Virtual Landscapes
Geoscience Education in Digital Environments

http://www.see.leeds.ac.uk/virtual-landscapes/
Where’s the Dead Sheep?
Making Virtual Landscapes Real

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Virtual Landscapes Project

- Screen-based virtual reality environments, created using the Unity 3D game engine software.

- Aims:
  - Enhance the training students receive in geological field and map skills prior to going in the field.
  - Develop 3D visualisation skills.
  - Accessible alternative fieldtrips.

- Freely available on the internet [http://www.see.leeds.ac.uk/virtual-landscapes/](http://www.see.leeds.ac.uk/virtual-landscapes/)

- Winner: Times Higher Education Award for Outstanding Digital Innovation in Teaching or Research, 2016.
Geological Mapping & Field Skills

- Designed as an in-class exercise with paper field slip and notebook.
- Map a virtual landscape populated with rock outcrops
- Replicate aspects of the mapping experience - *not a fieldwork replacement!*
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Geological Mapping & Field Skills

- Easier to focus on learning and teaching the skills in a classroom than in the field.
- Students make the same mistakes they make when learning in the field.
- 77% agreed or strongly agreed – “I feel better prepared for the field”
- 84% agreed or strongly agreed – “Overall, I found the virtual world training a useful experience.”
- “I’m enjoying this way more than is natural!”
- “Good alternative to normal teaching.”
Why a dead sheep?

Memorable and engaging experiences aid learning

What makes the virtual landscape an immersive experience …

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The Landscape

Three River Hills

Anglesey

Three River Hills

Anglesey

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Virtual Anglesey

The Real Place

http://www.see.leeds.ac.uk/virtual-landscapes/
The Rocks

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Scale and Speed

- Less important in imaginary landscapes. Very important for real ones.
- Affects sense of place and perception of speed.
- Speed set to “brisk walk” to replicate time management and decision making skills.
- Students want to go faster/fly/teleport/respawn.
- Answer: smaller landscapes, outcrops closer together and/or a “run” mode.

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The Sound Track

- Sheep
- Birds
- Running water
- Footsteps
- RAF flying over
- Flies buzzing round dead sheep
- Waves
- Wind
- Seagulls
- Notebook opening
- Wind turbines

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Assets

- Give a sense of scale.
- Give a sense of place.
- Provide reference points in the landscape.
- Perform a function (“travel” in minibus).
- Add history to a landscape.
- Form story seeds.
- Vital to the immersive experience.

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Where is the dead sheep…?

Lighthouse Bay

Three River Hills
Thank you

Just resting

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