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.
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**
   - eSTeM 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)
  - Technically Skilled Educator/Staff
  - Create new locations and core lesson plans
  - £ Revenue Stream from others’ use
  - Under contract (if req)
  - Digitise area from sat/ aerial/site

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

- **Geospatial Subcontractor**
  - £ Revenue

- **Web/Cloud**
  - Multiple Locations, e.g.
    - Skiddaw
    - Snowdon
    - Everest
    - Moon
  - £ Payment, eg per use, per loc, global pass, per annum

- **VFTaaS Operator (Daden)**
  - New Locations
  - New Features
  - Management/Support Costs

- **Revenue/Cost flows in yellow**
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...

The OpenScience Laboratory
An initiative of The Open University and The Wolfson Foundation
This online laboratory brings interactive practical science to students anywhere and anytime the internet is available. The laboratory features investigations based on thirteen instruments, remote access experiments and virtual scenarios using real data. Several activities are available to all, while others are available only to registered users.

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