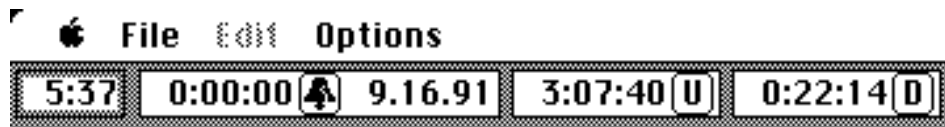# dTimer

A MultiFinder™ DeskTop Timer

d:20

an application written by
David Hairston

for dSoft ... "as simple as possible."

Distribution Agreement

The dTimer 2.0 package is distributed under the "Shareware" system which means that you may try the product for 14 days while evaluating it and deciding whether or not to buy it. The package consists of the application dTimer, written by David Hairston for dSoft, and these reference notes (dTimer Docs). For distribution purposes, the package was archived using the Stuffit™ 1.5.1 format and then BinHex 4.0 encoded. dTimer is not free! After 14 days, you must either stop using the product altogether or purchase it by sending in your (U.S.) $5.00 shareware fee. Shareware distribution has many advantages amongst which are lower prices and "test-driving" and you are therefore encouraged to redistribute the package, without modifications and at no additional cost.

What is dTimer?

Figure 1: dTimer shown with all 4 windows open.

dTimer is a small application (less than 32kB) that can display date or time, 2 alarms, up or elapsed time and countdown time functions in 4 small custom windows on the Macintosh™ desktop, examples of which are shown in Fig. 1. It uses the multi-tasking capabilities of MultiFinder™ to manage these functions in its own small (minimum 32kB) partition thus avoiding the need to use intrusive system extensions (INIT's) or trap patches. Avoiding trap patches, in this case, tends to promote the compatibility of this product with other software. dTimer windows may be conveniently located anywhere on the Macintosh™ desktop even on multiple monitor setups. You should include dTimer amongst your startup applications under MultiFinder™ and forget about it until you need it.

dTimer requires tsystem 6.0.3, or better (Time Manager). On color capable machines, a custom color picker dialog lets you adjust the colors for the window frame, background and text. dTimer is compatible with system 7.0 and should be used with MultiFinder™ under system 6 environments.

Interface Description

dTimer features can be accessed by various alternative methods including mouseclicks in dTimer windows, menu commands and from the keyboard using menukey equivalents. As seen in Fig. 1, the dTimer windows are generally a digital display of time information in a small custom window. The specific time functions are detailed after a brief description of the common window characteristics.

Being small, the dTimer windows are unobtrusive. They have no close box. Closing a window is done by the 'Close' command on the 'File' menu. Similarly, selecting the desired timer, either 'Time', 'Alarm', 'Up' or 'Down', on the 'File' menu opens or selects that window. The windows share frame, background and text colors. The text font is 12pt. Chicago (standard system font). They may be dragged by any point within their display rectangle, excluding window buttons. If somehow they are moved offscreen then they will reappear centered on the main screen when they are reopened. The front window is highlighted by an inset gray (or frame color) rectangle, see the leftmost timer in Fig. 1. The front window is also indicated by a checkmark by the appropriate timer on the 'File' menu. The alarm, up and down counter windows have window buttons which reverse their on/off state. The time window is always on and cannot be turned off. Shift-clicking in a window will shift or toggle its display state (not its on/off state). What this exactly

means is detailed for each window below. Option-clicking in a window will open its option dialog. In order to conserve memory, the dTimer windows are closed while the option dialogs are running but the timers will continue to run, if on.

Time Window

The 'Time' window shows the current hour and minute and may optionally show the current seconds as determined by the configuration on the Time option dialog. If seconds are not displayed then the colon between the hours and minutes will blink periodically (approximately each second) to indicate activity. The 'Time' window can shift to display the current month and day either in digital form as 3. 6 or in abbreviated form as in Mar 6. Again this is determined by the 'Time' option dialog. Note that the 3-letter month abbreviations are stored in STR# 200 for users interested in customizing the abbrevs. The only restriction is that exactly 3 letters must be used. The 'Time' option dialog also can be used to set the current time. Normally the 'Time' window will be the only open dTimer window and for historical reasons it is initially centered at the top of the desktop just under the menubar.

