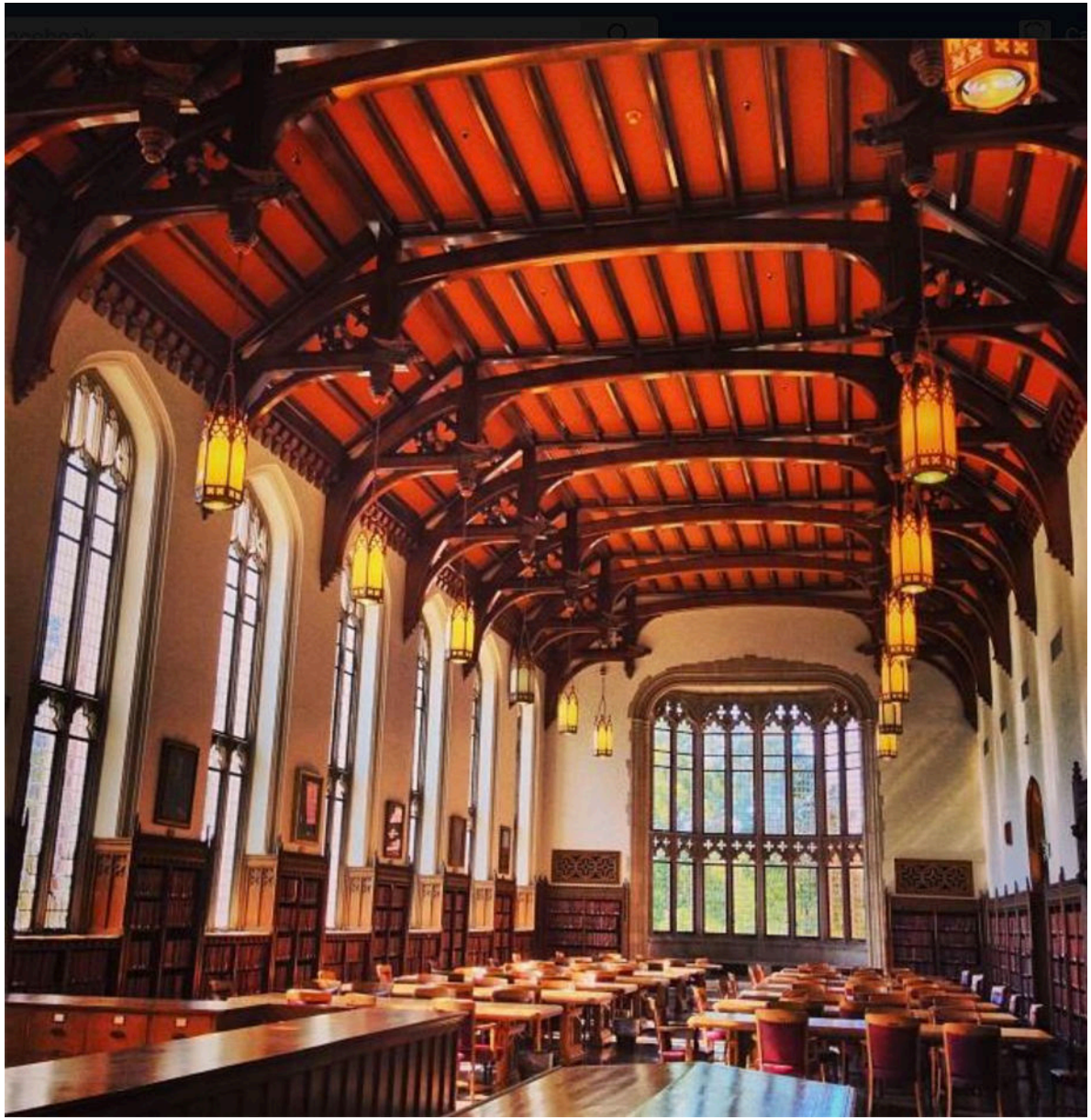
Reinvent!
Libraries as community innovation centers

By Carl Grant,
Associate Dean / Chief Technology Officer

May 2016

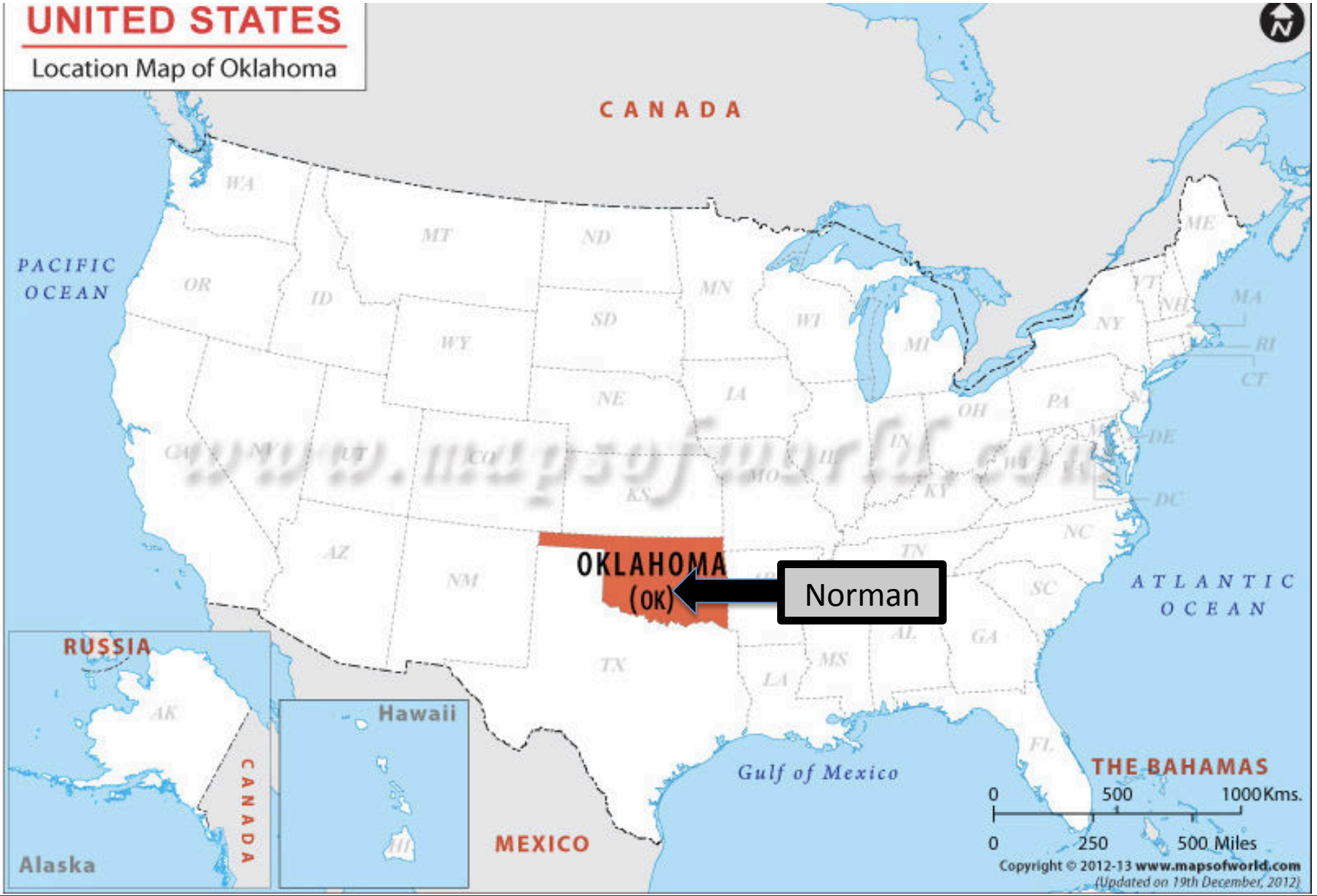
Intellectual Crossroads of the University

UNIVERSITY LIBRARIES
The UNIVERSITY of OKLAHOMA



Intellectual Crossroads of the University

UNIVERSITY LIBRARIES
The UNIVERSITY of OKLAHOMA


UNITED STATES
Location Map of Oklahoma
CANADA
PACIFIC OCEAN
ATLANTIC OCEAN
OKLAHOMA
(OK)
Norman
RUSSIA
Alaska
CANADA
Hawaii
MEXICO
Gulf of Mexico
THE BAHAMAS
0 500 1000Kms.
0 250 500 Miles
Copyright © 2012-13 www.mapsofworld.com
(Updated on 19th December, 2012)

Agenda

- Introduction
- What is happening out there?
- Ways Libraries might deal with it?
- Case Study - What we're doing at the University of Oklahoma
- Conclusion

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What is happening out there?

