



SWITCHING AVATARS

"It's hard to say what motivates me to look the way I do in SL, I have so many looks to choose from. I have a firm belief in tasting everything on the buffet, and being picky like I am, I went for the best of the best. It is hard to tell what I'm going to be from one day to the next: a magnificent dragon, a bipedal wolf, a vampire, or a really good-looking human. That's the beauty of SL; you're not stuck in any single stereotypical role unless you choose to do that to yourself."

—Lupus Delacroix

"As Lupus noted, you can create as many avatars as you like. Save them as 'outfits' and include the gender and all body parts—then just wear the entire folder. There is no limit to what you can be; you can be Neo one minute and slip into your Donna Dominatrix avatar the next. If you do a search on SLBoutique or SLExchange for avatars, you will see the amazing range of what is out there and what you can make yourself."

"What motivates people to look a certain way is something I wouldn't even begin to speculate on. Ultimately, your avatar is your representative in-world and can run the entire range of your personality. It's your second life; be whomever and whatever you want to be."

—Isablan Neva

"I actually have several different avs; some I used for fun, others are utilitarian. Most of the time, I run around in a Luskwood Red Dragon av. Although, I also use a Ninja Weasel Studios Red Eastern Dragon av, and a mu Kingyo Gold av (giant fishy). I do have my old 'generic' av for times when I need to attach something, and a furry av won't do the job. All of my avs are modded, some of them heavily. Generally on my usual av, I wear a Maximillion in Plum suit from Silver Rose, a custom-made top hat (which sits at an angle and is oversized), and a pair of round-rim glasses with purple lenses."

—Khashai Steinbeck



CHANGING YOUR APPEARANCE

You'll most likely be struck by an overwhelming urge to work on your avatar's appearance the moment you enter *Second Life* (Figure 4.3). Be strong, and resist the temptation to begin tinkering with your looks right away.

There are several good reasons for postponing your avatar's appearance improvements for a little while. To begin with, you won't be guilty of crowding Orientation Island's arrival area. Next,

just a few steps into Orientation Island, you'll have the first of many chances to acquire freebie avatars complete with clothes. And soon enough, you'll be leaving Orientation Island for Help Island, where you'll undoubtedly hit the freebie store for a selection of outfits and hair types. And after *that*, you'll hit the mainland, where hundreds and hundreds of stores offer avatar appearance enhancements of outstanding quality. You can acquire them for free or nearly free if you periodically check out *Second Life's* Classifieds, SLExchange, and SLBoutique.



Figure 4.3: The number-one priority of almost every new SL denizen: changing their avatar's appearance.



FREE DOWNLOADS

There's a range of free downloads that include avatar mannequins and animation files; templates for creating new avatar skin, hair, clothes, and eyes; and a selection of high-quality textures at



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← <http://secondlife.com/community/downloads.php>. The downloads are accompanied by a concise manual. In addition, many SL creators offer free templates—you'll find numerous links to free template downloads in forum posts at <http://forums.secondlife.com/index.php>. Use the Search function to locate the templates you're interested in; for example, type "skin template" in the Search box.

If you absolutely cannot bear the default avatar look, limit avatar appearance editing on Orientation Island to a few quick, simple changes (Figure 4.4). Doing anything more is a waste of time given the extra options that soon become available.

By now, you've probably gotten the idea that avatar appearance is a sum of several parts, and that these include more than the body parts from SL's Appearance menu. The sections that follow discuss each of these parts and offer polite suggestions of what to do with the parts you don't like. Naturally, we'll start with the body-part choices: Shape, Skin, Hair, and Eyes.



Figure 4.4: Switching the tint and texture of the default shirt and jeans takes just a couple of mouse clicks.



ADDITIONAL INFO:

APPEARANCES COUNT

Opening the Appearance menu loads your avatar's current shape and outfit. Your Library contains several ready-made shape/outfit



← combinations, and you'll be adding many more to your Inventory during your new existence. Switching avatar shape and outfit is as simple as dragging the appropriate folder from your Library or Inventory and onto the avatar. Don't forget to save your own unique shape/outfit combinations into your Inventory—and don't forget to delete the oldest/least used as your second life goes on.

SIDEBAR



RESIDENTS SPEAK:

AVATAR APPEARANCE

"I'm on the short side and trim. Always wanted to be bigger but genetics and metabolism declared otherwise (a few hundred people I know wish they had my metabolism). So my avatar is a bit tall and on the heavy side (but neither pudgy nor muscle-bound). He's Irish even if I'm not because I decided to port over my ID (Aodhan) from the last MMOG I was in. Irish name goes best with Irish surname.

"The cybernetic right arm was something I started fooling around with when I was new. I liked it and I just kept evolving it. It rarely fails to catch the attention of people I meet. I was initially planning to make a product version of it because it was attracting attention, but I decided not to because people liked that it gave me a unique look. In a world where any look can be made but where some looks are mass-produced, it's nice to know that one has something that is unique.

"I'm a techie-geek and proud of it. My look reflects that in all original equipment from the arm to the visor to the gadgety-looking belt."

—Aodhan McDunnough

"Here's a breakdown of what to consider:

"Skin: This is probably the most important aspect. A good skin can make or break an avatar's appearance. Demos are usually dirt-cheap, so stock up and experiment. Once you find a good design, then you'll have to decide skin tone and facial hair, as that overrides the default controls.



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◀ *"Hair: Prim hair is a must. Finding good prim hair for men is hard. Women's hair outnumbered men's by about 1,000 to 1, it seems. And even when you do find men's hair, very often it's the same style. Nothing against long hair, mind you, but this far I've not been able to find hair that gives the GQ look, although the prim hair I have now is pretty close.*

"Shape: Your shape will radically change how your skin looks, especially on the face. Professional shapes are usually better than what you can do yourself, but even then, it's tough to find a shape that is everything you want.

"Eyes: Good eyes can add a nice touch.

"Animation override: The best avatar in the world will still look clunky if you use the default animation set.

"Clothing: As in real life, clothes mean a lot. There's a lot of garbage out there and some really nice things too. Don't be afraid to ask where people got their stuff. More often than not, other people are willing to help, and once in a while, you meet some cool people who turn into friends."

—Cannae Brentano

SHAPE

Shape (found under the Body Parts option) is the default option when you open the Appearance menu. Shape options are applied to nine categories, from Body to Eyes and Ears to Legs. Each category opens up a series of second-life-changing options, easily adjustable on a scale of 0 to 100 via a slider. You can save any combination of options as a separate male or female shape (with or without clothes/outfit) to your Inventory, then switch shape types at a moment's notice. If only changing this stuff in your first life were so easy!

The following sections discuss the options available in the order in which they appear in *Second Life*. This is done for ease of reference only and does not imply you should edit your avatar's appearance in the same order. On the contrary, editing avatar appearance is easier if you follow a different order. You should edit Body, then jump to Torso and Legs at the very bottom of the menu list, and only then proceed to edit Head options (second from the top). All such irregularities are highlighted in the sections below.



RANDOM INSPIRATION

Make a point of clicking the Randomize button (at the bottom of the Appearance menu) a few times before you begin editing individual avatar body parts. You'll see clearly how changing proportions between body parts can result in a completely new look. What's more, many random avatars are very nicely put together, and you may want to use one of the randomly generated avatars as the base model when attempting to create your first unique shape.

The most powerful avatar appearance options are found under Body and Head. Adjustments to the values found there have a strong effect on your avatar's appearance; often, changing a single value results in a number of changes. Alterations to other appearance options are more predictable, affecting only a single body part or facial feature.

Finally, keep in mind that the suggestions below are just one take on what's involved in creating the most difficult avatar form you can possibly aim for: a natural-looking human being. Don't let that stop you from choosing whatever avatar you fancy, even if it's just a grayish bit of free-floating ectoplasm. What you want comes first whenever you make a choice in *Second Life*. Of course, it's making a choice that's difficult (Figure 4.5).



Figure 4.5: Exactly what I was looking for! Hmmm...well, almost, anyway.



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BODY

Under Body, you'll find the following slider-adjustable options:

-  **Height.** The default is 80, and this translates roughly into six feet or 180 centimeters in real life. This is a safe middle-of-the-road value. Changing your height affects overall body shape, and you'll want to fiddle with the slider after you've done all the other adjustments and your avatar's shape still seems not quite right. Sometimes a shape that's just a bit off-kilter at 80 snaps into exactly the right proportions at 75.
-  **Body Thickness.** The default value is a waif-like 20. While most *SL* denizens are unbelievably lithe and slender, rather the way we'd all like to be in real life, you might want to nudge the slider up a little—a value of 35 to 40 results in a more realistic body shape. Don't worry—your avatar will still appear attractively slim given all the other options.
-  **Body Fat.** The default here's set at 0. Many *SL* denizens are more than happy to leave it at that. However, if you want to inject just a small dose of realism into your new existence, go for a value of 25 to 30—your avatar acquires a nice, solid aura, so to speak, that can make it a little more convincing.

The Shape options open by default when you enter the Appearance menu, and it's a safe bet you'll adjust them first. Make a point of returning to adjust them at least once before you finalize all the shapes that make up your new avatar. Adjusting the shape of your avatar's body often puts the final touch on its appearance.

NOTE



ADDITIONAL INFO:

KNOW WHAT YOU WANT

Editing avatar appearance becomes much easier if you have a precise idea of what you want, and you refer to an existing image (photograph, drawing, illustration) while working. Also, it's a good idea to strip your avatar naked when editing selected Shape options (Body, Torso, and Legs) as well as Skin.

HEAD

Here things get noticeably more complicated, as they should. Upon selecting Head, you'll face the following options:

Head Size.
The default here is 70. The default is a meaningless, inoffensive choice, because the size of your head should harmonize with your Body Shape choices. If you're really tall, the default is too small; if you're short, it's too large. What's more, head size has to harmonize with the facial features you'll

choose. It's necessary to perform at least two head-size adjustments: one after setting Body Shape and another after you've gone through all Head submenu choices. Just like with Body Shape, quite often a final, slight adjustment of head size makes all other Head adjustments fit perfectly.

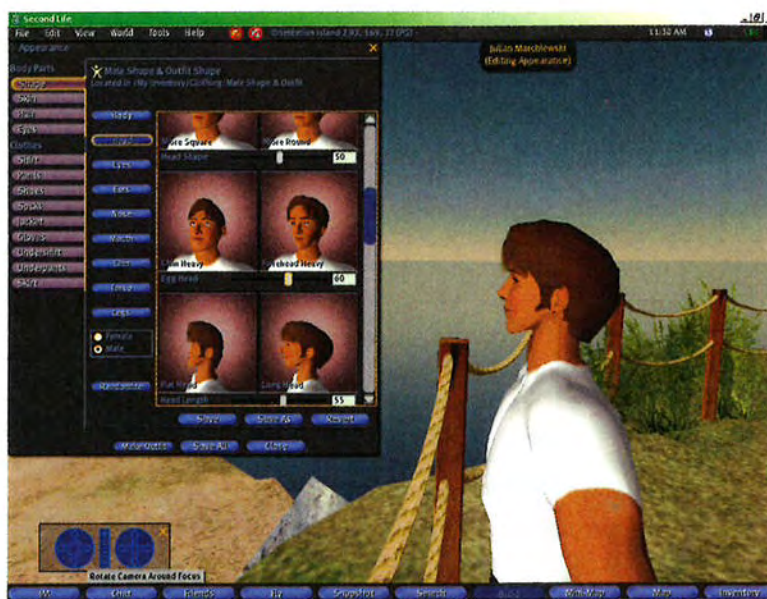


Figure 4.6: Use camera controls to view your avatar from different angles while editing its appearance.

NOTE



ADDITIONAL INFO:

CAMERA CONTROLS

Don't forget to activate and use camera controls (View menu) while editing your avatar's appearance! It's impossible to get things right otherwise (Figure 4.6).



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- Head Stretch.** This is a very powerful option: adjustments here affect head shape, size, and a lot of facial features (for example, chin and nose shape). The default value is 20, and it's smart to leave it at that while working on your first avatar appearance. Once everything's done, use this option to fine-tune facial features and head shape. Of course, if you've always dreamed of having a head that resembles an eggplant stood on one end, go for it and slam the slider up to 100 right away.
- Head Shape.** The default here's a neutral 50. Making your avatar's head more square gives it a masculine air; more round—feminine. Note that any movement of the slider, up or down, results in perceived increase of head size. This is yet another powerful option that strongly affects facial features, especially lower jaw and chin shape.
- Egg Head.** This option dramatically affects head shape. The term "Egg Head" illustrates this option's two extremes: a head shaped like an egg standing on its pointy end, or like an egg standing on its blunt end. However, this describes only the straight-on view of your avatar's head; when you use the camera controls to view it from the side, you'll see that any movement of the slider results in big changes to your avatar's profile. Areas particularly affected are the back of the head, the forehead, and the chin/jaw. The default value of 75 is best suited for female avatars; if you're going for a classic male look, 50 to 60 is a good choice.
- Head Length.** Sweeping adjustments to the default 55 value are definitely not recommended—*unless* you want an avatar that looks like a character in a fantasy cartoon. Head Length makes a strong impact on facial features, too! Slight adjustments upward result in a more feminine appearance, and moving the slider down a few notches creates a more masculine look.
- Face Shear.** Moving the slider either way rotates one side of your face up and the other down: extremes make your avatar look, (when viewed straight on) as if it had been struck with partial face palsy. This is good for outlandish characters; otherwise, settle for small tweaks of three to six points on either side of the default 50 value. The default results in a face that is perfectly symmetrical, and thus a little bland; a slight skew to the features adds a certain attractive *je ne sais quoi* that injects extra character into a face.
- Forehead Angle.** This option is best left alone until you've chosen a hair type/style that you're going to wear for a while. The default value of 37 is perhaps a little on the low side; adding a few points often results in a more natural look. Radical adjustments work great if you're after a fantasy look—for example,

definitely go the Vertical Forehead route when re-creating Frankenstein.

👉 **Brow Size.** Big, bony, protective protuberances above the eyes are usually associated with lower rungs of evolutionary development; probably that's why the default here is set at a highly civilized value of 13. Once again, this is an appearance option that's best left alone until you've got the hair (and eyes) you like and are likely to stick with for a while. Setting Brow Size at 0 gives your avatar's head a slightly ethereal air.

👉 **Upper Cheeks.** This is another option with a relatively low default. At 37, it lends your avatar's face a very civilized, sophisticated look; making the cheeks puffier results in a certain roughness. Increasing cheek puffiness by just a few points will give your avatar's face a more natural air, whereas decreasing it to 0 results in fashion-model sleekness.

👉 **Lower Cheeks.** This option is best left at the default 45 until you've completed work on your avatar's facial features. It tends to work best when applied as the final, finishing touch to the jaw and jowls.

👉 **Cheek Bones.** The default 38 value is a little low; adding up to a dozen points gives your avatar's face more character without a meaningful change in facial features.

NOTE



ADDITIONAL INFO: SHAPE-SHIFTING

Don't spend too much time perfecting your avatar's features at the outset of your new existence. You'll be messing with them again the moment you acquire a custom avatar skin, as discussed later in this chapter. After a while, you're likely to have a number of different physical profiles saved in your Inventory. Second Life offers you great freedom: for example, if you like a certain hairstyle but it doesn't suit you, you can make yourself suit the hairstyle.

EYES

Eye-editing options pop up twice on the Appearance panel:



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- In the Shape submenu, the Eyes button lets you adjust eye-detail options for your current avatar. These are the options discussed in this section.
- In the main Body Parts menu, choosing the Eyes tab opens a submenu that lets you adjust the eye template, such as size of pupil, iris width and texture, and pupil/iris size. These options are discussed later on in this chapter.

Adjusting eye-detail options is much more straightforward than messing around with Body and Head, because the changes you make here affect the eye area only. However, they do impact your avatar's facial profile—use the camera controls to check it out.

The eye-detail options have no hidden implications or complex consequences like the ones encountered when editing Head options. Nevertheless, there are a few things you should keep in mind:

- Eye Size and Eye Opening** complement each other, so work those two sliders together. The relatively low default setting of 40 for Eye Size still has a strong *anime* feeling; try lowering it to 35 and increasing Eye Opening to 65 from the default 60.

- Review Eye Depth** after you've completed work on your avatar's nose and cheekbones, since these three facial features work together straight on as well as in profile.

- If you're after a natural-looking face, use the Eye Bags and Puffy Lids sliders to



Figure 4.7: The Eyes tab submenu lets you change your avatar's eye color as well as use alternate eye templates.

make your avatar's face more convincing; add a handful of points to the default values in each case.

- 💡 The rather wild-looking Pop Eye option yields great results when used in moderation. Perfect symmetry is bland, so moving the slider either way by just a few points makes your avatar's face more interesting.

Remember that your Library contains extra eyes, so to speak. You'll find a pair of base (brown, blue) eye-color models in the Body Parts folder, and extra eye-color variations as part of the ready-made Shape/Outfit combinations in the Clothing folder. However, note that editing eye color and depth (darkness) is done through the *other* Eyes submenu—the one that opens when you click the Eyes tab under Body Parts (Figure 4.7). You'll find more details later in this chapter.

