

Assembling the Puzzle: Five Tech Pieces for Education – Day 1

Ruben R. Puentedura, Ph.D.

Session 1: The Frameworks

Transformation

Redefinition

*Tech allows for the creation of new tasks,
previously inconceivable*

Modification

Tech allows for significant task redesign

Augmentation

*Tech acts as a direct tool substitute, with
functional improvement*

Substitution

*Tech acts as a direct tool substitute, with no
functional change*

Enhancement

Redefinition

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Modification

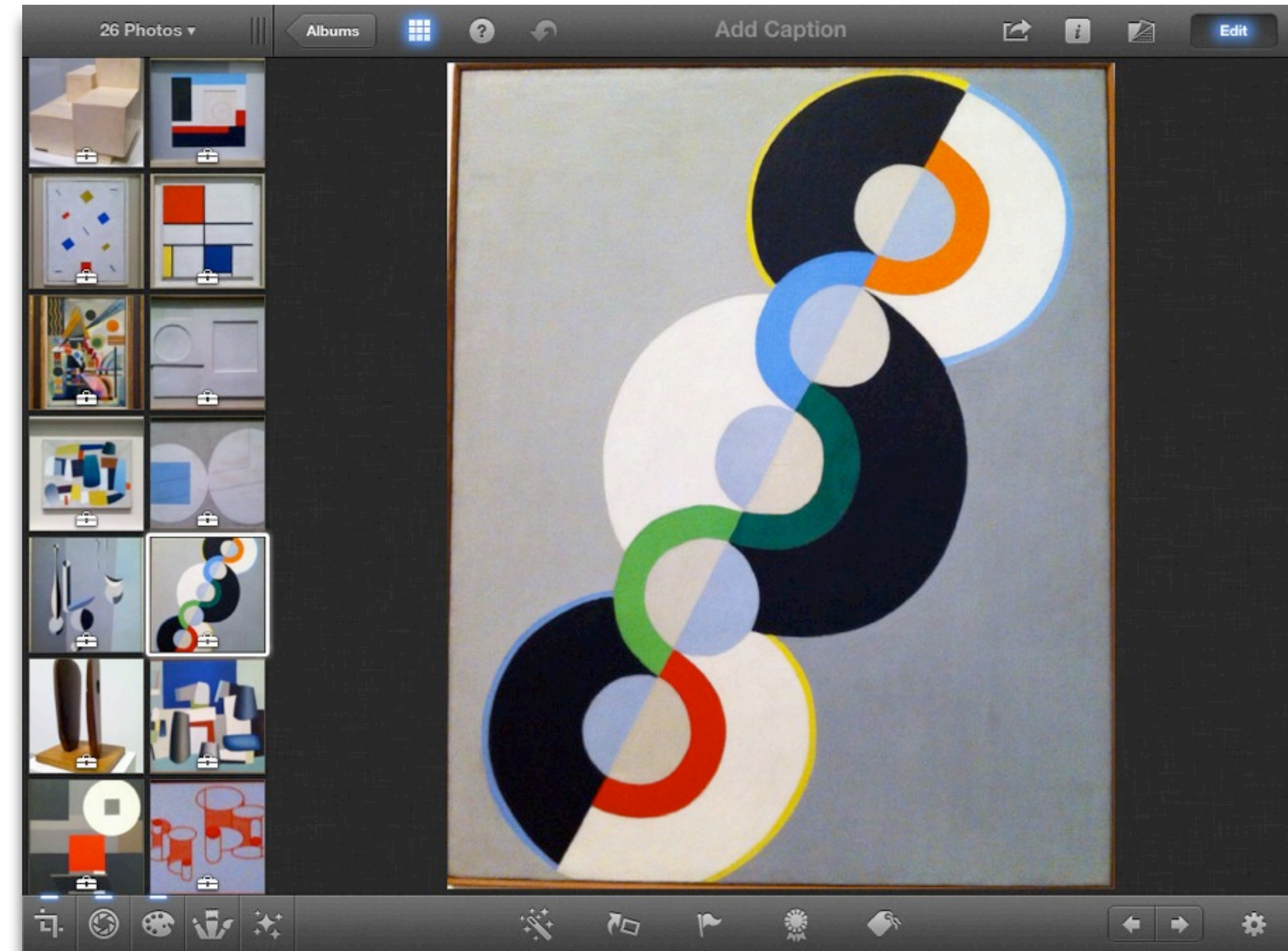
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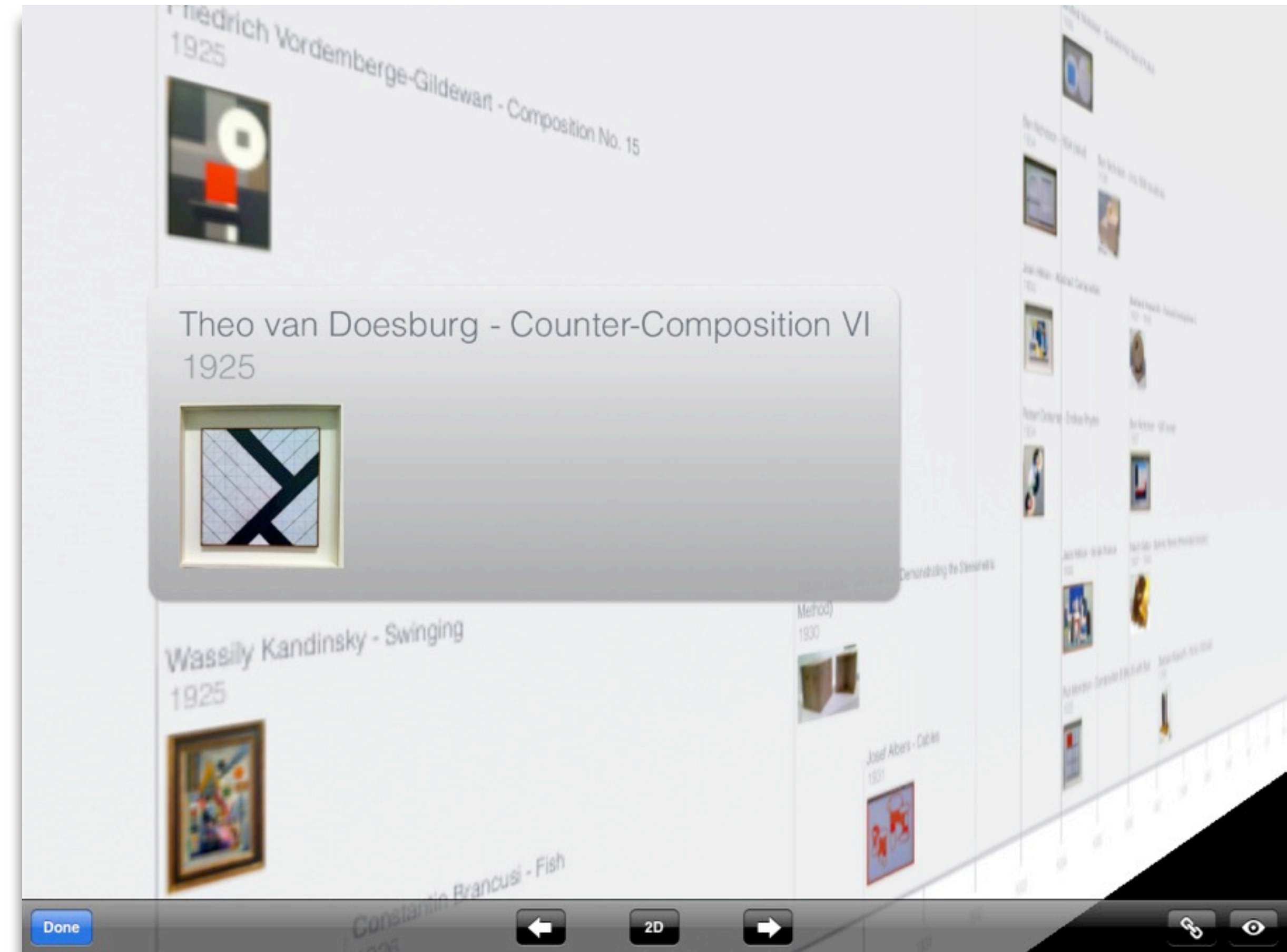
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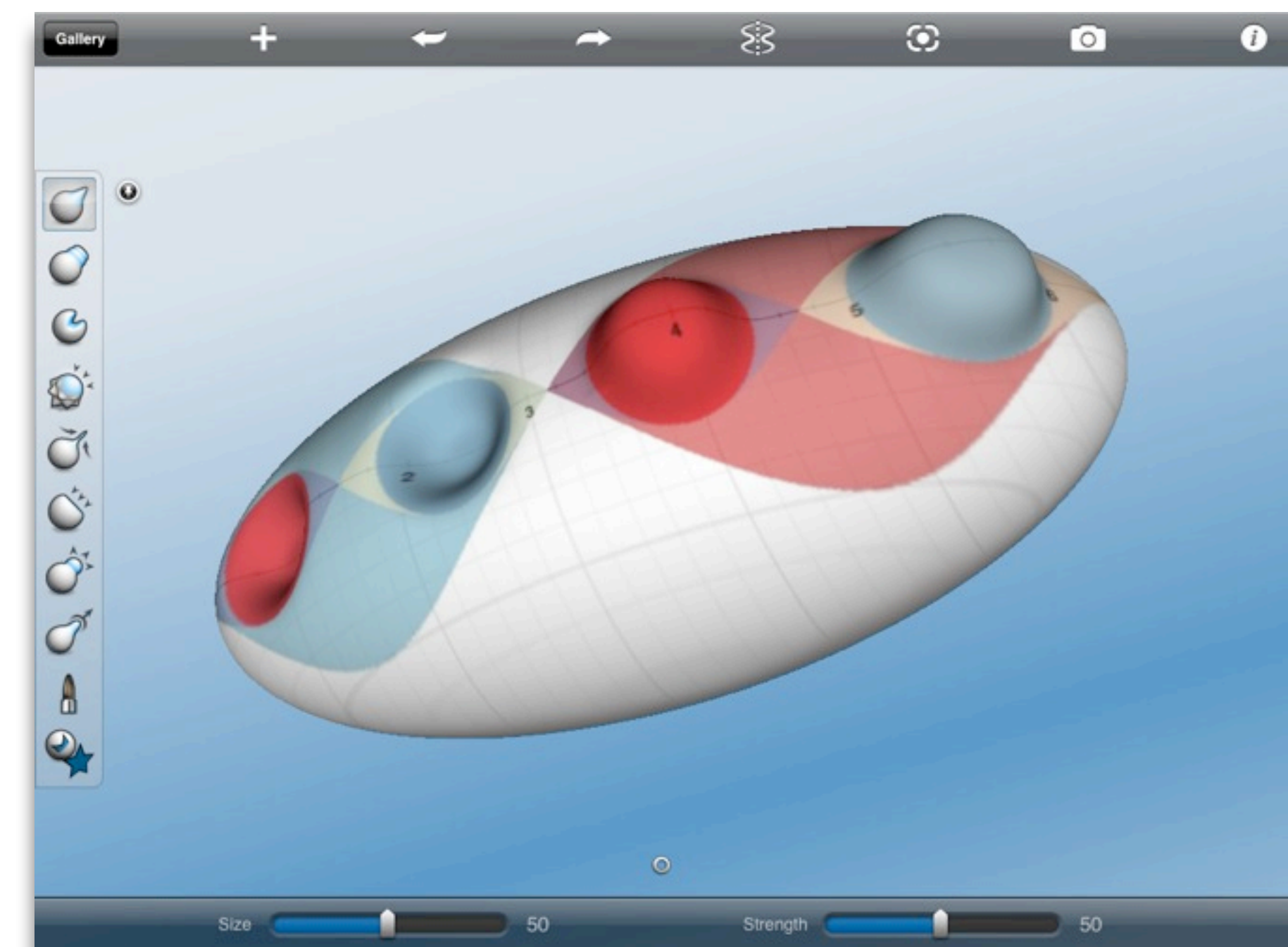
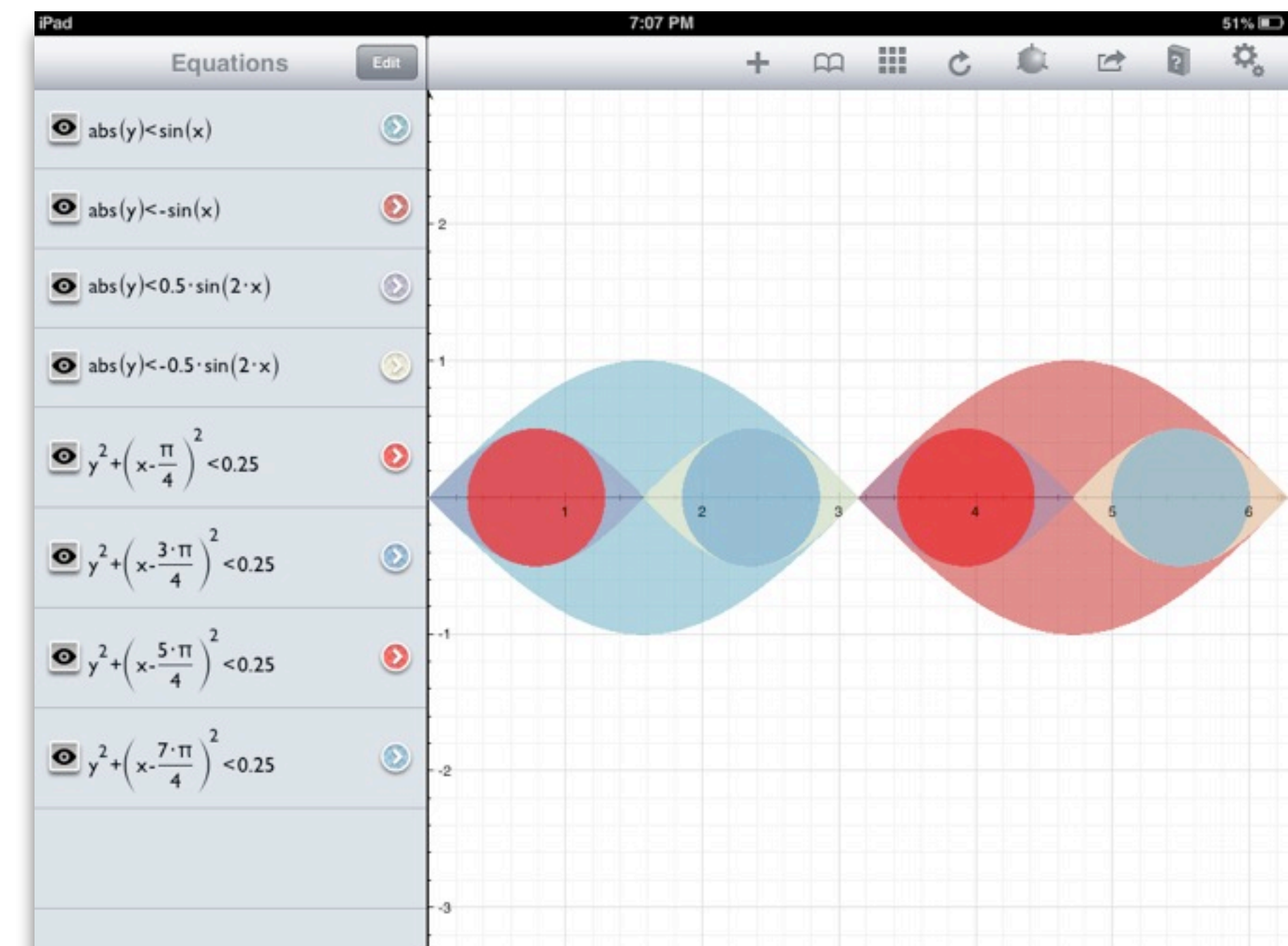
