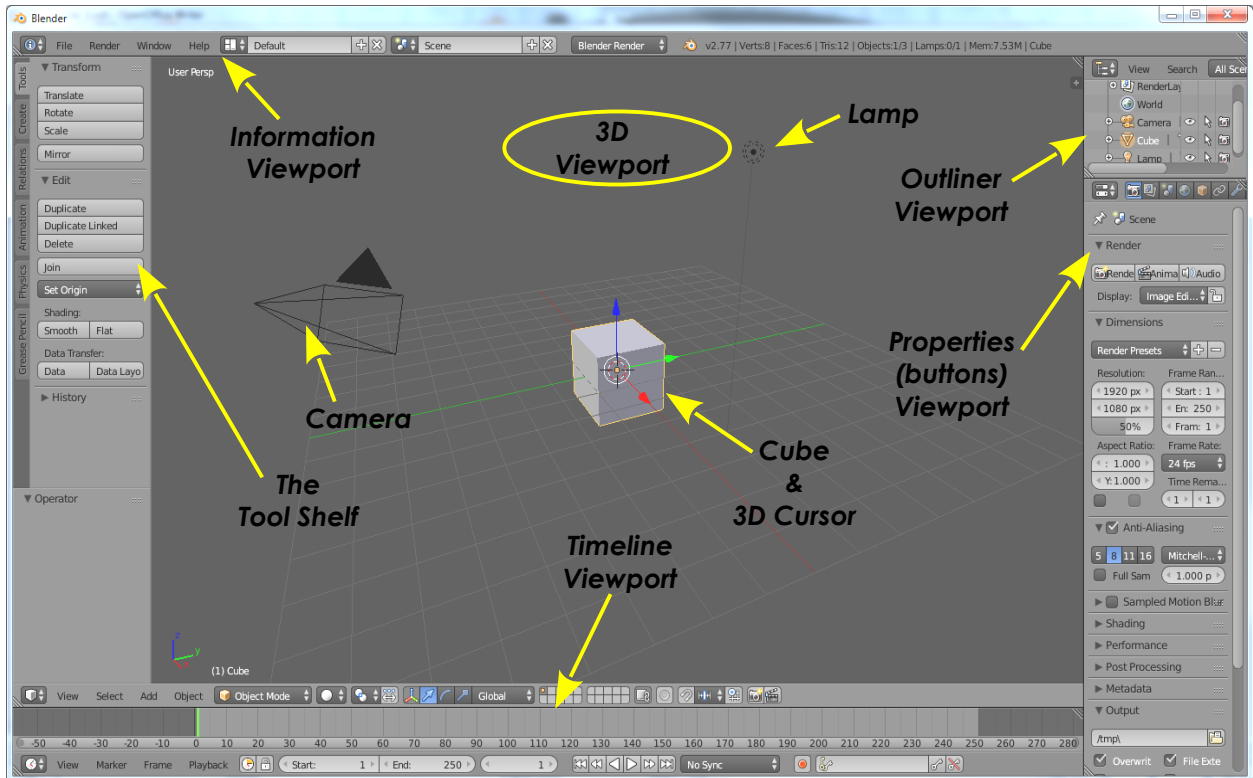


Chapter 1 - The Blender Interface

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. If you tried Blender before the interface improvements in version 2.5, you may enjoy the program better this time. Here's what you see 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 (windows) on the screen serving different purposes. We will talk about these later and how they can be changed.



3D Cursor



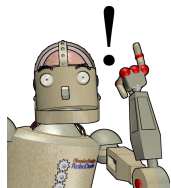
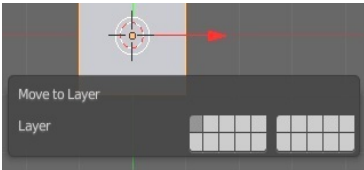
Blender works with layers much like other programs where objects can be placed in different layers and displayed as needed. It's a good idea to get comfortable with layers because as your scenes get bigger, turning layers on and off help with the speed of

Chapter 1 - The Blender Interface

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. 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.



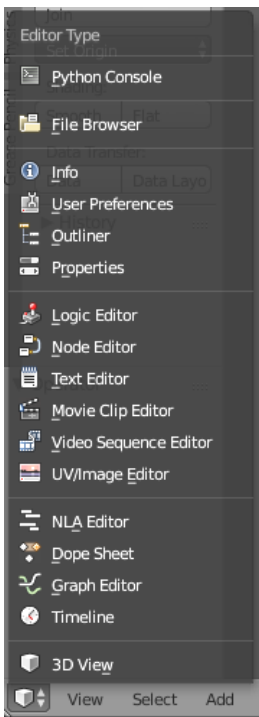
RoboDude Asks:

"How do I select multiple objects in Blender?"

