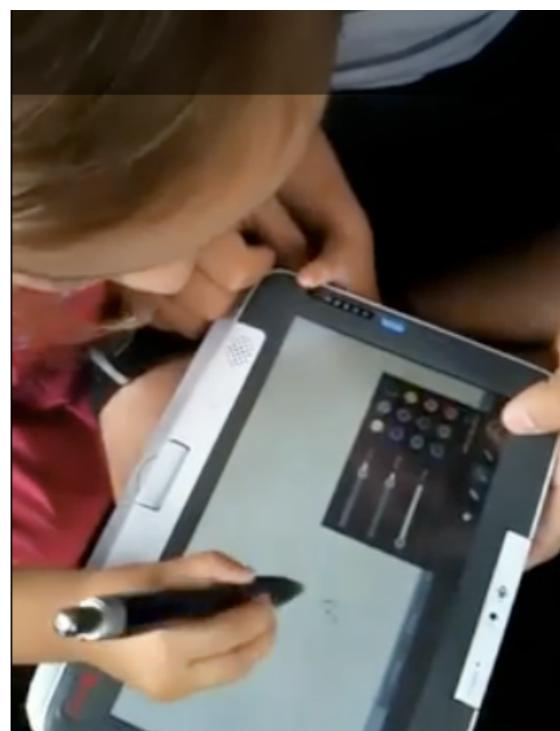
GCompris is an educational software suite comprising of numerous activities for children aged 2 to 10. Some of the activities are game orientated, but nonetheless still educational.

Sugar On Your PC



Run Sugar On Computers You Already Have!

Linux, Windows, Mac OSX
Desktop, Laptop, Netbook,
even a Classmate touch!



“SoaS”: Sugar On A Stick Comes In Many “Flavors

- * Strawberry
- * Blueberry
- * Mirabelle
- * Mango Lassi
- * Frequent updates
in new “fruit flavors”

