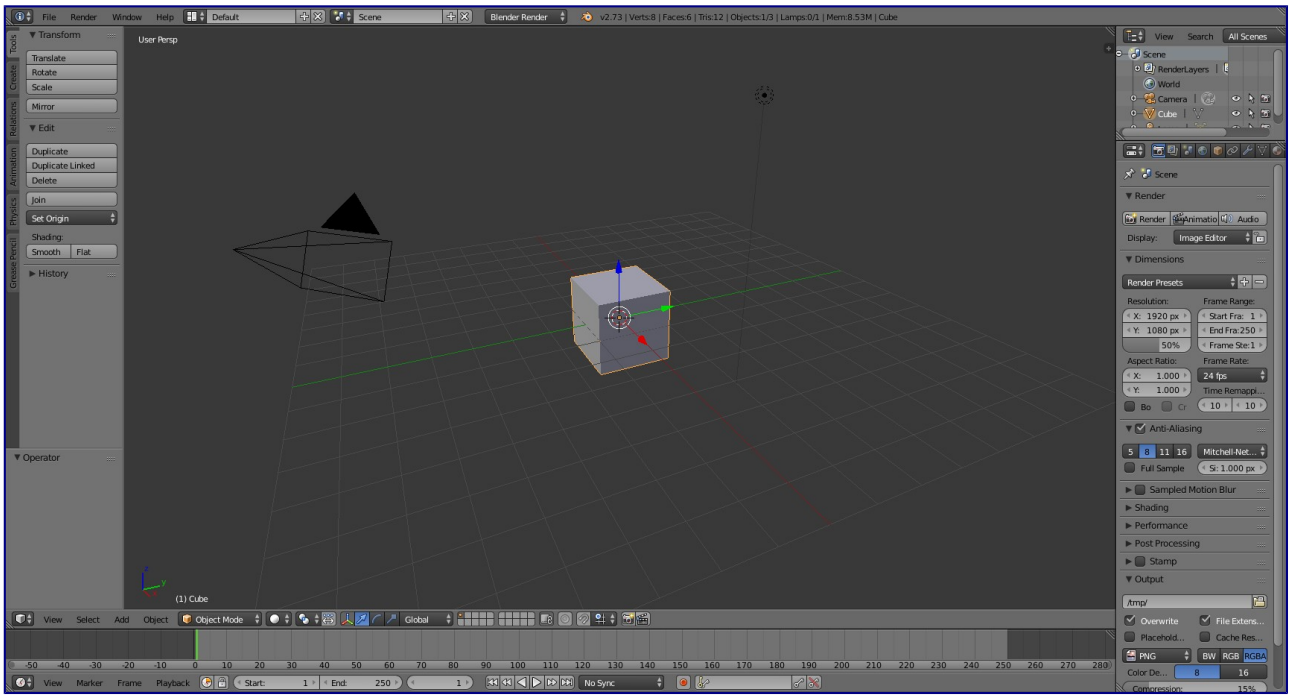
2.2 Interface - Window Controls

Window System

- The Window System
- Arranging Areas
- Window Headers
- The Console Window

The Window System

When you start Blender you should see a screen similar to this (the splash screen in the center will change with new versions):



Initial Blender screen

In the center of the window is the splash screen. This gives quick and easy access to recently opened Blender files. If you want to start work on a new file just click outside of the splash screen. The splash screen will disappear revealing the default layout and cube.

