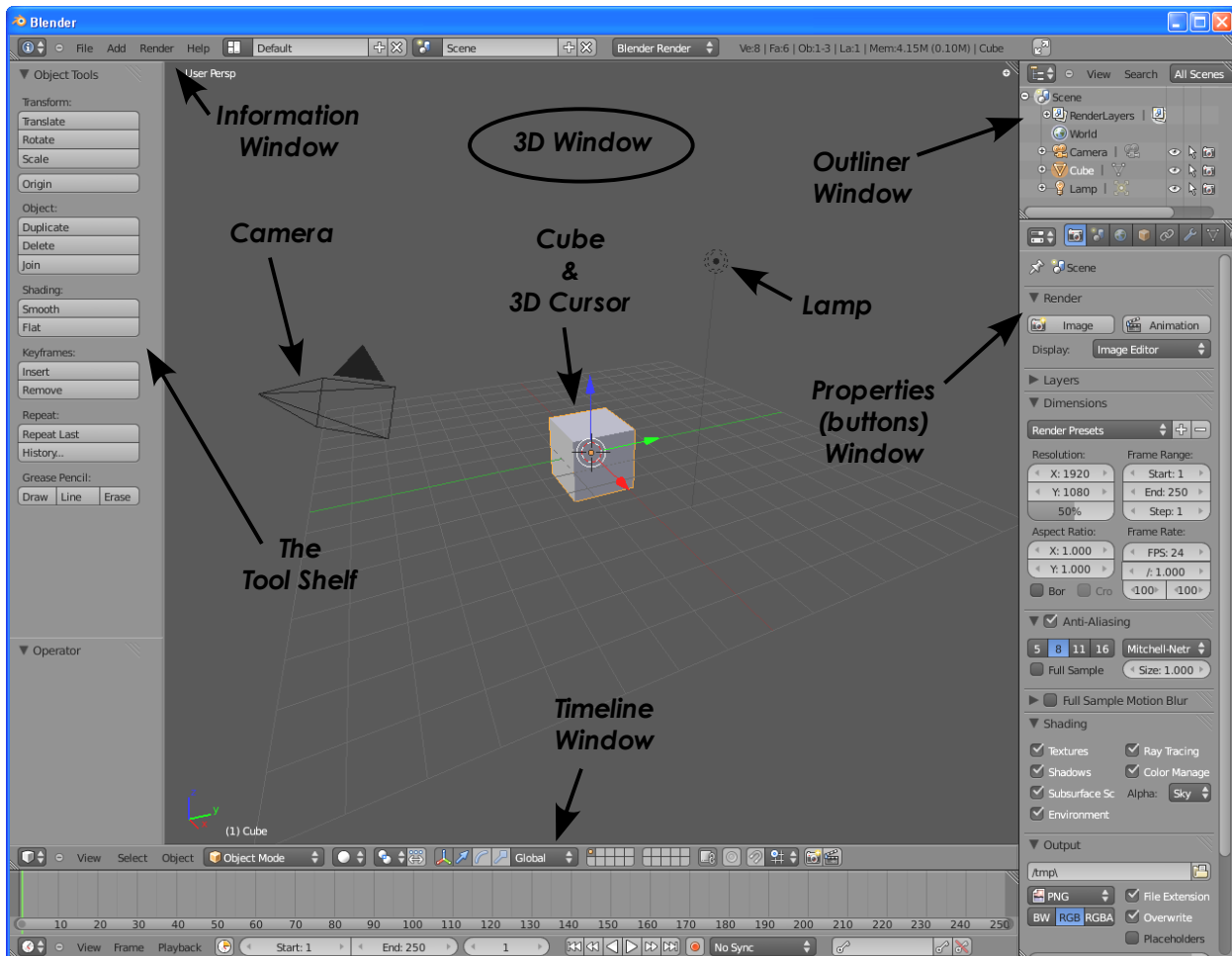


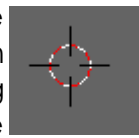
Chapter 1- The Blender Interface

The Blender Screen

Years ago, when I first looked at Blender and read some tutorials I thought that this looked easy and made sense. After taking the program for a test run, I decided to forget about it for a while because I couldn't make anything. The interface is different than any other programs I've experienced before. I thought I'd try again and after a few weeks however, things began to make sense and I realized the potential of the program. Even if you're familiar with previous versions of Blender, the new 2.5/2.6 interface is a drastic change! Here's what you are looking at when you open the program:



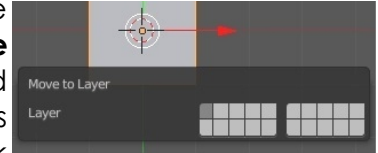
You are looking at a scene consisting of a cube, lamp and a camera. The cube is a basic mesh object to give you something to look at, a lamp to illuminate the scene, and a camera to show the scene. Older versions of Blender may open with different scenes, but the idea stays the same. The 3D cursor in the middle of the cube is used to locate where new items will be placed. It can be moved around on the screen by clicking the Left Mouse Button (LMB). Along with familiar pull-down menus like other programs, you have multiple viewports on the screen serving different purposes. We will talk about these later and how they can be changed.



3D Cursor

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Blender works with layers much like other programs where objects can be placed in different layers and displayed as needed. It's a good idea to get comfortable with layers because as your scenes get bigger, turning layers on and off help with the speed of your work and being able to see things better. To change things between layers, select the object with the **Right Mouse Button (RMB)** and type **"M" for move**. Try it with the cube and change layers. By the way, if you put it in a layer that's turned off, it will disappear. To turn that layer visible, click



(LMB) on that button. To turn on multiple layers, hold down "Shift" and click on the buttons. Layers containing objects will display a dot.



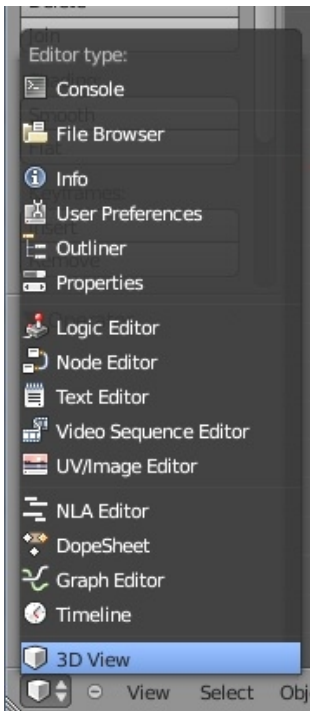
RoboDude Asks:

"How do I select multiple objects in Blender?"

Hold down the "Shift" key while using the RMB (Right Mouse Button).

Window Types

Blender has a variety of different window types and every window can be set to any type. For example, your initial screen has 5 windows (see previous page), the top one with the tool bars (Information window), the 3D window, and the bottom Timeline window. On the right, you have the Outliner and Properties windows. The button to change window types in the upper or lower left corner of each window. There are a lot of window types. The ones we are most interested in are:



File Browser- usually comes up automatically as needed

Info- menus, screen, scene and render engine options

User Preferences- can be selected from the "File" menu

Outliner- displays all objects in your scene and settings

Properties- once called the buttons window, where most settings and scene options occur

Logic Editor- game and real-time animation controls

Node Editor- post-production effects for a scene

Video Sequence Editor- compile final movies with images, effects and sounds

UV/Image Editor- setting textures for games and movies

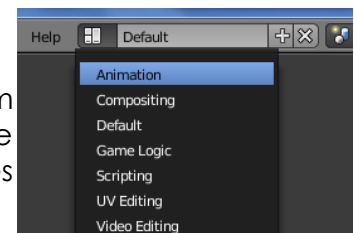
Graph Editor- replaces IPO window- displays animation data

Timeline- animation timeline with display and record controls

3D Window- your basic 3D scene window to work in

Ready-Made Screens

Blender has several ready-made screens for you to choose from that make optimal use of these windows. They can be accessed from the top pull-down menu area. Besides "Default", you can choose depending on what you're doing.



