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

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 reqd)
  - 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
  - £ Payment, eg per use, per loc, global pass, per annum

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

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

- Management/Support Costs
  - £ Revenue/Cost flows in yellow
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*

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