sugar on a stick



Live CD

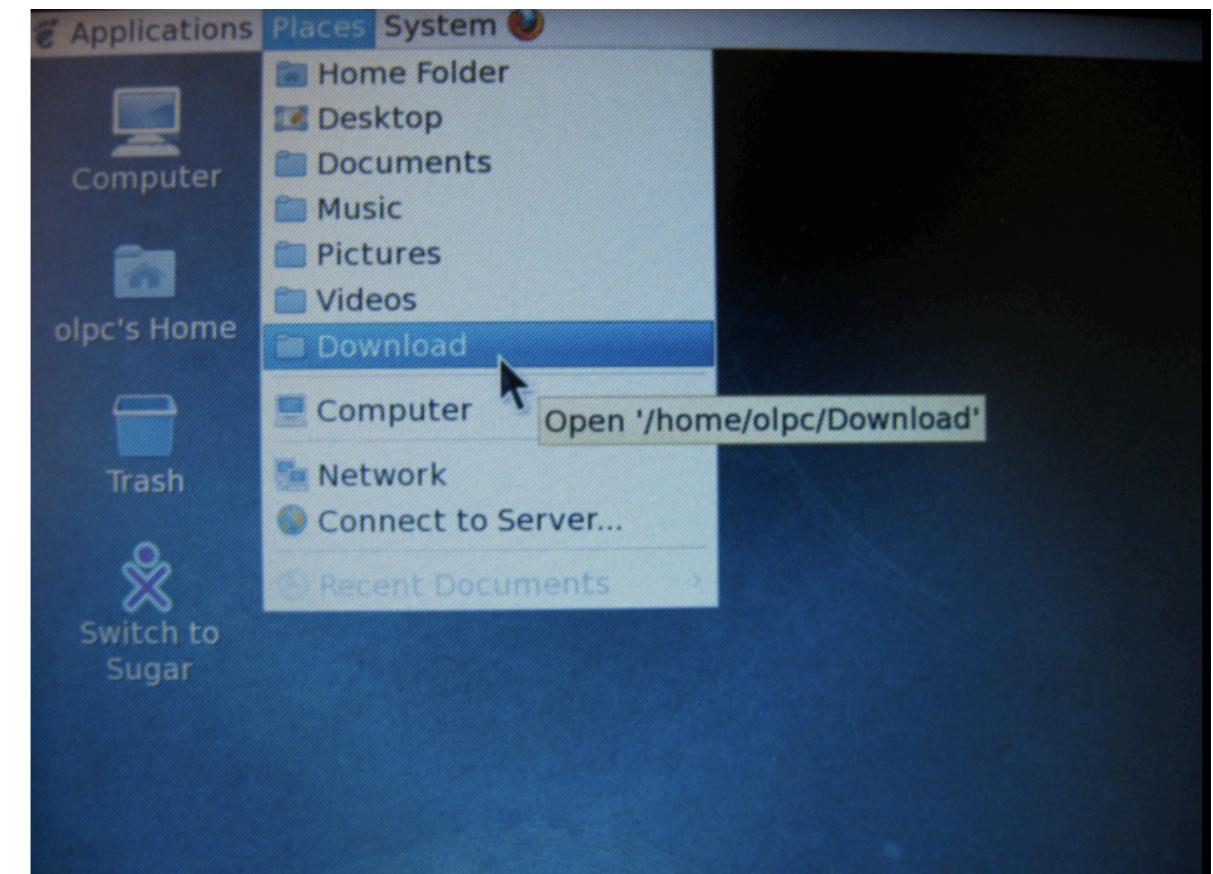


Mac's Need Virtual Box
Or A Boot Helper Disk

Sugar On The XO



Sugar



Gnome

Dual Boot Available on XO-1 and XO-1.5

Hardware Update



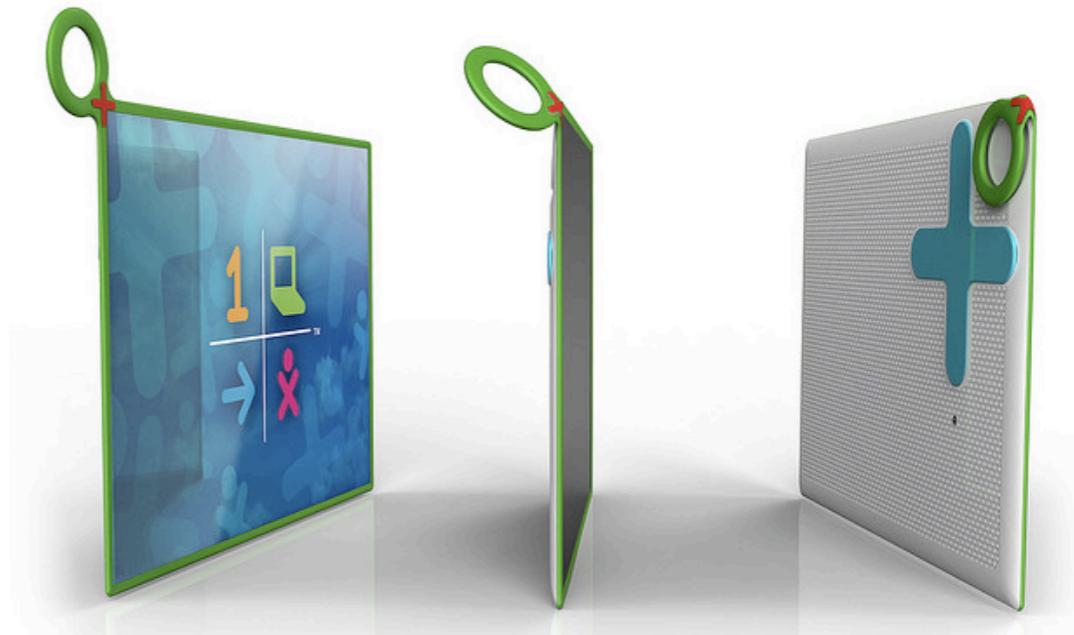
XO-1 and XO-1.5



XO-1.5HS



New XO-1.75 Supports Hand-Crank
ARM processor uses less power

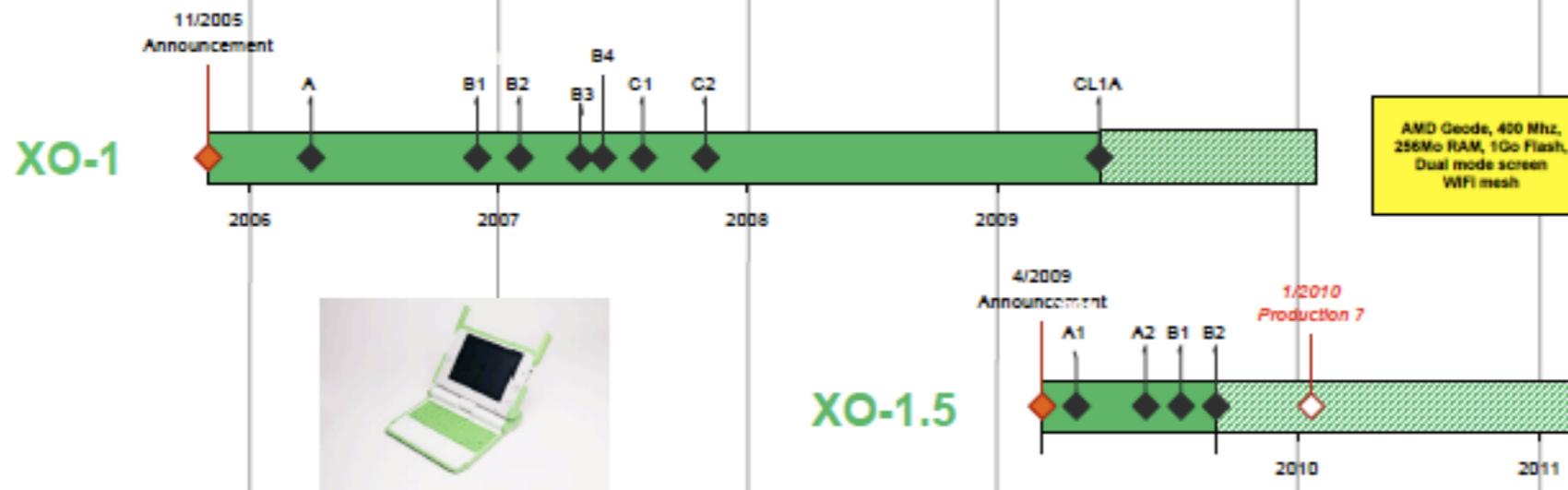


XO-3 Prototype

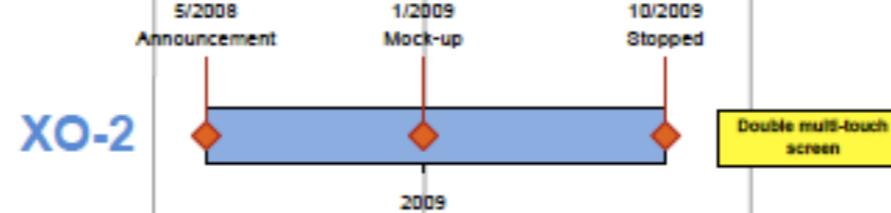
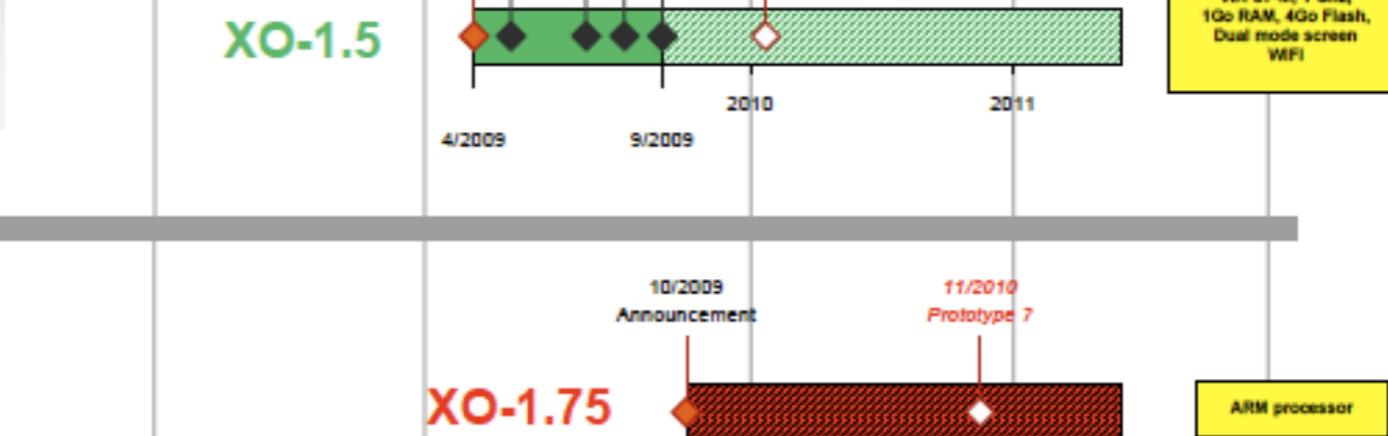
XO laptop directions overview



Today's machine



Visions



This map is not the official roadmap of the One Laptop Per Child organisation.
Information compiled by Lionel Laské for OLPC France (<http://olpc-france.org>), v0.3, november 2009

Over 1.8 Million XO's Deployed Worldwide



XO and Sugar Deployments and Projects Now Circle the Globe

The map displays the following geographical features and project milestones:

- North America:** Shows a dense cluster of icons across the United States, Canada, and Mexico, including symbols for education, technology, and community.
- Europe:** Shows a large cluster of icons in Eastern Europe and Russia, with specific labels for Suomi Finland, Sverige Sweden, Norge Norway, and Украина Ukraine.
- Asia:** Shows a significant cluster of icons in China, India, and Japan, with labels for Россия Russia, Kazakhstan, and various Chinese provinces.
- Africa:** Shows a cluster of icons in South Africa and other African countries.
- Oceania:** Shows icons in Australia, New Zealand, and Papua New Guinea.
- South America:** Shows icons in Brazil, Argentina, and Chile.

Key interface elements include:

- A search bar at the top center with a "Search" button.
- Map, Satellite, and OSM buttons in the top right corner.
- Google scale bar at the bottom left indicating 2000 km and 2000 mi.
- Navigation controls (zoom, pan) on the left side.

This new map is “under construction.”
Consider adding your name and project!

Start A Club or School Chapter

Clubs and Chapters Do Projects & Meet Regularly With XOs and Sugar



Olin College



Harvard University



Start A Repair Center



Collaborate To Write And Translate eBooks



← previous

Introduction

[Edit this page](#) [☰ Dashboard](#)

