

Documentation/4.6/SlicerApplication/MainApplicationGUI

From Slicer Wiki

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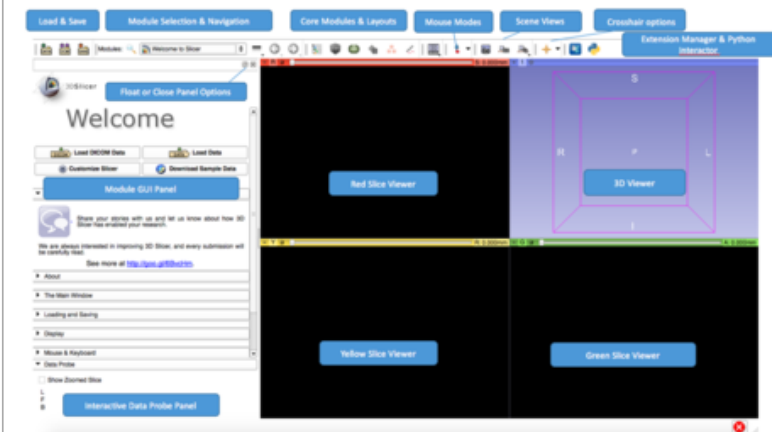
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For the latest Slicer documentation, visit the read-the-docs. (https://slicer.readthedocs.io/en/latest/user_guide/getting_started.html)

Overview

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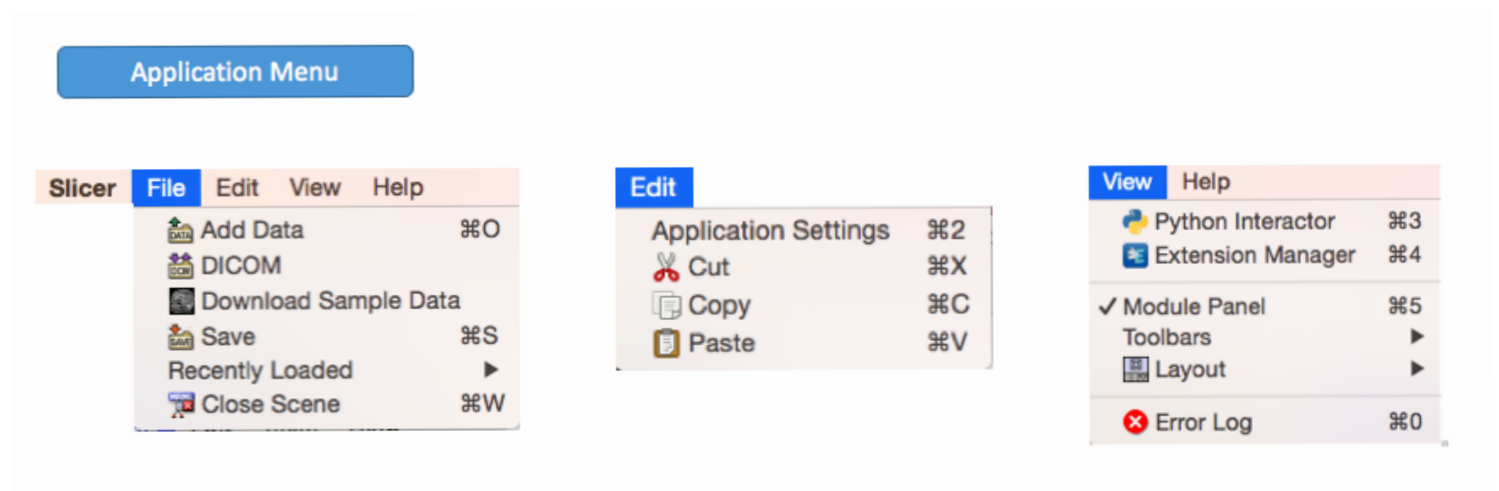
- 2.1 How to overlay 2 volumes ?
- 2.2 How to load data from a sequence of jpg, tif, or png files?

Slicer4's main desktop interface provides top-level access to most commonly-used features, and organizes them into logical groupings. These groups of features are presented in a number of interface panels on the GUI, as is illustrated in the basic layout below. The interface is designed to be easy to learn and remember, to ease navigation of Slicer's large (and growing) functionality, and to easily collapse and hide when you don't need to see it.

