

# Before you get bored of this Presentation

## -- some cool links

- OpenPlans ( <http://openplans.org> )
  - Colin's summer non-profit
  - Non-profit, OpenSource innovation-shop
  - [The Civic Hacker](#) (awesome blog)
- Egov
  - <http://everyblock.com> powered by <http://openblockproject.org/>
  - <http://wiki.openmuni.org/> - Wiki on best open data practices for cities
  - <http://ushahidi.com> – Open Source geographic centered crisis information system
- Open Transportation
  - <http://OpenTripPlanner.com>
    - Demo: <http://maps5.trimet.org/otp>
  - Case of Open Data in Transportation: <http://openplans.org/civichacker/2010/08/02/a-case-for-open-data-in-transit/>
- Education
  - NYC DoE School of One Pilot <http://schools.nyc.gov/community/innovation/SchoolofOne/default.htm>
- Data Standards
  - <http://open311.org> data format for real-world issue reporting (grafitti, fire hydrants, etc). Used by [SF](#) and DC
  - Schools Interoperability Framework (SIF) <http://www.sifinfo.org/us/index.asp>
  - Open Zone Integration Server <http://www.openzis.org/>
  - Common Cartridge <http://www.imsglobal.org/cc/index.html>
- Cool Applications of Data
  - <http://www.bigappleed.com/>
  - <http://slicestation.com/>
  - <http://govtracks.us>
  - <http://maplight.org>
  - <http://cabsense.com>
  - <http://exitstrategy-nyc.com>

# The State of Open Data in Education

Andy Pethan and Colin Zwiebel

# About Us / Disclaimer

- Students
- Programmers
- Education People
- FOSS People
- Cool Software:
  - [Pauker](#)
  - [Aardvark](#)
- We're not the experts in the room!
  - But we hope we can help you think differently

# Program Flow

- Open data
- Overview of Education data standards
- Discussion
- The path ahead

# Does Open Source apply to data?

- Different topic, same mindset
- Building on each others data
- Like code, plethora of ways to license data
- Focus on the community

**“The value of LIFT is the  
community, not the code base.”**

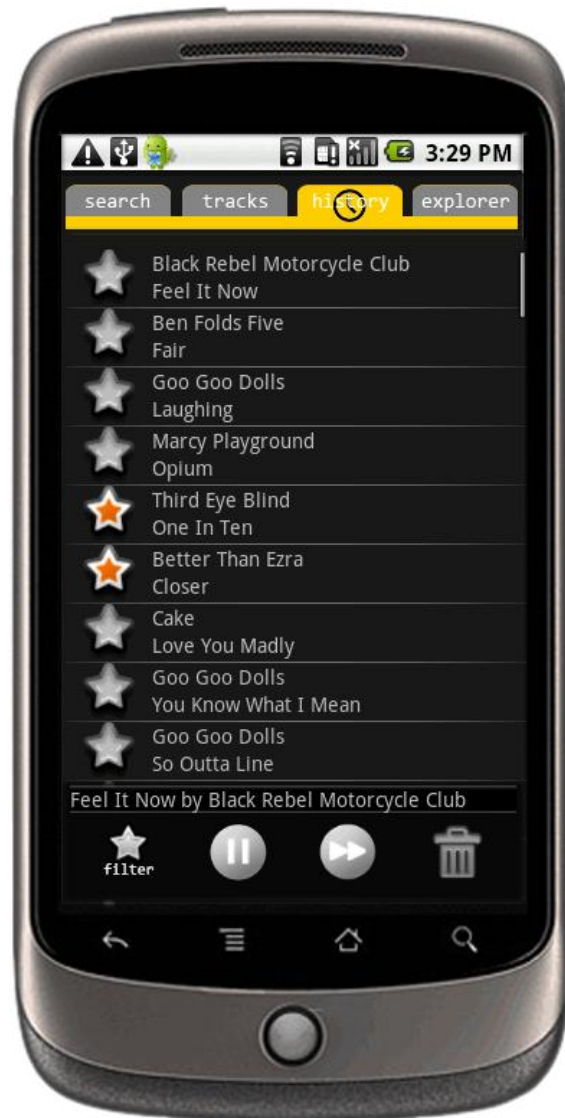
**- DAVID POLLACK  
FOUNDER OF LIFT FRAMEWORK**





