Introduction

General Notes

Blender is optimized for keyboard input. There are graphical ways of doing things and menus, but these are not recommended for things one does regularly. The basic functions should pretty much always be done with keyboard shortcuts. More advanced functions depends on how much an individual uses those features. By the time advanced functions become standard practice, one should have learned the keyboard method of handling that task. If one approaches Blender with this frame of reference, Blender becomes both much less confusing and one of the most efficient 3D programs one can use. The good news is, the keyboard shortcuts are designed to both be intuitive and efficient. The main keyboard shortcuts are almost always using the left hand so one can use the right for the mouse/pen tablet.

Also, many people switch the default 'select' from right click to left. This is a mistake I believe, for two reasons. One, the 3D cursor is a unique feature to Blender that can vastly increase speed and efficiency if one gets used to it, but since it is so unique to Blender many people don't give it a chance. Try it, take the time to actually learn it, and almost guaranteed you will never look back. The second reason is that selecting is a much more conscious act in Blender as one will rarely right click on something by mistake as we are wont to do with the left click.

Some assumptions about basic terminology and concepts is assumed, such as what a render engine is. Some explanation is given, mostly to fill in some blanks that often arise, but the fundamental concepts are expected to be known. Before embarking on learning a 3D graphics package, fundamental concepts about the nature of 3D graphics sans particular tools should be acquired. Finally, by definition, any tretise on a topic will usually be slow at times and fast others, depending on what we already know about the topic. As everyone has different backgrounds, it is not possible to avoid this entirely. We have attempted to mitigate this as much as possible.

Notes on Exercises

All exercises should be repeated at varying intervals to reinforce concepts until they become second nature. We will forget even basic things unless we repeat the exercises to embed them. Remember that actually doing things is the only way to cements ideas, even simple ones, into our heads so don't discount practicing even the simplest tasks or we 'will' forget them.

Do not expect to learn this on the first pass as virtually no one learns that way. We tend to learn in layers. Practice up through to where we either get tired or confused and take a break... just play a bit, watch some advanced videos just to get an idea of basically how things can be done (without worrying about trying to follow step-by-step or remembering) etc... Then after a bit, come back and start over from scratch. We are usually surprised how much we've forgotten, but after doing this a couple times it becomes easier each time and we get further before getting tired/confused. As the basic functions become second nature, drop them off the practice list. Reptition is the key to learning, but repetition with time in-between to allow us to absorb the material and re-energize.

The *Interface*

Introduction

The main thing to understand about Blenders Interface is that it is made up of a collection of windows, and... what makes up a window is not nescessarily what we would probably think. This is the first stumbling block to understanding Blender. If we look at the *Interface 01* image, each colored area is a window. Stop and take a close look as it's easy to give it a cursory glance and not really absorb what is going on here.
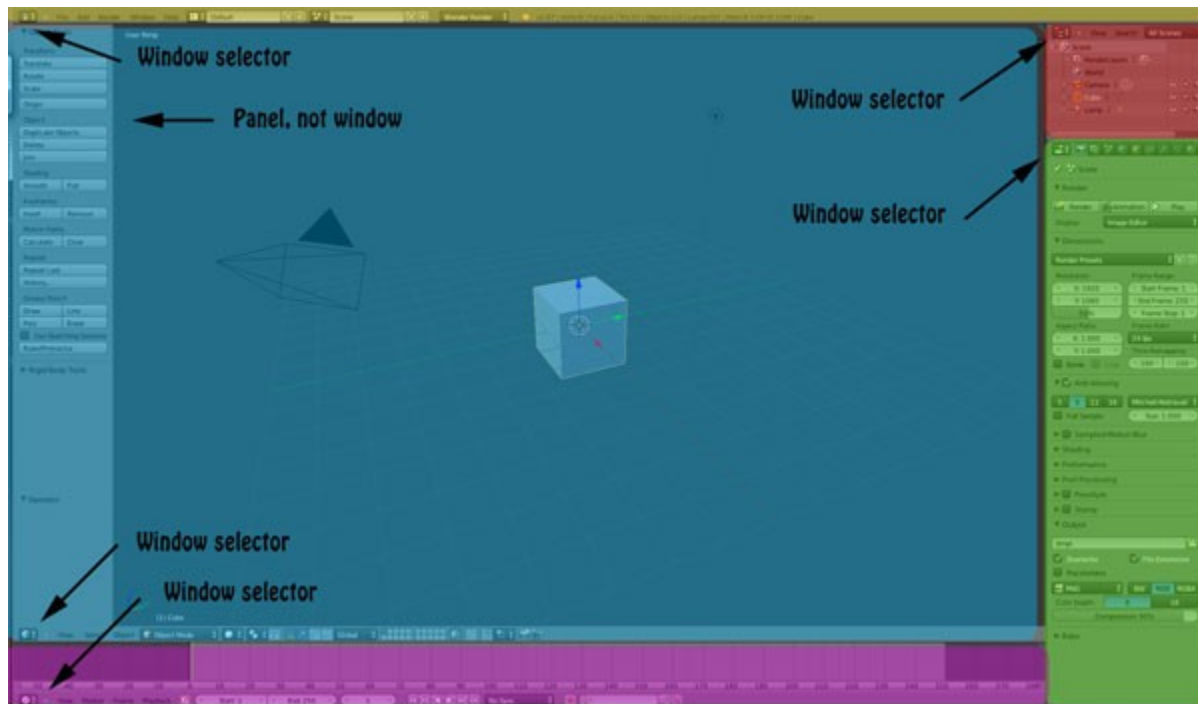
Interface 01

That red area up in the upper right is a window unto itself, so is the yellow area we would think is only a menu bar... it's not. It's an entire window. It's just that the particular format of that particular 'type' of window only takes up the space of what we would think of as a menubar. This is important to understand.

Each window 'type' has a name, and each window area can be changed to a different type. In the *Interface 01* image, we see in the right hand corner of each window is a little button I've called the 'Window Selector.' Notice, in some windows, it is on the bottom, and some it is on the top. This is very confusing if one doesn't understand what is going on. Whether it is on the top or bottom depends on the particular window 'type.' The Blue area is a '3D View' type of window, and the selector is on the bottom. The red area is a 'Outliner' type of window, and the window type button is in the top corner.