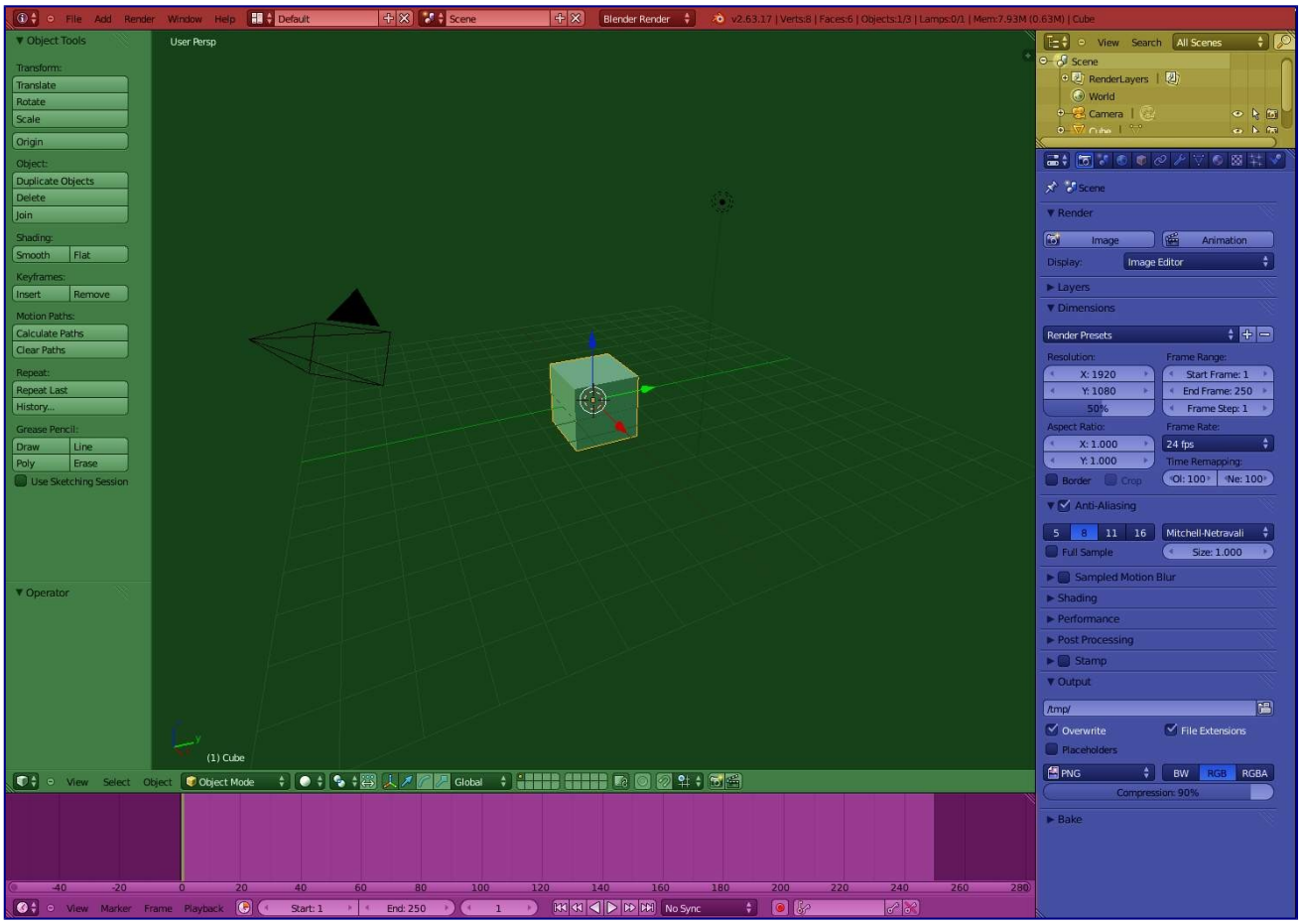
Every window you see can be further broken down into separate areas (as described in the section on *arranging areas*). The default scene is described below.

The default scene

The default scene is separated into five windows and is loaded each time you start Blender or a new file. The five areas are:

- The Info Space (shaded red) at the top. *(The Info window used mainly for its header)*.
- A large 3D View (shaded green).
- A Timeline at the bottom (shaded purple).
- An Outliner at the top right (shaded yellow).
- A Properties editor at the bottom right (shaded blue).

As an introduction we will cover a few of the basic elements.



Default Blender scene and Window arrangement

Arranging Areas

Blender uses a novel screen-splitting approach to arrange areas. The application window is always a rectangle on your desktop. It divides it up into a number of re-sizable areas. An area contains the workspace for a particular type of window, like a 3D View window, or an Outliner. The idea is that you split up that big application window into any number of smaller (but still rectangular) non-overlapping area. That way, each window is always fully visible, and it is very easy to work in one window and hop over to work in another.