EARS

Editing your avatar's ears is even more straightforward than working on eye detail. Most of the time, you'll adjust ear options while viewing your avatar's profile; use camera controls to check on the effect of your changes straight on as well as from a three-quarters-front view. Also, note that although the Attached Earlobe images are correct, the Unattached and Attached labels are reversed.

NOSE

Editing your avatar's nose so that it combines character with a natural appearance is a complicated job. The editing options available here are straightforward and self-explanatory; however, adjusting one option almost invariably necessitates adjusting one or more other options. You'll certainly gain a new appreciation for real-life nose-job artists once you've attempted to edit your avatar's nose! Here are some suggestions that should make nose editing easier:

- 💡 The nose is a prominent facial feature that must work well with other facial features. So edit other facial features first, including your avatar's mouth and chin—it makes determining the right nose shape and size much easier.
- 💡 It's easier to work on a bigger nose. The default Nose Size is a cute, button-like 11 whose appearance straddles the line between fantasy and real life. You can safely increase nose size to 25 right away—that's the natural size for the



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default head, but it might be more if you've already edited head shape and size. In any case, it truly is much easier to work on a bigger nose, even if what you want is a small nose (see the "Nose Jobs" note).

NOTE


**ADDITIONAL INFO:
NOSE JOBS**

Try increasing the nose size for shape-editing purposes, then size the shaped nose down—it will necessitate extra tweaks to some options, but should ensure a much easier time overall. Just remember to keep the size difference to no more than 10 points or so!

☀ Nose and Nostril width as well as Nose Thickness and Nose Tip shape are very closely linked to mouth shape and size; tweak Mouth options as appropriate.

☀ When adjusting Upper and Lower Bridge, pay attention to how your changes work with the appearance of your avatar's brows and forehead.

☀ Using the camera controls often is key to doing the job right: all nose changes greatly impact your avatar's appearance from any viewing angle between two-thirds-back and full frontal.



Figure 4.8: Performing a good nose job will test your avatar-editing abilities.

You'll be spared a lot of effort if you go the fantasy-avatar route. A Pinocchio-like schnozzle is much easier to model than a natural-looking nose (Figure 4.8).

MOUTH

Shape your avatar's jaw and chin before starting to edit its mouth; you'll have a much easier time. The Mouth editing options are very straightforward, but focus almost exclusively on the lips, and there's more to the mouth than lips alone—the lips are just the final touch. As mentioned earlier, you'll also want to tweak Mouth options once you've finished working on your avatar's nose.

CHIN

Chin-editing options are powerful—changes there can necessitate a rethink of your avatar's head shape and size. Here's what you'll be dealing with:

- 🟡 **Chin Angle.** On one end of the scale we have Mr. Lantern Jaw; on the other, the Chinless Wonder. The default setting of 52 is a little on the Chinless Wonder side, which isn't bad for female avatars. However, natural-looking male avatars require you to nudge the slider lower.

NOTE

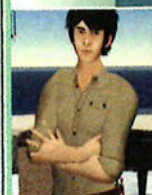


ADDITIONAL INFO:

MOLDING YOUR CHIN

Although Chin Angle is the topmost option in the Chin submenu, editing Chin Angle is easiest when you've already finished shaping your avatar's jaw.

- 🟡 **Jaw Shape.** This is one of the jaw-shaping adjustments that should precede finalizing Chin Angle. The default value of 55 results in a decidedly feminine chin and jaw, and you should add at least 20 points for a masculine look. However, note that this is true only if the other jaw-shaping settings are left at default. Changes in Chin Depth, Jaw Angle, Jowls, and Chin-Neck settings have a big impact on the Jaw Shape setting. You'll find yourself tweaking some of the options again and again after making changes elsewhere.



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✦ **Chin Depth and Jaw Angle.** These two options are grouped together because any adjustments to Chin Depth should be done in tandem with adjustments to Jaw Angle. A lower Jaw Angle naturally fits a deeper chin. The changes you make to these two settings have a strong impact on your avatar's appearance! Make sure you view your avatar's face from several angles following each setting change. The default settings of 42 for Chin Depth and 76 for Jaw Angle are on the feminine side; increase Chin Depth and decrease Jaw Angle for a more-masculine shape. Expect to readjust settings after any changes to Jowls and Chin-Neck.

✦ **Jaw Jut.** This option should be handled very delicately unless you're after a comic effect. Slight deviations (literally a couple of points) from the default 50 value work fine—a tiny underbite can look good on a female avatar, and a similarly small overbite can be flattering on a male.



Figure 4.9: Getting your avatar's jaw to look the way you want it requires skill and patience.

- ✦ **Jowls.** The default value of 17 results in a model-like, jowl-less look. Add points here for a more natural appearance, readjusting other Chin options as necessary.
- ✦ **Chin Cleft and Upper Chin Cleft.** Adjustments here put the final touches on your avatar's chin; leave them till the very end. Making changes may necessitate rethinking your Mouth settings, particularly Lip Cleft and Lip Cleft Depth.
- ✦ **Chin-Neck.** Any changes here are likely to impact Jaw Shape, Jaw Angle, and Jowls settings, and vice versa. Treat this option as part of the jaw-shaping package (Figure 4.9).

In summary, your avatar's chin has a powerful influence on your avatar's appearance. In real life, eyes and jaw shape are very important in projecting a personality type; in *Second Life*, jaw shape is extra-important because of technical considerations that, at the time of writing, limit eye-appearance impact.

TORSO

You should edit your avatar's torso right after you've finished adjusting Body options. The Torso options are very straightforward and do not require extra explanations. However, there are a few things to remember:

- Adjusting torso muscles also changes arm muscles—high settings have unfortunate visual effects.
- Neck Thickness and Neck Length should be finalized only once you've finished messing with your avatar's head.
- Torso-editing options collectively default to create the ideal torso: knockout busts for the females, broad shoulders and rippling muscles for men, etc. You may want to nudge the appropriate sliders a few points away from their default settings for a more realistic look.
- Arm Length and Hand Size are the two options you should start with. They are linked to Body choices as well as Leg Length and Foot Size. Torso Length should be proportionate to Leg Length.
- Love Handles and Belly Size are obviously best adjusted in tandem, and any adjustments here should be considered together with Body Thickness and Body Fat settings.

NOTE



ADDITIONAL INFO: CANNIBALIZING AVATARS

Remember that any avatar can be cannibalized for body parts. You can switch body parts between avatars with ease or add custom body parts of your own.



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LEGS

Editing your avatar's legs includes setting their length and their shape. If you go to the trouble to take off your avatar's pants, you'll have an easier job. Note that Leg Length has a marked effect on Leg Shape, and that you can change leg appearance by adjusting Body Height, Body Fat, and Body Thickness values.

Leg-editing options include adjusting the size and shape of your avatar's hips, crotch, and buttocks. Adjustments in these three areas influence one another and may require quite a lot of tweaking following any significant change. Note that Body settings play a big part here, too.

Appropriately, at the very bottom of the Legs submenu you'll see a Foot Size option. Many *SL* people claim they get on very happily with a foot size of 0, and it's true that a scaled-down foot makes footwear look better. It's up to you to strike the right balance between realism and beauty here. In real life, foot size corresponds to hand size, but this is *Second Life*, where most custom shoes are made to fit size-0 feet.

SKIN

Clicking on the Skin tab on the Appearance panel brings up a list of options that are very straightforward and limited. They allow you to make basic changes to avatar skin appearance, such as change skin color (and not much more). The Face Detail and Body Detail submenus can be successfully used to create an older-looking avatar, but they won't make the skin more convincing (Figure 4.10).



Figure 4.10: Born into a virtual world a day ago and already showing age? Must be the pace of your second life.

Most *Second Life* residents agree that a custom avatar skin is a priority because of the dramatic effect it has on your avatar's appearance. Nice-looking skins can be obtained free of charge, and let's-have-virtual-sex-right-now skins can be had for the low four figures in Linden dollars. You may also attempt to create your own custom skin if you have the bent and the external application needed. You can download free skin templates, and *SL*-related forums are full of good, clear advice on what's involved in creating a new skin.

HAIR AND EYES

Avatar hair and eyes can alter your avatar's appearance. Unfortunately, most *SL* denizens seem to agree that trying to customize either through the Hair and Eyes tabs under Body Parts yields average-quality results at best. Yes, you can easily achieve a meaningful appearance change by adjusting basic values such as Color for both eyes and hair. However, any further attempts to mess with your hair are likely to end with much frustration, and taking eye changes beyond color and depth isn't possible without acquiring a new eye template, or an eye attachment that your avatar will wear over its default eyes. Some eye attachments come with scripts that add features such as simple animation (for example, blinking). If you want to have a stab at creating your own custom eyes, download the free eye template from <http://secondlife.com/community/templates.php>.

If you want your avatar to have good-looking hair, you'll definitely have to get a custom job. As mentioned earlier, the best-looking custom hair is built of individual prims and is worn as a head attachment. As you know by now, you can easily acquire decent prim hair for free, and great-looking custom hair is affordable, with prices ranging from a few hundred Linden dollars to the low four figures for hot new styles.

NOTE



ADDITIONAL INFO:

HAIRY CHOICES

When shopping for new hair, the three things to consider are the look, the price, and the number of prims involved. A hairstyle created using a large number of prims can have a negative effect on SL's performance on your computer because of increased lag whenever your new hair appears in the view. A master SL hairstylist always uses the minimum number of prims required to provide the intended effect.



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CLOTHES AND OTHER ATTACHMENTS

If you like clothes, *Second Life* will feel like heaven. You'll arrive with your Library containing several wardrobes' worth of clothing, and you'll add new outfits and individual clothing items while exploring Orientation and Help Islands. Within minutes of arriving on the mainland, your options to acquire good-looking clothes for free multiply like rabbits. You'll also see plenty of clothes (and other attractive things) offered at the symbolic price of L\$1 (Figure 4.11). As pointed out elsewhere in this guide, even if you have zero Linden dollars and absolutely refuse to buy any, you can make a few Linden bucks instantly by engaging in such activities as sitting in a chair for L\$3 per 15 minutes. In other words, *SL* lets you acquire a huge wardrobe for next to nothing in record time.



Figure 4.11: *Second Life* is the thrifty clothes shopper's paradise.

Making a few basic alterations to the ready-made Library clothes is relatively easy. The tabs under Clothes in the Appearance panel list standard clothing-item classes—Shirt, Pants, etc. The items your avatar is wearing at the time automatically become available for editing. In addition to sliders adjusting clothing details such as Sleeve Length or Pants Crotch, you can change the color/tint and texture of the selected clothing item:

- Clicking on the Fabric square opens a panel featuring the Library folder, which contains a special subfolder of fabric textures. Clicking a texture activates it.
- Clicking on the Color/Tint square opens a Color Picker panel. This lets you quickly pick a color by clicking a square, or create a custom color.

The clothing-editing options on the Appearance panel are great for simple alterations. However, if you want to design a clothing item from scratch, the plot thickens. As the *SL* template manual points out, it's not easy to design something in an external 2D application and subsequently make it fit a 3D object (your avatar).

You may also create clothing out of prims. However, even a relatively small and simple item such as a flexi miniskirt needs a number of carefully shaped prims. If you're interested in pursuing clothes design as a serious hobby or as a source of income, begin by signing up for at least a few of the tutorials and classes offered in *Second Life*. To see a list of the tutorials and classes currently on offer, open the Search panel and type "classes" or "tutorials" into the Search box.

NOTE

ADDITIONAL INFO:

TATTOOS AS CLOTHING

In Second Life, tattoos fall into the clothing category. Tattoos can be worn as clothing items that are fully transparent except for the area covered by the tattoo. They also may be created in an external application and imported into Second Life as textures.

Clothes have decisive impact on your avatar's appearance—the old saying that clothes make the man has never been more true than in the virtual world. Most likely, over half of the many thousands of items in your Inventory will consist of clothing, and 90% of that clothing won't ever be worn. There's a doctorate in sociology waiting for whoever draws the right conclusions.



Figure 4.12: Armed and dangerous? Not quite.



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Earlier in this chapter, Aodhan McDunnough described how he outfitted his avatar with a mechanical arm. While this is a somewhat extreme example, it illustrates the wide range of options you have for enhancing your avatar's appearance with an extra attachment. Appearance-enhancing attachments can include almost anything: you can wear a hat or a cap, lead a dog on a leash, or have a flying fish hovering over your head and attached by an invisible (i.e., fully transparent) thread. It's up to you to choose whatever you think suits your image (Figure 4.12).

Jewelry is another type of appearance-enhancing attachment. There's plenty of jewelry available, and it ranges from very simple to very elaborate: while everyone is talented enough to create a simple ring out of a single prim, few people are capable of making a multistone necklace whose jewels are scripted to display dazzling light effects. Note that jewelry can take many forms: animated, sparkling boot buckles and shoe laces are good examples.

AVATAR ANIMATIONS AND GESTURES

Avatar animations include every single move your avatar makes: ordinary walking, a gesture, dancing. Gestures are animations with extra content, such as sounds and/or special effects. Animations may be very simple (a hand wave, a nod) or very complex (a fencing system). They may be innocent or naughty, and some of the naughty ones are truly complicated.



Figure 4.13: *I burn with shame.*

Most *SL* residents who have been around for a while recognize the value of quality animations; a custom walk animation is high up on the list of avatar-appearance enhancements. However, you do not need to acquire a custom animation right

away to inject a little more life and charm into your avatar. You enter *Second Life* with a vast Library of gestures waiting to be used. All you need to do is activate the ones you like most by assigning them hotkeys, and display a sense of humor and good timing when you use them (Figure 4.13).

Avatar animations are most often created using an external application called Poser (there's also a free application called Avimator, though it isn't as sophisticated); they are much more complex than the simple animations you can apply to objects while remaining within the world. Subsequently, they are imported into *Second Life* and, if meant to replace a default animation, given an override script. Like most *SL* creations, custom animations can be obtained for free or for a symbolic price, but the flashiest animations can cost many thousands of Linden dollars.

NOTE



ADDITIONAL INFO:

BECOMING AN ANIMATOR

Creating custom animations isn't easy, which is why animators in SL are both rare and well-paid. If you're interested, check out the Guide to Animations at <http://secondlife.com/knowledgebase/article.php?id=050>.

Custom animations greatly enrich your virtual life because they enable your avatar to behave in a new way through custom moves or to participate in a new activity. However, you can greatly enhance your avatar's ability to socialize simply by using the animations or gestures from the Library. Accordingly, the next chapter takes a look at Library contents.



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CHAPTER 5

USING YOUR LIBRARY

You already know that Library items and choices are a great help while working on your avatar's appearance. However, the Library is much more than that: its contents are your starting kit for creating a fulfilling second life, and many of the items it contains remain very useful throughout your *SL* existence.

The Library does not have its own onscreen button. It's just a folder in your Inventory, and it's accessed by clicking the Inventory button. That is why many new players, eager to get on with their new lives, fail to check out its contents. But you won't make that mistake, will you?

In this chapter, we'll discuss the Library in detail. You'll find out how it can get your new life off into a flying start, and which items remain uniquely useful no matter how long you've inhabited the *SL* metaverse.





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WHAT IS THE LIBRARY?

You can look at it this way: the Library is your starting Inventory, courtesy of Linden Lab. Every new *Second Life* resident receives the same set of items: a comprehensive starting kit that goes far beyond clothing. It includes a livable house (Atoll Hut) with an extra-small footprint for small land lots, a driveable vehicle (Kart), a popgun, and a wide range of landscaping items. New items are included in almost every *SL* update, so make sure to review your Library's contents regularly! It really pays—if you find it hard to believe, check out what some experienced Second Lifers have to say on the subject.



RESIDENTS SPEAK: THE LIBRARY

"The Library is great—I use it more and more the longer I play. They occasionally add new things to it (for example, there are a number of full avatars there now which are much more interesting than the default Orientation Island avies), and it's a convenient place to find textures and other items useful in quickie landscaping and other kinds of builds."

"I've also made frequent use of the furniture; it's nice to be able to toss down some chairs or a bed for some role-playing without having to go shopping while in the middle of a scene."

—Wildefire Walcott

"I use the Library quite a bit. The trees, of course, are the top item I use out of there. I'm a terraformer and landscaper and prefer the Linden trees over resident-made trees for their interaction with the wind and fewer prims. Even my waterfalls are made from Library parts."

—Ghoti Nyak

"I use a lot of the Linden plants for my terraforming and landscaping jobs. It's fantastic to have big, good-looking plants like the Plumeria bush and some of the trees, that fill a lot of space yet take up only one prim."



← "I also use several of the library textures in my building work, and the scripts and stuff for waterfalls in the library have been very useful of late."

—Ceera Murakami

As mentioned in the previous chapter, you could have paid a few quick visits to the Library while editing your avatar's appearance—choosing a new texture or color automatically takes you to the Library folder, and the textures and colors contained therein. Later in this chapter, we'll look at the Library subfolders one by one, following the same order as the one in which they're displayed in *Second Life*. This should make in-game reference easier, and encourage you to use the Library often.