# Visual Music Exploration

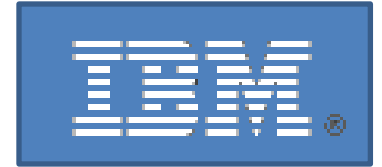
for Android™





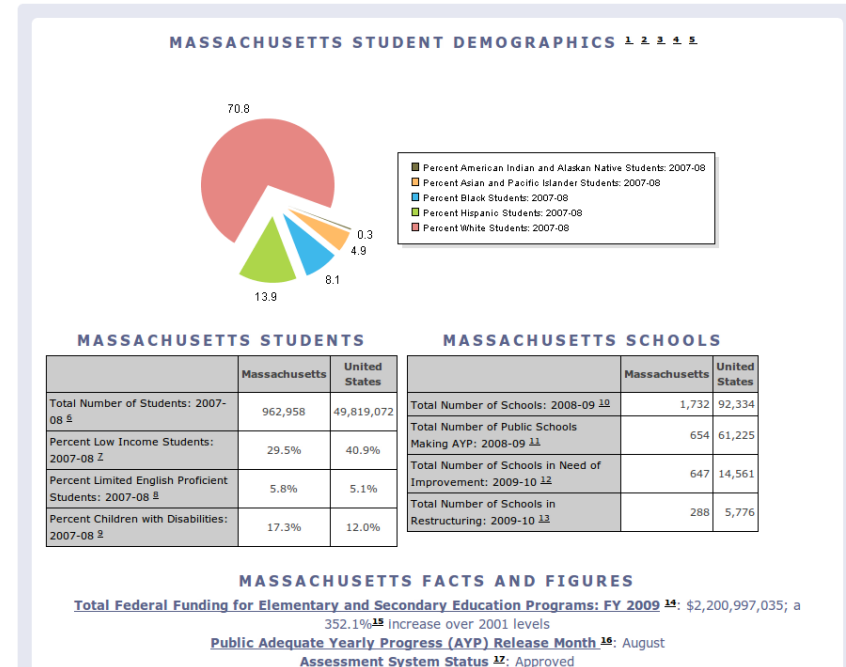
# The World is Increasingly Data Driven

- Number of analytics companies!!!
- Smarter Planet initiative
- Open Government Initiative



