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

How to cite:

For guidance on citations see FAQs.

© 2015 The Open University, UK

Version: Version of Record

Link(s) to article on publisher’s website:
https://www.plymouth.ac.uk/whats-on/geological-society-conference-sharing-educational-practice-in-the-geosciences

Copyright and Moral Rights for the articles on this site are retained by the individual authors and/or other copyright owners. For more information on Open Research Online’s data policy on reuse of materials please consult the policies page.

oro.open.ac.uk
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

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

---

**Virtual Field Trip Ecosystem**

- **Authoring Institution**
  (also likely to be a user institution, but could be non-educator)
  - Create new locations and core lesson plans
  - Under contract (if req)
  - Digitise area from sat/ arial-site
  - Geospatial Subcontractor

- **User Institution**
  - Educators
  - Customise Lesson Plans
  - Learning Analytics
  - Experience Virtual Field Trips
  - Create User Generated Content

- **VFTaaS Operator (Daden)**
  - Multiple Locations, eg
    - Skiddaw
    - Snowdon
    - Everest
    - Moon

- **Web/Cloud**
  - Multiple Locations, eg

- **Revenue/Cost flows in yellow**
  - VFTaaS Operator (Daden)
  - 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…

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*