

<https://www.slideshare.net/aidemoreto/video-360-in-the-library>

short link: <https://tinyurl.com/vr360lib>

Link to live session: at the end of this presentation

The 10th annual Library Technology Conference
March 15-16, 2017,
Macalester College in St. Paul, MN.

#LTC2017 #vrlib



ST. CLOUD STATE
UNIVERSITY



Dr. Plamen Miltenoff & Dr. Mark Gill

The Next Generation of Library Orientation.

Discussion on the application of

Virtual and Immersive Reality, 360 Degree Movies, etc.

Contact info and take outs from today's session

- Plamen Miltenoff, Ph.D. Professor, pmiltenoff@stcloudstate.edu
- Mark Gill, Ph.D., Director Visualization Lab mcgill@stcloudstate.edu
- learn about the opportunities offered by each of these technologies: VR reality, Augmented reality and 360 media
- learn to operate the various forms of these technologies
- contemplate, discuss and propose new applications of these technologies in library and academic settings

Plan

- Intro to the idea of VR/360 media and gamification in the library
 - VR / Video 360 for library orientation
 - Gamification for library instruction
- Video 360 Library Orientation – case study
- VR / Video 360 – how to
- Video 360 Library Orientation – survey results
- Gamification for Library Instruction – case study

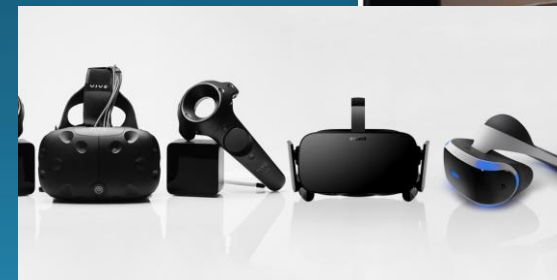
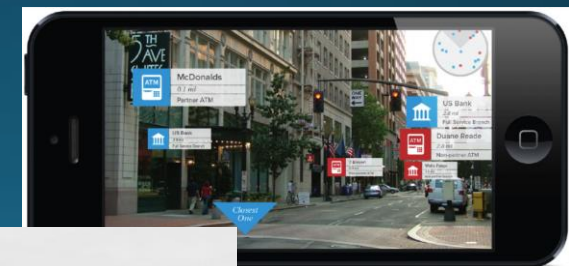
11 Ed Tech Trends to Watch in 2017

http://pdf.101com.com/CampusTech/2017/701921020/CAM_1702DG.pdf

15 Tech Tool Favorites From ISTE 2016

<https://ww2.kqed.org/mindshift/2016/07/05/15-tech-tool-favorites-from-iste-2016/>

- new forms of human-computer interaction (HCI) such as augmented reality (AR), virtual reality (VR) and mixed reality (MR)
- Extensive costs for VR design and development drive the need for collaborative efforts.
- “Whether using AR for a gamified course or to **acclimate new students to campus**, the trend will continue into 2017”

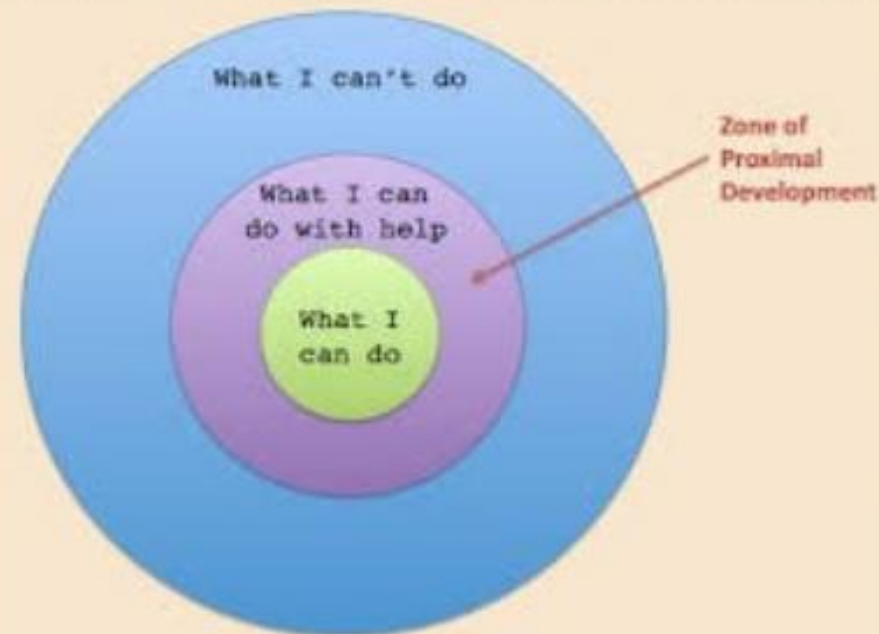


...acclimate new students to campus...

http://pdf.101com.com/CampusTech/2017/701921020/CAM_1702DG.pdf

- Learn about campus and services
- Library Orientation
 - Self-paced
 - Student-centered
 - Project-based
 - Peer-supported (Vygotsky)
 - Gamified learning

Zone of Proximal Development



- is the difference between what a learner can do without help and what he or she can do with help.

