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

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)
  - Technically Skilled Educator/Staff
  - Create new locations and core lesson plans
  - 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 Stream from others’ use

- **Web/Cloud**
  - Multiple Locations, eg
    - Skiddaw
    - Snowdon
    - Everest
    - Moon

- **VFTaaS Operator**
  (Daden)
  - New Locations
  - New Features

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**Revenue/Cost flows in yellow**

- £ Payment, eg per use, per loc, global pass, per annum
- £ Revenue from others' use
- £ under contract
- £ 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**
Shailley 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*