Maximizing an Area

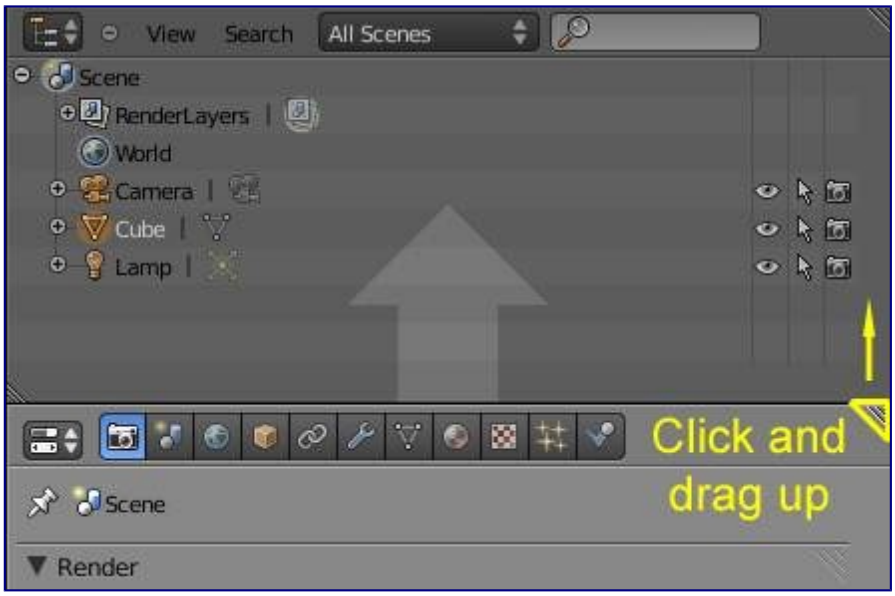
You can maximize an area to fill the whole application window with the *View –> Toggle Full Screen* menu entry. To return to normal size, use again *View –> Toggle Full Screen*. A quicker way to achieve this is to use `Shift-Spacebar`, `Ctrl-Down` or `Ctrl-Up` to toggle between maximized and areas. NOTE: The window your mouse is currently hovering over is the one that will be maximized using the keyboard shortcuts.

Splitting an Area

In the upper right and lower left corners of a window are the window splitter widgets, and they look like a little ridged thumb grip. It both splits and combines window panes. When you hover over it, your cursor will change to a cross. LMB and drag it to the left to split the window pane vertically, or downward to split it horizontally.

Joining Two Areas

In order to merge two areas, they must be the same dimension in the direction you wish to merge. For example, if you want to combine two areas that are side-by-side, they must be the same height. If the one on the left is not the same as the one on the right, you will not be able to combine them horizontally. This is so that the combined window space results in a rectangle. The same rule holds for joining two areas that are stacked on top of one another; they must both have the same width. If the one above is split vertically, you must first merge those two, and then join the bottom one up to the upper one.



To merge the current window with the one above it (in the picture the properties window is being merged "over" the Outliner), hover the mouse pointer over the window splitter. When the pointer changes to a cross, LMB click and drag up to begin the process of combining. The upper window will get a little darker, overlaid with an arrow pointing up. This indicates that the lower (current) area will "take over" that darkened area space. Let go of the LMB to merge. If you want the reverse to occur, move your mouse cursor back into the original (lower) area, and it will instead get the arrow overlay.

In the same way, windows may be merged left to right or vice versa.

If you press Esc before releasing the mouse, the operation will be aborted.

Changing Area Size

You can resize areas by dragging their borders with LMB. Simply move your mouse cursor over the border between two areas until it changes to a double-headed arrow, and then click and drag.

Swapping Contents

You can swap the contents between two areas with Ctrl-LMB on one of the splitters of the initial area, dragging towards the target area, and releasing the mouse there. The two areas don't need to be side by side, though they must be inside the same window.

Opening New Windows

You may wish to have a new window. This can be useful, for instance, if you have multiple monitors and want them to show different information on the same instance of Blender.

A new window can be created from Window ‣ Duplicate Window.

You can also create a new window from an existing area by Shift-LMB on a area splitter, and dragging slightly. A new window pops up, with its maximize, minimize, close and other buttons (depending on your platform), containing a single area with a duplicate of the initial window on which you performed the operation.

Once you have that new window, you can move it to the other monitor (or leave it in the current one); you can resize it (or keep it unchanged); you can also arrange its contents in the same way discussed so far (split and resize areas, and tune them as needed), and so on.