And use it often you should, right from the start. If you do, you'll feel like a veteran *SL* citizen even before you leave Help Island. Countless newbies will gape with slack-jawed amazement as you conjure up weapons, vehicles, and houses with effortless flicks of your wrist. The air shall ring with excited cries such as "Where did you get that gun?" and "How do you build this stuff so fast?" To which you'll reply, typing softly, "I got it from the Library."

NOTE



ADDITIONAL INFO:

MOVING ITEMS

You can move items between the Library and the Inventory. Open the folders, then just select and drag items from one location to the other. You can also give any item from either the Inventory or the Library to another SL denizen: to do so, select and drag the folder onto the recipient's avatar. However, some items are not transferable—find out by right-clicking on an item, and selecting Properties.

CHAPTER 5



LIBRARY CONTENTS

As you must have gathered by now, there's more to the Library than meets the eye, especially at the hurried first glance thrown by a new, impatient resident of



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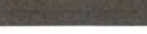
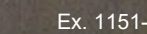
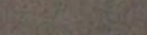
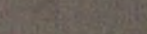
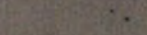
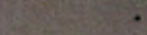
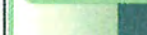
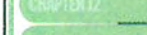
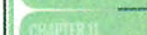
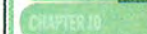
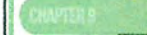
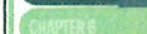
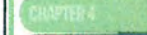
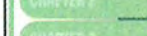
- ✦ **Creating Avatar Hair Textures.** This short document, discussed in the previous chapter, is a must-read if you're going to mess with your hair.
- ✦ **Eyes—Dark Brown.** This is an instant eye-color choice that should be treated as a starting point for determining your avatar's eye color.
- ✦ **Eyes—Gray.** Another starting point for determining your avatar's eye color.
- ✦ **Hair—Medium Brown.** This is probably the most natural-looking instant hairstyle choice at the time of writing; most likely, that's why it appears as a standalone item. It makes a good starting point for creating male and female hairstyles alike.
- ✦ **Shape—Thin.** This treasured Library item immediately endows your avatar with the svelte figure we all want to have in real life. It looks good, too, but remember that a cookie-cutter body is a cookie-cutter body, no matter how beautiful. As someone clever once put it, there's nothing as boring as perfection.
- ✦ **Skin—Lightly Tanned.** This choice gives your avatar the bronze skin tone favored by many movie stars. If you find it a little on the dark side, adjust it as described in Chapter 4.

The Body Parts folder is, predictably, most useful right at the start of your new life. As you spend more time in the *SL* metaverse, you'll inevitably acquire many more interesting options, starting with the Help Island freebies discussed in Chapter 3.

CLOTHING

Your avatar is born wearing a rather proletarian outfit: T-shirt, jeans, fire-sale flip-flops, plus standard underwear and socks. And as you know from the preceding chapters, the *Second Life* metaverse is a very fashion-oriented world, because literally everyone is a clothing—scratch that—a *costume* designer. It's never been as easy as it is in *Second Life*.

The Library comes with a thick Clothing subfolder, its size silently confirming the importance of looking good in *Second Life*. Inside the Clothing subfolder, you'll find enough stuff to fill several big real-life wardrobes, with new items added following almost every *SL* update:



Complete Outfits. You'll see a long column of subfolders containing complete male and female outfits (City Chic, Goth, Harajuku, etc.). Hint: you can mix and match various items from different outfits, and save the results as a new outfit in your Inventory. Treat most of the complete outfits you'll find in the Clothing subfolder as the equivalent of real-life off-the-rack suits: you need to apply a little personal touch to make things look really good (Figure 5.2). Note that the More Outfits folder includes uniforms.



Figure 5.2: Customizing a complete outfit from the Library is the quickest way to look original.

Individual Clothing Items. These include everything down to a spare set of underpants. This is important, since your carefree existence in *Second Life* means you don't really *have* to wear underpants, and with a little customization and imagination they may become an attractive trade item. Few people can resist entering a business dialogue when you open with, "Hey, I'm new and I'm poor. This stuff you make is so amazing I'd be willing to trade in my last set of underwear to have some of that."

The Clothing folder contains a lot of stuff, and upon examining its contents you should do what you'd do if you were suddenly given trunkloads of new clothes. Choose what you're likely to wear, and move it into your Inventory: select and drag items between the Library and Inventory folders, and save complete outfits as new Inventory subfolders.

GESTURES

This Library folder usually gets little interest from new *SL* residents. This is a big oversight: entertaining gestures can do more for your avatar's memorability than a top-of-the-line designer outfit purchased for many Linden dollars. It's been noted in Chapter 4, but to drive it home let's have it again: the impression you make on people you meet in *Second Life* depends on what you do, not only by what you look like. Creating and activating a personal Gesture folder is among your priorities.

There is also a Gesture subfolder in your Inventory; however, it contains just two subfolders—Common Gestures and Male Gestures if your avatar is male, Female if it is female. There are four Gesture subfolders in the Library: Common, Female, Male, and Other Gestures. Regardless of your sexual preferences, do not let yourself be limited by your avatar's sex when selecting gestures. A female making a male gesture can be very entertaining and memorable, and the same applies to a male making a female gesture. So if you want *SL* people to remember you, it's truly worth your while to assemble your very own gesture set from the Library choices right at the start of your existence. Here's what you'll find in the Library's Gestures subfolders:

- ✦ **Common Gestures.** This subfolder contains a set of gestures meant for avatars of either sex. There are some very nice animations in there, in spite of the "Common" moniker, so take the time to look through them all. As explained in Chapter 4, the timing of a gesture gives it a new meaning: for example, the "count" gesture works great when you want to emphasize a point in conversation. This folder also contains the three gestures needed for playing the popular "rock, paper, scissors" game.
- ✦ **Male Gestures.** This set of "standard" and slightly bland gestures includes a male voice where appropriate. Some of the animations are identical to those in the Female Gestures subfolder. This is perhaps the least exciting gesture subfolder in the Library, at least if you use them for the intended gender.
- ✦ **Female Gestures.** This set of "standard" gestures includes a female voice where appropriate. Again, the gestures within seem slightly bland when employed by an avatar of the intended sex, but gain in originality when used by males. You'll crack people up if you are a big, well-muscled guy who unexpectedly says "Get lost" in a high-pitched, female voice.
- ✦ **Other Gestures.** Make sure you check out this subfolder in detail: some of the animations within are very entertaining. "Embarrassed," "nya," and "shrug" are good examples of gestures that work equally well for avatars of both sexes.



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NOTE



ADDITIONAL INFO:

UTILIZING YOUR INVENTORY EARLY ON

Remember that when you begin your new life, the Library has much more to offer than the Inventory does. The little folder at the end of the Inventory list looks unimportant to many fresh SL inhabitants, so making use of its contents can instantly make you stand out from the crowd.

LANDMARKS AND NOTECARDS

These two Library subfolders are most useful at the start of your new existence. The Landmark folder contains just a single landmark: the Welcome Area on the SL mainland. The Welcome Area is where you should go upon leaving Help Island; as explained in Chapter 3, it is the right spot to pick up information on ongoing SL events. It is also a very good spot to pick up, er, make new friends. Many new SL denizens hang around there for a while, eager to show off their new selves (Figure 5.3).



Figure 5.3: Some people will go to great lengths (and heights) to make sure they're noticed.

The Library's Notecard folder contains just four items that are *not* included in the Inventory's Notecard subfolder. Three of these are pretty important, and you would be wise to keep them:

🟡 **HELP!** This notecard contains answers to many of the questions new denizens have about *Second Life*. It's worth your while to check out the contents even if you don't want to read it (there's a lot of stuff in there!). The topics covered in this notecard will instantly make you aware of the multitude of options available to you in your new existence. Read the titles of the featured Beginner's Guides to various aspects of *Second Life* (such as owning land), and check out the step-by-step instructions for selected *SL* activities. Purchasing and owning land, removing items from a box, and making movies in *Second Life*—these are just some of the issues covered in the Library's HELP! notecard. Obviously, this notecard's a keeper.

🟡 **Community Standards.** This notecard explains what you can and cannot do in *Second Life*. The *Second Life* metaverse can continue to exist only if its inhabitants follow certain rules. These are explained in the Community Standards notecard. They are very reasonable; the only denizens likely to find them oppressive are those who are consumed by hunger for sex and violence. If you happen to be one of them, remember that mutual consensus rules in *SL*. Join or assemble a group of like-minded people in a defined area who play by your kind of rules, as explained in Chapter 2.

🟡 **Media Player Help.** This notecard discusses activating streaming media so that you can play music and movies on your land. Music and movies draw people, which can be useful (see Chapter 2 for details). It most likely will be a while before you turn into a media mogul, so keep this card for future reference.

🟡 **Welcome Note.** This ultra-short note tells you how to obtain extra notecards discussing selected aspects of *Second Life*. These extra notecards will appear in the Notecard subfolder in your Inventory.

You may drag the three keeper notecards into your Inventory's Notecard folder so you have all your notecards collected in one place.

OBJECTS

This is one of the most interesting among the Library folders. It contains plenty of subfolders and individual items that you'll find useful and entertaining throughout your *Second Life* existence. Its contents swell following almost every *SL* update, so check the folder often! Here's a descriptive list of the goodies that are available at the time of writing:



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-  **Atoll Continent Stuff.** This modestly titled subfolder contains an atoll hut-style home complete with accessories (footbridge, walkway, etc.). As you know from Chapter 3, you can pick up a free house on Help Island—a design much classier than the modest atoll hut. But one thing about the atoll hut is unbeatable: it has a tiny footprint, making it a very good choice on the small, pay-no-upkeep building lots, aka First Land. When you have only 512 square meters to play with, the atoll hut's small space requirements can make it a very attractive choice.
-  **Business.** This subfolder contains a Resident Store Kit. You can set up your own store in a blink of an eye—the kit comes with a notecard containing what's probably the simplest set of instructions ever written for erecting a small commercial building.
-  **Dominos.** This subfolder contains a single, large domino block that can be copied endlessly. See the "What Can You Do with Library Objects?" sidebar to find out how other users play with dominos.
-  **Household.** Here you'll find another freebie starter home—a small, single-room cabin—plus a builder's tape measure, and the basic furnishings for your new home (bed, lamp, coffee table, rug, etc.). Other interesting items in this folder include a dead parrot waiting for a script to bring her to life ... or to face whatever fate you devise.
-  **Landscaping.** This is yet another very useful folder. Contents include quite pretty freestanding and potted plants (Figure 5.4), an assortment of ornamental rocks, and decorative items such as latticework.
-  **Orientation stations with notecards.** This folder contains the interactive signs and orientation stations you pass by right after you start your second life. These signs and stations are demo pieces; treat them as starting points for your own interactive signs. Note that you can right-click on a sign and choose Open from the pop-up pie menu—this will reveal object contents, such as attached sound effects and scripts. If you've missed your chance to obtain Male or Female Outfit #3 at the start, right-click the Outfit #3 signs and choose Open from the pie menu. You'll be given the option to wear each sign's clothing content, and/or copy it to your Inventory.
-  **Telehubs.** Telehubs can be used as arrival points for teleporting *SL* denizens. This folder offers three models: the invisible telehub, the small telehub, and the big Linden telehub (which has sentimental value for long-term *SL* citizens—a long, long time ago, residents could not teleport at will, and were forced to

use telehubs). Telehubs are useful when you want to direct traffic on land you own. Use invisible and small telehubs for low-volume traffic (home, small business) and the big model for high-volume traffic (large commercial establishments, events).



Figure 5.4: Some of the plants included in the Library's Landscaping folder are little works of art.

🌳 Trees, plants, and grasses.

This Library folder is extremely useful throughout your second life. A lot of the flora it contains looks superior to most user-made items; as mentioned earlier, it's even used by professional SL landscapers. You'll really appreciate the contents of this folder when you acquire your starter land and are in a hurry to make it look good.

🚶 Walkways.

There are five types of walkways on offer here. Click and drag the icon for the selected type repeatedly to lay down the walkway of your choice, piece by piece.

NOTE



ADDITIONAL INFO:

LIBRARY OBJECTS AND SCRIPTING

Library objects are extremely useful if you're planning to create items. Editing Library objects is a great exercise in building and texturing. The scripts in the scripted items can be copied to newly created objects, and most can also be modified. Adding or deleting a couple of script lines is always easier than writing everything from scratch!



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The Walkways subfolder is followed by a series of individual objects that provide tons of fun. You must check them out, even if you don't look at anything else! Many new denizens don't, and they are the ones who will be staring at you and asking, "Where did you get that gun?"

SIDEBAR



RESIDENTS SPEAK:

WHAT CAN YOU DO WITH LIBRARY OBJECTS?

"The Library popgun is fun to shoot each other with. The popgun is good when you are learning scripting. It serves as an example of how to rez an object from another one."

"The beach ball is fun to play with. It has a good script for beginning scripters also. The basic chair is good to use as a model when you are learning to build. It has another good basic script, a sit script. The dice and fireworks have good beginner's scripts in them."

"The dominoes—who could forget the dominoes? Thousands of dominoes stacked in a delightfully tempting manner, and they set themselves back up automatically. For fun, make an object that pushes dominoes, so when you find a set of dominoes, turn on your domino pusher, plough into the dominoes, and watch them fly away at high velocity."

"There's some things in the Landscaping folder that a person might find useful setting up a small home. Everyone starting out needs a pink flamingo."

"The gesture folders are pretty nice to have. In case anyone doesn't know it, you can activate an entire folder of gestures such as the Common Gestures by dragging the folder onto your av."

"There's now some Linden Telehubs in there, quaint reminders of the days of yore. Whatever yore is."

"Some of the orientation stations are in there in case one gets nostalgic for Orientation Island and can't be bothered to go to the fairly new public Orientation Island."

—SuezanneC Baskerville

For many *SL* denizens, the standalone items in the Objects folder will be worth more than a freebie custom house complete with furniture (Figure 5.5). All of them come with operating instructions, which are accessed by right-clicking the chosen object and selecting Open from the pie menu. This will let you view the object's contents, which usually include a notecard with instructions.



Figure 5.5: A car! A gun! That's every real guy's get-rich-quick kit, no?

The following is a descriptive list of the standalone items in the Library's Objects folder at the time of writing:

- **Kart 1.0.** This is your freebie *SL* starter vehicle: a smart little go-cart in bright red. It goes pretty fast, too. To go for a drive, drag the Kart icon onto the ground, right-click on it to open the pie menu, and click on Drive. If you can't be bothered to read the Kart notecard, keep in mind that movement is activated by the arrow and WASD keys.
- **Media Player.** This item contains the media player and its script. Drag the Media Player icon from your Library and onto building-permitted ground, then right-click the elegant oblong box that appears to view its contents. They consist of the media player proper—a nifty flat screen—and the script. There is *no* notecard with operating instructions; click on the script to find operating info inside, inserted as comments to the script code.
- **Poppun.** For many players, this is the best freebie Library item of them all. Drag the Poppun icon onto your avatar, and the gun will appear in your right hand.



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ADDITIONAL INFO:

FIRING A POPGUN

To fire your new gun, follow the onscreen instructions: first, switch to Mouselook and zoom into first-person view. Moving the mouse aims the gun, left-clicking fires sickly green orbs at your target. They're powerful enough to knock someone back, and a series of hits can move the targeted avatar a fair distance. There is no injury involved.

- 
Basic Chair. This is a very useful item for more than obvious reasons. The chair comes with a Sit Down script attached, and this script can be copied as-is to furniture you make yourself.
- 
Beach Ball. Big, colorful, and bouncy, the beach ball comes with a piece of script that features extensive comments: it's almost like a little script-writing tutorial. As usual, access the contents by dragging the object icon onto the ground, right-clicking on it, and choosing Open from the pop-up pie menu.
- 
Celtic Sword. What do you know: Library offerings even include a wicked-looking hand-to-hand-combat weapon. However, there isn't much sense in walking around with a sword in your hand if you can't hit people with it, and hitting people involves making appropriate gestures and scripting appropriate, complicated effects. You may wait with bated breath for an update that includes all this stuff; you can try to buy appropriate scripts (at the time of writing, a couple can be had for free), or—in a pinch—you can use appropriate Library gestures. For example, playing Pointme from the Common Gestures subfolder while holding the sword results in an animation that looks like a rather elegant, if unhurried, block against an enemy sword thrust.
- 
Dice. Drag the Dice icon to the ground, then switch to Mouselook and click on the dice to roll them.
- 
Firework Launcher. The firework launcher comes with an inexhaustible supply of rockets and operating instructions. The launch animation and sound effects are very well done and deserve to be copied (hint, hint).
- 
Hand Lamp, Party Hat. An old-fashioned hand lamp and a conical party hat round off the list of standalone Objects-folder items. The hand lamp doesn't have to be attached to your hand; it can be put anywhere to function as an ordinary lamp

(and actually looks very appropriate in a cabin home). To put the hand lamp upright, right-click on it, choose Edit from the pie menu, and use the Rotate function.

The standalone objects in the Objects folder are a great help when you begin creating your own items and building things. As mentioned earlier, it's always easiest to begin by modifying existing stuff instead of building from scratch, and the vast majority of the Library items can be modified and copied any way you like (Figure 5.6).

