



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)

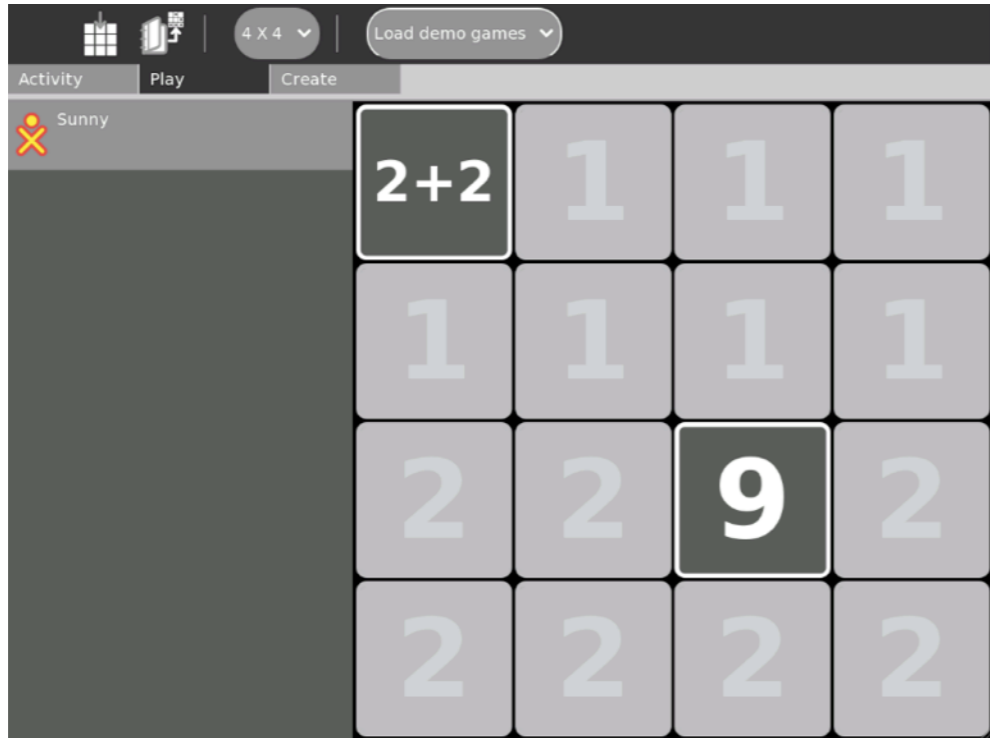
v. played, play·ing, plays

v.intr.

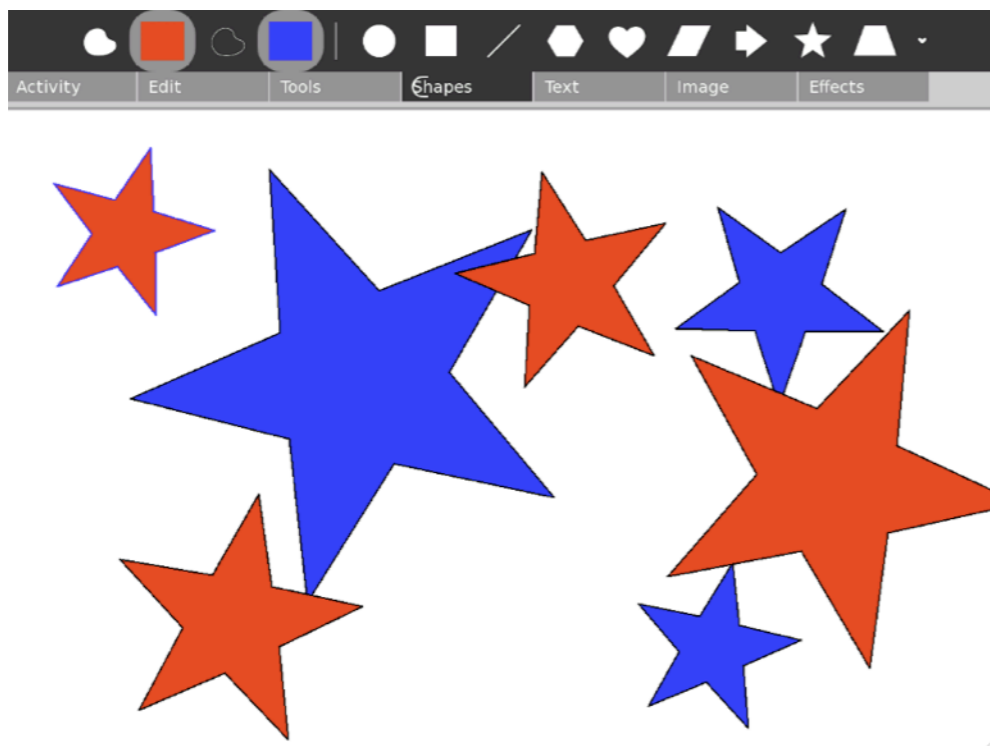
1. To occupy oneself in amusement, sport, or other recreation.