Window Headers

All windows have a header (the strip with a lighter gray background containing icon buttons). We will also refer to the header as the window *ToolBar*. The header may be at the top (as with the *Properties Window*) or the bottom (as with the *3D Window*) of a window's area. The picture below shows the header of the 3D window:

If you move the mouse over a window, its header changes to a slightly lighter shade of gray. This means that it is "focused". All hotkeys you press will now affect the contents of this window.

Hiding a header

To hide a header, move your mouse over the thin line between a window and its header, until the pointer takes the form of an up/down arrow. Then click, hold and drag with LMB from the window over the header to hide the

latter.

Showing a header

A hidden header leaves a little plus sign (see picture). By LMB this, the header will reappear.

Note 1: In the 3D window, there are up to two more of these little plus signs (to the top left and right of the window). Those will open panels with several tools, not a second header.

Note 2: In some windows, the mentioned plus sign can be hard to find, because it might look like a part of other icons. One example is the Outliner, in which there are other such plus signs, thus giving the one to get the header back good camouflage.

Header position

To move a header from top to bottom or the other way round, simply RMB on it and select the appropriate item from the pop-up menu. If the header is at the top, the item text will read “Flip to Bottom”, and if the header is at the bottom the item text will read “Flip to Top”.

Tip

Theme colors

Blender allows for most of its interface color settings to be changed to suit the needs of the user. If you find that the colors you see on screen do not match those mentioned in the Manual then it could be that your default theme has been altered. Creating a new theme or selecting/altering a pre-existing one can be done by selecting the *User Preferences* window and clicking on the *Themes* tab of the window.

Window type button

LMB clicking on the first icon at the left side of a header allows changing the window type. Every window frame in Blender may contain any type of window, allowing you to customize your window layout to your own work flows.

Menus and buttons

Most Window Headers, located immediately next to this first “Window Type” Menu button, exhibit a set of

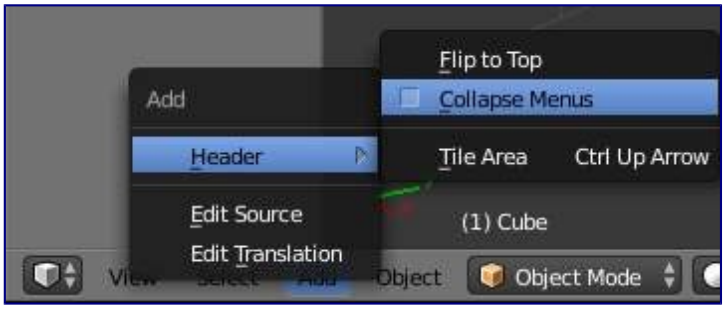
menus which can be hidden - again with a little minus sign. So if you cannot find a menu that was mentioned somewhere, try looking for a little plus sign (once again) next to the “Window Type” button. By clicking `LMB` on it, the menu will come back.

Menus allow you to directly access many features and commands, so just look through them to see what’s there. All Menu entries show the relevant shortcut keys, if any.

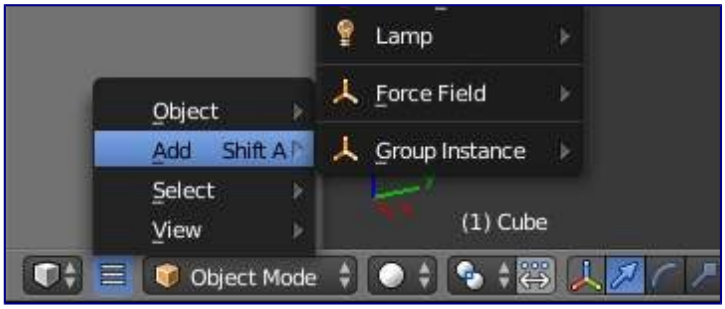
Menus and buttons will change with *Window Type* and the selected object and mode. They only show the actions that can be performed.

Collapsing Menus

Sometimes its helpful to gain some extra horizontal space in the header by collapsing menus, this can be accessed from the header context menu, simply right click on the header and enable set it to collapsed.



Right-click on any of the header menus Header ‣ Collapse Menus.



Access the menu from the collapsed icon.

The Console Window

The *Console Window* is an operating system text window that displays messages about Blender operations, status, and internal errors.

Use Cases:

- If Blender exits unexpectedly, the messages may indicate the cause or error.
- To see the output of Python scripts `print()` command.
- To launch with *Command Line Arguments* options.
- When troubleshooting, to see the output of `--debug` messages.

