About Meander 1.2

Introduction

Meander is a small application to explore QuickTime VR scenes and play QuickTime movies of any source.

In addition, you get extra features with QuickTime VR scenes made with ArchiCAD. These include:

- o interactive links among VR scene, floor plan graphics and text description with optional illustrations,
- o on MacOS automatic text description reading of current panorama,
- o enhanced VR navigation experience fine tuned for architectural content,
- o macro recording and playback options.

With these features, Meander can be used to create and play rich and highly interactive presentations of architectural content. Its simple user interface makes all of its functions easily workable for any computer user.

Requirements

Meander is currently available for MacOS and Windows. The extra features are available with VR scenes saved with the QuickTime VR 2.0 Engine extension from ArchiCAD 6.0 or later.

Meander also requires QuickTime 3.0 or later, QuickTime VR 2.0 or later system extension on MacOS and QuickTime 3.0 on Windows.

For optional text-to-speech functionality Speech Manager also required. It is only available for MacOS.

Preparing a presentation for Meander

1. Save the VR scene

- o In your ArchiCAD project, set up the panoramic cameras and Photorendering options as usual.
- o To take best advantage of the Smooth Walk feature, try to keep the connection lines between each two cameras straight. Add new cameras to places where you otherwise just would place a breakpoint in the line. Try to keep the cameras at an "even density" from each other and from surrounding objects. However these are not rules just guidelines; VR scenes with uneven density and breakpoints can be also used without problems.
- o Make sure that the cameras have good, descriptive names. These names will be used in Meander to identify your current and target location.
- o Generate a QuickTime VR Scene from your project. In the top of the dialog box, choose "QTVR 2.0 Engine". The name you give to the VR scene will be referred to later in this document as "Filename".

2. Optionally, save the floor plan as a navigation aid for Meander

- o Save the Floor Plan of your project as a 'PICT', 'BMP', 'GIF' or 'JPEG' file. Keep in mind that the entire floor plan will be saved at the current zoom factor. Hide layers or delete elements temporarily to keep the image file free from redundant data. In Meander, the image will be displayed "as is", you cannot scroll or zoom there. Make sure that the visible items at the current zoom would fit in a reasonable sized window.
- o Save the image as "Filename.PICT", "Filename.BMP", "Filename.GIF" or "Filename.JPG" into the same folder where the components of the VR scene are. Using this name, it will be opened automatically with the VR scene; otherwise you will have to open it manually from Meander. (The ArchiCAD will save automatically a "Filename.gpi" file which contains some informations from image file. This file is neccessary to the Meander.)

  Hint: The floor plan symbol of the panoramic cameras does not zoom with the plan. If you save the PICT at a zoom factor when cameras get annoying in size compared to the walls etc., draw small red circles around camera locations then make the cameras hidden. The circles will get smaller with the floor plan, while they indicate the location of cameras clearly.

3. Optionally again, prepare the description of the VR scene

- Create a SimpleText/MS-DOS Text file which contains the names of panoramic cameras, each followed by the comments you wish to add to the location of the camera.
- Save the document as "Filename.txt". Using this name, it will be opened automatically with the VR scene; otherwise you will have to open it manually from Meander.

  Hint: On MacOS you can add illustrations to the SimpleText documents by adding PICT resources to the document with a resource editor. Within the text, use "option-space" characters to embed the illustrations in the order of their resource ID's. Following "option-space", add empty lines as necessary so that the picture and the text do not overlap. As opposed to SimpleText, Meander can also display multiple pictures beside each other.

Using Meander

Apple menu

- **About Meander..**: Opens a nice picture without any relevant information.

File menu

- **Open...**: Opens QuickTime VR Scenes and QuickTime VR Objects of version 1.0 or 2.0 and QuickTime movies. With VR Objects and movies, many features of Meander will be disabled.
- **Close:** Closes the active window. If closing a VR Scene, all related windows will be closed.
- **Link Floor Plan Picture...**: In a directory dialog box, you can select an image file to be viewed as the Floor Plan while navigating the VR scene.
- **Link Description...**: In a directory dialog box, you can select a text file used for annotating the VR scene.

Note 1:

These manual links will not be preserved. If you close the VR scene and open it again, you will need to link the other documents again. To automatically open the Floor Plan and the Description with the VR scene, you need to follow the location and naming rules discussed above.

Note 2:

Picture and Description Linking is only available with QuickTime VR 2.0 format VR scenes.

QuickTime menu

- **Half size**: Sets the size of the window displaying QuickTime content to half of its initial size. Can be useful on slower machines.
- **Normal size**: Sets the size of the window displaying QuickTime content to its initial size.
- **Double size**: Sets the size of the window displaying QuickTime content to the double of its initial size. Can be sluggish on slower machines.

  Note: In addition to these commands, you can manually resize the QuickTime window to any rectangular shape. Movies and VR objects will get distorted. However, VR scenes can be especially spectacular in wide windows, as they reveal more of the panoramic content instead of getting distorted.