Note: During the 'Time' option dialog, clicking on either the clock or date templates also updates the current time in the time edit text fields but does not set the time.

Alarm Window

There are actually two independent (and otherwise identical) alarm timers. Either is chosen by shift-clicking in the 'Alarm' window. To specify an alarm time on the 'Alarm' option dialog you must register a year, month, day, hour, minute and second. These values are then shown in the 'Alarm' window. The hour spec is shown in 0-23 hour format. In Fig. 1 the alarm time is midnite (very early morning) on monday September 16th, 1991. The alarm window button seen in Fig. 1 shows a bell which indicates that the alarm is on (i.e. it will trigger when the current time is equal to or newer than the alarm time). When the alarm is off the alarm window button is a bell with a slash thru it. The alarm time can be a one-shot (no repeat) event or it can optionally be a daily or weekly repeating event as determined by the 'Alarm' option dialog.

Note: The repeat status of an alarm time is encoded in the separators used on the date portion of the alarm display. Colons, ':', indicate a no repeat event. Periods, '.', indicate a daily repeating event (note also that the digital day format in the 'Time' window is mm.dd with a period). Spaces, ' ', indicate a weekly repeating alarm. Fig. 1 shows a daily repeating alarm.

Typically you'll set alarm times on the 'Alarm' option dialog and then not show the alarm window. Although the alarm window may be closed, the alarm timers will continue to work if they are on. It should be mentioned that dTimer must be running in order to receive alarm notices. This is typically not a problem since dTimer is a startup application which coopertively runs in the background under MultiFinder™. The alarm notice involves several steps: (1) the 'Alarm' window is opened if it was closed else it is selected, (2) if you elected to use a memo, it is shown else the triggerring alarm time is shown in the alarm window, (3) if the alarm time was a one-shot event then the alarm window button is set to off (slashed bell) else the alarm time is updated to its next repeat time, (4) a notification manager task is installed which produces a beep, marks the dTimer application on the MultiFinder™ menu and blinks a small icon in the menu bar. The small icon image is the now familiar bell image used on the alarm window button. The alarm notice may be cleared by simply clicking or typing when dTimer is the foreground application. By default, the alarm notice will automatically be cleared 12 hours after it was posted. Typically, an alarm notice is cleared by the event used to reclose the alarm window.

Note: An alarm memo, if used, merely covers the alarm window during an alarm notice. Clicking in the center of the alarm window is still considered a click on the alarm window button. Unlike the alarm notice itself, an alarm memo is cleared only when the 'Alarm' window is updated, for example, by a shift-click or by activating another dTimer window. An alarm memo is limited to 15 characters.

Note: During the 'Alarm' option dialog, you cannot set the alarm time if the alarm time in the alarm edit text fields is older than the current time. In that case, after an alert, the alarm edit text fields are updated to the current time so that you can then adjust the alarm time to be newer than the current time.

Note: You cannot turn on a no-repeat alarm if the alarm time is older than the current time. During the 'Alarm' option dialog you can, for example, indicate that the alarm is a daily repeat alarm and then turn it on. This will also automatically update the date portion of the alarm edit text fields.

