

Simple Hacks: Addons, Macros, and More

part



in this part

Chapter 1

Introduction to WoW
Modding

Chapter 2

Combat Addons

Chapter 3

Map Addons

Chapter 4

Miscellaneous Addons

Chapter 5

Loot Addons

Chapter 6

Chat Addons

Chapter 7

Raid Addons

Chapter 8

Class-Specific Addons

Chapter 9

Addon Compilations

Introduction to WoW Modding

What is an addon?

An addon is nothing more than a bunch of markup files, scripts, and textures in a folder.

These files are identical — in form — to the ones that define the default interface designed by Blizzard. That means they have the power to do anything Blizzard has done, barring a few intentional limitations. Because addons exist as discrete files on your hard disk, they can easily be archived and distributed online. Since the game's release, thousands of addons have been created, and a large community of developers continues to grow.

In fact, members of the community have had an impact on Blizzard's own interface development. Many features that originated as user-created addons have made their way into the default interface, including (but not limited to):

- Extra action bars on the bottom and right side of the screen
- Quest-goal tracking from outside the Quest window
- Numerical values for reputation status
- Built-in scrolling combat numbers

At the same time, many addons haven't been assimilated into the default user-interface and have matured on their own over the years. Here are a few examples of the most popular addons:

- **Gatherer:** Remembers the location of every mine, herb, and chest you discover, marking each one with an icon on the world map and minimap.
- **Auctioneer:** Scans the auction house to determine the market value of your items. It also highlights items that are for sale below their market value.

chapter 1

in this chapter

- ✓ Examining the legality of WoW hacks
- ✓ Exploring the WoW user interface
- ✓ Creating a simple macro
- ✓ Finding downloadable addons
- ✓ Installing and managing addons
- ✓ Using interface skins

- **KLHThreatMeter:** Enables you to see who in your group or raid has accumulated the most threat over the course of a fight.
- **Atlas:** Provides you with maps for every instanced dungeon, each marked with the locations of bosses and other points of interest.

Blizzard has made it a priority to support addon developers by responding to their concerns in the forums. Each patch contains numerous updates and additions to the underlying framework on which addons are built.

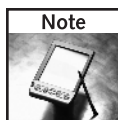
You might think addons are too much of a hassle to be worth your time. In truth, they're incredibly simple to install and use. However, before jumping into the specifics of addons, let's clear up some confusion about the legality of WoW modding in general.

Examining the Legality of WoW Hacks

Many players are worried about getting banned. Blizzard announces thousands of account cancellations each month in connection with the use of third-party programs. These illegal third-party programs are often confused with addons, but they're not the same thing.

Third-Party Programs

Third-party programs are executables that modify the game's data files or interfere with communication between the WoW client and Blizzard's servers. This is how speed-hacks were created and how most bots work. You can expect to be banned for using any of these programs. It's important to understand that these programs are *not* addons; they're executables that run at the same time as the client and interfere with its data in memory.



Note

Blizzard has a support page to help you understand what constitutes a third-party program. If you're interested, visit <http://blizzard.com/support/wow/?id=aww01657p>. For the record, it uses the word "hack" very differently from this book. They use it to imply a malicious act, whereas this book uses it to describe an interesting (and legal) technical project.

Certain statements in the World of Warcraft Terms of Use document — that you agree to before playing the game — make it sound like no modding of any kind is tolerated. However, it's important to distinguish between the modifications Blizzard wants to prevent and the kinds of modifications this book is about. Blizzard is concerned only about programs that mess with the game's data files and memory directly. You won't ever touch these.

It's important to note that Blizzard reserves the right to prohibit the use of any mod at any point in time. However, in practice Blizzard is supportive of addon use and development, and cracks down only on modifications that result in some kind of unfair advantage. All of these delicate distinctions may make it seem like addons are a liability, but the bottom line is that pure addons are completely legal.

What exactly is a *pure* addon?

A pure addon resides in a folder in the World of Warcraft directory. It's not an executable file. It's fully managed by the WoW client and is restricted by the limitations of the addon system. *No one has ever been banned from the game for simply using a pure World of Warcraft addon!* This is important. You will not be banned for using an addon, we promise. If an addon ever allows players to do something that Blizzard disapproves of, Blizzard has the power to disable its functionality forever. It will not ban anyone for using it (however, abuse and harassment is another matter).

Fortunately, you don't have to take our word for it. Drysc, an official Blizzard representative, made the following clarification: "Due to the UI and macro restrictions and our ability to control the use of functions within each, you will not be banned for any use of a pure UI addon or macro that wholly runs within the confines of the game."

Not All Executables Are Bad

Just to make things more confusing, there are some legal executables that you'll come in contact with in the WoW modding world. These programs are fundamentally different than the unauthorized third-party programs mentioned previously.

Some addons are distributed as Windows installers. These are not considered unauthorized or dangerous because they don't interfere with the WoW client, nor do they modify core game files. Be careful, though; and always make sure your installer is from a trusted source. Executables can do literally anything to your computer. Legit installers do nothing more than place addons' files into the proper place on your computer.