You may have heard of the One Laptop per Child project. The project's goal is to deliver rugged, low-cost, energy efficient laptops to children in the developing world.

The XO laptop is an educational tool designed to be put into the hands of every child. By using free and open source software and world-wide software development efforts, OLPC has championed XOs for delivery around the world in multiple languages.



In a classroom in Peru

The XO runs free and open software, called Sugar, which allows anyone to run, copy, distribute, study, change and improve the software. Many people contributing to OLPC believe that these freedoms are critical to fulfilling OLPC's educational goals.

Another reason you might want an XO is because it's a learning aid. Seeing pictures of a small computer in a child's hand, you may wonder about the XO's capabilities. But when you see this compact yet solid computer with its carrying handle and unique colors, you will realize the XO's great potential for children around the world.

When you open the XO, you will see the high-resolution, easy-to-read screen that works even in direct sunlight. You can also flip the XO into a book reader mode. The XO is designed to take outdoors and it even survives the rough-and-tumble daily lives that children lead.

XO

[CREATE](#) [VIEW](#) [EDIT](#) [PRINT](#)

INTRODUCTION

INTRODUCTION

ABOUT OLPC

ABOUT COMPUTERS

HOW TO VOLUNTEER

GETTING STARTED

GETTING STARTED

OPENING THE XO

PORTS

BATTERY CHARGING

RECHARGING THE XO

RECHARGING

SCREEN

STORAGE

BATTERY

REPLACING

POWERING OF YOUR LAPTOP

NETWORK

INTRODUCTION

GIVE ME THE INTERNET

TROUBLESHOOTING

NETWORKING HARDWARE

WIRELESS DEVICES

SUPPORT

SAFETY

CARE FOR YOUR XO

HOW TO REPLACE

MAINTENANCE

REPAIRING

GETTING SUPPORT

English



Introducción

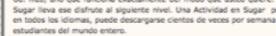
[Edit this page](#) [Discussion](#)

Este libro es la historia de un viaje de placer. Si fuera la historia de una solemne expedición científica, tendría sobre ella esa preaviso, esa profundidad, y esa Incomprensibilidad impresionante tan apropiada para los trabajos de ese tipo, sin embargo tan atractiva.

Del prefacio de Los inocentes en el extranjero, de Mark Twain.