Sugar Turns
Learning Into Play
And
Play Into Learning

In Memorize You Can Make Your Own Games



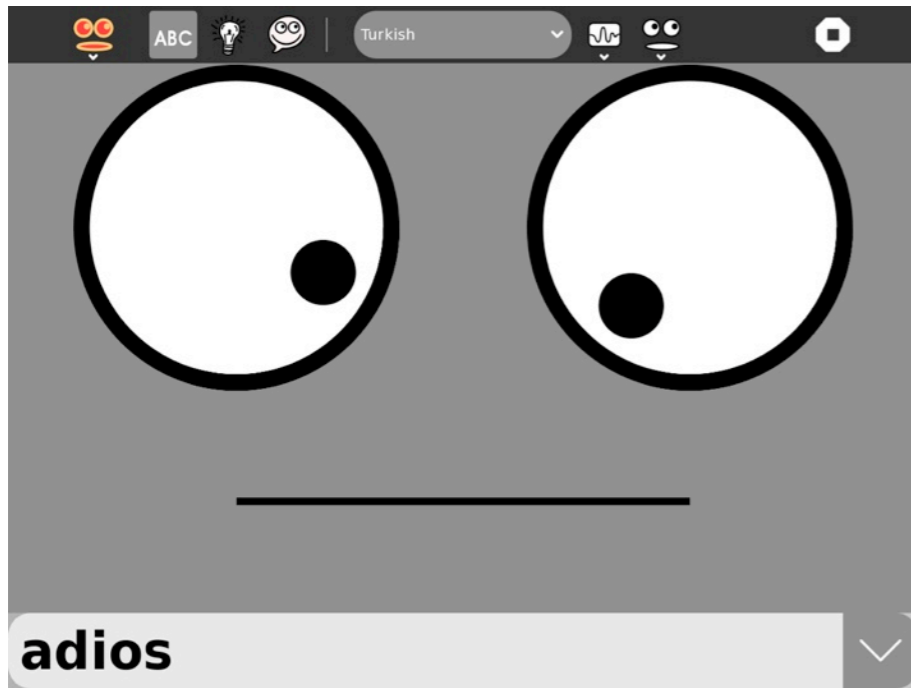
Create Art With Paint



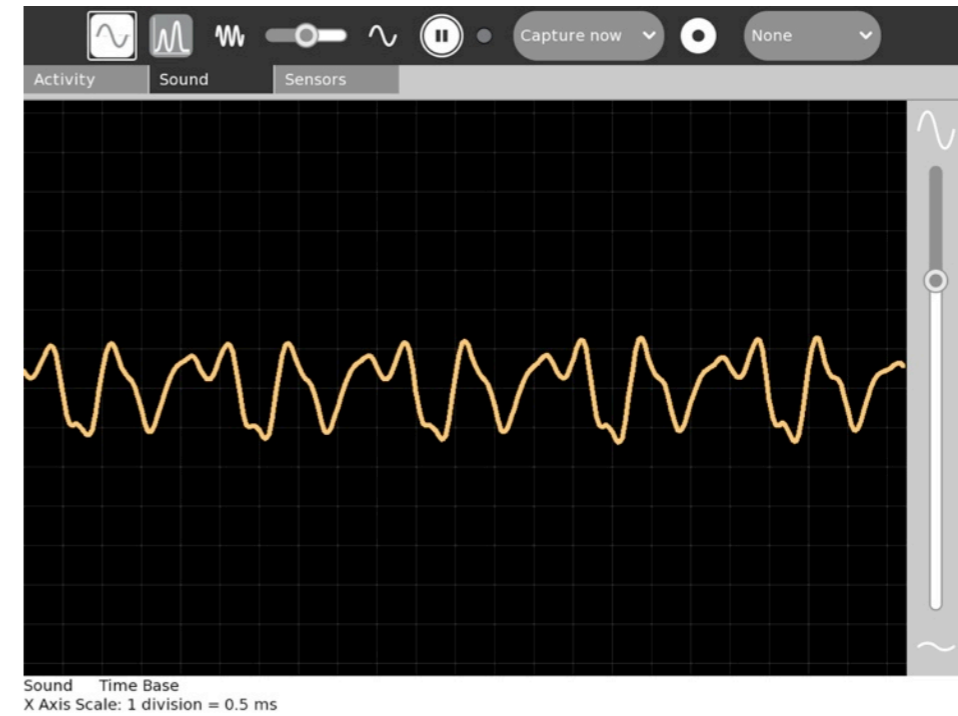
Make Your Own Story In Write



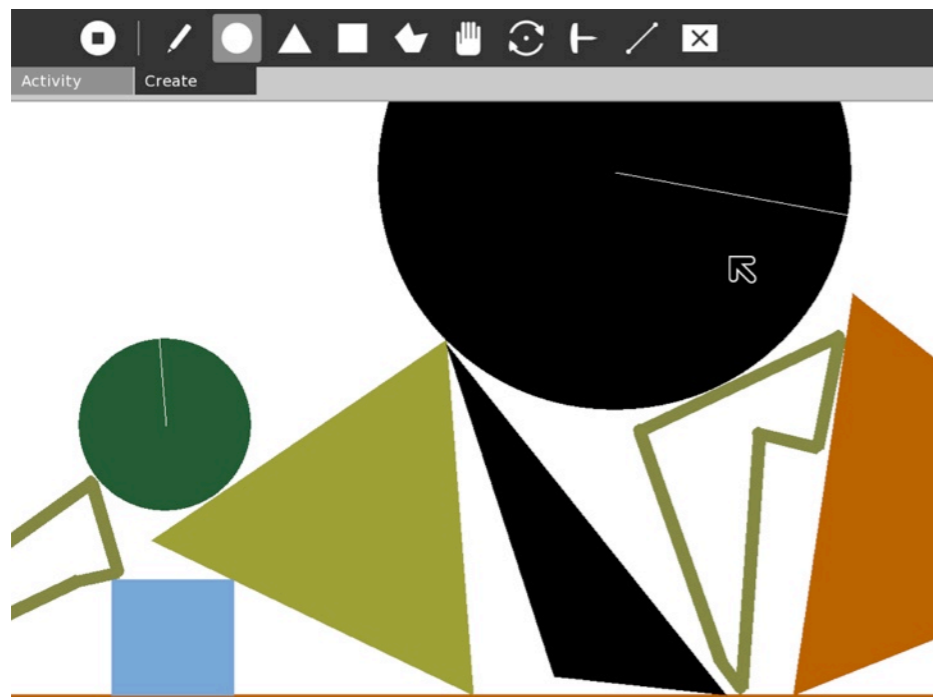
Make Your Computer Speak 30+ Languages!



