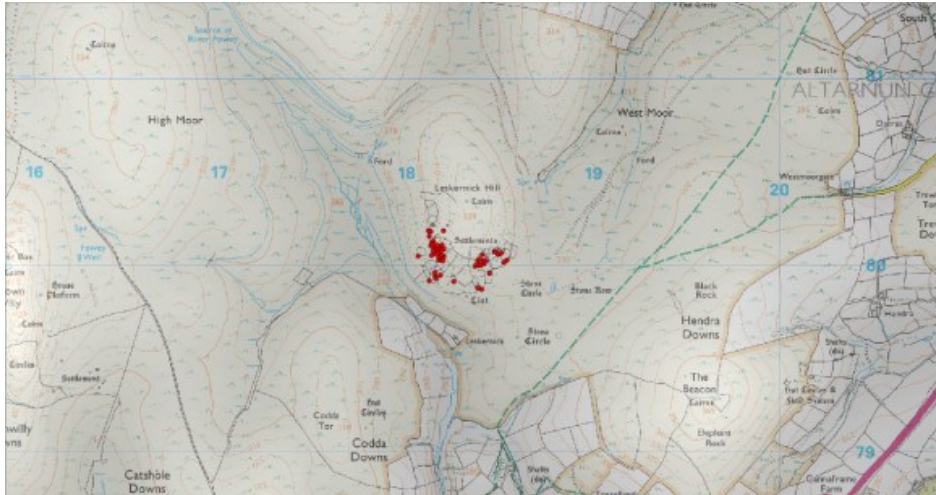


WRESTLING PYTHONS, BLENDING GRASS AND PROOFING PAPERS

June 29, 2012 Stu Eve Augmented Reality, Bronze Age, Day of Archaeology 2012, Digital Archaeology a lot of tools, Archaeology, Arkansas, augmented reality, author, Blender, Cambridge University, Cambridge University Library, Computer graphics, Computing, Cross-platform software, few tools, Free software, Geographic information system, GPS, GRASS GIS, http, Hut, London, Player, Python, Q, United Kingdom

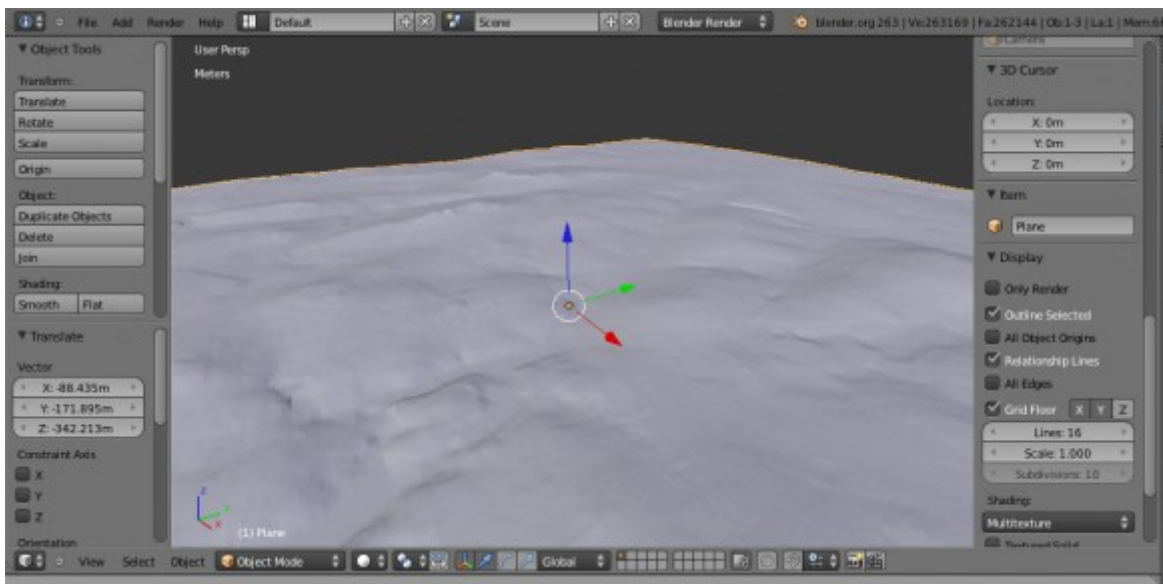
Today has been a pretty normal day in my current archaeological life. I am in the final year of my PhD and so have been battling away in front of a laptop (like many others) trying to make sense of archaeological data and say something new and interesting about the past.

I am lucky in that I live in Cambridge, and so had a lovely cycle ride this morning across the meadows, past the cows, to install myself into the Cambridge University Library (UL). This is one of the joys of being a student in the UK, even though I am doing my PhD at UCL in London I am more than welcome to come and use the library in Cambridge for free which is not only great for books – it also has an excellent tea room.



Bronze Age Huts in QGIS

My PhD is on the Bronze Age hut settlements on Bodmin Moor, I am using [Augmented Reality](#) to examine the locations of the huts and how they fit into the landscape. This involves a lot of GIS work and also some 3D modelling. I have a lovely GIS dataset of the Bronze Age hut locations and a pretty decent elevation model. When out in the field archaeologists use quite few tools, but the trowel is probably the most useful. When in front of the computer archaeologists also use a lot of tools – today I was using the [Python](#) framework to script a way to get [GRASS](#) data into [blender](#) so that I could load virtual models of the huts into [Unity3D](#) to view them in my [ARK](#) database to then finally use [Vuforia](#) and Unity3D to display it in the real world. Today my most useful tool is [Textmate](#).



Bodmin Moor in blender

Basically what I am trying to do is import 2D GIS data into a 3D gaming engine, that I can then use to explore the data and (using Augmented Reality) ‘overlay’ that onto the real world. The important thing is to ensure the spatial coordinates are preserved when it is imported into the gaming engine – otherwise the on-site GPS location won’t work during the Aug. Reality stage. So the distances, heights and topography seen in the gaming engine representation are as close to the real world as possible (at least the real as modelled in the GIS!). To keep track of the huts and their associated data I have been using the ARK database system (created by Day of Archaeology sponsors [L – P : Archaeology](#)). ARK brings all of the various bits together – data from the literature, basic dimensions of the huts, spatial data and also the 3D representation. I’ve been getting some pretty good results from my experiments and seem to have cracked the workflow – I’ll put up a proper walkthrough on my [blog](#) once the script is all sorted out as I think it will probably be pretty useful for others to see and use. In the meantime I have made a very small screencast to show the huts within ARK and Unity – which I think is pretty cool. For those of a techy bent, ARK is sending the Unity3D plugin the id of the hut currently being viewed and Unity is then figuring out where that hut is in the virtual world and placing the ‘player’ inside it. Wow that was all a bit techy – sorry about that!

So as promised in the title of the post then – here is a link to some wrestling pythons...

<https://youtu.be/oknnDguXmi4>

and someone blending grass..

<https://youtu.be/NcuK4TWkbiI>

and the paper proofing is a bit more boring...

Today I also approved the final author proofs of an article on my research that is going to be published in Journal of Archaeological Method and Theory. Apparently when they have made my suggested corrections (c. 1 week) it should be available at: <http://dx.doi.org/10.1007/s10816-012-9142-7> for people who have personal or institutional subscriptions to the journal, very exciting!

Right back to the coding... only an hour before I get chucked out of the library.