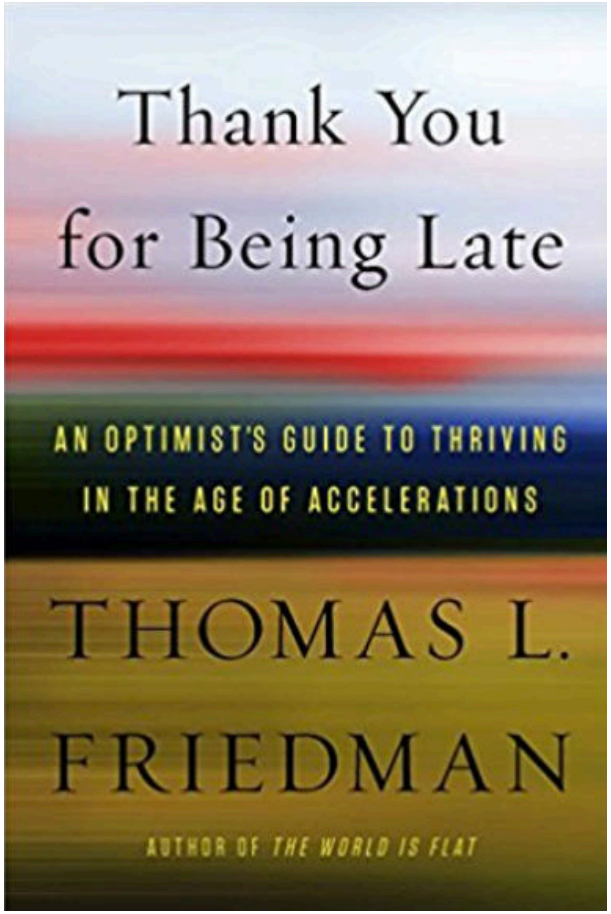
Subtle Change

http://imgur.com/gallery/u2rKz

What is happening out there?

Subtle Change

"By 1900, Teller noted, it was taking 20-30 years for technology to take one step, big enough for the world to become uncomfortably different." page 29.

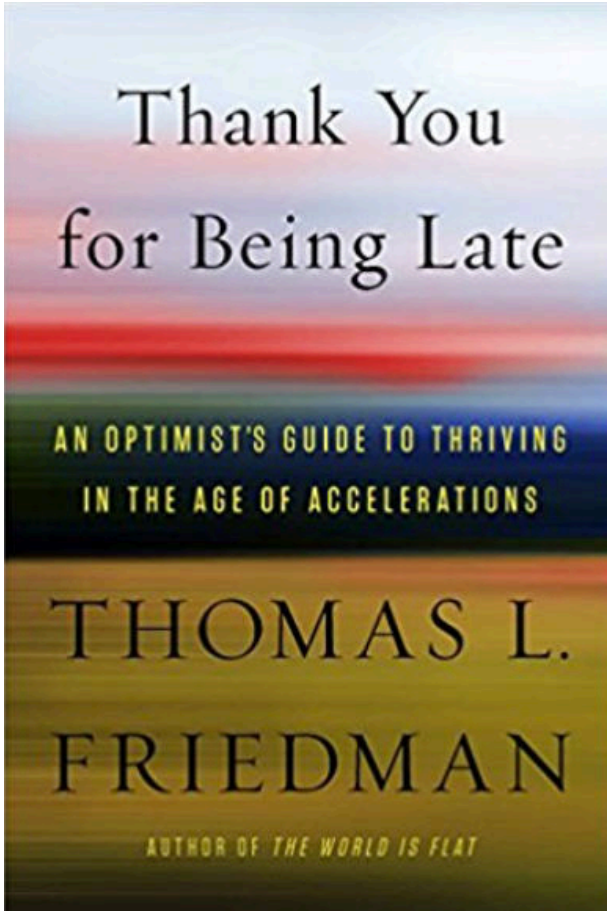


What is happening out there?

Harsh Change

What happened around 2007?

- "iPhone
- Hadoop (big data)
- GitHub
- Facebook (Sept 2006)
- Twitter
- Google bought YouTube (2006)
- Android launched
- Kindle released
- IBM released Watson
- Intel released high-k-metal gate microchips"



"One of the greatest leaps in history" pages 19-22

What is happening out there?

Harsh Change

https://www.youtube.com/watch?v=uWSxzjyMNpU

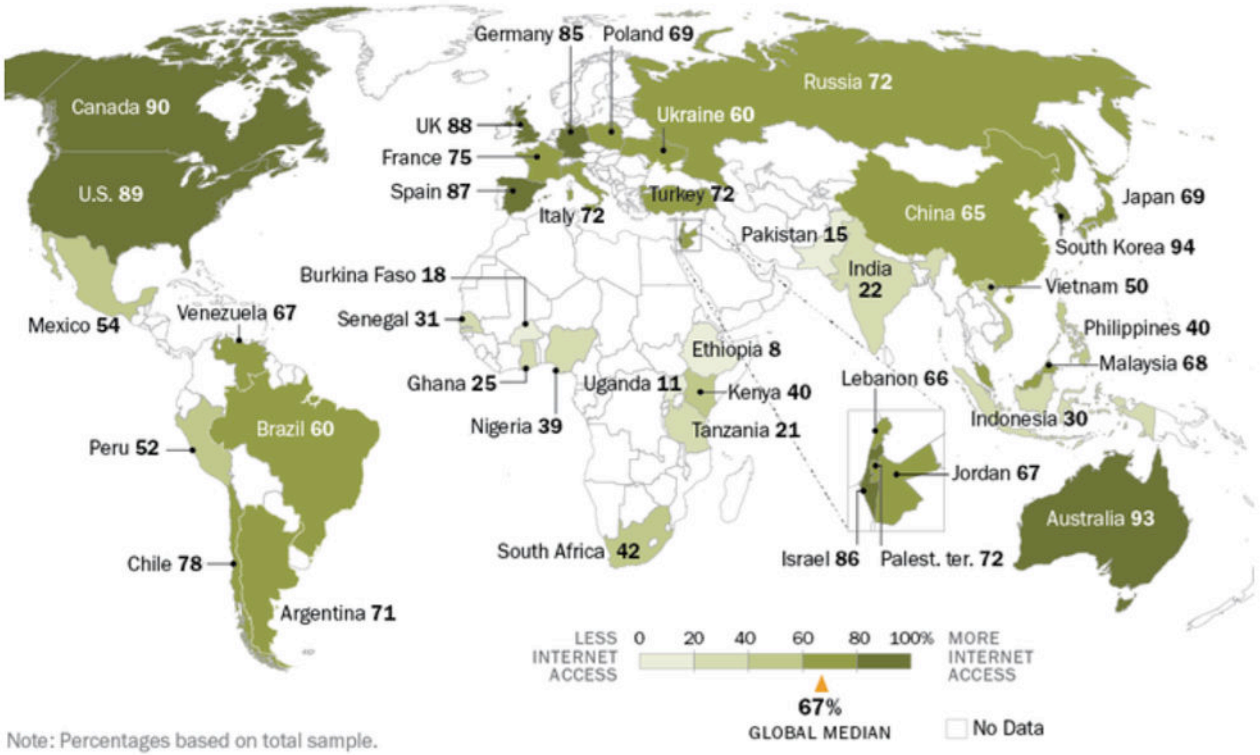
Global Wealth Inequality - What you never knew you never knew
3,000,000,000
300
POOREST
RICHEST
https://www.youtube.com/watch?v=uWSxzjyMNpU

What is happening out there?

There is a digital divide

Two-thirds worldwide use the internet, but fewer do in Africa and South Asia

Percent of adults who use the internet at least occasionally or report owning a smartphone



Note: Percentages based on total sample.

Source: Spring 2015 Global Attitudes survey. Q70 & Q72.

PEW RESEARCH CENTER

https://www.weforum.org/agenda/2016/03/this-is-the-extent-of-the-demographic-digital-divide/

What is happening out there?

Harsh Change

"By 2020, about 1.7Mb of new information will be created every second for every human being on the planet."

"Our accumulated universe of data will grow to 44 trillion Gb."

Bernard Marr, Sept 30, 2015
https://www.forbes.com/sites/bernardmarr/2015/09/30/big-data-20-mind-boggling-facts-everyone-must-read/#abfd9c517b1e

Forbes

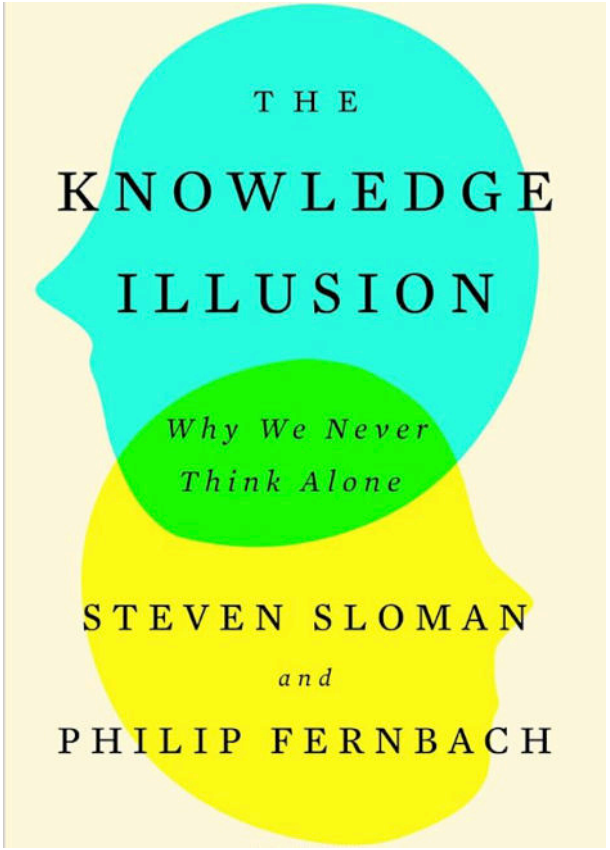
What is happening out there?

