



Personalise your Mac

ResEdit gives you the power to customise the Finder, to change commands in menus, and even to modify the Trash icon. But wait — Darryl Lewis finds more.

[The TJ's Workshop Macintosh section last month concentrated on customising your Finder with ResEdit. We promised further reading elsewhere in that issue, but as you may have noticed — after canvassing the pages zealously — the article was nowhere to be found. We apologise . . . and this month present 'Personalise your Mac' — Ed.]

What is ResEdit? Some applications are tough to categorise. We all know exactly what a word processor does — it manipulates words. Publishing programs perform page layout. Spreadsheets crunch numbers. But what does ResEdit do?

Like word processors or spreadsheet programs, ResEdit has a specific job — it edits the resources of other applications. With ResEdit you can improve and customise the way other applications interact with you, boosting their utility, comfort and convenience. However, you should exercise some caution when using ResEdit — you can render an application useless. Whatever you do, work on a copy of the application you wish to modify.

ResEdit is not a programming language, but it does let you perform some functions that traditionally have been available only to programmers. Without help from ResEdit, an application's resources look like most other computer code — intimidating. They are written in

hexadecimal notation (hex for short — the base-16 numbering system). ResEdit translates the useful information contained in these resources into dialogue boxes (referred to as templates) that a user can understand and edit easily. In this article I will try to explain some of what it can do and why it works.

The background

All Macintosh applications, whether public domain, shareware or commercially purchased, consist of two separate forks: a data fork and a resource fork. The data fork is the programmer's code that makes an application do what it is supposed to do.

You never actually see it but it is always working in the background to guide the way your application operates. The resource fork controls what you actually see on the screen. For example, fonts, dialogue boxes, menus, icons and

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buttons are resources. There are many more. The data in an application calls up these resources at the proper time to interact with you by displaying them on the screen.

The Macintosh designers intended that data and resources be separate components for all applications for several reasons. The two major ones follow:



A guided tour

Let's take a guided tour through a typical application's resources, using ResEdit. We won't make any changes this time — we'll just look around.

You're going to start by making your own startup disk. Take a blank floppy disk, create a new folder and name it System Folder. Copy a fresh System and Finder from your Apple System Tools disk into a new System Folder. To conserve space, use Font/DA Mover (on the Utilities disk) to remove all fonts but Chicago 12, Geneva 9 and 12, Monaco 9, and all but one small desk accessory such as alarm clock. (You must leave one desk accessory for the System file to work.) Copy ResEdit and MacWrite 4.5 onto the disk and name the disk System Copy so that your screens will look like the ones printed here. Even if you don't have the very same versions of ResEdit or MacWrite, your screens should still look pretty much the same, so you should be able to follow along.

Now you're going to turn off everything and then boot your Mac, using the new startup disk. Make sure you turn off any other hard disks connected to your Mac to protect your data. Turn on your Mac and insert the floppy. Double-click on the disk icon when it appears on the desktop, and its window will open. In the window you should see three icons — one for the System Folder, one for ResEdit and one for MacWrite.

Double-click on the ResEdit icon. The program will open, showing a window listing all the files on your disk (see Fig 1). Notice that in addition to the System Folder, ResEdit and MacWrite, a file called Desktop is listed. You can't see this file when looking at your desktop, but it is there. It is kept invisible to prevent you from inadvertently trashing it. The Finder stores information in this file about where things are on your desktop. Each time you insert or eject a disk or move, create, delete, copy or change the name of a file or folder, the Finder updates the invisible Desktop file to reflect the current information.

Double-click on MacWrite. A new window opens, overlapping the first that lists the various types of resources that make up MacWrite (see Fig 2). Notice that each type of resource is represented by a four-letter abbreviation for what that resource controls (most of the time).