Also, some addons include an executable component that's used to provide automatic updates. Again, they're okay to use because they don't mess with core installation files or data in memory while the game is running. For example, a popular addon compilation called Cosmos ships with an auto-updater. There's no risk in using it.

In most cases, common sense will dictate whether a program is okay to use. The technical distinctions between legal and illegal mods are subtle, but become easier to understand as you gain familiarity with them. You can safely assume that every hack discussed in this book is legal, and will *not* endanger your account.

What's So Special About Addons?

To reiterate: Addons are legal because they run entirely within the WoW client. They're not executables. Instead, they exist as source code that's dynamically compiled by the game. Because all addon code passes through the client's interpreter, nothing remains outside of Blizzard's control. That means if and when an addon becomes too powerful, Blizzard can disable its functionality instead of banning anyone.

For example, about a year after the game's launch, an addon was released that would automatically run your character from place to place. No one who downloaded or used the addon was banned, but Blizzard responded with a patch that disabled the addon.

Remember, even though addons are legal, you're still responsible for your in-game behavior. If you abuse an addon that spits out spam, you'll be banned for spamming. Once again, common sense is the bottom line. If it feels like you're cheating, you probably are. If it feels like you're harassing other players, then you're at risk.

Hammering Home the Legality Issue

Because the legality of addons is one of the most frequent inquiries from players, I'm including the following two posts from a thread on the official Blizzard forums. Trimble is not a Blizzard representative, but he provides a very accurate overview of the situation. Slouken, however, is a Blizzard employee, who confirms the accuracy of Trimble's post, yet clarifies that inappropriate behavior won't be tolerated under any circumstances.

Trimble's Post

UI addons fall into two categories:

- **Macros:** *Macros aren't really addons at all, but they can use Lua code to do neat things in game. These are found ENTIRELY inside the game, and the code is run by Blizzard's interpreter, so [Blizzard makes] the rules on what macros can and cannot do. Therefore, Blizzard won't ban someone from using any macros.*
- **Addons:** *Addons are extra files, put into the WoW Interface directory on your hard drive, which supplement the existing Lua and XML code that Blizzard created that makes up the user interface that everyone uses. Addons are made up of Lua files, and XML files, both of which are also run by Blizzard's interpreter. Therefore, Blizzard won't ban someone from using any Addons.*

Third-party programs are actual programs that get loaded into memory and executed using their own code. They run separate from the game similar to how ICQ or MSN Messenger runs in the background. The difference is that third-party hacks try to read or change data coming into or out of the WoW game client (to the network card), or they try to read or write to memory space used by the WoW Game client.

Speed hacks, for example, often interfere with data flowing from the game client to the network card by intercepting the "I am here" signal that the game client sends to the server and making it seem that the player is moving faster than he should be. The server accepts this as truth because Blizzard left it up to the game client to limit how fast you can go. (Oops, Blizzard?) This strange design is caused by a need to let the game client do some of the work because the server is too busy to be expected to do everything.

Anyway, the distinction in third-party hacks is usually the fact that hacks run as their own programs and interfere with the game client.

Addons aren't anything more than really extravagant macros.

(Note: Cosmos is known to have an external EXE file that gets run as its own code — however, it doesn't interfere with the game client. In fact, all it does is download Lua and XML files, put them in the right places, and then QUIT long before the WoW game client even starts.)

Slouken's Response

This is a very good explanation of things as I understand them. However, I am not involved in policy and I'm not a lawyer.

While we've done our best not to penalize people who use the scripting interface, even in ways that aren't intended, it's conceivable that at some point someone will find a way to use them that is against the terms of use (e.g. is hurting other people's play experience), and is something we can't disable. In that case it's possible that we might warn people that using the addon is against the terms of use, and if they continue to do so, some action would be taken.

If you haven't been explicitly warned by a GM, or seen an official Blizzard response about an addon or UI modification, then don't worry about it.

How Does Blizzard Enforce Its Terms of Use?

You may be wondering how Blizzard prevents the use of illegal third-party programs. If they're not sending data to Blizzard's servers directly, how does Blizzard know about them at all? Well, a part of the WoW client is called the Warden. The Warden monitors the other programs running on your computer and reports this information back to Blizzard. Thousands of accounts are banned each month based on this collected information.

The Warden is looking specifically for programs that are reading or modifying the game's memory. It scans for the signatures of known cheating programs. The code that powers the Warden is updated often, and is downloaded each time you connect to the WoW servers. The Warden cannot be successfully removed or disabled.

Many people have raised concerns about privacy because the Warden can monitor just about anything your computer is doing while you're playing WoW. Blizzard has stated that it uses the information reported by the Warden only for enforcing its Terms of Use and discovering illegal programs. Many people accept the Warden as a necessary aspect of an exploit-free game. Many more people are unaware that the Warden even exists at all.