<http://web.stcloudstate.edu/pmiltlenoff/bi/>

Virtual Reality (VR) 360 degree movie Library Orientation

- Link to the SurveyMonkey *instructions*: <https://www.surveymonkey.com/r/VRLibrary>
- Short link to SurveyMonkey instructions: <http://bit.ly/VRLib>
- Short link (mobile friendly) to the VR movie only: <http://bit.ly/SCSULIB> (open in [YouTube](#))
- Short link (mobile friendly) to the VR panorama: <http://bit.ly/scsuvrlib>

Library Orientation 1st Step:
<http://bit.ly/VRLib>



(best experience w [Google Chrome](#))

<http://bit.ly/VRLib>

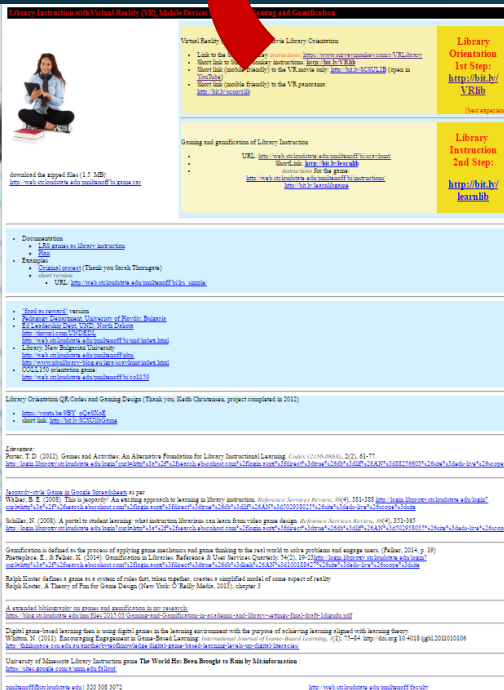
Gaming and gamification of Library Instruction

- URL: <http://web.stcloudstate.edu/pmiltlenoff/bi/scavhunt/>
- ShortLink: <http://bit.ly/learnlib>
 - *instructions* for the game:
<http://web.stcloudstate.edu/pmiltlenoff/bi/instructions/>
<http://bit.ly/learnlibgame>

Library Instruction 2nd Step:
<http://bit.ly/learnlib>



<http://bit.ly/learnlib>



The screenshot shows a website layout with a red arrow pointing from the main heading area to the 'Library Orientation' section. The 'Library Orientation' section includes a list of links and a QR code. The 'Library Instruction' section includes a list of links and a QR code. The 'Library Orientation' section also includes a QR code and a link to the SurveyMonkey instructions. The 'Library Instruction' section includes a QR code and a link to the game instructions. The 'Library Orientation' section also includes a QR code and a link to the SurveyMonkey instructions. The 'Library Instruction' section includes a QR code and a link to the game instructions.

<http://bit.ly/VRlib>

1st step

- two VR settings;
 - a movie set (First VR setting)
 - and a still-image set (Second VR setting)
- Google Cardboard goggles
- Large instructor PC's screen
- Students BYODs

- SurveyMonkey survey



Impact of Virtual Reality (VR) on Library Orientation for Library Patrons

Impact of Virtual Reality (VR), 360 Degree Video, In Particular, on Library Orientation for Library Patrons

A team of a VR specialist and a librarian created a two-step 360 degree library orientation. The first step is a virtual library tour led by the VR specialist and the librarian and the second step is a still-image 360 degree environment for self-exploration. The goal of the project is to establish if the two-step library orientation can supplement and/or replace a real F2F library tour, thus making "anytime/anywhere library tour" to patrons. Please let us know, if more information is needed: modjil@stcloudstate.edu or omiltenof@stcloudstate.edu

Please view the following videos:

Step 1. Watch the following video: MillerCenter360 2 Injected (5min)



Step 2. Watch the second video: Click on the link below (take as much time as you need)

[Miller Center 360 Orientation \(please open this link on your smart phones and insert into S...\)](#)

1. You can view both videos on desktop/laptop and/or any mobile device. You will be able to see all information, but on a flat screen versus the 3D surrounding of the VR.

2. You can view both videos in VR mode, using Google Cardboard goggles (<https://vr.google.com/cardboard/>). If you have goggles and would like to borrow a pair for preview, as well as, if you need directions how to operate, please contact modjil@stcloudstate.edu, 320-308-5605).

After completion of the video overview, please respond to the following questions:

Next

SURVEY MONKEY

SECOND VR SETTING

FIRST VR SETTING

360 Media - Formats

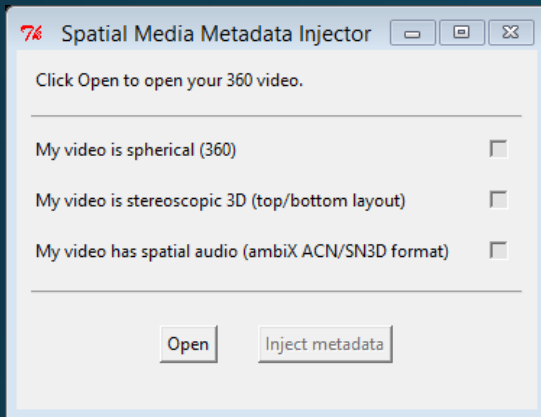
- Same file formats as flat media
 - ([H.264](#), [PNG](#), [JPG](#))
 - Video -- 4K Resolution Limit.
- Multiple Cameras capture overlapping spheres
- Can then be edited with other tools
 - ([Photoshop](#), [Premiere](#), [Gimp](#))



Stereo (3D)

