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

Tom Argles, Shailey Minocha (The Open University)
David Burden (Daden Ltd)

email: tom.argles@open.ac.uk

What we built
- Access via web browser
- 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

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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
  - Under contract (if req)
  - 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

- **Revenue/Cost flows in yellow**
  - £ Revenue/Costs from others' use

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**Core App**

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

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

- 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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Lab tour

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Popular experiments

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*