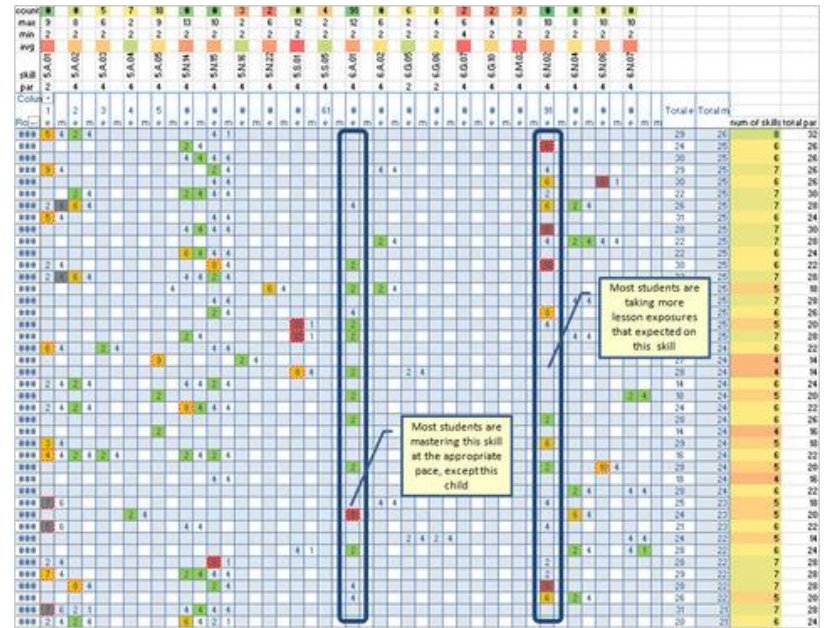
# We Need Open Data in Education

- What do we want?
  - Raw
  - Real-time
- What do we have?
  - Aggregate school reporting
  - State and national statistics
  - Inaccessible (PDFs, CDs at specific schools)
- We care more that data is available than who/how its stored



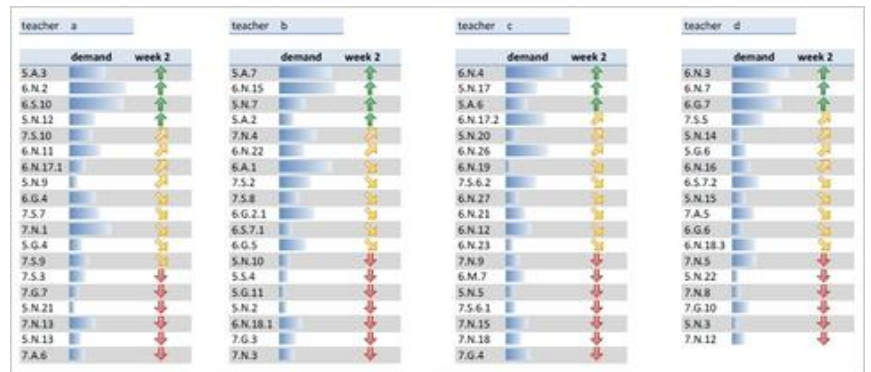
# Why?

- We think...
  - Better studies
  - More informed decisions
  - Data is proof
- But we don't really know!



Imagine...

- Twitter and attendance
- School of One



# Data Lock-in

- Vendor specific data sucks
- If you don't work with commercial software, they lock you out
- They have enough data to get away with this today – no other collection of data competes

# Building a foundation

- Every school has a large set of common needs
  - Facilitation of learning
  - Schools as a business
  - Public government

<http://openplans.org/civichacker/2010/08/02/a-case-for-open-data-in-transit/>

# Open311, OpenMuni Case Studies

- San Francisco, Washington D.C., and Phil Ashlock
- OpenMuni
- Cities have mishmash of systems, a standard needs to sit on top as abstraction layer
- Open source community practices were critical in guiding these standards building initiatives

# Open Transportation

- Brian Farris – One Bus Away
- Developers are nimble –lunch-time hackathon
- Real-time data: sensitive?
- [OpenTripPlanner](#), OpenStreetMaps
- Major existing standards
  - GTFS
  - SIRI

# Open Education Data Today

- Little sharing, not real-time
- Major existing standards
  - National Education Data Model (NEDM)
  - Schools Interoperability Framework (SIF)
  - Common Cartridge (CC)
  - Sharable Content Objects Relational Model (SCORM)