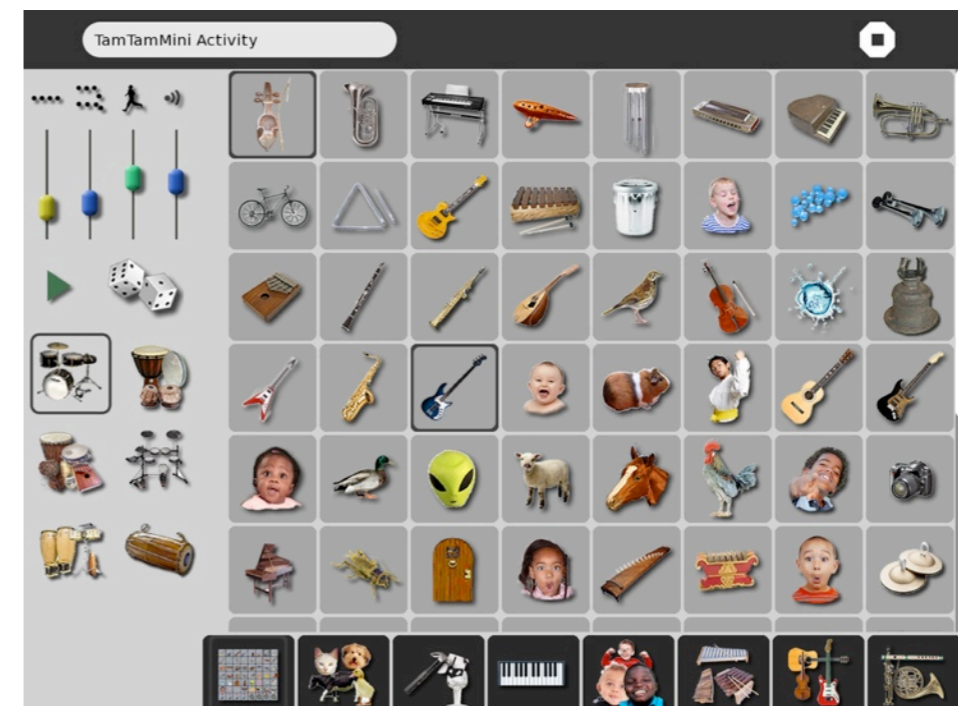
Experiment With Sound In Measure



Experiment With Shapes in Physics



Play Music With Tam Tam



460 Activities, 4,750,000 Downloads

The screenshot shows the 'Activities for Sugar' website. The browser address bar displays 'http://activities.sugarlabs.org//en-US/sugar/'. The page features a search bar with the text 'search for activities' and a dropdown menu set to 'all activities'. A blue box highlights the search bar and dropdown. Below the search bar is a 'Browse Activities' section with tabs for 'Recommended', 'Popular', 'Just Added', and 'Updated'. The 'Recommended' tab is active, showing three activity cards: 'Etoys' by Bert, squeakland (182 weekly downloads), 'TamTam Synth Lab' by Activity Team, iasg (134 weekly downloads), and 'CeibalRadio'. To the right of the activity cards is a 'Collections' section with a sub-section for 'Popular Collections' featuring 'GCompris' by alsroot. On the left side, there is a 'Categories' table and a 'Poll' section.

Categories	Count
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	

4,746,286 activities downloaded

search for activities within all activities

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, iasg **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.

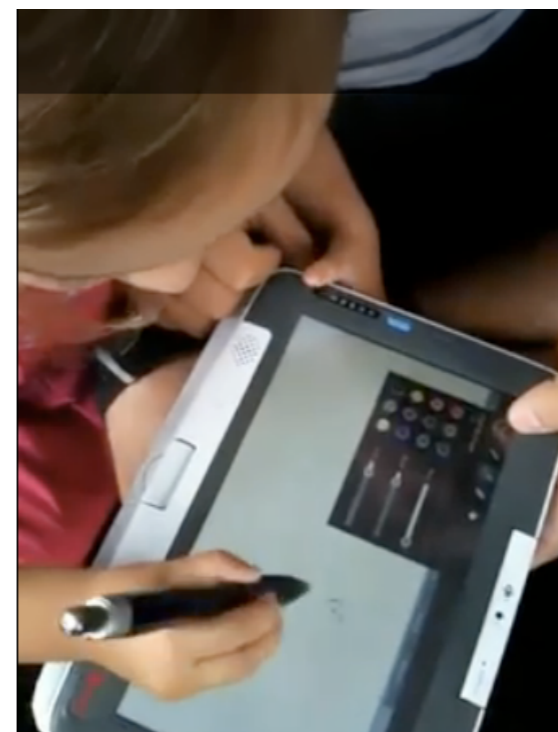
Poll
Should users be logged in to download experimental

