Contents

VisLand version 0.2 beta   Provisional Help File

Introduction

Welcome to **VisLand** a program that allows you to create fractal landscapes and render them either as still images or animation's. **Visland** includes it own internal 'render engine' that allows fast composing of the picture and can also directly produce **povray** script and **pot** heightfield files that allow the landscape to rendered with the **povray** raytracer for a more realistic image.

Visland can directly create **Video For Windows AVI** flyovers of the landscape with any avi codec driver on your system allowing memory efficient animation's to be produced. (Video For Windows run time drivers are not included, they should be available for the same source as VisLand or you may find that they have already been installed on your system by multimedia applications such as those found on many magazine demo CDs).

The Menu Bar

[File](#)
[Terrain](#)
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The Status Bar

The Status Bar is positioned at the bottom of the main window. It displays the amount of free system memory available in bytes and the current key frame number.

The Terrain Window

The Terrain Window displays a contour map of the terrain. When the mouse is positioned in this window the pointer changes to a cross hair and the title bar of the windows displays the current position (x , z co-ordinates) and the height at that position (y co-ordinate).

The effect of clicking the left mouse button in this window is determined by the option selected from the floating Tool Window.

The Image Window

This Image Window displays the rendered image. The image is rendered in 24 bit (True Colour) and may be saved as a True Colour TGA file or as a 256 colour gif file by using the Save Image option.

The Floating Tool Window

The floating Tool Window contains a selection of push on-off buttons that determine how a mouse click will function in the Terrain Window.

Position Camera

This button allows the camera to be positioned within the terrain. The cameras height will be adjusted by the value of the **tripod height** field set in the CameraDialog.

Position Camera (Lock Height)

This button allows the camera to be positioned within the terrain window but locks the height.
This is useful in avoiding obstructions by first positioning the camera on a high area and then using this button to keep the camera locked at that height.

Position Target

This button allows the target (the point at which the camera is aimed) to be positioned within the terrain.

Position Target (Lock Height)

This Button allows the target (the point at which the camera is aimed) to be positioned within the terrain but locks the height.

Set Sea Level

This Button sets the sea level at the height shown in the terrain window upon a left mouse click.

Set Lighting

When this button is selected the terrain shrinks within the terrain window. The first left mouse click will set the position of the light source. The second mouse click will set the angle of the light source with respect to the terrain centre.

Set Tree Level

This button sets the Tree Level at the height shown in the terrain window upon a left mouse click.

Make Path

This button creates a path or ledge at the height shown in the terrain window upon a left mouse click.

The Dialog Boxes

Render
Camera
Light
Edit Colour
Edit Colour Map
Edit Surface
New Terrain
Tree

The File Menu

The File Menu contains the following commands:

New
Generates a new terrain. This option selects the New Terrain Dialog dialog box.

Open
Opens a terrain file (*.fls).

Save
Saves the current terrain file (*.fls) with the same name as it was opened , if a new name is required then use the Save As Option.

Save As
Saves the current terrain file and allows a name to be given.

Save Pov
Generates Script files for the Persistence of Vision Ray Tracer. A total of   3 files are saved with the extensions *.inc , *.pov , *.pot . The *.pov file should be used as the input file to povray in accordance with the povray instructions. Povray is a Freeware program and should be obtainable form the same source as this program.

System Info
Shows Information about the hardware and video set up of the computer.

Exit
Exits the Program.

The Terrain Menu

The Terrain Menu Contains the following commands:

Trees
Allows editing of the tree generator parameters by selecting the <u>Tree Dialog Box</u> dialog box.

Sea
Allows   editing of the sea generator parameters.

Sky
Allows editing to the sky generator parameters.

Height
Scales the relative height of the landscape as a percentage of the optimal height.

Land Colour
This enables a <u>Edit Colour Map</u> dialog for the landscape that determines the colour of the landscape according to the height.

