

Import Ordnance Survey MasterMap ground usage data

This tutorial introduces the procedure to import ground usage data from the Ordnance Survey Mastermap data and generate three dimensional models of the imported buildings to provide a visualisation of an area.

Concepts

In this tutorial, you will learn to:

- Import building data from a Mastermap source
- Extrude a building from the ground area

Prerequisites

- Paths and Contours tutorial
- Geo-projections in Simmetry 3d

Import building data from a Mastermap source

N.B. that Simmetry 3d works using the Mastermap topography layer and you should use the independent polygon files.

Before importing your Mastermap data, you must prepare a blank project with the correct geo-projection for the area you are importing.

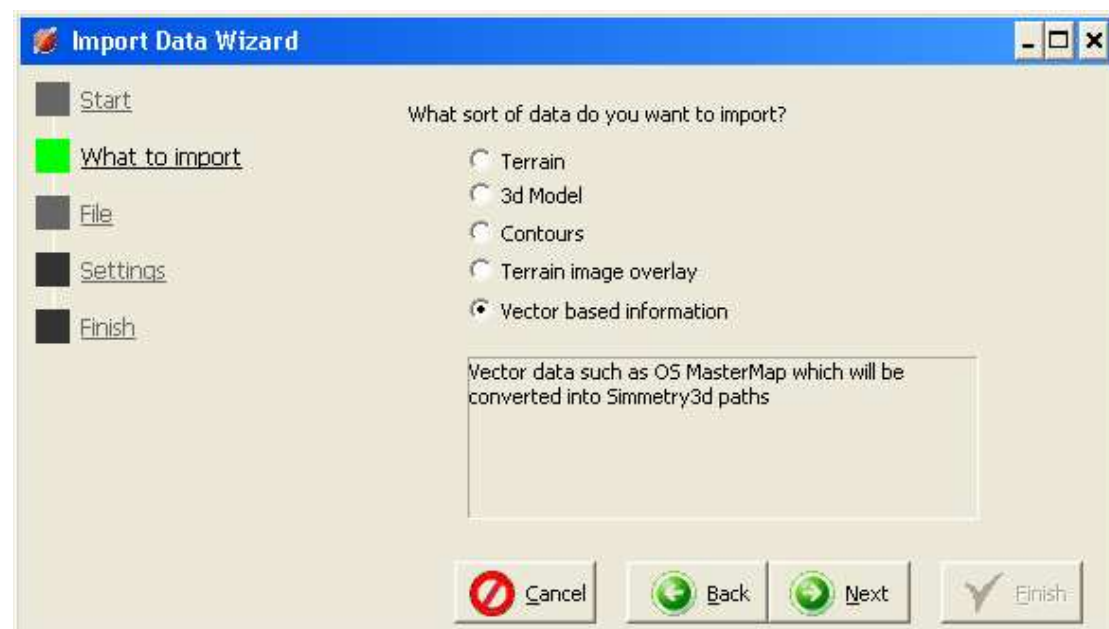
Mastermap files each contain a rectangle of data for a specific part of the UK. To check you have the correct Mastermap data, open your Mastermap GML data file and find the line:

```
<gml:coordinates>  
<Left Value>,<Bottom Value>, <Right Value>,<Top Value>  
</gml:coordinates>
```

This gives the extents of the data contained within that particular file. To import all the data in the file use these values in your projection.

Create a blank project and specify an OS projection with the extents of the area you wish to import. Set the top left value of the projection to the top left of the area you wish to import and the tile size of the new project to the area you wish to cover.

To import the ground usage data, select the “*File/Import Wizard*” menu option, and choose “*Vector Based Information*”.

