

ATSC 3.0 REMOTE LEARNING / EDUCATION DEMO

Mark Corl

SVP, Emergent Technology Development, Triveni Digital
Chair, ATSC Specialist Group on ATSC 3.0 Interactivity





INFORMATION
EQUITY
INITIATIVE

Opening pathways to learning across the digital divide

About the Information Equity Initiative (IEI)

The Information Equity Initiative (IEI) is a nonprofit with **a mission to ensure everyone has access to high quality digital learning resources, regardless of geography or income.**

Our innovative model is grounded in datacasting, which allows for the delivery of customized digital content packages through television broadcast spectrum rather than the internet.



This means a trusted curator, like an educator, can send videos, HTML files, e-books, and PDFs to any learner reached by a television signal (97% of the US households) at the click of a button.

IEI's model combines tested, resilient, 50-year-old systems (broadcast) with cutting edge cloud and software infrastructure. As a result, **the IEI solution is affordable, scalable, and can be implemented within months.**

Organizational Status: 2023

IEI has partnered with PBS member stations in Pennsylvania, North Carolina, South Carolina, Virginia, Michigan, Puerto Rico and New York.

IEI receives philanthropic support from Schmidt Futures, Endless Network, William and Flora Hewlett Foundation, and the Rosalyn P. Walter Foundation.

Although content decisions are always made locally, IEI is building a library of freely available content with partners such as Sesame Workshop, PBS, Yale University, and Kolibri, to serve the content needs of our users.

IEI is now quickly moving into multiple use cases where information access is an equity issue — K-12 to disconnected homes, education within incarceration facilities, the distribution of public health information, workforce training, public safety, and daily downloads of news.

IEI is also exploring international applications. We are in active conversation with officials in Brazil, Kenya, Mexico and Jamaica, as well as with UNICEF, UNESCO's Information for All Programme, and various NGO's serving developing countries.

The Challenge



For 15+ million American children, *or 1 out of every 4 students*, internet access is inaccessible, unreliable or unaffordable.

Black, Latinx, and Native American students

- 55% of disconnected students

Southern and rural students

- 40 - 50% of students in Alabama, Arkansas, Oklahoma, and Mississippi are affected

Students from low-income families

- 50% of disconnected students come from families with annual incomes of <\$50,000

Digital access disparities perpetuate generational inequality and risk leaving millions permanently behind.

“Historically, students caught in the digital divide have had overall GPAs about 0.4 points lower than students with access. This academic gap leads to 4% to 6% lower expected annual income, amounting to \$22 billion to \$33 billion annual GDP loss ”

Source: Common Sense Media



Connecting “the last mile” via broadband is an elusive promise.



Even with the Infrastructure Bill, many families won't be reached for years, and they will remain vulnerable to political winds regarding broadband subsidies (estimated at \$4 - 8 billion annually).

The Digital Divide is even more severe internationally

The UN reports that *half the world's population, or 3.7 billion people, lacks internet access*. The majority of the world's offline population are women, and most live in developing countries.



Digital access is also a priority for students who are unable to attend school due to:

- Poverty and inability to afford schooling (transportation, lunch, etc.)
- Illness (themselves or a family member)
- Community violence and political unrest (dangerous to get to/from school)
- Infrastructure challenges (fallen bridges, damaged school buildings)
- Weather conditions (hurricanes, floods, etc.)

UN estimates there are 58 million children worldwide of primary school age who are not in school.

Our Solution

IEI uses datacasting – coupled with a universally available cloud library of high quality content - to provide partners with a turn-key, cost-effective solution that allows educators to customize and deliver digital educational content for students virtually anywhere *without use of the internet.*

What is Datacasting?

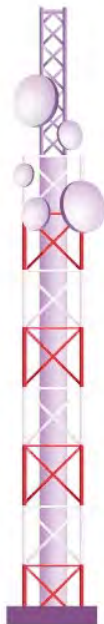
Using cutting edge cloud and software infrastructure, datacasting delivers customized packages of information over *highly reliable, secure television airwaves*.

Content is received through a simple antenna and stored on a server.

A hotspot allows learners to access content on any Wi-Fi-enabled device (mobile phone, laptop, tablet, etc.).



Student



Teacher



IEI datacasting allows curators to select content and send customized digital files to individuals *at the click of a button* anywhere television signals can reach.

IEI was designed by educators and integrates seamlessly with Learning Management Systems like Google Classroom, Schoology and Canvas.

