
Subject: ENGINE_LEVEL - LevelGraphicsFile Format

Posted by [Keshire](#) on Thu, 21 Nov 2013 16:43:03 GMT

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Here's what I have so far on the engine_level/LevelGraphicsFile format. This format will not properly work in HW as it seems to cut off the strings after 10 chars and thus screws the rest of the format, and in the process sucks up a ton of cpu and mem (a 2.2kb file sucked up 1.4gb ram). There may also be additional file types that I have not yet run into.

This file seems to have links to a number of other files used for loading/rendering the level. This includes heightmaps and flora models. The flora models are followed by what looks like instancing data to spawn instances with.

```
#include "standard-types.hsl"
```

```
#pragma byteorder(big_endian)
#pragma maxarray(65536) // max that hw 5.1 will allow
#pragma maxstring(512)
```

```
typedef struct Coord3D
{
    float X;
    float Y;
    float Z;
} Coord3D;
```

```
typedef struct LGFFloraInstance
{
    Coord3D Coord;
    float Unknown1; // these two floats seem to always be very small, very close to 0
    float Unknown2; // they could be used for rotation maybe? though that's usually done with
    quaternions
} LGFCoordEntry;
```

```
typedef struct LGFUnknownBBEntry // looks like it might be bounding box, but not sure
{
    DWORD Start;
    DWORD End;
    Coord3D StartCoord;
    Coord3D EndCoord;
} LGFUnknownBBEntry;
```

```
typedef struct LGFFileEntry
{
    DWORD Type;
    zstring FileName;
```

```
switch (Type)
{
case 0x4:
    DWORD Unknown1;
    DWORD Unknown2;
    break;
case 0x5: break;
case 0x15:
    char Unknowns1[11];
    DWORD CoordCount;
    float Unknowns2[11];
    char Unknowns3Null[24];
    LGFFloralInstance Coords[CoordCount];
    DWORD UnknownBBCount; // I think these might be bounding boxes, but not sure
    LGFUnknownBBEntry UnknwonBBs[UnknownBBCount];
    break;
case 0x20: break;
default: break;
}

} LGFFileEntry;
```

```
typedef struct LevelGraphicsFile
{
char LevelGraphicsFileTag[17]; // = "LevelGraphicsFile"
DWORD Unknown1;
DWORD FileCount;
LGFFileEntry Files[FileCount];
} LevelGraphicsFile;
```