In addition to the items in the Objects folder, the content of the Photo Album folder qualifies as Fun Stuff. However, at the time of writing it contains only a single snapshot depicting a nice sunset.

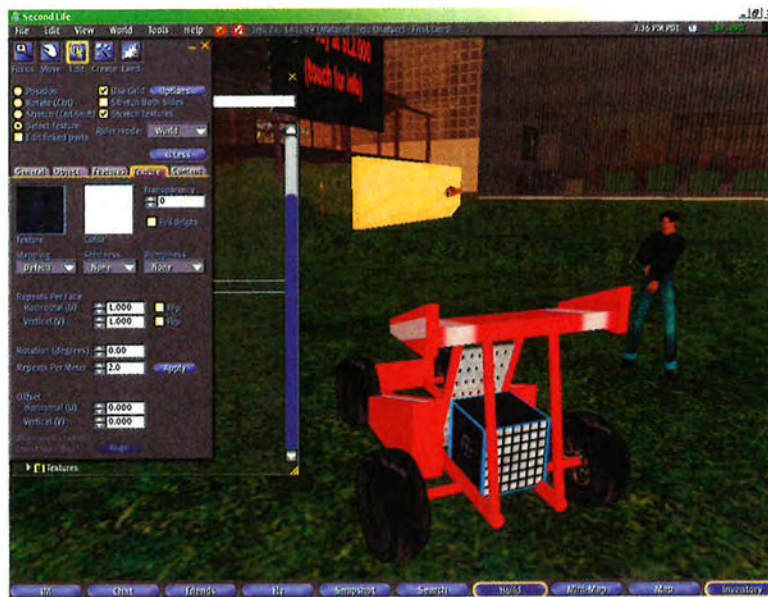


Figure 5.6: Modifying Library objects is a great way to learn building and scripting.

THE BUILDING AND SCRIPTING STUFF

The last three Library folders are especially important to everyone who wants to get creative in *Second Life*. After you've explored a little, you're bound to try your hand at bringing new items into existence by modifying existing items, and building new ones from scratch. This involves making things look and sound the way you want them to, and eventually adding scripted animations.

The Library offers you plenty to work with:

- Scripts.** This folder contains three useful scripts. As you might guess, Anim Smooth smooths out animations; HoverText Clock turns an object into a clock



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by making it display Pacific standard time; Rotation Script is extremely versatile and can be included in a wide variety of objects. For example, right-click on the hand lamp that you've just rotated upright with the Edit panel's Rotate function; then click on the New Script button and paste the Rotation Script contents inside the New Script file (delete any existing content; the New Script file always contains the code for creating a New Script file). Save, exit, and watch the hand lamp turn round and round. There—you've just scripted an object to behave in a certain way.

🔹 **Sounds.** This folder contains a subfolder titled Gestures. Its contents include male and female sounds, and sound bites designed to go with specific avatar gestures, but of course they have more uses than that. If you've ever wanted a dog that speaks with a human voice, for example, use some of the sound bites from the Gestures folder. Simply upload custom-made sound bites, and who knows—maybe you'll be the first SL citizen to breed talking police dogs? "Hands up!" he barked, and all that.

🔹 **Textures.** The final folder in the Library is also its biggest: it contains an awesome number of textures, plus Avatar Body and Clothing templates. You'll use these templates and selected textures in Hair and Fabric folders frequently while editing your avatar's appearance. Take the time to review all the other choices, because there are quite a few, and new ones are added often. Naturally, many textures can be used for purposes other than the ones intended, with great success. For example, Atoll Wood Plank can be used whenever you want a nice wood plank texture, Sand or Mulch look good on carpets and rugs, and Asphalt (from the Building subfolder) may be used to imitate thick-grain leather texture. There are so many choices, and so many different tastes, that the best way to find what works for you is to experiment, and attend one of the tutorials mentioned in Chapter 3.

NOTE



ADDITIONAL INFO:

DOWNLOADING FREE TEXTURES

Don't forget to download the free textures available at <http://secondlife.com/community/textures.php>. They're of high quality and useful even if you aren't into building and texturing as such (Figure 5.7).

As you can see, the Library folders are a veritable treasure trove. Whether you're trying to get your SL existence off to a quick start or looking for ways and means of improving your building and scripting skills, the Library's invaluable. It provides a huge

selection of ready-to-use items, as well as countless examples to emulate while learning to create exciting new stuff in *Second Life*. However, as you live your new life, the Library's importance and size will be eclipsed by your Inventory's.

The next chapter discusses the Inventory and its role in your virtual life. It also explains how it differs from the Library and provides advice on Inventory management.

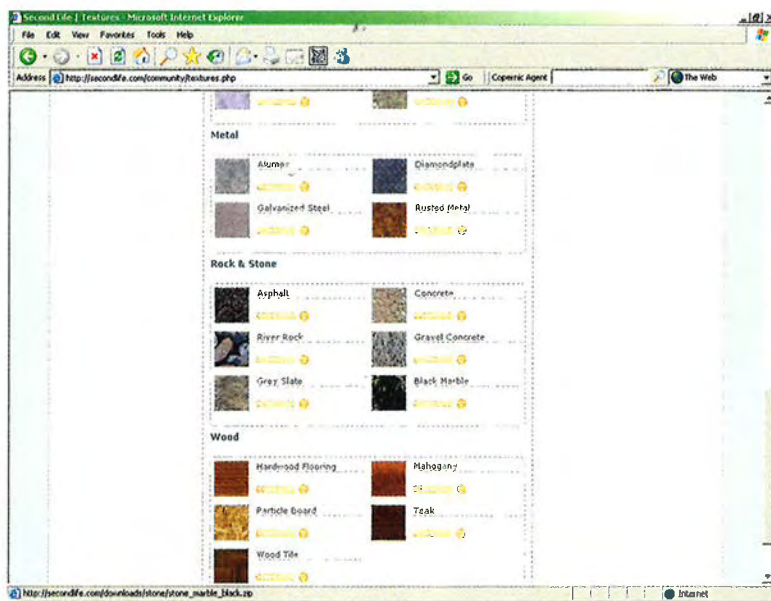


Figure 5.7: Black marble, too! Just what I wanted for my, erm, bedroom.



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CHAPTER 6

MANAGING YOUR INVENTORY

The Inventory is very many things. It is your own, unique collection of *Second Life* items ranging from complete houses and spaceships to socks and bubble gum. It is also a pet that grows into a monster. If anyone ever wanted clear proof that humans are insanely acquisitive by nature, the *SL* Inventory is that proof. A long time ago, when *Second Life* was in its infancy, there was a cap on the number of items you could have in your Inventory: 255. Now that there's no limit, most *SL* denizens quickly accumulate many thousands of objects. It's easy to let your Inventory get out of control, and once it does, more and more of your new life will be spent looking for stuff instead of enjoying yourself. Sound familiar?

If you're new to *Second Life* and are frowning with disbelief, consider this: *SL* is a world in which you carry everything you own—house, car, 50 wardrobes of clothing, and so on—on your person. And if you're also running a business, and/or constantly creating new unique items... let's just say keeping track of all the items in your Inventory isn't easy. It's in your best interest to have as little as possible (for most *SL* denizens, "as little as possible" means fewer than 5,000 items).

In this chapter, I'll take a close look at the *SL* Inventory and discuss how to manage it effectively. You'll find out how to organize Inventory folders, and keep them under control even though they're multiplying like rabbits. You'll also learn how to store stuff in locations other than your Inventory. In short, this chapter is an Inventory master plan that should make your new existence more carefree and enjoyable.





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THE INVENTORY VS .THE LIBRARY

When you begin *Second Life*, your Inventory seems to be an underdeveloped offspring of the Library. The few folders in the Inventory correspond to Library folders with the same names, but they are mostly empty, or at best have just part of their Library equivalents' content. There is no warning of your Inventory's imminent mutation into something resembling a garage sale thrown by a freshly bankrupted and slightly deranged millionaire. This moment of peace is ideal for taking a look at the important differences between the Inventory and the Library.

The Library, as you might guess, is public: it's shared by everyone. Your Inventory is your own, and no one else's. Of course, initially your Inventory is identical to everyone else's, but it quickly becomes as unique as the choices you make in *Second Life*.

You cannot delete or modify the contents of your Library, but you can do as you please with the Inventory (there are exceptions, discussed later in this chapter). Note that when you use a Library item, it is automatically copied into the appropriate folder in your Inventory. These copies are prime candidates for the trash can during your periodical Inventory cleanouts. Your number-one Inventory-management rule is to never keep two copies of an item in the same Inventory. Stick to this rule from the start, and you'll save yourself lots of time. Otherwise you might spend most of your new existence looking for stuff hidden among thousands of other items!



PARTING WITH YOUR CREATIONS

Don't get overly sentimental about your own creations. Don't keep everything you've made just because you made it. The very next object you make will be exclusively yours too, and most likely better than what you created earlier. If you want a private museum of your work, store it outside your Inventory.

Of course, no matter how hard you try, you'll always have a ton of stuff in your Inventory. As you know from Chapter 3, your Inventory will start to grow almost

as soon as you arrive on Orientation Island—that's even before you get to Help Island and begin filling your Inventory with all the cool freebie items available there. If you don't monitor your Inventory from the very start, you'll be overwhelmed before you know it. An important Inventory-management rule is to organize Inventory contents right at the start of your new existence (Figure 6.1).

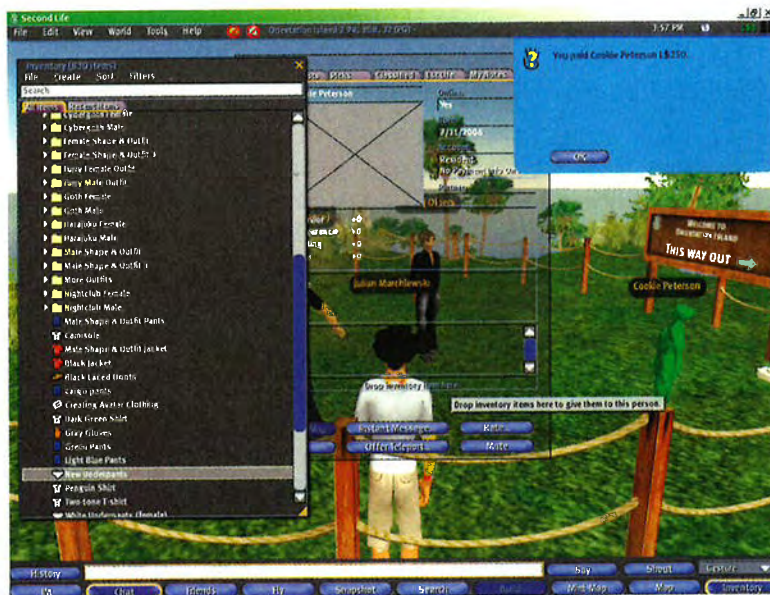


Figure 6.1: To trash or to stash? That's the big question you'll be asking yourself again and again in Second Life.

CHAPTER 6



ORGANIZING YOUR INVENTORY

One of the first things you should put into your Inventory is some order. Trash unwanted items and reorganize your Inventory before you depart Help Island for the SL mainland. It's best to get a handle on things right away!

NOTE



ADDITIONAL INFO:

KEEPING YOUR INVENTORY UNDER CONTROL

When you open your Inventory, a line at the very top will tell you how many items it contains. If you do not work on keeping the Inventory under control with beady-eyed zeal, the number displayed will reach four figures before you leave Help Island and will grow to five figures soon after you arrive on the mainland.



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FOLDER RULES

First of all, take a good look at your existing Inventory folders. You'll notice some of them feature little icons. Any Inventory folders marked with icons cannot be moved, deleted, or even renamed; they're part of the Inventory setup. So, to begin with, move all your unmarked folders inside the icon-marked folders. Naturally, use logic: put clothing items into the Clothing folder, textures into the Textures folder, animations into Animations, hair into Body Parts, and so on.

NOTE



ADDITIONAL INFO:

FOLDER-MANAGEMENT OPTIONS

Double-click to open and close folders. Right-click on a folder to open a menu that shows a list of folder-management options. If the menu that appears is blank, the selected folder is part of the Inventory setup and cannot be manipulated in any way.

Once you've done that, open each folder in turn, and organize its contents. For example, you might want to create a Hair subfolder within the Body Parts folder for all the different hair types and styles you'll have by the time you leave Help Island.

Clothing also merits special attention, as always. It's a good idea to group clothing items into outfits, creating a subfolder for each complete outfit. Any remaining clothing

items can be organized the way you organize things in real life, except that you'll be

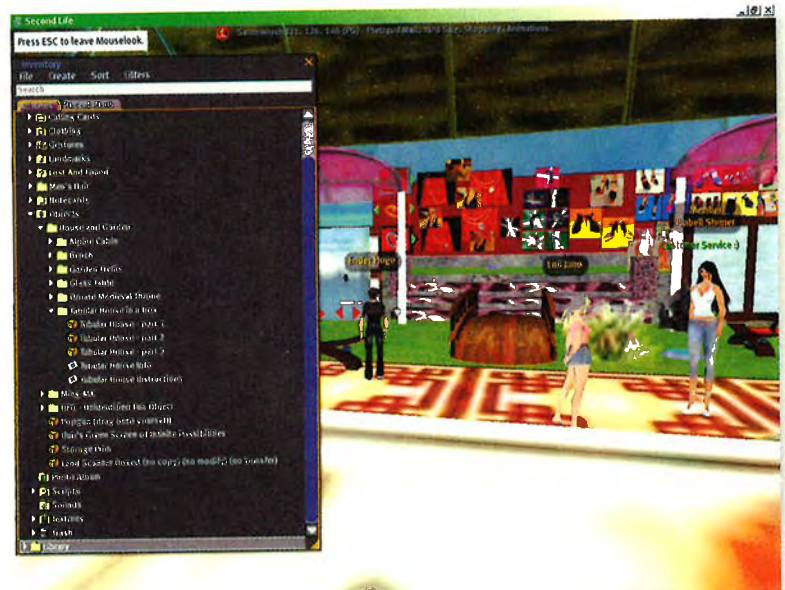


Figure 6.2: Keep the number of folders in your Inventory as low as possible, but not at the expense of your comfort.

using folders instead of closets and drawers for your shirts, pants, socks, etc. While you're at it, ask yourself whether you'll really, really wear a particular item. If you proceed on the "what I own can't hurt me" principle, you'll quickly find out that indeed it can. Don't forget to check out the Inventory-management advice from longtime *SL* residents in the sidebar.

The bonus of keeping a lean, well-organized Inventory (Figure 6.2) is extra time. You won't have to wait long for your Inventory to load, and you'll find stuff much faster. You'll be doing a bit of good for the *SL* community, too: huge Inventories cause slowdowns for everyone in the *SL* world.

SIDEBAR



RESIDENTS SPEAK:

MANAGING INVENTORY CONTENTS

"Subfolders are your friend. Making your own folders to keep 'important' stuff and your 'single copy' objects really helps keep things organized."

—DolphPun Somme

"I think of it the same way I think of organizing my hard drive. General folder, more specific subfolder, specific subfolders...i.e., clothing, casual, shoes. Or building materials, textures, exterior textures, brick. I spend around 30 minutes of every session cleaning up, naming, and moving around Inventory items."

"Something I just discovered last night in terms of clothing: activate the debug menu (ctrl-alt-D) and then go to the bottom of it and select Clothing. A list of everything you have that's defined by the system as clothing appears and can be put on/removed via the list. It's a good way to find the undershirt under the shirt under the jacket that you think you might have on."

—Rakkasa Lewellen

CREATING AND USING STORAGE PRIMS

You can also realize your dream of a lean, mean Inventory by putting Inventory items inside prims. This has its advantages and disadvantages. You can remove the storage



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prim from your Inventory and store it elsewhere; on the other hand, you cannot store folders inside a prim. If you attempt to move a folder into a prim, you'll move the folder's contents but not the folder itself. Upon opening the storage prim, you'll see all of the folder's items in exactly the same order as they were in the folder.

Another snag is that you won't see what's inside the storage prim until you open it. Give your storage prims names that will help you remember their contents. For example, if you're going to store an outfit consisting of a number of items, you might want to name the prim after the outfit—that's the way most *SL* old-timers handle things.

Here's the procedure for creating and using a storage prim:

1. Make sure you're on land that allows building: the top menu bar will show the No Build icon if it's not allowed.
2. Create a prim—any prim. Size and shape don't matter; you're free to make it anything you like. My personal favorites are mysterious black cubes, and steel-plate cylinders. They simply look cool.
3. Name the prim right away (under the General tab in the Edit menu). As mentioned earlier, give it a name that's illustrative of its contents.
4. Open your Inventory, and right-click on the item or items you want to put inside the prim to check their properties. As a rule, don't mix items that can be copied with items that cannot. Create a separate storage prim (or folder, if you don't want to mess with prims) for noncopyable items. The prim containing no-copy items will be particularly valuable, so keep it in your avatar's Inventory (Figure 6.3).
5. Click and drag the folder/items from your Inventory and onto the storage prim. You'll see the cursor change to a little white folder marked with a plus sign; release the mouse button to drop the transferred item into the prim. Occasionally, you may run into trouble when transferring entire folders: you'll see the universal red circle with a slash through it to indicate your action is forbidden. Try opening the affected folder and transferring the items within one by one; that's how they'll be stored inside the prim, anyway.
6. Right-click on the prim to bring up the pie menu. You should see an active Open option. Click on it to view prim contents, and note the buttons at the bottom of the Contents menu that let you instantly copy all stored items into your Inventory (assuming they're replicable). You may also view the prim's contents by choosing Edit from the pie menu and selecting the Contents tab.