Service to a Home

To receive individualized content at the student's home, a small window-mounted antenna connects to an "Eddie," an educational device the size of a small router.*

The Eddie creates a hotspot, so any Wi-Fi-enabled device, like a computer or tablet, can connect – without the internet. These devices can accommodate eight concurrent users.

*IEI targets content to each individual device, allowing for 128GB of unique content for each home.



Antenna



Cable

AC Adapter



"Eddie"
Education Device

Service to a Facility

When deployed to a facility (library, school, healthcare or incarceration facility) the digital content is delivered to equipment via a rooftop antenna with greater storage and processing power, allowing hundreds of concurrent users to connect with Wi-Fi-enabled devices (laptops, tablets, kiosks) without the internet.



Once signed in, the student arrives at a personalized Learner Dashboard home page

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Learner Dashboard

Your Classes

- 4th Grade - Phys Ed
- 4th Grade - Art
- 4th Grade - Fergusen
- 4th Grade - Music

Technical Support
Hotline: [1-800-729-5021](tel:1-800-729-5021)

witf
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Student's name can be found in this drop-down.

Technical support and the logo of their local Public TV station can be found here.

Class homepage

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Learner Dashboard

Your Classes

4th Grade - Ferguson

Math

Lesson 1 - Angles in the Real World

Lesson 2 - Pizza and Triangles

Lesson 3 - Symmetry Search

Reading

Lesson 1
[Monday, September 6th](#)

Lesson 2
[Wednesday, September 8th](#)

Lesson 3
[Monday, September 13th](#)

Lesson 4
[Wednesday, September 15th](#)

Back to Dashboard

Technical Support

Hotline: 1-800-729-5021

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If the student clicks into their 4th Grade Homeroom class from the prior screen, this is an example of the classwork and how it is displayed.

Lesson page



Lesson 1 - Angles in the Real World

Last Updated: 09/29/2021 3:01 PM

The Gameplan

Today you will use your protractor to measure the angles of common objects found all around you, especially in nature!

Things You Will Need

- Protractor
- Paper
- Pencil
- An outdoor space with flowers and trees, if possible. If not, there will be great items around your house too.

What To Do

- Search for small objects that you can measure with your protractor. For example, a flower, a book on a shelf, a fencepole, etc.
- Use your protractor to measure the angle of the object. How far is it leaning? Remember that perfectly up and down is 90 degrees and perfectly flat is 0 degrees.
- On your paper, describe the object and note the angle measured.
- Reflect - did anything surprise you? Were there any obstacles or challenges when working with the objects?

Your Teacher

Mary Fergusen
mfergusen@cdschools.org
[+17171234567](tel:+17171234567)
4th Grade - Fergusen

Technical Support

Hotline: [1-800-729-5021](tel:1-800-729-5021)

