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Virtual Landscapes

Geoscience Education in Digital Environments

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Teaching Field Skills in Virtual Landscapes

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Virtual Landscapes Project

- A collaboration between the School of Earth and Environment and Leeds College of Art.
- Screen-based virtual reality environments, using the Unity 3D game engine.
- Winner of the THE Award Outstanding Digital Innovation in Teaching or Research, 2016.

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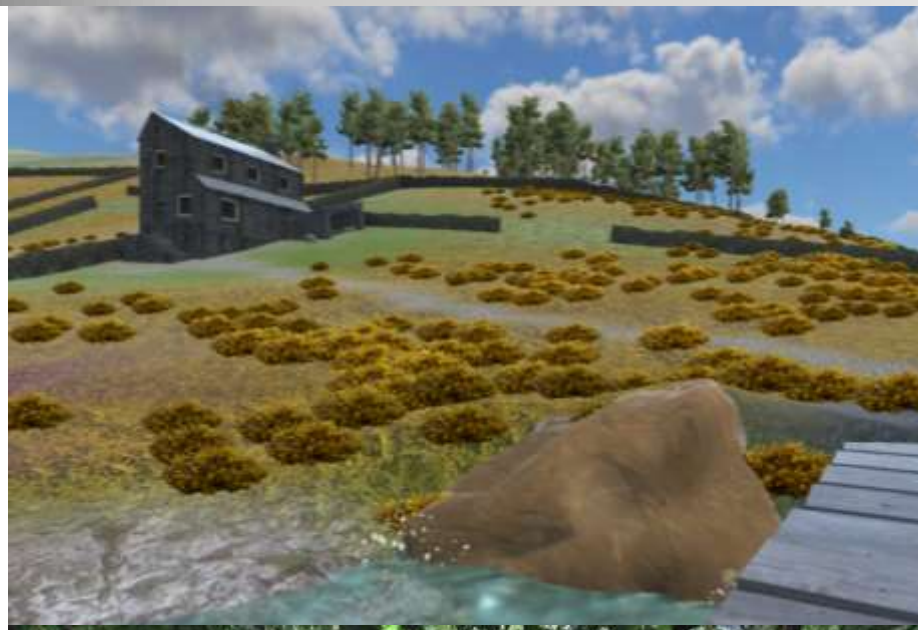
Virtual Landscapes Project

- Enhance the training students receive for geological fieldwork.
- Develop 3D visualisation skills.
- Accessible alternative fieldtrips.
- Freely available on the internet http://www.see.leeds.ac.uk/virtual-landscapes/
- Used in the UK, US, South Africa, Germany and Guyana.