Rendered with multiple cameras
Provides a sense of 3D depth
Each frame is 2 distorted images
Player splits the frame into separate eyes
Same resolution limits; lower image quality

360 Media - Stitching



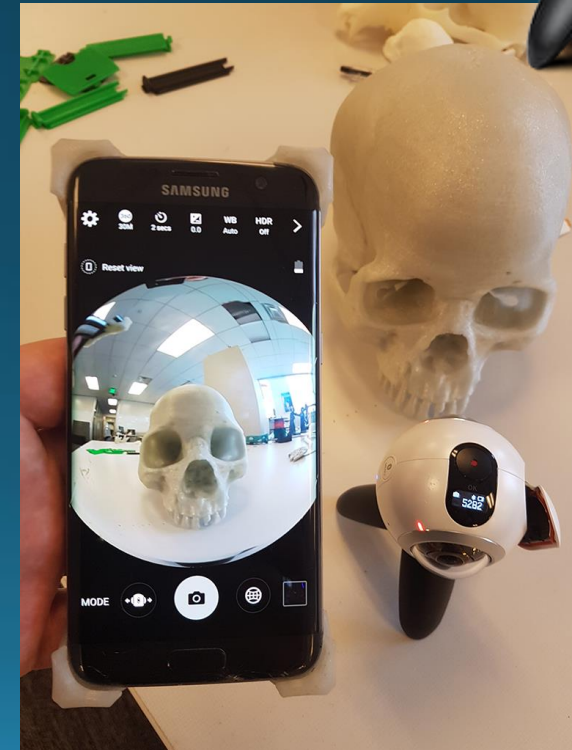
- Images must be corrected to blend hemispheres together
 - [Samsung Action Director](#)
 - Fast, takes up tremendous hard drive space
 - On-Camera Processing
 - Bluetooth over phone. Samsung phones only.



- Metadata in the media informs the player of the frame format
 - Some tools (e.g., Adobe) will report the frame format
 - Tools such as [Spatial Media Metadata Injector](#) also will do it.

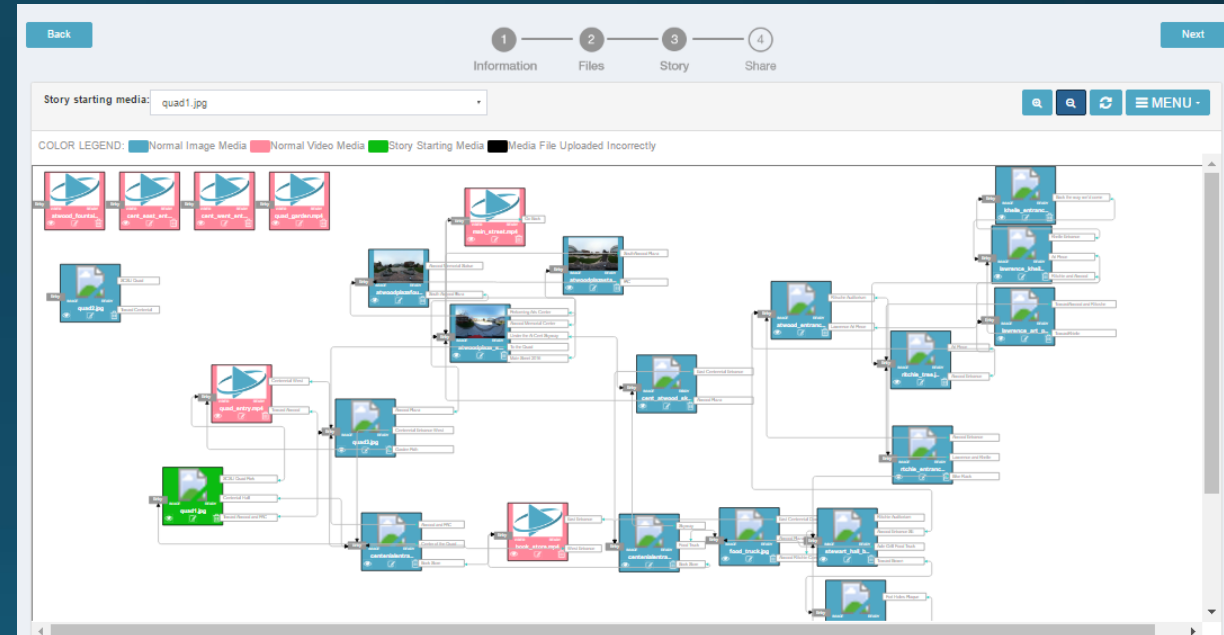
360 Media - Hardware

- In the past 6 months a dozen consumer level 360° cameras have come on the market.
- Samsung Gear 360 (The one we used)
 - Bluetooth control through phone app
 - 4K Video, 7776x3888 JPG
 - Limited use with other phone brands
 - Phone app or Action Director used to stitch.
- There are many cameras under 1000\$
 - At this time only the Vuze does Stereo 3D
- New Cameras will support one-button posting, and live 360° streaming



