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

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...

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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?

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

- Geospatial Subcontractor

- £ Revenue Stream from others’ use

- User Institution:
  - educators
  - Customise Lesson Plans
  - Learning Analytics
  - Experience Virtual Field Trips
  - Create User Generated Content

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

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

- Multiple Lesson Plans
  - KS1-3
  - GCSE/A
  - U/Grad

- Management/SUPPORT Costs
  - New Locations
  - New Features
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*

*HOWLING GALE*

*Site visit, April 2013*