Application Menu

Slicer's Application Menu contains many useful features. A brief overview of some of these is given below.

- File Menu
 - The File Menu contains options for loading a MRML scene, for downloading sample datasets from the internet, or individual datasets of various types. An option for saving scenes and data is also provided here.
- Edit Menu
 - The Edit menu contains an option to raise the Application Settings Interface. This interface allows users to customize their installation of Slicer. 'Edit->Application Settings' can be used to include or suppress various Slicer modules, to customize the appearance of your Python Interactor, to select a custom font, to specify a temporary directory, and to accomplish other customizations as well.
- View Menu
 - This menu contains options to raise the Python Interactor and the Error Log, both useful developer tools. Menu options to switch layouts, and to toggle the display of individual toolbars and the module GUI panels are also provided under the View Menu.



Toolbar

The Toolbar provides shortcuts to many useful sets of functionality. The following toolbars appear here by default. Customization is possible from the Slicer View Menu.

Load & Save Options

The **Load Scene** option will raise a browser to select and load a collection of data as a MRML scene. This option clears the existing scene and resets the application state. The **Save** option will raise the "Save Data" Interface which offers a variety of options for saving MRML scenes and individual datasets.

Module Selection & Navigation

The Module Selection & Navigation toolbar provides options for searching for module names, selecting from a module menu, and

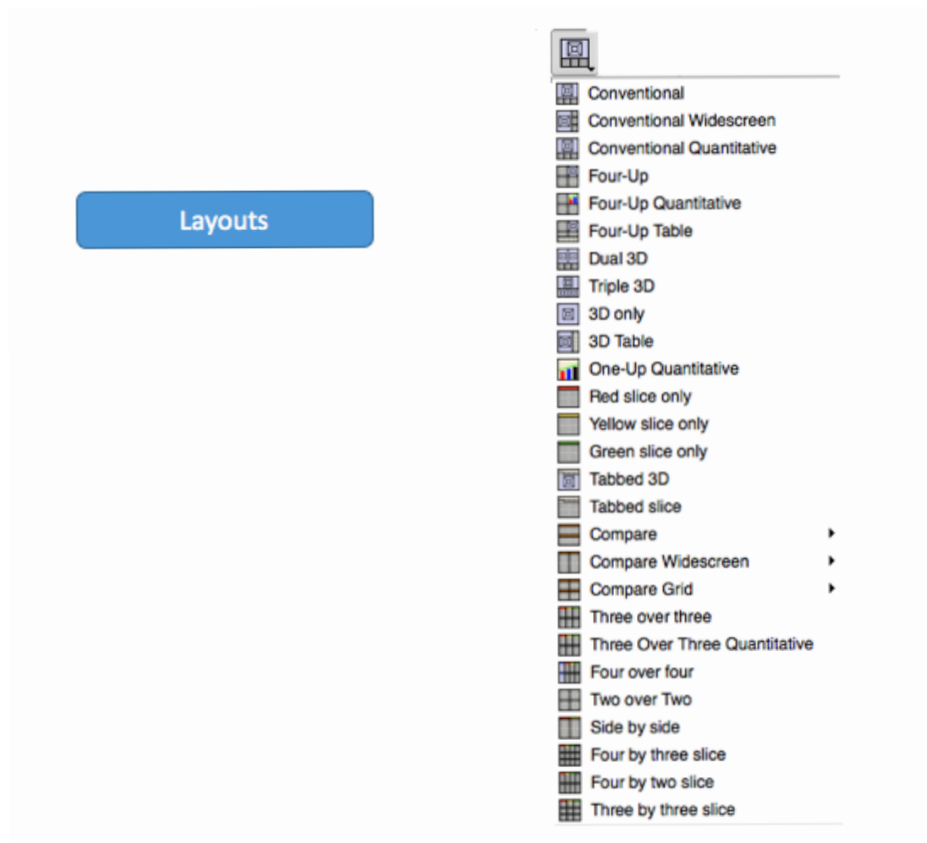
Core Modules

The Core Module Toolbar provides shortcuts to your "Home" module, and some of Slicer's core modules including

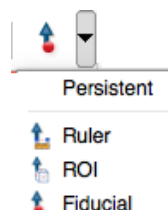
- Models
- Transforms
- Data
- Volumes
- Annotations
- Interactive Editor

Layouts

The Layout Toolbar provides a drop-down menu of layouts useful for many types of studies. When Slicer is exited normally, the selected layout is saved and restored as part of the Application state.