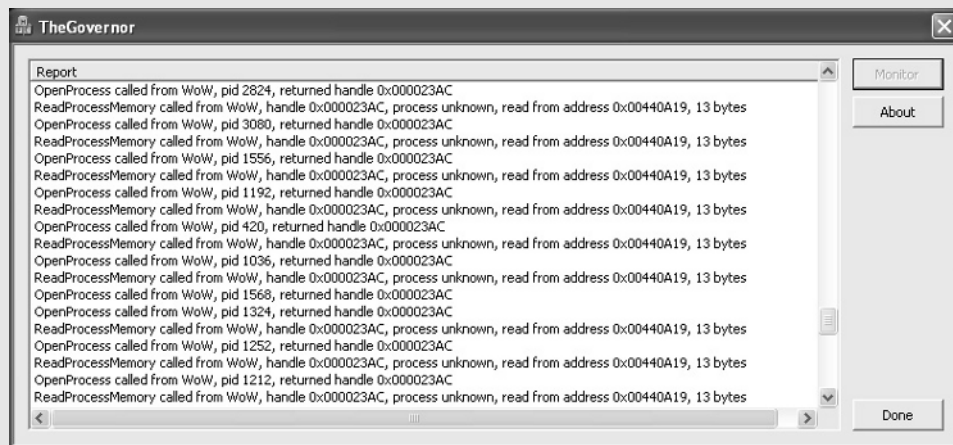
Who Watches the Watchers?

In late 2005, a programmer named Greg Hoglund released a tool that monitors the activity of the Warden. This program is called the Governor, and is freely available at:

www.rootkit.com/newsread_print.php?newsid=371

Caution: No one has ever been banned for using the Governor. However, Blizzard will know that you've used it because the Warden will tell them. The author of the Governor has stated that his tool "is not designed to assist cheaters, and offers no mechanism to help cheaters hide their programs." Just remember, Blizzard reserves the right to ban you for using any third-party program at any time, so if you do use the Governor, you do so at your own risk.

You probably shouldn't bother actually using the Governor because the information it provides isn't exactly crystal clear, as the following figure shows.



It's much more important to understand the concepts at work here, and accept the fact that if you play World of Warcraft you're consenting to give up your privacy.

Many people in the Internet community believe that the Warden represents a dangerous violation of personal privacy. However, many legitimate WoW players support the Warden for cracking down on illegitimate behavior that would otherwise ruin the game. No matter which side you agree with, you need to be aware that Blizzard is monitoring all activity on your computer while you're playing World of Warcraft.

Exploring the WoW User Interface

Now that you know you're allowed to use addons, what exactly are they? To help answer that question I'm going to explain a little bit about how the WoW User Interface (UI) works. To start with, the default UI isn't hard-coded into the client; it's scripted. Pretty much everything that makes up the interface is one of three things:

- Markup files that describe the layout of interface elements
- Scripts that define the behavior of onscreen objects on their underlying logic
- Texture files that determine what interface components look like

This kind of UI implementation has many benefits, the most important of which is flexibility. Because everything is built with high-level elements such as frames, buttons, and sliders, the interface is easy to tweak. Blizzard knew they were going to be constantly updating the game, so this freedom of modification was absolutely necessary. They also wanted to make it easy for *you* to modify.

Scripts and the WoW API

Embedded within World of Warcraft is a powerful scripting language called Lua. There's also a bridge between Lua and the game's environment called the WoW Application Programming Interface (API). The WoW API includes a collection of functions that can be called from within Lua scripts. This allows scripts to interact with the game environment.

Because Blizzard scripted almost everything in the default interface, it was natural for them to open up the framework and allow their users to create their own scripts. They went one step further and developed a nice system for installing and managing user-created interface modules. These custom modules are known as addons.

Addons and Macros

Macros are basically just tiny addons that are implemented in-game. Although they're streamlined to work with slash commands, they have the same access to the scripting system thanks to the `/script` command. In addition, macros have the following limitations:

- You can store 18 global macros that are shared between all your characters and another 18 that are character-specific.
- Each macro has a 255-character limit.

Unlike macros, addons have no size limitations. Furthermore, addons are able to utilize eXtensible Markup Language (XML) files to define the layout of their interface elements.

Because addons are just a collection of files in a folder, you don't really need to know anything about the UI, API, or scripting to install and use them.

Modding Limitations

Blizzard has placed some intentional limitations on user-created scripts to prevent certain kinds of addons and macros from being written, including the following:

- **Character movement can't be controlled:** All the functions that control character movement are protected, which means only addons signed by Blizzard can use them. Basically that means they aren't available to you.
- **World coordinates are unavailable:** WoW uses a few different coordinate systems, one of which is world coordinates. These coordinates are the most accurate representation of your location. Unfortunately, they haven't been available since the `GetPlayerPosition()` function was removed from the API in a patch shortly after the game's release.
- **You can't tell which way you're facing:** The `UnitFacing()` function can no longer be used to determine which direction a character is facing. It was removed from the API in the same patch.
- **Data on disk isn't updated during gameplay:** Addons can store and access their own local data, but it's only updated on disk when your character leaves the world. This prevents third-party programs from legally monitoring in-game actions by simply reading files on disc. Remember, sniffing the client's memory would be a violation of the Terms of Use.
- **No mod can choose a target for you:** You are unable to use Lua's conditional statements to select another unit; it must be an explicit decision on the part of the player.
- **No mod can choose a spell for you:** Similarly, you cannot use conditional statements to pick which spell should be cast; this decision must also be explicit.