El propósito de este libro es enseñarte lo que necesitas saber para escribir Actividades en Sugar, el sistema operativo desarrollado para el proyecto MIT. Este libro es para aquellos que usan el sistema operativo Sugar, una computadora avivada que seguramente puedes encontrar en las instalaciones en el anexo. Mi principal objetivo al escribirlo es animar a aquellos que no son programadores, incluyendo a los niños y sus profesores, a crear sus propias Actividades para Sugar. Por esta razón, voy a incluir algunos detalles que otros libros no van a tener y voy a dejar fuera algunas cosas que otros incluyen. La información que se incluye es la siguiente:

- Si te das cuenta de que solo aprendes a escribir programas de entendidos, Sugar proporciona muchas Actividades para ayudarte: Etiquetas, Turtle Art, Scratch, y Pop! Ninguno de estos son realmente apropiados para la creación de Actividades y por eso, no voy a discutirlos en este libro, pero son una buena forma de aprender acerca de la programación. Si usted decide, después de jugar con ellos, que le gustaría probar y escribir una Actividad después de todo, va a tener una buena base de conocimiento para desarrollarla.
- Una vez que haya hecho algún programa tendrá la satisfacción de que se pueda utilizar el programa que USTED hizo, que funciona exactamente del modo que usted quiere. La creación de una Actividad para Sugar lleva ese disfrute al siguiente nivel. Una Actividad en Sugar puede ser traducida por voluntarios en todos los idiomas, puede redescubrirse cientos de veces por semana y ser utilizada claramente por los estudiantes del mundo entero.



the next

Mr. Wickham
which the
farmers
had added
the
heat, he
had
planned
to

Miss Betsy
any evidence
of her
affiliation
Mr. Darcy



Spanish

Arabic

	<p>Εισαγωγή</p> <p>Εθνικός ΧΟ δεν έχει αποτέλεσμα να τηρείμαστε για κάθε ποδή! Στήστε τους προσεγγισμούς είναι να εμφανίζουμε ανθεκτικό, φήμης και ενεργάκια αποδοτικός φορέας, υποταγώντας σε ποιδί το ανυπόστατό κόσμο.</p> <p>Ο φορέας ΧΟ είναι ένα εκπαιδευτικό εργαλείο σχεδιασμένο να γίνεται διαθέσιμο σε κάθε ποδή. Με τη χρήση ελέγχους λογαριασμού και λογαριασμού ανανεώσιμη κάθισμα και προγραμματιστικές συνεργασίες απ' όλα τα έπονα, το ΟΠΑΚ (Έντονος φορέας υποταγώνης για κάθε ποδή) υποστηρίζει τους φορείς ΧΟ για διενοριά σε κάθε κάθισμα σε πολλαπλές θέσεις.</p> <p>Feel_and_smile_1_1</p>
	<p>Μέσον της πατέρης στο Περιόδο</p>
	<p>Ο φορέας ΧΟ τηρεί ελάχιστη λειτουργία αναγνωτικού κώδικα, το οποίο αναμορφώνει θηράμα, και επιτρέπει σε οποιοδήποτε από τα επόμενα τέσσερα ημέρα, αντηγράφη, δευτερεύ, λεπτά και βαθύτερο το λογισμικό. Παλαιότερη ένδιβρυση που συνεργάζεται στο πρόγραμμα "Έντονος φορέας υποταγώνης για κάθε ποδή" πατέρων είναι αυτής οι λαζαρεύσεις, ενώ κρατήσεις για την επεξεύρηση των εκπαιδευτικών στόχων του προγράμματος.</p>
	<p>Βάλντορας, γιατί είναι ένα προστιθ. φορέατο υποταγώνη για ποδή! Η βάλντορας, φωτογραφίες ενώκιμη υπόλευκη που γίνεται ενώ πάντα μαρτυρεί να ενσωματώνεται για ποδή της Κατερίνης του ΟΠΑΚ. Ωστόσο όπως είναι το πρόγραμμα, πρέπει να παρατηθεί στη χρήση της για την παραγωγή της μονάδας χρήστα που θα συνδυαποτελείται με τις αποδοτήσεις των διανομέτων, για τη ποιότητα των πόδων.</p>
	<p>Αναλύσεις της ΧΟ. Ήταν το πρώτο καθηγήτης ανάλυσης, κανονική εθνική που λειτουργεί έκατον και απ' όπις ειδικός έκδοση σε ληγυό ποδό. Μορφίζεται για να χρωστεί το ΧΟ σε Αναγνώστη ανύποτας της Κατερίνης. Το ΧΟ συμβάλλεται για χρήση στη ωπόταση και επιθύμηση τις διαδοκικές συνθήσεις της καθηρινότητας των πόδων.</p>
	<p>ΕΙΛ/Ειδης, διεθετώντας αυτής τη σελίδα, να μάθετε περισσότερα για το φορέα υποταγώνη ΧΟ έστι ούτε να υποτεκτεί να μάθετε περισσότερα με το φορέα υποταγώνη ΧΟ.</p>
	<p>ΗΙΚΟΠ2</p>
	<p>Ένοι οδοντοποιία στην Ταΐζανδη</p>
	<p>Συγγραφέας: Εισαγωγή © Anne Gentie 2006, 2008</p>
	<p>Τροποποιητής: adam hyde 2006, 2007, 2008 A. Ιωάννης Λαζαρίδης</p>
	<p>Luke Farone 2008 Michael Stone 2008 Rob Hall 2008 Sandy Cullis 2008 Seth Woolworth 2008 Tom Boyle 2008</p>
	<p>ΑΓΓΕΛΙΕΣ ΣΥΖΕΧΣΗΣ ΗΙΚΟΠΕΤΑΣ ΑΞΙΑΣΑ ΦΡΟΝΤΙΔΑ ΓΙΑ ΤΟ ΒΟΣ ΣΑΣ ΒΙΩΣΑΙΜΑ ΣΤΕΣ ΣΠΡΙΓΓΑΙΑΣ ΡΥΘΜΙΣΗΣ</p>

