Extended Voxelized Mesh Metadata

In order to produce voxelized mesh sets, the mesh source RAWMESH entity requires additional files included along with the source OBJ meshes:

- **meta_attributes.csv**

The file is used to enumerate the meshes that will be included in the mesh dataset, and it also allows assigning different attribute values to the volume occupied by the mesh.

The first row in the file contains the attribute identifiers used for each column. There must be one column that lists the mesh file names names.

For instance, assume the user wants to import a set of five meshes. For each mesh, the user will supply one OBJ file, named:

1. MESH_01.OBJ
2. MESH_02.OBJ
3. MESH_03.OBJ
4. MESH_04.OBJ
5. MESH_05.OBJ

Let's also assume each mesh assigns a different value for the following attributes: ROCKID, DOMAIN, ZONE, INDEX

In this case, the meta_attributes.csv would look like:

Filename	INDEX	ROCKID	DOMAIN	DENSITY
MESH_01	1	23	10	15
MESH_02	2	34	1	17
MESH_03	3	85	3	21
MESH_04	4	23	12	37
MESH_05	5	1	7	1

Note the file names do not include the .OBJ extension here.

The schema for this file must be defined in the "metadata" property for the RAWMESH entity.

This property contains a sequence of comma-separated terms.

Each term describes an attribute for the voxelized set, in the same order as they appear in the meta_attributes.csv file,

and it is made from four space-separated items. These items are, in listing order:

1. Attribute ID - This identifies the attribute in the dataset
2. Attribute Type - Defines which type of attribute to use. Can be set to UID, VALUE or SET.
3. Attribute Default Value - Default value for the attribute. Leave empty for UID type.
4. Attribute Unit of Measure - It is an optional text describing the Unit of Measure for the attribute. Leave empty for UID type.

The set must have one attribute defined as UID, which will allow to link individual meshes in the set to their attributes in the property file.

For the earlier example, the metadata property would look like this:

Filename UID,INDEX VALUE 0,ROCKID VALUE 0,DOMAIN VALUE 0,DENSITY VALUE 0 kg/m3

- ## meshes.meta

This file is optional, and it describes additional properties per mesh. Like the previous file in this section, this is also a CSV file. The file must contain two columns, with two headers named UID and volumetric (lowercase).

The "UID" column lists the mesh names. These identifiers must match the ones included in meta_attributes.csv.

The "volumetric" column specifies whether the mesh should be processed as volumetric.

If this file is omitted, or a particular mesh is not found in the list, the ingestion system assumes the mesh is not volumetric.

If a mesh is set as volumetric, but it fails a mesh consistency check, it will not be included in the processed set. The processing log for the entity will contain a warning for the mesh.

UID	volumetric

GM_Macro-Stratigraphy_BVstrat - CMZ - GM_Macro-Stratigraphy_BVstrat_-	1
GM_Macro-Stratigraphy_BVstrat - GCZ - GM_Macro-Stratigraphy_BVstrat_-	1
GM_Macro-Stratigraphy_BVstrat - LowerZone - GM_Macro-Stratigraphy_BVstrat_-	1
GM_Macro-Stratigraphy_BVstrat - Upper - GM_Macro-Stratigraphy_BVstrat_-	1
GM_Macro-Stratigraphy_BVstrat - Xenolith - GM_Macro-Stratigraphy_BVstrat_-	1
GM_Macro-Stratigraphy_BVstrat - Archean Crystalline - GM_Macro-Stratigraphy_BVstrat_-	0
GM_Macro-Stratigraphy_BVstrat - Critical Zone - GM_Macro-Stratigraphy_BVstrat_-	0
GM_Macro-Stratigraphy_BVstrat - Footwall - GM_Macro-Stratigraphy_BVstrat_-	0
GM_Macro-Stratigraphy_BVstrat - FT Granite - GM_Macro-Stratigraphy_BVstrat_-	0
GM_Macro-Stratigraphy_BVstrat - Granite - GM_Macro-Stratigraphy_BVstrat_-	0
GM_Macro-Stratigraphy_BVstrat - Main Zone - GM_Macro-Stratigraphy_BVstrat_-	0

Revision #2
Created 17 March 2025 15:11:58 by admin
Updated 17 March 2025 21:08:42 by admin