7. Decide whether you want to keep the storage prim's contents private: select the appropriate check boxes in the Edit menu (General tab).

As you can see, storing items in prims is a simple process, and very popular among SL citizens. However, there are also more-elegant solutions, such as special security boxes. If your building and scripting abilities don't allow for making one of those, you can purchase them at stores such as the THiNC store mentioned in the "Storing Inventory Contents" sidebar later in this chapter. They're not expensive—to give you an idea of what you get for what money, here is a selection of THiNC offerings and their prices at the time of writing:

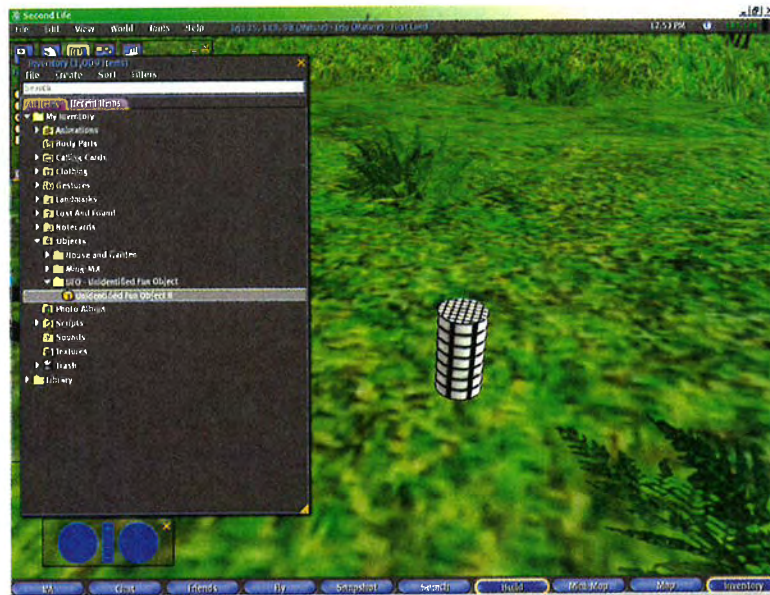


Figure 6.3: Twenty pairs of pants, ten pairs of shoes, a dozen shirts—all packed uncreased into a tiny metal cylinder! Only in Second Life.

- **Inventory Box Organizer—L\$215 (copyable).** This stores all types of items, from clothes to landmarks, with the exception of scripts. It allows you to browse through contents and quickly locate the items you want. The name you give to the organizer is displayed on the box, which lets you store numerous boxes inside one main organizer without identification problems. This organizer has full privacy and security features; only the owner can access functions. Sleep Mode changes the organizer's appearance: buttons and text disappear, and it looks like a standard trunk.
- **Multi-Texture Organizer—L\$650 (copyable).** This organizer lets you store, browse, and manage stored textures through a nine-panel display. All functions are owner-accessed only. Privacy and security features include Sleep Mode. A cheaper model, the Single Texture Organizer for L\$115 (copyable), provides the same functions but features a single-panel display for browsing and texture management.



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 **THiNC Book 2.0—L\$75 (single version).** This versatile book can be used as a photo album, a novel, or a catalog. It comes with a full set of animations and sound effects (book opening, book closing, pages being turned). Transferable and fully modifiable by the owner.

 **THiNC Printing Press—L\$895 (single version).** This lets you produce unlimited, exact copies of the THiNC Book 2.0 for unlimited distribution. Each published book has copy and transfer rights modifiable by the owner (publisher).

The THiNC store is one of many that specialize in offering great Inventory-management aids. There is a wide variety on offer, and who wants to keep SL snapshots in a boring folder named Photo Album when they can be stored and viewed on a copyable TV set? Consider spending a few hundred Linden bucks on Inventory-management tools; you'll likely find they're your best investment.

SIDEBAR



RESIDENTS SPEAK:

INVENTORY MANAGEMENT

"Use the search box at the top of the Inventory panel to quickly locate Inventory items by associated keywords. For example, typing 'WORN' into the search box returns a list of all the items your avatar is currently wearing, along with their Inventory locations. The keyword you enter into the search box acts as a filter regardless of whether it's an item name or property. For instance, if you enter 'NO MODIFY' you'll see a list of all Inventory items that cannot be modified, while entering 'HAIR' will display a list of all the hair in your Inventory."

"To run a check on Inventory items acquired [since] your last online session, select the Recent Items tab on the Inventory panel. Note also that you can sort all Inventory folders and items by name or by date of acquisition."

"When you want to rearrange your Inventory, select New Window from the File menu to open a mirror Inventory panel—it's easier to keep track of what you're doing when you have two identical Inventory panels side by side. Drag the Inventory items and folders you want to move to their new locations in the mirror Inventory panel."

"Also, there are online resources you can use to improve your Inventory-management skills. Visit <http://secondlife.com/knowledgebase/article.php?id=074> for tips on Inventory filters, and read Willow



← **'Queen of Inventories' Zander's tutorial at** <http://64.233.167.104/search?q=cache:CJ6dK8Vv5AEJ:pixelpinuponline.com/features/inventory-a-mess-never-fear-willow-is-here+willow+zander+inventory&hl=en&ct=clnk&cd=1>. *It's widely recognized as the Inventory-management bible among SL residents."*

—Torley Linden

NOTE



FROM LINDEN LAB:

TRANSFERRING FOLDERS TO AN OBJECT'S INVENTORY

When a folder is dropped into the inventory of an object, all of the folder's items are transferred individually to the object. Note that scripts transferred using this process are deactivated (each script must be dragged separately, or selected using Shift and/or Control-clicking and dragged as a mass selection). A UUID number is automatically attached to items without unique names (the UUID, or Universal Unique Identifier, is the 128-bit unique number assigned to every asset in Second Life).

CHAPTER 6



MANAGING MULTIPLE INVENTORIES

Real life abounds in paradoxes, and so does *Second Life*. You've just learned that you should strive to keep your Inventory as small as possible; now you'll find out why you should have *two* Inventories: sadly, no technology is perfect, and occasionally Inventories become corrupted. To put it bluntly, you can lose everything you own in *Second Life* because of a few rogue electrons somewhere, just like you can lose everything you own in real life because the weather and/or earthquake gods have a hangover.

After making sure your Inventory contains absolutely no trash (remember to empty that trash can regularly!), copy it. You can copy everything except for nonreplicable items into a single prim and store it on your property, rented or owned.



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ADDITIONAL INFO:

THE 16-SQUARE-METER PLOT

There are always plenty of tiny 16-square-meter plots available for sale or rental; they let you store up to three prims (Figure 6.4). How much stuff you store within those prims is, of course, your private business.

If you have a free account that does not allow you to own land, try renting. You should be able to negotiate rental of a prim storage lot for less than L\$250 a week, and probably less than L\$100. There's also another solution—not very elegant, but effective. This is to create an alternate avatar, and back up your Inventory by copying it to the alternate avatar's.



Figure 6.4: A 16-square-meter plot is perfect for storing prims.

CREATING AN ALTER EGO FOR INVENTORY BACKUP

To begin with, you must create a new character. The obvious route is to open a new free account and create a mule without land-owning privileges. However, remember it may actually be worth your while to create a second Premium account. As explained in Chapter 2, this gives you two shots at buying First Land at the rock-bottom price of one Linden dollar per square meter. You can buy two First Land parcels side by side and join them to create a bigger parcel, or you can sell one parcel and keep the other—as noted in Chapter 2, practically all First Land can be sold immediately at a healthy profit.

Having created an alter ego, move it to the mainland and transfer all the replicable items you really, really don't want to lose to the alternate avatar's Inventory. Of course, you can do it via a storage prim—just make sure your alternate avatar has the rights to open the prim and to copy its contents into its own Inventory! However, you can also effect a direct Inventory-to-Inventory folder and item transfer using the Search function:

1. Click the Search button on the main game menu, and select the People tab.
2. Type in your alternate character's name, and make sure the Online box is *not* checked.
3. Click the Search button next to the name you typed in. This opens your alternate character's Profile panel on its default 2nd Life tab. You'll see a Give Item slot near the bottom of the panel.
4. Drag and drop Inventory folders and/or items into the slot, one by one. A blue info panel will tell you about your alter ego's offline status and state that the items will be saved for delivery.

5. When you log on as your alter ego, you'll see a blue info panel asking whether you want to accept the items; and after you accept them, you'll find them in your Inventory (Figure 6.5). Note that, at the time of writing, transferring an Inventory item via the Profile panel to someone who is *online* isn't confirmed until the recipient accepts delivery.



Figure 6.5: If another SL denizen gives you something while you're offline, you'll get a message as soon as you return to Second Life.



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STORING INVENTORY CONTENTS

"It is possible to put items in prim boxes to reduce Inventory clutter, and reduce the complexity of your Inventory."

"Once you have made one of these storage collections, you can store one copy of the box in-world, or you can give a copy to a friend (or an alt) to keep in their inventory in case yours gets corrupted. I highly advise doing that, as inventories are just collections of data records in the asset server database, and Linden Lab is not responsible for restoring lost content!"

"The downside is, you can't search Inventory to find any of those items unless you look inside the contents of each box and see what's there! Ever open a box that's been stored for years? Ever been surprised that you even owned half the stuff in there? You can repeat this as much as needed. Have a prim called ZZZ—The Attic and store all the other boxes in that."

"Warning: If you want to store no-copy stuff this way, such as purchased clothes that you don't wear very often, make sure the storage box has been named before you put the first no-copy item into the box! I advise keeping the no-copy stored items separate from the copy-permitted ones, because while there is a no-copy item in a storage box, the entire box's contents can't be duplicated."

—Ceera Murakami

"I will tell you my secret to my perfect Inventory system. First of all, every matching outfit gets its own prim box, and is labeled according to what that outfit is. Then I put the prim boxes into the copyable, no-transfer organizer boxes from THiNC. Why are the THiNC boxes so wonderful? They have arrows on them that let you browse through the contents, and quickly retrieve what you want."

"My 4,500+ textures are organized by type. The THiNC copyable, no-transfer machines let me pull out a fresh one for, say, castle-type textures and store all my castle textures in there. All my tile textures go into another one, and so on."

"My entire Inventory is organized this way, and it is mainly because of the Library that my Inventory is at 2,000—yes, you read it right; my Inventory



← is at 2k and I grumble over it constantly. I try to keep it as low as possible so I do not get any Inventory lag."

—Tyci Kenzo

CHAPTER 6



THE FIVE GOLDEN RULES OF INVENTORY MANAGEMENT

In summary, getting a firm grip on your Inventory right from the start is a major—some might say *the* major—factor in enjoying your new life to the max. It frees you from the drudgery afflicting real life, in which the tyranny of material things makes people go postal. To maximize your chances of freedom and eternal happiness in *Second Life*, here are the five main Inventory-management points:

1. Organize Inventory contents before you leave Help Island for the mainland, and don't keep two copies of the same, replicable item in your Inventory. As discussed earlier on in this chapter, this includes all the items in your Library folder.
2. The subfolders are your friends. Don't keep miscellaneous items rattling around in the main Inventory folders.
3. Don't carry stuff you aren't likely to use in the near future. Trash everything you probably won't use, and store seldom-used items inside storage prims. Store the storage prims outside your Inventory, except for the single prim containing nonreplicable items.
4. Make a backup copy of your Inventory. Put it in a storage prim outside your Inventory, or copy folders and items into an alternate character's inventory.
5. Make a point of emptying the trash can at the conclusion of every *SL* session. The items in the trash can take up as much space as they did in their original folders. There always should be some trash to delete at the conclusion of a session; if there isn't, you're either an Inventory-management genius, or rather hopeless.

Accumulating enough of your own stuff to fill a large museum is easier than you may think. A large part of *SL* activity revolves around creating new in-world objects—not surprising, considering that the *SL* world as such has been mostly built by *SL* denizens. Accordingly, the next chapter discusses building new things.



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CHAPTER 7

BUILDING

Unlike in other virtual environments, nearly everything you see within *Second Life* is actually created within *Second Life* itself—not by the company that runs the world, but by its users. You don't need a lot of special software or training to build things in *SL*; you only need a *Second Life* account. Building is fun and easy, like playing with Lego bricks. In this chapter, we'll discuss how these simple building blocks can be used to construct everything from houses to vehicles.





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THE BASICS

The following sections will introduce you to the basic terminology behind building in *Second Life*.

PRIMS

In *Second Life*'s 3D graphics, a primitive, or "prim," is a basic three-dimensional geometric object. The term "prim" refers to a single unit of the "matter" that makes up all *Second Life* objects. Prims are the irreducible building blocks of *Second Life*—the unsplittable atoms that make up the things of the world.

In *Second Life*, a prim is one of several 3D shapes: a box, a cylinder, a prism, a sphere, a torus, a tube, or a ring. In addition to these, there are two specialty object types that are not made up of primitives: grass and trees. These last two are obviously not basic shapes, but they're built into *Second Life*, and therefore are treated like ordinary prims.

OBJECTS

Objects are linked groups of individual prims. Objects can contain anywhere from 1 to 255 prims. Yes, this means a single prim is an object in its own right.

PARAMETRIC MODELING

Unlike most 3D software, *SL*'s building tools use parametric models. Parametric modeling reduces the amount of data traveling between your computer and the *Second Life* server because it describes objects using a few simple parameters rather than explicitly describing every part of every object like other modeling techniques do.

Prims in *SL* exist as a two-dimensional shape extruded along a path. What does this mean? Consider a square; it's a two-dimensional shape, existing on a

plane. Imagine if you could stretch this shape upward into the third dimension, forming first a squat box, then a cube, then a taller column. That's what parametric modeling does.

MODELS

In the world of 3D graphics, a model is a 3D representation of an object, whether or not it represents something that exists in the real world. Models are constructed out of many two-dimensional polygons grouped together.

Prims in *Second Life* are models, though they're not very complex. However, their simplicity is what allows them to be so flexible for builders.

The grass and tree prim types are examples of more-complex 3D models. As mentioned earlier, they're not primitives in the classical 3D-graphics sense but are treated like other prims within *Second Life*. Another example is the avatar model, though you can't use it like you can a prim. These more-complex models have been added to fill out the sorts of builds that *Second Life* residents enjoy. Without them, the world would be a far blockier and less organic place.

MESHES

The term "mesh" comes from the pattern of triangles that typically comprise a 3D model. For example, the avatar object in *SL* is a mesh. (So, for that matter, are *SL* primitives, but within *SL* designers refer to prims simply as *prims*.)

REZZING OBJECTS

To create a prim or object is to "rez" it. This term refers to Disney's 1982 film *Tron*, in which the anthropomorphic inhabitants of a computer are forced to play video games until they "de-rez," or die.



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GETTING STARTED

If you've used other 3D modeling software in the past, adjusting to *Second Life's* system might take a minute or two. It's a little different. There's no mesh-import functionality. Everything within *Second Life* is made up of primitives, and they can't be deformed as freely as they can in professional 3D software like Maya or LightWave. The trade-off, as mentioned earlier, is that these limits allow object data to be streamed from the server very quickly—there simply isn't a lot of data to send.

If you've never used graphics or modeling software before, that's OK. Most residents pick up *Second Life's* building tools fairly quickly. Don't be discouraged if you don't get the hang of it right off, though. Some new builders need to try several approaches before they find one that works. If you feel you need more guidance after reading this chapter, try attending a building class.



REZZING YOUR FIRST PRIM

First, right-click on the ground or on another object (but not the sky or an avatar!).

Right-clicking will display a pie menu, from which you can select Create (Figure 7.1). This will open the Build tools window

(you can also open it simply by pressing the B key), which you'll use to create and edit objects. It'll also put you into Create mode. Now all you have to do is choose which prim you want to create, click the position at which you'd like to create it, and voilà—you now have a prim (Figure 7.2).



Figure 7.1: The pie menu when you're clicking on an object



Figure 7.2: The Build window's Create tab



EDITING YOUR PRIM

You can edit a prim right after creating it. Upon its creation, you'll automatically switch into Edit mode. If you deselect your prim after creating it, just click it again while in Edit mode, and you'll be editing it again. If your Build window has closed altogether, right-click/Control-click your object and select Edit; you'll be back editing it once more.

OBJECT HANDLES

The most basic and flexible way to manipulate your prims and objects is through the use of their object handles. These are just what they sound like: things you can grab to manipulate your objects. When editing your object, you'll notice several red, green, and blue cones and triangles attached to it. These are your object handles, color-coded according to the following axes and real-world directions:

- 🟡 **X:** east/west (red)
- 🟡 **Y:** north/south (green)
- 🟡 **Z:** up/down (blue)

When you hover your cursor over an object handle, the object handle will brighten. This tells you that you can select it. You can click and drag it around. Depending on which object handle it is, it will do different things.