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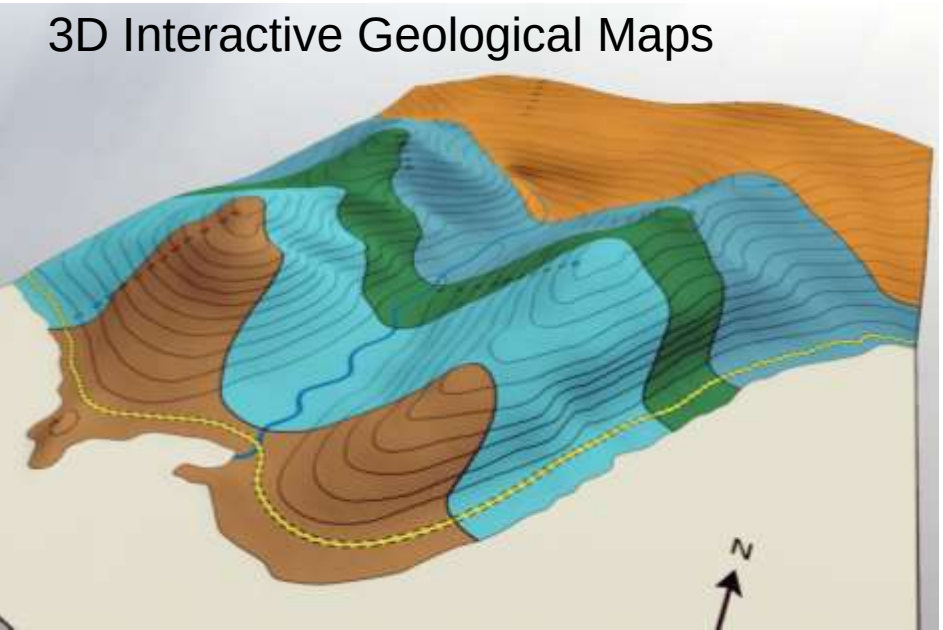
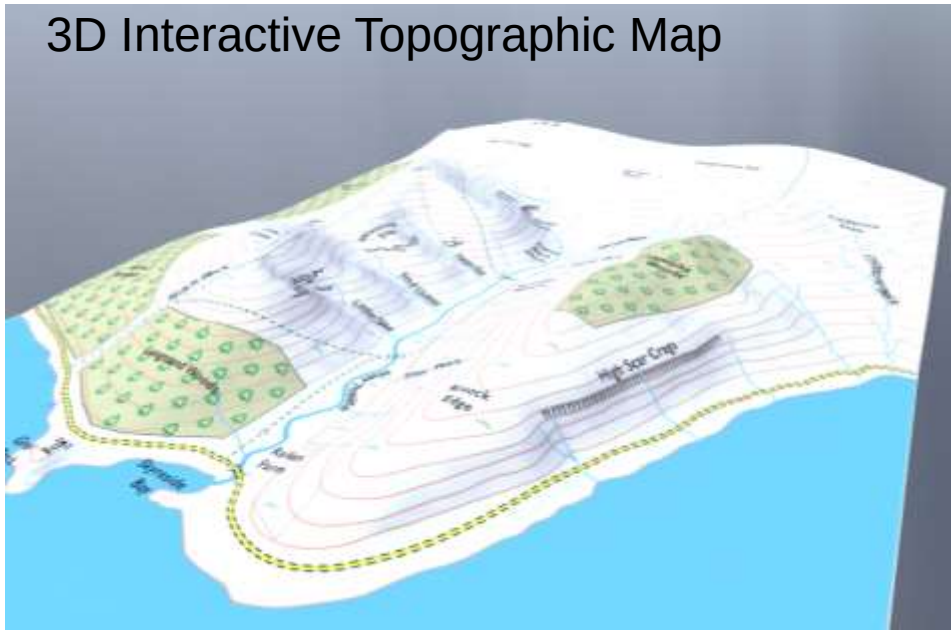
Current Virtual Landscapes





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Geological Mapping & Field Skills

- Designed as an in-class exercise with paper field slip and notebook
- Virtual landscape populated with outcrops
- Replicate aspects of the mapping experience - ***not a fieldwork replacement!***
- Cannot teach observational skills

Virtual Training Environment
GEOLOGICAL MAPPING
& FIELD SKILLS
LEEDS COLLEGE OF ART
UNIVERSITY OF LEEDS
Recorded with
SCREENCAST MATIC
For educational use only