Mouse Modes



Slicer has two mouse modes: **Transform** (which allows interactive rotate, translate and zoom operations), and **Place** (which permits objects to be interactively placed in 3D or 2D). The toolbar icons that switch between these mouse modes are shown from left to right above, respectively. **Place Fiducial** is the default place option as shown above; options to place both **Ruler** and **Region of Interest** Widgets are also available from the drop-down Place Mode menu. **Hint: Transform** mode is the default interaction mode. By default, **Place** mode persists for one "place" operation after the Place Mode icon is selected, and then the mode switches back to Transform. Place mode can be made persistent (useful for creating multiple fiducial points, rulers, etc.) by checking the **Persistent** checkbox shown

Screenshots & Scene Views

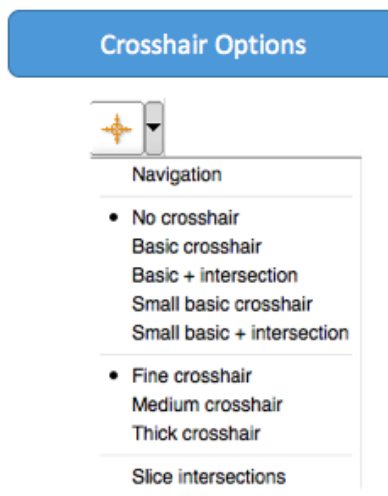


This toolbar presents options for capturing screenshots (1st icon) and **Scene Views** (2nd icon) and restoring saved scene views (3rd icon).

- A **Screenshot** can be taken at multiples of the resolution visible on the screen. This allows the taking of higher quality pictures for publication. Saving the screenshots is possible in the save menu. At that time the format of the file can be specified. More information on saving is in the Load and Save toolbar.
- A **Scene View** is a description of the state of the MRML scene at the time of its capture that can be restored at any time. This mechanism is useful for preparing and viewing multiple interesting presentations of a complicated dataset. More information in the Scene Views module.

Crosshair Options

The Crosshair Toolbar provides a set of options for customizing the appearance and behavior of the crosshairs across all Slice Viewers.



Module Panel

Any selected module in Slicer will display its user interface in the **Module Panel**. The panel may be undocked (by left-clicking & dragging the panel chrome or by selecting its undock icon; hidden by selecting the hide (X) icon, or have its display toggled by selecting View->Module Panel. The panel can be re-docked by double-clicking on its chrome.

Data Probe

The Data Probe interactively reports data values at voxels indexed by the current mouse position in all layers (Label, Foreground and Background).

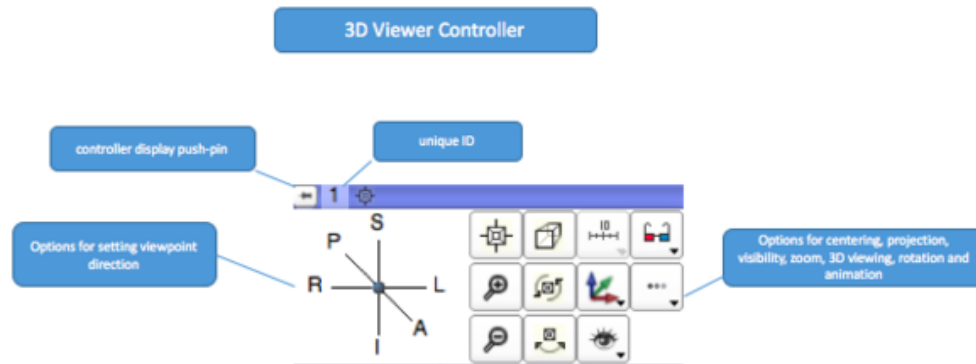
See the Data Probe documentation for more information about the data values displayed.

3D Viewer

Access the 3D Viewer Controller by mousing over the **push-pin** icon in the top left corner of any 3D Viewer.