Exercise

1. Change the 'Outliner' window to a '3D View' window.
2. Change the new '3D View' window back to an outliner window.

Notice, the red area didn't change size... the new 3D View window was the same size it was when it was an Outliner window. Also notice it was a bit confusing possibly changing it back, as it looked so different that it throws most of us off. Right off, the Window Selector jumped from the bottom left corner to the top left corner when changing from 'Outliner' to '3D View' and we had to go to a different corner of the window to change it back.

Let's explore this further. Notice the yellow window at the top (in the *Interface 01* image.) Remember I mentioned it is a full window? It is actually an 'Info' type of window.

Exercise

1. Change the 'Info' window to a '3D View' type.

2. Grab the bottom of the new '3D View' window and drag it down to resize it.

3. Change it back to 'Info' type.

4. Drag the bottom back up to resize it back.

5. Change the 'Outliner' window to an 'Info' window.

6. Change the new 'Info' window back to an 'Outliner' window.

Notice how the '3D View' looked like just a menubar when we first changed it, but the 'viewport' was actually just sized down so it couldn't be seen? Also notice how the 'Info' window didn't resize back to a menubar size even though that's all of the space it needed? Also, when we changed the 'Outliner' window to an 'Info' window, it also retained it's shape, with the menu and information provided scrolling off the screen while it had dead space above the menubar of said new 'Info' window.

All of these windows can be sized and arranged however it suits our workflow, and the layout can be saved. This aspect is covered in other tutorials on Blender so I'm going to skip over it for the most part, as the real goal is to explain things that aren't covered well (in my experience.)

The other confusing thing is that not everything is a window. There are 'Panels' in the '3D View' menu for 'Tools' and 'Numeric Input.' If we create multiple 3D View windows, each will have these panels attached to them. We can show and hide them with the keys below. Note, they show/hide on whatever is the 'active' 3D View window.

Keys

T → Show/Hide Toolbar (context sensitive, usually on left side.. tools specific to selected item.)

N → Show/Hide Numeric Input (usually on right, numeric input often works without the bar showing... as in example → g (grab, or translate) 5, tab, 3, tab, 5, enter = translate 5x, 3y, 5z.)

The Toolbar and Numeric Input *Panels* will be discussed in the 'Object Mode' section as that is when they come into their own.

There are other ways to show/hide these panels but they are not as straightforward and can be confusing so I don't show them.

The Windows

The main windows are the ones we see in the default setup and are as follows when referencing the *Interface 01* image:

- Yellow → Info (Our default menubar with an information area)

- Blue → 3D View (The main work area.)

- Red → Outliner (List of everything in our scene. Like most 3D apps, it allows us to hide, lock, allow/prevent specific objects rendering, and otherwise manage the objects in the scene.)

- Green → Properties (Tabbed window that contains most things we can do with anything in our scene. We use it for texturing, rendering, deforming, … note, this is where 'deformers' are kept.)

- Purple → Timeline (For basic animation functions. There are actually many animation windows

for more advanced functions.)

We want to be familiar with each of these window types and what they do/provide for us. The other window types are for what would be for most people secondary tasks like video editing, advanced animation, etc... We also want to be comfortable with getting these windows back if we loose them, being able to rearange them, and generally understand how they make up our basic workspace.

The Info Window (or... main toolbar)

The Info Window is the yellow window in the *Interface 01* image and is made up of:

- The Window Selector to the far left, followed by the main menu

- The Window Layout, Scene, and Render Engine selection:

- The Splash Screen button and information text (from which the window gets it's name:

These are all fundamental functions/information we want to have handy wherever we are in the program usually so this bar should usually be visible and available. It is easy to get turned off however, so the main thing we want to know is that it is a standard window and we can set any window to it, resize it, and have it's functionality restored/available.

The first thing we want to look at here is the Window Layout button/textbox. If we notice in the second bullet point, it has a textbox that says 'Default.' This is the window layout we are currently in. To the left of the textbox is a drop down button menu. Click it and notice the options (3D View Full/Animation/Compositing/Default/Game Logic/Motion Tracking/Scripting/UV Editing/Video Editing.) We can rename a view by typing in a new name in the view textbox, overwriting the name that is there, we can also add/delete views. The + is for adding, the x is for deleting. If we want to add a new view, we would arrange the windows how we want, click on the + button to give us a new view, then type over the name it generates. If we don't remember to hit the + button, it will replace the view we are in with the new layout and rename it so be careful.

Exercises

1. Change layouts to the various types, observing how it changes all of the other windows.
2. Make sure we can get back to the Default view comfortably.
3. Back in the Default Layout click on the + key to generate a new view.
4. Rename the new view to 'Test.'
5. Change the 'Outliner' window (upper right corner, red in the *Interface01* image) to 3D View.
6. Change the layout to Default and back to Test.
7. Close Blender.
8. Reopen and try to go to the Test layout.

Notice the test layout doesn't exist anymore. To save changes to the layout, we need to save the startup file itself. There is an important caveat to this however. Anything we've changed/added/deleted will get saved at the same time. So, if we want to do this... it is *highly recommended* that we only do this right after starting Blender, changing only the things we want to change and then saving the new startup file.

The 'Scene' feature I've yet to find a good explanation/tutorial on and it is understandably a tough one to

find in search so for now.. placeholder for future explanation. If anyone has good information about this feature, please send me a link or the information.

The Render Engine selection is a feature that is covered in it's own section, along with related 'materials' basics.

The little Blender Icon... it actually pops up the splash screen, which in Blender is a very useful screen which includes a menu with links to Blender.org, the manual, forums, the release log, the Python API reference, a donations link. Such a little thing, and such a great example of some of the hidden wonders of Blender. Click on it and be connected to the larger community immediately.

Finally, we have right there on the info bar, the version number, verts/faces/tris/objects/lamps/mem usage.... powerful stuff. Some of the most important information right there.

