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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(Daden Ltd)

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What we built

100 km² area
real data, maps

6 detailed sites
higher resolution
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
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

<table>
<thead>
<tr>
<th>Authoring Institution (also likely to be a user institution, but could be non-educator)</th>
<th>User Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create new locations and core lesson plans</td>
<td>Customise Lesson Plans</td>
</tr>
<tr>
<td>Under contract (if req)</td>
<td>Learning Analytics</td>
</tr>
<tr>
<td>£ Revenue Stream from others' use</td>
<td>Experience Virtual Field Trips</td>
</tr>
<tr>
<td>£ Payment, eg per use, per loc, global pass, per annum</td>
<td>Create User Generated Content</td>
</tr>
</tbody>
</table>

Geospatial Subcontractor

- Digitise area from sat/aerial/site
- £ Revenue/Cost flows in yellow

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

Core App
- Multiple Lesson Plans
  - KS1-3
  - GCSE
  - A Lvl
  - UGrad

VFTaaS Operator (Daden)
- 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*

Site visit, April 2013