Platform Dependant Instructions

Linux

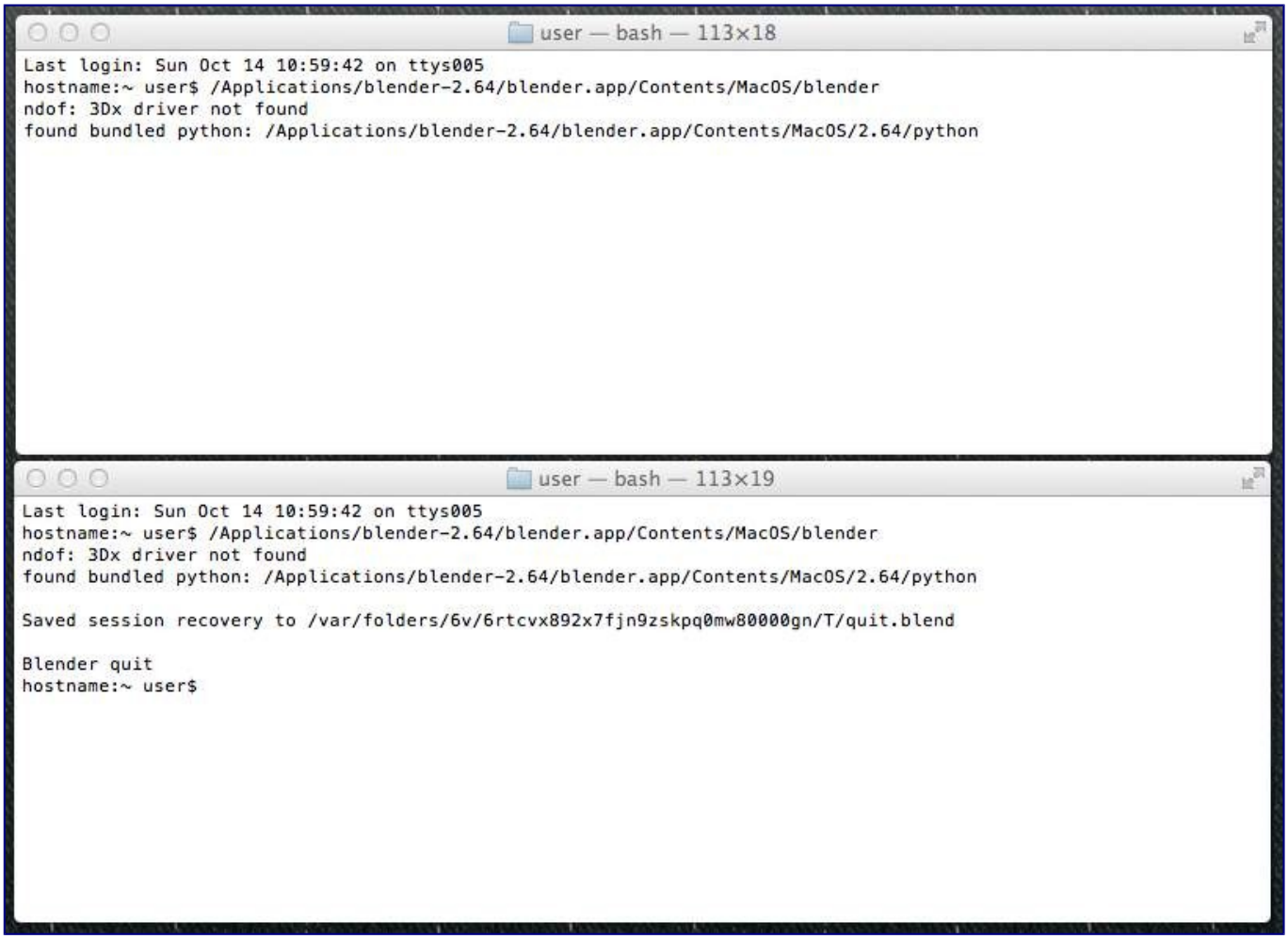
Starting Blender from a Linux console window.

The Blender *Console Window* in Linux will typically only be visible on the desktop if Blender is manually started from a terminal, as Blender outputs to the *Console Window* it is started from.