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

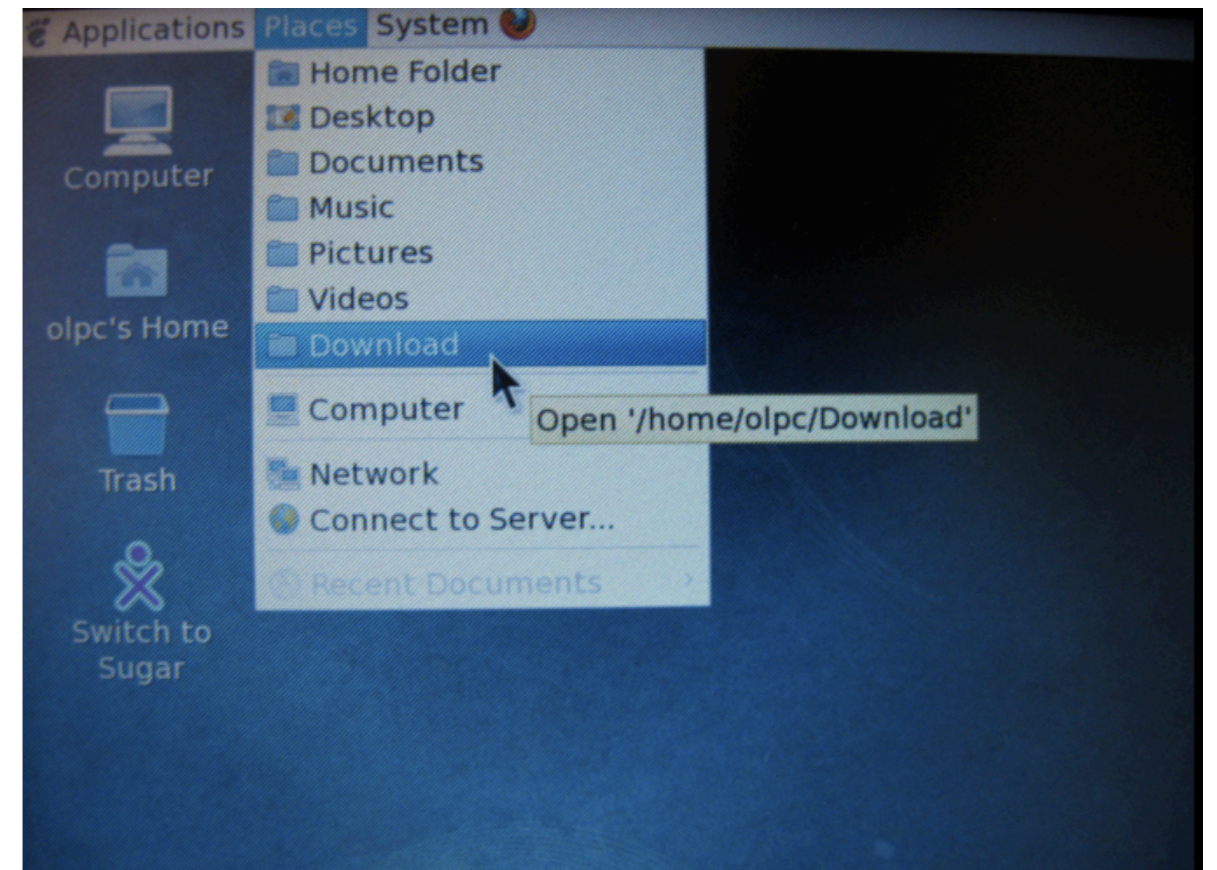


Mac's Need Virtual Box
Or A Boot Helper Disk

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



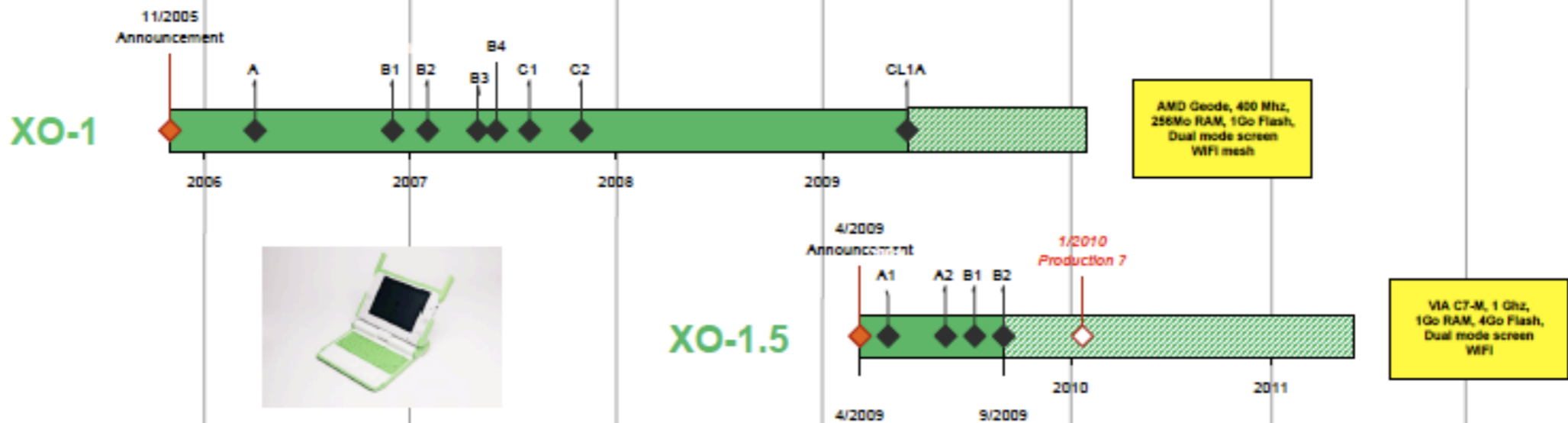
XO-3 Prototype

XO laptop directions overview

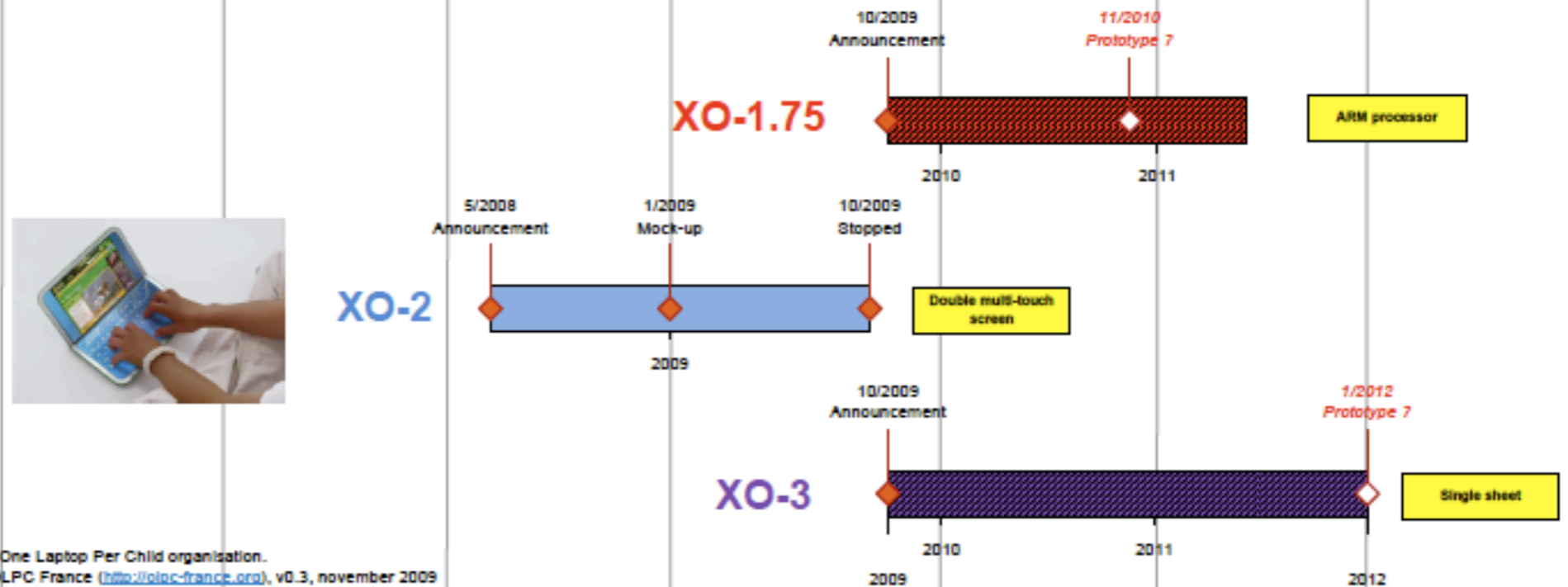


one laptop per child

Today's machine



Visions

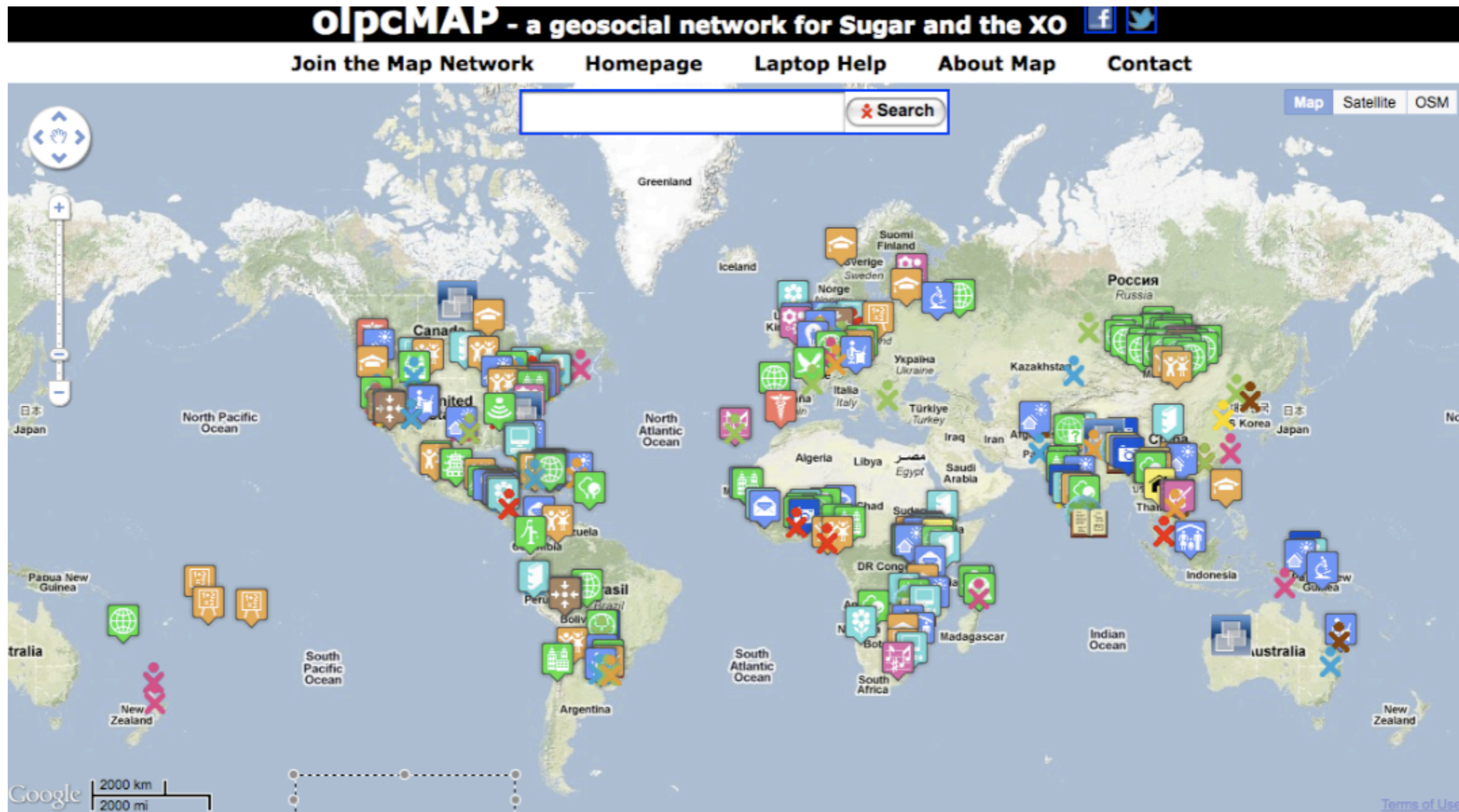


This map is not the official roadmap of the One Laptop Per Child organization.
 Information compiled by Lionel Laské for OLPC France (<http://olpc-france.org>), v0.3, november 2009

Over 1.8 Million XO's Deployed Worldwide



XO and Sugar Deployments and Projects Now Circle the Globe



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 XO's and Sugar



Olin College



Harvard University



Start A Repair Center



Collaborate To Write And Translate eBooks



Introduction

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 XO's for delivery around the world in multiple languages.

