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

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(The Open University)

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(Daden Ltd)

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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...

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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### What about: F2F students? or schools?

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#### Virtual Field Trip Ecosystem

<table>
<thead>
<tr>
<th>Authoring Institution</th>
<th>User Institution</th>
<th>Web/Cloud</th>
<th>VFTaaS Operator (Daden)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(also likely to be a user institution, but could be non-educator)</td>
<td>Educators</td>
<td>Multiple Locations, eg</td>
<td>New Locations</td>
</tr>
<tr>
<td>Digitise area from sat/aerial/site</td>
<td>Customise Lesson Plans</td>
<td>Multiple Lesson Plans</td>
<td>New Features</td>
</tr>
<tr>
<td>Technically Skilled Educator/Staff</td>
<td>Learning Analytics</td>
<td></td>
<td>Management/Support Costs</td>
</tr>
<tr>
<td>Under contract (if req)</td>
<td>Experience Virtual Field Trips</td>
<td>Core App</td>
<td></td>
</tr>
<tr>
<td>Geospatial Subcontractor</td>
<td>Create User Generated Content</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Revenue/Cost Flows in yellow
- £ Revenue Stream from others' use
- £ Payment, eg per use, per loc, global pass, per annum
- £ Revenue/Cost flows in yellow
- £ Payment, eg per use, per loc, global pass, per annum
- £ Management/Support Costs

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**Note: The diagram illustrates the ecosystem of a virtual field trip service, including various stakeholders and revenue/cost flows.**
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