Bringing the World to our Students: Developing Virtual Reality Field Trips

Keith Landa, Purchase College SUNY

http://bit.ly/STC2019_tours

Agenda

Talk a bit about VR (and AR)

Discuss VR goals for my class

Look at examples and tools

- Google Street View (download the app)
- Round.me
- Google Tour Creator

VR technology

Decreasing price, increasing performance
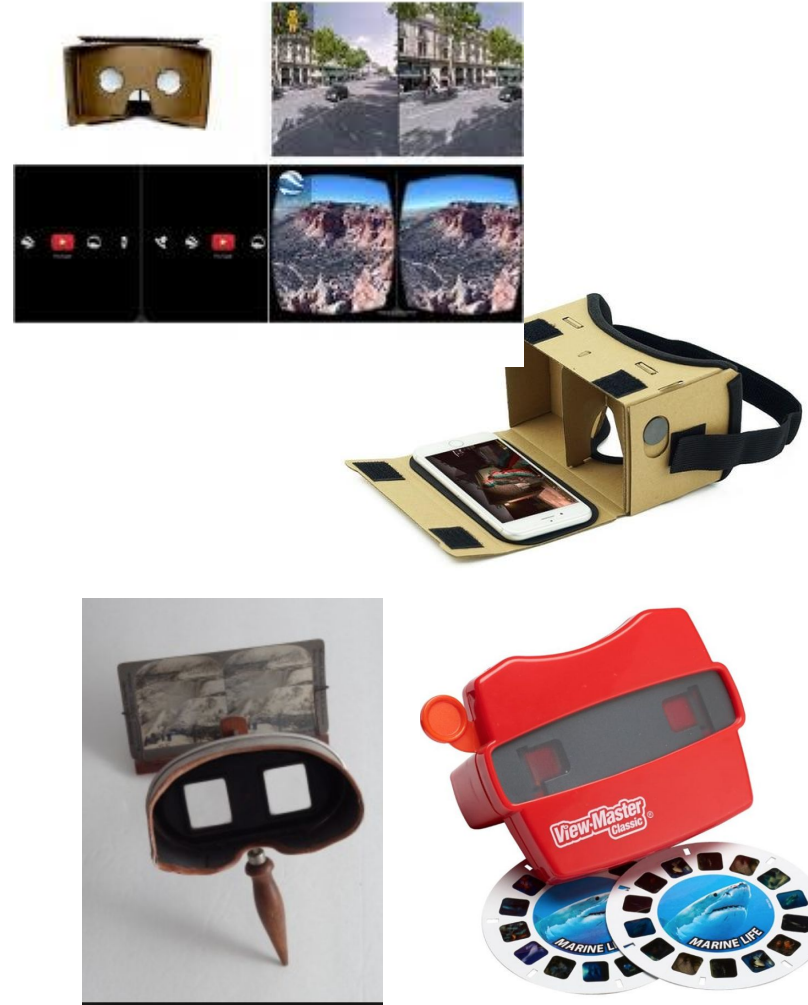-   Immersive experiences