Harsh Change

Average laptop today: 500 Gb

"How much information people have on hand (in their minds) – what is the size of their knowledge base? 1 Gb"

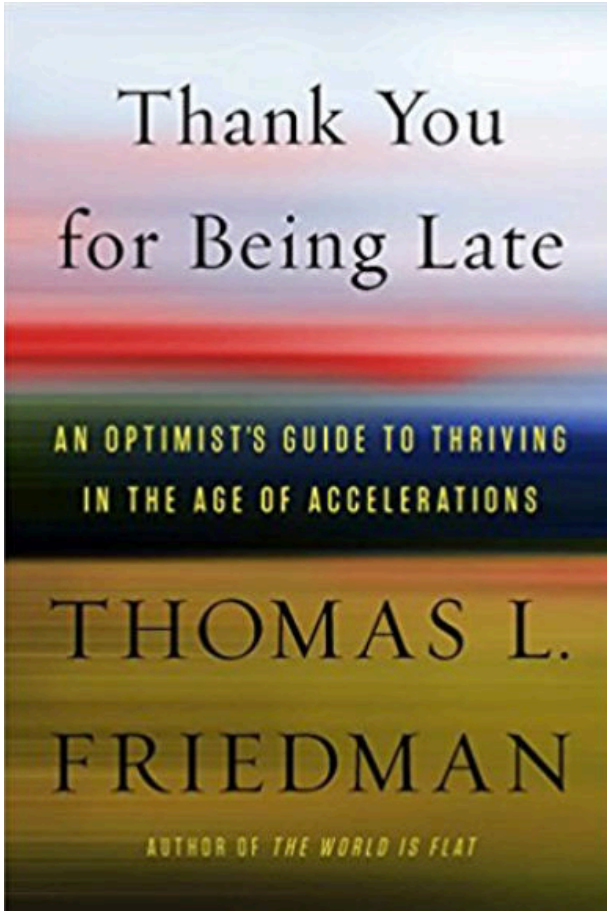
Page 26



What is happening out there?

Harsh Change

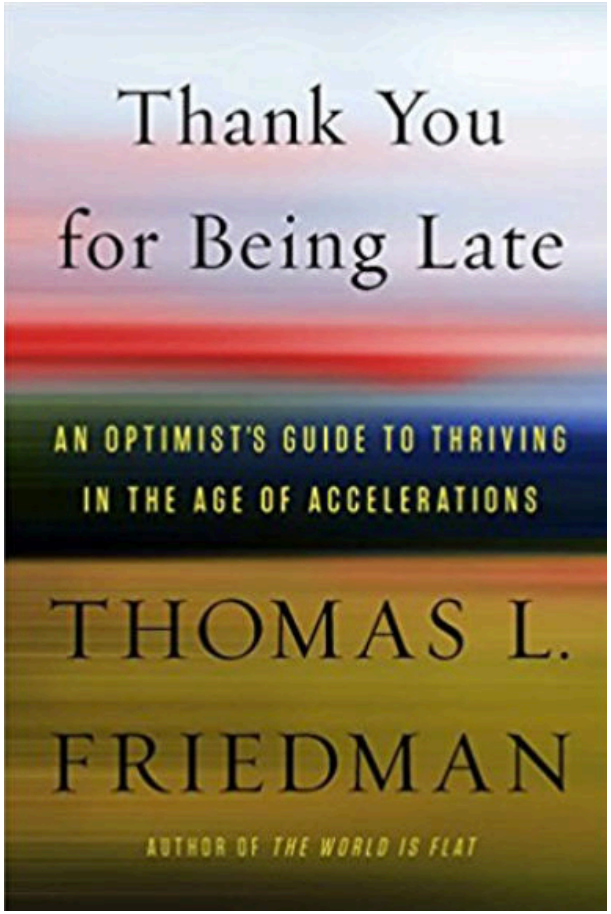
"The sum of human knowledge has far outstripped any single individuals' capacity to learn.." Eric Teller, CEO of Google X, pg.33



What is happening out there?

Harsh Change

"When fast gets really fast, being slower to adapt makes you really slow – and disoriented." pg. 32



What is happening out there?

Harsh Change

http://otempojornalismo.com.br/wp-content/uploads/2016/10/333.png

What is happening out there?

Harsh Change

"Accelerations set loose by Silicon Valley in technology and digital globalization have created a world where every decent job demands more skill, and now, lifelong learning. More people can't keep up, and clearly some have reached for leaders who promise to stop the wind."

Thomas Friedman, Owning your own future. NY Times, May 10, 2017
https://www.nytimes.com/2017/05/10/opinion/owning-your-own-future.html

The New York Times

What is happening out there?

Harsh Change

Alternative facts

From Wikipedia, the free encyclopedia

For the legal term, see Alternative facts (law).

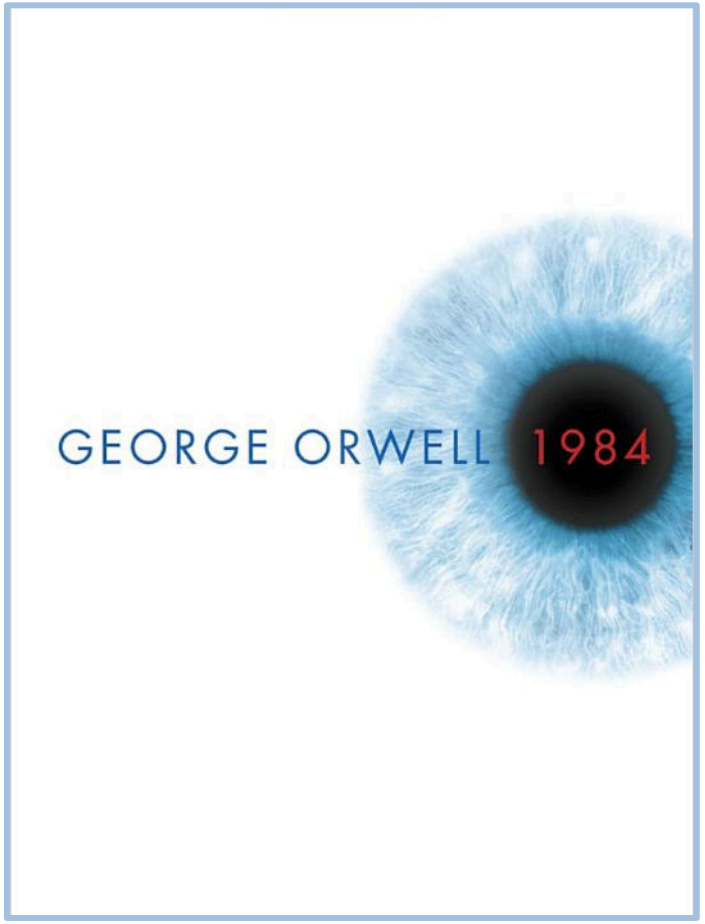
"**Alternative facts**" is a phrase used by U.S. Counselor to the President Kellyanne Conway during a *Meet the Press* interview on January 22, 2017, in which she defended White House Press Secretary Sean Spicer's false statement about the attendance at Donald Trump's inauguration as President of the United States. When pressed during the interview with Chuck Todd to explain why Spicer "utter[ed] a provable falsehood", Conway stated that Spicer was giving "alternative facts". Todd responded, "Look, alternative facts are not facts. They're falsehoods."[1]

What is happening out there?

Facts, the basis of human knowledge, are being destroyed.

"The party told you, to reject the evidence of your eyes and ears. It was their final, most essential command."

George Orwell, 1984, (published in 1949)

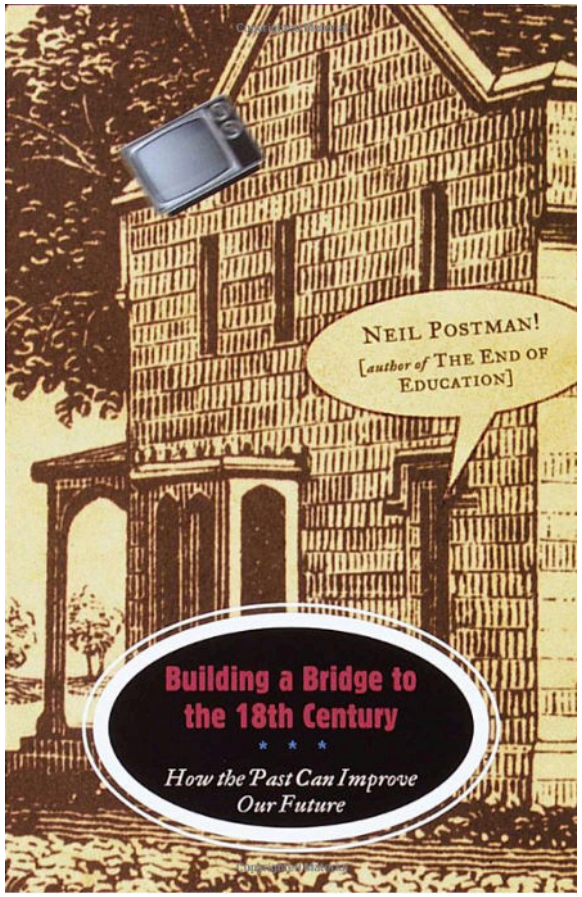


What is happening out there?

Harsh Change

"Whatever else we bring into the new century, we will certainly feature the greatest array of propagandistic techniques in the history of mankind."

Neil Postman, *Building a Bridge to the 18th Century,* pg 164



What is happening out there?