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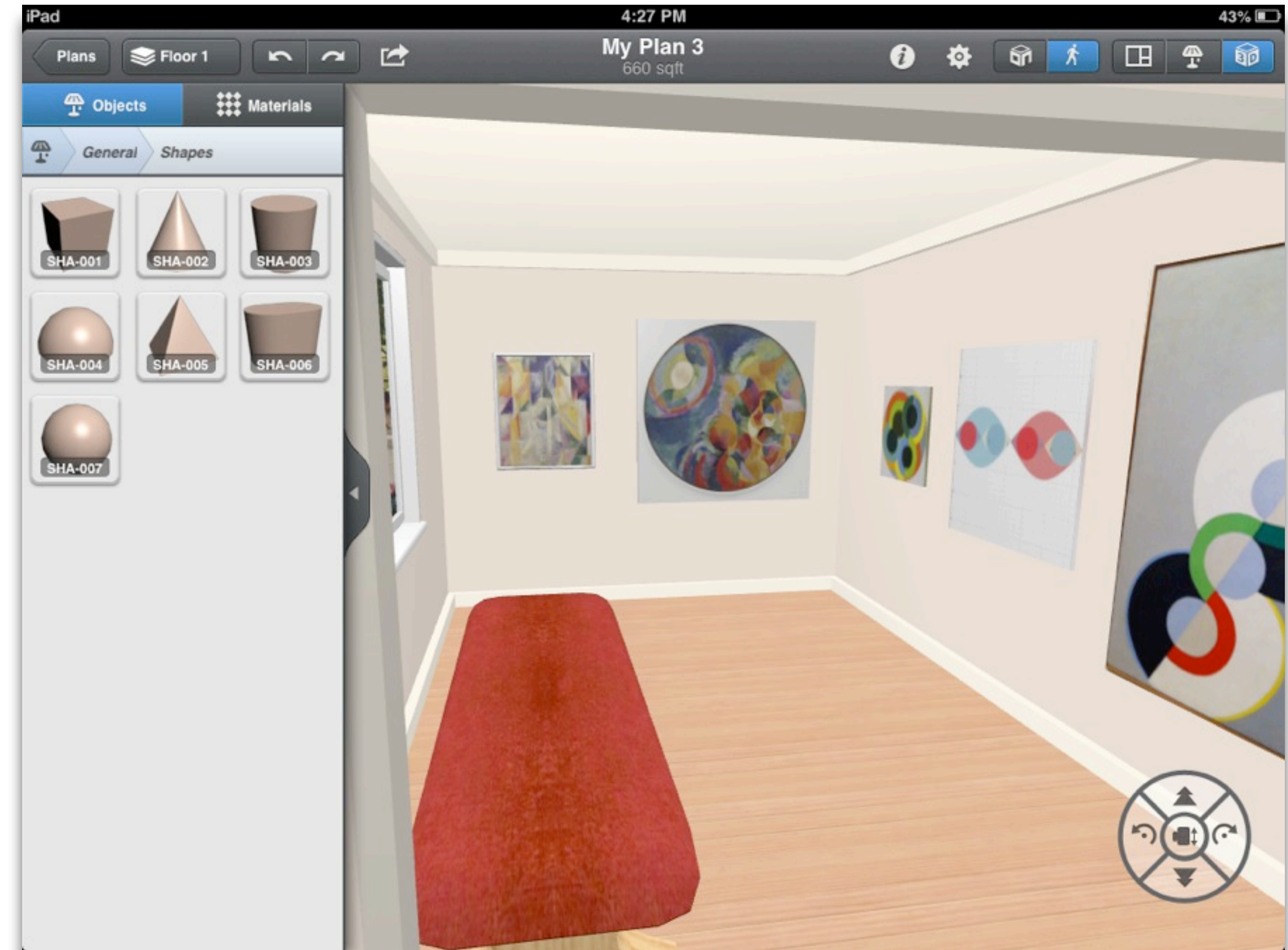
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Social	Mobility	Visualization	Storytelling	Gaming
200,000 years	70,000 years	40,000 years	17,000 years	8,000 years
				






