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…

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

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

What about: F2F students? or schools?

Virtual Field Trip Ecosystem

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Authoring Institution
(usually likely to be a user institution, but could be a non-educator)

- Technically Skilled Educator/Staff
- Create new locations and core lesson plans
- Under contract (if req)
- Digitise area from sat/aerial/site
- £ 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

Geospatial Subcontractor

- £ Revenue

Web/Cloud

- Multiple Locations, eg
  - Skiddaw
  - Snowdon
  - Everest
  - Moon
- £

VFTaaS Operator (Daden)

- New Locations
- New Features

Core App

- Management/Support Costs
- £

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