Surface
Allows the seting of the surface characteristics of the landscape by using the <u>Edit Surface Dialog</u>.

The Studio Menu

The Studio Menu has the following commands:

Camera
Allows adjustment to the camera by using the <u>Edit Camera Dialog</u>.

Light
Allows adjustment to the light position and intensity using the <u>light dialog</u>.

Ambient Light
Allows adjustment to the ambient light. The **Red, Green** and **Blue** components or **Hue**, **Staturation** and **Luminance** components are adjusted by using the <u>Edit Colour Dialog</u>.

The Image Menu

The Image Menu has the following commands:

Size
Set the size of the image to be rendered for still images and animation's.

Render
Renders the image , this accesses the Render Dialog

Save
Saves the image , Either as a   256 colour GIF or True Colour TGA.

The Animate Menu

Animation ability is provided by the use of key frames. Up to 64 key frames may be used. At each key frame the camera position and target may be specified. Upon animation these key frames are interpolated using a bspline curve to provide a 'Path' for the camera to follow.

The Animate Menu has the following commands:

Goto Key
Selects the current key frame to work on.

Insert Key
Inserts a new key frame after the current key frame.

Delete Key
Deletes the current key frame.

Compressor Options
This allows the selection and configuration of a chosen **video for windows** compression driver .This compression driver (**codec**)   will be used in the generation of avi files**.**

Set Frames
Sets the number of frames in the animation.

Render Animation
Starts the rendering process for the animation. First a file name and extension must be selected, the filename extension determines the animation type**:**

> **ani_name.avi**   Creates a **video for windows** avi file with the currently selected compressor.

> **ani_name.pov** Creates a sequence of numbered pov scripts for each animation frame and a batch file **ani_name.bat** to 'run'. Note **povray.exe** must be on the **path.**

> **ani_name.tga**   Creates a sequence of numbered tga image files**.**

View Animation
Views the last animation to be rendered.

The Help Menu

The Help menu has the following commands:

Contents
Accesses the help system.

About
Provides information about the program.

The Render Dialog

The Render Dialog allows control over the rendering process for speed and quality. It is comprised of four sections:

Render
This Sets quality of rendering. **Flat** calculates the light at the centre of a triangle only and gives a sharp , jaggy look. **Gouard** calculates the light at all 3 triangle vertices and interpolates these over the triangle giving a smooth look.**Phong** calculate the light at every pixel in the triangle to give a more accurate smooth look.

Palette
This selects the method that the 256 colour palette is calculated from the True Colour rendered image. **Lock** uses the last calculated palette. **Optimise** calculates an optimal palette for the image while **Dither** uses a fixed palette and Dithers the image to approximate the full 24 bit (16.8 millon) colour range. Both LOCK and DITHER avoid the time taken to calculate a palette, while optimise gives the best result. If only small changes are made to the render, such as a minor change in camera position then LOCKing the last palette can also give good results in a quicker time.Note these options are only valid when using a 256 colour dirver and are ignored when using a true colour driver.

Divide
This sets the coarseness of the terrain grid to be sampled. Divide by **1** samples at every point in the terrain gird while divide by **2** samples at every 2 points etc. Use high divide factors for fast but course renders.

Options
This allows the various elements **Terrain**, **Sky**, **Sea**, **Trees** to be included or excluded from the render.

The New Terrain Dialog

The New Terrain Dialog allows the creation of a new random fractal terrain map.

Size
This sets the size or resolution of the terrain map. Preset sizes can be selected via the buttons or any size from 64 by 64 to 32767 to 32767 units may be given in accordance with the available memory.

Seed
This allows a unique seed value for the terrain to be entered or a new random seed generated by using the **Random** button

Grain
This allows the grain value to be entered. The higher the grain value the more peaks and 'spiky' the terrain map will be.

The Edit Colour Dialog

The Edit Colour Dialog allows a colour to be set by adjusting the RGB sliders or by adjusting the HSV sliders.