Greek

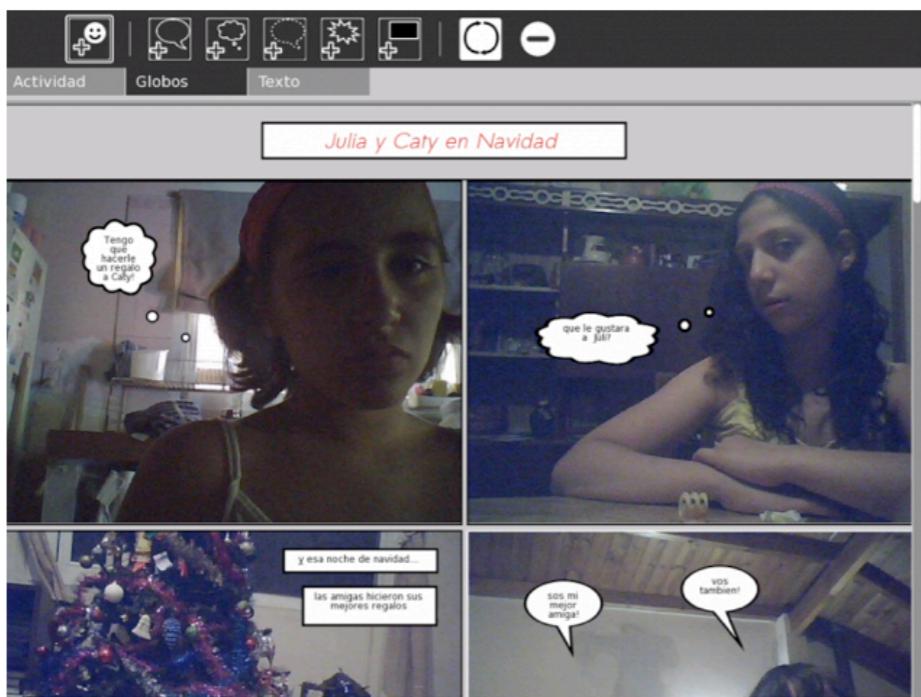
Do Community Outreach



Help People Learn to Use the XO & Sugar Software



Write And Test New Activities and Sugar On A Stick



FotoToon

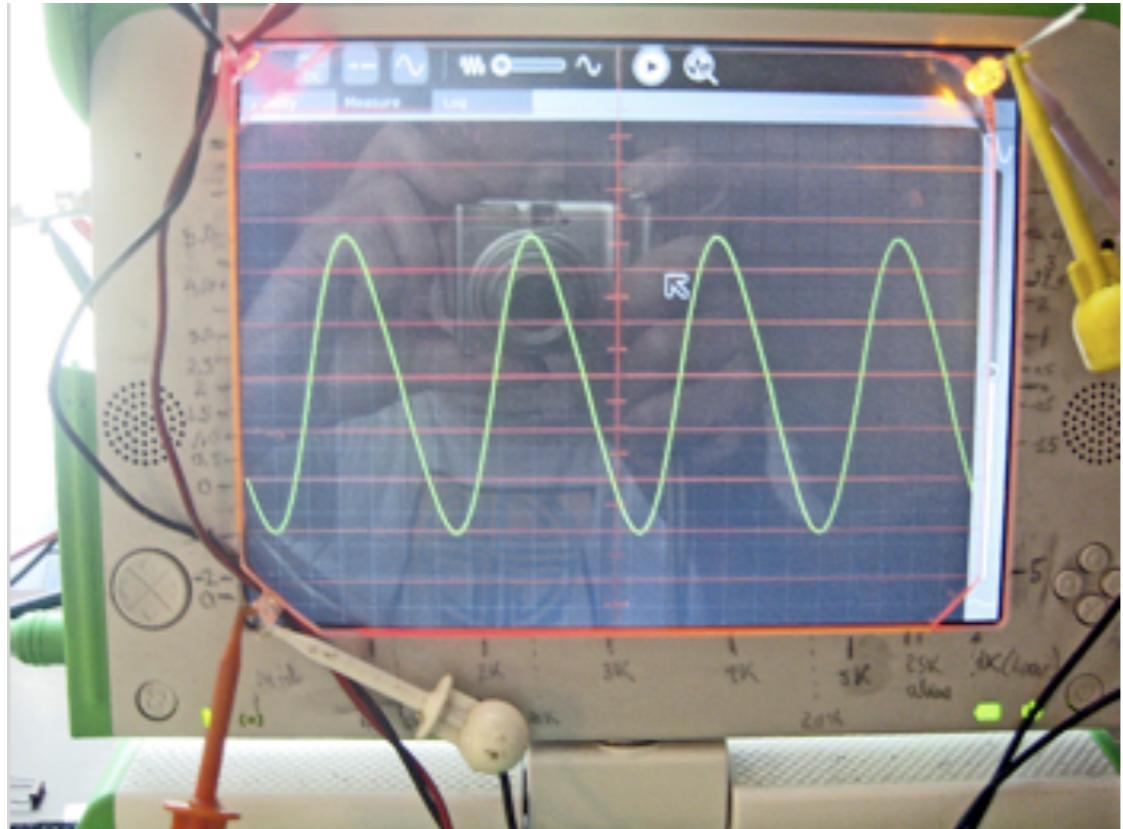
START A PROJECT THAT WILL CHANGE KIDS' LIVES WORLDWIDE!



