Exploring the affordances of virtual fieldwork in a multi-user, 3-D digital environment

Conference or Workshop Item

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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

Access via web browser
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

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What about: F2F students? or schools?

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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)
  - Digitalise area from sat/aerial/site

- **User Institution**
  - Educators
  - Customise Lesson Plans
  - Learning Analytics
  - Experience Virtual Field Trips
  - Create User Generated Content
  - KS1-3
  - GCSE/A
  - UGrad
  - Students

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

- **Web/Cloud**
  - Multiple Locations, eg
    - Skiddaw
    - Snowdon
    - Everest
    - Moon
  - Multiple Lesson Plans
    - KS1-3
    - GCSE
    - A Lvl
    - Ugrad

- **VFTaaS Operator** *(Daden)*
  - Revenue/Stream from others’ use
  - £ Payment, eg per use, per loc, global pass, per annum

- **Core App**
  - £ Revenue/Cost flows in yellow
  - New Locations
  - New Features
  - Management/Support Costs
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*