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The 2009 K12 Horizon Report



**Collaborative
Environments**

Time-to-Adoption:
One Year or Less



Mobiles

Time-to-Adoption:
Two to Three Years



The Personal Web

Time-to-Adoption:
Four to Five Years



**Online
Communication
Tools**



Cloud Computing



Smart Objects

The 2010 K12 Horizon Report



**Collaborative
Environments**

Time-to-Adoption:
One Year or Less



Mobiles

Time-to-Adoption:
Two to Three Years



Flexible Displays

Time-to-Adoption:
Four to Five Years



Cloud Computing



**Game-Based
Learning**



Augmented Reality

The 2011 K12 Horizon Report



Mobiles

Time-to-Adoption:
One Year or Less



Open Content

Time-to-Adoption:
Two to Three Years



**Personal Learning
Environments**

Time-to-Adoption:
Four to Five Years



Cloud Computing



**Game-Based
Learning**



Learning Analytics

The 2012 K12 Horizon Report



**Mobile Devices
and Apps**

Time-to-Adoption:
One Year or Less



**Personal Learning
Environments**

Time-to-Adoption:
Two to Three Years



**Natural User
Interfaces**

Time-to-Adoption:
Four to Five Years



Tablet Computing



**Game-Based
Learning**



Augmented Reality

The 2013 K12 Horizon Report



Mobile Learning

Time-to-Adoption:
One Year or Less



Open Content

Time-to-Adoption:
Two to Three Years



3D Printing

Time-to-Adoption:
Four to Five Years



Cloud Computing



Learning Analytics



**Virtual and Remote
Laboratories**

2013 K12 Horizon Report:

Key Trends

- Education paradigms are shifting to include online learning, hybrid learning and collaborative models.
- Social media is changing the way people interact, present ideas and information, and communicate.
- Openness — concepts like open content, open data, and open resources, along with notions of transparency and easy access to data and information — is becoming a value.
- As the cost of technology drops and school districts revise and open up their access policies, it is becoming more common for students to bring their own mobile devices.
- The abundance of resources and relationships made easily accessible via the Internet is challenging us to revisit our roles as educators.

2013 K12 Horizon Report: Significant Challenges

- Ongoing professional development needs to be valued and integrated into the culture of the schools.
- Too often it is education's own processes and practices that limit broader uptake of new technologies.
- New models of education are bringing unprecedented competition to the traditional models of education.
- K-12 must address the increased blending of formal and informal learning.
- The demand for personalized learning is not adequately supported by current technology or practices.
- We are not using digital media for formative assessment the way we could and should.

NMC Horizon EdTech Weekly



HZ News

The ten hottest EdTech news items: 10 Unread/Week 73

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TECH NEWS

Battery In Under 30 Seconds (VIDEO)

The Huffington Post | By Olyvia Yonk | w/ Photos: ©2012/12/12 5:36 pm EDT

1,211 people like this. Be the first of your friends.

Intel Award Winner 2012 - Eesha Khare

Eesha Khare, 18-Year-Old, Invents Device That Charges Cell Phone Batte...

K12

thousands of kids each day. The head of science, Brian Kahn, even managed to get some of us time off during the week to make them. I put the favorable reception down to the fact that the course is complete. I have experience actually teaching the material for years, and I have made extensive use of video games to teach with. Zombies, explosions and aliens have all made appearances. There are even some 3D videos and augmented reality.