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

Viewport (Window) Types

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

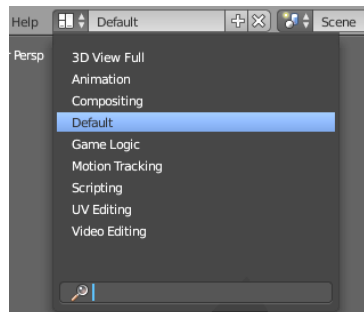
Graph Editor- replaces IPO window- displays animation data

Timeline- animation timeline with display and record controls

3D View- your basic 3D scene window where you work

Ready-Made Screens

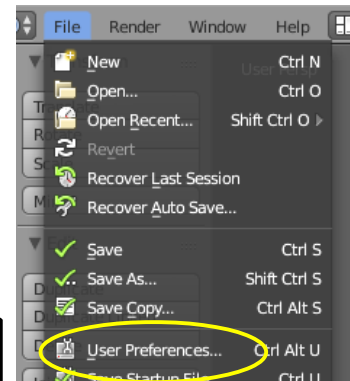
Blender has several ready-made screens for you to choose from that make optimal use of these windows. They can be accessed from the top pull-down menu area. Besides **"Default"**, you can choose depending on what you're doing.



Chapter 1 - The Blender Interface

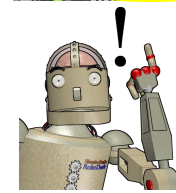
The User Preferences Window

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”**.

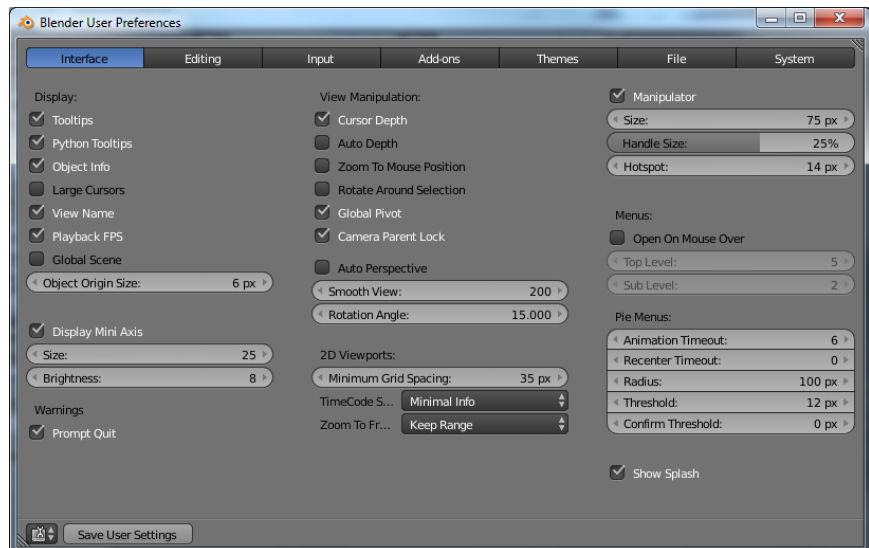


RoboDude Says:

Be careful to only use this setting at the beginning of a drawing session and on your own personal machine (not school computers, unless the instructor approves). 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 stream line 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 “3D View: Dynamic Context Menu”. Provides an “add object” menu with the space bar.

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

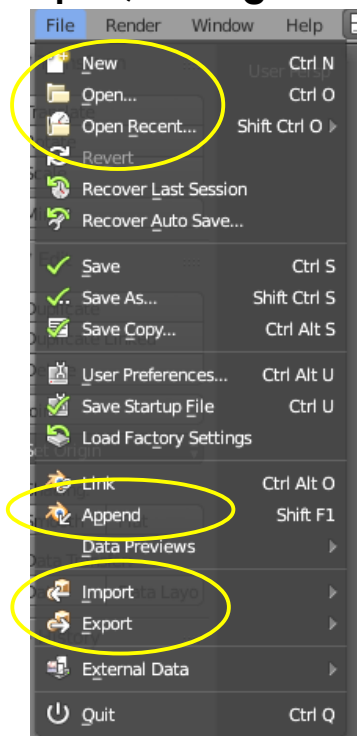
File Tab- If you save sounds, textures, etc. in specific folders, set the paths to save time.