Harsh Change

https://www.pinterest.com/pin/88242473918370091/

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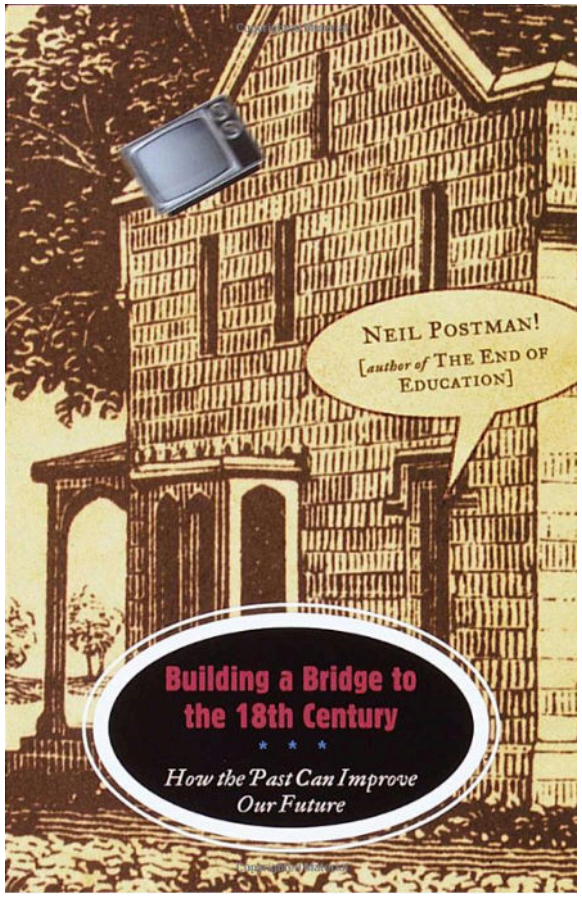
Ways librarians might deal with it?

"A problem culture has never faced before – too much information…"

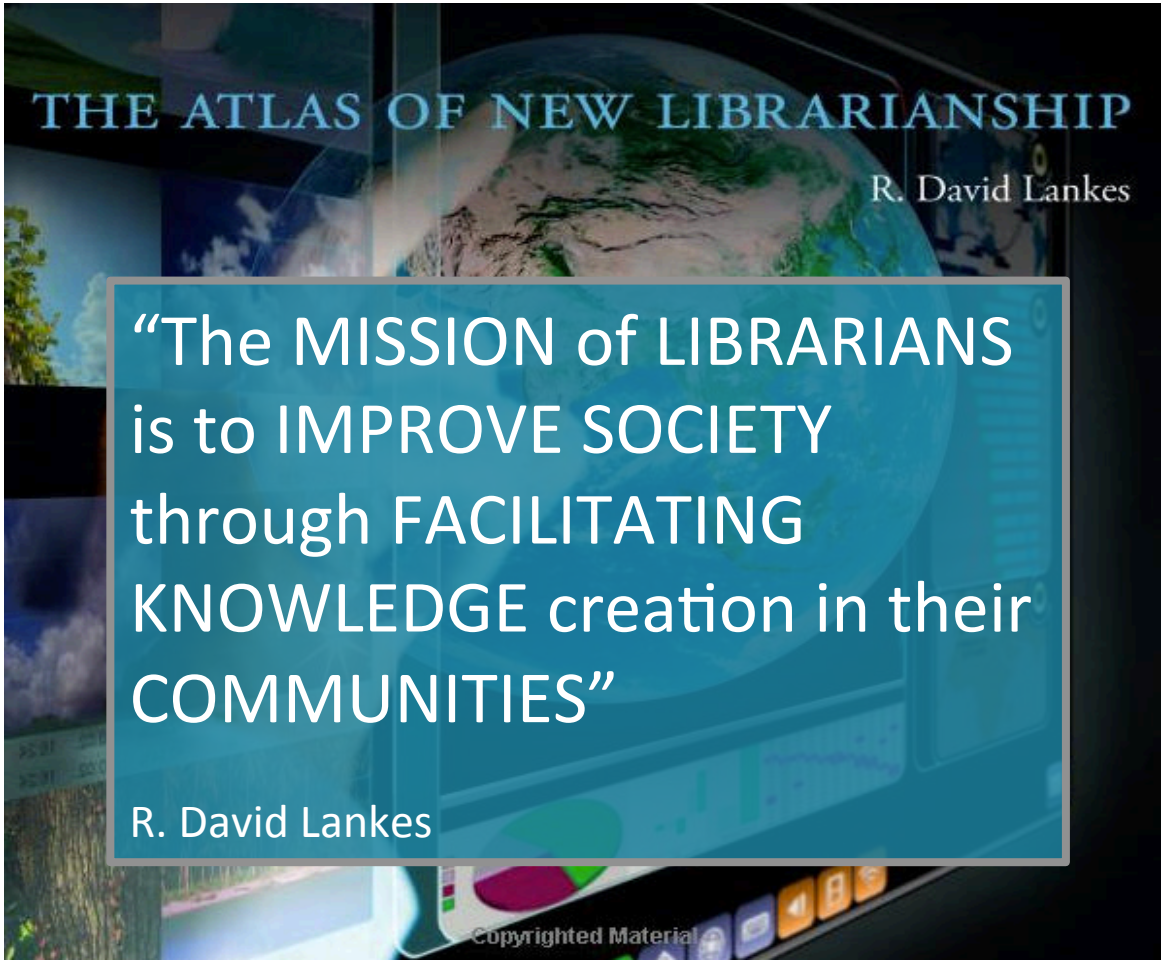
"I define knowledge as organized information—that is embedded in some context, that has a purpose, that leads one to see further.. to understand the something about the world. When one has knowledge, one knows how to make sense of information, how to relate information to one's life and, especially knows when information is irrelevant."

"The problem is how to transform information into knowledge and how to transform knowledge into wisdom. If we can solve that problem, all the rest will take care of itself."



Neil Postman, *Building a Bridge to the 18th Century,* pg 92-93, 98

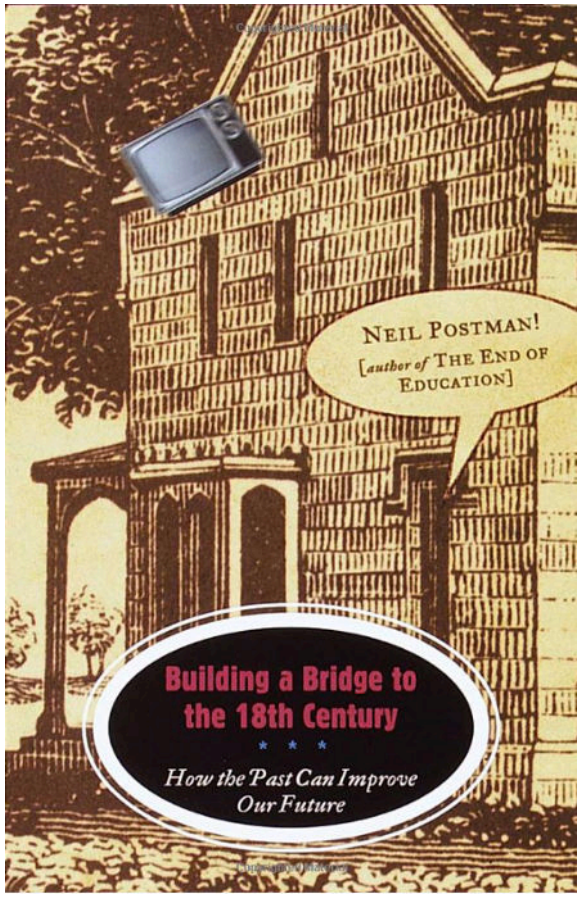
Ways librarians might deal with it?



Ways librarians might deal with it?

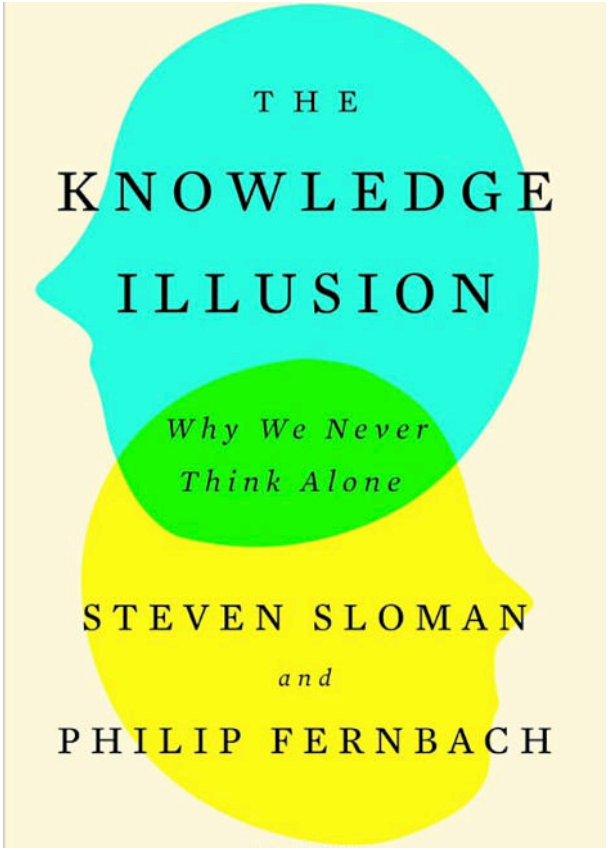
"The knowledge we have is a result of our asking questions; indeed, that question asking is the most significant intellectual tool human beings have. Is it not curious then, that the most significant intellectual skill available.. Is not taught in school?"

Neil Postman, *Building a Bridge to the 18th Century,* pg 92-93, 98



Ways librarians might deal with it?

"We've all heard young kids ask: why? Children implicitly understand the complexity of things and explaining at a deeper level prompts more questions. Parents answer with: because. We have made a decision to stop probing because we think we understand how things work more deeply that we do." pg. 35



Ways librarians might deal with it?