The last two limitations were introduced with the 2.0 patch and were highly controversial. However, most of the controversy was because of a lack of understanding about what exactly was being changed. Fortunately, some of the new slash commands that Blizzard added to the macro system are powerful enough to offset those restrictions. Furthermore, most addons can be designed a little differently to take them into account. A limited number of addons (like Decursive) were severely crippled by them and are no longer available.

Creating a Simple Macro

Most people use macros to combine two or more simple actions. As mentioned earlier, macros are like mini-addons. You can get a lot of mileage out of them, especially once you learn Lua scripting and can effectively utilize the `/script` command, as well as the numerous new slash commands added with the 2.0 patch.

Let's start with the basics and create a simple macro that casts a spell and announces the action to your group (see Figure 1-1). Of course, you should replace the name of the macro and the

spell that it casts with one that your character actually has. The following macro would only be appropriate for a Priest.

1. Type the slash command `/macro` to bring up the Create Macros window. You can also press Escape to open the Main Menu and then click the Macros button.
2. Click the New button. A small window opens to the right.
3. Name your new macro. For a healing spell, “Heal” might be a good name.
4. Choose an appropriate icon for your macro from the huge list. If you select the question-mark (?) icon, then the icon associated with the first item or spell referenced by your macro will be used instead.
5. When you’re done, click the Okay button.
6. Type the following lines into the textbox.

```
/cast Heal  
/p Healing %t
```

The `%t` is a special code that inserts the name of your target into the comment. Below the textbox is a reminder of how many characters you’ve used.

7. Drag your macro’s icon into an open action bar slot.
8. Click the Exit button or press Escape to close the window.



FIGURE 1-1: The Create Macros window and the newly created Heal macro.

In all macros, each line of text is interpreted as a separate command. Each command is executed near-simultaneously, so you can’t cast two spells in a row unless the first one doesn’t activate the global cooldown timer.

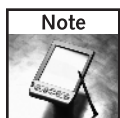
Note that the `/cast` command works with any spell or ability, so even if you're not a caster, you would still use it to perform many of your actions within a macro. For example:

```
/cast Fireball
```

You can even get more specific:

```
/cast Fireball(Rank 1)
```

Notice the lack of a space between the name of the spell (or ability) and its rank. If you don't specify a rank explicitly, the highest rank your character knows will be used.



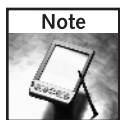
Note

Blizzard overhauled the macro system with the release of WoW 2.0 and The Burning Crusade expansion by adding a huge number of slash commands to the game. See Chapter 16 for more specific information about creating your own advanced macros.

Finding Downloadable Addons

There are literally thousands of addons out there. Fortunately, a few websites have popped up offering addon hosting and organization. Many of the larger addon projects have their own websites, too, but if you're not sure what you're looking for yet, it's best to start with one of the generalized sites. The one you choose to use most often is entirely up to you, although you'll probably end up visiting them all from time to time. Each of the “big three” sites — Curse.com, UI.WorldofWar.net, and WoWInterface.com — host thousands of active addon projects. We asked representatives from each site to summarize what they offer.

Read each site's statement, and then fire up your web browser and check them out. All three offer regularly updated news and files, but each one has a distinctive feel and exclusive features. Once you're comfortable navigating around, download a few addons that look interesting to you. If you're worried about picking an addon that's too complicated for a beginner, grab Atlas. It's simple to use.



Note

I'm the author of Atlas. Excuse the shameless plug!

UI.WorldofWar.net

<http://ui.worldofwar.net/>

“About six years ago we set up the first Warcraft III maps site (maps.worldofwar.net), which is actually still running, and as soon as WoW was released we thought we could use the same in-house site system to help the WoW modding community and also add a specialist section to WorldofWar.net for modding. The site was fairly rudimentary to start, but with great feedback from the community we updated and added new features to the site continually. With

user input, we managed to create an absolutely awesome site that not only helps WoW players but just as importantly the mod authors.

“UI.WorldofWar.net (see Figure 1-2) takes a different approach than most sites. We are very hands-on. We could have just created a file hosting site and left it at that but having worked on the Warcraft III maps site for well over four years we realized the importance of the community and also giving authors and visitors features that are actually useful. Because of that we have created many features that you won’t find anywhere else such as multi-zip downloading for users to download all their favorites in one go, visual aids to notify users when mods are suitable for use with the current version of the game, accurate lists of popular mods, special bug reporting features, community awards for outstanding mods, and many more features users will find useful.