Scroll down to the WIND listing. WIND stands for window, and this resource

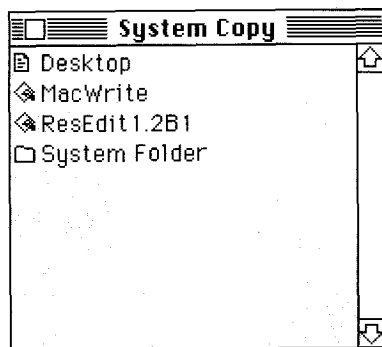


Fig 1 ResEdit's opening window

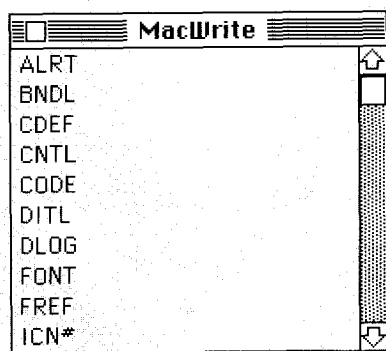


Fig 2 MacWrite's resource window

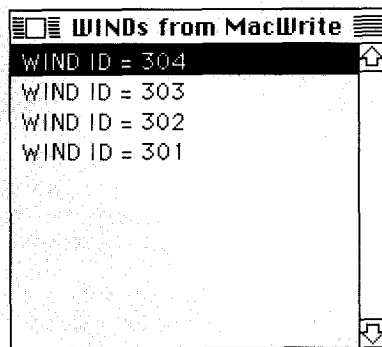


Fig 3 The WIND resources with their ID numbers

sets the default size and position on-screen for the standard windows in MacWrite — Untitled, Header, Footer and Clipboard. Double-click on WIND. A new window opens, called WINDs from MacWrite, that lists the actual WIND resources and their ID numbers (see Fig 3).

Double-click on WIND ID = 304, and a new window opens that looks like a miniature Mac screen, with the Clip-

board window displayed. This is the specific resource that controls the default size of the Clipboard window that opens when you select the Show Clipboard menu item in MacWrite. You can click anywhere on the miniature Clipboard window and drag it to reposition it on the screen. You can also click in the extreme lower right corner and drag to resize it. There is a WIND menu in the menu bar. If you select the only choice in this menu, Display as Text, you get a new window that permits you to change the name displayed in the title bar of the window. The numbers in the boxes represent the co-ordinates on-screen (in screen dots or pixels) of the four corners of the window, counting from the upper left corner. If you resize the window by clicking on and dragging the lower right corner, these numbers change automatically. You can also change the window size by changing the numbers in these boxes directly.

Close both WIND windows by clicking in their close boxes and go back to the MacWrite window.

Scroll through the various resource types and note the ALERT, DLOG and DITL listings. ALERT and DLOG resources control the size and position of complete alert boxes and dialogue boxes but not the text or buttons displayed in them. DITL stands for Dialogue Item List. This is where the words, buttons and any icons included in alert boxes and dialogue boxes are found. Each ALERT or DLOG resource has an associated DITL resource, and the associated resources usually have the same ID number.

There is a difference between alert boxes and dialogue boxes. An alert box appears when the Mac needs to communicate something to you. Sometimes the Mac wants to be certain you really want to do something that can't be undone. In other cases it may tell you it can't do what you've just requested. Alert boxes generally contain buttons for OK and Cancel. Dialogue boxes ask you to choose among several possibilities. In addition to the OK and Cancel buttons, there are often buttons for the various choices.

Double-click on the ALERT listing, and a new window opens, listing MacWrite's ALERT resources. Double-click on ALERT ID = 317, and a new window opens showing the miniature Mac screen with the Save changes before . . . ? alert box

Continued . . .

(see Fig 4). Editing ALERT and DLOG resources is similar to editing WIND resources. You can click on the box and drag it around the screen or resize it.

There are two ways to make changes in the wording or buttons of this ALERT. The hard way is to click anywhere in the MacWrite window to bring it forward, then double-click on the DITL resource listing to display a window with all the DITL resources, and then double-click on DITL ID = 317 to open a window displaying the text and buttons for ALERT ID = 317. ResEdit provides a shortcut, however: double-click on the miniature ALERT box. (This technique works for DLOG resources as well.) The associated DITL resource immediately opens a new window. Even the menu (not pictured) changes to DITL. Here you can click and drag the text or buttons around the box to change their position. Each can be resized from its lower right corner. Double-clicking on the buttons or text opens new windows in which you can edit their function or what they say. Now close these windows and go back to the MacWrite window.

Scroll to the ICN# listing. This resource contains the icons for MacWrite and its documents. Double-click on the listing, and a window opens that contains three icons (see Fig 5). The icon on the right side is for MacWrite itself. The middle one is for a standard MacWrite document, and left icon is for a Macwrite document that has been saved as text without any font or formatting information. Since these icons are pictures rather than text, clicking on one selects it by placing a box around it rather than by reversing its colour on-screen. In addition, no ID numbers appear in this window. To find out the ID number of the MacWrite icon, click on it once and then choose Get Info on the File menu. A dialogue box will give you information about the type of resource and its ID number.