360 Media - Hosting

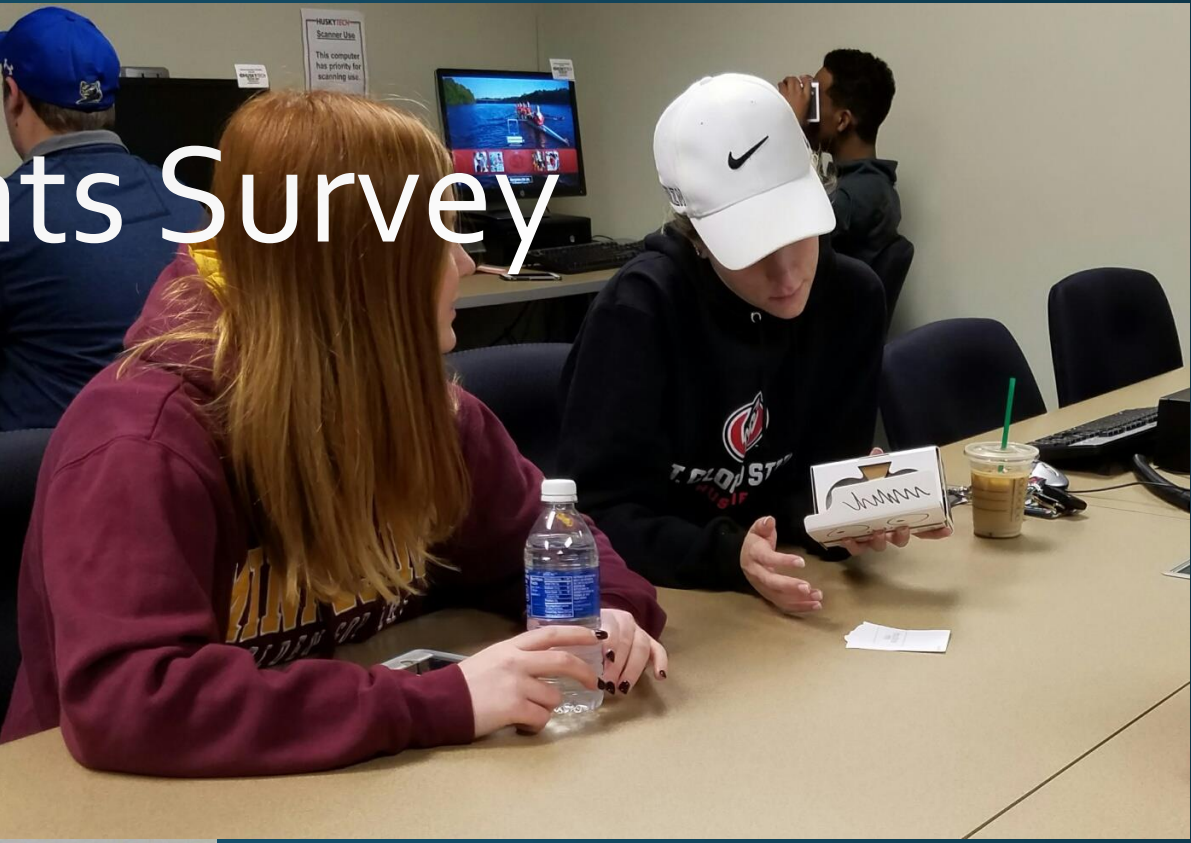
- Youtube, Facebook, Vimeo
 - Metadata must be injected into media
 - Mono in browser and Stereo in headsets supported
 - All provide tools for setup, view analytics.
- Viar360.com
 - Allows mixed media
 - Link different media files into a 'story'
 - Paid subscription service.



