October 17th, 2015

Michael’s handy mesh font thingy

There’s a need to display some basic font information in OpenGL and DirectX.

The idea with this is to have a very simple to use and useful.

There are two source files that are needed:

* CFontThingy.h
* CFontThingy.cpp

You have to load at least one mft file (for “Mesh Font Thingy”). This is a packed representation of the meshes used in the fonts. I took the original mesh files from MilkShape, which has a True Type font to 3D mesh thing. Note that “MFT” is also the extension for the windows “master file table”, but I suspect that there won’t be a lot of confusion about mixing them up.

There’s a method to process individual files, of a pre-defined name, into this “mft” file.

* Each character is saved as a ply file
* The name starts with the ASCII or Unicode number, followed by a bunch of human readable information, separated by commas: CHAR\_XXX(symbol)(F-FontName)(size)(emphasis)
* For example, a “capitol A” of font “Arial”, and 20 pt, with no emphasis would be:
  + CHAR\_065(A)(F-Arial)(20).mft
* Same thing, but bold would be:
  + CHAR\_065(A)(F-Arial)(20)(Bold).mft

The text information in the file name is used to load the font information for the human reader, but the number past the “ASCII” is what is actually used in the encoding, so everything beyond the “ASCII” and the number is optional.

* “A” is ASCII 65, “Z” is ASCII 90
* “a” is ASCII 97. “z” is ASCII 122
* “0” is ASCII 48, “9” is ASCII 57

There are also pre-defined names for the “special” characters:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ASCII | Name | Character |  | ASCII | Name | Character |
| 38 | Ampersand | & |  |  |  |  |
| 44 | Apostrophe | ‘ |  | 96 | Grave Accent | ` |
| 42 | Asterisk | \* |  | 64 | At | @ |
| 92 | Backslash | \ |  | 33 | Bang or Exclamation | ! |
| 123 | Curly\_Bracket\_Opening | { |  | 125 | Curly\_Bracket\_Closing | } |
| 91 | Square\_Bracket\_Opening | [ |  | 93 | Square\_Bracket\_Closing | ] |
| 40 | Round\_Bracket\_Opening | ( |  | 41 | Round\_Bracket\_Closing | ) |
| 94 | Caret | ^ |  | 58 | Colon | : |
| 44 | Comma | , |  | 47 | Divide | / |
| 36 | Dollar | $ |  | 61 | Equals | = |
| 62 | Greater\_Than | > |  | 60 | Less\_Than | < |
| 45 | Hyphen | - |  | 37 | Percent | % |
| 46 | Period | . |  | 35 | Number\_Sign | # |
| 63 | Question | ? |  | 34 | Quote | “ |
| 58 | Semi-colon | ; |  | 126 | Tilde | ~ |
| 95 | Underscore | \_ |  | 124 | Pipe | | |
| 176 | Degree | ° |  | 161 | Inverted\_Exclamation | ¡ |
| 191 | Inverted\_Question | ¿ |  | 247 | Obelus | ÷ |
| 169 | Copyright | © |  | 174 | Registered\_Trademark | ® |
| 177 | Plus\_Minus | ± |  |  |  |  |
| XXX | UNKNOWN |  |  |  |  |  |