

Open Technologies in the Education Enterprise



Southern California Linux Expo 2011



A CoSN LEADERSHIP INITIATIVE



CoSN K-12 Open Technologies

Welcome to the website for the new CoSN K-12 Open Technologies Leadership Initiative. The initiative is sponsored by IBM, Cisco, Pearson Education, and SAS to support the adoption and utilization of open technologies in K-12 education around the world.

Open source software, open standards and open hardware are poised to make a profound impact on K-12 education. The convergence of web technologies and a new spirit of collaboration in the education community makes this an exciting time to get involved.

The goal of this Web site is to help educators and technologists with the planning, evaluation, decision-making, and implementation processes associated with adopting Open Technologies in K-12. Initially, the site will focus on the fundamentals of the open technologies movement in education. Over time – with your help, we hope – the site’s content will grow in quantity, sophistication and direct relevance to you.

What are open technologies?

Open technologies is an umbrella term that includes open source software, open standards, and open hardware.

[Read more](#)

How can open technologies benefit K-12 schools?

The use of open technologies in education is now commonplace throughout the world with one notable

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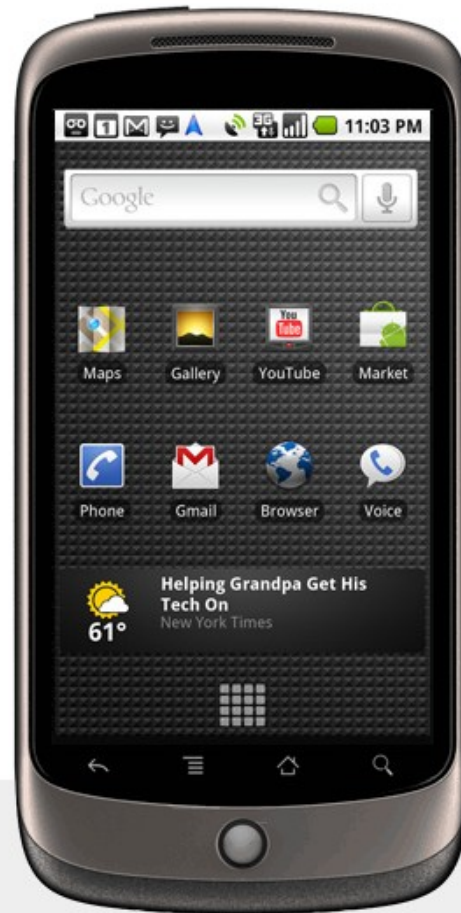




nexus one™

Web meets phone.

Introducing Nexus One.
Click an icon for a demo of each app.



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<http://flickr.com/photos/mikz>

A photograph of a woman with long brown hair leaning over a young boy in a yellow shirt, both looking intently at a laptop screen in a classroom setting. The background shows shelves with books and other computer monitors.

Open Technologies

- Open Standards
 - Clearly defined, publicly distributed protocols & processes

http://

rss

iCalendar



Open Technologies

- Open Standards
 - Clearly defined, publicly distributed protocols & processes
- Open Source Software
 - Publicly available
 - Includes source code
 - Licensed
 - Community developed
 - Free (as in freedom, not beer)

Free(dom)

Community

A photograph of a woman with long brown hair leaning over a young boy in a yellow shirt, both looking at a laptop in a classroom setting. The woman is pointing at the screen while the boy looks on attentively. The background shows shelves with books and other classroom equipment.

Open Technologies

- Open Content
 - Creative work published in a format that explicitly allows copying and reuse
 - Some rights reserved

Why Use Open Tech?

Reduced costs

Quality

Flexibility

Performance

Reliability

Security





Open Tech @ Saugus

- Back office
 - Infrastructure & management
 - Virtualization
- Classroom
 - Desktop Applications
 - Web 2.0

Back-Office

- Infrastructure
 - 70+ Linux Servers
 - Lower Cost
 - Variety of Solutions
- Virtualization
 - RHEL/Xen on Blades
 - Better Resource Use
 - Hardware Agnostic
 - Rapid Deployment
 - Broad Hardware Support



Desktop Applications

- OpenDisc Free Software
 - Every new teacher gets an OpenDisc at orientation
 - Free to distribute
- Remote Control
 - Centralized Tech Support
 - No per workstation costs