The 3D View Window

Pointers

The basic pointer is our standard arrow. When we Left Click anywhere in the viewport it moves our 3D Cursor (as opposed to the standard arrow,) which is a multipurpose tool used in Blender for various functions. As it is a tool that is unique to Blender, it causes confusion for many new users since this basic function only makes sense after understanding what the 3D Cursor is, and how it is used. In the very beginning, it is best to just focus on the idea that we need to Right Click on items to select or do most functions in the 3D View we would normally expect of Left Click in other applications. There is of course a natural resistance to this for almost everyone, just weather it and almost guaranteed you will be glad you did. For the most part, the only people who complain about this are people who never gave the 3D Cursor a chance, learning what this powerful tool can do.
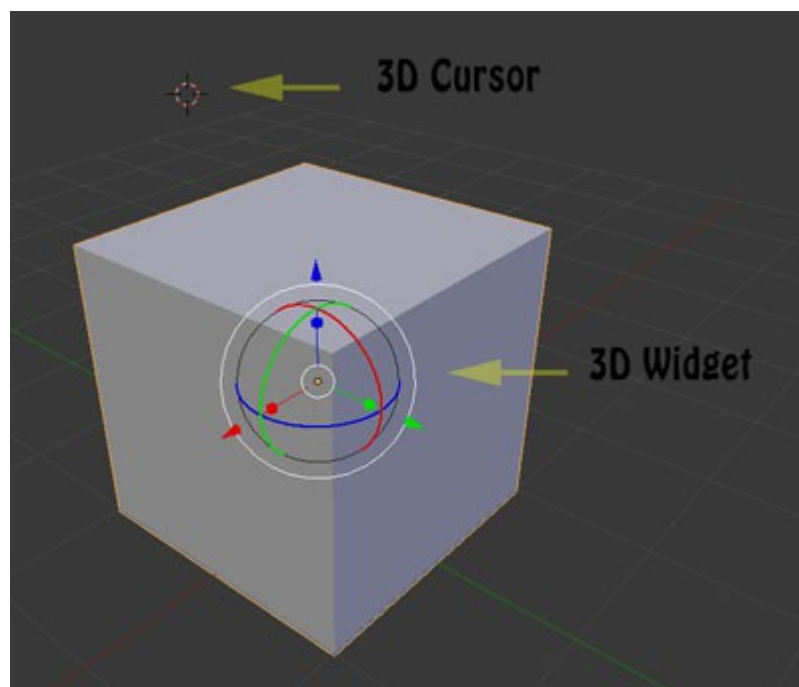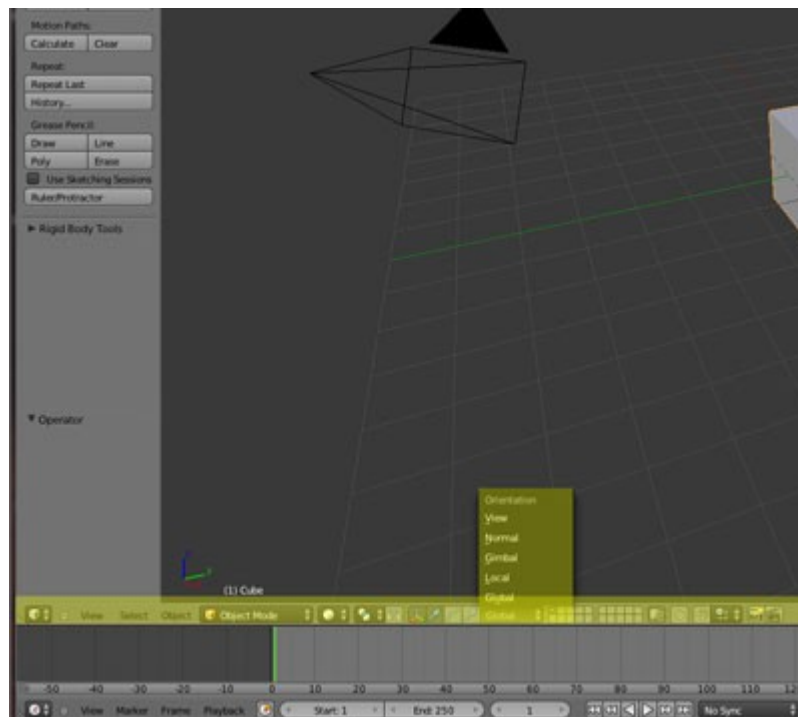

The 3D Widget

This is the graphical rgb xyz/trackball tool that usually shows at the center of whatever object is selected.

Most people in Blender turn this off fairly soon into using it as it is just a distraction. There are simple keyboard methods to doing everything it is used for that are much more efficient. This will be explained later in the 'Object Mode' section, when we discuss moving, rotating and scaling objects. For now we just want to be able to show/hide it easily. The other concept related to this is that whenever we are doing anything related to xyz axis, what the axis is relative to can change (by our choice.) We can set it to Global, Local, Normal, View, and the rarely used Gimbal. When we would use the various modes is something that will make more sense when we are doing tasks that might require us to change this. For now, the default mode is Global, if it ever gets set to something else and we aren't sure.

In *The 3D View Menu* image, the yellow shows where the 3D orientation setting is, but it can be changed with the Alt + Spacebar, which will pop up the same window but in the center of our screen wherever our pointer happens to be when we hit the Alt + Spacebar keys. The various buttons for controlling the 3D Widget are to the left of said menu, but I won't be going into them as they are covered in most other tutorials, and because I don't recommended using them but rather the keyboard equivalent.

3D View Menu

Keys

Ctl + Spacebar → Show/Hide 3D Widget (visual tool for rotating/translating/scale... This is usually best hid as one should get comfortable using keyboard shortcuts for it's functionality right away.

Alt + Spacebar → Menu for changing 3D orientation (global, local, view, normal...) This will adjust the 3D axis to various orientations which will effect how things move/rotate, etc...

Exercises

- Show/hide the 3D Widget.
- Show/hide the Toolbar and Numeric Input (keys mentioned previously.)
- Change the orientation to View/Local/Global...