HOW TO USE THE XO

- INTRODUCTION
- ABOUT OLPC
- ABOUT COMPUTERS
- HOW TO VOLUNTEER
- GETTING STARTED
- OPENING THE XO
- POINTS
- BATTERY CHARGING
- KEYBOARD
- SCREEN
- STORAGE
- BATTERY
- REPLACING
- POWERING OF YOUR LAPTOP
- NETWORK
- GETTING STARTED
- ABOUT OLPC
- ABOUT COMPUTERS
- HOW TO VOLUNTEER
- GETTING STARTED
- OPENING THE XO
- POINTS
- BATTERY CHARGING
- KEYBOARD
- SCREEN
- STORAGE
- BATTERY
- REPLACING
- POWERING OF YOUR LAPTOP
- NETWORK

Introducción

Este libro es la historia de un viaje de placer. Si fuera la historia de una solemne expedición científica, tendría sobre ella esa gravedad, esa profundidad, y esa incomprendibilidad 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 enseñarle lo que necesita saber para escribir Actividades en Sugar, el sistema operativo desarrollado para el proyecto OLPC. Este libro no asume que usted sabe cómo programar una computadora, aunque aquellos que sepan programar puedan encontrar información útil en él. El principal objetivo al escribirlo es animar a aquellos que no son programadores, incluyendo a los niños y a 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 incomprendibilidad impresionante se mantendrá al mínimo.

Si lo que desea es solo aprender a escribir programas de ordenador, Sugar proporciona muchas Actividades para ayudarle: Etch, Turtle Art, Scratch, y Plooly. 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 desmontarla.

Una vez que haya hecho algún programa tendrá la satisfacción de que se pueda utilizar el programa que Ud. hizo, uno 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 descargarse cientos de veces por semana y ser utilizada directamente por los estudiantes del mundo entero.

HAGA LAS

- ACTIVIDADES DE SUGAR
- INTRODUCCIÓN
- ¿CÓMO ES SUGAR?
- ¿CÓMO SE USA ACTIVIDAD DE SUGAR?
- ¿CÓMO NECESITO SABER PARA CREAR UNA ACTIVIDAD DE SUGAR?
- PROBLEMAS
- ¿PUESTE EN PROCESO/COMO EN EL MENÚ DE DESARROLLO
- CREACIÓN DE SU PRIMERA ACTIVIDAD
- LA PROGRAMACIÓN
- INSTALACIÓN DE PYTHON PARA LEER TEXTO
- INSTALACIÓN DE SUGARACTIVITYACTIVITY
- PAQUETE DE LA ACTIVIDAD
- AGREGAR LOS REQUISITOS
- AGREGAR SU CÓDIGO DE LA ACTIVIDAD
- AGREGAR AL CONTROL DE VERSIÓN
- REVISIÓN/COMUNICACIÓN CON OTRAS ACTIVIDADES DE SUGAR
- ASISTENTE AVANZADO
- AGREGANDO ACCIONES COMPLEJAS
- AGREGANDO TEXTO A VIDE
- AGREGANDO SONIDOS Y VIDEO
- CREACIÓN DE ACTIVIDADES

المقدمة

قد أنك سمعت من مشروع واحد حاسوب صغير لكل طفل هدف المشروع هو توفير حاسوب صغير حقيقي للأطفال بأكثر من مائتي مليون دولار في جميع أنحاء العالم.

في هذا الكتاب...

Feet_and_smile_1_1

في العربية في هذا كتاب باللغة العربية...

Hiking02

في هذا في هذا الكتاب...

- INTRODUCTION
- ABOUT OLPC
- ABOUT COMPUTERS
- HOW TO VOLUNTEER
- GETTING STARTED
- OPENING THE XO
- POINTS
- BATTERY CHARGING
- KEYBOARD
- SCREEN
- STORAGE
- BATTERY
- REPLACING
- POWERING OF YOUR LAPTOP
- NETWORK
- GETTING STARTED
- ABOUT OLPC
- ABOUT COMPUTERS
- HOW TO VOLUNTEER
- GETTING STARTED
- OPENING THE XO
- POINTS
- BATTERY CHARGING
- KEYBOARD
- SCREEN
- STORAGE
- BATTERY
- REPLACING
- POWERING OF YOUR LAPTOP
- NETWORK

Εισαγωγή

Ενδέχεται να έχετε ακούσει για το πρόγραμμα "Ένας φορητός υπολογιστής για κάθε παιδί". Στόχος του προγράμματος είναι να εξοπλιστεί ανιλτικοί, φτωχοί, και ενεργειακά αποδοτικοί φορητούς υπολογιστές στα παιδιά του αναπτυσσόμενου κόσμου.

Ο φορητός XO είναι ένα εκπαιδευτικό εργαλείο σχεδιασμένο να γίνει διαθέσιμο σε κάθε παιδί. Με τη χρήση άμεσων αναπτύξεων και λογισμικού ανοιχτού κώδικα και προγραμμάτιστες συνεργασίες από όλο τον κόσμο, το OLPC (Ένας φορητός υπολογιστής για κάθε παιδί) υποστήριξη τους φορητούς XO να διευκολύνουν σε όλες τις παγκόσμιες γλώσσες.

Feet_and_smile_1_1

Μόνο σε μια γλώσσα στο Παράρτημα.