Desktop Applications

- Linux on the Desktop
 - Instead of OS upgrades
 - Green Computing



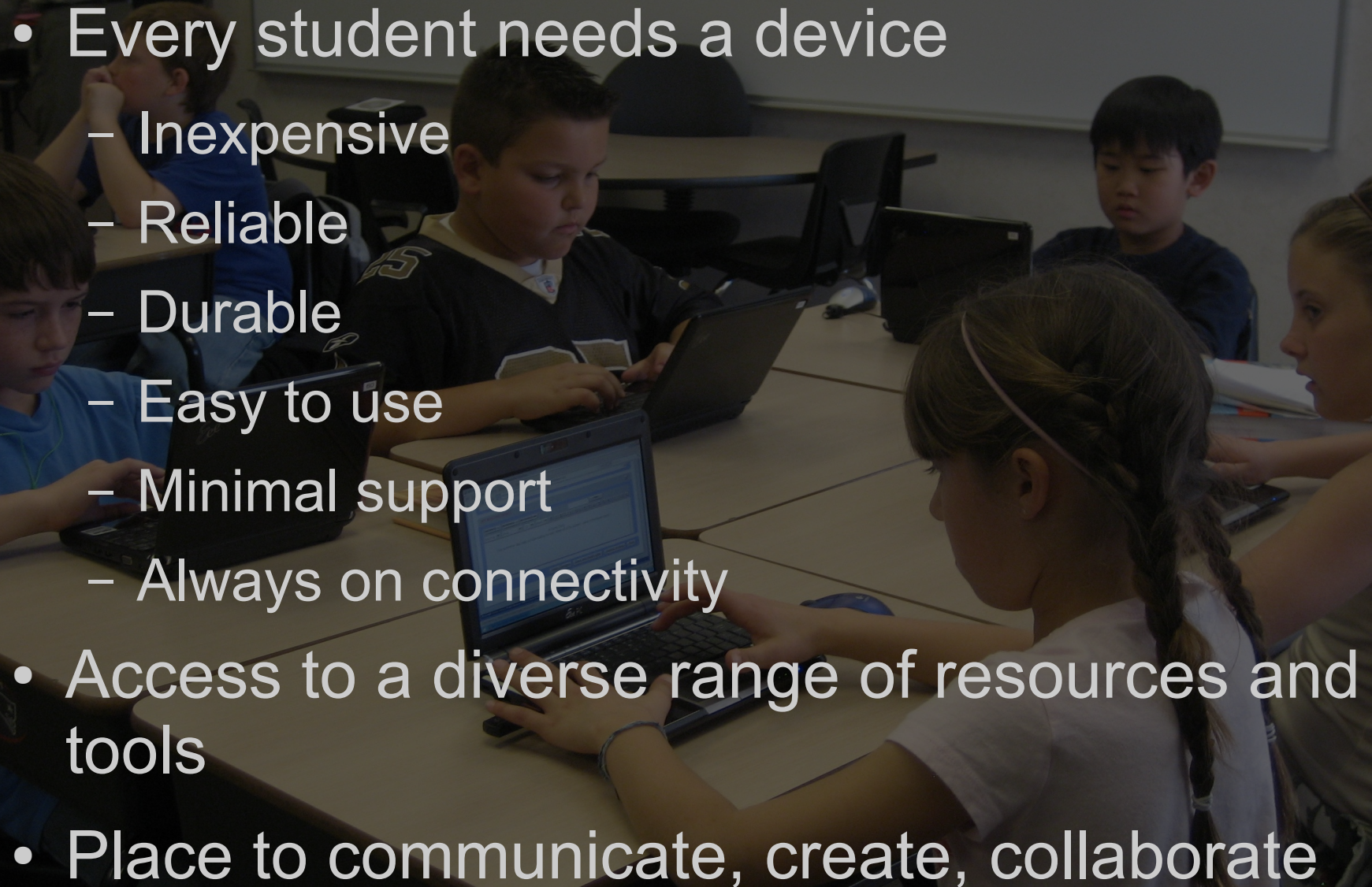
transform

trans•form

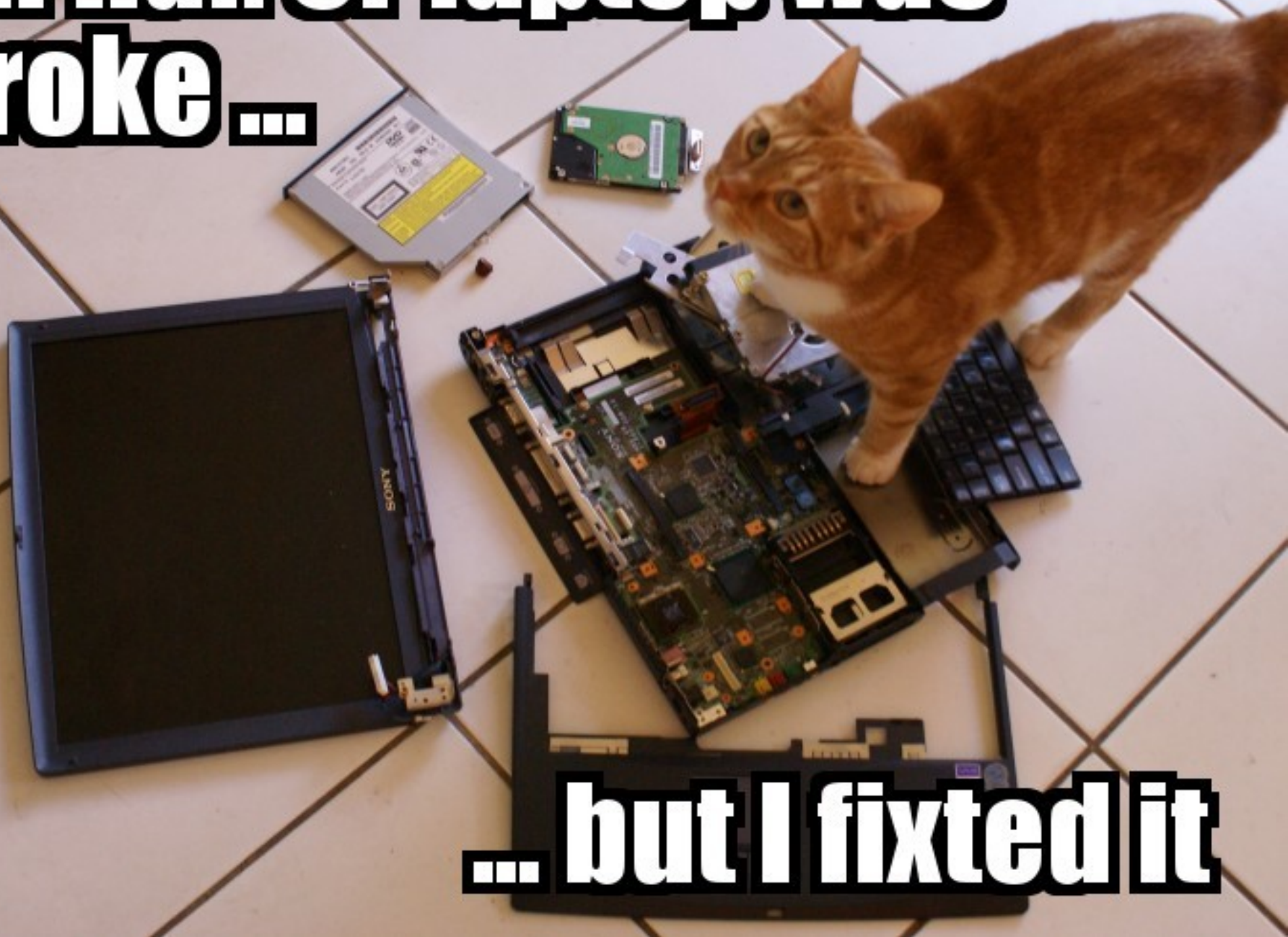
| trans'fôrm |

verb

make a thorough or dramatic change in the form, appearance, or character of

- 
- A photograph of a classroom where several students are seated at desks, each using a laptop. The students are focused on their work, and the classroom environment is visible in the background. The image is overlaid with a semi-transparent dark box containing a list of bullet points.
- Every student needs a device
 - Inexpensive
 - Reliable
 - Durable
 - Easy to use
 - Minimal support
 - Always on connectivity
 - Access to a diverse range of resources and tools
 - Place to communicate, create, collaborate

**Oh Hai. Ur laptop was
broke...**



... but I fixted it





Why Netbooks?