The other things we notice on the 3D View menubar are, the Window Selector to the far left of course, the

basic menus for the 3D View, View/Select/Object, The 'mode' we are in (Object/Edit/Sculpt/etc...) the viewport shading (Textured/Solid/Wireframe/Block,) what our pivot point is set to (Active Element/Median/3D Cursor/etc...,) the mentioned Widget functions and Orientation, Layers, an Area of Influence, Snap, and Render Viewport (OpenGL) image/animation. These functions will be covered when we go over the various 'modes' (Object/Edit/Sculpt/etc...) The thing we want to understand at this point is that all of these are directly tied to/relate to the 3D View and the functions we will be performing in it specifically.

What we do want at this point is to be comfortable with manuvering in the 3D View space, to understand ortho vs perspective views/modes, and when we would use each.

Perspective View is the basic view we work from for flexibility but Ortho View is fundamental for moving objects, Cameras, Lights, etc... In Perspective View, moving things visually will almost always move them skewed to where we think we are moving them, whereas with Ortho View we can lock the movement (translation) to 2 axis perpendicular to our current view, ie.. when in Top View, we can only move objects along a compass type axis, not up or down. Bouncing between L/R, Top/Bottom, Front/Back, we can place things with some precision, just short of numeric.

Keys

(Emulate middle mouse button is on for tablet, uses alt key with left click.)

Alt + Drag (in viewport) → Rotate

Alt + Shift + Drag → Pan

Numeric Keypad

- 1 → Front, Ctl + 1 → Back
- 3 → Right, Ctl + 3 → Left
- 7 → Top, Ctl + 7 → Bottom
- 5 → Perspective/Ortho

Exercises

1. Rotate, Pan, Zoom.. get comfortable with moving around viewport
2. Use numeric keypad for jumping around Front, Back, Left, Right, Ortho/Perspective views.

The Outliner Window

By now we should be familiar with which window is the Outliner window. If not, go back and re-read, since if we missed that, we've missed other things as well. There is a menubar with the obiquitous Window Selector button, followed by a View and Search menu (explore on your own... not covered.) In the area below the menu bar is the tree. The tree shows Render Layers, and advanced topic, World, and the area we will cover, the objects that make up the scene. In this case, they are Camera, Cube, and Lamp. If we click on any one of them, notice that they show highlighted (in orange by default) in the 3D View window. Note, this is it's own window and will fully function if the 3D View window isn't open, but if it is, we see the interaction between the two windows. This is another important concept in Blender. Windows have functions that will show in other windows, but the functionality is independent of whether any specific other window is open or not, that is, the changes will still happen even if we don't see it when doing things. This is why setting up good layouts for managing tasks is important, so we can keep track of what we are doing, without things happening that aren't obvious in our layout. The good thing is, the Default layouts are good for this, it's when we start to create our own layouts we want to keep this in mind.

The basics of the outliner window are covered in many tutorials and are pretty much standard so we won't be covering them much, other then to briefly mention the eye → hide, arrow → selectable, camera → render. Also, this window shows heirarchicy of objects as is standard. A note here, when we create objects (cameras, lights, mesh objects) it is a good practice to name them right away. This window can get very convoluted if we have a number of objects with non-descript names. Also, the Default layout has this window at a very small size, but if we start working on any real scenes, we will need to resize this to show more.

The Properties Window

This is the most complex of the Default windows. It is a tabbed window with a *lot* of functionality. Getting into anything more then a cursory understanding of what each of the tabs do would only confuse us at this point, so think of this, like the rest of this section, as a brief overview of what the features are here and why we care.

The first thing we should note here is there is no menubar, but rather tabs. Each button we see right of the Window Selector button is a separate tab. Each tab will provide totally different options in the space below specific to said tab. The second thing we should note here is that the tabs here will change depending on what we have selected in either our Outliner window or our 3D View window (they are syncronized.) If we have a mesh object, the tabs will all relate to meshes, if a light is selected, the tabs will relate to lights, etc.. of course some tabs are universal. Understanding how the interface is context sensitive, and when is important for making sense of Blender. Some tabs will appear/disappear based on

objects selected, most notably the modifier tab only shows up when a mesh is selected, not a light or camera (at this point in time, this could change.) Blender does show some inconsistancy here however and shows options/tabs that don't really make sense for the selected object at times, at least not to me... The nice thing is, as long as we understand the things that matter, we can learn about things like that later and either realize why those functions do matter, or contribute to the community to point out that those options shouldn't be visible under certain circumstances...

The Tabs

The first tab is a camera, and has to do with render settings.

The second tab is a Render Layers tab, advanced functionality.

The third tab is a scene tab. This has settings that are for the scene as a whole, such as a background.

The fourth tab is a World tab, and has to do with settings that effect our 'World' such as sky, lighting, etc...

The fifth tab is the Object tab and has to do with transforms (location/rotation/scale,) Groups, etc...

The sixth tab is the Object Constraints tab, powerful advanced functionality.

The seventh tab depends on what is selected. If it is a mesh, the tab is the Modifiers tab, otherwise it skips this. Modifers are a whole area of study in itself which will yield many rewards. One of the main things to keep in mind with modifiers is that they can often closely mimic add-ons. Keeping straight what is an add-on and what is a modifier can be tricky at times. For now, just understand that a modifier is something we attach to a mesh object that performs any number of advanced functions, such as fluid simulations, particles, non-destructive mesh deforms, etc...

The next tab (seventh/eighth depending..) is the Mesh Data tab. Lights, Cameras and Mesh Objects all have this tab but the icon and properties vary depending on what the current selection is (Camera/Light/Mesh.)

Next, if a mesh object is the Surfaces tab. Cameras and Lights understandably don't have surfaces, so they don't show the tab if selected.

Next, Materials... for some reason Camera, Lights and Mesh all show this tab. Perhaps it is for Gobos and other functionality related to the Cameras/Lights.

Finally we have the Physics tab. Lights, Cameras and Mesh objects all have this tab.

There is a lot to explore in the Modifiers window and plenty of tutorials on the various options. All any tutorial could cover is a brief overview as it is such a rich area.

The Timeline Window

This window is often included in the Default setup, mostly because the software wants to draw attention to the fact it can do animation it seems. We won't be covering this at all at this stange.

Creating/Closing/Resizing Windows

This is an area that could use a redesign in Blender I believe. It is an area of frustration for many users, so if you've played with this and been confused, you are not alone. It is one of the reasons some people have given up on Blender, including me at one time. Also, this particular feature cries out for a video but unfortunately I am not set up at the moment for doing videos. I will put up a video link as soon as I find a good succinct one.

