Building & Teaching with Immersive VR

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Developing an Immersive Virtual Reality Environment to Explore the Lehigh River Watershed and the Lehigh Gap

Hershey, PA
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A realistic immersive VR environment of the Lehigh River Watershed
Target Location:
Lehigh River Watershed

About our watershed:

Urban core in south (ABE)

4 abandoned mine drainage streams

Forested and rural in the North
What?

An immersive Virtual Field Trip in the Lehigh Gap
Immersive Virtual Field Trip (iVFT)

Lehigh Gap

About:

- Geography of the Lehigh Gap
- Historical Transportation Hub
- Zinc Smelting >> Moonscape >> Revegetation
- Appalachian Trail
“Why?”
Can you relate?

Source: PBS NewsHour Schools are watching students' social media, raising questions about free speech - Published on Jun 20, 2017
Immersion → engagement, motivation, content learning

Diversity/Multiculturalism included → make experiences relatable to a broader audience.

Accessibility features.

Authentic and engaging (make-up) alternative for field trips or cost / risk prohibitive outdoor explorations.
That’s why!

These students in São Paulo are using technology to purify river water
We needed this! But how?!

Authenticity
Realism
Engagement
The Design Process
Empathize

Define

Ideeate

Prototype

Test

User + Need + Insight = POV (point of view)

Build to Last Learn

Show, don't tell

Search for rich stories and find some LOVE

YES! and...
YES! and...
YES! and...
YES! and...
YES! and...
YES! and...
YES! and...
YES! and...

Start all over (do it as many times as possible)

By Guido Kovalskys
Documentation

1 Documentation Edit History

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Date: 7/11/18
Description of Change: Initial Draft

Version: 0.3
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LEHIGH WATERSHED: 
THE VR EXPERIENCE

Explore the Lehigh River Watershed

Hike in the Lehigh Gap area
Take a look around the target. Can you name this place?

- Building 21 HS
- Blue Mt. Ski Resort
- Dorney Park
- Lehigh Valley Mall
Anthracite, a black and shiny coal-like rock deriving from buried plants in a swamp environment, can be found on the ground below. It was spilled from trains going through the gap.
What’s next?

• Adding additional content
  - new version of the first field trip;
  - EES Geological field trip;

• Prototype testing in an urban high school with Oculus Go this Spring

• Continued development on modules – internal Lehigh support
THANK YOU!

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