Depending on your desktop environment setup, a Blender icon may appear on your desktop or an entry for Blender added to your menu after you install Blender. When you start Blender using a desktop icon or menu entry rather than a Terminal window, the Blender *Console Window* text will most likely be hidden on the Terminal that your XWindows server was started from.

This screenshot shows Blender started from a Linux Terminal and the resulting console text being printed to it.

Mac OSX



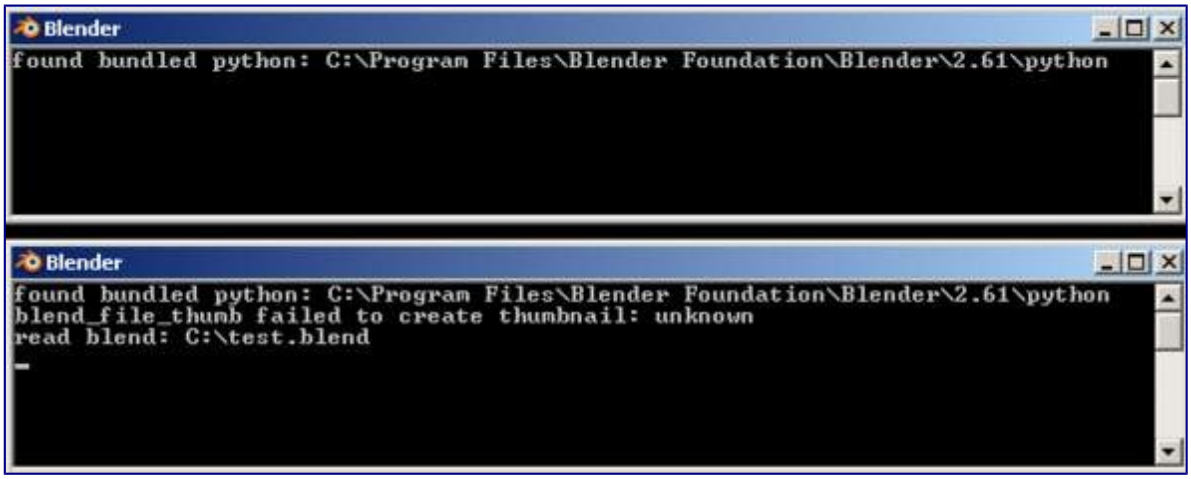
Starting Blender from a Mac OSX console window.

Mac-OSX uses “files” with the `.app` extension called *applications*. These files are actually folders that appear as files in Finder. In order to run Blender you will have to specify that path to the Blender executable inside this folder, to get all output printed to the terminal. You can start a terminal from Applications –> Utilities. The path to the executable in the `.app` folder is `./blender.app/Contents/MacOS/blender`.

If you have Blender installed in the Applications folder, the following command can be used:

```
/Applications/blender-2.76/blender.app/Contents/MacOS/blender
```

MS-Windows



Blender's Console Window on MS-Windows.

When Blender is started on a MS-Windows operating system, the *Console Window* is first created as a separate window on the desktop. The main Blender window will also appear and the *Console Window* will then be toggled off. To display the console again, go to Window ‣ Toggle System Console.

The screenshot shows the Blender *Console Window* on MS-Windows directly after starting Blender and then a short while later after opening a file along with the relevant messages.

Tip

Closing the Blender Console Window

Closing the *Console Window* will also close Blender, losing any unsaved work.

To turn off the console without closing Blender, just run *Toggle System Console* again from the menu (as mentioned above).

Console Window Status and Error Messages

The *Blender Console Window* can display many different types of Status and Error Messages. Some messages simply inform the user what Blender is doing, but have no real impact on Blender's ability to function. Other messages can indicate serious errors that will most likely prevent Blender carrying out a particular task and may even make Blender non-responsive or shut down completely. The *Blender Console Window* messages can also originate internally from within the Blender code or from external sources such as *Python scripts*.

Common messages

- found bundled python: (FOLDER)

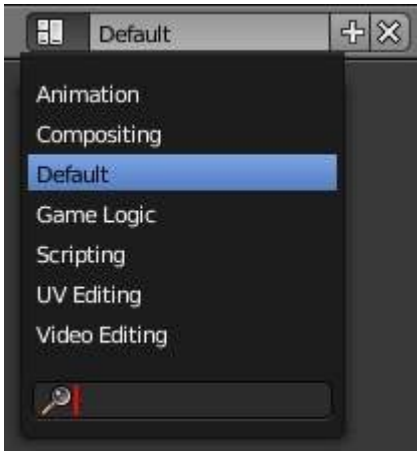
  This message indicates that Blender was able to find the Python library for the Python interpreter embedded within Blender. If this folder is missing or unable to be found, it is likely that an error will occur, and this message will not appear.