The first thing to understand is that Blender does not follow the standards other Microsoft Windows programs do, at least not fully, and where they don't is where the confusion lies. Now to understand this, we *must* do the exercises. While doing the exercises is *highly* recommended in general as we go along, in

this case, it is not an option (if we want to actually understand this.)

In the corner of every window is a /// or \\\ button (depending on which corner of the window it shows up in.) In normal Microsoft Windows conventions, this is a 'resize' button. *It is not here*. In Blender, this is the 'Open/Close Window' Button. When we hover our mouse pointer over it, our pointer will change to a + cursor, indicating 'add' but really it is open *or* close. Ok, so if we have the + pointer and move slightly before clicking with the left mouse button, it changes to something else depending on which way we fall off the button (standard pointer, double headed resize pointer...) so make sure we left click while it is the + button. This may seem obvious to many, but it is such a tight margin of error here that it is easy for some to have problems with this.

As in all windows programs, we must have the proper pointer to get the program to do what we want, so with the + pointer active, we would click and drag into the window to create a new window (this will make more sense when we do the exercise.) At this point, we size the window however we want, but if we let go of the button we cannot click on it again to resize, this will just create another window.

To resize a window after it is created, we need to go along an edge, get the double headed arrow, and drag.

 If we want to close a window, we click on the \\\ New/Close button of the window we want to close *or the button of a bordering window* with the + cursor active, and drag *away from the window we want to close*. If we drag across an adjacent window and let go, it will close the adjacent window. If we drag into the window while holding the Open/Close button, it will not close that window as we might expect, but rather *create a new window*. To close the window that the /// Open/Close button belongs to, we need to drag across to the adjacent window to let Blender know we are closing a window vs creating a new one, then *reverse direction,* dragging across the window the button belongs to, thus closing it. When we are doing this properly, there will be a large semi-opaque arrow across the window that Blender is about to close. (I told you this was confusing and could use a redesign.)

* Note, the Wiki refers to Windows as 'Window Frames' or simply 'Frames.)
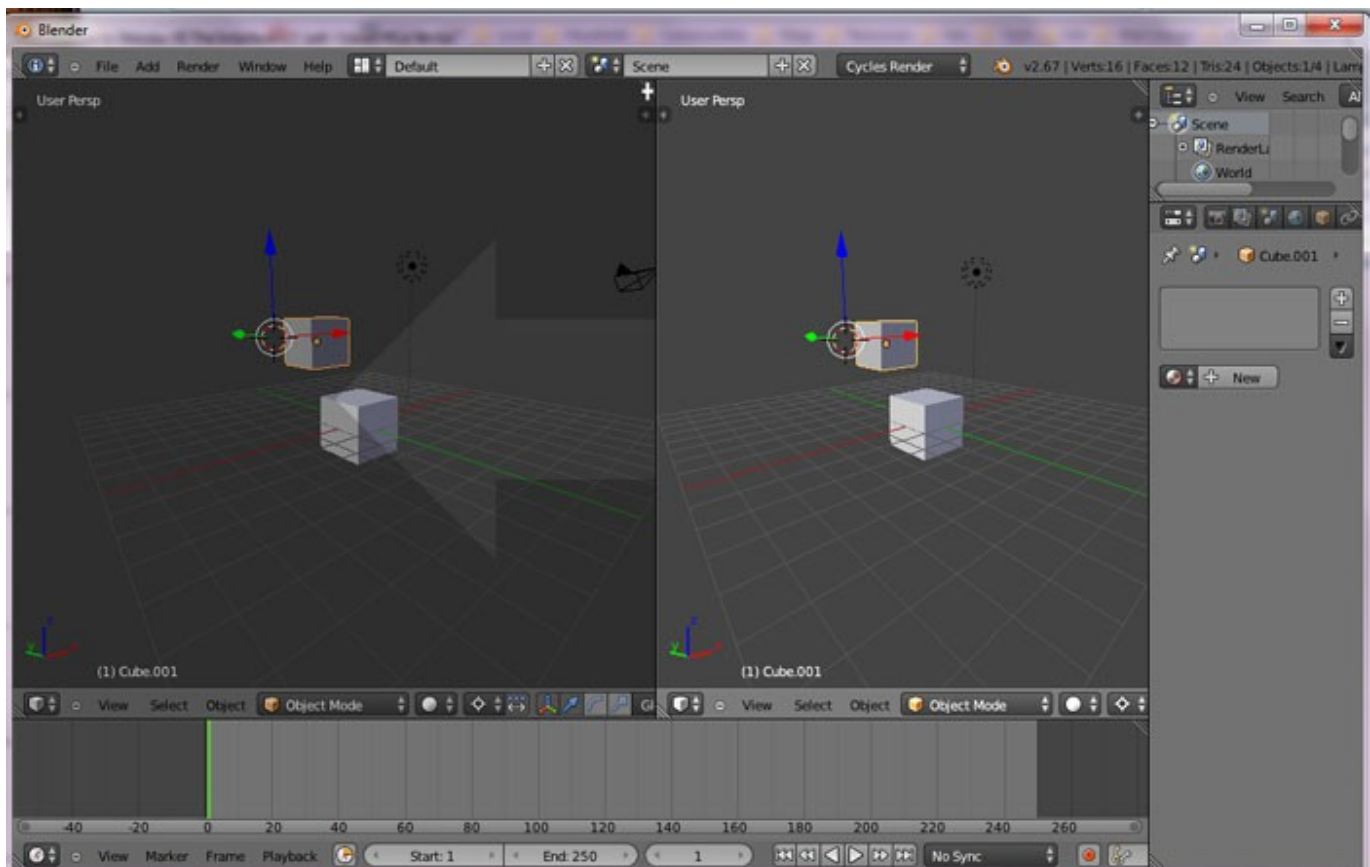

Close Window

Keys

Ctl + U → overwrite the startup file with the current setup.

Ok... to make sense of this, let do....