FIGURE 1-2: ui.worldofwar.net.

“From day one we have worked with Blizzard to make sure that we comply with its EULAs and TOS agreements. It’s important to us that we can support Blizzard and the community by making sure that everything on the site is legal and falls into line with Blizzard’s policies.

“Most importantly, we have a real sense of community and great dialogue between site administrators, mod authors, and WoW players.”

— Paul Younger (Rushster)

Curse.com

www.curse-gaming.com/

“Our website started up around January of 2005 as a guild website for Curse in WoW. The members in WoW had been complaining about not having a centralized place to update addons from, so we took the initiative to make one and get authors submitting addons to Curse (see Figure 1-3). It took off instantly, and traffic skyrocketed in a matter of weeks.

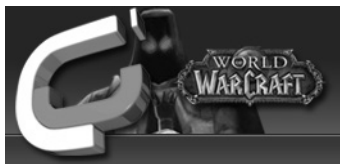


FIGURE 1-3: Curse.com.

“I believe that the main thing that sets our website apart from the other modding sites is that we are not dedicated exclusively to addons. Our users may find news and submit news, and share images and videos with each other as well as find guides, strategies, and relevant game information on our wiki. The fact that we are always looking to expand our functionality as well as broaden our areas of service is definitely something we consider to be a great asset to modders and WoW’ers alike.

“While almost all of our content isn’t unique, we do try our best to make it stand out and be the best out there. We do, however, get exclusive images, videos, and information from various game developers.”

— David Cramer and Christopher Carter

WoWInterface.com

www.wowinterface.com/

“Now a part of the Zam.com network, WoWInterface.com was started by Dolby, Kudane, and Cairenn, the same team that brought you EQInterface. The site is a proud member of the Blizzard Official Fan Site Program and has quickly become one of the biggest UI sites for World of Warcraft. We have more than 7,500 people making use of our site at any one time.

“Our sites are extremely proactive in supporting UI authors. We feel strongly that the authors deserve all assistance that we can provide. From having the fastest approval time on submissions of mods to the site to assistance in protecting authors’ intellectual property rights, we are here for the authors. We do more than just host mods.

“We are the only site to run an IRC channel dedicated specifically to WoW UI authors. Authors from across the globe are welcome to join us in the channel, sharing coding practices, learning from one another, assisting each other with mod debugging and testing, and just plain hanging out, kicking back, and relaxing with like-minded people. And we have two in-game author guilds, and a Portal system that enables authors to have, in essence, their own site where they may post news and FAQs about their mods, and have version control resources such as Feature Request and Bug Report tracking among other things.

“WoWInterface.com (see Figure 1-4) also hosts four major projects: the Ace and CT mod sites, both of which are so hugely popular that they have to maintain their own sites in addition to being available via the mod sites; WoW UI Designer, a program that makes it much easier for beginning (and advanced) authors to create mods; and the WoWInterface Development Network (WDN).



FIGURE 1-4: WoWInterface.com.

“Lastly, in over four years in operation, with three of the largest UI sites for each of their respective games, we can proudly say that we have never released a User Interface that contained any trojan or virus. Our approval system for files has helped us create an outstanding record for preventing the spread of trojans and viruses.

“We’re extremely proud of the reputation and trust we’ve built with our users, our authors, and the gaming companies themselves and we continue to work hard to maintain them.”

— WoWInterface Administrator

Installing and Managing Addons

You’ve had a chance to look around the addon sites, and maybe you’ve downloaded an addon or two. If you’ve never used an addon before, install only one to start out with, just to make sure you get the process down and everything works. Then you can go ahead and install more.

Installing an Addon from a Compressed Archive

Use the following steps to get a typical addon that you’ve downloaded installed and working properly in the game. The majority of addons are distributed as ZIP compressed archives. A few use other compression formats (like RAR), for which this guide is still applicable, although you may need to download additional compression software to uncompress them. A few others have installers; for those, simply follow the instructions that come with them.

1. Locate the downloaded addon archive.
2. Extract everything in the archive into a new folder on your desktop. Performing this step depends on the OS that you’re using:
 - Windows XP or Vista: Double-click the file. Then select File ⇨ Extract All and follow the directions.
 - Mac OS X: Simply double-click the file and extraction will begin automatically.
 - Older Windows: If you don’t already have compression software, you’ll need to download and install some. I personally recommend 7-Zip (7-zip.org) because it’s free and open source. You can also check out WinZip, PowerArchiver, or WinRAR (for RAR files), although they’re all commercial programs that you need to buy.
3. Now you need to locate the addon folder or folders. Each addon module consists of one folder, but some addons are comprised of multiple modules. Open the folder that contains the extracted contents of the archive. Once inside:
 - If you see a folder with the name of the addon, check to make sure that it contains a `.toc` file. If it does, select the folder and all other folders at the same level in the directory structure. Then copy everything you have selected to the clipboard.
 - If you see a folder called Interface, open it. You should then see another folder called AddOns within it. Open it, too. You should now see at least one folder with the name of the addon. Select all the folders you see and copy them to the clipboard.

