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...

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?

Virtual Field Trip Ecosystem

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

User Institution
Educators

KS1-3
GCSE/A
UGrad

Student

Experience
Virtual
Field Trips

Create User Generated Content

£ Revenue Stream from others’ use

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

£ Revenue

£

Management/Support Costs

£

Web/Cloud
Multiple Locations, eg
Skiddaw
Snowdon
Everest
Moon

Multiple Lesson Plans
KS1-3
GCSE
A Lvl
UGrad

Core App

New Locations
New Features

VFTaaS Operator
(Daden)

Geospatial Subcontractor

Digitise area from sat/ aerial/site

Technically Skilled Educator/Staff

Under contract (if req)

Create new locations and core lesson plans

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…

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An initiative of The Open University and The Wolfson Foundation
This online laboratory brings interactive practical science to students anywhere and anytime this internet is available. The laboratory features investigations based on real-time instruments, remote-access experiments and virtual scenarios using real data. Several activities are available to all, while others are available only to registered users.
Come in and look around.

Popular experiments

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