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

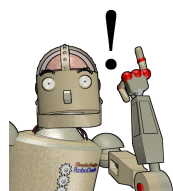
Some of these settings will be examined more in the “[Setting Up Your Interface](#)” task.

Chapter 1 - The Blender Interface

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. Blender also has extensive **Import** and **Export** options in the file menu that work well with VRML (.wrl), .DXF, and .STL files. These are generic file interchange extensions that most programs can work with, as well as 3D printers.

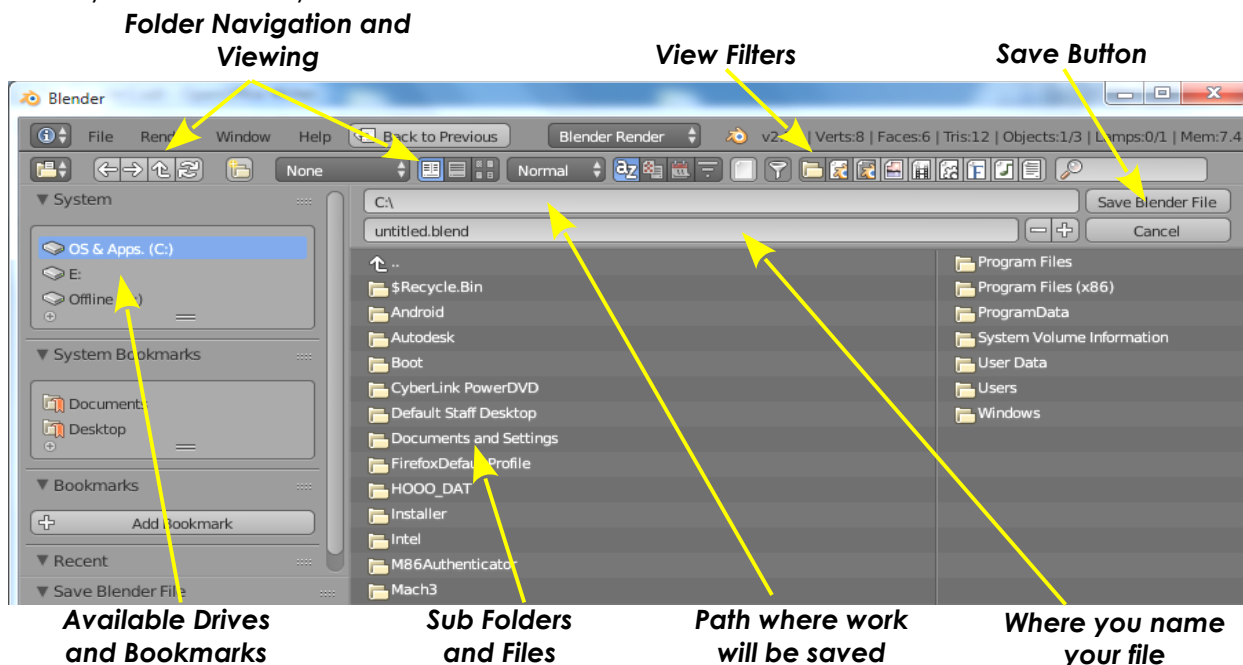


RoboDude Says:

Be careful to save your work often! Like most programs, Blender will give you a basic warning to save your work when exiting the program, but that is all- it will just close, losing any work you may not have saved.

The Save Command:

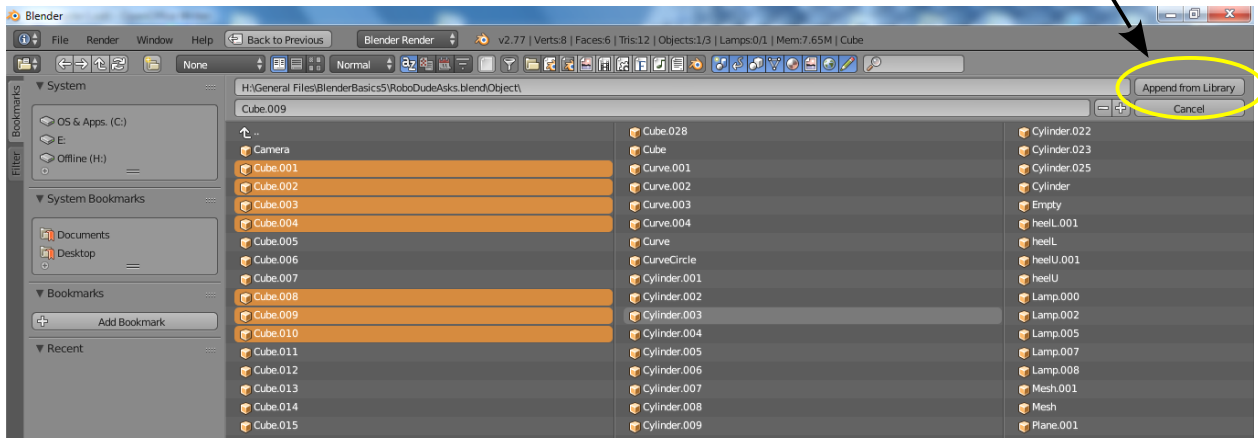
When you first start working with Blender, it seems almost impossible to figure out how to save your work. The file interface almost resembles old MS-DOS. Also, every time you save over an existing file, your previous save becomes a back-up file and is saved with a new extension (.blend1). This always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



Chapter 1 - The Blender Interface

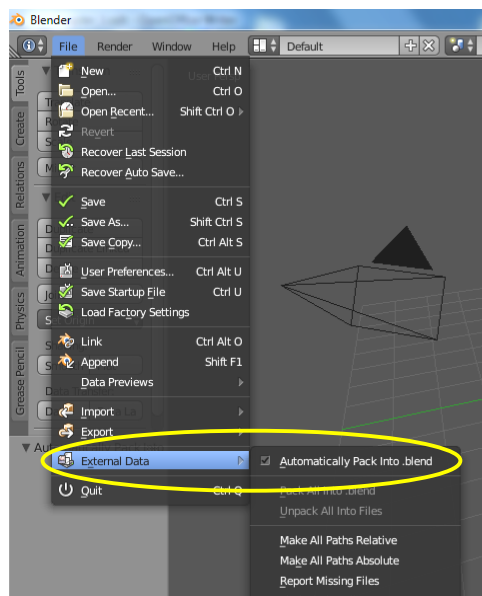
The Append Command:

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 "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 "**Automatically 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. You can also unpack data to bring the file size back down.

Chapter 1 - The Blender Interface

Importing Objects (from other file formats)

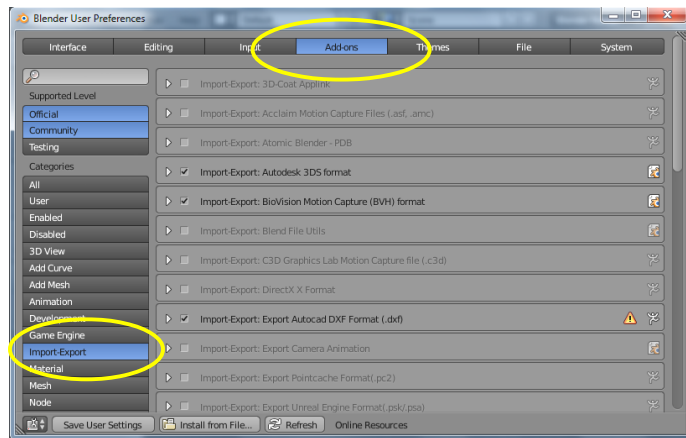
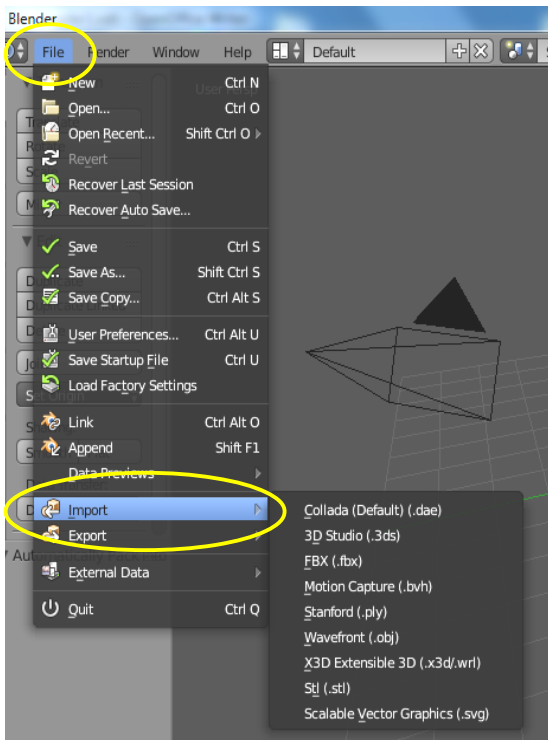
One of Blender's strong points is the program's ability to accept several generic types of 3D files from other programs. The most popular used are:

- .STL files- STL files have grown in popularity in recent years, being fueled by the 3D printer movement. Just about every 3D printing slicing program will accept .stl files. A unit on processing 3D printer files appears toward the end of this book.
- .DXF files- A very popular file format for exporting and sharing. AutoCAD and SoftPlan architectural software traditionally exports with .dxf formats.
- VRML (.wrl) files- Once a popular 3D file type, .wrl files seem to be losing ground to .stl files.

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 STL, 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 *Import* command in the *File* pull-down menu. 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.

With every new release of Blender, the import/export format options list grows. You should be able to find a format in the list that will work with your other programs.

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



Setting Up Your Interface

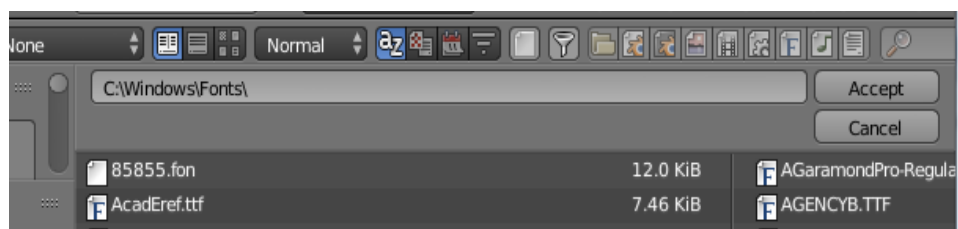
Scenario:

You work for an advertising firm where you work with specific files and use certain tools all the time. It would be nice to be able to set Blender so it opens with these settings turned on by default every time.

Customizing Your Screen Settings:

In order to get some practice adjusting interface settings, set up your Blender program to some of these commonly used, but not initially enabled features in the User Preferences settings:

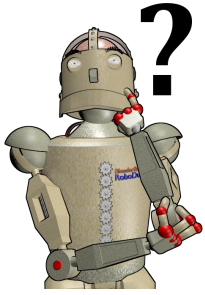
- **Input Tab:**
 - Check "Emulate 3-Button Mouse" if you do not have a mouse with a wheel. The Alt-Left button will act like a mouse wheel.
 - Check "Emulate Numpad" if you are using a keyboard without a number pad. This will make the buttons 1-9,0 act like the number pad buttons, useful in the next chapter.
- **Add-Ons tab (enable the following):**
 - 3D View: Dynamic Context Menu (easily add object by using the spacebar).
 - All of the "Add Curve" and "Add Mesh" options.
 - Any additional Import-Export commands you need or instructor recommends.
 - Look through the list for any other add-ons of importance to you.
- **Themes tab:**
 - Experiment with the preset themes to see if any interest you.
 - There is a "Reset to Default Theme" to go back to the basic theme.
- **File tab:**
 - If you have textures, sounds, or fonts saved in a specific location and would like Blender to go there directly every time you want to add one of these resources, set these paths now by clicking on the file folder picture by each line.
 - If using a standard Windows computer, set the path to the following for fonts:



If you are using a personal computer or your instructor tells you to do so, press the "Save User Settings" button on the lower-left corner of the User Preferences window. Every time you now launch Blender, these settings should now be the defaults.

****Call the instructor when finished****

Chapter 1 Reflection



Chapter 1 Reflection and Wrap-up:

Program Interfaces and User Reactions

A computer program's interface can make or break the program's success. If the interface is difficult to navigate, it can frustrate users and drive them to find an alternate program. While other 3D modeling and animation programs may use catchy graphic icons and ribbon menus for operations, Blender tends to stick to basic text buttons and menus.

1. In terms of learning a new program, which type of layout do you feel may be easier to use? Explain your answer.

2. In terms of being quick and easy to use for the seasoned professional, which type of layout do you feel may be easier to use? Explain your answer.

3. Examine at least one other 3D animation program online (Maya, Lightwave, 3D Studio, etc.). By looking at website screenshots and descriptions, how does Blender compare with their interface? Name at least 3 things that appear similar and 3 things that appear different.

4. Compare Blender's features to the same program you selected in #3 by looking at feature lists on each program's website. How do they compare in features and price? Explain your answer.