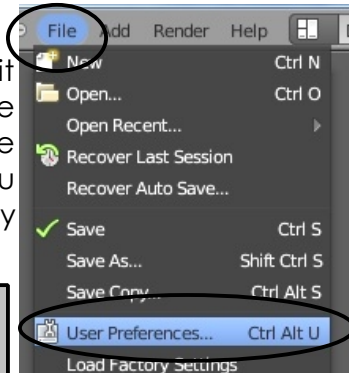
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The User Preferences Window

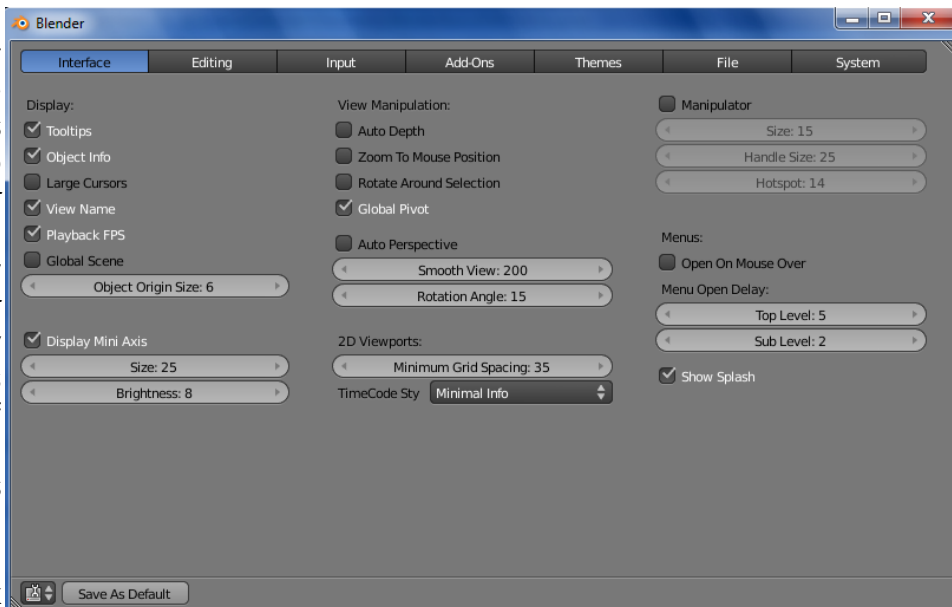
The User Preferences Window can be called up by selecting it in the “File” pull-down menu. This is where you can customize Blender to react to your particular needs. If you would like these setting to be in place every time you open Blender, you can save them by clicking the “Save As Default” button or by pressing **Ctrl “U”**.

RoboDude Says:

Be careful to only use this setting at the beginning of a drawing session and on your own personal machine (not school computers). If a drawing is open at the time, that drawing will automatically open every time you use Blender. It will become the default scene and replace the cube, lamp and camera basic setup!



Blender works well using the default settings, but there are several things you may want to change for your own use to streamline your work flow or react better for your computer. By looking at the tabs across the top of the window, you can select options in several areas. Here are a few you might want to look at:



Editing Tab- Instead of new objects aligning to the “World”, you may want to try “View”. The Global “Undo” steps are defaulted for 32. If this isn't enough, add more.

Input Tab- The “Emulate Number Pad” option is great for laptops without number pads.