- malloc returns nil()

  When Blender carries out operations that require extra memory (RAM), it calls a function

called malloc (short for memory allocate) which tries to allocate a requested amount of memory for Blender. If this cannot be satisfied, malloc will return nil/null/0 to indicate that it failed to carry out the request. If this happens Blender will not be able to carry out the operation requested by the user. This will most likely result in Blender operating very slowly or shutting down. If you want to avoid running out of memory you can install more memory in your system, reduce the amount of detail in your Blender models, or shut down other programs and services which may be taking up memory that Blender could use.

Screens



Layout Dropdown

Blender's flexibility with windows lets you create customized working environments for different tasks such as modeling, animating, and scripting. It is often useful to quickly switch between different environments within the same file.

To do each of these major creative steps, Blender has a set of pre-defined *screens*, that show you the types of windows you need to get the job done quickly and efficiently. *Screens* are essentially pre-defined window layouts. If you are having trouble finding a particular screen, you can use the search function at the bottom of the list (pictured right).

Default Screens available

3D View Full: A full screen 3D view, used to preview your scene.

Animation: Making actors and other objects move about, change shape or color, etc.

Compositing: Combining different parts of a scene (e.g. background, actors, special effects) and filter them (e.g. color correction).

Default: The default layout used by Blender for new files. Useful for modeling new objects.

Game Logic: Planning and programming of games within Blender.

Motion Tracking:

Used for motion tracking with the movie clip editor.

Scripting:	Documenting your work and/or writing custom scripts to automate Blender.
UV Editing:	Flattening a projection of an object mesh in 2D to control how a texture maps to the surface.
Video Editing:	Cutting and editing of animation sequences.

Screens can be selected in the *Info Window* header that is at the top of the layout for preset screens. This is often confused for a menu bar by those new to Blender; however it is simply a window showing only its *header.*

To cycle between screens use `Ctrl-Right` and `Ctrl-Left`.

Screen and Scene selectors

Hint

By default, each screen layout 'remembers' the last *scene* it was used on. Selecting a different layout will switch to the layout **and** jump to that scene.

All changes to windows, as described in *Editor Types*, are saved within one screen. Changes to one screen, wont affect others.

Configuring your Screens

Adding a new Screen Type

Click on the "Add" button() and a new frame layout will be created based on your current layout.

Deleting a Screen

You can delete a screen by using the *Delete Data-Block* button (). See *Screen and Scene selectors* above.

Rearranging a Screen

Use the *window controls* to move frame borders, split and consolidate windows. When you have a layout that you like, press `Ctrl-U` to update your User defaults. Be aware that all of the current scenes become part of those defaults, so consider customizing your layouts with only a single, simple scene.

The properties window has a special option: pressing `RMB` on its background will allow you to arrange its panels horizontally or vertically. Of the two, vertically-arranged panels have greater support.

Overriding Defaults

When you save a .blend file, the screen layouts are also saved in it. When you open a file, enabling the *Load UI* checkbox in the file browser indicates that Blender should use the file's screen layouts (overriding your defaults in the process). Leaving the *Load UI* checkbox disabled tells Blender to use the current layout.

Additional Layouts

As you become more experienced with Blender, consider adding some other screen layouts to suit your workflow as this will help increase your productivity. Some examples could include:

Modeling
: Four 3D windows (top, front, side and perspective), Properties window for Editing

Lighting
: 3D windows for moving lights, UV/Image Window for displaying Render Result, Properties window for rendering and lamp properties and controls

Materials
: Properties window for Material settings, 3D window for selecting objects, Outliner, Library script (if used), Node Editor (if using *Node based materials*)

Painting
: UV/Image Editor for texture painting image, 3D window for painting directly on object in UV Face Select mode, three mini-3D windows down the side that have background reference pictures set to full strength, Properties window

Hint

Reuse your Layouts

If you create a new window layout and would like to use it for future `.blend` files, you can save it for later reuse, see *Startup File*.