Use in the Class Room

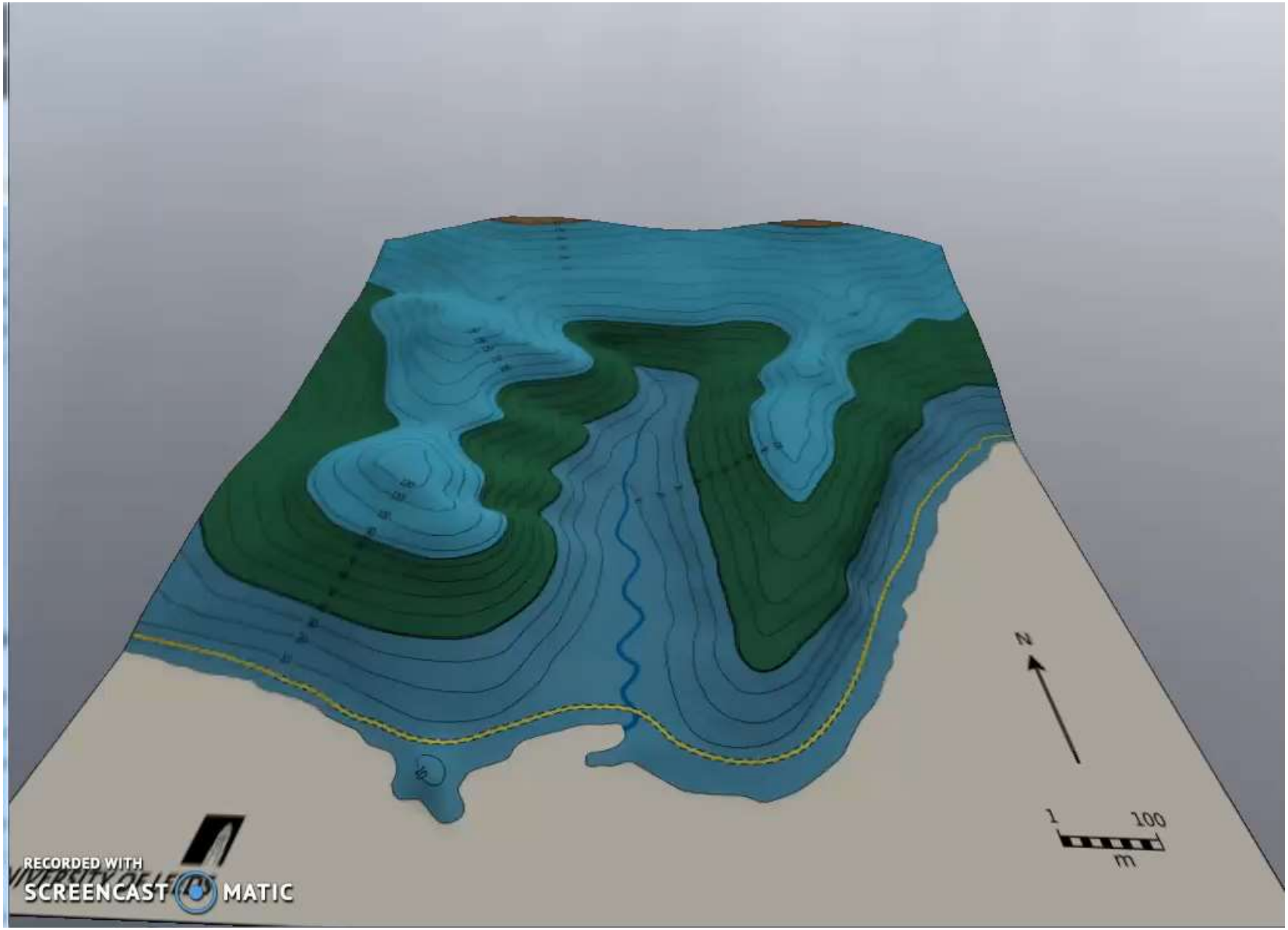
- Students are more inclined to plot readings directly on to their field slip
- Less inclined to record data in notebook
- “Outcrop capture” – get ’em on the map fast; worry about the geology later
- Made same mistakes as in the field!

Student Feedback

- "I feel/felt more confident with how to plot data on my field slip"
  - Pre-trip 89%
  - Post-trip 87%