We need to teach our communities to question <u>everything.</u>

http://clipart-library.com/images/LTd5rzBAc.jpg

Because questioning is at the heart of <u>re-invention.</u>

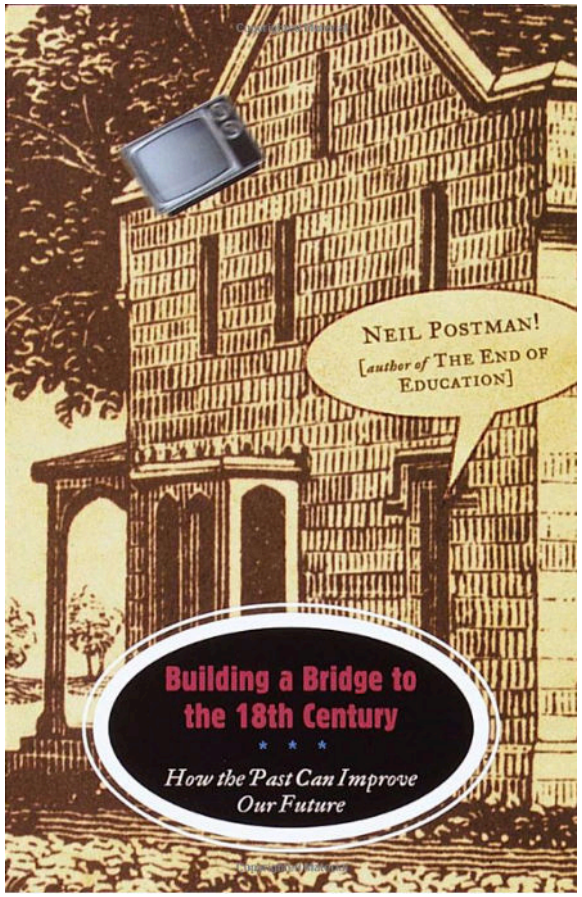
Ways librarians might deal with it?

"What would happen if a student:

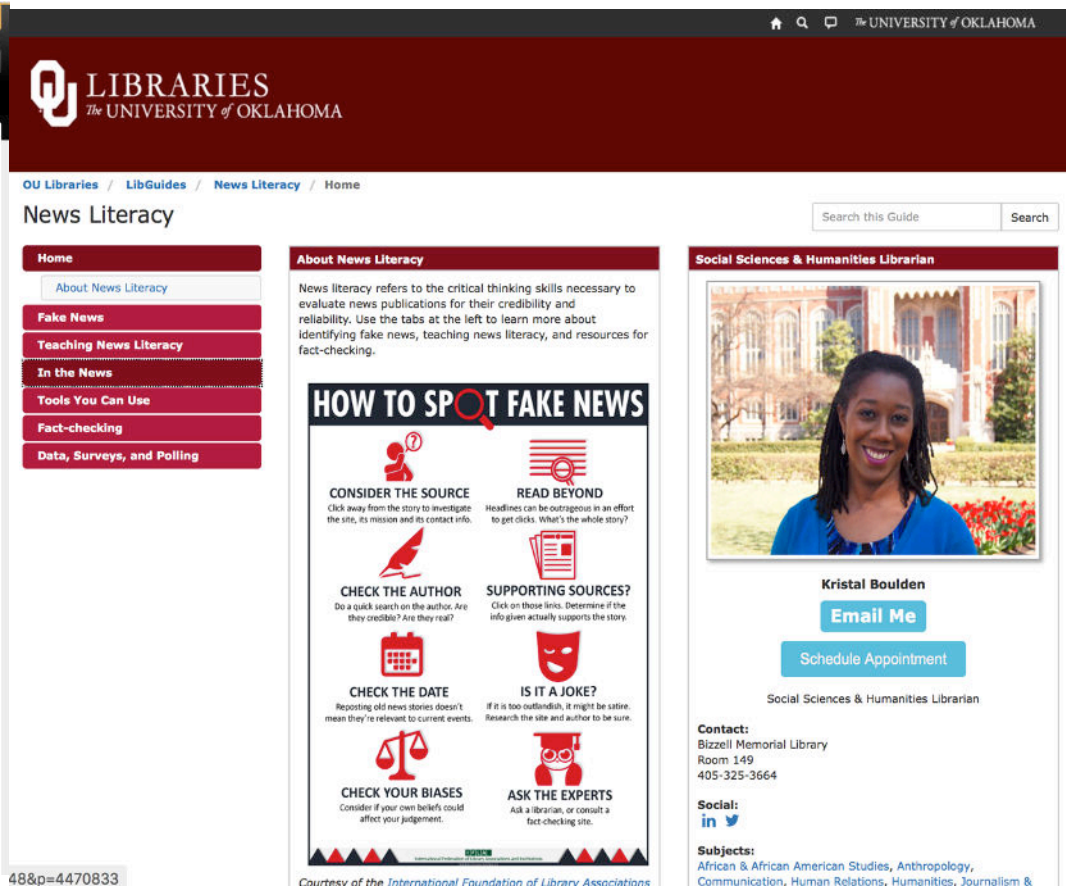
a. Studying history, asks, "Whose history is this?"
b. Who made up this definition?
c. What is a fact? How is it different from an opinion? And who is the judge?

What happens of course, is that the students learn not only "history," "definitions," and "facts" but also learn where these things come from and why. Such learning is at the heart of reasoning and its product, skepticism."

Neil Postman, *Building a Bridge to the 18th Century,* pg 162



Ways librarians might deal with it?



http://newsonline.library.vanderbilt.edu/2017/02/a-post-truth-nation-panel-discussion/

Ways librarians might deal with it?

PROGRAMMING
Librarian
A website of the American Library Association Public Programs Office

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News: Fake News: A Library Resource Round-Up

Share On:

February 23, 2017

By ALA Public Programs Office

As librarians everywhere will attest, fake news is not new; fabricated stories have been presented as truth **for centuries**. But take a divided electorate and add a social media landscape where misinformation is shared with a click, and interest in the topic has soared.

Learning to decipher fact from fiction is a key skill for all news consumers, and libraries across the country are stepping up to help patrons gain the information literacy skills they need. With that in mind, Programming Librarian has compiled the following round-up of resources* to help libraries deliver their best programming about fake news.

Do you have other go-to resources that are not listed below? Please share them in the comments or email us at **programminglibrarian@ala.org**.

Webinars

- **"Post-Truth: Fake News and a New Era of Information Literacy,"** Programming Librarian, Feb. 22, 2017
- **"Don't Get Faked Out by the News,"** American Association of School Librarians, Feb. 23, 2017; available for free viewing to all until March 2, 2017; available to AASL members and eCOLLAB subscribers thereafter
- **"Fake News Workshop,"** University of Illinois at Urbana-Champaign, School of Information Sciences, Feb. 1, 2017; select "Slides/Audio"

http://www.programminglibrarian.org/articles/fake-news-library-round

Ways librarians might deal with it?

Google launches new effort to flag upsetting or offensive content in search

Using data from human 'quality raters,' Google hopes to teach its algorithms how to better spot offensive and often factually incorrect information.

Danny Sullivan on March 14, 2017 at 1:00 pm

Google is undertaking a new effort to better identify content that is potentially upsetting or offensive to searchers. It hopes this will prevent such content from crowding out factual, accurate and trustworthy information in the top search results.

"We're explicitly avoiding the term 'fake news,' because we think it is too vague," said Paul Haahr, one of Google's senior engineers who is involved with search quality. "Demonstrably inaccurate information, however, we want to target."

http://searchengineland.com/google-flag-upsetting-offensive-content-271119

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What we're doing at the University of Oklahoma

Re-invent the Library

https://www.linkedin.com/pulse/caterpillars-butterflies-becoming-trainee-solicitor-change-lothian

What we're doing at the University of Oklahoma

When re-inventing the library pay attention to the organizational goals!

Provost Goals for University

Defined As:

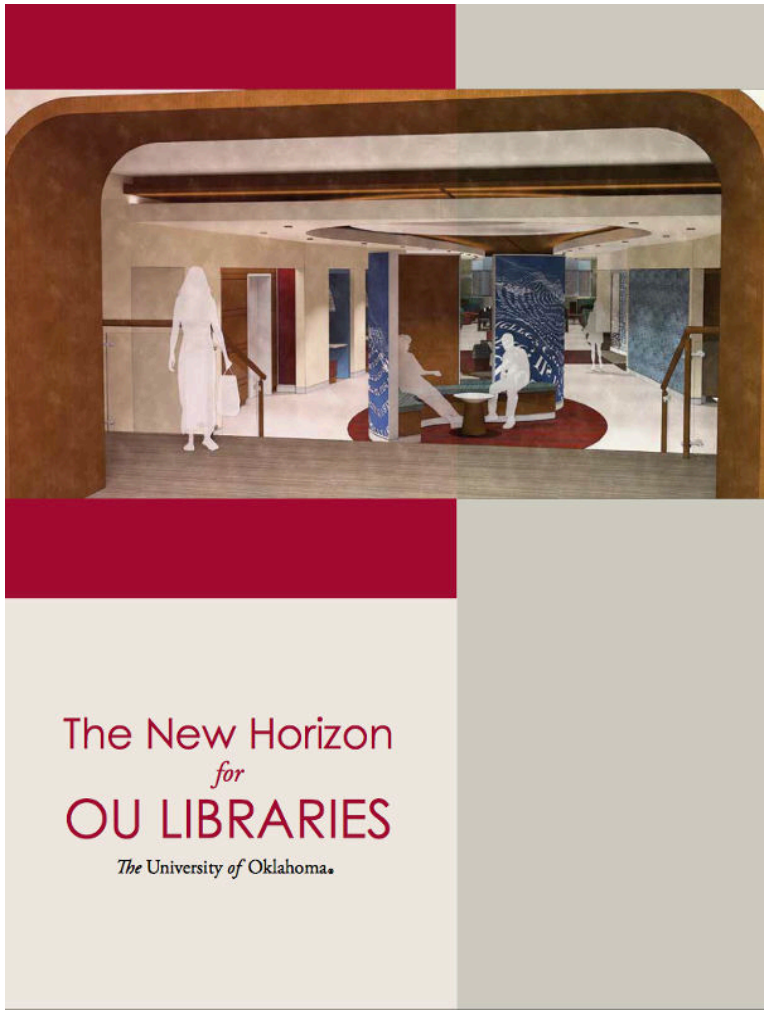
P1. Student Success

P2. Faculty Impact

P3. Community Impact

P4. Brand Equity

What we're doing at the University of Oklahoma



https://masterplan.libraries.ou.edu/publications

Intellectual Crossroads of the University

UNIVERSITY LIBRARIES
The UNIVERSITY of OKLAHOMA

What we're doing at the University of Oklahoma

Digitize content to extend its reach around the globe

Intellectual Crossroads of the University

UNIVERSITY LIBRARIES
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What we're doing at the University of Oklahoma