Double-click on the MacWrite icon and a new window opens showing two panels (see Fig 6). The upper panel is divided into two sections. The left side shows MacWrite's icon in MacPaint-style FatBits. The right side shows the icon's 'mask', which is a completely greyed-out version of the same icon. The bottom panel shows the icon unselected and selected, its mask, then the same three views of small icons, and then the standard-size icons on a grey background. The background corresponds to the pattern you have

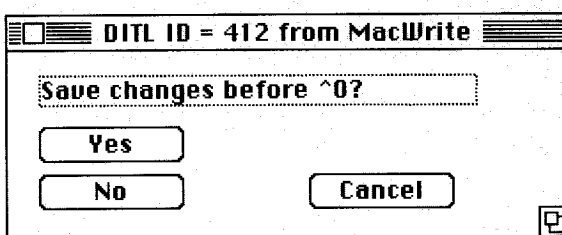


Fig 4 The 'Save changes before ... ?' DITL resource

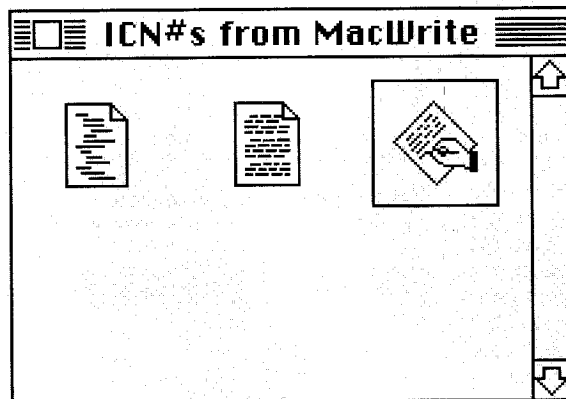


Fig 5 The ICN# resource window

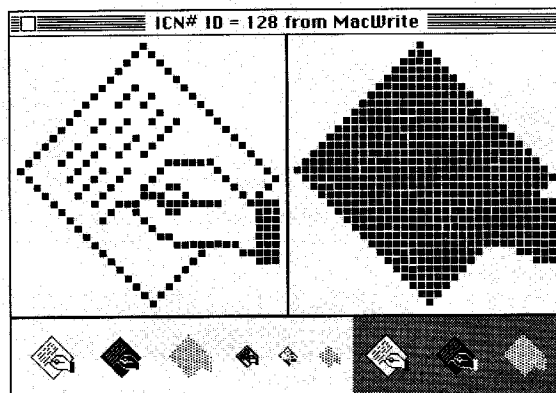


Fig 6 The editing window for MacWrite's icon ID = 128

chosen for your desktop in the Control Panel. If you choose a different desktop pattern, the three icon views on the right will appear on your current pattern.

You can edit the icon using the same procedures you would for FatBits in MacPaint. If you click on the black pixel, it will turn white, and vice versa. The only difference is that the cursor looks like a pointer rather than a pencil. As you make a change, its effect appears immediately in the bottom panel.

This same FatBits style of editing applies to all graphic resources: CURS (cursor), SICN (small icon), ICON (icons), FONT (yes, you can customise your fonts), and PAT and PAT# (both dealing with patterns). Incidentally, you might have noticed that PAT has only three letters. All resources have four, but there's no rule that prevents one from being a space.

It's time once again to return to the

MacWrite window by closing these windows.

Double-click on the MENU listing. This resource contains MacWrite's menus (see Fig 7). Each of these listings represents one menu, including the Apple, or desk-accessory, menu.

Double-click on MENU ID = 5, and a new window opens in which you can edit MacWrite's Format menu (see Fig 8). The boxed numbers at the top of this window identify the menu and tell the Mac when to make it active and when to grey it out. Scroll down to the first menu entry, Insert Ruler. By editing the words in this box, you can change what the menu says. In addition, the 'key equiv' box, which contains the letter 'R', is where you can change the Command-key equivalent for this menu item. It is not necessary to type the Command symbol — just the letter. An

Continued...

menuID	5
width	0
height	0
procID	0
filler	0
enableFlgs	\$FFFFFFBFF
title	Format

menuItem	Insert Ruler
icon#	0

Fig 8 The window for editing MacWrite's Format menu

important rule is not to use the same letter more than once per application. Otherwise, only one of the functions to which you assign the letter will work.

If you try to locate a menu item and can't find it in the MENU resource, you should know that some software companies hide them elsewhere. Microsoft, for example, often places

menus in STR resources. STR and STR# resources are strings of characters — words and phrases — that the Mac displays for you at the appropriate time, either in menus or dialogue boxes.

If you locate some menu listings in STR resources, you can recognise Command-key equivalents because they are separated from their menu listing by a slash. You can also add keyboard equivalents to these menu items by inserting the cursor right after the listing and typing a slash. And you can add keyboard equivalents to these menu items by inserting the cursor right after the listing and typing a slash and the letter you wish to use (for example, Select All/A). Once again, close the MENU windows and return to MacWrite's window.

Another word of caution — ResEdit is still in the developmental stage. Not every resource has a template yet, but

Continued...