VR technology

Decreasing price, increasing performance
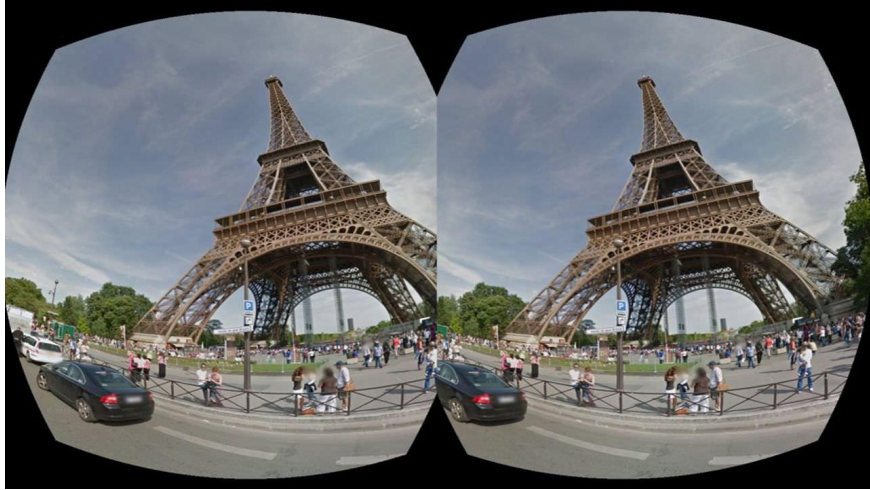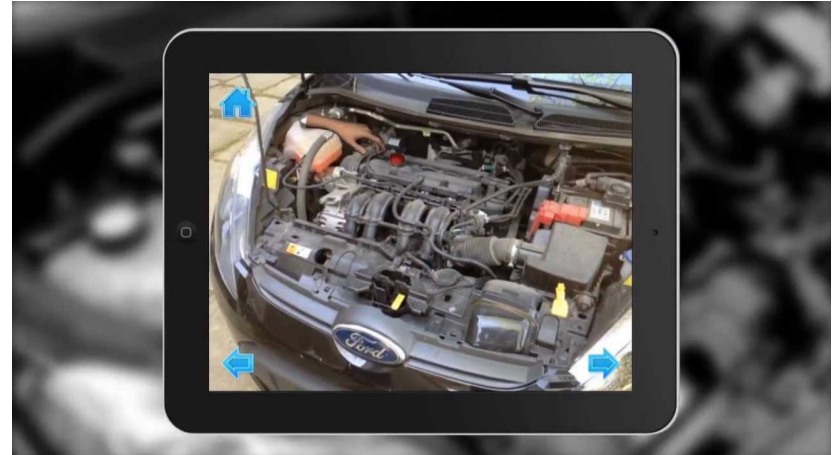-   Immersive experiences
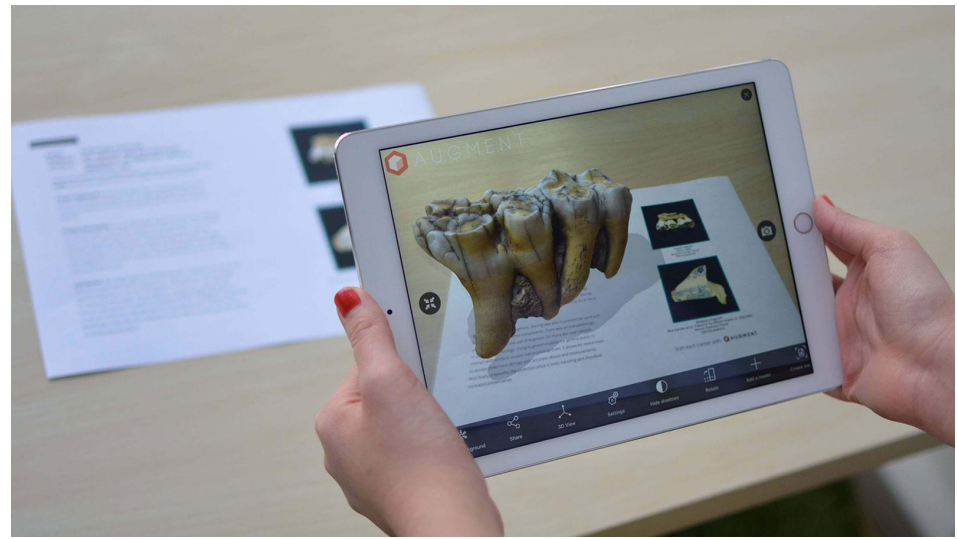
VR in education