Extremely portable

Inexpensive

Durable

Reliable

Always on connectivity



A woman with long brown hair, wearing a black long-sleeved shirt, is leaning over a desk and looking at a laptop. A young boy with dark hair, wearing a yellow sweater, is sitting at the desk and looking at the laptop. The background shows a classroom setting with shelves of books and other students at desks.

Why Open Tech?

Reduced costs

Increased access

Flexibility & choice

Performance

Reliability

Security



Linux

Firefox 3 with the Flash10 plugin
Mozilla Thunderbird (Email, Calendaring)
Skype
Adobe Reader
Instant Messaging for all services, including GTalk, AOL, MSN, Jabber, etc. (Pidgin)
OpenOffice (Sun's supported commercial version of OpenOffice)
Google Earth
Labyrinth (Mind Mapping)
Tuxpaint (like KidPix, only better)
TuxTyping (typing tutor/game)
Stellarium (astronomy software)
Celestia (astronomy software)
TuxMath (math drilling game)
Mebook (eBook Reader)
F-Spot (Photo manager)
GIMP (like Photoshop)
Dia (Diagramming)
Audacity audio recording/editing suite
MIT Scratch (Logo-style programming on steroids)
iTalc (classroom management/remote monitoring/control)
VNC for remote technical support

A number of other software programs, including:

- Longman Dictionary
- Interactive periodic table
- Letter Game (scrambled words)
- Hangman game
- Fraction tutorial
- Geometry tool
- Function Plotter
- Media Player
- Music Manager
- Photo Manager



Internet Explorer
Outlook Express
Adobe Reader
MSN Instant Messenger (Microsoft only)
Windows Live Garbage
A number of other software programs, including:

- Paint
- DVD Player (if you hook up an external DVD drive)
- Media Player
- File Manager
- Webcam
- Calculator
- Text editor

Games:

- Solitaire
- Minesweeper



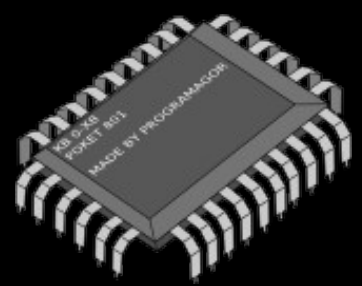
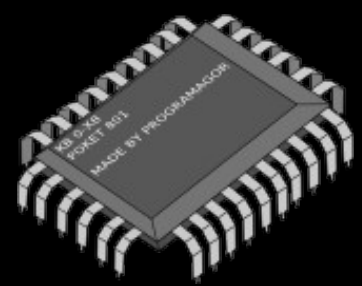
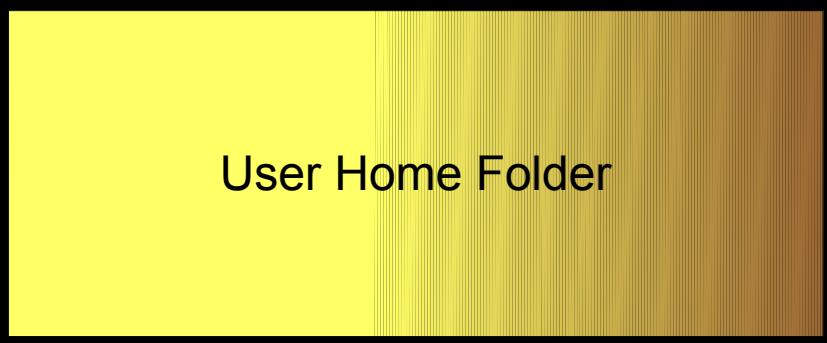
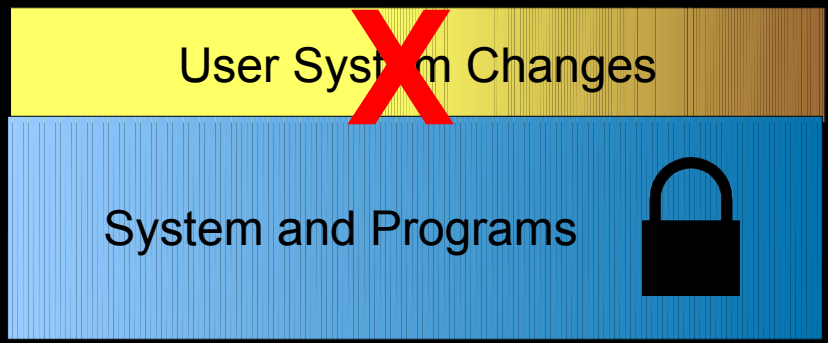
- Video Manager
- File Manager
- Webcam
- Calculator
- Screen Capture