Add-Ons Tab- There are some great add-ons included. A good one is “Dynamic Space Bar Menu”. **This will emulate the space bar as in previous Blender versions.**

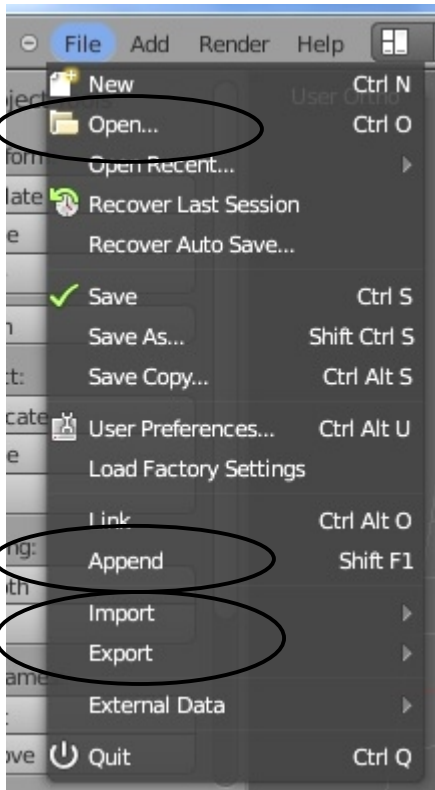
Themes Tab- This is where you can change the appearance of everything!

File Tab- If you save sounds, textures, etc. in specific folders, set the paths to save time.

System Tab- If you need to make adjustments to sound and memory or game setting, they can be done here.

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Open, Saving and Appending Files



Blender utilizes commands similar to other programs when it comes to saving and opening your work with a few exceptions. Blender can use the “**Open**” command to open Blender (.blend) files and the “**Append**” command to bring in elements from other Blender files into another Blender file. The open command can be used to import VRML (.wrl) and .DXF files from other programs. These are generic file interchange extensions that most programs can work with. Blender also has extensive **Import** and **Export** options in the file menu.

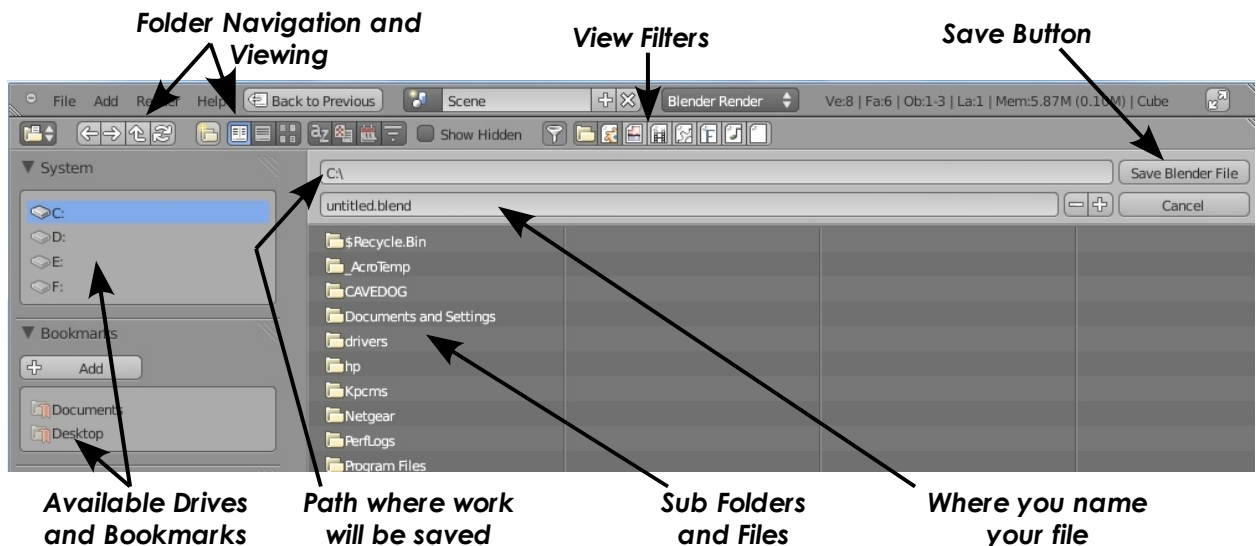


RoboDude Says:

Be careful to save your work often! Unlike most programs, Blender will not warn you to save your work when exiting the program- it will just close, losing any work you may not have saved.