360 Media – Students Survey



360 Media – Students Survey



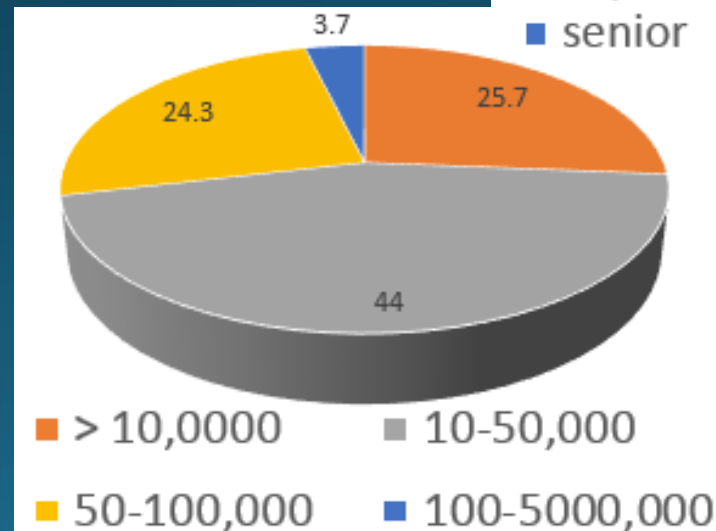
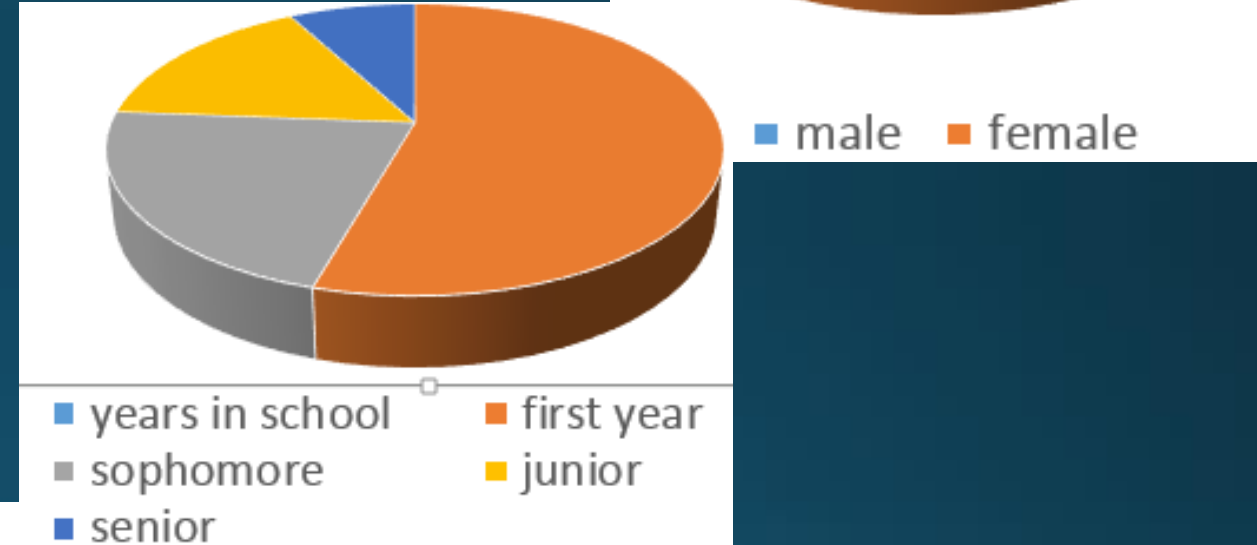
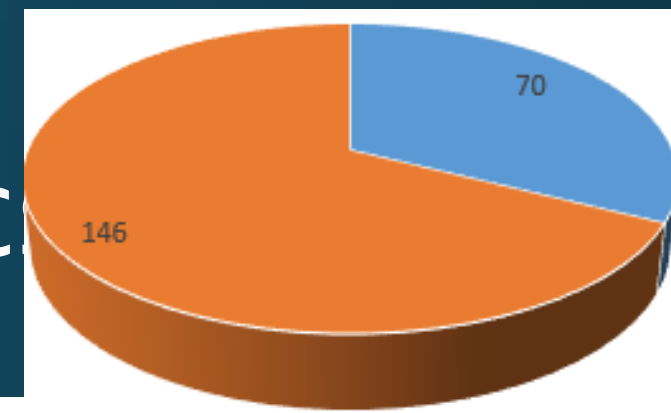
Survey goals

- to establish if 360 Media, as part of the general VR and AR idea, is a feasible platform for student learning