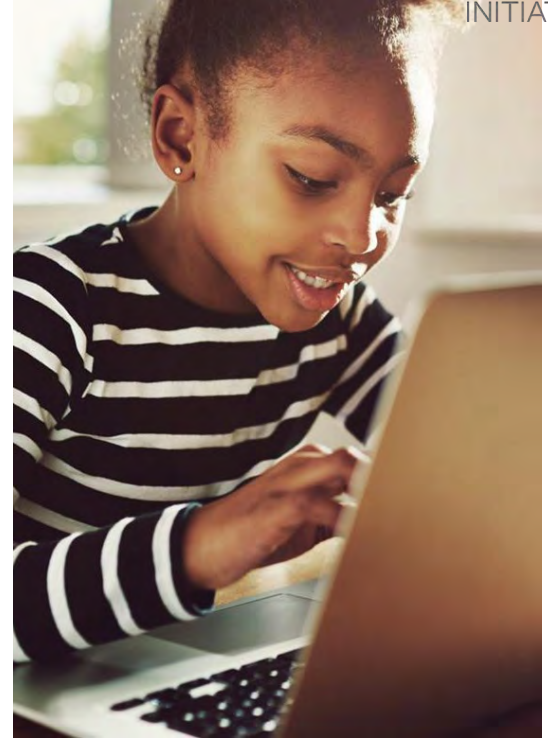
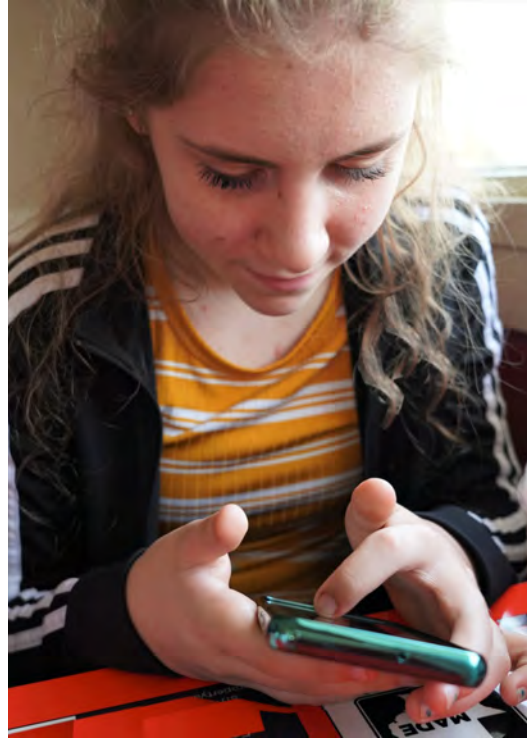
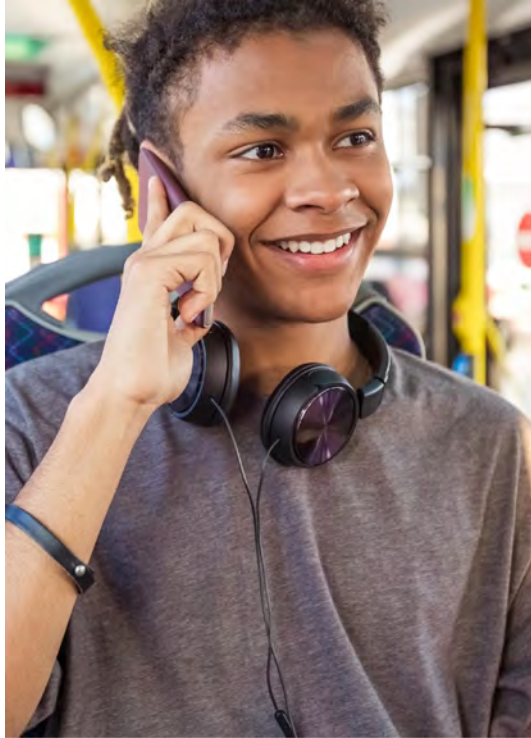


Attachments

-  [anglesintherealworld](#)
-  [measuringangles](#)

[Back to Dashboard](#)

Once the student has clicked into a lesson, here are the teacher's contact information, and any attachments the teacher has provided.



Students can respond to their teachers by phone, text or email,
none of which are broadband dependent.



Why IEI is our best bet to bridge the digital divide

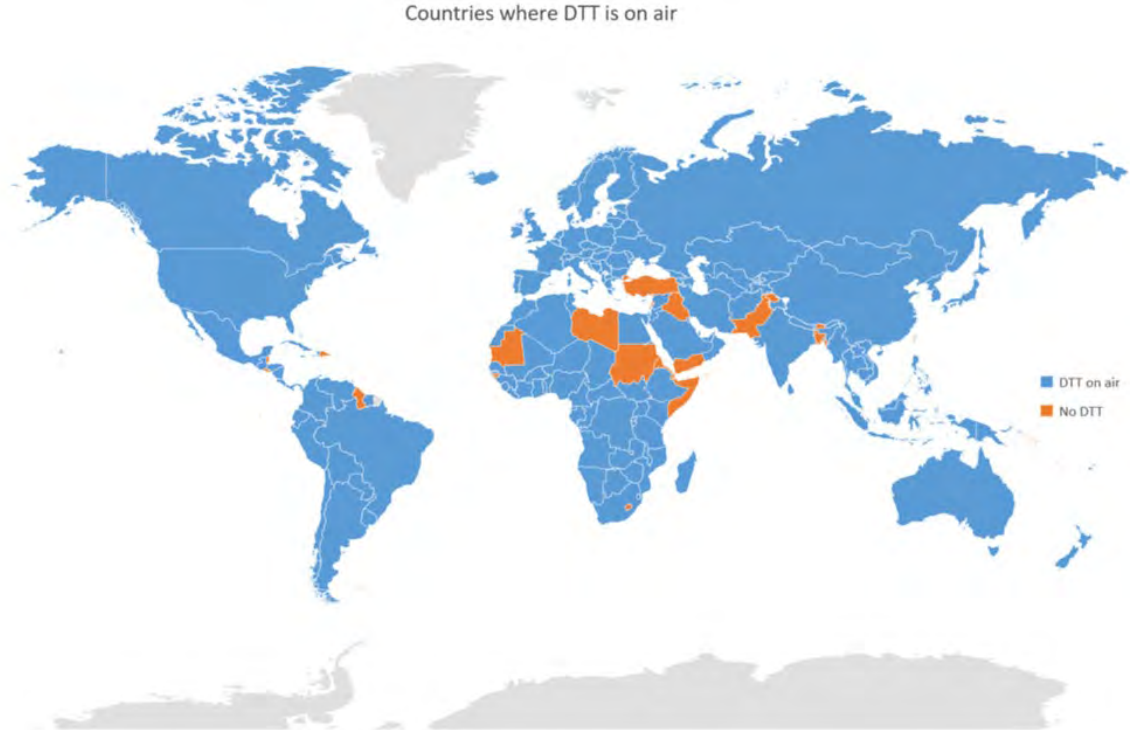
1. IEI uses existing, ubiquitous and proven infrastructure
 - The investment required to activate this resource is *a fraction of the cost* to cover the last mile and permanently subsidize broadband access.
2. IEI solves the challenge for today's and tomorrow's students
 - State and regional projects can be activated *within months*
3. The public media system has a 50+ year history of excellence in educational content creation and delivery