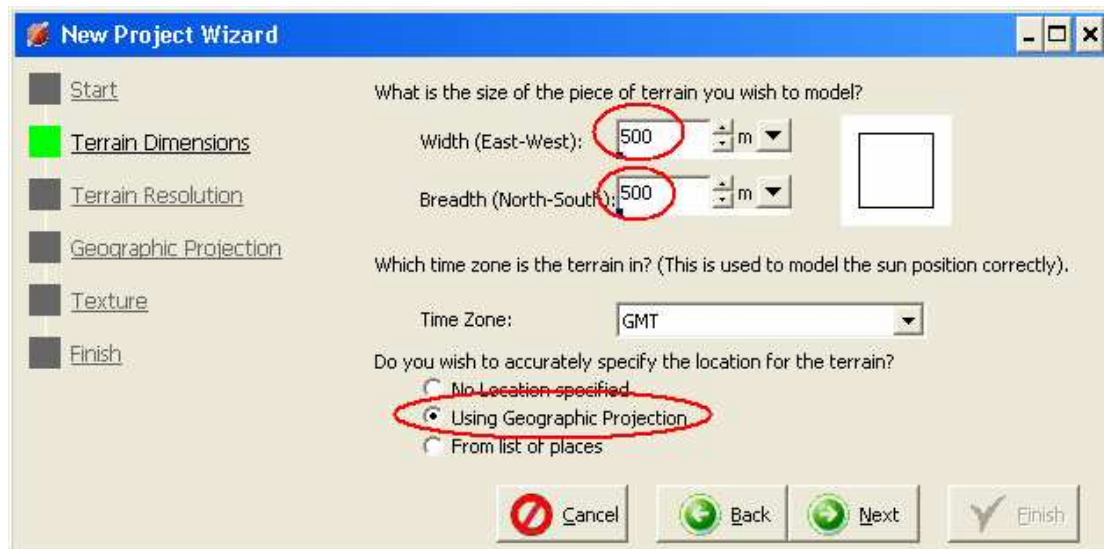


Next, pick the Mastermap file, make sure the projection you wish to import is correct and Simmetry 3d will import the ground usage data as paths.

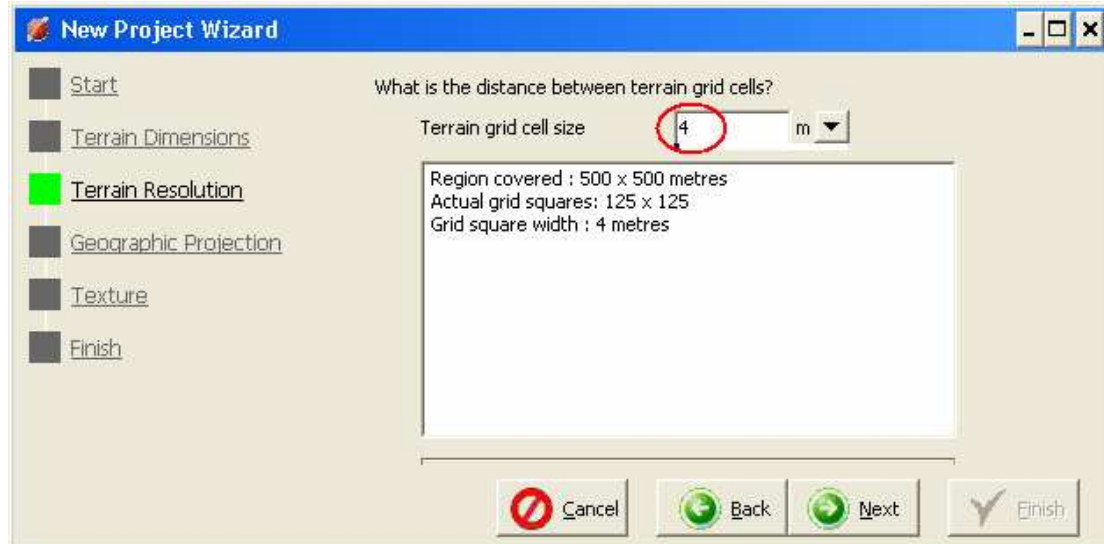
Exercise

Using the data file 2182-SS7886-2c1.gml (see Links section at the bottom of tutorial for downloading this file) covering the area:

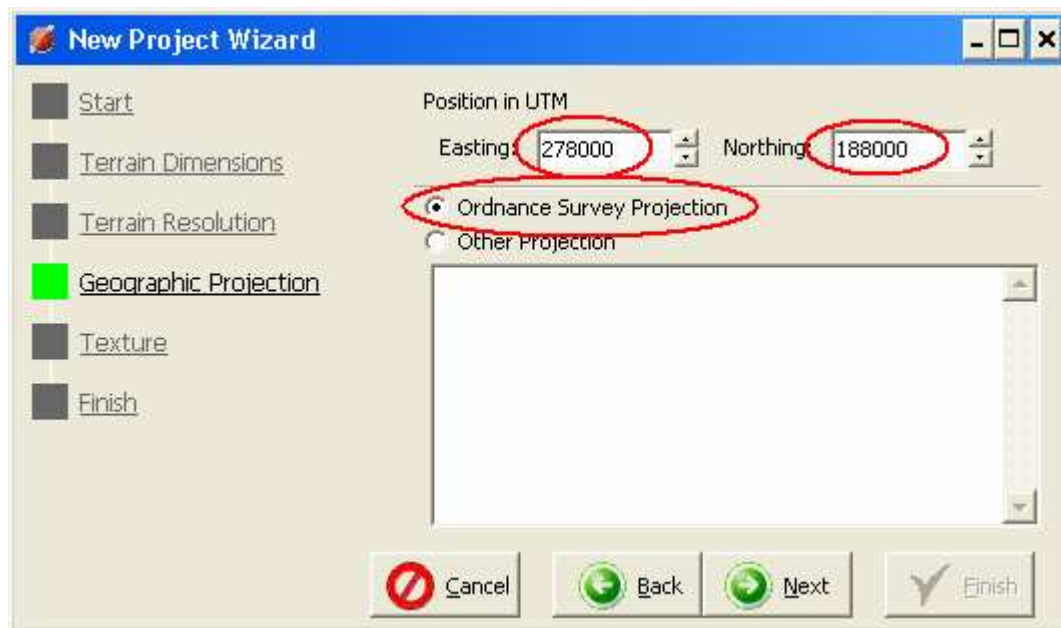
278000.000,186000.000 280000.000,188000.000



Create a new project, set the width and Breadth to 500 metres wide.