http://wiki.laptop.org/go/Contributors_program

Try Your Priceless Idea With a Hardware Project

Share Your Results With The OLPC/Sugar Community



Electronic Tuning “Fork”



Temperature Sensor

Hardware Project In Southern California

Wind Shear Detection with 802.11s Wireless Mesh Networking

Bhuiyan Muhaimeen and Ronald W. Mehler
Department of Electrical and Computer Engineering
California State University Northridge
Northridge, CA USA

Abstract- A partial mesh array of wireless environmental sensors using IEEE 802.11s draft standard communications was developed for the detection of wind shear around airports. The system described here is self-organizing, redundant and highly fault tolerant. It has no single point of failure and can continue operation even after a significant number of node failures. The objective of this system is to provide small and improvised airfields a system for detecting wind hazards as effective as those currently available only at much higher cost at the largest airports.

The project is implemented with as much off-the-shelf hardware and software as possible. The goal was to rapidly develop a system with existing low cost components, avoiding significant development cost.

This Redundant Array of Inexpensive Sensors (RAIS) [1] system uses XO computers developed by the One Laptop per Child (OLPC) Foundation as a hardware platform. A fully operating system was developed and tested. The results derived from testing are encouraging and clearly shows the viability of deploying such a system in the field.

Keywords: 802.11s, mesh network, wind shear, wireless sensor network, XO computer

1. Introduction

Wind shear is a natural phenomenon that has caused numerous aviation disasters. Wind shear in the lowest layers of the atmosphere constitutes perhaps the most severe and frequent source of hazard for aviation operations [2]. In fact, wind shear accidents have led to regulations regarding the mandatory use of wind shear alert systems in air transport operations [3].

The largest airports have installed sophisticated RADAR Detection and Ranging (RADAR), SONic Detection and Ranging (SODAR) and Light Detection and Ranging (LIDAR) arrays and some jet liners are equipped with backscatter LIDAR systems to detect wind shear. One example of such a system is discussed in reference [4] which details the wind shear and turbulence detection system for the Hong Kong airport. In the United States the Federal Aviation Authority (FAA) has designed the Low

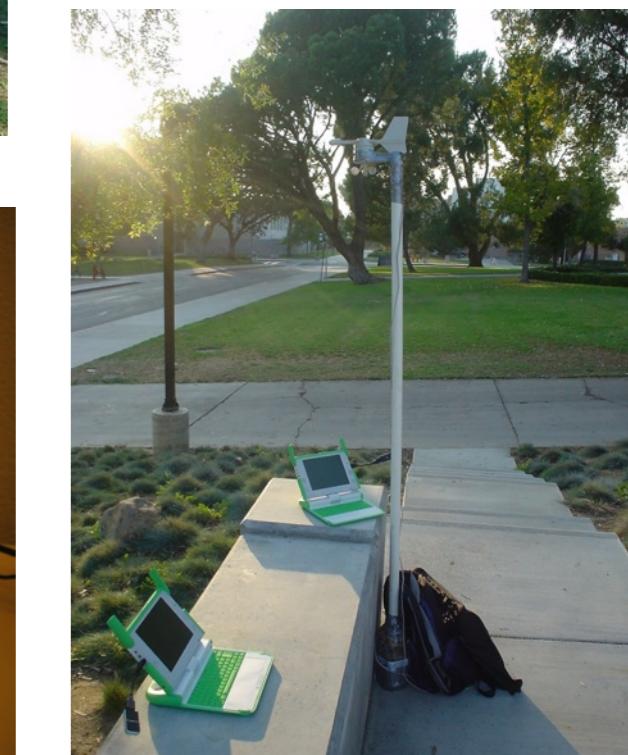
Level Windshear Alert system (LLWAS), the Terminal Doppler Weather Radar (TDWR) and the third-generation Low Level Windshear Alert System (LLWAS 3). These systems are highly sophisticated and the cost of these systems runs in the millions of US dollars. Consequently, these systems are not viable for small and medium sized airports. There are over 4,000 public use airports in the USA, most not catering to any scheduled airline services. Only 47 wind shear radar detection systems have been deployed to protect the nation's busiest airports [5]. This leaves the vast majority of pilots and airports with no wind shear detection capability whatsoever.

The present system developed is envisioned to fill this gap. The current system relies on inexpensive components and commercial off the shelf technologies thus providing a lower cost alternative to these expensive systems. Because it is highly portable and nodes will self-organize into a mesh network when deployed, it is eminently suitable for use on improvised airfields for military and disaster response purposes.

2. Architecture of the RAIS system

The system was designed using off the shelf components. This reduced cost of development and the development time. Use of pre-built components ensures that prototypes can be built using available anemometers, single-board computers, consumer GPS systems and other readily available components. By avoiding building any custom integrated circuits or circuit boards, a demonstration project with a modest budget was able to be in the field in a matter of months rather than years.

The network that gathers and distributes the wind shear data needs to be arranged in a partial mesh topology which ensures a fault tolerant and redundant configuration. The primary advantage of such a system is the absence of any single point of failure. Since this system has been implemented with low cost components, equipment failure is a risk. However, the redundant nature of the system ensures that single node failures do not bring down the operation of the whole system. Damage to individual nodes only degrades system performance.



**CSUN researchers
Use XO's to develop
inexpensive wind shear
detection system for
small airports**

Published Research Paper

What's on the computers?