MOVE HANDLES

In normal Edit mode, you'll see the Move handles. The three intersecting lines allow you to drag the object along a given axis. This axis can be relative to the rest of the world or to the object itself. The triangular planes allow you to move an object on two axes at once, treating the object as if its axes were three two-dimensional planes.



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ROTATE HANDLES

Holding down the Control key allows you to enter Rotate mode, which replaces the object handles with a sphere inside three circles. Clicking and dragging the sphere allows you to manipulate the object's rotation in all three dimensions at once, while clicking and dragging one of the circles rotates the object on that axis alone.

STRETCH HANDLES

Holding down Control and Shift puts you into Stretch mode. This places a white object handle on the eight corners of your object, as well as a colored one on each of the six sides. (Remember—even if your object isn't a cube, the editing tools still treat it like a box.) By clicking and dragging the side handles, you'll stretch the entire object along the associated axis, making it wider or narrower, taller or shorter. By clicking and dragging the corner handles, you'll stretch the entire object proportionately.

If the Stretch Both Sides check box in the Build window's Edit mode is checked, your object will remain in one location; dragging a handle will just scale the object as if it were pulled from both the handle you're clicking on and the one on the opposite side or corner.

In the case of linked objects, you won't be able to stretch the object along one axis, but you will be able to scale it and to stretch individual prims in the object.

BUILD WINDOW

Now that you're editing your prim, you'll want to extend the Build window by clicking the More button to access the other editing options. These are the heart of the building tools.

GENERAL TAB

The General tab (Figure 7.3) contains the following options:

Name: It's a good idea to name your unique objects according to what they are. That way, you can easily identify them in your inventory. "Front Door" and "Roof" are acceptable names, but you can be more descriptive: "My Brick House - Red

Door" will let you know both what the object is and what project you used it in. Either way, an inventory full of things named "Object" is not fun to search through!

Description: You can store extra information about your objects in this field. You can't search your inventory for objects' descriptions, but the Description field lets you know more-specific information about an object.

Creator: This is the account that created the prim. No matter how much you modify the prim, it will still have the original creator's name in this field. In a linked object, only the root prim's creator will show up as the creator.

Owner: Who currently owns this object? Remember, an object's current owner is frequently different than its creator.

Group: This doesn't have to do with linked objects, but rather with the resident group to which an object is set. By default, the group is the one the object's owner belonged to when the object was rezzed. To change the group, click the Set button and pick one of your groups. This is a useful way to filter objects on your land. If only members of a certain group can keep prims there, you won't need to worry about other people leaving their prims on your land.

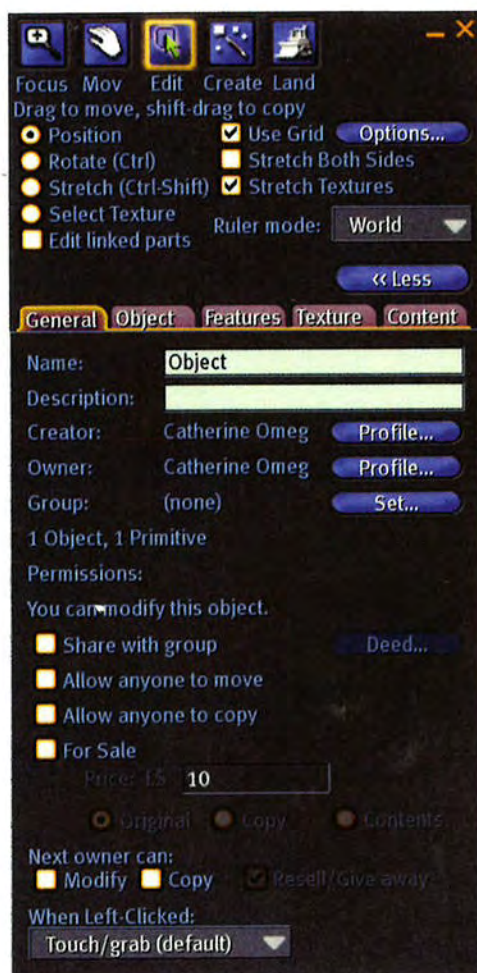


Figure 7.3. The Build window's General tab

OBJECT TAB

The left side of the Object tab is always the same. The right half of the tab changes, depending on the type of prim being edited. Different primitives use different parameters.



Locked: You can lock your objects in place within the region, stopping anyone who has modify permissions from repositioning or editing them. The Select Only Movable Objects option under the Tools menu allows you to select a group of prims without selecting locked objects. This can be useful for ensuring you don't link the wrong prims together.

Physical: This toggles how your object will interact with *Second Life's* physics engine. Making an object physical will allow it to be kicked (like a ball), dropped off buildings, and so on. Physical objects have their uses, but you won't need to use them much (which is good, since they add to lag). They can be fun to play with, though!

Temporary: Setting this and then re-rezzing the object will cause that object to disappear after about 60 seconds. This isn't very useful for building, but it's a good feature for scripters.

Phantom: This setting allows you to designate whether physical objects or avatars will penetrate the prim. A phantom object can be walked through or driven through or have a ball tossed through it. When you link phantom prims together, the resulting linked object will take on the property of the root prim. If the root prim is phantom, the whole object will be phantom as well.

Position: Objects within a region can be positioned anywhere from 0 to 255m on the X and Y axes, and up to 512m on the Z axis.

Size: Prims in *Second Life* can be as large as 10m and small as 0.01m (1cm) on any axis. Though many builders find it restrictive, the 10m limit ensures prims can't stick through into other regions.

Rotation: Objects can be rotated between 0 and 360 degrees on any of their three axes. Prims can be rotated along multiple axes and will retain their rotation when re-rezzed from your inventory.

Material: The Material setting allows you to swap between the preset collision particles and sounds you hear when your avatar hits an object. You can choose between several settings—Stone, Metal, Glass, Wood, Flesh, Plastic, and Rubber—each with its own collision properties.

FEATURES TAB

The Features tab (Figure 7.4) combines the control for two special editing features: Flexible Path and Lighting. These allow you to achieve some of the most realistic and stunning effects in *Second Life*.

FLEXIBLE PATH

Flexible prims, popularly known as flexiprims, are a purely client-side effect. This means that they don't appear to be flexible from the server's perspective, because they don't interact with anything on the server. Of course, everyone viewing flexiprims will see them as flexible, though not necessarily flexing in the exact same position (Figure 7.5).

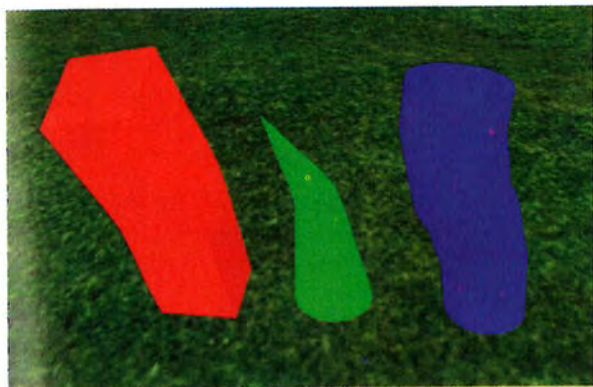


Figure 7.5: Flexible prims

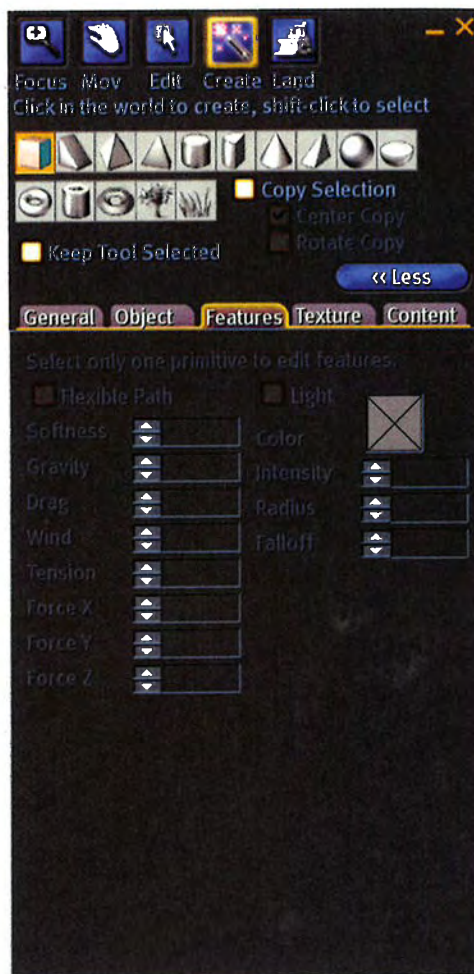


Figure 7.4: The Features tab

Because they describe a kind of behavior rather than just a shape or a color, the effects of the flexible path settings are not easily documented. Rather, they require a bit of experimentation to get the hang of them. Don't be frustrated if it doesn't make a lot of sense at first.





USING FLEXIPRIMS

"Flexiprims have allowed me to take digital clothing to a whole other level from both a creative standpoint and an experiential standpoint for my customers. They allow hems to float and with their various physical settings, I can simulate both heavier materials and more diaphanous materials like chiffon and silk."

I have used flexiprims for everything from ribbons on cuffs or dress bows to the ruffles on a blouse; they're staples in every skirt and dress I make. I've even made flexi cowls and draped fabric on outfits. I use them wherever the RL counterpart components to an outfit would have loose, hanging, draped, or skirted material."

—Ginny Talamasca

LIGHTING

Second Life supports emissive OpenGL lighting. What does this mean? Simple: you can set a prim as a light source and illuminate other objects around it.

You can have up to eight light sources per scene, and your *Second Life* viewer will draw only the ones closest to your avatar. Use light sources sparingly, as lights will flicker when they come into and out of view. Lighting effects can be controlled with the following options:

-  **Color:** The color of the light emitted by your prim.
-  **Intensity:** Your light's brightness, anywhere from 0.0 to 1.0.
-  **Radius:** The radius of your light source's effects.
-  **Falloff:** How sharply the edge of your light source stops.

TEXTURE TAB

The Texture tab allows you to set the color, texture, and shininess of an object. We'll discuss advanced texturing techniques later in this chapter.

CONTENT TAB

In the previous chapter, you learned about your avatar's inventory. Like avatars, objects have inventories where you can place any inventory items. Putting things in an object's inventory is most useful when you're dealing with scripts, but we'll talk about that more in Chapter 8.

DUPLICATING PRIMS

You can duplicate an object by editing it and using the key command Control-D. If you don't have copy permissions for the object, you won't be able to duplicate it.

DELETING PRIMS

You can delete multiple prims by selecting them all and pressing Delete on your keyboard, but there's no way to undo a deletion. Deleted prims are erased permanently from the server, so be careful when deleting more than one prim at a time.

CHAPTER 7



USING THE CAMERA

Second Life's camera is far more flexible than the cameras you'll find in most 3D software or games. With just a few keys and your mouse, you can reposition it anywhere, zooming in on details or rotating around the scene from a hundred meters away.

The easiest way to use the camera is with the following keyboard commands and the mouse.



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- 👉 **Zoom:** Alt + left-click
- 👉 **Orbit:** Control-Alt + left-click
- 👉 **Pan:** Control-Shift-Alt + left-click

When in Focus mode (accessible from the Tools menu), the camera acts as though the Alt key is already being held down. You can click on objects to zoom, Control-click to orbit, and Control-Shift-click to pan (Figure 7.6).

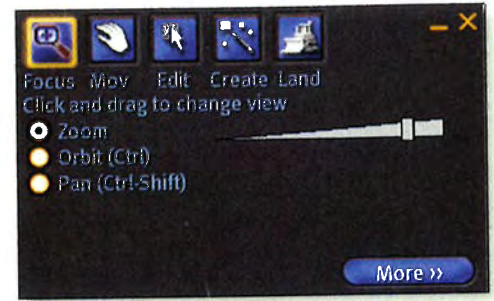


Figure 7.6: The Build window's Focus mode

SIDEBAR



RESIDENTS SPEAK:

LEARNING THE CAMERA

"It's absolutely necessary to learn and understand how to use the camera if you want to build. Once you teach someone how to use the camera to help in their building, you can see that one of the problems limiting them most has just gone away. Their frustration diminishes and their imagination runs wild.

Most seem to be able to handle the camera once they're taught how to handle it, but many skip that lesson on Orientation Island."

—Mera Pixel

CHAPTER 7



LINKING PRIMS

You can link together multiple prims into a single object. This allows you to move and manipulate the combined object easily.

To link a group of prims, simply select all the prims you want to link by clicking on them individually while holding down your keyboard's Shift key, or click on the ground or sky while in Edit mode and drag a box out to encompass all the prims you wish to link (Figure 7.7).

You may have trouble selecting or linking your prims for a few reasons:

- You may be selecting other people's prims as well. Try checking **Select Only My Objects** on the Tools menu, or pan your camera around to get a better angle.
- You may be missing some of your prims if you're selecting them individually with Shift-select rather than selecting them by dragging a selection box around them.
- If you have several prims selected already, you may be forgetting to hold down Shift when you click on the next one.
- You're trying to link prims that are too far apart. Prims cannot be linked together if they're beyond a certain distance (which scales according to the sizes of the prims involved). This means you can link two large prims over a greater distance than two very small ones—the maximum distance is proportionate to the prims' size.

When you've selected all the prims you wish to link, link them by selecting **Link** from the Tools menu or using the keyboard command **Control-L** (Figure 7.8).

See how the highlight changed on your collection of prims? This means that it's now a linked object. The last prim you selected is now highlighted in yellow, indicating that it's become the parent (or root) prim. The prims highlighted in white are called the child prims. They're all now part of the same object. By deselecting

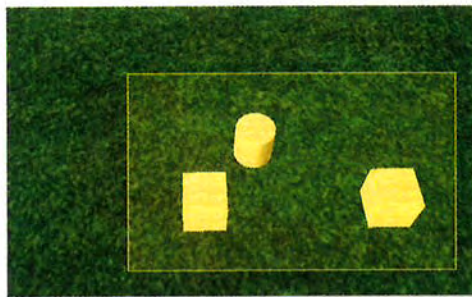


Figure 7.7: Multiple prims selected in a selection box

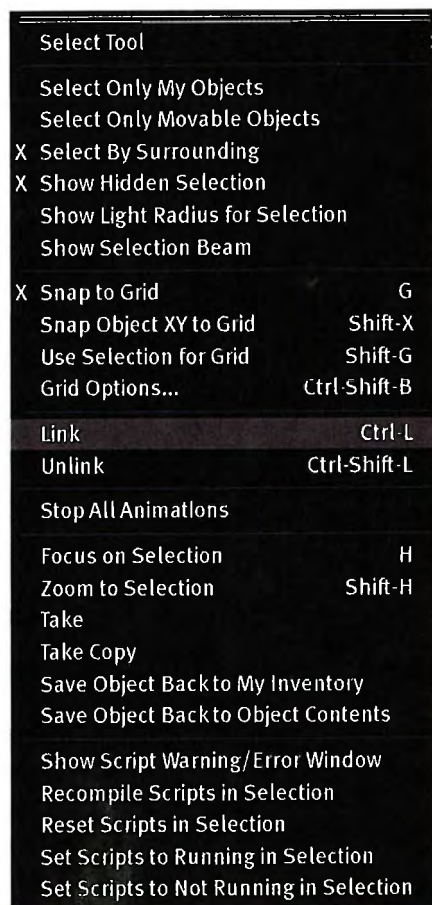


Figure 7.8: The Menu bar with the Tools menu open and Link selected



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the object and then reselecting it, you can see that all the prims are still highlighted in yellow and white. You can move the entire object around just as if it were a single prim (Figure 7.9).

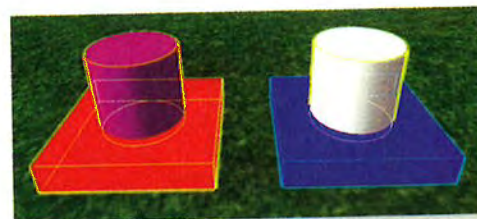


Figure 7.9: Comparison of the selection halo on linked and unlinked prims

UNLINKING LINKED OBJECTS

To unlink a linked object, select it then choose Tools > Unlink, or use Control-Shift-L.

NOTE



ADDITIONAL INFO:

UNLINKING PHYSICAL OBJECTS

Be forewarned! If you attempt to unlink a physical object, its component prims will stay physical when you unlink them. If this happens, the prims may explode in all directions when you deselect them. Make sure you uncheck the Physical check box in the Object tab of the Build window before unlinking.

To easily remove a single prim from a linked object, do the following:

1. Select the object.
2. Unlink it as described earlier, but keep the group of unlinked prims selected.
3. Holding down the Shift key, click the prim you wish to remove from the group; this will deselect it.
4. Relink the selected prims. They will link back together in the same link order as before, minus the prim you just removed from the original linked object. You're now free to move the newly relinked object and the extra prim independently. You can also unlink multiple prims at the same time by clicking more than one prim in step 3.