- to find out when using VR, if learning really occurs;
- and to seek if there is any dependency between the first two goals and student demographics.



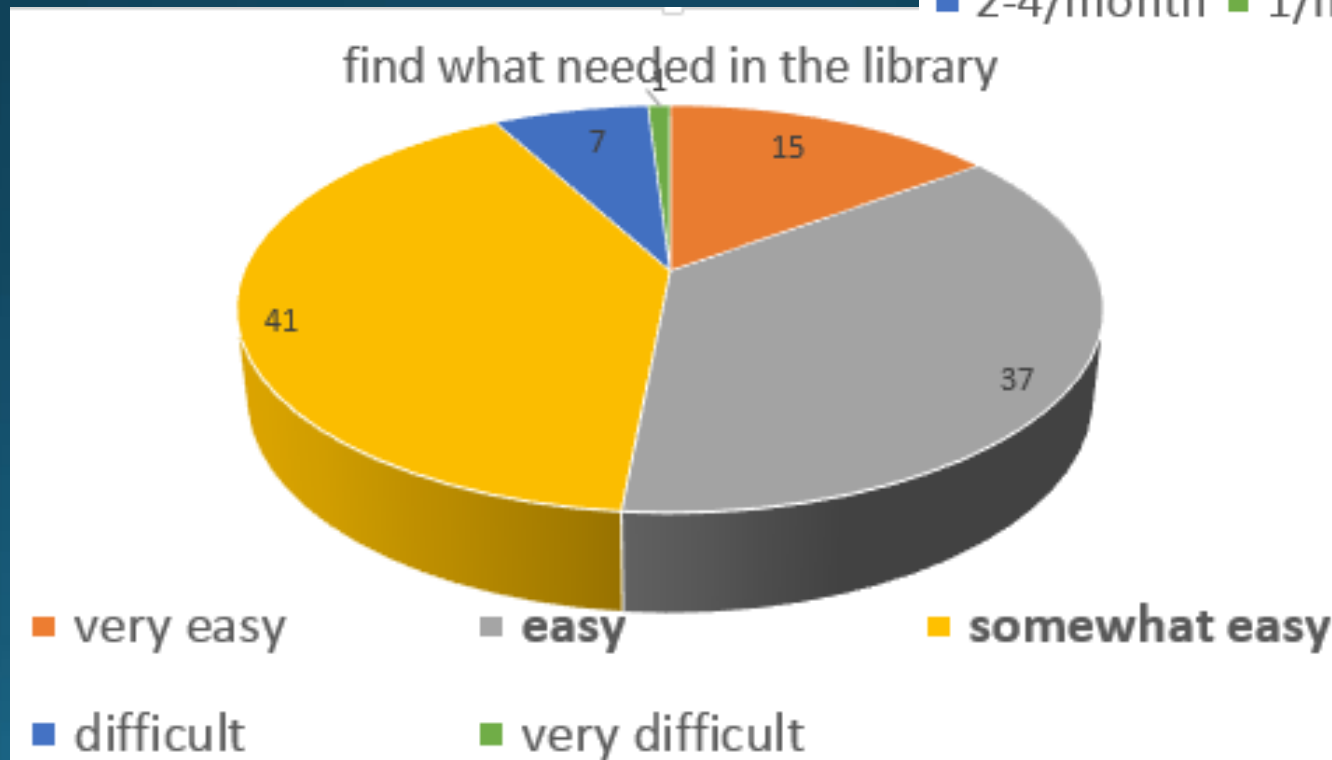
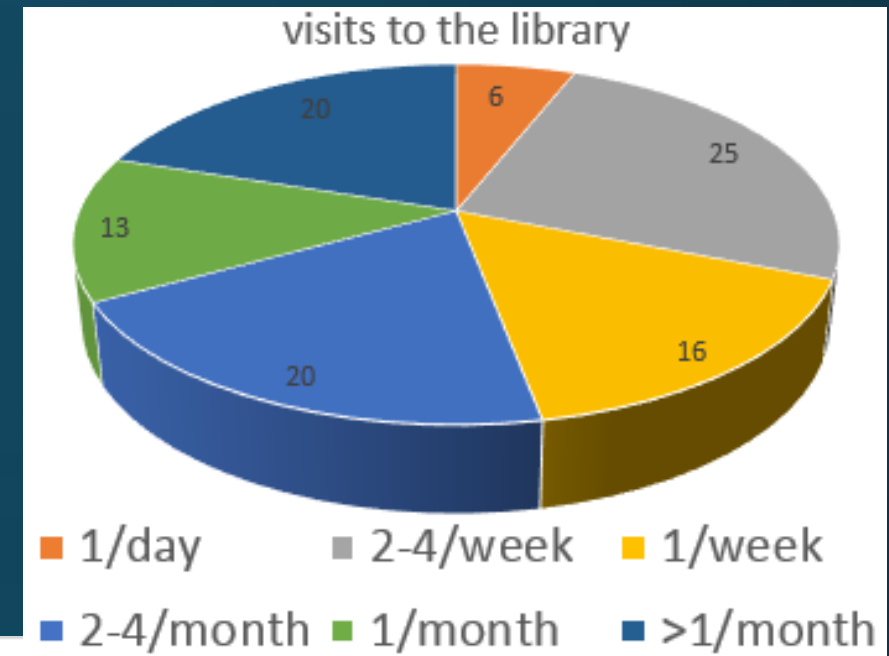
Survey results: demographic