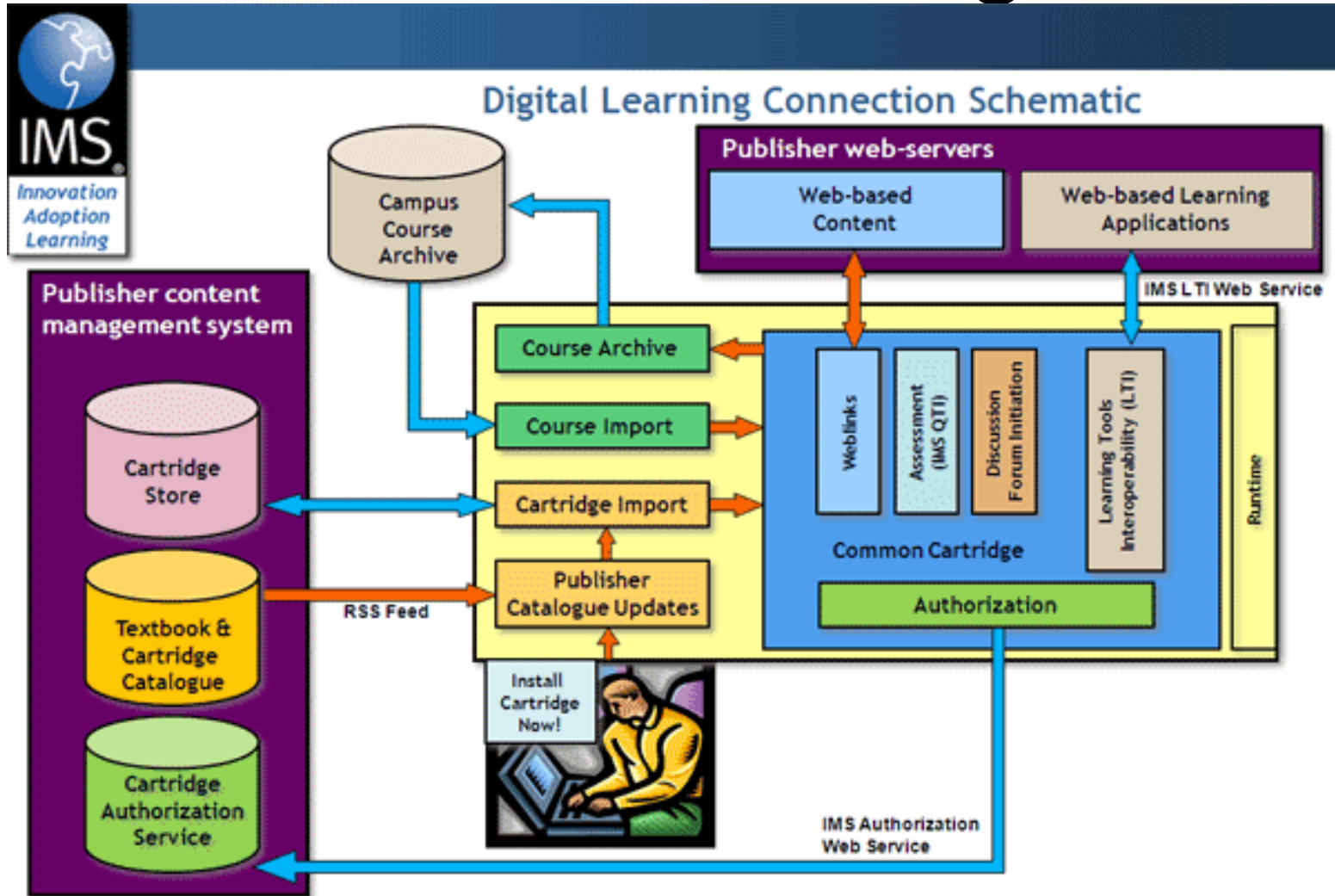


NATIONAL EDUCATION DATA MODEL  
NATIONAL EDUCATION DATA MODEL

(NEDM)

- Standardized way to collect data and describe almost everything:
  - Students
  - Blood type
  - Bus Routes
  - Neighborhood demographics
  - No reference implementation