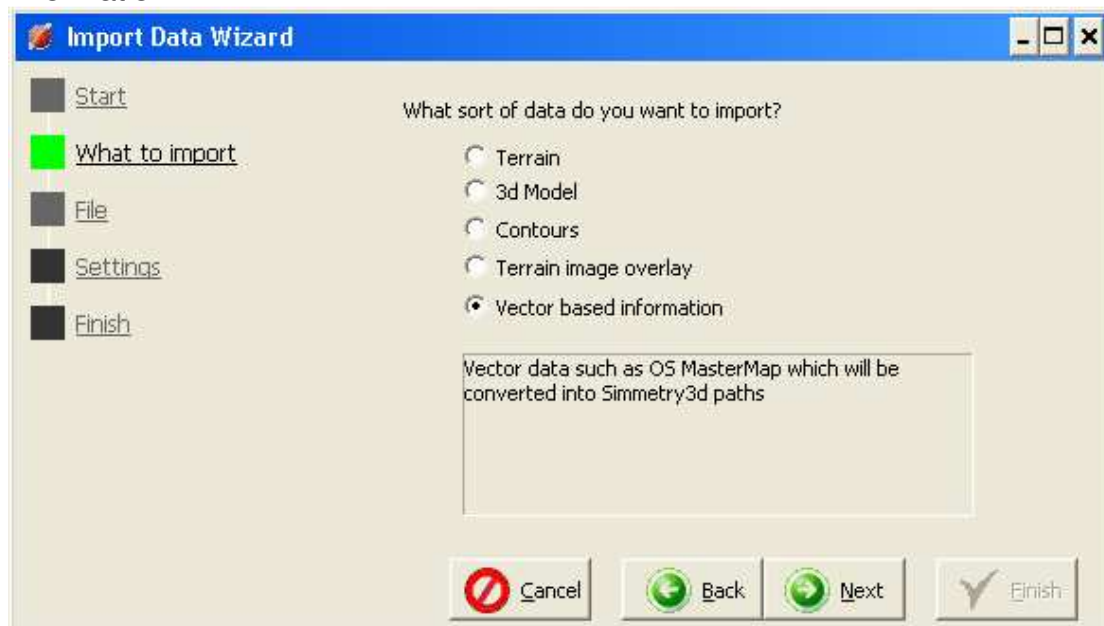


The grid cell size to 4 metres.

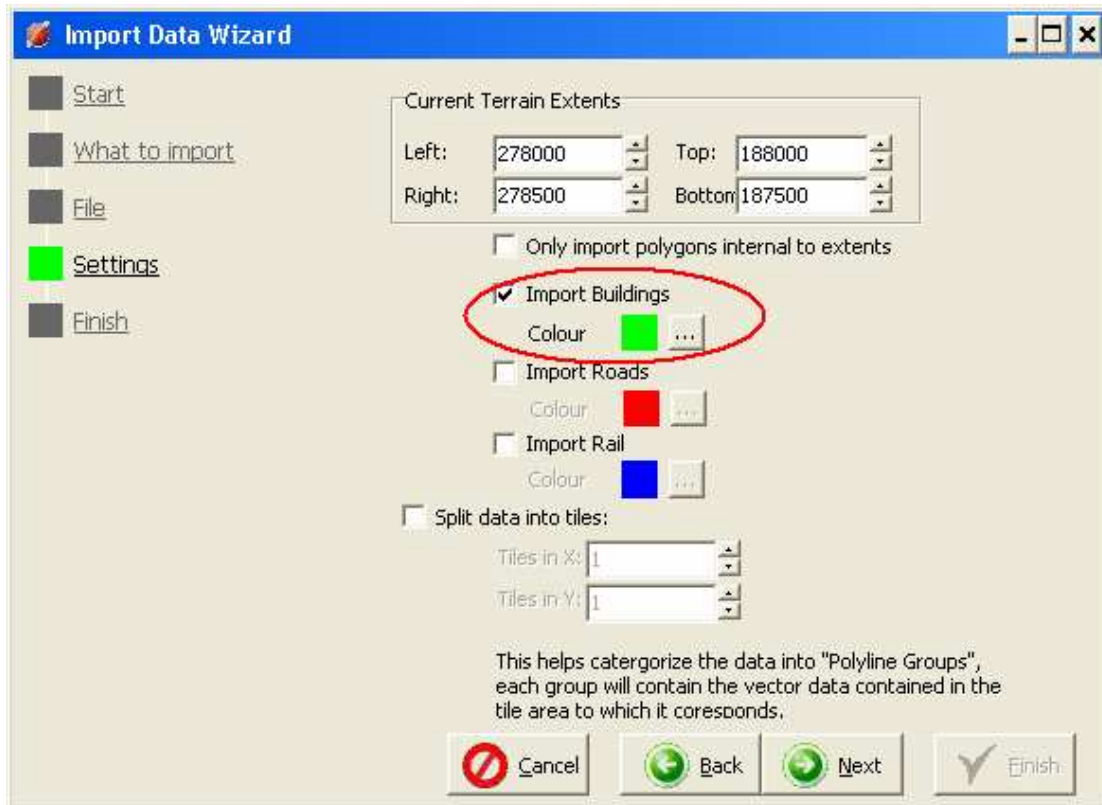


Set the projection to the values displayed (or to ones which correspond to the data you are importing), to import the top 500m of the mastermap data.