MENUs from MacWrite	
MENU ID = 7	
MENU ID = 6	
MENU ID = 5	
MENU ID = 4	
MENU ID = 3	
MENU ID = 2	
MENU ID = 1	

Fig 7 The MENU resources with their ID numbers

For programmers

In many cases, the data portion can be saved and only the resources changed to improve the usefulness of, or widen the market for, an application. For example, a word processor works the same way no matter what language it's processing (meaning that the data doesn't need to change), but the characters on-screen must look different to people typing in different languages. You can make MacWrite work in French, German, Spanish, Russian, Greek or any other language that reads from left to right and has about the same number of characters in its alphabet by changing the front resources (the fonts themselves) appropriately — saving unnecessary re-programming.

For users

Customising your screen displays can

make applications more useful. For example, my Finder has its icons spaced farther apart than Apple's original spacing to eliminate overlapping filenames. In addition, when I move an icon on the desktop, it automatically snaps to the place it would if I chose the Clean Up Window command on the Special menu. These variations make my Finder more comfortable for me to use. One of my friends has changed his Trash icon to The Black Hole and changed the Empty Trash command in the Special menu to Cosmic Flush. Perhaps you'd like to see the filenames in a larger font or different letters used for the Command-key equivalents of menu items.

ResEdit allows you complete access to all resources in an application. You can change what alert boxes and dialogue boxes say or resize the boxes themself-

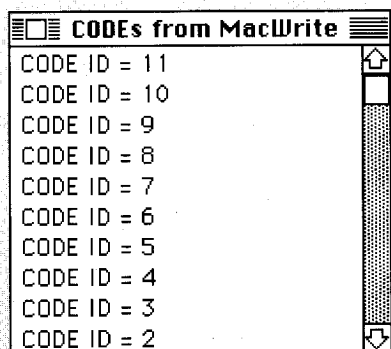


Fig 9 The CODE resources and their ID numbers

each revision of ResEdit includes a few more. So far, all the resources we have looked at have had templates. It is important that you recognise resources that have no template and avoid them, since changing them can destroy an application.

Scroll to the CODE listing. This resource contains various bits of programming code for MacWrite. Double-

click on the CODE listing and a new window opens, listing the CODE resources in MacWrite along with their ID numbers (see Fig 9). So far, this doesn't look different from anything we've done before. But double-click on the first listing, CODE ID = 11, and a new window opens (see Fig 10). It is a resource in its native state — no template. Every one of the numbers in this window represents a bit of information the Mac needs. As these are gibberish to anyone except a full-fledged programmer, it is not advisable to attempt any change in a window that looks like this one. Close the window without making any changes and move on!

It's time to close all windows except for that of the disk itself and quit. If you've accidentally changed anything in any template, you'll get a dialogue box asking if you wish to save changes to MacWrite. For now, click on the No button.

Carefully used, ResEdit is a potent tool for improving the way your Mac works for you. Just remember — hard disks off, work only on copies, and get going!

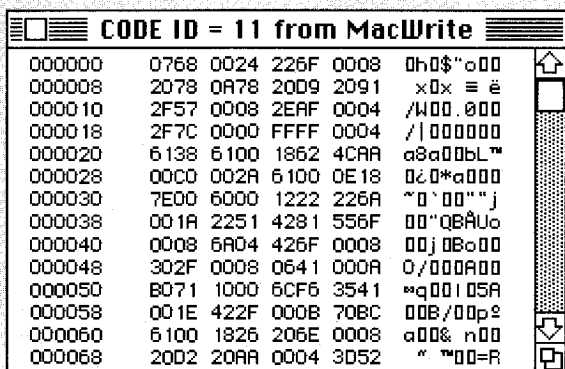


Fig 10 A typical resource without a template to make it understandable. Do not edit these kinds of resources!

ves, move the bottoms around, add or delete keyboard equivalents for menu items, change icons and much more. Sometimes you might encounter an application that isn't operating properly. The problem may be with a damaged resource that can be fixed in ResEdit.

Don't do this at home? Nonsense

You don't need to be an expert to use ResEdit. Take me, for instance. I'm just a curious Mac nut who isn't afraid to make a spare copy of an application and try making a few changes that might make it better. If I fail, I've still learned something into the bargain. If I succeed, I have an application that works better for me. I suggest you follow the same procedure I do — always work on a copy!

One more word of advice. Don't be afraid of crashes or bombs. They are unlikely in the procedures I'll discuss here. Even if they do occur, the dreaded bomb dialogue box isn't half as bad as some people make it out to be — especially if you're careful to work only with copies. If any damage occurs, it is limited to the copy. I have found that damage rarely occurs. Most times the worst that happens is that a change I've made wasn't saved to the disk. So I just boot up and try again.

I am currently using ResEdit 1.2B1. Any recent version will work for what we're doing — I have also used version 1.1d3 and 1.1d4. If you don't have ResEdit, it's available from any source of public domain and shareware software, including user group libraries and bulletin boards.