- The panel may be opened persistently by clicking the **push-pin** icon which effectively "pins" it open. Clicking again "unpins" the panel.
- Next to the push-pin, a **unique ID** may be found that distinguishes this 3D viewer from other 3D viewers that may have been created when other layouts were selected.

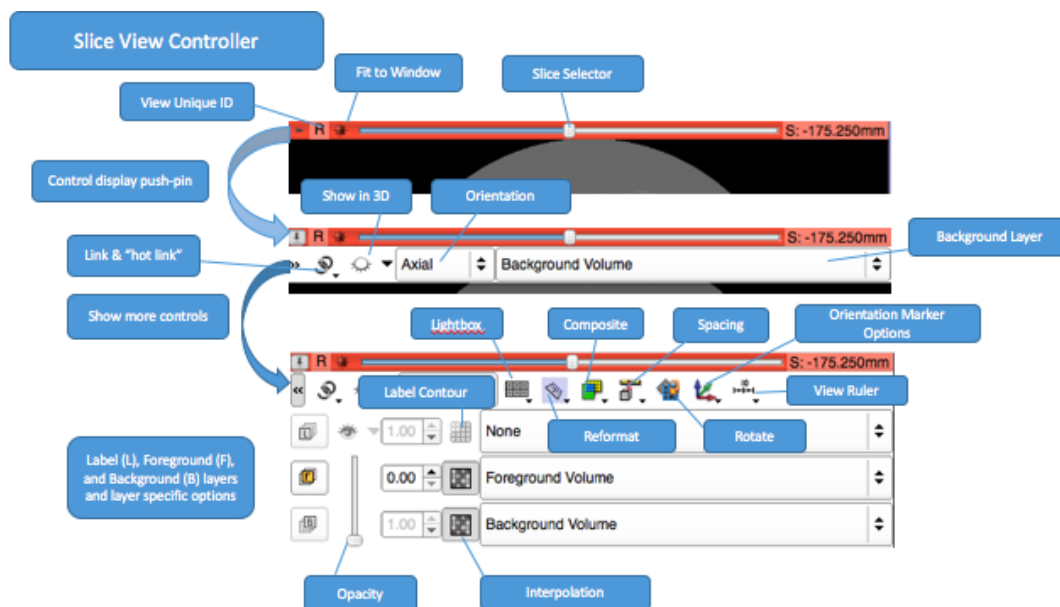
- The **panel** contains options for setting the viewpoint direction, and configuring the appearance and behavior of any 3D Viewer. This includes buttons to set slicer to rock or orbit in the irghtmost column. The eye icon contains controls for visibility of the orientation letters and the bounding box in the 3D viewer.
- Depth peeling is a multipass technique to render translucent polygonal geometry without sorting polygons. It can be used to solve semi-transparent surface model rendering issues.



Slice Viewers

Access any Slice Viewer's Controller by mousing over its **push-pin** icon in the top left corner of any slice viewer. The panel may also be opened persistently by clicking the push-pin icon. Next to the push-pin a unique ID may be found that distinguishes the particular Slice Viewer from other Slice Viewers that may have been created when other layouts were selected. A **Slice Scrollbar** is provided for manually sweeping through slices and a slice number entry widget is also provided at the top right of the display for manually indexing a particular slice. Each Slice Viewer contains options for displaying each of the layers (Foreground, Background and Label). For the Foreground and Label layers, the opacity of the layer can be controlled by using the spinbox opacity widget (pointed by the "Opacity" annotation in the figure below). In addition, the visibility of the Label layer can be toggled between the "contour" and "solid" mode (see "Label contour" button in the diagram below).

Some Slice Viewer configuration options may be applied to **one or all** Slice Viewers by using the **Link** option. When viewers are unlinked, an option applies only to the viewer being adjusted. When viewers are linked, the option will apply to **all** Slice Viewers. The application of an operation or interaction when viewers are linked is propagated to the other viewers only after the interaction with the current viewer is complete. For example, zooming within a viewer when the viewers are linked will interactively zoom the current viewer and upon completion of the interaction, the effect of the zoom will be propagated to the other viewers. The **Hot-Link** setting modifies this behavior such the effect of an interaction is immediately applied to all viewers. Link and Unlink are persistent settings. The linking behavior for Slice Viewer settings and interactions is further describe here.



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