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

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**Virtual Field Trip Ecosystem**

- **Authoring Institution**
  - Technically skilled educator/staff
  - Create new locations and core lesson plans
  - Under contract (if reqd)
  - Geospatial subcontractor
  - Digitise area from sat/aerial/site

- **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

- **VFTaaS Operator (Daden)**
  - New locations
  - New features

- **Management/support costs**

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**Revenue/Cost flows in yellow**

- £ Revenue stream from others’ use
- £ Payment, eg per use, per loc, global pass, per annum
- £ Revenue
- £ Payment
- £ New locations

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What about F2F students? or schools?
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

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