My Flipping Failure

K12

May 22, 2012 (WAT) AM by Mary Barbey

10 Downloads | 1 Tweet | 1 Like | 1 Share | 1 Email Post | 1 Print

A new Pew Research study of 832 teenagers ages 12-17 and their parents reveals that teenagers are sharing more information on social networking sites than in the past, even as they carefully monitor and manage their online lives.

What Teens Feel About Privacy and Social Media

HIED



A remarkably interesting and probably important experiment has been taking place at the

Multi-Year iPad Deployment At UC Irvine Med School: The Results Are In

MUSEUM

Please Tou 'Feel' Displ

**Please Museum Display**

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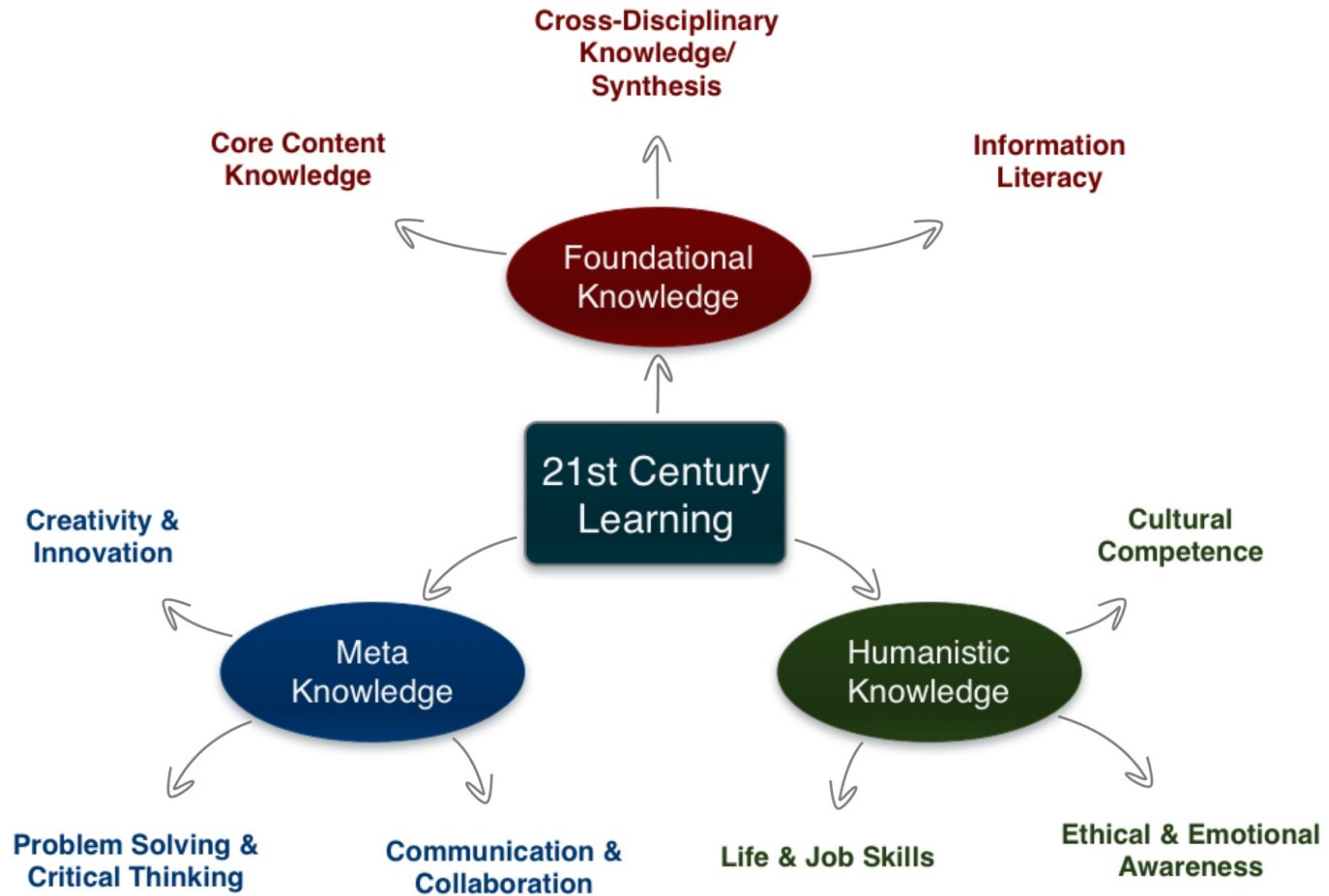
[> All Projects Map](#)

Reference

[> Articles and Readings](#)[> Reports and Research](#)[> Technologies to Watch Lists](#)[> Reflections on the Future](#)

