

Fledermaus Interaction Modes

Fledermaus provides three powerful mechanisms for exploring data objects in virtual 3D data space, allowing quick and easy navigation through the virtual world. Each mode allows you to position a virtual camera in the scene resulting in a presentation of what the camera sees from its position and orientation within the world. The exploration modes use different controls and user input to move this camera about the scene.

Fledermaus modes:

1. 3D flight uses a six-degree of freedom input device;
2. Logitech 3D Mouse; and
3. The mouse-controlled widget navigation interface is based on a centered zoom and rotate data manipulation technique

Each of the exploration modes has strengths and weaknesses. The flight mode provides for smooth navigation across both large and small datasets while the widgets provide a fast and effective center, zoom and spin interface that quickly focuses attention on the area of interest.



3D Flight Mode

This mode of exploration provides a powerful means to navigate around the 3D data space with the use of a 3D (six degree of freedom) input device. A supported 3D input device must be connected and turned on before starting this mode.

To begin flying you press and hold down the trigger button on the 3D input device. While the button is held down, hand movements of the device are mapped in a natural fashion to movements within the 3D scene.

The Fledermaus package contains a number of tools that support the creation of standalone digital videos from flight paths produced within the visualization system. The advantage of these videos is they allow high-resolution flights of the data capable of being viewed independent of the Fledermaus software.

3D Logitech Mouse



Widget Navigation Interface

The alternate exploration mode is a mouse based widget navigation (pick and zoom) interface that uses on screen widgets and direct interaction with the data space. The main point to remember with this interface is that all rotations and zoom occur about the center of the screen, and picking on a new location will move that point in the scene to the center of the display.

Fledermaus contains a number of different modes that affect the usage of the mouse buttons: *Explore*, *Select*, and *Polygon Select*.

The primary method of moving the data in the Fledermaus visualization window is via the three buttons on the mouse. Their use depends on the mode.

One of the features of this interface is the use of the middle mouse button to “pick and zoom”. Middle clicking on a point in the scene will move the center of the display to that point. After the mouse click, if the button is held down then the view can be zoomed in by dragging the mouse up or to the right, or zoomed out by dragging the mouse down or to the left. This effectively allows both movements and zooming to be accomplished with a single mouse button. Note that the “pick and zoom” function is available in all modes.