The Save Command:

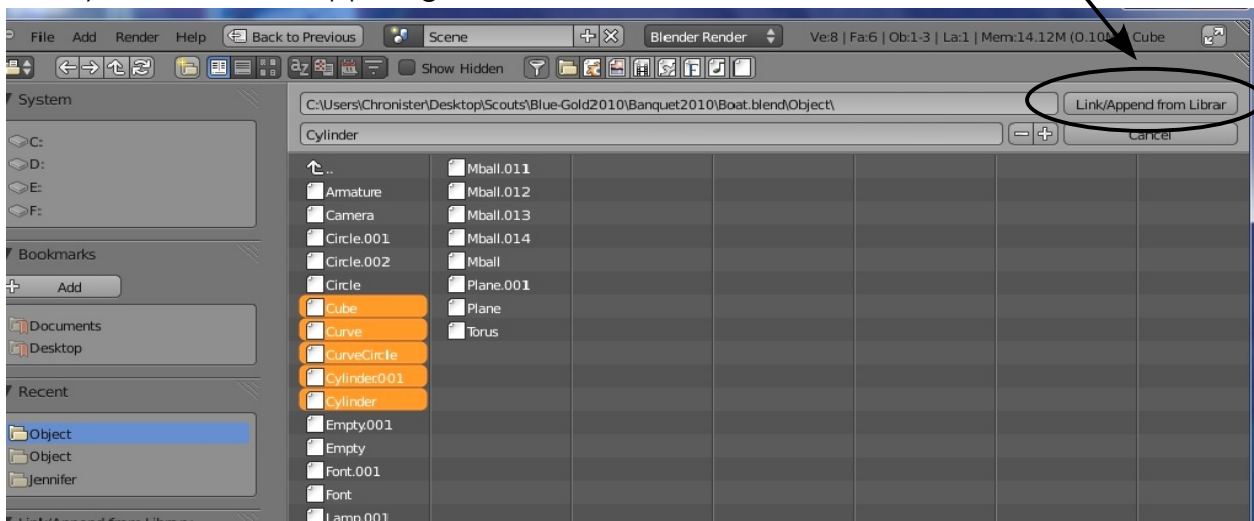
When you first start working with Blender, it seems almost impossible to figure out how to save your work, even with the improvements in 2.6. The file interface almost resembles old MS-DOS. Also, every time you save over an existing file, your previous save becomes a back-up file and is saved with a new extension (.blend1). This always gives you a back-up if a problem occurs. Here's what you see when you hit the save command:



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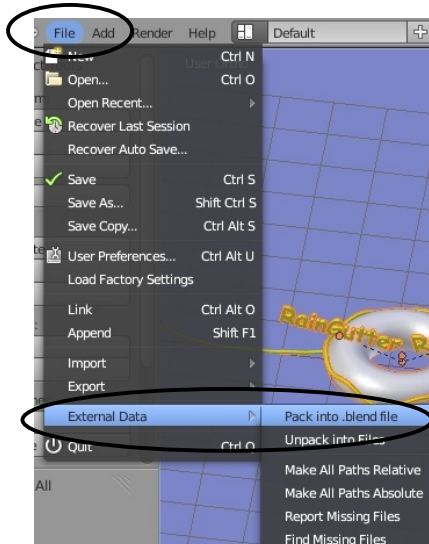
The Append Command:

When you need to insert elements from one Blender (.blend) file into another one, you need to use the **Append** command from the file pull-down menu. While in Append, you need to navigate to the Blender file you wish to insert from, then select what you want to append into the open file. You can append anything from cameras, lights meshes, materials, textures, scenes and objects. For most purposes, use the **Object** option. By appending objects, any materials, textures and animations that are linked to that object will automatically come in with it. Left Mouse Button (LMB) clicking on objects will select/deselect them (hold down "Shift" to select multiple objects). Typing "A" will select them all. After you select all objects to append, click the "Link/Append from Library" button in the upper right corner of the screen.



