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 reqd)
  - DIGITISE area from sat/aerial/site

- User Institution
  - 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

- VFTaaS Operator (Daden)
  - £ Revenue/Cost flows in yellow
  - Management/Support Costs

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

- Multiple Lesson Plans
  - KS1-3
  - GCSE/A
  - UGrad

- Core App
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

Site visit, April 2013