Ο φορητός XO είναι ένα εκπαιδευτικό εργαλείο σχεδιασμένο να γίνει διαθέσιμο σε κάθε παιδί. Με τη χρήση άμεσων αναπτύξεων και λογισμικού ανοιχτού κώδικα και προγραμμάτιστες συνεργασίες από όλο τον κόσμο, το OLPC (Ένας φορητός υπολογιστής για κάθε παιδί) υποστήριξη τους φορητούς XO να διευκολύνουν σε όλες τις παγκόσμιες γλώσσες.

Ανάλογως το XO, θα δείτε την υψηλή ανάλυση, ευκατάληπτη που λειτουργεί καλά σε επίλυση διάφορα είδη του προβλήματος. Μεταξύ επίσης να υπάρχει το XO σε λειτουργία ανάλυσης βέλτους. Το XO σχεδιάστηκε να γράφεται στο διάστημα και επίσημα τις διαδικασίες ανάπτυξης, εξαμηνιαίας των παιδιών.

Επιπλέον, διαθέτουμε επίσης τις οαίρες, να βλέπε περισσότερα για το φορητό υπολογιστή XO στο έργο να υποστήριξη να βλέπε περισσότερα με τον φορητό υπολογιστή XO.

Hiking02

Ενα αποστολόγιο στην Παλιάνθη

Συντονιστής: Επιστήμη
 @ Anne Gentes 2006, 2008
 Τροπονιστής:
 adam Hyde 2006, 2007, 2008
 @ Neil 2008
 Luke Farano 2008
 Michael Stone 2008
 Sam Mason 2008
 Sandy Cui 2008
 Seth Woodworth 2008
 Tom Ryan 2008

- INTRODUCTION
- ABOUT OLPC
- ABOUT COMPUTERS
- HOW TO VOLUNTEER
- GETTING STARTED
- OPENING THE XO
- POINTS
- BATTERY CHARGING
- KEYBOARD
- SCREEN
- STORAGE
- BATTERY
- REPLACING
- POWERING OF YOUR LAPTOP
- NETWORK

English Spanish Arabic Greek

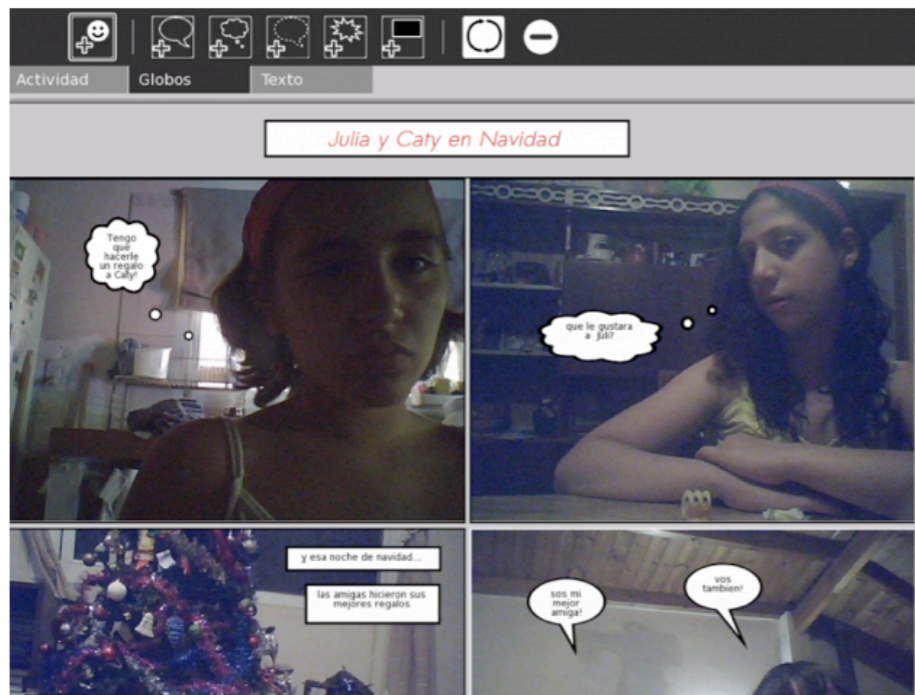
Do Community Outreach



Help People Learn to Use the XO & Sugar Software



Write And Test New Activities and Sugar On A Stick



FotoToon



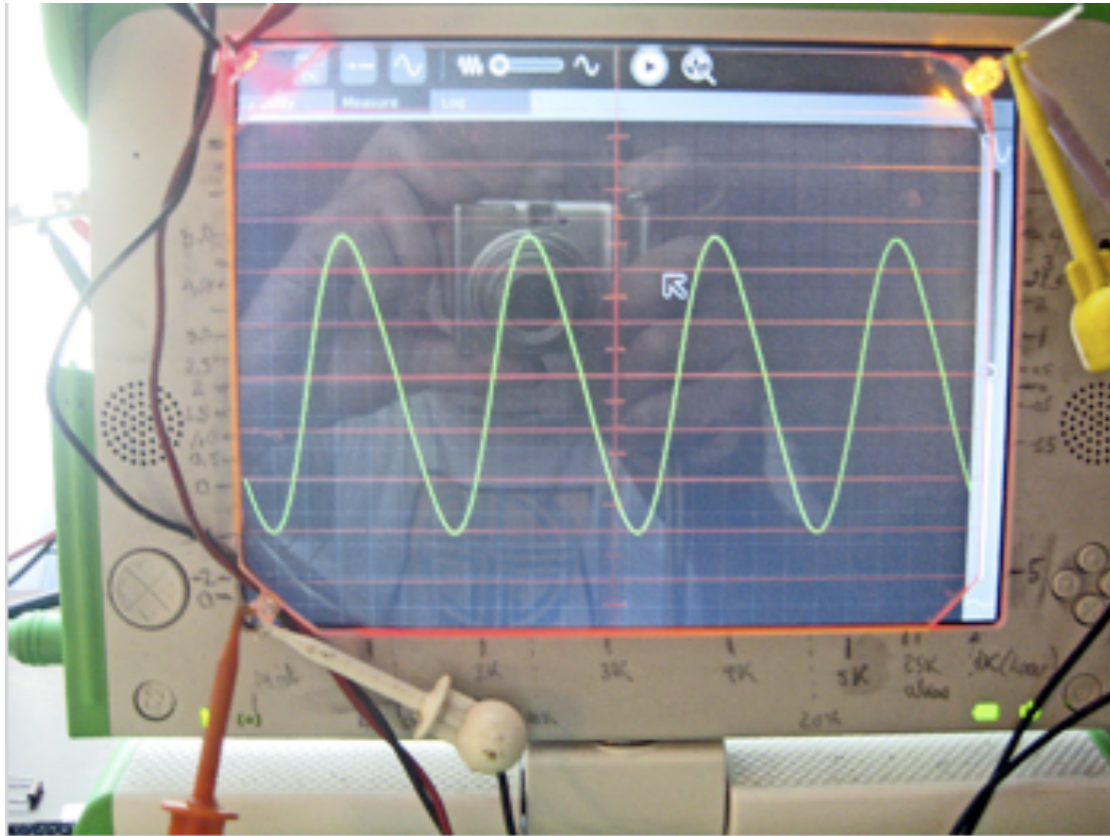
START A PROJECT THAT WILL CHANGE KIDS' LIVES WORLDWIDE!