Create collaboration spaces

What we're doing at the University of Oklahoma

Create collaboration spaces

Intellectual Crossroads of the University

UNIVERSITY LIBRARIES
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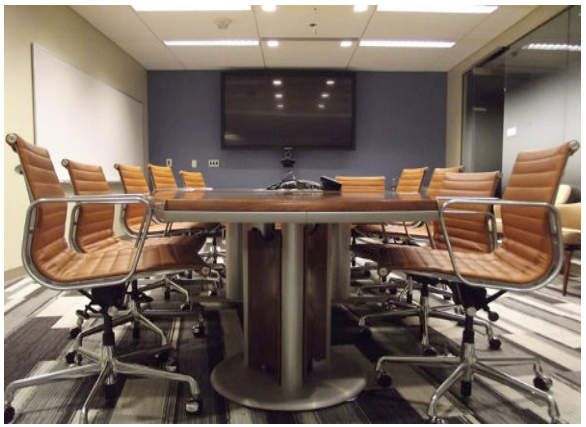
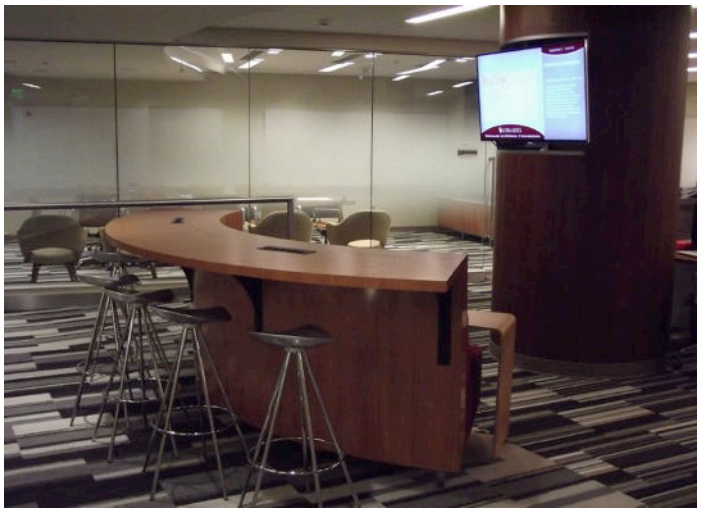
What we're doing at the University of Oklahoma

Create collaboration spaces for faculty/graduate students

Digital Scholarship Laboratory





What we're doing at the University of Oklahoma

Re-inventing the Library

OU Libraries, wins the *Great Inspirations Award* for the HCLC at the 2015 Creativity World Forum

What we're doing at the University of Oklahoma

Show how knowledge builds on knowledge

An Exhibition without Walls

20 Exhibits • 7 Locations • 3 Campuses

Major goals of G.W. Exhibition (know where you're going):

- Celebrate the 125 anniversary of the University.
- Emphasize the library as the intellectual crossroad, bring the University together around the exhibit.
- Everyone, anywhere should be able to go and see it (physically or virtually, now and **far into the future**)
- Make it appealing to scholars, public & youth
- **Show the importance of science and that knowledge builds on knowledge**

Featured in main lobby of Library:

- 20 foot replica of Tower of Pisa
  - Built by College of Engineering (crossroads idea)

GALILEO'S WORLD

An Exhibition without Walls

20 Exhibits • 7 Locations • 3 Campuses

F. MARINI
MERSENNI
ORDINIS MINIMORVM
S. FRANCISCI DE PAVLA
QVÆSTIONES CELEBERRIMÆ
IN GENESIM, CVM ACCVRATA
TEXTVS EXPLICATIONE
Græcorum, & Hebræorum Musica instauratur.
FRANCISCI GEORGII VENETI
CABALISTICA DOGMATA FVSE REFELLVNTVR.
LVTETIÆ PARISIORVM
M. DC. XXIII.

Intellectual Crossroads of the University

UNIVERSITY LIBRARIES
The UNIVERSITY of OKLAHOMA

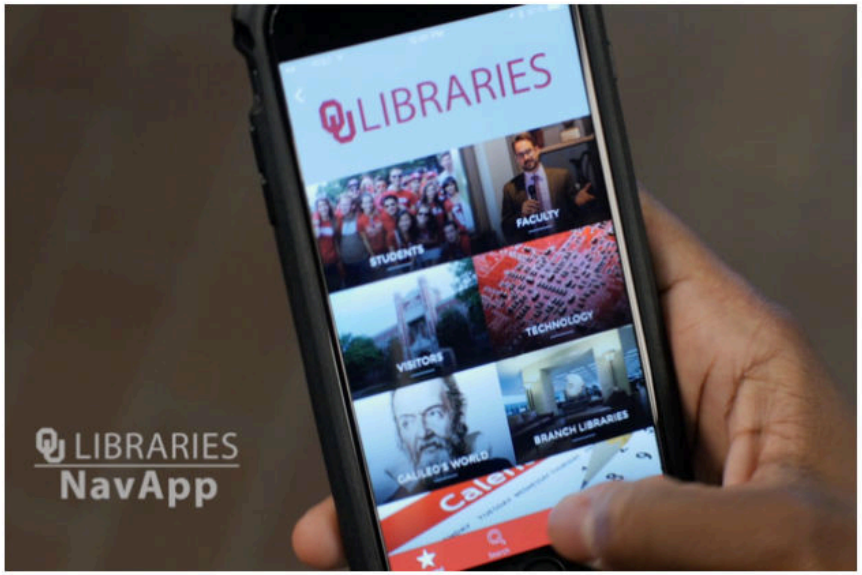
COMPUTERWORLD

Popular Now

Home > Networking > Wireless Networking

NEWS

Oklahoma Sooners use beacons, sens rooms on massive campus



The University of Oklahoma has created an app that students can use to navigate to group meeting rooms and other locations on campus using Aruba beacons and sensors. Credit: Aruba

Beacon technology still in early-adopter stage, analysts report

By Matt Hamblen FOLLOW

Computerworld | Dec 2, 2015 3:00 AM PT

RELATED TOPICS

Wireless Networking

Mobile & Wireless

The University of Oklahoma has begun rolling out beacon technology to help students find study rooms and class inform central library and other buildings by using their smartphones about the vast campus in Norman, Okla.

CAMPUS TECHNOLOGY

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Networking/Wireless AV & Presentation Software & Systems Green ERP

< Cooking up Faster Mobile Image Processing

Study: Millennials Spend More Than 3 Hours a Day on Mobile Phones >

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Mobile

U Oklahoma Libraries Launches Navigation App

By Rhea Kelly | 08/25/15

Patrons at the University of Oklahoma Libraries can now navigate the system's collections, exhibits and campus landmarks via smartphone. The university has deployed Aruba Beacons and the Aruba Meridian Mobile App Platform to create the OU NavApp, a mobile app that provides turn-by-turn directions, location-based information and educational content to help students, faculty and visitors find their way through the seven-floor, 400,000-square-foot library system.

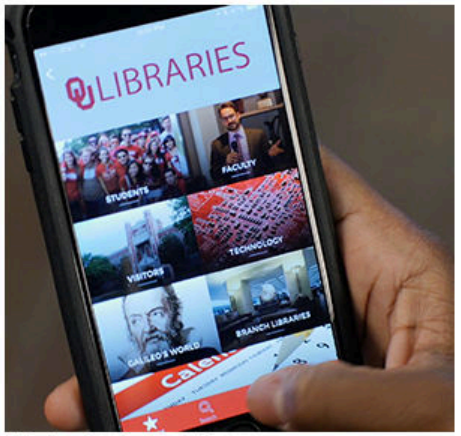

Photo: Business Wire

2016 Campus Technology Innovators

CAMPUS TECHNOLOGY innovators AWARDS 2016

Education Futurists

University of Oklahoma
Project: OU Libraries NavApp
Project Leads: Matt Cook, emerging technologies librarian
Vendors/technologies: Aruba, Meridian, RFIP

OU Libraries at the Oklahoma Museums Association accepting 3 awards of excellence for our Galileo's World exhibition (1 was for technology)

GALILEO'S WORLD

An Exhibition without Walls

20 Exhibits • 7 Locations • 3 Campuses

Intellectual Crossroads of the University

UNIVERSITY LIBRARIES
The UNIVERSITY of OKLAHOMA

GALILEO'S WORLD

An Exhibition without Walls

20 Exhibits • 7 Locations • 3 Campuses

SINCE THE OPENING OF *GALILEO'S WORLD* AND THE RENOVATION, THE 5TH FLOOR RECEIVES OVER 1500 VISITS PER MONTH, A 1100% INCREASE.