Terminal Activity

#_

Activity Edit

```
bash-3.2#
bash-3.2#
bash-3.2#
bash-3.2#
bash-3.2# python multiCastSender.py &
[1] 2810
bash-3.2# 000 10 ZEPH01 150550.000 0000.0000 N 00000.0000 E 0.0 67.50 0.0 90.00
000 11 ZEPH01 150604.000 0000.0000 N 00000.0000 E 0.0 67.50 0.0 90.00
000 12 ZEPH01 150611.000 0000.0000 N 00000.0000 E 0.0 67.50 0.0 90.00
000 13 ZEPH01 150619.000 0000.0000 N 00000.0000 E 0.0 67.50 0.0 90.00
000 14 ZEPH01 150627.000 0000.0000 N 00000.0000 E 0.0 67.50 0.0 90.00
000 15 ZEPH01 150634.000 0000.0000 N 00000.0000 E 0.0 67.50 0.0 90.00
```

Setup

Terminal Activity

#_

Activity Edit

```
*****
03:15:30 UTC: HZ WShear Detected between ZEPH27 and ZEPH22, Distance 3.21km|Value 51.63m/s
*****
03:15:30 UTC: HZ WShear Detected between ZEPH27 and ZEPH21, Distance 1.66km|Value 31.65m/s
*****
03:15:30 UTC: VT WShear Detected between ZEPH27 and ZEPH21, Distance 1.66km|Value 5088.0fp
m
*****
No wind shear Between ZEPH27 and ZEPH20.
Server Received:
000 29 ZEPH25 031532.100 3423.7439 N 11838.504 W 21.9 203.0 1065.9 11.7
Current Working NodeSet is set(['ZEPH03', 'ZEPH02', 'ZEPH16', 'ZEPH17', 'ZEPH14', 'ZEPH15',
, 'ZEPH12', 'ZEPH13', 'ZEPH10', 'ZEPH11', 'ZEPH18', 'ZEPH19', 'ZEPH23', 'ZEPH08', 'ZEPH05',
, 'ZEPH04', 'ZEPH07', 'ZEPH06', 'ZEPH01', 'ZEPH00', 'ZEPH29', 'ZEPH28', 'ZEPH27', 'ZEPH26',
, 'ZEPH24', 'ZEPH09', 'ZEPH22', 'ZEPH21', 'ZEPH20'])
No wind shear Between ZEPH25 and ZEPH03.
*****
03:15:32 UTC: HZ WShear Detected between ZEPH25 and ZEPH02, Distance 1.34km|Value 42.17m/s
*****
03:15:32 UTC: VT WShear Detected between ZEPH25 and ZEPH02, Distance 1.34km|Value 2233.1fp
m
*****
```

Output

Try Your Priceless Learning Idea With a Small Deployment Share Your Results With The OLPC/Sugar Community