News

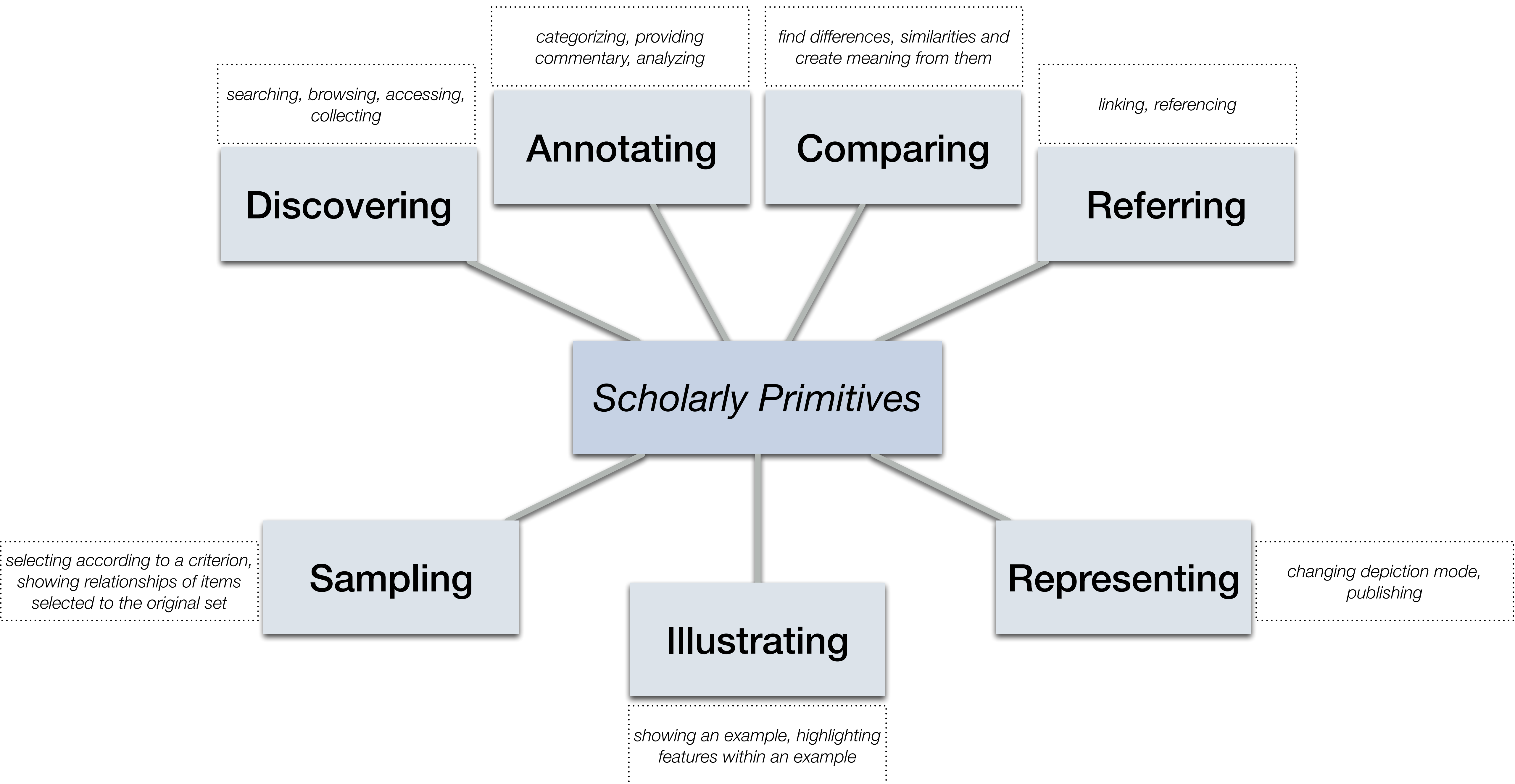
[> Emerging Technologies](#)[> Challenges and Trends](#)[> Stories and Examples](#)[> Technology in Popular Culture](#)



Resources

- Ruben R. Puentedura, *Transformation, Technology, and Education*. (2006) Online at:
<http://hippasus.com/resources/tte/>
- Ruben R. Puentedura, *As We May Teach: Educational Technology, From Theory Into Practice*. (2009) Online at:
<http://tinyurl.com/aswemayteach>
- Ruben R. Puentedura, “Technology In Education: The First 200,000 Years” *The NMC Perspective Series: Ideas that Matter*. NMC Summer Conference. (2012) Online at:
<http://www.youtube.com/watch?v=NemBarqD6qA>
- The Horizon Report: all editions online at:
<http://www.nmc.org/publications>
- Horizon Report Wiki: all editions since 2006 online at:
<http://horizon.wiki.nmc.org/>
- Punya Mishra and Kristen Kereluik, “What is 21st Century Learning? A review and synthesis.” Paper submitted to the SITE2011 Conference. (2011) Online at:
http://punya.educ.msu.edu/publications/21stCenturyKnowledge_PM_KK.pdf
- Punya Mishra and Kristen Kereluik, “What is 21st Century Learning? A review and synthesis.” SITE2011 Conference Presentation. (2011) Online at:
http://punya.educ.msu.edu/presentations/site2011/SITE_2011_21st_Century.pdf