WORKING WITH LINKED OBJECTS

Positioning and rotating any object works the same, no matter how many prims it contains. However, scaling linked objects is a little different than scaling an ordinary prim. Edit the object and drag its object handles to make it bigger and smaller. You'll be able to scale the entire object proportionately, but you won't be able to stretch it along the X, Y, or Z axis.

NOTE



ADDITIONAL INFO:

SHRINKING A PRIM IN A LINKED OBJECT

You won't be able to shrink a prim in a linked object beyond the minimum dimension allowed on any axis (1cm). This means that a more-complex object may not shrink as small as you'd prefer. Try unlinking that single prim and repositioning and scaling it individually.

Unfortunately, there's no way to scale a linked object without the mouse. You can't just type in the new scale like you can with an individual prim.

When the Stretch Both Sides check box is checked, you can scale the object in place, and it will grow or contract in all three dimensions. Despite what the name implies, you still won't be able to stretch it along the X, Y, or Z axis, though. You can only make linked objects bigger or smaller (Figure 7.10).

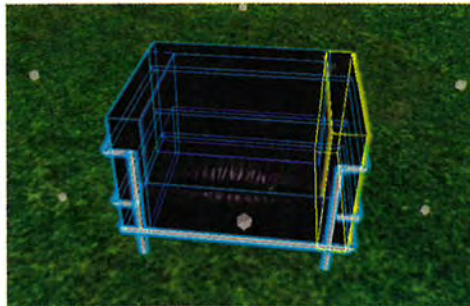


Figure 7.10: Scaling a linked object

ADDING PRIMS TO A LINKED OBJECT

Prims and linked objects can be linked to an existing object just as a group of individual prims can be linked together. Simply select the prims or linked objects and click Tools > Link from your menu bar, or use the key command Control-L.

Remember that the last prim selected will become the root in the new linked object. If the last object you selected was a linked object, its root prim will become the root for the new linked object.



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WORKING WITH INDIVIDUAL PRIMS IN A LINKED OBJECT

Sometimes you'll want to manipulate individual prims within a linked object. To do so, check the Edit Linked Parts check box in the Build window's Edit mode. This will let you edit each prim in a linked object as if it were a separate prim without having to unlink them first (Figure 7.11).

Remember that each prim in your linked object is still a separate prim. It has its own parameters and properties, as well as its own inventory. When editing individual prims in a linked object, remember that your prims are still constrained by the limits of linked objects. You won't be able to scale or reposition a prim beyond the limits at which you would be able to link it normally (Figure 7.12).



Figure 7.11: The Edit Linked Parts check box



Figure 7.12: Scaling a single prim within a linked object



USING THE GRID

The Lindens use the term "grid" to describe all of *Second Life* (or alternately, the Main and Teen grids) because of the grid pattern that the different regions make up on the map. In building terms, the grid is an alignment tool to allow you to more easily position prims within a region. Each region within *Second Life* is a 256m x 256m square. (Obviously, there's a third dimension of hundreds of meters of space above this as well, but *SL* follows a two-dimensional map layout.)

Sometimes you'll find that Snap-to-Grid doesn't work as well as you get farther away from the region's origin point, <0,0,0>. When using Snap-to-Grid high up in the

air or toward the northeastern corner of the region, you'll still see prims lining up, but they won't be aligned precisely anymore. When we're dealing with decimals, (as we are when building) the larger the number, the less precise it is. The reason for this lies in how *Second Life* stores positioning data for prims.

This isn't a big deal in practical terms, but some builders are frustrated by it. If you're really obsessive-compulsive about your grid positioning, try to limit your precision building to locations near the region's origin point, its southwest corner.

SNAPPING TO THE GRID

The Use Grid feature allows you to easily align your objects to points on the grid. This is handy because it allows builders to create and duplicate objects quickly without having to line up prims—they snap into place automatically.

To activate the grid, select the Use Grid check box in the Build window's Edit mode (it should be checked by default). By clicking the Options button next to it, you can open the Grid Options menu (Figure 7.13), in which you can change various properties of the grid:

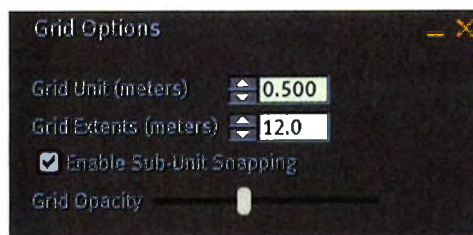


Figure 7.13: The Grid Options window

Grid Unit (meters). Setting the grid unit allows you to snap objects to a smaller grid. When building large structures like houses, many builders opt for a grid line every 0.25 or 0.125 meter. This allows you to drag very large prims into place easily while having the flexibility to line up 0.25m prims precisely. Because measurements in *Second Life* use the metric system, some builders opt for a 0.1m grid. It's up to you to decide what you like best.

Grid Extents (meters). This is how far from the center of the object the grid appears. Changing it from its default setting of 12 meters is rarely necessary.

Enable Sub-Unit Snapping. Check this box to snap to smaller grid divisions when the camera is zoomed in. This feature depends heavily on the camera, and an object's position within the region, and may not divide accurately. For best results, use Sub-Unit Snapping only when you're editing objects close to the region's origin.

Grid Opacity. This slider allows you to set the transparency of the grid displayed when moving, rotating, or scaling a prim or object. Remember—you'll be able to



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see the grid only while you're manipulating an object using its object handles. Most builders prefer a low to medium opacity.

For detail work (especially small objects such as attachments), Use Grid becomes ungainly. When it becomes a hindrance, turn it off.



COLLABORATING WITH OTHER RESIDENTS

One of the best features of *Second Life* is the way it allows you to collaborate with other residents. Together, you can work on bigger and more complex projects, build on each other's strengths, and make things that you might not be able to on your own. However, collaborating with other residents can be difficult, and not just when it comes to playing well with others.

There are four options for collaborative building. This section discusses the advantages and disadvantages of each.

MODIFY RIGHTS

The best way to build collaboratively is to grant another resident modify rights to your objects. Essentially, you're allowing them to edit all your objects. To grant someone modify rights, they must first be on your Friends list. It's not enough to simply have their calling card; they must appear in the Friends window. Open it by selecting Friends on the toolbar (if you have it turned off, turn it on under View > Toolbar) or by the keyboard command Control-Shift-F.

To grant someone else permission to edit your objects, select their name in your Friends list, and select Grant Modify Rights. You'll see a dialog box asking you to confirm this, and after clicking Yes, you'll see the words "granted rights" next to the person's name in your Friends list.

Once you grant someone modify rights, they'll be able to edit anything you own, anywhere in the world. If you don't trust them with everything of yours, consider collaborating with them using an alternate account.

To *revoke* a resident's modify rights, select the person's name in your Friends

list and click Revoke Modify Rights. When removing someone from your Friends list altogether, their modify rights will be revoked automatically.

When granting modify rights, the other person will see the chat message "You have been granted the privilege to modify [your avatar name]'s objects."

After the initial message, though, the only way to see if someone has granted *you* modify rights is to attempt to edit their objects.

GROUP LAND

When building with other people, it can be a good idea to form a group and deed land to that group. By then setting all your objects to the same group, any group member can edit those objects; you can return nongroup objects, or even prohibit other people's objects from existing on your group's land. Setting land to group ownership also allows you to own 10% more on the same land tier.

Group land will let you collaborate with other users on larger builds, but to actually link your objects together you'll need to transfer ownership to one person and have that person link the objects. To do that, you have to play with asset permissions, which we'll explore next.

ASSET PERMISSIONS

Asset permissions are set in the General tab of the Build window. They define how future owners of the object (or copies of that object) may use it. Permissions are relatively straightforward to use. When collaborating with other builders, make sure that permissions are granted on all prims, textures, and inventory items, or your fellow designers won't be able to link them together.

GROUP DEEDING

Deeding an object transfers ownership of that object to a group—which means it may not work properly if it's a scripted object. Many scripts rely upon the object being owned by a single owner. These scripts will fail to varying degrees if they're deeded to a group. It's also an imperfect process. You're generally better off not deeding objects



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to a group itself, but instead granting modify permissions to each group member. This keeps the transfer-of-ownership rate to a minimum and allows you to more easily control your prims' permissions.



ATTACHMENTS

Attachments are what they sound like: objects that can be attached to your avatar. These range from handheld tools, props, or weapons to jewelry and even hair and shoes.

Unlike normal prims, attachments are always phantom, no matter what you do. This means that they'll intersect your avatar, each other, and other objects that are unattached to you. This can pose some problems when making attachments that are likely to intersect, so you'll often need to work around the limits. You'll see more avatars with shorter prim-based hairstyles than with long hair for just this reason—long prim hair frequently intersects the back and tends to look weird.

MAKING ATTACHMENTS

For the most part, you'll be working with very small prims, at least compared to those you'd use to build a house or a castle. Because *Second Life* prevents you from making a prim less than 1cm in any dimension, you'll often need to use the Cut and Dimple tools. Cut allows you to slice a section out of your prim, like cutting a slice of pie. Dimple is limited to the sphere primitive and allows you to create a dimple in the top of the sphere.

Holding the avatar still is very important when working with attachments. Ordinarily, your avatar is moving at least a little, and even small movements can make it difficult to position your attachments correctly.

A good tool for immobilizing your avatar is Rickard Roentgen's R-Type Pedestal, available at Rickard's store in the Midnight City region. It allows you to hold your avatar's arms and legs in a stationary position so that you can construct and edit attachments without having to worry about your avatar's pose shifting.

When working with small objects like earrings or body jewelry, you may find that they become "buried" within your avatar. You can get around this in a couple ways.

The best way is to link your attachment's prims together, then add a larger prim (not overly large; a 0.125m cube should suffice) to the existing linked object as a child prim. By ensuring the larger prim isn't the root of the resulting linked object, you can use the larger prim as a temporary handle and delete it later without having to worry that you're deleting the prim that determines the object's position. This will allow you to attach the object to your avatar and move it around by the "handle" prim. After it's where you want it, detach the attachment, rez it on the ground, unlink the handle from the rest of the attachment, take the now handleless object into your inventory, and wear it again. It will reattach to its original attachment point, and in the correct position.

Another option is to use Debug mode to temporarily turn off avatar rendering on your computer. You'll be able to zoom in on and edit your attachments without your avatar blocking them.

To do this, ensure that the Client and Server menu options are available to the right of the Help menu at the top of your window. If they're not active, turn Debug mode on with Control-Shift-Alt-D. Next, select Client > Rendering > Types > Character. When you've positioned your attachment well outside your avatar's body, you can turn avatar rendering back on so you can see what you're doing.

SIDEBAR



RESIDENTS SPEAK:

ATTACHMENTS' PRIM COUNTS

"Attachments really can be built without regard to prim count. Oh, sure, you'll get the complainers and the Hoochie Hair Haters, but if the customer wears the item, it does not count against the land's prim count. But I will say that you can really cut prim usage with textures!"

—Wynx Whiplash

You may encounter some problems with some attachment points. When attaching an object, it is positioned relative to your avatar's skeleton—yes, your avatar really has a skeleton!—not its skin. This can lead to attachments that appear to be floating through your avatar, rather than embedded within it.



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LANDSCAPING

There's more to building in *Second Life* than simply manipulating prims. Many residents enjoy landscaping their plots. You can create plant prims only on land that you own, or on group land if you're an officer, but the results can be impressive.

Besides the usual primitives, *Second Life* allows you to use several predefined tree models as primitives. Beyond the two dozen or so types, your options for creating plant life are somewhat limited, however.

In *Second Life* parlance, trees are plants that are affected by wind, whereas grass is a complex model of individual tufts that adhere to the ground surface beneath them. A grass prim will always stay at ground level, no matter how high you attempt to position it.

Even though they look like grass, the Beach Grass and Eelgrass models are actually classified as "tree" prims and will sway in the breeze. Don't be confused by their names!

The specific type and dimensions of a grass or tree model is chosen randomly when you create a new one. This is to give the impression of randomness but can result in odd-looking forests, should you choose to keep the assortment you create. The variety of trees available ranges from palm trees to snow-covered pines. Fortunately, all the plant models exist in your Inventory's Library folder, under Library > Objects > Trees, Plants and Grasses.

Creating a tree through the Build tools causes it to be rezzed with its base at ground level. It doesn't matter if you create it up in the air; the tree will still appear down on the ground. To avoid this, try rezzing trees that already exist within your inventory—from your Library folder, for instance.

To give the effect of a more natural scene, you'll want to rotate and scale trees if you use a bunch of identical tree types clustered together. Introducing a little variety is key. It helps to give the illusion of nature.



USING SCRIPTED PLANT REZZERS

By using scripted plant rezzers, you can take a few different trees and other plant objects and automatically cover your land with foliage to your tastes.



TEXTURING

Creating untextured primitives is the bulk of what is considered “building” in *Second Life*, but to produce truly stunning content, you’ll need to rely on textures. Textures are ordinary image files applied to the sides of objects. They can range from simple patterns used as wallpaper in your virtual house to meticulously hand-drawn clothing. In this section, we’ll discuss how to manipulate textures, as well as some ideas for creating your own.

To start, open the Texture tab on your Build window (Figure 7.14).

TEXTURE

Clicking the Texture box opens the Texture Picker window. The Texture Picker is one part texture previewer and one part special Inventory filter. The inventory half of the Texture Picker works just like your normal inventory, but with a filter applied to allow you to see all the textures and screenshots in your inventory, no matter where they are. Just select them from the Texture Picker’s Inventory pane; they’ll appear in the texture-preview pane of the Texture Picker.



Figure 7.14: The Texture tab



If the 160x160-pixel texture previewer is too small, double-click on any texture within the Texture Picker's Inventory panel and open the texture as you would in your normal inventory.

Once you've selected the texture you want, click Select, or if you have the Apply Immediately box checked, just close the window.

Another selection tool is the Eyedropper. When you click on the Eyedropper icon, the mouse pointer changes to allow you to click on any texture face on any object you have edit permissions for; you can then copy the texture to the Texture Picker. This allows you to apply the texture you just grabbed to your selected faces (Figure 7.15).

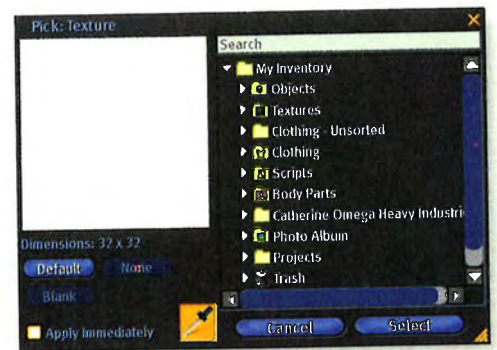


Figure 7.15: The Texture Picker window in Eyedropper mode

NOTE



ADDITIONAL INFO: AN ALTERNATIVE

If you don't want to use the Texture Picker, you can always drag a texture directly from an open Inventory window onto the Texture box of the Texture tab.

COLOR

Clicking the Color box opens the Color Picker. It allows you to select the color you wish to apply to your selected faces.

You'll notice two multicolored areas: the narrow Tint/Shade Picker on the right, and the large square Hue/Saturation/Luminosity Picker to its left. By clicking and dragging your cursor to different positions on these areas, you can quickly select a color. Another option is to manually enter red/green/blue (RGB) values that you've selected from graphics software such as Adobe Photoshop. When working with textures, you may already have some color scheme in mind.

If you're having trouble choosing a color or getting the balance just right, try clicking one of the two dozen or so preset boxes at the bottom of the Color Picker

window. Doing so will automatically load the selected color and give you a good starting point. You can also simply click Select to close the Color Picker, and use the preset as your new color.

If you'd like to save a color you've picked, click and drag the Current Color box to the preset squares in the lower section of the window. The four boxes at the bottom right of the Color Picker are blank, but you can replace any of the preset colors with your own custom ones.

NOTE



ADDITIONAL INFO: **THINK TWICE**

Once you change your presets, you won't be able to get them back without uninstalling and reinstalling SL, so before you replace your presets with custom ones, be sure you never want the original preset colors again!

Like the Texture Picker, the Color Picker (Figure 7.16) allows you to use the Eyedropper tool. The only difference between the Eyedropper tool in the two Pickers is that you don't need edit permissions to grab a color from another resident's objects. This can be particularly handy when collaborating with other residents.



Figure 7.16: The Color Picker window

TRANSPARENCY

By setting the transparency of a prim, you can easily produce translucent windows and effects for all kinds of objects, from waterfalls to light bulbs to crystals to bottles. You can't set an object to more than 90% transparency using the Build tools—that would make it too difficult to find. However, you *can* set it completely invisible by using scripts, which are discussed in Chapter 8.



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FULL BRIGHT

This setting allows you to declare a face immune to the effects of lighting and shadows. It will appear completely unshaded from all angles and will stand out brightly at night. Because of this, Full Bright can be a handy feature to use when making things like signs or boxes in a store. Remember that you can have a Full Bright prim emit light by choosing Light on the Features tab. This lets you create things such as light bulbs or neon signs—light-emitting objects that are completely illuminated, as they would be in the real world (Figure 7.17).