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 Muhaimin 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 RAdio 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 XOs 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**

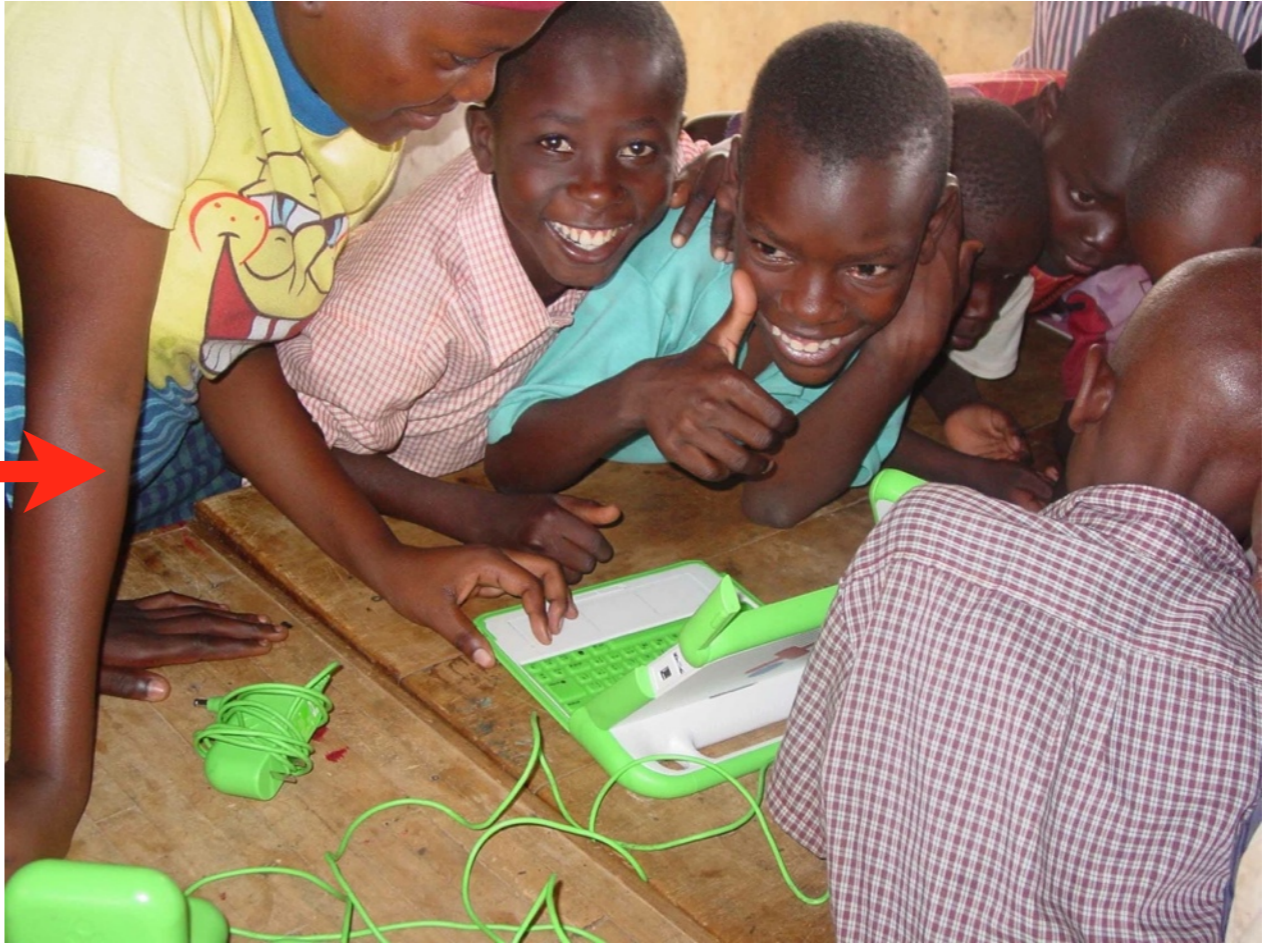


Got Game? Web Version

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"

1

ONE



LAPTOP



PER



CHILD

Caryl Bigenho, OLPC Support Volunteer

caryl@laptop.org help@laptop.org [sugarlabs](http://sugarlabs.org)

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/Strawberry)

[http://wiki.sugarlabs.org/go/Sugar on a Stick/Blueberry](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://wiki.laptop.org/go/Community_mailing_lists)

<http://blog.laptop.org/>

<http://www.sugarlabs.org/>

<http://www.flickr.com/photos/olpc>