Exercises

1. In the 3D View upper right corner, click on the \\\ Open/Close Window button and drag to the left to create a new window, but before letting go try dragging back to the right to close it. Note we can't do it in one motion... Once we start to create a window, it's there. To close it, we need to let go of the /// Open/Close window and in a separate motion, click on it and drag back to the right.

2. We should have two 3D View windows open as in the *Window Exercise 01* image. Move down the border between the two windows to get the double headed resize pointer and resize the windows a couple times to make sure we are comfortable with that.

3. In the left side 3D View window, click the open/close window button and drag to the right across the window to the right, notice the large semi-opaque arrow across the right window. Without letting go, drag back towards the left and notice the large semi-opaque arrow across the left window. Let go to close the left window.

4. Create a new 3D View window just as before.

5. Again, click on the open/close button, but this time immediately drag to the left, across the window the open/close button belongs to. Notice how it creates a new window rather then close. Also notice at the bottom of each 3D View window there is a menubar specific to that window.

6. Close one of the windows so we have only two 3D View windows open. Resize them so they each are about the same size.

7. Click on the 3D View open/close button in the lower lef corner and drag up to create another window running below the first two, sizing it to take up 50% of the vertical space. (note that there are actually 2 open/close buttons in the 3D View window, one in the upper right, one in the lower left.)

8. Click on the lower left corner open/close button of the lower 3D View window and start to drag to the right. Before letting go, hit the esc key. This is the one way we can cancel an accidental new window creation.

9. Grab the upper right open/close button in the same window and drag to the left, splitting the window in half. We should have a setup like in the *3D View x4* image but the four windows will look identical at this point.
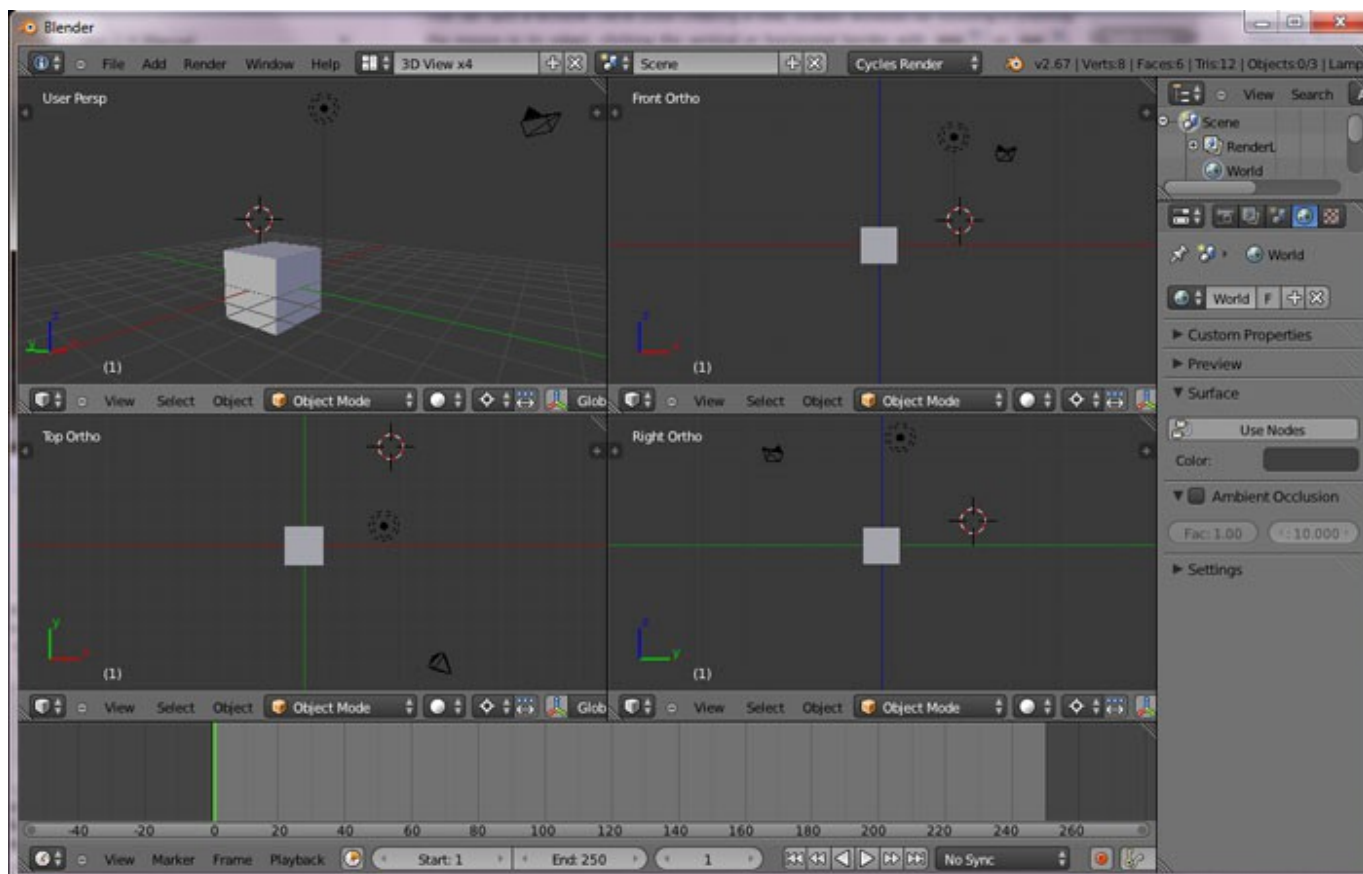
3D View x4

10. Click in the lower left window and hit Numeric 7 to set that window to Front Perspective. Then hit the Numeric 5 key to change to Ortho view.

11. Set the top right window to Front Ortho and the lower right window to Right Ortho. Notice in the upper left corner of each window it tells us what the Window is set to, User Perspective, Top Ortho, Left Ortho, Right Ortho.

12. Click in each window in turn and pan them to center the cube as in the image.

13. In the info menubar at the top of our screen is the Layout dropdown. Click in the textbox area of it and change the name from Default to '3D View x4'

14. Click on the dropdown button to the left of the text area and choose Default off of the list, then switch back to our 3D View x4. Note that they look the same and we've lost our Default layout. This is important to note. If we want to change a layout, we should consider *creating a new layout before changing it* so this doesn't happen. Luckily, our layout is not saved automatically.