The **Link** option allows you to link to another Blender file rather than inserting it into the open file and also found in the File menu. This option allows for changes to the linked file that will be automatically updated when the other file is opened.

Packing Data



If you plan to open this file on other computers, you will need to select the "**Pack into .blend file**" option in the File menu under "**External Data**". Textures and sounds are not automatically included in your Blender file in order to keep the file size down. Every time your file opens, it looks for the textures and sounds and places them into your model. If it can't find the files, you won't have any textures and sounds. If you pack data, those files are included with the .blend file so they can be opened anywhere, however, your file size may explode. *When data is packed, a small package shows up on the top of your screen letting you know that the file is packed on older versions of Blender-not 2.5 versions.* You can also unpack data to bring the file size back down.

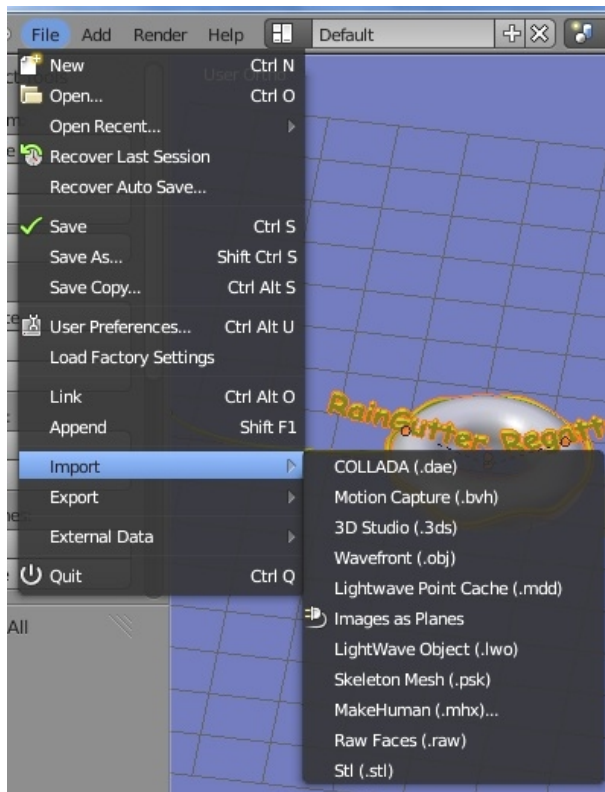
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Importing Objects (from other file formats)

One of Blender's strong points is the program's ability to accept several generic types of 3D files from other programs. The most popular used are:

- VRML (.wrl) files- Many programs are able to export their files as VRMLs. SolidWorks is a good example that we use. These files import into Blender without any problems in most cases.
- .DXF files- A very popular file format for exporting and sharing. AutoCAD and SoftPlan architectural software traditionally exports with .dxf formats. Again, Blender usually accepts these files flawlessly.

To save a file as one of these types from another program, you will need to find an *export* command or a "save as" option. This will vary depending on the program you are using. Refer to that program's help files. To import a VRML or DXF file into a Blender scene, open a new drawing or one you wish to insert the object(s) into. You will simply need to use the Open command in the File pull-down menu. The program knows that you are trying to open something other than a .blend file and will insert it into your current scene. Now you need to find the object(s) you just inserted. Depending on how that object was drawn, it may need to be re-sized or rotated. If the Open command doesn't work, then use the Import command.



With every new release of Blender, the import/export format options list grows. This makes Blender much more compatible with a variety of other 3D modeling and animation software programs. You should be able to find a format in the list that will work with your other programs.

When importing Blender files into other Blender files, remember to use the **Append** command instead of import. In the Append command, select the file, then select what you would like to bring into the current file. You will usually want the "Objects" option.

If a file format isn't available, check in the "Add-Ons" section in the User Preferences menu. There may be an add-on script written for your file type, but not turned on.