Games:

- GBrainy
- Frozen Bubble
- Multiplication Puzzle
- GWeled
- Sudoku,
- Potato Guy
- LinCity
- LMarbles
- SuperTux

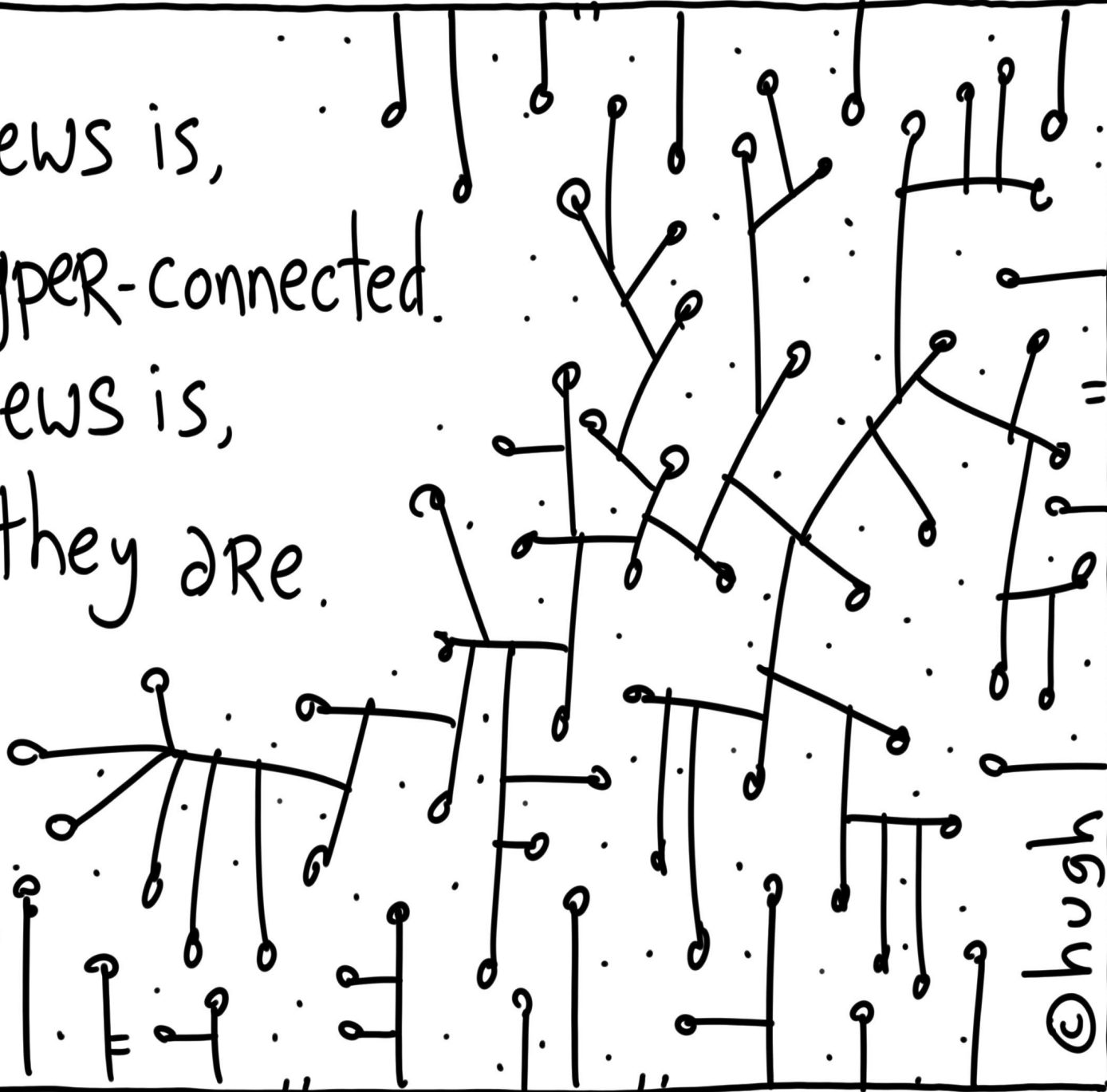
Rapid Recovery

UnionFS



01 Jake (DeVore)	02 Colton (DeVore)	03 Tai (DeVore) Host unreachable	04 Meylan (DeVore)	05 Steven (DeVore)	06 Natalie (DeVore)
07 Ryan F. (DeVore)	08 Kenadec (DeVore)	09 Tom (DeVore)	10 Daniela (DeVore)	11 Ashlyn (DeVore)	12 Caryn (DeVore)
13 Allison (DeVore)	14 Kelsey (DeVore)	15 Mikaela (DeVore)	16 Ryan L. (DeVore) Host unreachable	17 Amanda (DeVore)	18 Gaspare (DeVore) Host unreachable
19 Ethan (DeVore) Host unreachable	20 CJ (DeVore)	20 Julia (DeVore)	21 Patrick (DeVore)	21 Serena (DeVore)	22 Cole P. (DeVore)
22 Ian (DeVore)	23 Andrew (DeVore)	24 Cole R. (DeVore)	25 Isabel (DeVore)	26 Lauren (DeVore)	27 Kayla (DeVore)
28 Christina (DeVore)	29 Morgan (DeVore)	30 Justin (DeVore)			

the good news is,
they're hyper-connected.
the bad news is,
that's all they are.



©hugh

Oh Crap. My Parents Joined Facebook.

CONGRATULATIONS! YOUR PARENTS JUST JOINED FACEBOOK. YOUR LIFE IS OFFICIALLY OVER.

So, you finally caved. You've accepted a friend request from your Mom, Dad, crazy Aunt Ida, and your college roommate's newly divorced mother. Well here's your chance to get back at them for taking away your public privacy.

Email us at: myparentsjoinedfacebook@gmail.com because we want to laugh at your Mom's ridiculous Facebook status and the embarrassing message your Dad wrote on your wall too! If you want your relative to remain anonymous include that in the email. Family. Can't Facebook with 'em, can't unFriend 'em!

This site is edited by Jeanne & [Erika](#) who love their parents dearly.

rss | mobile

Wednesday | March 11, 2009 | 2:03 pm



The image shows a screenshot of a Facebook status update. The status text reads: "Steven is glad Cheryl's arthroscopy went well. She's tucked in with lots of pillows, ice, medications, and remotes. 1:23pm · Comment · Like". Two arrows point to the text: one from the left labeled "Dad" and one from the top right labeled "Mom". Below the screenshot, a quote is displayed: **"So, does this mean I don't have to call and see how Mom's doing?"**

Demo was here... :)



arves +
for
hungry
work -

Density
QUIZ 11/17

What is the effect of
Volume of the substance
on the mass of the same substance?

