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
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)
  – fadable 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

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**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 reqd)
  - Digitise area from sat/aerial/site

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

- **Geospatial Subcontractor**
  - Digitise area from sat/aerial/site

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

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

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**Revenue/Cost flows in yellow**

- £ Revenue Stream from others’ use
- £ Payment, eg per use, per loc, global pass, per annum

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**Core App**

- £

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**F2F students? or schools?**
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