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)

- Technically Skilled Educator/Staff
- Create new locations and core lesson plans
- Under contract (if req)
- Digitise area from sat/aerial/site

Geospatial Subcontractor

User Institution

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

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

VFTaaS Operator
(Daden)
- New Locations

Virtual Field Trip Service

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

Management/Support Costs

Revenue/Cost flows in yellow

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