4. Locate your WoW installation directory as follows:
 - Windows default:
`C:\Program Files\World of Warcraft\`
 - Mac OS X default:
`/Applications/World of Warcraft/`
5. Open the Interface folder.
6. Once inside, open the AddOns folder.
7. Paste the contents of the clipboard into the AddOns folder. Figure 1-5 shows what this folder should look like with a number of addons installed. Note that all the folders starting with “Blizzard_” are present by default. If you ever delete them, they’ll just come back the next time you run the game.

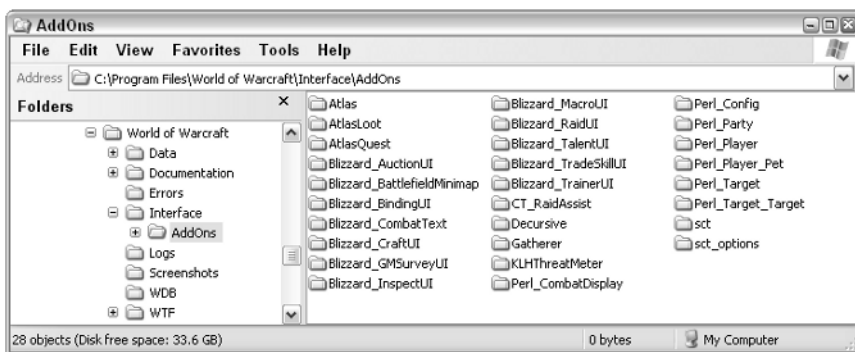


FIGURE 1-5: A typical Interface/AddOns folder in Windows.

8. You can safely delete the folder on your desktop and the original archive.

Now that the addon is installed, you can test it out in the game! Some addons have a drastic effect on the interface and some leave no visual mark whatsoever. In either case, you might want to verify that the game is properly recognizing the addon.

Making Sure an Addon Is Installed Correctly

Once you’ve installed an addon, you can check to make sure the game is recognizing it properly, and that it’s an up-to-date version. Follow these steps:

1. Start World of Warcraft and log in to your account.
2. On the Character Select screen you should see an Addons button in the lower-left corner. If the button isn’t there, then there aren’t any addons installed correctly.

3. Click the Addons button to open the Addon List.
4. If you see your addon in the list, it's installed correctly.

If your addon doesn't show up in the list, then chances are it's installed in the wrong place. Go back and make sure your directory structure is correct. Extra levels of folders will prevent addons from being recognized. Each module (aka each folder containing a `.toc` file) needs to be *directly* within the `Interface/AddOns` folder.

Uninstalling an Addon

Sometimes you'll test out an addon and decide it's just not for you. Instead of disabling it (which you'll learn how to do in a minute) and leaving it to clutter up your AddOns folder, you might want to uninstall it altogether. This is really easy to do:

1. Return to your `Interface/Addons` folder in the WoW installation directory.
2. Simply delete the addon's folder. If an addon came with more than one module (which the game actually recognizes as multiple addons), simply delete them all.

Using the In-Game Addon List

The Addon List is a control panel built into the World of Warcraft client that allows you to manage all of your installed addons as well as a few important settings. It provides the best way of disabling specific addons without uninstalling them. You can also use it to enable older addons that haven't been updated since the most recent patch.

The Addon List is opened with the Addons button in the lower-left corner of the Character Select screen. This means you need to be logged in to use it. Also, you need to have at least one addon installed or the button won't even show up. Once opened, the AddOn List will present you with a list of your currently installed addons and a few settings. Figure 1-6 shows the Addon List with a bunch of addons installed.



FIGURE 1-6: The Addon List is used primarily to enable and disable addons.

The list of installed addons is color-coded by status:

- **Yellow addons:** Enabled; will be loaded automatically.
- **Grey addons:** Disabled; won't be automatically loaded.
- **Red addons:** Out of date or missing dependencies.

Take note that authors can change the default color of an addon's name, so some entries in the list may be colored abnormally. If that's the case, you can always see an addon's status to the right of its name; if nothing is written there, it's enabled.

To enable or disable addons, simply check or uncheck the box next to them. By default, you're marking which addons are enabled for the currently selected character only, because WoW keeps track of this information on a per-character basis. If you want your current settings to apply to all of your characters, select All from the Configure Addons For drop-down box.

Enabling Out of Date Addons

An addon is considered out of date if it was written for an earlier version of the game and hasn't been updated since the most recent major patch. There's no guarantee that these addons will work. However, many of them run just fine because usually only a few UI-related changes are made in each update. To enable these addons, simply check the Load Out of Date Addons checkbox near the top of the window.

