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

Tom Argles, Shailey Minocha
(The Open University)
David Burden
(Daden Ltd)

email: tom.argles@open.ac.uk

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**
   eSTEeM project + Steve Tilling

2. **V-skiddaw for A-Level students**

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

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**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
- Under contract (if req)

**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**

- £ Revenue: stream from others’ use
- £ Payment, eg per use, per loc, global pass, per annum
- Digitise area from sat/aerial/site
- Create new locations and core lesson plans
- Under contract (if req)

**Web/Cloud**

- Multiple Locations, eg
  - Skiddaw
  - Snowdon
  - Everest
  - Moon

**VFTaaS Operator (Daden)**

- £ Revenue: stream from others’ use
- £ Payment, eg per use, per loc, global pass, per annum
- Create new locations and core lesson plans
- Under contract (if req)

**Revenue/Cost flows in yellow**

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What about:
F2F students?
or schools?
YOUR INSTITUTION?

Author/user Institution

Create new locations and core lesson plans

Digitise area from sat/aerial/on-site

£ Revenue Stream from others’ use

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

Customise Lesson Plans

Learning Analytics

Lecturer

Experience Virtual Field Trips

Students

Web/Cloud

Package Import/ Creation/QA

LOCATIONS

Virtual Field Trip Service

Core App

Multiple Lesson Plans

U/Grad

£

£

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

Site visit, April 2013