15. Close Blender, Reopen and notice that our Default layout is back to normal.

16. Change to our '3D View x4' layout. Notice we can't, it doesn't exist anymore. Layouts in Blender are temporary unless we explicitly save them, and then *anything in our layout will be saved.* This means if we add or remove anything from a 3D View window for instance will be saved with said object(s) added/removed. This is why when creating new layouts we *always want to create new layouts from a freshly opened version of Blender* like we have here.

17. Before we modify our Default layout and loose it, click on the + button to the right side of the Layout textbox to create a new layout and change the name to '3D View x4.'

18. Set up our windows as before. Yes I did this on purpose, we need to practice this, *a lot.*

19. Now without doing anything else, hit Ctl + U to save our layout and make sure we confirm saving it. It is easy to miss the confirmation since if we move our pointer slightly while the popup is up, it will dissapear and we will need to bring it back up.

20. Change to our Default layout. Notice how it is still how we left it.

21. Change back to our '3D View x4' layout and notice it is how we left that layout (as in the *3D View x4* image.)

22. Close Blender and reopen.

23. Change to our '3D View x4' layout. (It should still be there.)

24. Click on the x key next to the layout to delete it. We will be dropped into the next higher view, which should be '3D View Full.'

25. Close Blender and reopen. Notice not only is our '3D View x4' view back, but it is probably the one that we opened up into. Note, deleting views must also be saved if we want it to be permanent. If we want to delete a view that's been saved, we should do it right after opening Blender also so that we don't save anything unintentional to our layouts.

26. This step is optional depending on if we want to save this view or not. Since we just opened Blender, delete the view, change back to Default view and save (Ctl + U.)
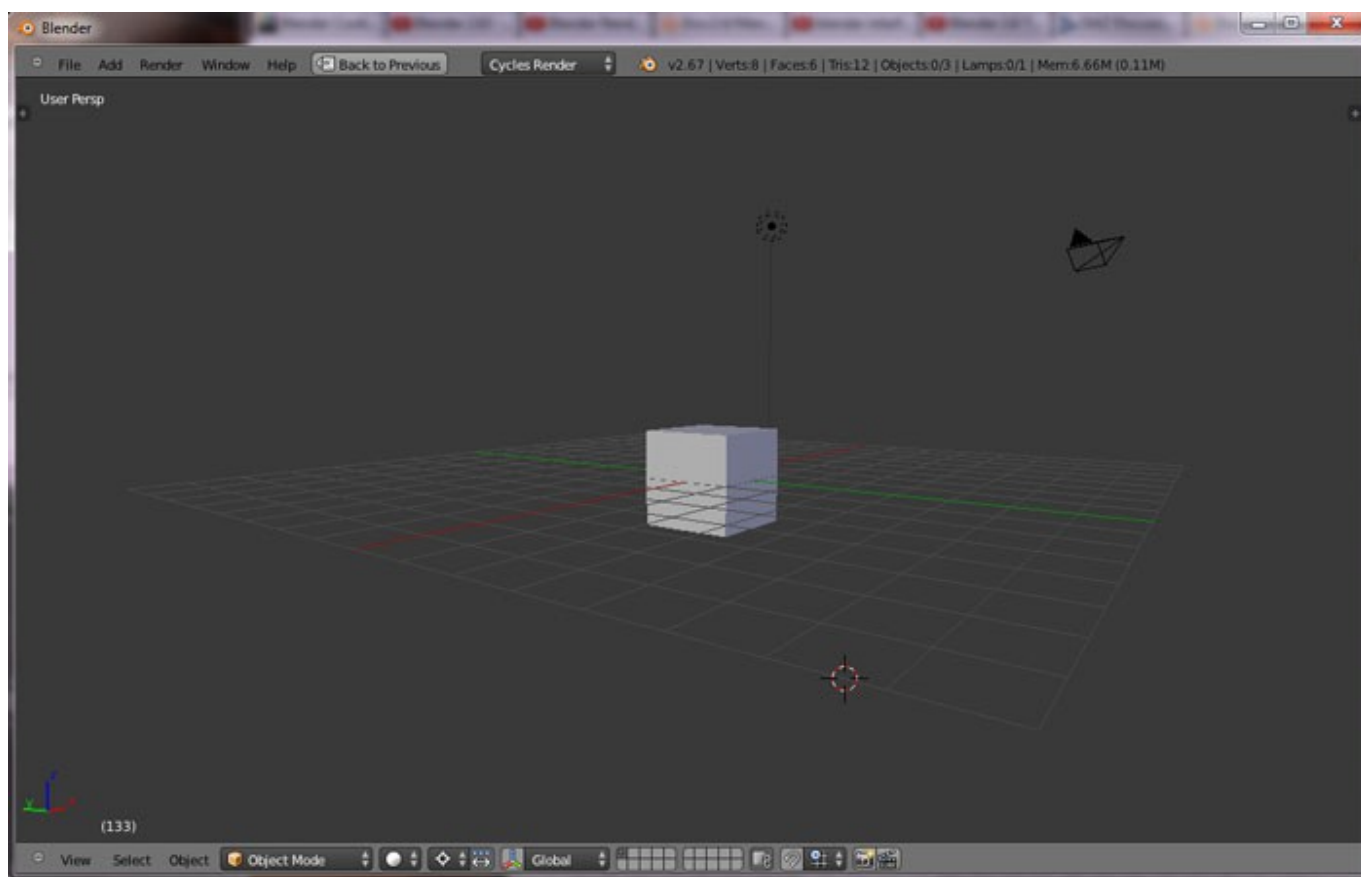
3D View, Full Application Frame

Keys

Shift + Spacebar → Makes current window take up the full application frame or toggles back to previous layout *except* it keeps the 'Info' window also open. I would have to research this, but I am almost posative

this was not always the case, as this I believe is one of the things that caused me much headache years ago when first learning blender. From what I remember, the Info window went away, which was the equivalent of loosing the main menu, and I had no idea how to get it back, so this is a welcome change.