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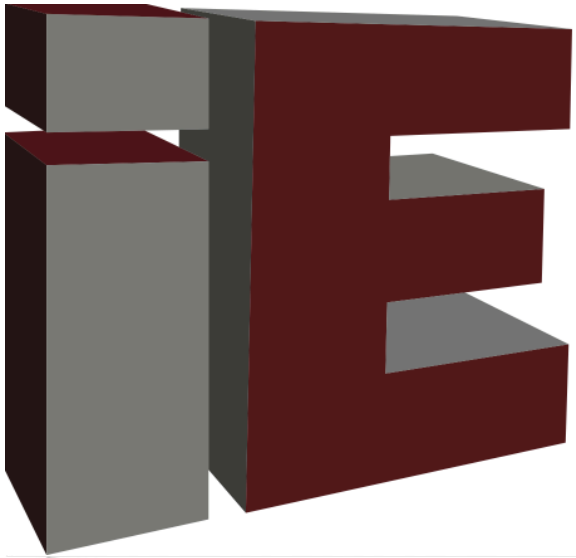

INNOVATION @ THE EDGE

THE UNIVERSITY OF OKLAHOMA LIBRARIES

CONNECTING YOU TO THE INNOVATION HUB

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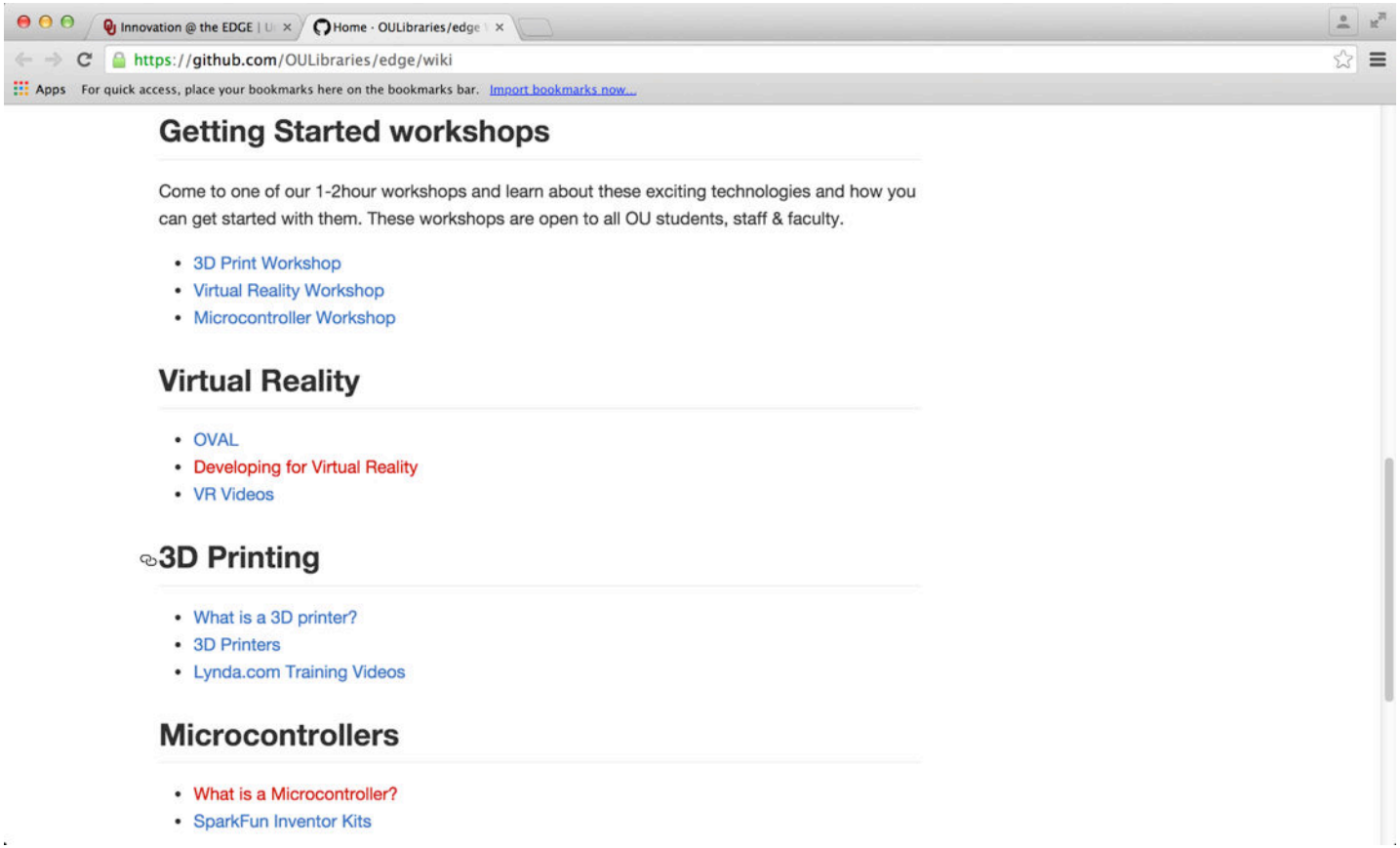
It is:

- **Combination of** Makerspace/ FabLab/Startup Incubator, Classroom, Seminar Room, Laboratory – Applied work space.
- A **culture (or mindset) of experimentation/knowledge creation** with the latest hardware and software.
- Community
- Collaboration

software carpentry

Teaching basic lab skills for research computing



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UNIVERSITY LIBRARIES
The UNIVERSITY of OKLAHOMA

Research Bazaars

ArtEDGE

prev next

INNOVATION @ THE EDGE
THE UNIVERSITY OF OKLAHOMA LIBRARIES
CONNECTING YOU TO THE INNOVATION HUB

Over 50 7th and 8th grade Norman Public School students visited the Fred Jones Jr. Museum of Art, Innovation @ the EDGE in the Bizzell Memorial Library, and the School of Visual Arts at the University of Oklahoma this fall.

ArtEDGE is a collaborative program between the OU Libraries, the Fred Jones Jr. Museum of Art and the School of Visual Arts.

INNOVATION @ THE EDGE
THE UNIVERSITY OF OKLAHOMA LIBRARIES
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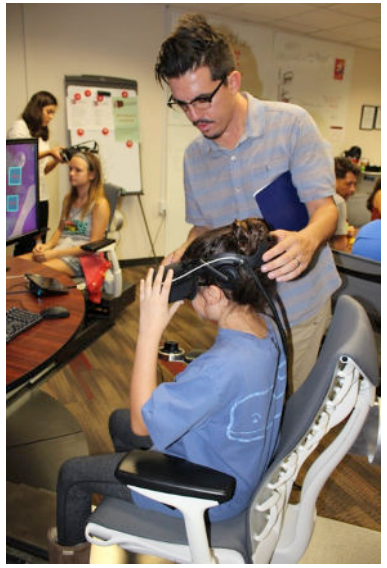

The teacher told us: "I literally smiled so many times hearing my students squeal with delight, sigh with wonder, and literally say out loud that *this is the best day of school they have ever had."*

School Library Journal®

Oklahoma University Library Melds Art and High Tech in a Lesson for Middle Schoolers

By Linda Rodgers on April 12, 2017 Leave a Comment

Seventh and eighth graders are a tough audience to please, but 50 of them from Norman, OK, had plenty of fun with an innovative program from the University of Oklahoma's library and art museum. So much fun, in fact, that they may not have even realized they were also getting a grounding in critical thinking and art appreciation.

A student gets a taste of VR with the help of Matt Cook.

The students came to the Fred Jones Jr. Museum of Art under the auspices of ArtEDGE, a collaborative program between the museum and the Helmerich Collaborative Learning Center at the university's Bizzell Memorial Library. Instead of touring the entire museum, the kids were introduced to one object: a 700-year-old Tang horse sculpture. "We wanted to find an object that was visually interesting, and the horse is beautifully modeled and painted in a colorful gaze," says Melissa Ski, the director of education at the museum. Even more intriguing, it was used as a funerary object in ancient China. "We wanted students to feel familiarity but also push them beyond immediate associations," she added.

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ENABLING THE FUTURE

A Global Network Of Passionate Volunteers Using 3D Printing To Give The World A "Helping Hand."

HOME FEATURED STORIES BLOG ABOUT GET INVOLVED RESOURCES HAND DEVICES DONATIONS SHOP

THE RAPTOR RELOADED

The team behind the original Raptor has released the Raptor Reloaded, an updated and re-factored version of the Raptor Hand. The entire device was modeled in Fusion 360, a free CAD tool that can import and export most standard solid body modeling formats such as STEP and IGES. By designing the hand in a tool compatible with numerous CAD packages, we hope to lower the barrier to contribution to the e-NABLE project for engineers and designers. Previously, if a designer wanted to make a small adjustment to a part of a hand, they'd have to rebuild the entire part in their CAD software before they could make the change. Now they can download the source files and just spend their time making the specific change they had in mind. With this new set of source files, we hope to improve the pace of research and development within the design community.