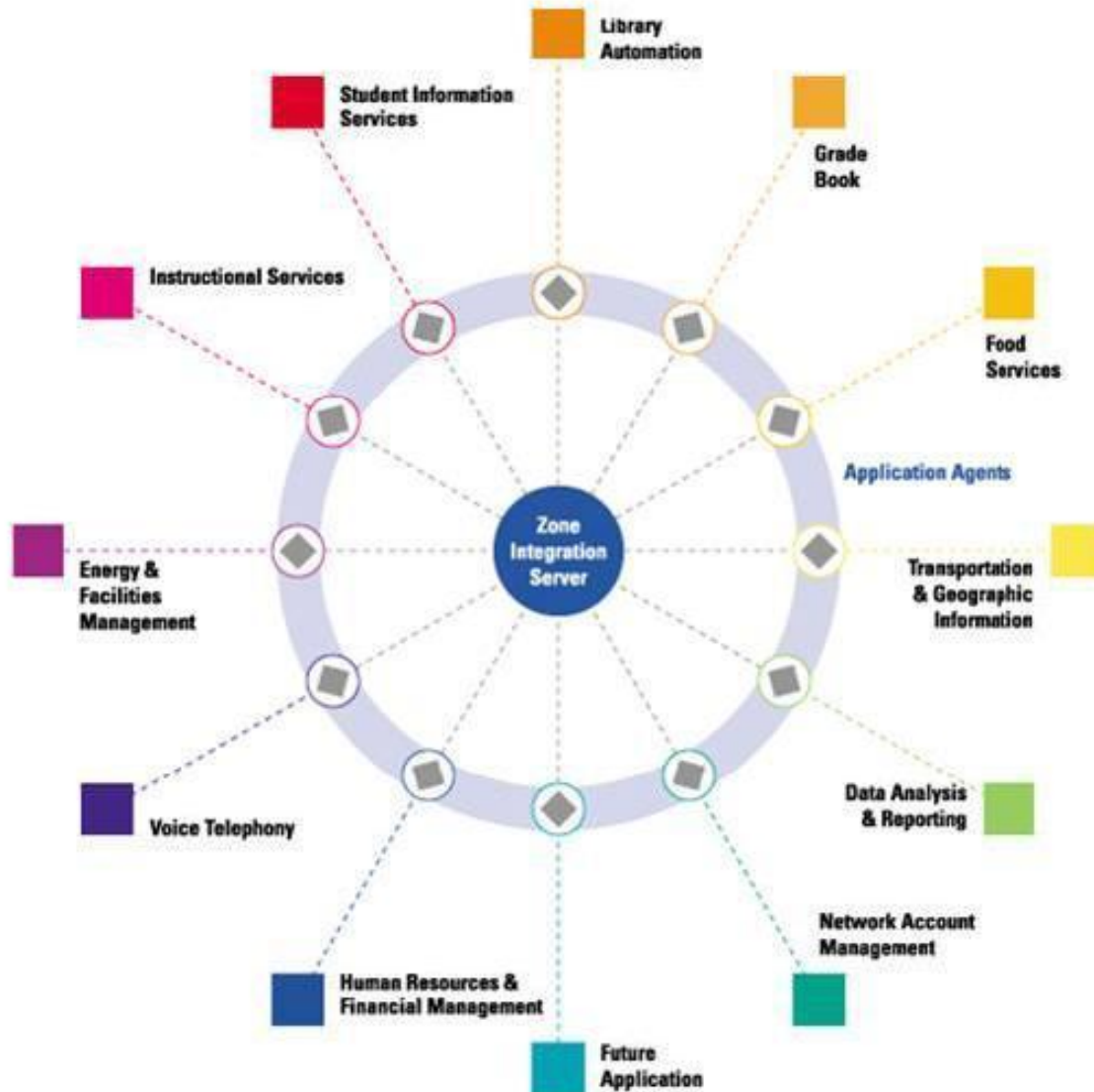
# Common Cartridge



# Common Cartridge

- Transfers content from publishers to LMSes
- Commercial buy in:
  - Blackboard
  - Pearson
  - McGraw Hill
- FOSS support:
  - Moodle
  - Sakai

# Schools Interoperability Framework



# Schools Interoperability Framework

- Unifies data from many vendors in a school
- Many services communicating via a single traffic director, or “Zone Integration Server”
- Open source reference implementation
  - openZIS
- Mature standard, mandated in some states

Take Action

# Take Action

- In education:
  - Demand compliance from your school/district
- In Development
  - ACID test of NEDM
  - NEDM reference implementation
  - Data-driven educational apps
- General
  - Open Data Repository (Wikipedia for data)

# What's Stopping Us?

- Privacy
- Consensus building
- Budgets
- Who's job?