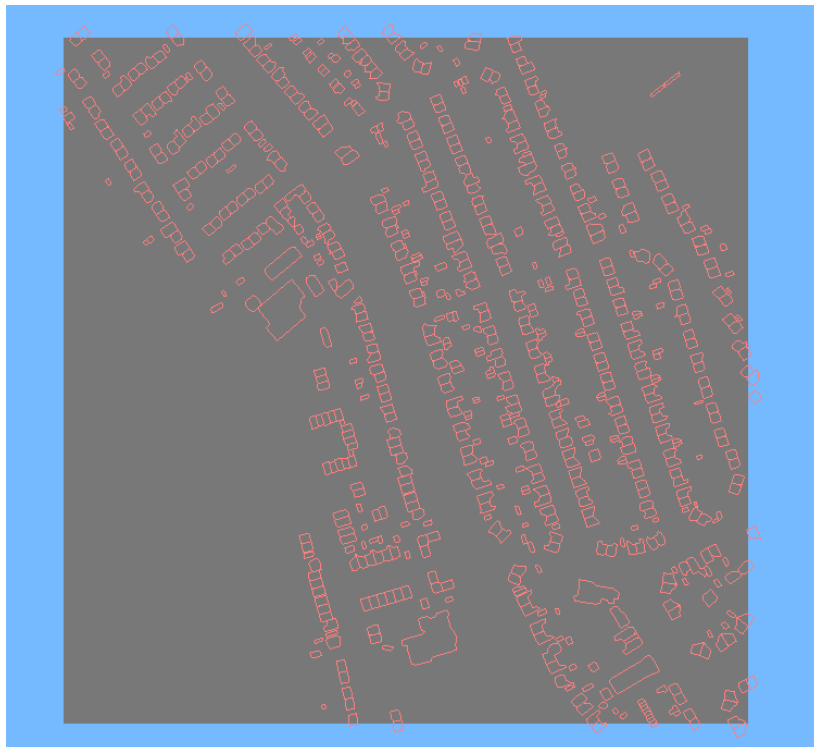
Select "File/Import Wizard" menu option and choose "Vector Based Information".



Specify the filename and the Import Building option.



This will import the buildings in the area into your Simmetry 3d project, so that each building is a separate path. From the top view, it should look something like this:



Extrude a building from the ground area

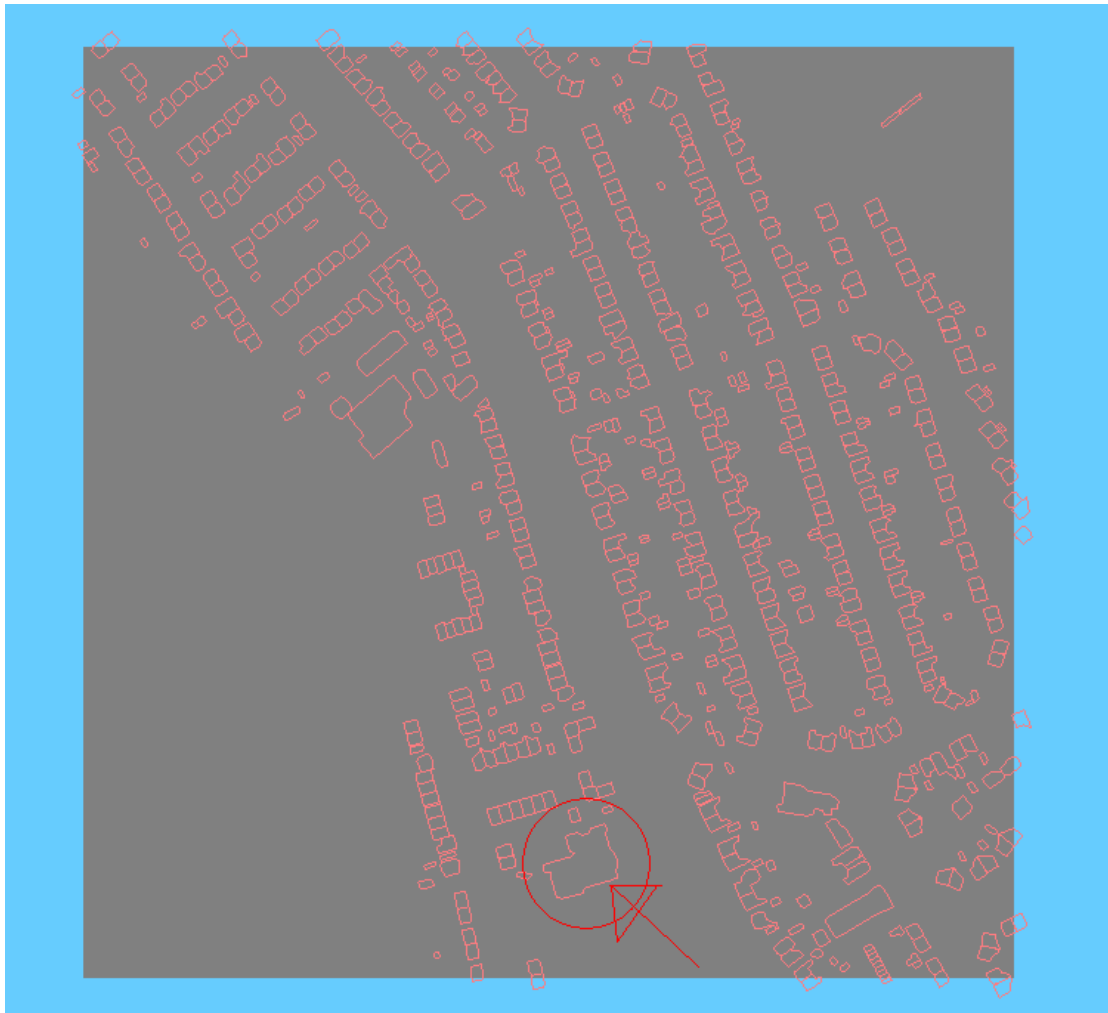
Now we have our ground use data, we can use this to generate simple three dimensional models of the buildings. We simply change to Polyline mode, select the polyline we require and choose the “*Polyline/Create Extruded Area from Polyline...*” menu option. This allows us to specify the height of the building and the accuracy which we wish to model it too.