Session 2: Social Software

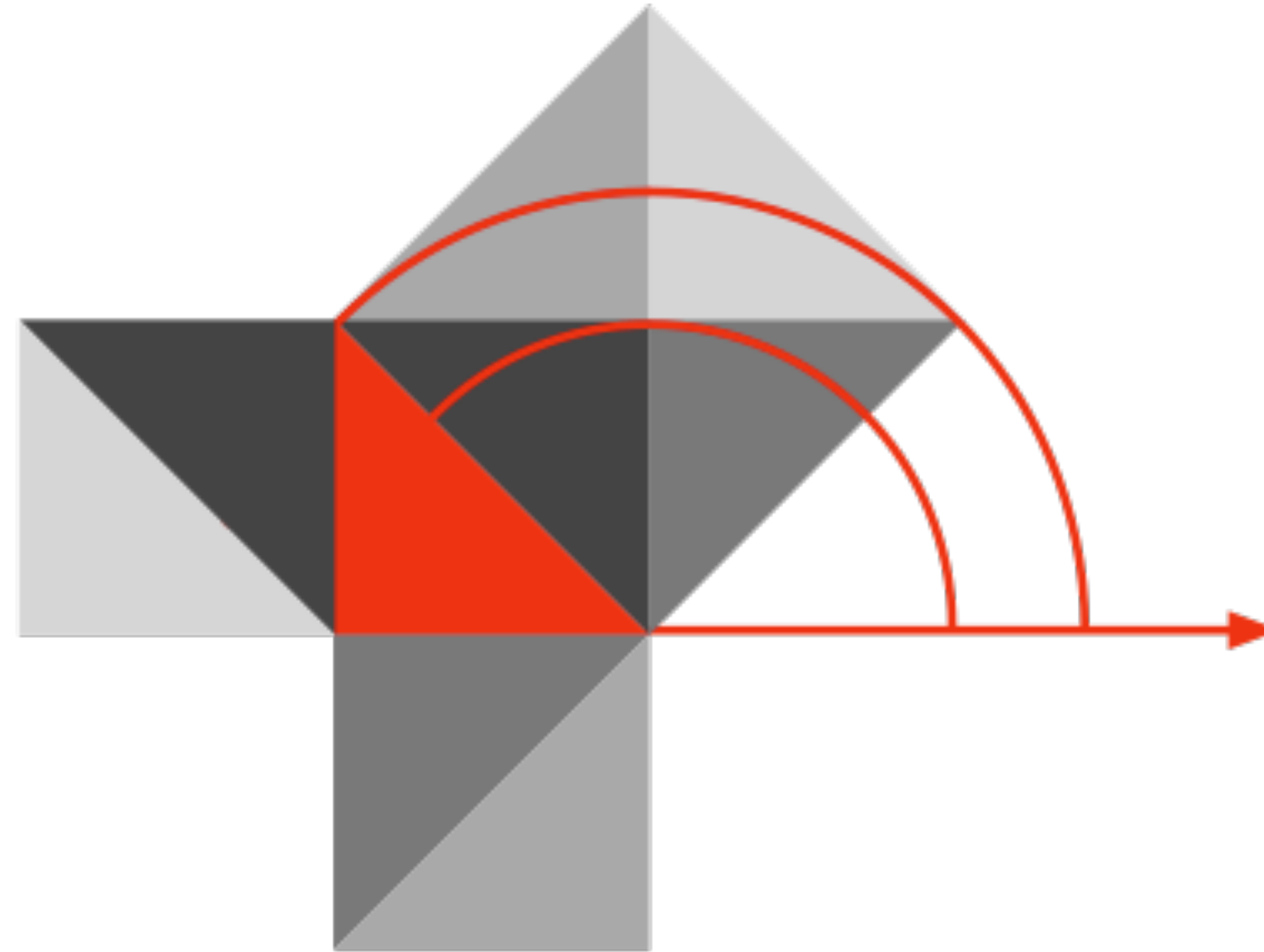




A Basic Social Toolkit

- Bookmarks: Delicious, Diigo, Pinterest
- RSS Feeds: Feedly
- Discussions: Edmodo, Google Groups
- Microblogging: Twitter
- Blogging: WordPress, Blogger
- Wikis: MediaWiki, Wikispaces, Google Sites
- Telepresence: Google+ Hangouts
- File Sharing: Box, Dropbox, Google Docs

Hippasus



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Email: rubenrp@hippasus.com

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