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...

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
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)

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

- **Technically Skilled Educator/Staff**
  - Under contract (if req)

**User Institution**

- **Educators**
- **Learning Analytics**
- **Knowledge Transfer**
- **Experience Virtual Field Trips**
- **Create User Generated Content**

**Web/Cloud**

- Multiple Locations, eg  
  - Skiddaw  
  - Snowdon  
  - Everest  
  - Moon

- **VFTaaS Operator (Daden)**

**Multiple Lesson Plans**

- KS1-3  
- GCSE/A  
- U/grad

- **Core App**

**Revenue/Cost Flows**

- £ Revenue: Stream from others’ use
- £ Payment, eg per loc, global pass, per annum
- £ Revenue/Cost flows in yellow
- £ Management/support costs

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What about: 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…

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Popular experiments

[Images of various experiments]

News

UN 95% sure humans cause warming - 27 Sep 2013
Scientists are 95% certain that humans are the "dominant cause" of global warming since the View

Mammals threatened by fragmentation - 28 Sep 2013
Small mammals affected by rainforest fragmentation are likely to be wiped out more quickly than

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