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...

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**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

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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?

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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)
- Digitise area from sat/aerial/site
- Geospatial Subcontractor

**User Institution**
- Educators
- Customise Lesson Plans
- Learning Analytics
- Experience Virtual Field Trips
- Create User Generated Content

**Revenue/Stream from others' use**

**£ Payment, eg per use, per loc, global pass, per annum**

**£ Revenue Stream from others’ use**

**£ Payment, eg per use, per loc, global pass, per annum**

**Management/SUPPORT COSTS**
- Customise Lesson Plans
- Experience Virtual Field Trips
- Create User Generated Content

**£ Revenue/Cost Flows in yellow**

**Core App**
- Multiple Locations, eg
  - Skiddaw
  - Snowdon
  - Everest
  - Moon

**Core App**
- Multiple Lesson Plans
  - KS1-3
  - GCSE/A
  - UGrad

**£**
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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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*