# Open Data and Your Educational Software Project

- Ex: educational games
- Data producers and crunches need not be the same
- Get your data out there!
- Data proof

# Open Data and Your Data Repository

- Support development of data sharing standards
- Provide data to the credentialed individuals
- Give me easy access to data
  - Data I'm allowed to see
  - Let my software do innovative things on a classroom level

# We Can Entice people to join the Open data cause thorough Innovation

- You are a member of an education project (packaging, marketing, promoting)
- Need to get data out there



Search by School Name

SEARCH

Home > Schools > I.S. 339

**Q School Search**

SEARCH

Near

Top Priority

All Districts

**School Type**

Public

Charter

**Zoning**

Zoned

Unzoned

**Special Programs**

Gifted & Talented

Handicap Accessible

Transitional Bilingual Education

Dual Language

SEARCH

**I.S. 339**

**I.S. 339**  
 DISTRICT: 9 TYPE: PUBLIC GRADES: 6-8

PRINCIPAL: Jason Levy LOCATION: 1600 WEBSTER AVENUE BRONX , NY 10457 | 917-339-1738

**SPECIALITIES**

Transitional Bilingual Education

**ADMISSIONS**

TYPE: Public

ZONING: Zoned

ACCESSIBILITY:

**PARENT TEACHER ASSOCIATION**

PRESIDENT: Information provided by school

PARENT COORDINATOR: Ramon Echavarria

DIST. FAMILY ADVOCATE PHONE: 718-842-0138

**ENGLISH LANGUAGE LEARNING**

Limited Eng. Proficiency	Dual Language	Bilingual Edu.
<b>25%</b>	<span style="color: red; font-size: 2em;">✗</span>	<span style="color: green; font-size: 2em;">✓</span>
		Spanish

**SCHOOL SPECS**

Total Enrollment:	\$ per student:	Avg. Class Size:
809	\$\$\$ \$15,032.00	<b>25.0</b>

**REGENTS EXAMS**

■ 85-100%   
 ■ 65-84%   
 ■ 55-64%   
 ■ 0-54%

NYC Avg: Average of ALL schools in the five boroughs taking Regents Exams.

Math A

I.S. 339 NYC Avg.

Below average pass rate

✗

**My Backpack**

**I.S. 339**  
 DISTRICT: 9 GRADES: 6-8

COMPARE

**Top 10 School Lists**

[Highest Regents Scores](#)

[Highest NYSED Scores](#)

[Largest Schools](#)

[Highest Per-Student Expenditure](#)

[Lowest Per-Student Expenditure](#)

**TEACHER INFO**

Student:Teacher Ratio

11.9:1

Average Teacher Turnover Rate

35%

4% Teachers with No Valid Certificate

**TESTING DATA**

English & Language Arts

I.S. 339 Similar Schools NYC Avg.

Below average for NYC

✗

■ Level 4: Passing with distinction.  
■ Level 3: Meeting standards.  
■ Level 2: Partially meeting standards.  
■ Level 1: Not meeting standards.

NYC Avg: Average of ALL schools in the five boroughs.

Similar Schools: Schools that serve similar students with similar resources, including grade levels and rates of student poverty and ESL.

# Conclusion

- Open data matters for education
- Developing standards, educational initiatives, and tech advances look positive
- Your skills and mindset are needed in this young movement
- And don't stop innovating!