Exercise

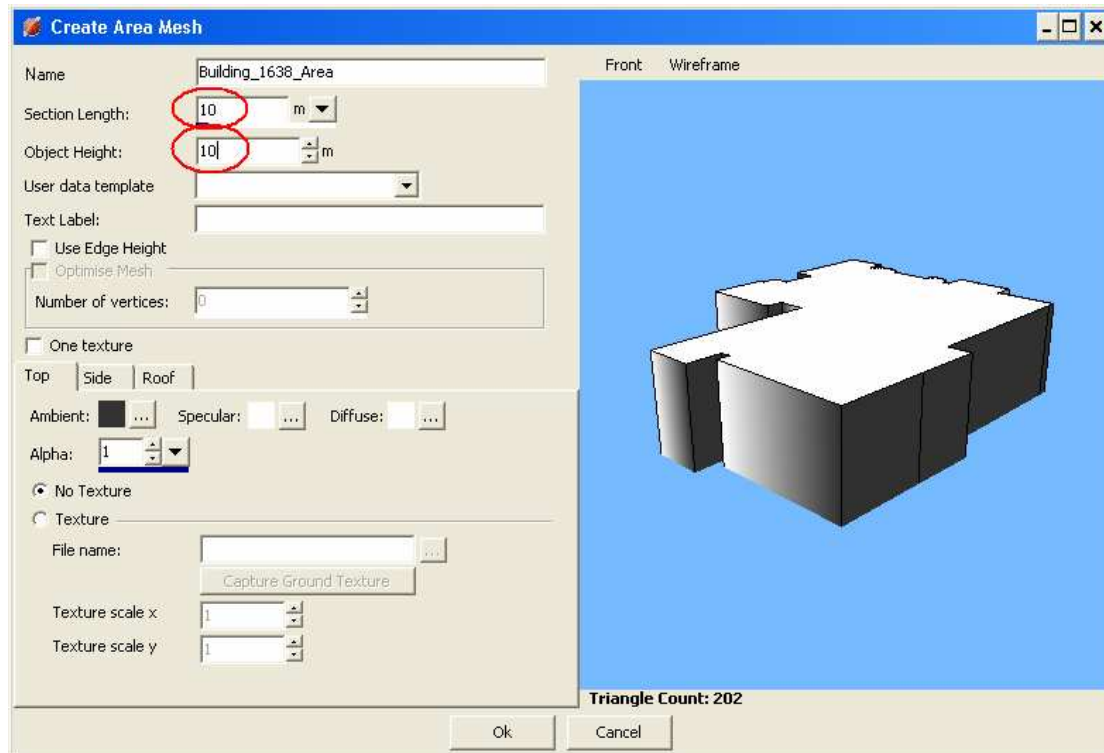
Choose Polyline mode:



Select the “*Polylines/Pick Polyline*” menu option and select the highlighted polyline.



The polyline called Building_1638 will be highlighted in the Project Tree. Select the “*Polylines/Create Extruded Area from Polyline...*” menu option.

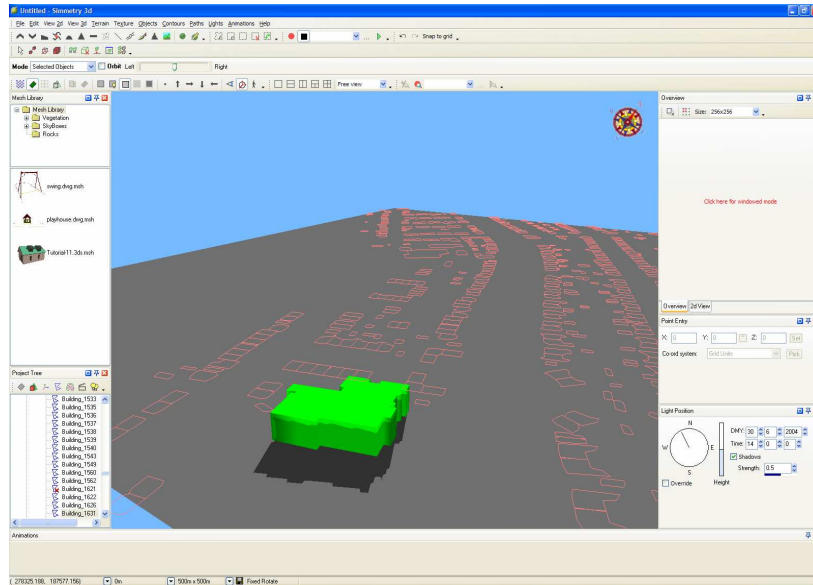


The object is generated from a series of parameters.

Set the object height to the height of the building.

Try altering the Section Length parameter of the building. This alters the accuracy with which the 3D object follows the line of the path. The lower the Section Length value, the more triangles will be used to create the object. Use the triangle count as a guide, you want to minimize the number of triangles, but keep the accuracy of the building shape.

You can also edit the colour of the building object and add textures to the object. Once you are happy with how the object looks, press the OK button to place the object on the terrain.



Links

Sample Mastermap data can be found on the Ordnance Survey website:

<http://www.ordnancesurvey.co.uk/oswebsite/products/osmastermap/topography/sample.html>