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

Access via web browser
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

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

Geospatial Subcontractor

User Institution

Educators

Customise Lesson Plans

Learning Analytics

Experience Virtual Field Trips

Create User Generated Content

Web/Cloud

Multiple Locations, eg

Skiddaw
Snowdon
Everest
Moon

Core App

Multiple Lesson Plans

KS1-3
GCSE/A
UGrad

£ Revenue/Stream from others’ use

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

£ Revenue/Cost flows in yellow

£ Payment

New Locations

New Features

Management/Support Costs

£
YOUR INSTITUTION?

Author/user Institution

- Create new locations and core lesson plans
- £ Revenue Stream from others' use

Lecturer

- Customise Lesson Plans
- £ Payment, eg per use, per loc, global pass, per annum

Students

- Experience Virtual Field Trips
- £

LOCATIONS

- Skiddaw
- Snowdon
- Everest
- Moon

Web/Cloud

Package Import/Creation/QA

Core App

Virtual Field Trip Service

£

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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News

UN ‘95% sure humans cause warming’ - 27 Sep 2013
Scientists are 95% certain that humans are the “dominant cause” of global warming since the

View

Mammals threatened by fragmentation - 26 Sep 2013
Small mammals affected by rainforest fragmentation are likely to be wiped out more quickly than

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*