The client performs the out of date check by comparing an internal interface number to one that's included in an addon's .toc (table of contents) file. Some players advocate simply changing an old addon's interface number so the game recognizes it as up to date. I don't advise this practice. If an addon is marked as out of date, look for an updated version of it. If you can't find one, just enable out of date addons. If you ever ask for support from an addon's author, it's important that you know if the addon is truly out of date.

There are out-of-game programs that run through all your installed addons and automatically update their interface numbers to match the game's current value. These programs completely defeat the purpose of the version-checking system, and should be avoided entirely. However, if you plan to create your own addons, you should be aware that they exist and that many players use them regularly.

About Addon Dependencies

As you know, addons are designed to be self-contained and modular. However, they're also able to communicate with each other, which allows for all kinds of nice developments such as:

- Addon function libraries (like Ace, Sky, and Chronos)
- Modular info bars (like Titan Panel and FuBar)
- Addons for addons (like AtlasLoot and AtlasQuest for Atlas)

It follows that if one addon depends on another, it shouldn't be able to run unless the addon it depends on is installed and enabled. Fortunately, Blizzard supports dependency checking.

When you mouse-over an addon in the Addon List, its dependencies will be listed beneath its description. If an addon is disabled, then any addon requiring it will also be disabled. An addon missing any of its dependencies can't be enabled.

You might have noticed that some addons list optional dependencies. Addons with optional dependencies will run on their own, but have certain features that require other addons. Any addon with optional dependencies should perform its own checks to see if the addons it works with are present.

Dealing with Errors

When a script that's running (via an addon or macro) tries to do something illegal, references something that doesn't exist, or has a typo in it, there's a high chance that an error will be generated. Historically, a dialog box would pop up immediately containing the name of the offending script and the type of error it generated (see Figure 1-7). However, as of the 2.1 patch, errors are no longer enabled by default. This means they occur silently in the background; you never see them.

Enabling or Disabling Script Errors

If you're developing an addon, having script errors enabled is more or less necessary. If you're just using addons, the choice is up to you. If you leave them turned off, an addon (or a specific feature of an addon) may very well silently fail. You won't necessarily know something's wrong, but you also won't be bothered by dialog boxes popping up. If you turn script errors on, you'll always know immediately when something isn't working the way it's supposed to.

To enable script errors, type the following in-game:

```
/console scriptErrors 1
```

If you ever want to turn them off again, type:

```
/console scriptErrors 0
```

Alternatively, you can use an addon that catches errors and displays them to you, overriding the default interface. If you use one of these addons, the status of the `scriptErrors` setting doesn't matter. A few of these error-catching addons include BugSack (which was created by Rabbit and uses Ace2 libraries), Swatter (which is included in the Auctioneer package; see Chapter 5), or ImprovedErrorFrame (which is covered on its own in Chapter 4).

What to Do When You Get an Error

If you have script errors enabled, sooner or later you'll enter the world and see one of them appear. Errors can also occur while you're playing the game or tweaking with an addon. It comes with the territory and it's nothing to worry about because it can't affect your WoW installation or characters. It's extremely unlikely that the default UI will ever generate a script error, so it's almost always the fault of an addon. If an error is ever driving you crazy, you can always go the Addon List and disable all your addons; the error will most likely go away immediately. You can also disable script errors as described previously; however, this is a Band-Aid solution and doesn't really address the problem. It's a much better idea to get to the root of the problem, rather than ignore it.

You may be wondering what causes errors in the first place. There are a few possibilities:

- **An addon has a bug, plain and simple:** This isn't the most common reason because most addons are thoroughly tested before being released, but it's still a possibility.
- **An addon is old:** This is much more likely because Blizzard changes the API with each patch. If an API function is removed, an addon that calls it will generate an error.
- **Addons are conflicting with each other:** This is also common. If more than one enabled addon uses the same global variable name or hooks the same function, things can go wrong.

Installing one new addon at a time will help you know right away which addon is causing a problem. Also, you can sometimes figure out which addon is responsible by looking at the error message itself, although this isn't a foolproof method. For example, take a look at the error in Figure 1-7; it's pretty clear that the Atlas addon is responsible because the error references the `Atlas.lua` file.



FIGURE 1-7: An out of date version of Atlas generates a script error after a patch.

In any case, when you get an error, you want to figure out what's causing it and how to get rid of it as soon as possible. Most of the time you can click through the error and keep playing, but it's bound to return sooner or later and something's probably not going to work.

Take the following steps to diagnose and solve the problem:

1. Determine which addon is causing the error. If the answer's not immediately obvious, disable all your addons. Then turn them back on one by one until you get the error again. Try running that addon alone (as the only one enabled) and see if the error persists. If it does, you've found your culprit. If not, it's probably an addon conflict. Try to determine which other addon is responsible using trial and error.
2. Check to see if there's an updated version of the addon. Many addons are updated regularly with bug fixes, new features, and improvements. Don't contact the addon's author with an error report before checking for (and testing out) a new version.



