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

Conference or Workshop Item

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Version: Version of Record

Link(s) to article on publisher’s website:
https://www.plymouth.ac.uk/whats-on/geological-society-conference-sharing-educational-practice-in-the-geosciences

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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

Access via web browser

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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How to combat fear that VFTs might replace real field teaching?

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

<table>
<thead>
<tr>
<th>Authoring Institution</th>
<th>User Institution</th>
<th>Web/Cloud</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>
</tr>
<tr>
<td>Geospatial Subcontractor</td>
<td>Customise Lesson Plans</td>
<td>Skiddaw</td>
</tr>
<tr>
<td>Create new locations and core lesson plans</td>
<td>Learning Analytics</td>
<td>Snowdon</td>
</tr>
<tr>
<td>£ Revenue Stream from others’ use</td>
<td>Experience Virtual Field Trips</td>
<td>Everest</td>
</tr>
<tr>
<td></td>
<td>Create User Generated Content</td>
<td>Moon</td>
</tr>
<tr>
<td></td>
<td>£ Payment, eg per use, per loc, global pass, per annum</td>
<td>Core App</td>
</tr>
<tr>
<td></td>
<td></td>
<td>£</td>
</tr>
</tbody>
</table>

£ Revenue/Cost flows in yellow

£

£

£

£

£

£
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