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

Access via web browser

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...

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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

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

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
KS1-3
GCSE/A
UGrad

Geospatial Subcontractor

Web/Cloud
Multiple Locations, eg
Skiddaw
Snowdon
Everest
Moon

VFTaaS Operator
(Daden)

Multiple Lesson Plans
Core App

£ Revenue/Cost flows in yellow

£ Revenue, stream from others' use
£ Payment, eg per use, per loc, global pass, per annum

Create new locations and core lesson plans

Customise Lesson Plans
Learning Analytics
Experience Virtual Field Trips
Create User Generated Content

Technically Skilled Educator/Staff

Under contract (if req)

Digitise area from sat/aerial/site

£ Revenue

£ Payment,
eg per use,
per loc,
global pass,
per annum

Management/Support Costs

Core App

New Locations
New Features

£
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…

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*