Drill
Vol
ma
D=

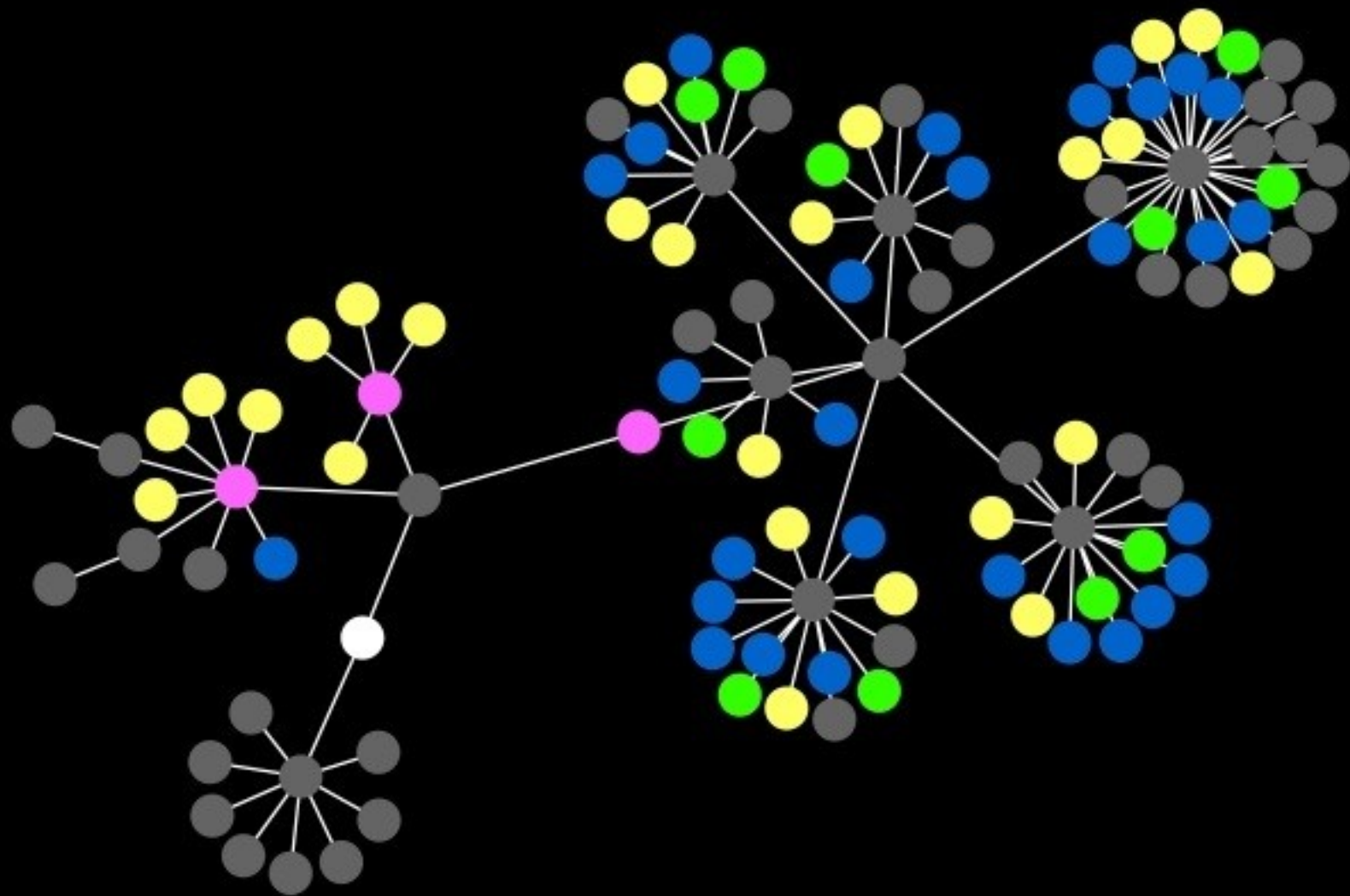
Completed Density Doings

Vocab

1. boiling point
2. melting point
3. freezing point

study
1/5









Changing the Game

- Social
 - Changes relationships between producers and consumers
 - Changes the way we view software
 - Culture of open collaboration
 - Unintended consequences
- Technical
 - Enables new technology use
 - Improved functionality through flexibility
 - Greater reliability creates more time for learning opportunities