The Edit Surface Dialog

The Edit Surface Dialog allow adustment of the **Ambient** , **Diffuse** and **Specular** components of the surface. The Tightness allows adjustment of the specular highlight with higher values making the specular highlight tighter.
Increasing the ambient value will brighten the 'shadow areas' . Increasing the diffuse value will brighten the areas in 'direct light'.

The Edit Colour Map Dialog

The Edit Colour Map Dialog Dialog allows a colour map to be edited. The dialog Comprises of a <u>colour map</u> display which shows the spread of colours within the <u>colour map</u> from 0% at the far left to 100% at the far right. Below this display there are a selection of **tags** which occur at 1% intervals. Active tags are shown in **red** and the currently selected tag is shown in **black** while all other potential tags are shown in **light blue**. The tags at the 0% and 100% marks may not be deleted.

Inserting a tag
A tag may be inserted by clicking with the right mouse button on any light blue tag

Selecting a tag
A tag may be selected by clicking on it with the left mouse button, only active tag (**red**) may be selected.

Deleting a tag
A tag may be deleted by first selecting it and then using the **delete** button.

Setting a tags colour
A tag colour may be changed by first selecting it and then using the **RGB slider** to adjust the colour.

Loading a colour map
A colour map may be loaded from disk by using the **load** button**.**

Saving a colour map
A colour map may be save to disk by using the **save** button.

The Tree Dialog

There tree dialog controls the generation of trees. Note the **Trees** check box must be selected in the Render Dialog for the trees to be included in the render.

Height
This sets the average height at which trees occur. Trees occur with less frequency above and bellow this point depending on the **Spread** value.

Density
This controls how sparsely or densely the trees are populated and is in percent.

Spread
This controls how far the trees will deviate in height from the **Height** value and is in percent.

Size
This value sets the size of the trees.

Zclip
This value ignores in the render any trees that are closer to the camera than the **Zclip** value.

Maximum
This determines the maximum number of trees that will be rendered.

Colour Map
This activates a Edit Colour Map dialog that allows the colour of a tree to be varied in accordance with the trees height.

The Camera Dialog

The Camera Dialog Controls the features of the camera.

Camera
The Cameras position may be adjusted to any value , not just those positions allowable by using the camera options on the Tool Box.

Target
The Targets position may be adjusted to any value , not just those positions allowable by using the target options on the Tool Box.

Field of View
Sets the Field of View for the camera. Low values give a telephoto effect while high values give a wide angle effect.

Z Rotation
Changes the cameras orientation around the z axis.

Tripod Height
When the Tool Box is used to position the camera this value is added the height of the terrain to obtain the y co-ordinate simulating a tripod. This is useful to avoid small "bumps" close to the camera obscuring the background.

The Light Dialog

The Light Dialog allows the scene lighting to be varied.

Position
This allows the location of the light source to be specified anywhere and is not constrained to the locations allowed by the Tool Box light button.

Intensity
This is allows the intensity of the **Red**, **Green** and **Blue** components of the lighting to be adjusted using the Edit Colour Dialog.

Colour Maps

Colour maps are used throughout the program to provide a colour gradient.

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This licence agreement refers to and only to this unregistered trial version of VisLand.

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NO WARRANTIES ARE IMPLIED OR EXPRESSLY STATED.

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Registration

VisLand is provided for a 30 day trial period after which a registered version must be purchased or the use of Visland must cease. The registered version of VisLand is available at the cost of £35.00 UK Pounds.

To purchase VisLand print out the purchase order with the **Print topic** option on the Help **File** menu.
Click here for purchase order

Purchase Order

VisLand costs £35.00 UK Pounds inclusive.

Please make Cheques payable to **M.J.Dimon** and send to:-

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Name: _____

Address: _____

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Telephone: _____

Email: _____

Where did you hear about VisLand: _____

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Comments: _____

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