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

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Version: Version of Record

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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

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 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

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

VFTaaS Operator (Daden)
- New Locations
- New Features

Core App

Revenue/Cost flows in yellow

£ Revenue Stream from others’ use
£ Payment, eg per use, per loc, global pass, per annum
£ Revenue/Cost Stream from others’ use
£ Payment, eg per use, per loc, global pass, per annum
£ Payment, eg per use, per loc, global pass, per annum
£ Payment, eg per use, per loc, global pass, per annum
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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