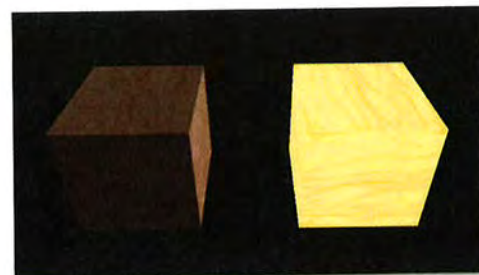


Figure 7.17: A Full Bright cube next to a normal cube

TEXTURING SPECIFICS

When making more than the most basic objects, you'll almost certainly want different textures for different faces. This is most easily done by using the Select Texture option on the top of the Edit tab of the Build menu.

Dragging a texture out of your inventory and onto a prim's face will apply the texture to only that face. To apply it to all faces on the destination prim, hold down the Shift key when you release the texture. For safety reasons, there's no way to apply a texture to all prims in an object this way; Undo doesn't work when dragging and dropping textures!

CLOTHING

Clothing in *Second Life* is created in the same way as a normal object is textured: by wrapping a two-dimensional image around a three-dimensional shape. Unlike with normal textures, however, you can't just upload any old texture and hope it fits. Specific parts of a clothing or skin texture correspond to locations on your avatar. The creation process is called UV mapping, and the textures used are UV maps.

As mentioned previously, 3D modeling uses the X, Y, and Z coordinates to determine the position of an object; UV maps are so named because they add two

further dimensions: U and V. U corresponds to the right/left on the image that is wrapped around the model, and V corresponds to the image's up/down.

Linden Lab has created a set of templates you can use to make your own textures, but most designers use far more detailed and accurate templates created by Chip Midnight or Robin Wood. All three sets of templates are included on the CD in this book, along with an in-depth guide to using use them.

The most popular software for texture creation is Adobe Photoshop, though many people also use JASC/Corel's Paint Shop Pro, Corel Photo-Paint, or the free image-editing software GIMP. Advanced users may even use 3D-rendering software such as LightWave or Maya to assist in creating clothing.

SIDEBAR **RESIDENTS SPEAK:** **PICKING THE RIGHT TOOLS FOR THE JOB**

"For making textures, I use Photoshop CS2 and Eye Candy. Photoshop is my life. I have used it since version 2 and I probably only know how to use half of it, but I use it for everything. Especially because I like fur and scales as opposed to the flat look of an untextured prim. I will add that I am an avid user of Adobe Illustrator and use that for quite a bit of detail work too."

—Wynx Whiplash

"I employ a 'mutt' software system of Photoshop CS2 and LightWave. I use that for both mesh and prim work. I use objects and applied UV-maps in LightWave to work with primitives. But my system is imperfect. I do a lot of blending in Photoshop to reduce the seaming between mesh and prims."

—Ginny Talamasca

"I do all my textures in Corel Photo-Paint—I think it's a superior tool to Photoshop, especially when handling layers and alpha transparencies, at a fraction of the price. I think it's also a much more intuitive tool to learn, especially for novice users."

—Francis Chung



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BAKING LIGHT EFFECTS INTO YOUR TEXTURES

*"Producing realistic shadows and lighting effects in real time is not possible for today's hardware. The process called ray tracing, which produces realistic shadows, is just too slow and would make *Second Life* impossible to enjoy. To compensate, I "bake" shadows and lighting right into the textures for all my builds. I do this by painting the shadows and light, or using third-party rendering tools like Maya to create a dramatic scene. If I have a stool in one of my sets, I simply draw the shadow of the stool under it and the visual effect can be stunning."*

—Aimee Weber



UPLOADING TEXTURES

To get your textures into *Second Life*, you'll need to upload them from your server to the *Second Life* servers. *Second Life* accepts textures in the Targa (.TGA), Windows Bitmap (.BMP), and JPEG (.JPG/.JPEG) file formats. If the texture you wish to upload is in another format, you'll need to convert it first.

Textures are sized according to a "powers of two" rule. For ideal results, your textures should be 32, 64, 128, 256, 512, or 1024 pixels wide or tall. Your textures don't need to be square, but most are because a square is the best shape for most applications. This means you could have a 512x256-pixel texture, for example. Don't worry about fitting the pixels on a prim, though! You can scale a texture to fit any prim, or even show a small fraction of the entire texture.

Because of the "powers of two" rule, a 640x480 image will automatically be resized to 512x512 when uploading. Textures will be rounded up or down to the nearest power of two and may look distorted when viewed in the Texture Upload window or placed on a prim that doesn't maintain the original texture's proportions.

The term used to describe an image's proportions is *aspect ratio*. It is a comparison of an image's width and height. For instance, normal televisions and computer monitors use a 4:3 aspect ratio. This means that the width of the picture is 1.333 times the height.

When uploading a photo texture to share with your friends as a billboard, stretch a prim to be 4m across and 3m high, then stick the texture on the side. No matter the resolution of the uploaded image, *Second Life* will rescale the texture to appear at its original resolution.

TEXTURE UPLOAD WINDOW

To upload a texture, select File > Upload Image. This will open an OS-native File Picker that will look like any other Open File window on your computer. You will have to pay L\$10 to upload a texture. (This restriction is intended to discourage residents from filling up the *Second Life* servers with extraneous textures.) The window contains the following options:

Name: This is the name of the texture as it will appear in your inventory.

Description: The Description field is handy for including additional information about the texture, but the texture itself must be viewed to see the description.

Preview Image As: The Preview Image drop-down allows you to change the preview mode, selecting between Image, Hair, Female Head, Female Upper Body, Female Lower Body, Male Head, Male Upper Body, Male Lower Body, and Skirt. Depending on which option you choose, you will see a flat image (in the case of the Image option) or a three-dimensional body part with your texture wrapped around it.

Although *Second Life* uses the same avatar model regardless of which gender you choose, skin and clothing textures will stretch differently based on how the avatar itself is stretched. If you're designing a piece of clothing to be worn by a specific gender, you'll want to make sure it looks good on that gender.

Once you're sure the image looks how you want it to, press the Upload button. It may take a minute or so to upload your texture, depending on how busy *Second Life* is at the time.

If your texture doesn't look exactly how you pictured it when you actually view it in the *Second Life* world, don't be discouraged. Most designers have to upload several versions before they're totally satisfied.



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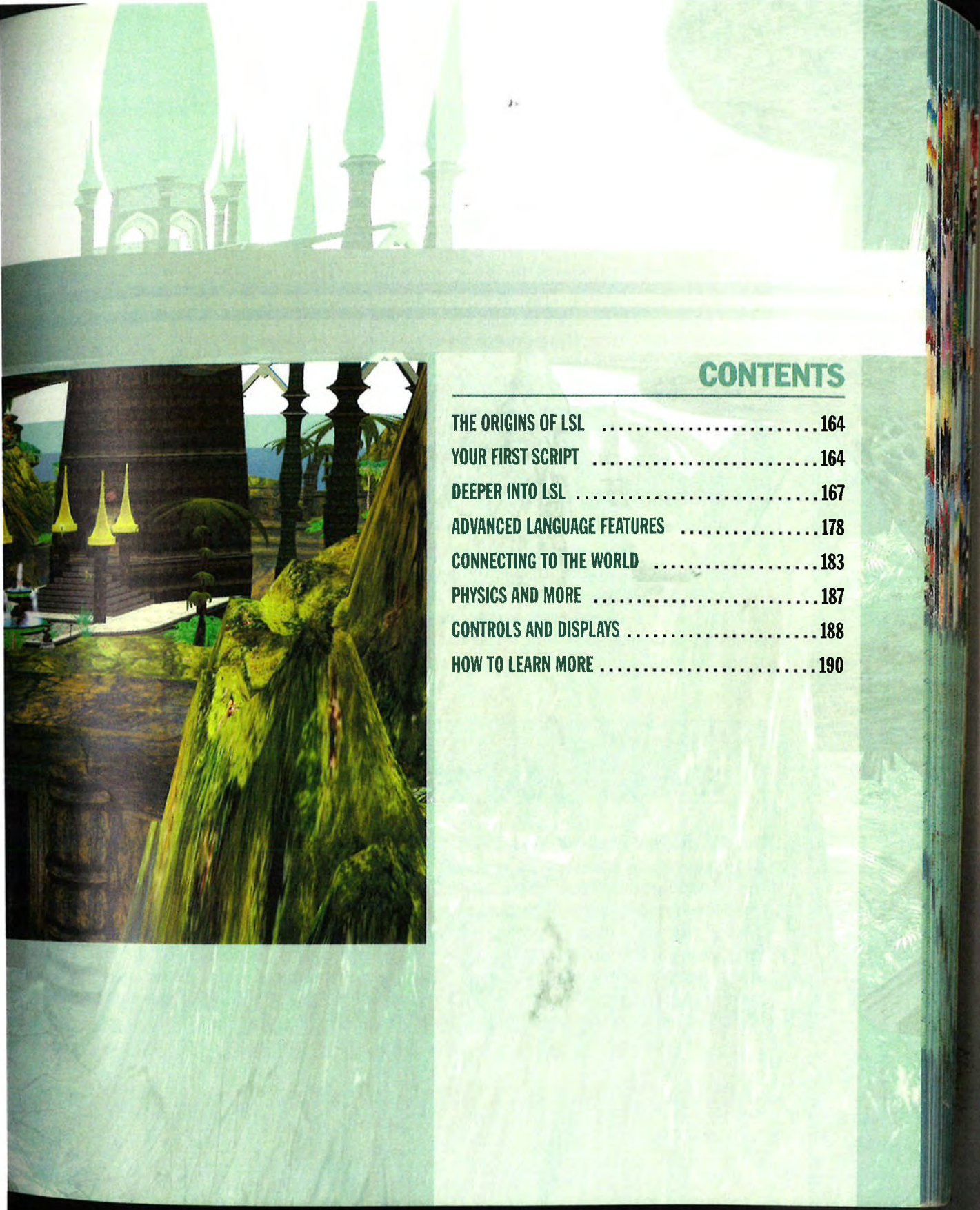
CHAPTER 8

USING THE LINDEN SCRIPTING LANGUAGE

It is time to look under the hood and dive headfirst into the world of the Linden Scripting Language (LSL). It lets you add behaviors and interactivity to objects inside *Second Life*. Scripting is just another word for programming, so in learning about LSL you will end up learning about programming as well. Do not be afraid, though—between this chapter and the many resources available both online and in-world, you'll be up and scripting in no time. You do not need to write scripts to have fun in *Second Life*, but scripting drives the magic, from vehicles and guns to vendors and HTTP requests.

This chapter walks you through creating your first script and covers the LSL syntax and more-advanced language features. It also teaches you how LSL scripts can sense and communicate with the rest of *SL*, and how LSL can apply physical forces and move scripted objects onto your screen as heads-up display (HUD) attachments. Finally, it covers the many resources available for when you want to learn more.





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THE ORIGINS OF LSL

So, where did LSL come from? When *Second Life* was still called *LindenWorld* and had small space ships and eyeballs flying around instead of avatars, it did not have a scripting language. Instead, anything created in-world was built via static creations and physics. Thanks to rigid body dynamics, objects in *Second Life* act more or less like real-world objects, colliding with each other, falling under the effect of gravity, etc. This enabled a wide variety of creations, but many types were missing.

Take airplanes, for example. In a few more years (thanks to Moore's Law) we will be able to simulate a wing in real time, solving the many complex equations needed to properly model the interactions of the wing, turbulence, fluid flow, Bernoulli's Principle, etc. However, computers are not yet powerful enough to do that. So full simulation is not the answer. Instead, LSL allows residents to create content that can't be simulated currently within *SL*'s physics system.

Technically, the scripting language that you will be playing with is LSL2, as the language added to *LindenWorld* in August of 2002 was LSL. However, since only a few early alpha users ever had to build using the original LSL, the current language is simply referred to as LSL. The current language is far more powerful and easier to use than the original, so be glad that you never had to play with the first one!



YOUR FIRST SCRIPT

OK, so you are ready to take the first step. Great! Fire up *Second Life* and go somewhere you can build, such as a sandbox or land you own. Create a box on the ground and select it. Select the Content tab of the Build window and click on the New Script button. The Script Editing window will pop open with the default "Hello, Avatar!" script (Figure 8.1). We'll break down the script in a moment, but for now click the Save button on the lower right of the window. Two lines will appear in the bottom of the window—first "Compile successful, saving..." and then "Save complete." The box then chats "Hello, Avatar!" at you. If you close the Build window and right-click on the box, the script will respond with "Touched."

Congratulations!
You have created
your first script within
Second Life! So, what
have you done?

Let's break down
the script. Right-click
the box to pull up the
pie menu and select
Edit. Again, click on
the Content tab. The
box will now contain
one item, called New
Script. Double-clicking
on New Script will
reopen the Script
Editing window. Now
we can look at the
script:

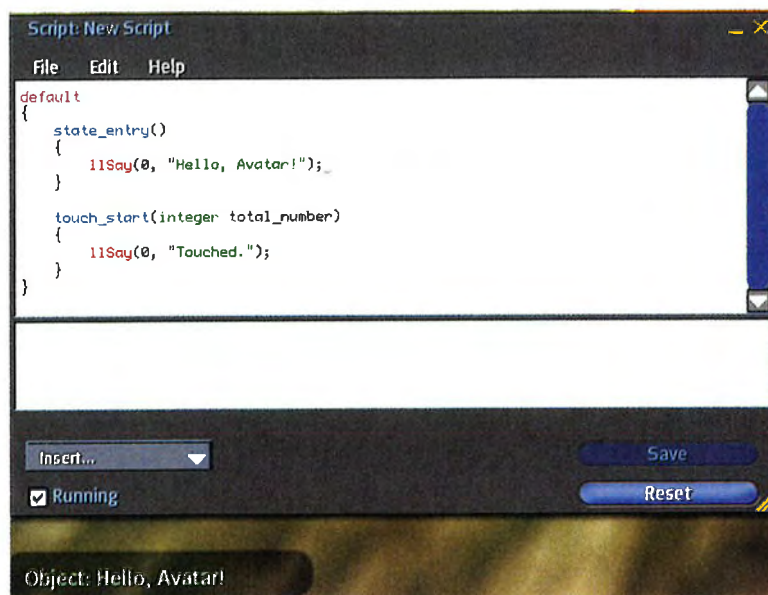


Figure 8.1: The "Hello, Avatar!" script

```
default
{
    state_entry()
    {
        llSay(0, "Hello, Avatar!");
    }

    touch_start(integer total_number)
    {
        llSay(0, "Touched.");
    }
}
```

Even if you've programmed before, few of the keywords will be familiar you to you, so let's break them down one at a time.

The keyword `default` indicates which state the LSL program will begin executing in. You will learn what states are and that LSL programs can have multiple states later in this chapter, but for now you need only know that every LSL program must have at least one state and that it is labeled `default`.

The curly braces, `{` and `}`, that follow `default` encapsulate the event handlers within that state—in this case `state_entry` and `touch_start`. The `state_entry` event is triggered whenever execution enters that state, so in our example as soon as you clicked `Save` to upload the script to the simulator and attach it to the object,



the LSL program began to execute and entered the default state. This triggered the `state_entry` event, meaning that any code sitting within the `state_entry` was run.

In our example, the only code was the library function `llSay`. `llSay` allows a script to chat text, much like an avatar, onto a channel of its choosing. Channel 0 is the channel that all avatars chat onto and listen to, so by saying "Hello, Avatar!" onto channel 0, the script ensures that any avatars nearby can hear it. What `llSay` does is controlled by the arguments within the parenthesis that follow `llSay`, in this case the integer 0 and the string `Hello, Avatar`. We'll talk about arguments more later.

Of course, what if you forget what the arguments for `llSay` are? One option is to visit the LSL Wiki (<http://lslwiki.com/lslwiki/wakka.php?wakka=HomePage>) or search "llSay" on Google. Fortunately, there is an even easier way, which is to hover your cursor over the word "llSay" in the Script Editor window. This will pop up the following tooltip and remind you what `llSay` does and is looking for:

```
llSay(integer channel, string msg)
Say msg on channel
```

The second event handler is `touch_start`. Recall that when we clicked on the box, it chatted "Touched." in response? This is what the `touch_start` event handler does. It is triggered when an avatar begins clicking on the object. Again, the only code that exists within the event handler is the `llSay` library function, which we covered a moment ago.

Now let's start making this script our own. If you don't have the Script Editor up, open it by selecting the box, going to the Contents tab, and double-clicking on New Script. Clicking anywhere within the window allows you to edit the text of the script, so go ahead and change "Avatar" in "Hello, Avatar!" to your name. For me, that would be, "Hello, Cory!" As soon as you change the text, the Save button lights up to indicate that the script in the text window does not match the script that has been loaded up to your box. Click the Save button to recompile and save the script.

You should see the same sequence of "Compile successful, saving..." and then "Save complete." displayed in the bottom of the editor and then the box should chat your name at you. Well done!

But what if you wanted to go back to "Hello, Avatar!"? Fortunately, the text editor supports both undo and redo. Click in the text-editor window and hit Control-Z to undo your change. You'll see your name replaced by the text "Avatar" and the Save button lights up since the script has again changed. If you want to redo the changes, use Control-Y.