Applications & Reach

IEI offers a nearly ubiquitous solutions

Domestically, IEI works through a network of public media partners. Today 97% of American households are reached by a public television signal.

Internationally, 82% of all countries, representing 91% of the world's population, have adopted a digital television standard compatible with the IEI datacasting model.

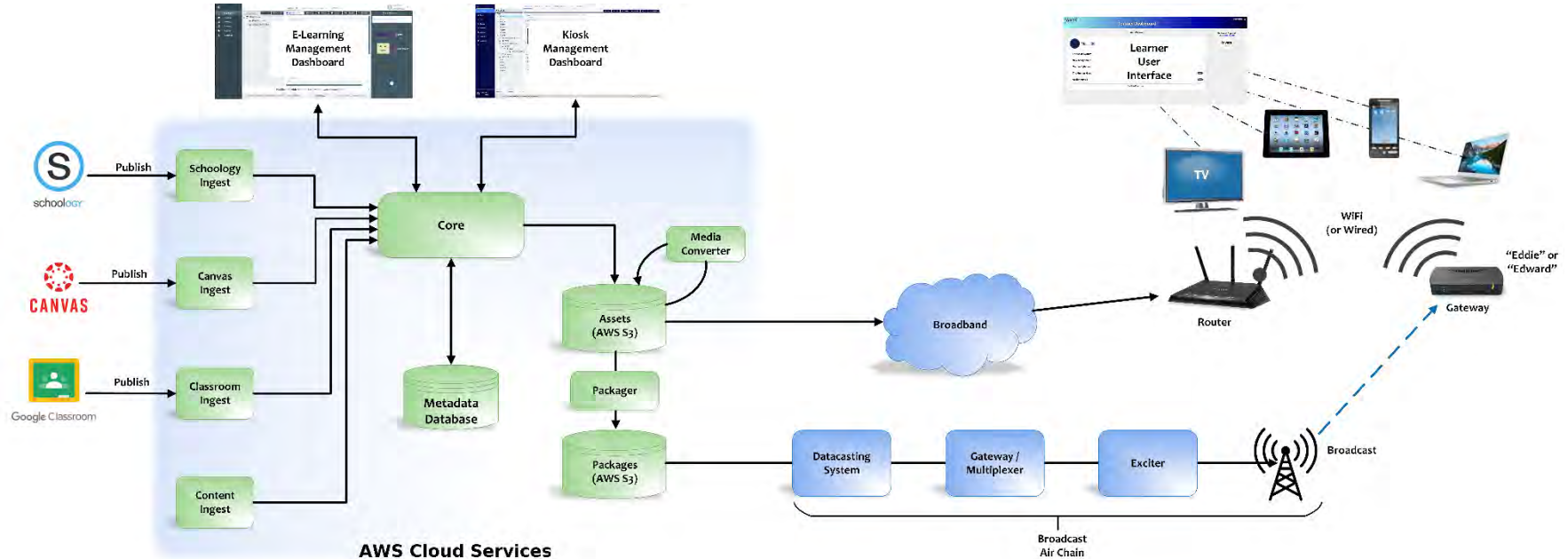


The IEI model can be adapted, *domestically and internationally*, to address a broad range of information-access issues.

- Early childhood and K12 education
- Adjudicated youth and adult education
- Public health
- Local journalism
- Workforce training
- Emergency response scenarios



IEI Platform Architecture



THANK YOU!

Mark Corl – mcorl@trivenidigital.com

