



# Elementary Lessons with StreetView and 360° Camera

# Proposed idea

- Purchase 360° camera (UNI money)
- Develop workflow to
  - capture 360 imagery
  - Publish to StreetView
- Develop elementary school lessons based around
  - GPS, Latitude/Longitude, 360 cameras, StreetView
  - Classroom and outside
- Instructions for others to use

Purchased Theta S and V,  
mainly used Theta V for this  
project



# Schools

- Mainly worked with two 4<sup>th</sup> grade classes from Orchard Hill Elementary School in Cedar Falls Iowa
- Also two technology instructional coaches from CF School District came to learn so they could potentially implement in other schools (they have cameras)
- Introduced to Expanded Learner Program Teacher from Orange Elementary and Dr. Walter Cunningham School for Excellence in Waterloo

# GeoTREE/Geography Interns

- Ben Gavin – GeoTREE
  - developed workflow for capturing 360 imagery and publishing to StreetView
- Josh Dyer – Social Science Education intern works with Geographic Alliance of Iowa
  - Developed and delivered lessons

# Three Lessons for two classes

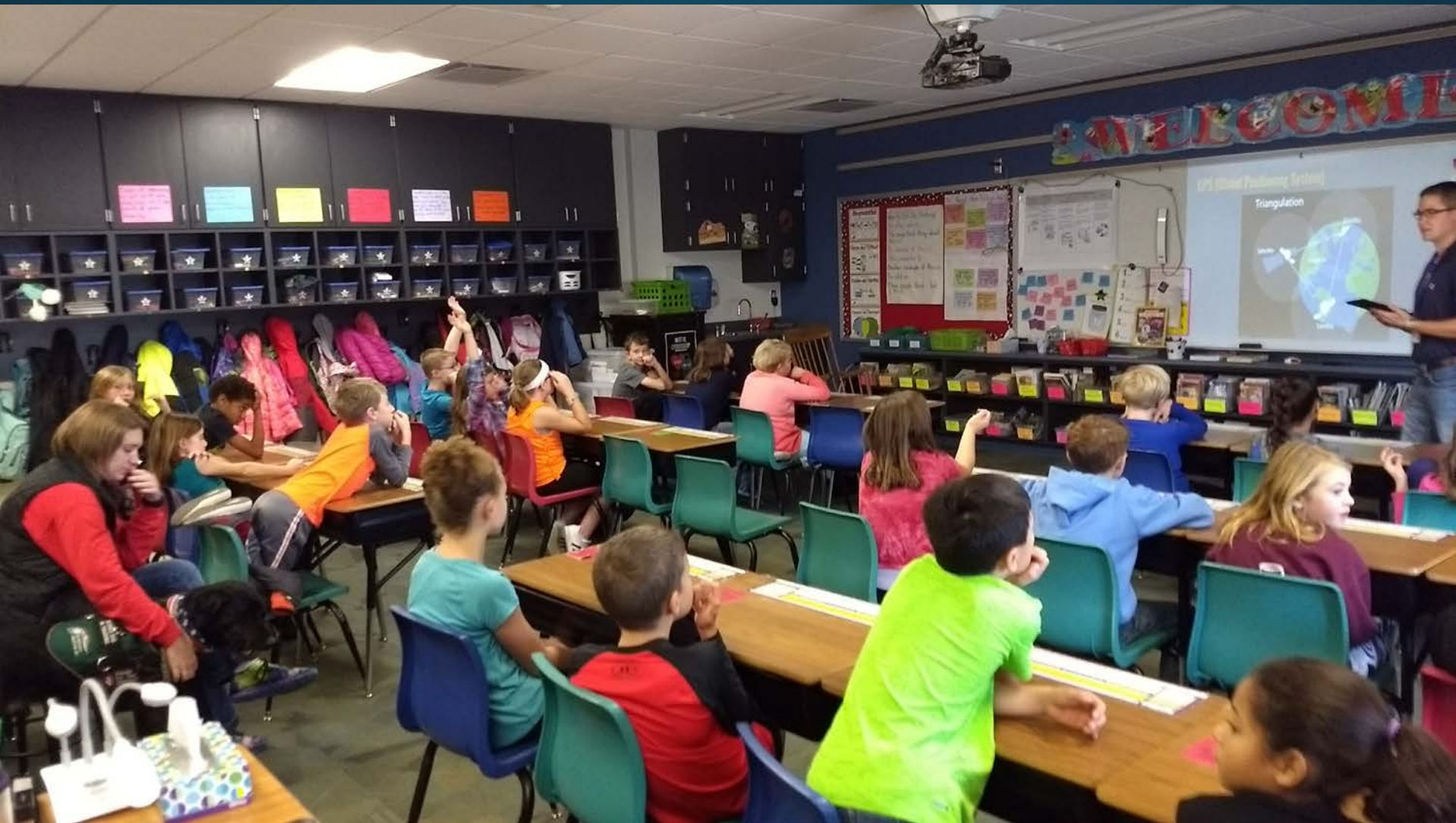
- ~30 minutes M, W, F per class
- A pre-lesson where Josh covered basics of GPS, latitude/longitude, Google StreetView, and how the 360° camera works
- Second lesson where we capture 360° in and outside of school
- Third lesson where we published to StreetView