- "I feel/felt better prepared for the field"
  - Pre-trip 69%
  - Post-trip 60%

- "I found the virtual training a useful experience mapping"
  - Pre–trip 80%
  - Post–trip 71%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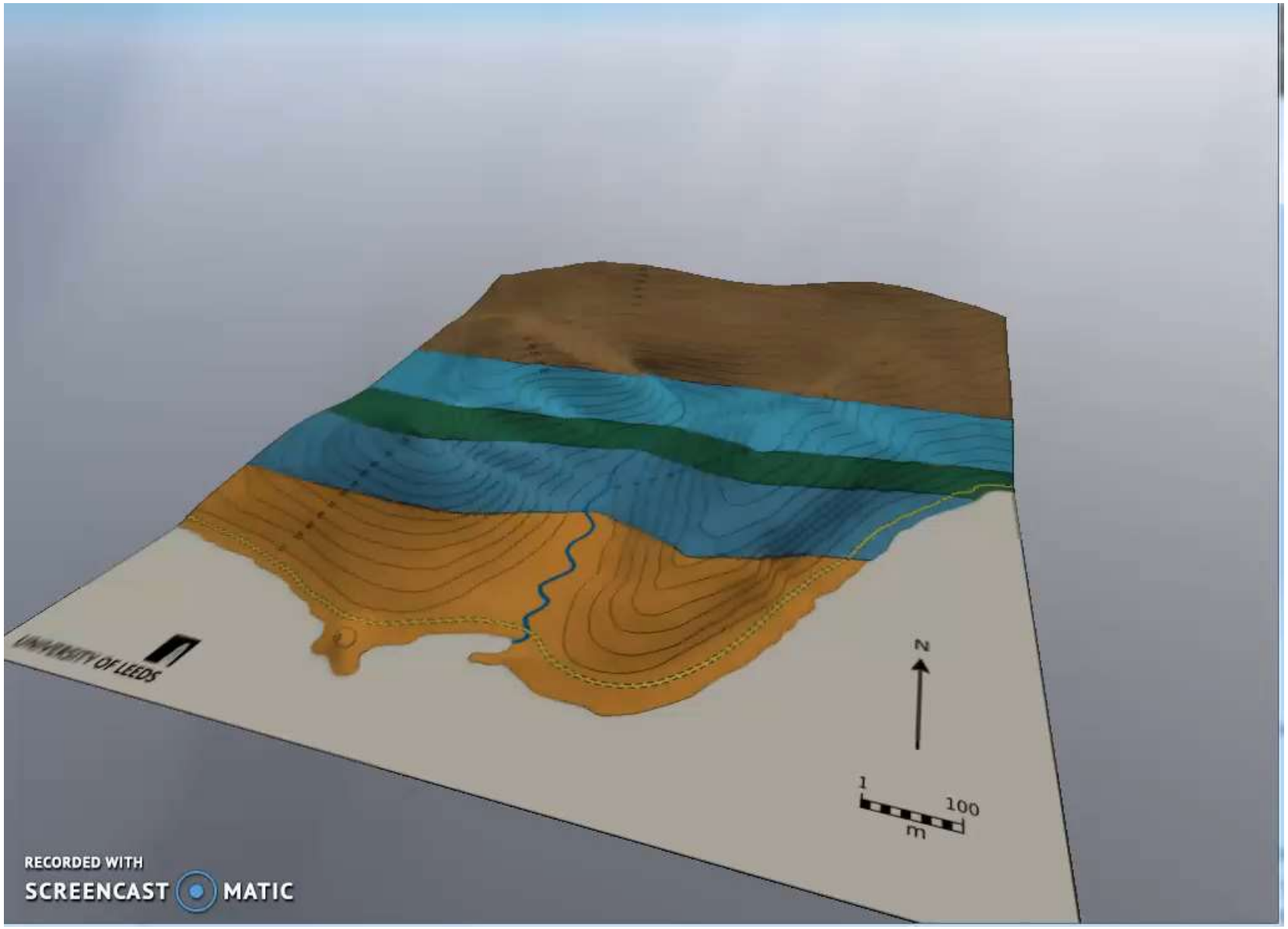
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Coming soon

New Virtual Landscapes

MSc Engineering Geology

Alternative Anglesey Fieldtrip

St Gwenfaen's Well

RECORDED WITH
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Alternative Anglesey

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Summary

- Game-based training environment
- Learn basic field skills before going into the field
- Field skills training to those unable to access the field
- Results:
  - Increased confidence in field skills
  - Time saved in the field
  - Improved performance