**§ 11 – LevelLoader**

LevelLoader is the class that takes on the task of loading a "Level" from disk. This includes reading the location and default state of every object. Some factories are used in this process. For more on that, refer to the Factory chapter.

**§ 11.1 – Reading the configuration**

The configuration for the level is read first. This is under the "Config" category in the .ini file for the level.

**Configuration – [Config]**

There are some expected configuration settings:

* TileSheet – The file path to the tile sheet used in the level
* NumTiles – The number of tiles to expect to find definitions for
* NumTextures – The number of different textures to expect to need to load
* LevelWidth – The width of the level in number of tiles
* LevelHeight – The height of the level in number of tiles
* NumLayers – The number of layers to use for the level
* TileHeightPx – The height of the tiles in pixels
* TileWidthPx – the width of the tiles in pixels
* Tiles – The collective definition for the layout to tileID pairings
  + <someCharacterInLayout, someUniqueTileID>, <another>, <another>…

**Tiles – [<TileTag>]**

For each of the unique tile IDs, there must be a category as such: [TileID]

Inside that category must be the following tags:

* IsTraversible – True if the tile can be walked over
* IsAnimated – True if the tile is animated
* Frames – List of indices of the frames to use (the indices for the frames that are created by the sprite sheet class. See the sprite sheet class for details on that).

**Layouts – [Layout#]**

For each layout, the following must be present:

* A tag for the layer, [Layer#], starting at [Layer0]
* Width – The width of the layer
* Height – The height of the layer
* TileLayout – The layout of the layer, using the layout character defined in the Tiles tag in the config section

**Example level file**

[Config]  
TileSheet=./SFEngine/Samples/Textures/LevelTiles/Sample.png  
NumTiles=4  
NumTextures=1  
LevelWidth=10  
LevelHeight=10  
NumLayers=1  
TileHeightPx=16  
TileWidthPx=16  
Tiles={  
 <a, TileA>,  
 <b, TileB>,  
 <c, TileC>,  
 <d, TileD>  
}  
[TilA]  
IsTraversible=true  
IsAnimated=false  
Frames=1  
  
[TileB]  
IsTraversible=false  
IsAnimated=true  
Frames=2,3,4  
  
[TileC]  
IsTraversible=true  
IsAnimated=false  
Frames=5  
  
[TileD]  
IsTraversible=true  
IsAnimated=true  
Frames=6,7,8,9,10  
  
[Layer0]  
Width=10  
Height=10  
TileLayout={  
 a a a a a a a a a a  
 a b b b b b c c c a  
 a b b b b c c c b a  
 a d d d c c b b b a  
 a b b d c c b b b a  
 a b b b c b c c c a  
 a c c c c c d d d a  
 a c c c c c d d d a  
 a b b b b b b b b a  
 a a a a a a a a a a