- 221 student participants, 217 participants considered
- Female, 66%, male, 44%
- 50% are first-year students
- 43% come from place of 10-50,000 population



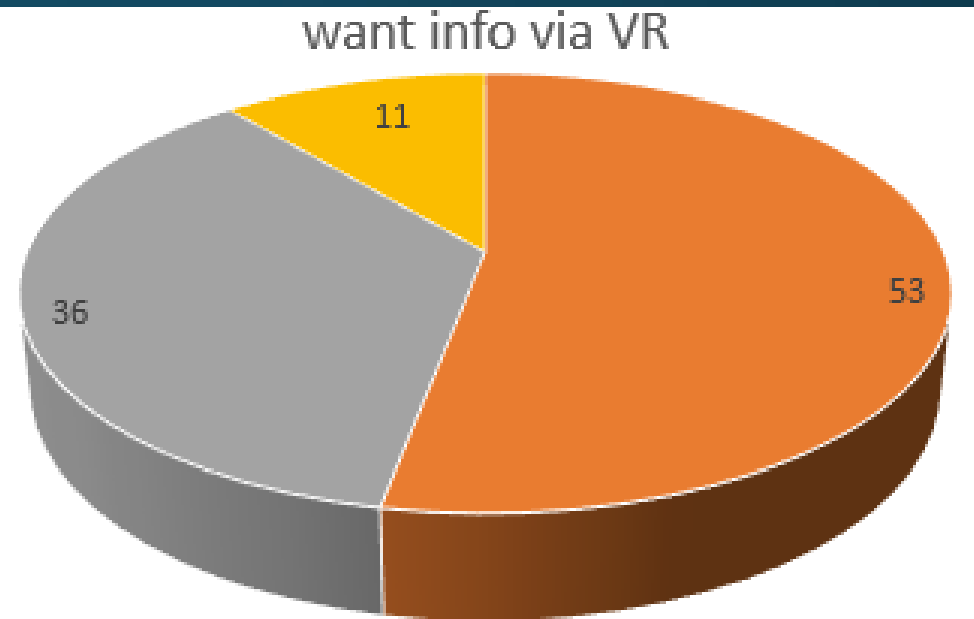
Survey results: library

- Most visits 2-4 times a week
- Easy to orient themselves –
- 37%

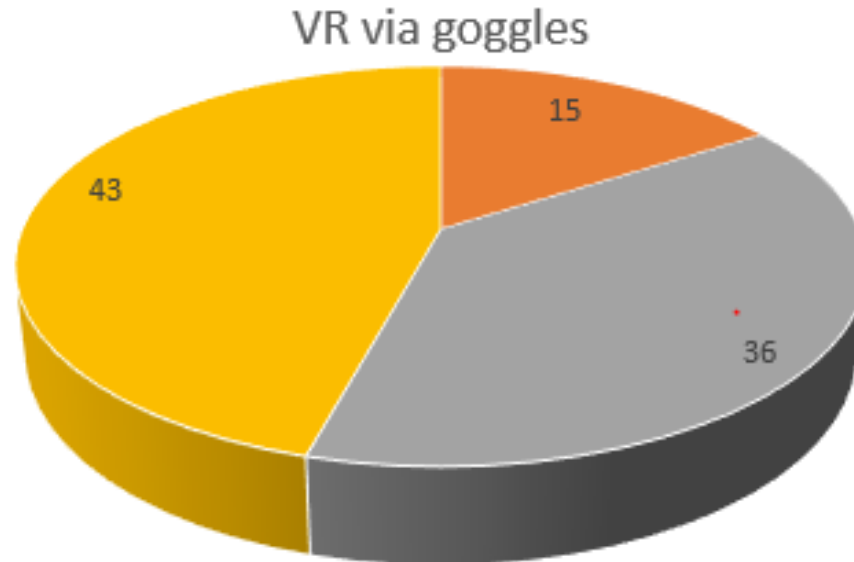


VR, video 360

- want info via VR – 53%
- Watched w GearVR – 15%
- Watched with Google Cardboard- 37%



■ yes ■ no ■ different content/format



■ GearVR ■ G Cardboard ■ Ytube/browser

<http://bit.ly/learnlib> 2nd step

- Learn about library services
- Gamified scavenger hunt
- BYOD
- Split in groups: peer support
- Project-based
- Self-paced, self-directed

Select a destination:

 **Guthrie Theater**
team Orange


 **St. Paul Cathedral**
team Pink

 **Split Rock Lighthouse**
team Braun

 **Sinclair Lewis**
team Red

 **Mall of America**
team Green

 **Fort Snelling**
team Blue

 **Heidemarie Martha Stefanyshyn-Piper**
team Purple

<http://bit.ly/learnlib>

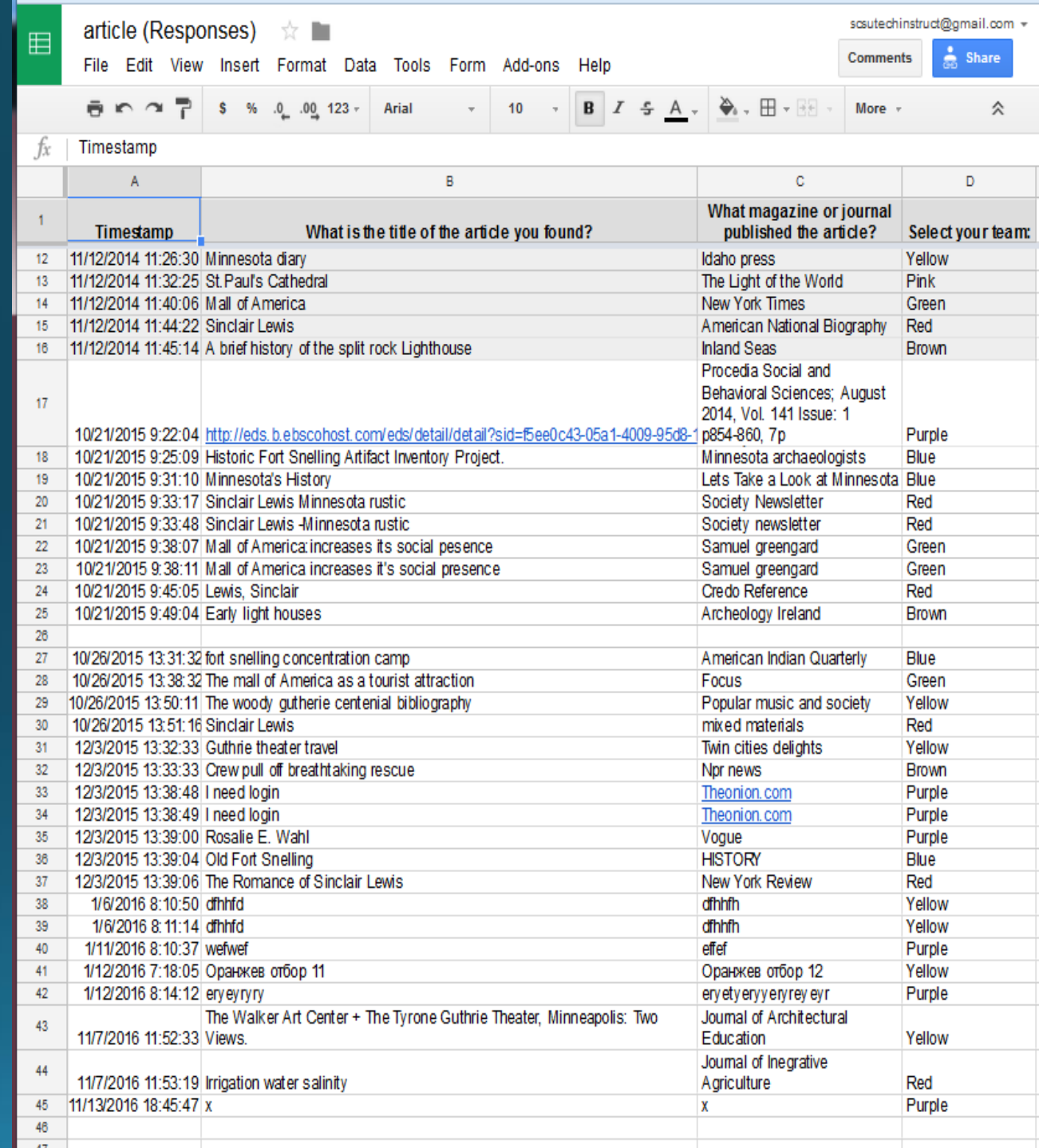
2nd step

- Gamified orientation
- Quantifiable assessment
- Opportunity for
 - Immediate tune up
 - Long-term research