# Evaluation

- Very simple questionnaire provided before 1<sup>st</sup> lesson and then at end of 3<sup>rd</sup> lesson to see if they gained any knowledge

1. What is the technology that allows accurate locations to be recorded on a mobile device such as an iPad or mobile phone?
  - a. GPS
  - b. Magic
  - c. The internet
2. What does GPS stand for?
  - a. Global Positioning System
  - b. Geographic Principals Setting
  - c. Gridded pole section
3. What is Google Street View?
  - a. A way to see which street you live on
  - b. 360° pictures that allow virtual exploration of a place
  - c. Pictures taken from airplanes
4. How many satellites are necessary to find a position on the surface of the earth?
  - a. 1
  - b. 18
  - c. 3
5. What is the numbering system used to indicate locations on the earth's surface?
  - a. Positioning grid system
  - b. Global referencing system
  - c. Latitude/longitude

Josh presenting first lesson in Ms. Shook's class





Josh presenting lesson in Ms. Hewett's class





360 image taken in Ms. Hewetts class with CF School District Technology Coaches attending





GeoTREE student Ben Gavin working with Stacy Snyder at Orange Elementary School in Waterloo



Each student was given a chance to take one photos inside or outside of the school and that was published to StreetView





<https://goo.gl/maps/nnrbHtm5A2L2>



Orchard Hill Elementary School

Karen Shook

Street View - Nov 2017



# Pre and post questionnaire results

Ms. Hewett Class

	A	B	C	D	E	F	G	H
	QuestionNumber	TotalAnswersPre	#RightPre	PercentPre	TotalAnswersPost	#RightPost	PercentPost	Improvement%
	1	24	20	83.3	25	25	100.0	16.7
	2	24	19	79.2	25	24	96.0	16.8
	3	24	13	54.2	25	24	96.0	41.8
	4	24	9	37.5	25	24	96.0	58.5
	5	24	21	87.5	25	24	96.0	8.5

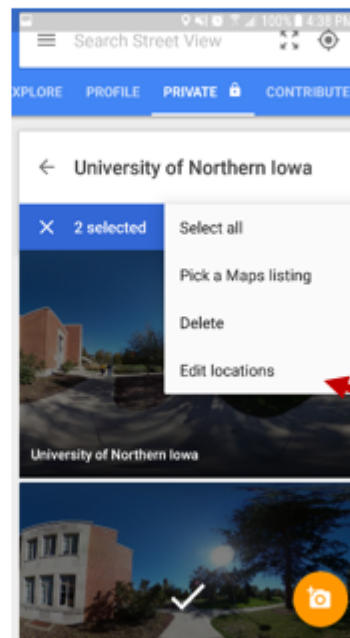
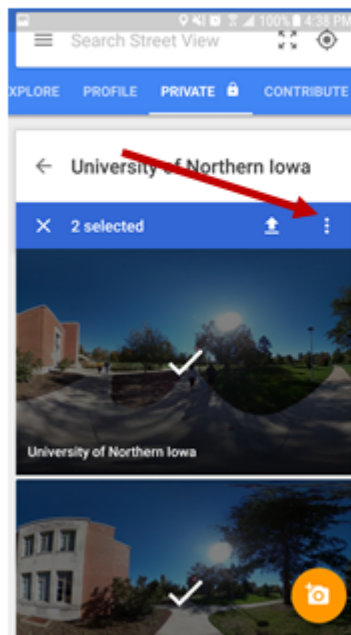
Ms. Shook Class

	A	B	C	D	E	F	G	H
	QuestionNumber	TotalAnswersPre	#RightPre	PercentPre	TotalAnswersPost	#RightPost	PercentPost	Improvement%
2	1	23	22	95.7	22	21	95.5	-0.2
3	2	23	18	78.3	22	21	95.5	17.2
4	3	23	12	52.2	21	19	90.5	38.3
5	4	23	11	47.8	22	21	95.5	47.6
6	5	23	14	60.9	22	18	81.8	20.9



## Instructions document shared with educators

10. You can also edit the location of your photo by tapping the 3 dots next to the upload selections and tapping **Select All**. This will also allow you to edit the locations of your photos, which may be necessary if you're phone wasn't receiving an adequate GPS signal during the time the photo was captured.



11. To edit locations, select **Edit Locations** from the 3 dot drop down menu.  
12. Tap and manually move photos to appropriate locations on the map. Make sure to zoom in and



Questions?  
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