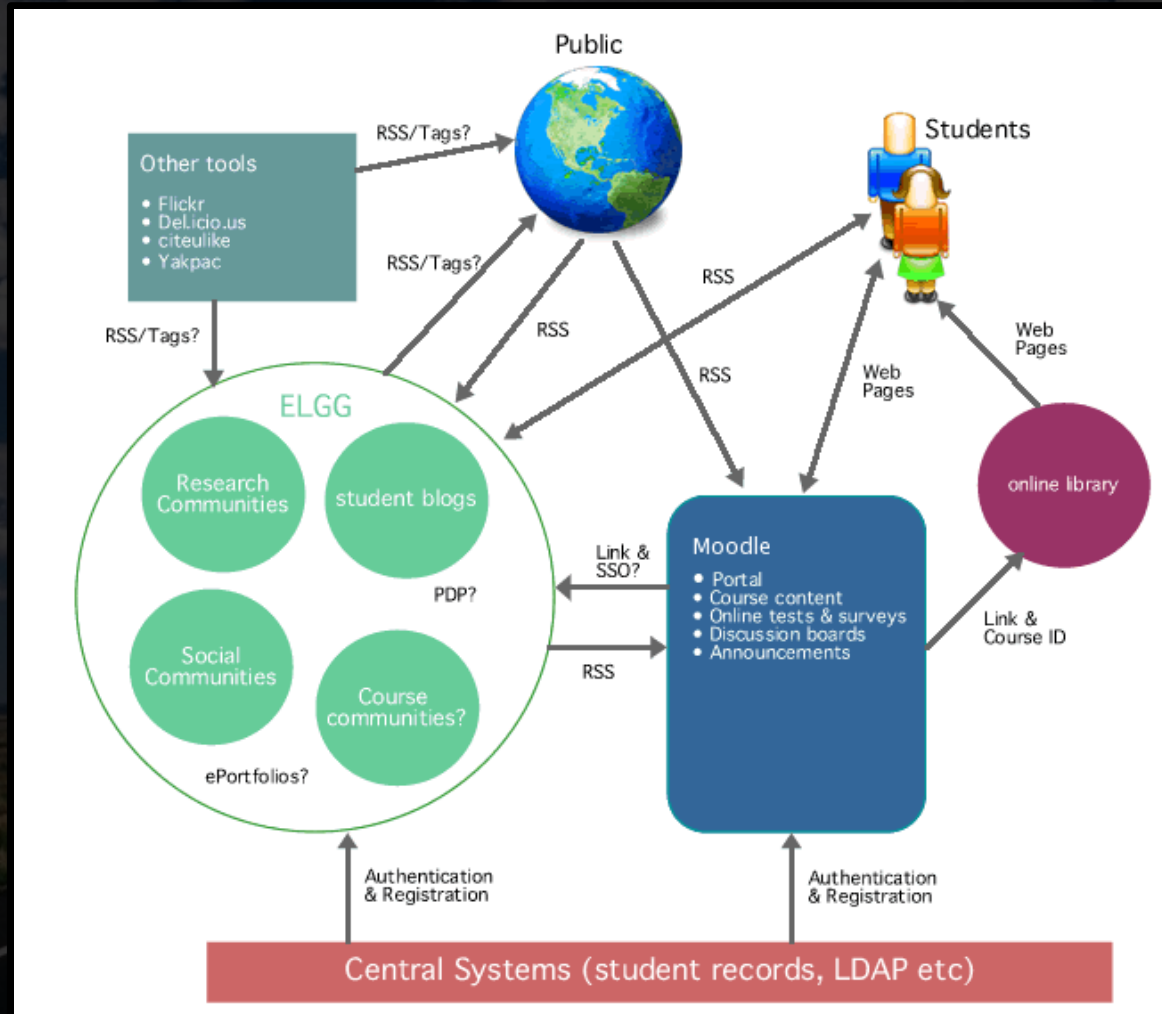
Changing the Game

- Educational
 - Enables/boosts innovation
 - Facilitates pedagogic diversity and choice
 - Offers diversity in both context and provision of learning opportunities
 - Frees learning from grade level, age, classification
 - Student-centered, participatory learning

Learning Landscape of the Future

- Students and teachers using technology to create and share content in a collaborative way
- Refocus the emphasis of technology on teaching and learning
- Classroom-driven integration of content and learning resources
- New ways of learning
 - Literacy of information navigation
 - Experiential, project-based learning
 - Construction/creation through a diverse range of available resources and tools

Learning Landscape of the Future





I never teach my pupils; I only attempt to provide conditions in which they can learn.

Albert Einstein



Thanks!

Twitter: @jnetman1

<http://community.saugusd.org/jklein>

Credits

- Open sign: CC BY:NC:ND <http://www.flickr.com/photos/martyn/186363962>
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CC BY <http://www.flickr.com/photos/wwworks/2222523978>
- OLPC: CC BY <http://www.flickr.com/photos/olpc/2606362847>
- Penguins in car: CC BY:NC:ND <http://flickr.com/photos/mikz/348849931>
- World hug: CC BY:NC <http://www.flickr.com/photos/cayusa/2452896467>
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