Exercise

1. Select the/a 3D View menu and make it full app.

2. Go back to the original layout (Shift + Spacebar again.)

3. Click in the Outliner window and make it full app, then toggle it back.

4. Click in the timeline at the bottom of the screen and make it full app, then toggle it back. Note, any window can be made full app.

Note, there is a + button just below the \\\ button in the 3D View window. This is *not* the + pointer. This has to do with opening the Numeric Panel. I specifically did not show this as it is it's own confusion. My recommendation is to stick to the n key to open/close the Numeric Panel and *ignore this button.*

Some Caveats

I have noticed that if a window is sized to it's smallest possible size, it often doesn't act the way we would expect for closing that window or opening new ones from it's open/close button. If we resize it up to something larger then it's smallest size it will often work the way we expect it to.

User Preferences

We aren't going to go over all of the settings in the User Preferences dialog box, but rather ones that are mostly of interest, much of which will be covered in later in the modules the settings relate to. This is one type of item that we don't necessarily want to commit to memory the shortcut key to pop it up as we won't be going into it on a regular basis usually. However, the shortcut key for it is almost as easy to remember as where it is in the Info window's menu bar and is accessible even if the Info window isn't visible, so it is a case of whatever works for you.

Key

Ctl + Alt + U or Info Menubar/File/User Preferences

Interface Tab

Display: View Name → This is the name in the upper left corner of every 3D View window telling us what the view is set to, such as 'User Perspective' or 'Front Ortho.' We wouldn't generally want to turn this off, and in fact the main reason to know this setting is if it does get turned off for some reason so we can turn it back on.

Display Mini Axis → This is the xyz coordinate axis in the lower left corner of each 3D View window that shows the current view rotation of that window. Again, we wouldn't want to turn it off usually...

More settings will be covered under this tab in Object Mode/3D View.

Themes Tab

Change the look of various aspects, such as Text and windows such as colors, Backgrounds, Show Header (the window's menubar.) In the Upper Left is a 'Presets' button that allows changing whole themes at once, and along the bottom is an 'Install Theme' button to install custom themes either created or downloaded from the internet.

File Tab

Where the default folders are for various types of files such as textures, fonts, scripts, render output, temp, etc... Also includes settings for defaults for things like the default animation playback program and image editor, as well as settings related to file handling such as auto-save temporary file, etc... Take some time to look at this tab.

System Tab

A lot of settings here... settings for sound handling, animation, cpu vs gpu rendering, OpenGL settings, color picker type, antialiasing settings, memory cache limit. Again, take some time to look at this tab.

Multiple Monitor Support

Blender has a 'no overlapping windows' goal, which means all of the windows by default are in the same application frame. However, this precludes using multiple monitors effectivly. There is a fix for this, and that is the ability to duplicate windows so they are independent but syncronized or even duplicating the entire interface, also syncronized. These can then be dragged to an alternate monitor such as an HD (TV style) display or side monitor.

Keys

Shift + Drag the /// open/close button in the corner of any window → Create an independent but syncronized duplicate window of the one the open/close belonged to.

Ctl + Alt + W → Duplicate Full Interface.

Exercises

1. With Blender in the foreground (active application,) duplicate the entire interface.
2. In the Info window at the top of the new interface, change the layout to '3D View Full'
3. Close the new Blender Application Interface and make sure the original one is in the foreground (active.)
4. Shift + Click and drag on the \\\ open/close button in the lower left corner.
5. In the new window, go to the Window Type button in the lower left corner and change the window type to Outliner.
6. Close this window.

Notice, in the new windows we could change the layouts or window types easily after creating them.

Summary

There are many methods for managing the windows and layouts that I didn't show. This is because these are the methods I have found are best concentrated on until they are fully embedded in our memory as they are the least prone to having unintended effects. After we are fully comfortable with these tecniques, we can look for new ways to interact with the interface and perhaps find more efficient methods for our personal workflow. Remember to practice and come back to review from scratch at a future date if much of this is new.

Further Study

The first links are to the Blender Wiki. One of the issues I've had with the Wiki is that the expandable menu/contents on the left collapeses itself every time I make a selection. I'm not sure if that's Firefox or

the web page (code) itself (haven't bothered to check tbh...) This means I keep loosing my place, which doesn't bother me too much but I wanted to give everyone a heads up in case others run into this. I've put links to the most helpful wiki pages. After reviewing them, like much of Blender.org's reference/training materials on Blender, I find it a bit lacking myself in understanding what is going on much of the time, but it does serve as a good reference. For me, it's often a case of 'if you know how to do it already, it makes sense.' Having said that, it will be the most comprehensive information on Blender one will find in one spot and so makes both a good reference and a good starting point for further research on how a specific feature works. For anyone who finds the Blender Wiki to be perfect, don't get your feathers up, I'm glad it works for you... this is really for every one else (like me.)

[Blender Wiki Home Page](#)

[Blender Wiki, Window Types](#)

- This page not only gives a list of each type with a brief explanation, but it acts as a menu of hyperlinks to the detail pages of the specific window types.)

[Blender Wiki, Help Menu (Info Window)](#)

- Some good information here, including diagnostics information, programming information, search, links, etc...

[Blender Wiki Screenshots](#) and [Screencasts](#)

[cpboorgman, Blender 2.6 Tutorial 02 - Customizing and Saving the UI](#)

- This tutorial most closely follows the path I've taken. In some cases he demonstrates pretty much what I've laid out, and in others he takes a different approach. My reccomendation is of course to concentrate on the steps I've laid out first, as I've specifically mapped what I believe to be the most predictable results with the optimal path for someone new to Blender. Afterwards however, he presents some of the best other options one would want to get comfortable with. I particularly like his layout with the Outliner window a longer bar and the original space the Outliner was taking converted to a 3D View window from the main camera. Another note, in his video, he glosses over (as is almost always the case in Blender tutorials) some of the gotchas that I covered and that can be very frustrating when trying to follow along, so if we start to follow along and get stuck where what we think should be happening isn't, take a look again at the area where it is covered in this tutorial for any gotchas.

[Blendercookie, Getting started with Blender – Interface](#)

[Blendertuts, Blender 2.5 - Basic Interface](#)

[Blender Guru, How I learned Blender – and 5 Tips for You](#)