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)
  – 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

What about: F2F students? or schools?

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/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)
  - Core App
  - £
  - New Locations
  - New Features
  - Management/SUPPORT Costs

- **Revenue/Cost flows in yellow**

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

- **£ Revenue**
  - from others’ use

- **£ Under contract**
  - (if req)
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...

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Popular experiments

Lab tour

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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

HOWLING GALE

Site visit, April 2013