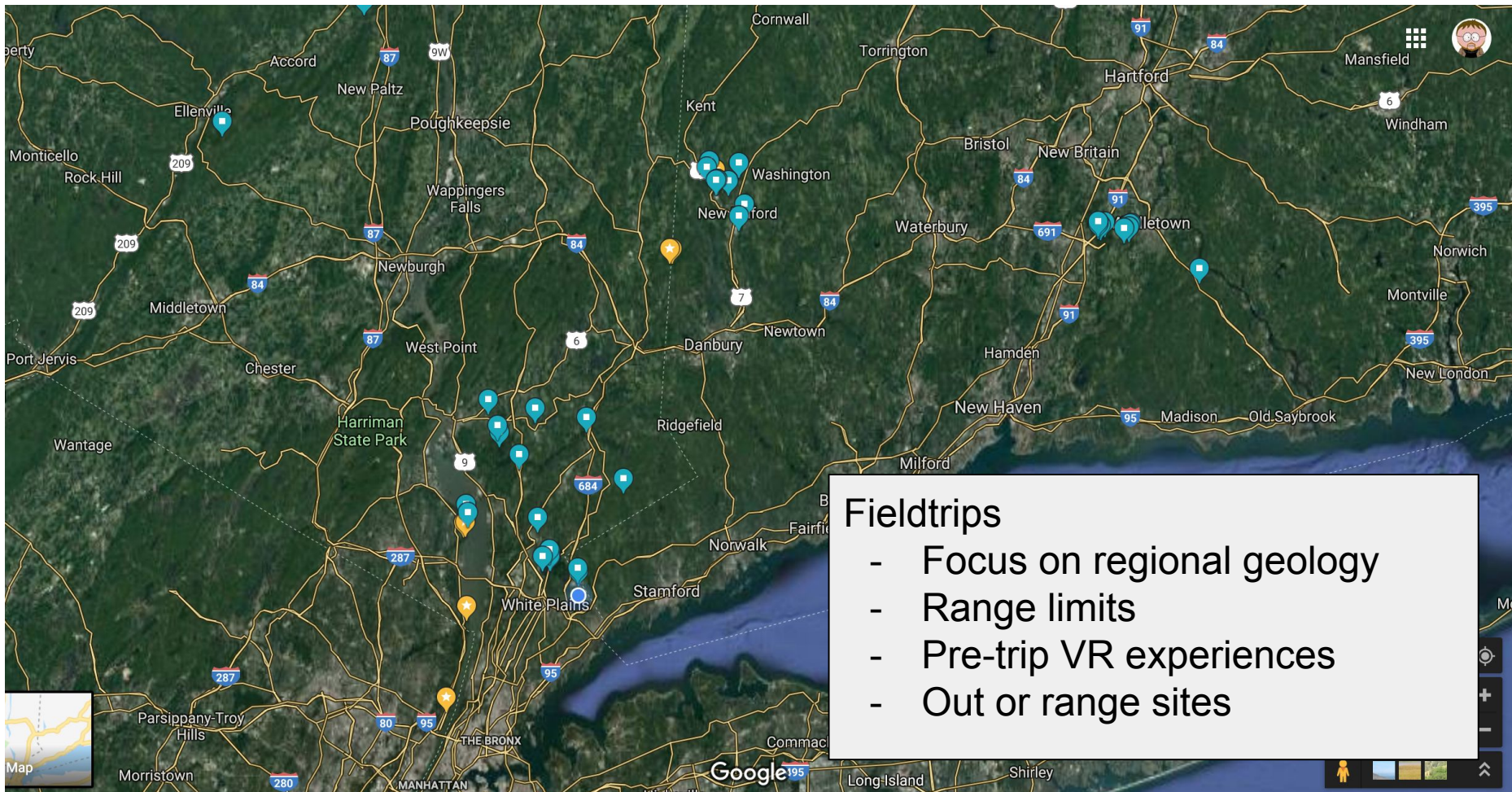# Virtual Reality Field Trips

AR in education

ENV 2720 Geology

- "Sophomore-level"
- ENV majors
- Fall 2016
- Lecture / lab course
  - Field component

Fieldtrips
- Focus on regional geology
- Range limits
- Pre-trip VR experiences
- Out or range sites

Project is a work in progress

- Initial interest in using AR for the class
- Alternative project: virtual field trips
    - Limited time last summer to create tours
    - Course is Fall semester only
    - Limited pilots last fall
- Some work to capture material for tours while out on field trips
    - Ex: New Milford bedrock geology sites: http://bit.ly/NM_geol
- Networking and infrastructure issues
- Desktop vs. mobile views

Google Street View

Mount Baldy spherical panorama - http://bit.ly/My_Baldy

View on desktop computer vs. view on phone

(Similar results in Facebook; but this not "behind the wall")

Street View demo
- Capturing spherical panoramas with Street View
- Stitching effects
- Viewing (desktop vs phone; dragging, panning, Google Cardboard)
- Publishing

Image format

360º cameras

Ricoh Theta V

Samsung Gear 360

Field site images

Round.me

Mianus River Gorge, abandoned quarry: http://bit.ly/Mianus_Gorge

Round.me demo
- Uploading spherical panoramas
- Tour information
- Adding hot spots
- Publishing

Google Tour Creator

NYPS Quarry Trip - http://bit.ly/NYPS_quarry

Google Tour Creator demo (https://vr.google.com/tourcreator/)
- Creating tours
- Cover photo and info
- Adding scenes
- Adding points of interest
- Publishing
- Example: https://poly.google.com/view/8kZDrzIbNTr

Next steps

Summer visits to sites around NY, CT, and NJ to capture high-quality 360 spherical panoramas showing geological formations and landforms, along with supplemental imagery

Google Tour creation for each of the sites

Google Poly (Google Tour Creator) now works with Google Expeditions
- Create tours with multiple scenes in Google Tour Creator
- Use Google Expeditions to facilitate in class discussion
- Google Expeditions demo (if networking allows)

Gigapan?

keith.landa@purchase.edu