- **Loop**: The movie will be played continuosly.
- **Cylindrical Projection**: With VR scenes, switches off the real time calculation of the perspective. Reveals the strange curved image stored with VR scenes.
- **2-Point Perspective**: all linear edges will be linear again. However, vertical lines remain vertical even if you look up or down. There is no upper and lower vanishing point. Also known as "architectural perspective"; in real world photography it requires special equipment. For some people, this is more "real" than 3-point perspective, because human vision perceives vertical edges as parallels through a mental correction.
- **3-Point Perspective**: All linear edges will be linear, and vertical lines get inclined as you look up or down. This view is the closest to photographic reality in Meander, however for some, 2-point perspective may offer a better experience. When you open Meander, this will always be the initial setting.
- **No Dizzy Spinning**: Sets a highest limit to rotation speed, to avoid very rapid spinning of the image. If checked, you can only turn around as fast as in a real world situation.
- **Smooth Walk**: If checked, automatic turning of the view and animated zoom effects will guide you as you move from one VR panorama to the other. If unchecked, you jump promptly from here to there, which is faster, but your perception of orientation and movement will be seriously impaired. Can be fine tuned in Smooth Walk Settings.

  Note
  Smooth Walk is only available with QuickTime VR 2.0 format VR scenes.

- **Show Name on Plan**: If checked, displays the name of the current VR panorama in large, easy to read type at the top of the Floor Plan Image, if available.
- **Show Azimuth**: If checked, indicates the viewing orientation with a rotating arrow. If a Floor Plan Image is open, the arrow will be displayed on the Floor Plan, at the location of the current VR panorama. If there is no open Floor Plan, the arrow will be displayed at the bottom right corner of the QuickTime window.
- **Smooth Walk Setting**: Opens a dialog where you can fine tune the zooming effects of the Smooth Walk function. With Smooth Walk, your movement consists of three components:
  1. Turning around: always on.
  2. Initial zooming: enlarges the appropriate part of the image, creating a feeling of movement. The amount of zooming can be tuned to the typical distance of the surrounding objects from the cameras. If you set a very large distance here, initial zooming will be off. If you set a small distance, initial zoom will enlarge the target very much.
  3. Destination zooming: at the location you go to, the initial view will be wide angle, and it will automatically zoom in to the zoom factor stored in the VR scene. If the switch is off, then you arrive to the destination without this second zoom effect.

Note

Remember that all the movements of Smooth Walk are faked. There are no settings that could make sure that all transitions are smoothly animated. The purpose of Smooth Walk is NOT to generate a real animation that leads you from one place to the other, showing everything you could see on the way. Its purpose is to generate a SENSE of movement, and to enhance your perception of the spaces you explore.

Macro menu

- **Mark Current View**: Stores your current location, orientation and zoom.
- **Recall Marked View**: Takes you back to the marked view. These commands help you start exploration of the spaces again and again from any location you mark. With no marked view, takes you back to the initial view of the VR scene.
- **Start Recording**: Switches the macro recorder on. After this, navigate the VR scene carefully. All your movement and actions will be stored temporarily.
- **Play Macro**: Navigates through the VR scene following your recorded actions. To stop playing the macro, press command-period. After the current transition, the macro will stop.

- o **Play Continuously**: Plays the current macro over and over. Press command-period on MacOS or control-period, control-break or Escape on Windows to stop.
- o **Save Current Macro as...**: Saves the current macro on a disk. For hackers, text format is recommended, which can be edited later manually according to a special syntax as follows.

  This format has four statement:

  1. Z angle time - defines the zooming angle
  2. P angle time - defines the panning angle
  3. T angle time - defines the tilting angle
  4. G nodeindex time - goes to panorama represented by 'nodeindex'

  Each time value is relative to the last statement. The unit of these are 1/60 seconds.

- o **Open Macro**: Lets you choose any existing macro for playback. Playing does not start automatically, choose Play Macro from this menu.

Window menu

- o **Movie/VR Scene**: Brings the window with QuickTime content to the front.
- o **Floor Plan**: Brings the window with the Floor Plan Image of the current VR scene to the front.
- o **Description**: Brings the window with the description of the current VR scene to the front.
- o **Hide Background**: Keeps the current VR scene and its related windows visible, and hides everything else behind a black background.

Other commands in the Window menu bring all related windows to the front.

Speech menu (Available on MacOS only)

- o **Enable Speech**: Turns on/off the speech functionality. Meander read automatically the description of the current panorama.

The QuickTime VR Window and Controller

Within the window, drag the centerpoint shaped pointer to move around and see up and down. Click with the forward-arrow pointer to advance to a new location. You can also use the arrow keys on your keyboard to navigate.

At the bottom of the VR scene window, you find various widgets. They are, from left to right:

- o **Back**: Takes you back to the location you visited before the current one. Note that instead of going backwards, it actually turns around and goes back like this, so your will see the other side of the preceding location than you saw when you left it.
- o **Zoom Out, Zoom In**: Reduce and enlarge details. Works only in the current location. When you enter a new location, you always return to its original zoom factor.
- o **Show Hot Spots**: Shows the available access areas on the image as a transparent blue curtain. Clicking these areas will take you to the next location. The name of any destination you touch with the pointer will also be displayed at the bottom.

The Floor Plan Image

On the Floor Plan, you will see the building and the camera locations, if saved properly from ArchiCAD. This window cannot be resized.

In addition, a gray and red circle indicates the current location, with or without an orientation arrow.

Click any camera location to jump there immediately. Smooth Walk will be dismissed.

As you move the pointer with the VR scene at the front, the Floor Plan window will indicate any destination you touch with the pointer with a black foot. The black foot means "by clicking, you would walk to this location".

The Description Window

This window displays the annotations to the VR scene. Any time you change your location, it automatically scrolls up or down so that comments to the current panorama can be read at the top.