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Overview

Visual Font is a simple utility that loads Windows TrueType fonts and symbols and extrudes them into three dimensions.   Using Visual Font, the 2D TrueType characters become the front faces of a 3D object that now has depth.

Extrusion is the act of taking a two dimensional object and stretching it back in a third dimension to give that object depth.   Visual Font allows you to control not only the **depth** of extrusion, but also the **Offset** of the extrusion.   If no offset is defined for an extrusion, the object is stretched back in a direction completely perpendicular to the plane on which the 2D character resides.   A horizontal and vertical offset can be defined in Visual Font such that the direction of extrusion is at some angle off the perpendicular. In addition to controlling the depth, offset and bevel of an extruded font, you can set a **Curve Resolution** value to determine the number of points and lines (vertices and polygons) that define the shape of the 3D object.   Finally, you can manipulate the **Text Height** and **Text Width** independently to change the appearance of the characters that you are turning into 3D models.

In addition, objects can be given a Bevel, which allows you to define the shape of the corners of the characters.

After defining the characteristics of a font, you can Preview that font as a solid 3D object, or as a wireframe model.   The model can then be saved to a 2D or 3D DXF file, or you can import it directly into Renderize Live through the Windows Clipboard.

When you load 3D geometry generated in Visual Font into Renderize Live through the DXF file format, you can break it up into object and material definitions by layer.   The front and back are assigned to one layer, the sides are assigned to another layer, and the beveled surfaces, if any have been defined, are assigned to a third layer.

Using Visual Font: A Procedural Walk-Through

When you launch Visual Font, the text edit window appears.   This main window contains the pull-down menus and an area in which text is typed.   This window can be resized as desired, and you can scroll in this window to view strings of text that run off the display. The **Settings** window and the **Bevel** window can both be opened by selecting them from the **Format** pop-down menu.   The **Settings** window contains slider bars and type-ins that are used to define extrusion depth, horizontal and vertical offset, height and width, and curve resolution.   The **Bevel** window contains slider bars and type-ins for bevel width and depth definition, as well as a sample letter to let you view the current bevel width.

One other window, the **View** window, can be opened by selecting **View** from the **Preview** pop-down menu.   This window contains a view port which allows you to view the 3D text model as defined by the current settings.

1. Select a Font Style.

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1. Select a Font Style.

Select **Format, Choose Font** on the Menu Bar to display a Windows Font Browser. Select the desired font and style, then press the OK button to load your choice.   The currently selected font is indicated on Visual Font's Windows Title Bar.

If you have already entered a text string, changing this setting will change the existing text.

Don't worry about the font size when selecting a font, as the scale can be manipulated after the font is saved as a 3D object and imported into Renderize Live.   In addition, the **Curve Resolution** value in the Settings window allows you to control the detail of the curves used in the font.   If you plan on scaling your 3D object very large you may wish to increase this value.

2. Select the Justification.

This is important if you plan to have multiple lines of text.   Select the **Edit** pop-down menu and choose **Right, Center,** or **Left** justified text.   If you have already entered a text string, changing this setting will change the alignment of the existing text.

3. Type in a String of Text.

Move your pointer into the main Visual Font window and select to make a cursor appear. The size and position of the cursor depend on the font size and justification you selected. Type in the desired text string, pressing **Enter** to begin a new line.   Text can be edited in this window using all Windows conventions, including inserting and deleting characters at the cursor position, and highlighting strings to delete or replace.

In addition to typing in a text string, you can cut or copy a text string from another program into the Windows Clipboard, then use the **Edit, Paste** command to paste that string into Visual Font.   This feature is especially useful if you wish to enter characters from the extended ASCII set (characters that can't be typed directly from the keyboard).

To gain access to the complete extended character set, select the **Character Map** Program Item on the **Accessories** Program Group.   To choose characters from the Character Map, double-click on the desired characters so that they appear in the **Characters to Copy** type-in on the Character Map window, then select the Copy button to copy them to the Windows Clipboard.   Finally, select Edit, Paste in Visual Font to paste those characters at the current cursor position.   Note that any characters pasted into Visual Font will be converted to the font style that has been selected in Visual Font: therefore, the same font style should be selected in both Visual Font and the Character Map.

4. Define the Extrusion Properties.

Select **Format, Settings** from the Menu Bar to display the **Settings** window.   The features on this window allow you to define the extrusion depth, offset, horizontal and vertical sizes, and the amount of detail in the text curves.

Side Extrusion

Determine how "deep" to extrude the text.   The degree of extrusion is expressed in terms of percentage of the height of the text.   Therefore if Side Extrusion is set to 100%, the resulting 3D characters will be more or less square.   Side extrusion can be set between 0 and 1000%.

Side Extrusion can be set using the slider bar, or by entering a value in the accompanying type-in.   The extrusion depth you set is represented graphically as a rectangle below the slider bar: this rectangle represents a side view of the text.

Horizontal and Vertical Offset

Determine the direction in which the characters are extruded.   If no offset is defined, the characters are extruded along a line that runs perfectly perpendicular to the plane on which the 2D character sits.   If a horizontal and/or vertical offset is defined, the extrusion still runs back from the 2D plane of the characters, except that it is not completely perpendicular.

