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

Access via web browser
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
   eSTeEM 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)

User Institution
Educators
Learning Analytics
Experience Virtual Field Trips
Create User Generated Content

Geospatial Subcontractor
Digitise area from sat/aerial/site
Create new locations and core lesson plans

£ Revenue Stream from others’ use
£ Payment, eg per use, per loc, global pass, per annum

Web/Cloud
Multiple Locations, eg
Skiddaw
Snowdon
Everest
Moon

Multiple Lesson Plans
Students
KS1-3
GCSE/A
UGrad

VFTaaS Operator
(Daden)
£

Revenue/Cost flows in yellow

£

New Locations
New Features
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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Popular experiments

Research

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News

- UN 95% sure humans cause warming - 27 Sep 2013
- Scientists are 95% certain that humans are the “dominant cause” of global warming since the View

Mammals threatened by fragmentation - 26 Sep 2013
- Small mammals affected by rainforest fragmentation are likely to be wiped out more quickly than

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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