Honduras



Vietnam

A New PenPal Project in the Making



FAMLI After School Program
Contributors Project At Audubon MS



AGYA/USC Contributors
Project in Kampala, Uganda

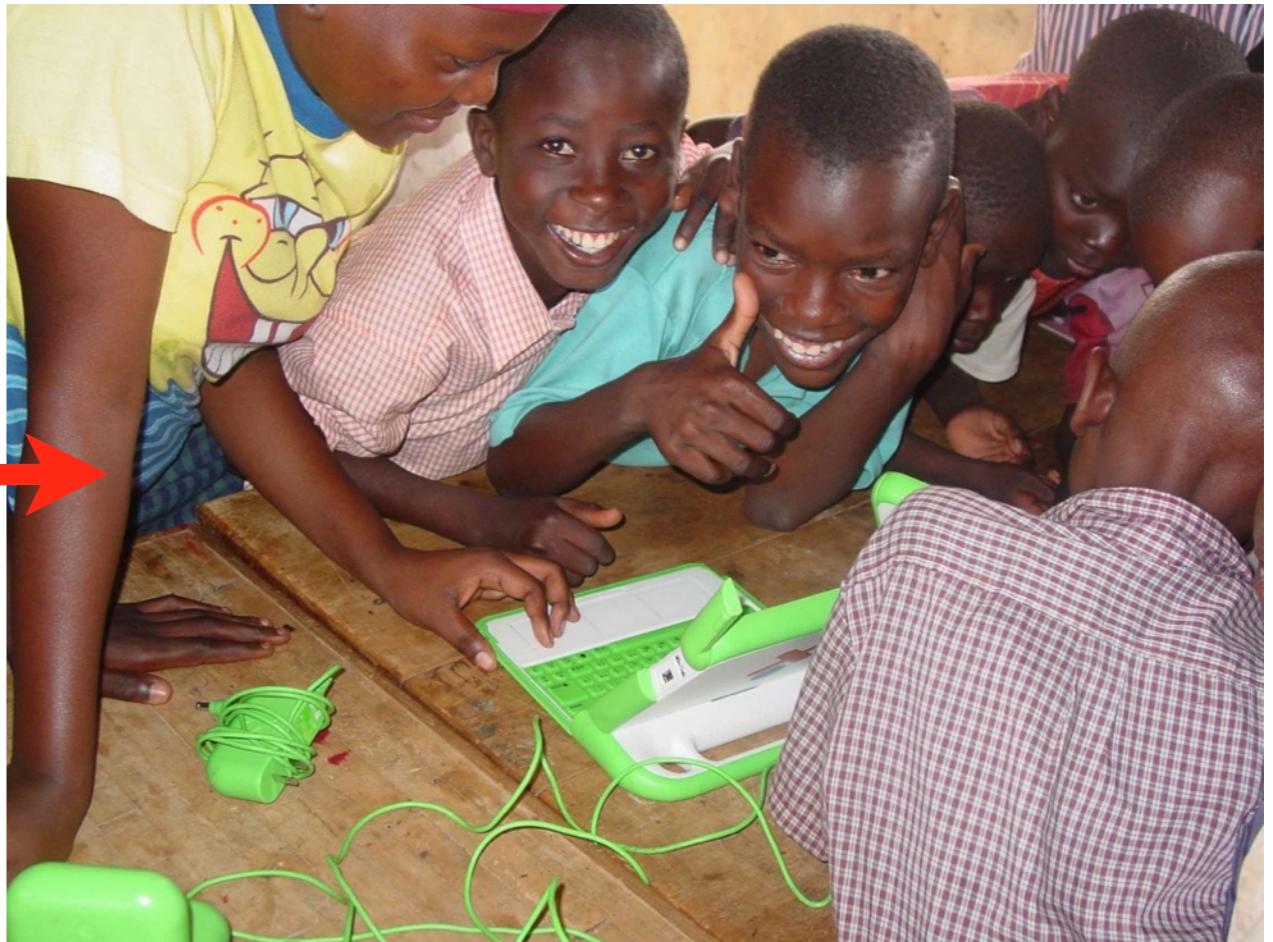


Got Game? Web Version

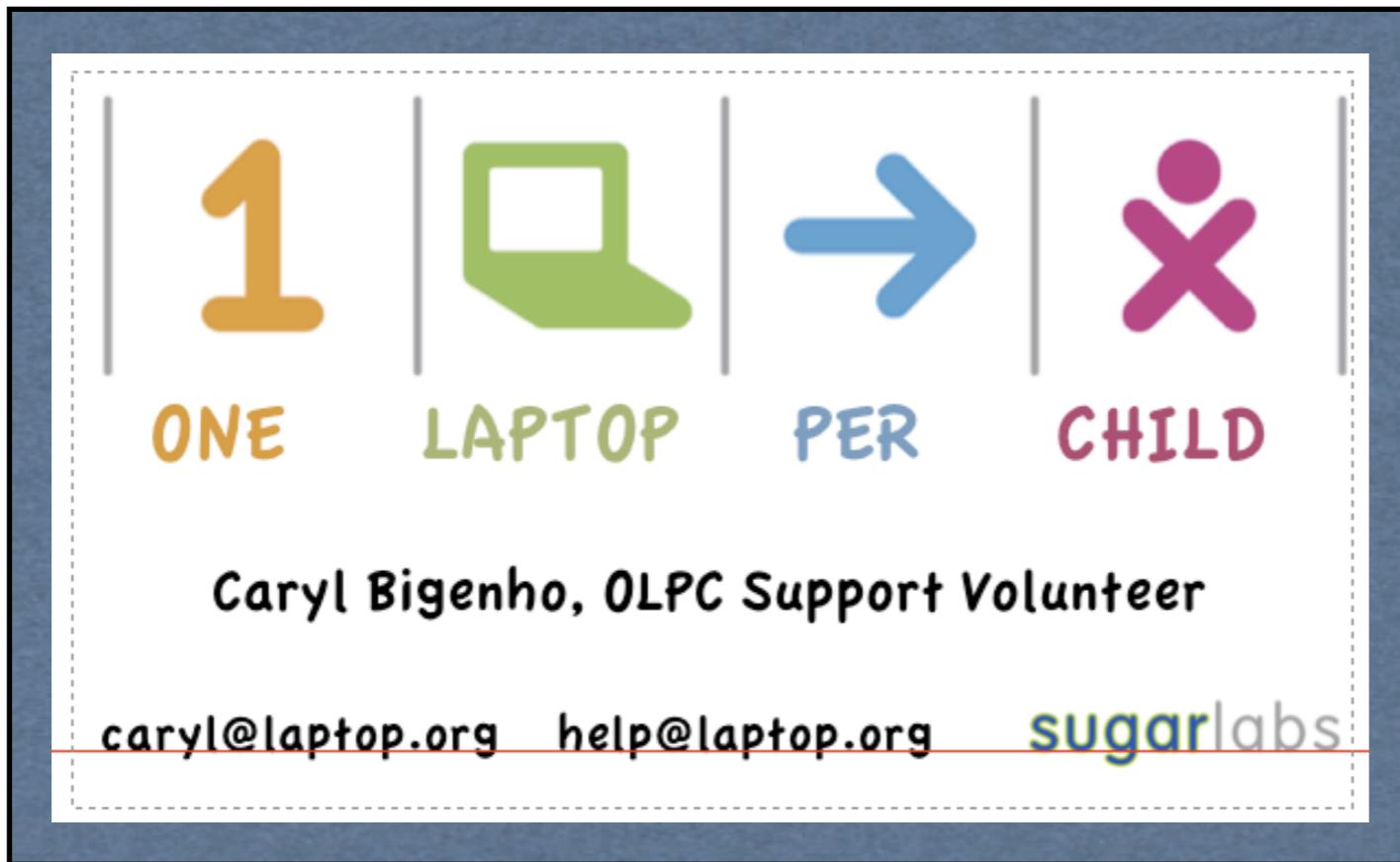
A service learning project between students at New Tech High in Coppell Texas and students in Ghana at a center for former child slaves. They are using XO laptops as a communication tool to create relationships and educational math tools.



UCSB Contributors Project Pairs Kellogg School in Goleta With John Osogo School in Kenya



Here's Your “Take-Away”



Useful Links

help@laptop.org
http://wiki.laptop.org/go/Contributors_Program
http://wiki.sugarlabs.org/go/Sugar_on_a_Stick/Strawberry
http://wiki.sugarlabs.org/go/Sugar_on_a_Stick/Blueberry
<http://wiki.laptop.org/go/Participate>
http://wiki.laptop.org/go/University_program
http://wiki.laptop.org/go/Community_mailing_lists
<http://blog.laptop.org/>
<http://www.sugarlabs.org/>
<http://www.flickr.com/photos/olpc>