E.g.:

<https://goo.gl/EywX4M>

<https://goo.gl/kRpeB3>



The screenshot shows a spreadsheet application window titled "article (Responses)". The spreadsheet has four columns: "Timestamp", "What is the title of the article you found?", "What magazine or journal published the article?", and "Select your team?". The data is organized into rows, with some rows containing multiple entries for the same article title. The "Select your team" column contains color-coded entries like Yellow, Pink, Green, Red, Brown, Purple, Blue, and Red.

	A	B	C	D
1	Timestamp	What is the title of the article you found?	What magazine or journal published the article?	Select your team?
12	11/12/2014 11:26:30	Minnesota diary	Idaho press	Yellow
13	11/12/2014 11:32:25	St Paul's Cathedral	The Light of the World	Pink
14	11/12/2014 11:40:06	Mall of America	New York Times	Green
15	11/12/2014 11:44:22	Sinclair Lewis	American National Biography	Red
16	11/12/2014 11:45:14	A brief history of the split rock Lighthouse	Inland Seas	Brown
17			Procedia Social and Behavioral Sciences; August 2014, Vol. 141 Issue: 1	
	10/21/2015 9:22:04	http://eds.b.ebscohost.com/eds/detail/detail?sid=f5ee0c43-05a1-4009-95d8-1	p854-860, 7p	Purple
18	10/21/2015 9:25:09	Historic Fort Snelling Artifact Inventory Project.	Minnesota archaeologists	Blue
19	10/21/2015 9:31:10	Minnesota's History	Lets Take a Look at Minnesota	Blue
20	10/21/2015 9:33:17	Sinclair Lewis Minnesota rustic	Society Newsletter	Red
21	10/21/2015 9:33:48	Sinclair Lewis -Minnesota rustic	Society newsletter	Red
22	10/21/2015 9:38:07	Mall of America: increases its social pesence	Samuel greengard	Green
23	10/21/2015 9:38:11	Mall of America increases it's social presence	Samuel greengard	Green
24	10/21/2015 9:45:05	Lewis, Sinclair	Credo Reference	Red
25	10/21/2015 9:49:04	Early light houses	Archeology Ireland	Brown
27	10/26/2015 13:31:32	fort snelling concentration camp	American Indian Quarterly	Blue
28	10/26/2015 13:38:32	The mall of America as a tourist attraction	Focus	Green
29	10/26/2015 13:50:11	The woody gutherie centenal bibliography	Popular music and society	Yellow
30	10/26/2015 13:51:16	Sinclair Lewis	mixed materials	Red
31	12/3/2015 13:32:33	Guthrie theater travel	Twin cities delights	Yellow
32	12/3/2015 13:33:33	Crew pull off breathtaking rescue	Npr news	Brown
33	12/3/2015 13:38:48	I need login	Theonion.com	Purple
34	12/3/2015 13:38:49	I need login	Theonion.com	Purple
35	12/3/2015 13:39:00	Rosalie E. Wahl	Vogue	Purple
36	12/3/2015 13:39:04	Old Fort Snelling	HISTORY	Blue
37	12/3/2015 13:39:06	The Romance of Sinclair Lewis	New York Review	Red
38	1/6/2016 8:10:50	dfhfhf	dfhfhf	Yellow
39	1/6/2016 8:11:14	dfhfhf	dfhfhf	Yellow
40	1/11/2016 8:10:37	wefwef	effef	Purple
41	1/12/2016 7:18:05	Оранжев отбор 11	Оранжев отбор 12	Yellow
42	1/12/2016 8:14:12	eryeryry	eryetyeryeryeyr	Purple
43	11/7/2016 11:52:33	The Walker Art Center + The Tyrone Guthrie Theater, Minneapolis: Two Views.	Journal of Architectural Education	Yellow
44	11/7/2016 11:53:19	Irrigation water salinity	Journal of Inegrative Agriculture	Red
45	11/13/2016 18:45:47	x	x	Purple



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<https://www.facebook.com/SCSUVizLab>

<https://www.facebook.com/InforMediaServices/>



discussion time!

back·chan·nel

/ˈbɑk,ʧɑnl/ 

Noun

1. A secondary or covert route for the passage of information.
2. A sound or gesture made to give continuity to a conversation by a person who is listening to another.

Contact Info:

Link to live session: <http://scsu.mn/2mSLKxc>

- Plamen Miltenoff, Ph.D. Professor



pmiltenoff@stcloudstate.edu



[@SCSUtechinstruc](https://twitter.com/SCSUtechinstruc)



<http://web.stcloudstate.edu/pmiltenoff/faculty/>



<http://blog.stcloudstate.edu/ims>



<https://www.facebook.com/InforMediaServices/>

- Mark Gill, Ph.D., Director Visualization Lab



mcgill@stcloudstate.edu



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