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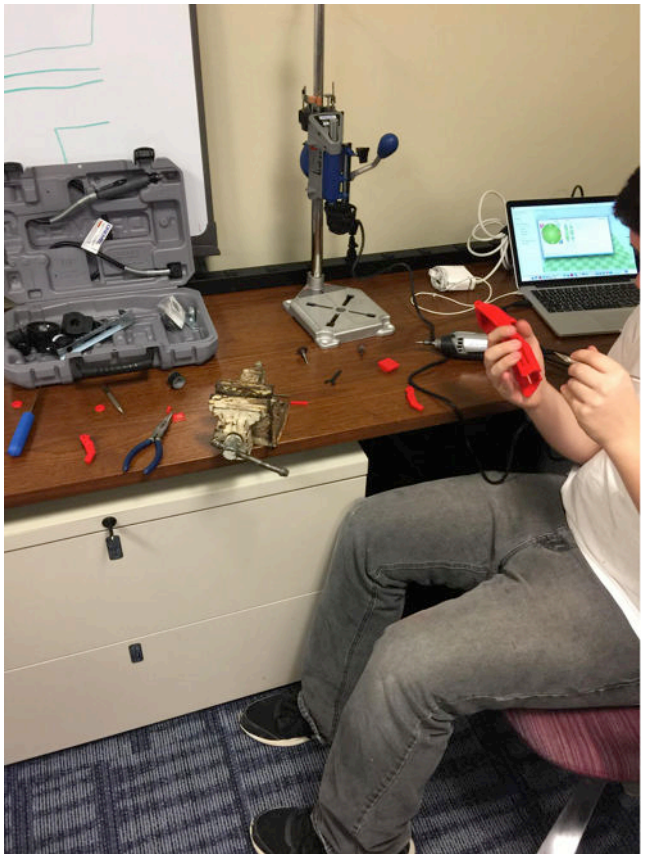

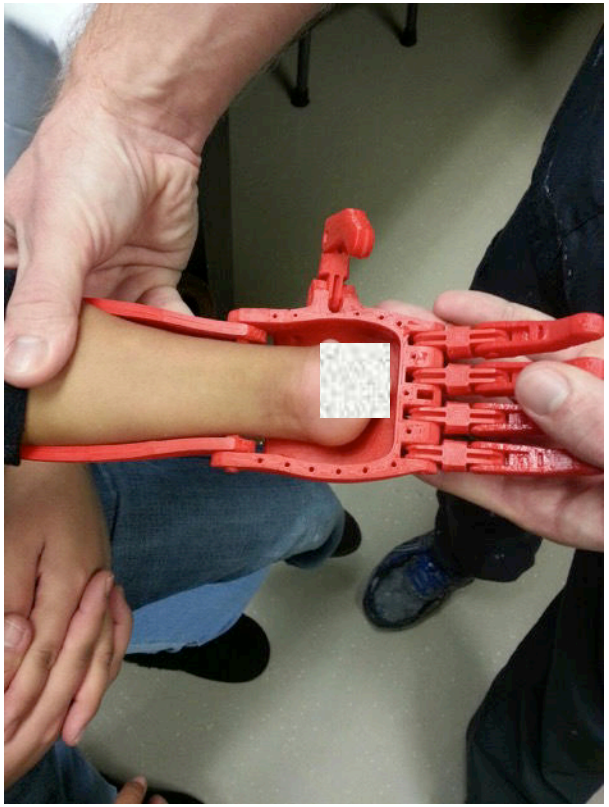

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Innovation @ the Edge – 2016 – Metrics

- Total Consultations: **84**
  - Unique Departments/Organizations:
    - Spring: **20**
    - Summer: **18**
    - Fall: **20** (so far)
  - Outside (OU) Consultations: **26**
- Total 3D Prints: **407**
- Total Workshop Participants: **286**
- Total Course Touchdowns in the EDGE: **19**
- Total Tours given by ETL team member: **36**

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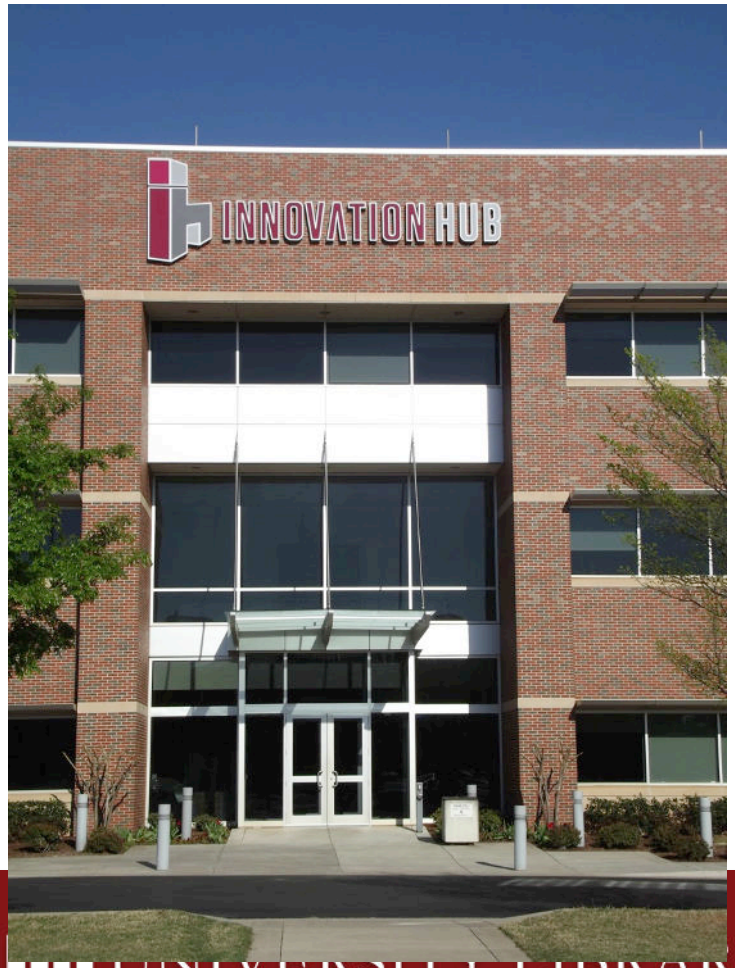
What is the Innovation Hub?

- Located in our Research Park
- 20K sq ft w/high-end equipment
- Shares staffing w/Innovation @ the Edge
- Open to public
- Peer innovators on staff/faculty
- Experts available
- Collaborative Learning
- Creating new methods of pedagogy, research and creativity



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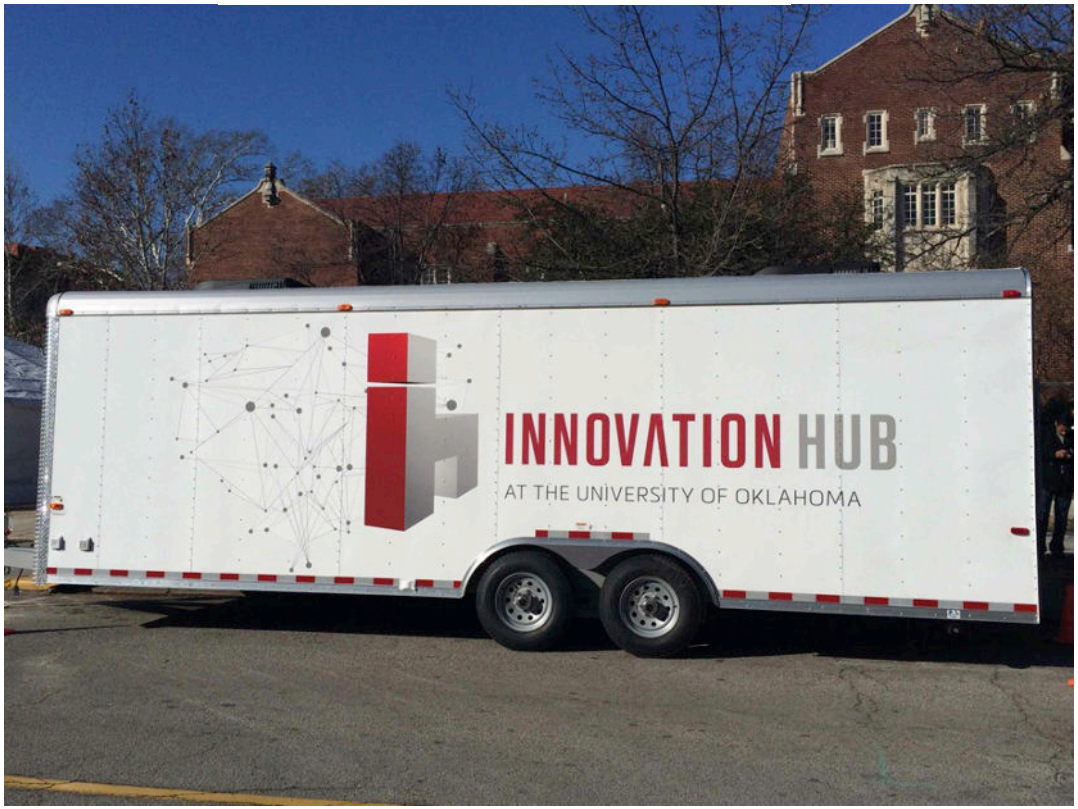

Mobile unit we take to: Local bookstores, Local schools/Libraries, public & university events

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Conclusion

- Introduction to OU Libraries
- Discussed what is happening out there and why.
- Ways Librarians might deal with it:
  - Show knowledge builds on knowledge (exhibitions)
  - Help reduce complexity (LibGuides)
  - Question all knowledge (Critical thinking skills)
- Case Study – What we're doing at the University of Oklahoma

The End!
Q&A?

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