Steps 3 and 4 are destructive, and you'll lose all of your addon settings if you delete the files in step 3, and all of your WoW settings if you continue on to step 4. You can always move the files listed into another place (such as your desktop) instead of deleting them. This way you can restore them if necessary.

3. If there's no new version (or it didn't help), remove the addon's saved variables by deleting the files in which they're stored. If these saved variables become outdated (because of an addon update, for example) they may cause script errors. You'll find the variables stored in two possible locations within your WoW installation directory:

```
WTF/Account/<username>/SavedVariables/  
WTF/Account/<username>/<server>/<character>/SavedVariables/
```

4. If that doesn't help, you may want to try removing your WTF folder altogether. Simply drag it to the desktop (if you don't want to delete it) and restart the WoW client. Your customized game settings will be lost, but the error might go away. You can always drag the WTF folder back to its original location to restore your settings.
5. If removing saved variables didn't work, check the web for other reports of the same error. See if there's a fix or an official comment from the addon's author.
6. If all else fails, submit an error report directly to the author of the addon. Include the text of the error itself and a screenshot if you can. Give a detailed account of when the error is occurring. Include any other information that might be helpful. Be friendly; the people who write addons are volunteering their time to help you out.

Using Interface Skins

As mentioned earlier, the appearance of the WoW interface is determined entirely by individual texture files. These texture files are stored in MPQ archives in the WoW installation folder. Interestingly, the WoW client looks for the files it needs in more than one place.

If you place properly named texture files in a few specific folders, WoW will use them instead of the default files. This process lets you replace the default look and feel of the interface. Figure 1-8 shows a comparison between the default UI and two other different skins.



FIGURE 1-8: UI skinning lets you change the look and feel of the WoW interface.

Are Skins Legal?

Because UI skinning is much less popular than addon development, it seems to have slipped under Blizzard's radar to some extent. A careful review of the Terms of Use seems to indicate that there's nothing inherently wrong with skinning.

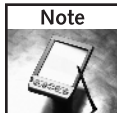
Because all you're doing is placing new files into a folder, and not modifying existing files, it's hard to categorize a skin as an addon, program, or mod. One could argue that a skin is certainly "designed to modify the World of Warcraft experience" but given the ease with which skins are installed, it almost seems like UI skinning is an intentional feature. No one has ever been banned for using a skin.

Where to Find Skins

There aren't *nearly* as many skins as there are addons. In fact, there's really only one artist who's created them. This is partly because the interface contains such a huge number of intricate textures that need to be redesigned to make a successful skin. Furthermore, there isn't exactly a skinning system built into the game, just a convenient way of replacing which files are loaded. Finally, no one (yet) has written a program that manages the difficult task of creating WoW skins.

Despite these obstacles, the artist T.King (tkingart.com) has created a number of beautiful WoW skins including Gothic, Castle, Winterwood, and Elfwood. These skins are exclusively available at WoWInterface (www.wowinterface.com) in the Downloads section. At the time of this writing they're the only pure skins available.

Note



Several other packages are available that essentially re-skin the interface. These packages are built around collections of addons, and are capable of drastic changes to the layout of the UI. They're covered in Chapter 9.

Installing a Skin

After you've downloaded a skin, follow these steps to install it:

1. Locate the downloaded skin archive.
2. Extract the archive directly into your root WoW installation directory. Skin archives contain a precise relative directory structure, which ensures that each file will end up in the right place.

Alternatively, you can extract the files onto your desktop first (Mac OS X does so automatically when you double-click the downloaded file). Afterward, locate the Data folder, which will either be the outermost folder or one level deeper. Drag the Data folder into your World of Warcraft folder. If prompted, tell the operating system to replace files. Don't worry; you're not actually replacing anything. The OS only asks this as a precaution.

3. To verify the installation, take a look in the `Data/Interface` folder. You should see a ton of folders in there.
4. Start the game and enter the world. The interface elements should look a bit different!

Uninstalling a Skin

You can have only one skin installed at a time, so if you want to change skins you have to uninstall the previous one first. If you get tired of a custom skin, you can always uninstall it to revert back to the game's default artwork. Follow these steps to uninstall a skin:

1. Return to your `Data/Interface` folder in the WoW installation directory.
2. Delete everything in there except for the `Cinematics` folder.
3. Restart WoW and the interface returns to normal.

That's Only the Beginning . . .

This concludes your introduction to the basics of WoW modding!

In this chapter, you learned about what addons are and how they're perfectly legal to use from Blizzard's point of view. You also learned how they differ from illegal third-party programs. You were introduced to the difference between addons and macros, as well as some of their limitations. The three primary addon websites presented themselves, and you had a chance to download some addons, install them, and figure out how to enable and disable them using the built-in Addon List. You learned about dependencies and how to deal with errors. Finally, you learned how to use (the very few) interface skins that are out there.

The next chapter is the first of eight that cover specific addons, what they do, and how to use them. It focuses specifically on combat-oriented addons. You can either read the next eight chapters straight through or flip through them at your convenience.