Horizontal and Vertical Offset can be set using the slider bars, or by entering a value in the accompanying type-ins.   The extrusion depth you set is represented graphically as a rectangular box below and to the right of the slider bars: this rectangle represents a front view of the text.

Note: If a horizontal or vertical offset is defined, the text cannot be beveled.

Text Height and Text Width

Determine the relative horizontal and vertical size of the characters.   For example, if you increase the Text Height without increasing the Text Width, the resulting character will be taller and skinnier than it would appear by default.   If you increase the Text Height and Text Width by equal amounts, this simply increases the size of the character.

Curve Resolution

Determine the amount of points that will be used to define the curves in the character. The higher the value defined here, the more points are used to define the curve, and thus the   smoother the curve.   However, higher values create larger and more complex 3D models, which can significantly impact performance when this model is manipulated and rendered.   Generally speaking, values above 10 begin to generate complex models.

The curve resolution that you set should depend on the prominence of the resulting 3D object in the rendered scene.   If this text string will appear very large, or if it will be located in the foreground of the rendered scene, you may wish to increase the curve resolution.

5. Define the Bevel Properties.

Select, **Format, Bevel** from the Menu Bar to display the **Bevel** window, from which you can bevel the edges of your object.   When no bevel is defined, the front and back faces of the object intersect directly with the side faces that are created in the extrusion process.   When you define a bevel, you are creating an additional face that exists between the front (and back) face of the object and the side faces.   Using the commands in this window you can determine the size of the bevel face.

Note: If a horizontal or vertical offset is defined, the text cannot be beveled.

Bevel Depth

Define the distance of the bevel between the side face and the front and back faces of the object.   As you increase the depth, the front and back faces are pulled out to increase the overall depth of the character.   However, the sides of the character don't get bigger; instead, the bevel face gets bigger. If the bevel depth is zero, there will be no bevel regardless of the bevel width value.   The bevel depth you choose is represented graphically as a rectangle below the slider bar.

Bevel Width

Define the degree of the bevel.   As you increase the bevel width, the area of the front (and back) face is reduced: the bevel face "shaves away" the front and back faces from their edges toward the middle.   As you change the bevel width, the sample letter in this window changes accordingly: the outer set of lines represents the edges of the character as defined by the side faces; the inner set of lines displays how much of the front and back faces are shaved away by the bevel.

Important: Looking at the sample letter, be sure that the lines representing the bevel do not overlap themselves or the lines representing the outside edges of the character: this will create undesired effects.   Change the character in the **Sample Letter** edit window to view the bevel definition on other letters and confirm that no overlap exists.

6. Preview the 3D Object.

Open the Preview window by selecting **Preview, View** from the Menu Bar.   The Preview window displays a viewport for previewing your objects in 3D space.   You can choose the background color of the window by selecting either **White Background** or **Black Background** from the **Preview** pop-down menu.   The **Preview** pop-down menu also has a **Wireframe** toggle, which toggles the view between a solid object and a wireframe object.

Change the direction from which you view your 3D text by   moving the horizontal and vertical slider bars on this window.

You can leave this window open while you work and view the changes as you make them. However, you must click the pointer inside this window to update the display after making any changes.

7. Save a Model.

Once you have defined the desired attributes, you must generate a model file in which the object is created and stored.   Models can be saved in two ways: two dimensional and three dimensional.

The **Save 2D** command will create a model with a front face and, if defined, bevel width and depth.   No extrusion or back face will be created.   This option allows you to create models that are 60% smaller than their three dimensional equivalents, but the only depth created comes from the bevel depth.

Save 3D creates models with a front face, extrusion, back face and bevel (if bevel is defined).

To choose the file format you wish to use for your 2D or 3D model, use the **Save File as Type** selector in the **Save As** window.   There are three file types to choose from: Polygon (DXF), 3D Face (DXF), or Geometry file (GED).

GED is the Renderize Live proprietary file format.   This format is smaller and more efficient than the DXF file format, so models saved into this format can be loaded more quickly into Renderize Live.   However, this file format cannot be read by other programs.

DXF, the drawing exchange format, creates larger files.   However, these files can be read by a wide variety of 3D modeling, rendering and animation products.

Undo Your Work

Use the **Undo** command on the **Edit** pop-down menu to undo the most recently executed action.   If you simply want to start over, select the **New** command under the **File** pop-down menu.

Use the Windows Clipboard

Visual Font supports the movement of characters to and from the Windows Clipboard. Use the **Cut** and **Copy** commands on the **Edit** menu to move or copy a highlighted string of text from the main Visual Font window to the Windows Clipboard.   Use the **Paste** command to insert characters from the Windows Clipboard at the current cursor location on the   main Visual Font window.   This option is especially useful when you wish to enter "extended ASCII" characters that cannot be typed from the keyboard.

You can also copy extruded fonts as 3D models into the Windows Clipboard, then paste these models directly into Renderize Live.   To copy font geometry to the Windows Clipboard, select **Edit, Copy GEOM** in Visual Font: the entire text string that you entered in Visual Model is copied as 3D geometry to the Windows Clipboard.   Then select **Edit, Paste Visual Font** in Renderize Live to load the geometry as an object.