Exploring the affordances of virtual fieldwork in a multi-user, 3-D digital environment

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Virtual Skiddaw:
Exploring the affordances of virtual fieldwork in a multi-user, 3-D digital environment

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What we built

100 km² area
real data, maps

6 detailed sites
higher res
hand specimens
task lists

Navigation
avatars
guided (linear)
free-roaming
teleports

Chat
range adjustable

Support
manual, transcripts
Gaming VFTs: challenges

Cost: resources, people, time
Real data: detail vs performance
Framework: self-contained vs adaptable
Comparisons: virtual vs physical fieldwork
Overload: not alienating non-gamers...

How to combat fear that VFTs might replace real field teaching?

Gaming engine: affordances

‘3D’ landscape – geology in context; spatial literacy
Rich interface – interactivity and immersion
Self-contained – (mostly): little linked material
Multi-user – especially for distance learners
‘More than fieldwork’ – do something different:
  – flying
  – aerial views, map overlays
  – in-world cross-section
  – teleports (time-saving)
  – fadeable avatars

What about: F2F students? or schools?
Evaluation & the future...

1. V-skiddaw at the OU  
   eSTeE M project + Steve Tilling

2. V-skiddaw for A-Level students

3. A Virtual Field Trip Service  
   innovate UK project  
   Daden Ltd, DesignThinkers, OU

What about:  
F2F students?  
or schools?

Virtual Field Trip Ecosystem

- Authoring Institution
  (also likely to be a user institution, but could be non-educator)
  Digitise area from sat/aerial/site
  Create new locations and core lesson plans

- User Institution
  £ Revenue Stream from others’ use
  £ Payment, eg per use, per loc, global pass, per annum
  Customise Lesson Plans
  Learning Analytics
  Experience Virtual Field Trips
  Create User Generated Content

- Geospatial Subcontractor
  £ Under contract (if req)

- Web/Cloud
  Multiple Locations, eg
  Skiddaw, Snowdon, Everest, Moon

- Core App
  £ VFTaaS Operator (Daden)
  New Locations
  New Features

- Multiple Lesson Plans
  KS1-3, GCSE, A Level, UGrad

- Management/Support Costs
  £
Questions for you

1. Main attractions of Virtual Skiddaw?
2. How would you use a similar VFT?
3. Should we make more?
4. Would you like to be involved?
Shameless plug…

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Scientists are 95% certain that humans are the "dominant cause" of global warming since the View

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Small mammals affected by rainforest fragmentation are likely to be wiped out more quickly than

Project team (1)

Open University
Shailey Minocha – leader, virtual worlds
Tom Argles – geologist
Brian Richardson – production manager
Kat Garrow – project manager
Sarah Hack – graphic designer
Nick Braithwaite – OSL Director
Sarah Davies – academic consultant

Trent & Peak Archaeology
David Strange-Walker – LiDAR, photogram
Project team (2)

Daden Ltd
David Burden – project lead
Paul Rahme – programmer
Macdonald Mbaya – programmer
Darrell Smith – project manager
Tim Lozinski – graphics/environment
Iain Brazendale – programmer
Lucy Smallwood-Rose – administrator
Guy Wallace – graphic designer
Chris Stevens – programmer

Site visit, April 2013