Up Window

The up timer displays accumulated time starting from time zero. By default, the up timer initially displays this time in minutes, seconds and tenths of seconds format (i.e. 04:32.6 with a leading zero and a period after the seconds field) and then switches to hours, minutes and seconds format (i.e. 1:19:05) after ten minutes. The up timer also switches format when the accumulation of tenths of seconds has been invalidated (i.e. when the up timer is started and then dTimer is quit and subsequently re-launched before the ten minute limit). The up timer's window button has a 'U' on it to distinguish it. Clicking the window button starts or stops the accumulation of elapsed time. If on, the accumulation of elapsed time will continue even if the window is closed. Also, accurate accumulation of time is maintained when dTimer is quit and re-launched and also when the Macintosh™ itself is turned off and on (assuming dTimer has quit naturally). Shift-clicking in the 'Up' window will toggle the display of an interval time which is a snapshot of the accumulated time at that instant. During interval display, the window button is 'u' and the time shown will remain constant but the up timer will continue to run if it is on. To indicate that the up timer is still busy although the displayed time remains constant during interval display, the separators of the up timer will alternately blink. When toggling out of an interval display the actual count is immediately resumed. The maximum accumulation of time is limited by the display to 99:59:59 or one second less than 100 hours before it automatically resets. The up timer may be manually reset by choosing the 'Up' command on the File menu when the 'Up' window is in front and the up timer is stopped. The 'Up' window is generally only opened when the duration of some process is of interest.

Down Window

The down timer is very similar to the up timer and its window button has a 'D' on it to distinguish it. Clicking the window button turns the down timer on or off and shift-clicking in the 'Down' window toggles the display of an interval time similar to the up timer behavior. The down timer is different in that it counts down to zero from the registered time and may optionally be configured to indefinitely repeat that cycle. If not automatically repeating then the down timer resets when it reaches zero. The down timer may be manually reset by choosing 'Down' on the 'File' menu when the 'Down' window is in front and the down timer is stopped. When it reaches zero, the down timer will either flash the menubar or beep as determined by the 'Down' options dialog. The zero event will occur even if the 'Down' window is closed or if an interval time is being displayed, as long as the down timer is on.

Note: Adjusting the countdown time on the 'Down' option dialog does not automatically reset the current time on the down timer. You must either manually reset the down timer to use the new countdown time or allow the timer to count down to zero. The next cycle will then use the new countdown time. This will be done automatically if the repeat flag is set.

Memory Considerations

The design specs for dTimer stipulated that it must be small in size and memory usage. Therefore, dTimer will never be larger than 32kB! Also, dTimer will never require more than a 32kB partition under MultiFinder™. The latter spec requires certain considerations for color machines and for new format sounds which are somewhat memory demanding. On color capable machines, dTimer uses a custom color picker dialog to set the colors for the window frame, background and text. The custom color picker uses more code than the standard color picker interface but requires far less memory! Similarly, under low memory conditions a simple beep procedure is used instead of the standard system beep. Adding an extra 8kB or more to the dTimer partition will enable the standard system beep.

The amount of free memory for a minimum 32kB partition on a Macintosh II™ with all four windows open is approximately 3.5kB. During modal option dialogs, the worst-case free memory is about 2.5kB. Normally this is not a problem, however unusual system extensions or FKEY's or launching desk accessories directly into the dTimer partition, etc., may erode these margins. You must increase the dTimer partition if you use software of that nature in that manner! It should be mentioned that the vast majority of extensions, and so on, are well written and are generally not a problem.

Miscellanea

dTimer 2.0 (the successor to MultiTimer) is intended to be the last version which supports system 6. Future versions of dTimer are slated to be system 7.0 studly. Amongst the changes likely to occur are the disappearance of option dialogs in favor of balloon help, the use of an in-window editing-mode for adjusting features and support for IAC. dTimer is not free, it is shareware! Registered users will be able to freely upgrade although nothing but your conscience will prevent you from abusing the system.

Shareware Registration

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dTimer costs (U.S.) $5.00. Registration is on a per-user basis unless an exception has been agreed upon by the author. Specific registration concerns should be brought to the attention of the author. If you keep dTimer after a 14 day trial period your payment should be directed to:

David Hairston   (412) 781-3066
4373 Stanton Ave.
Pittsburgh, PA 15201
U.S.A.

Error Messages

You should never see the following alerts which may occur if dTimer has to quit abruptly:

Trash me	- generic initialization problems. Throw the application away!
Bad SysEnv	- couldn't read SysEnvirons. Checkout your system software.
Sys < 6.0.3	- dTimer requires system 6.0.3 or better.
Bad CTbl	- color machines only. dTimer expects wctb and cctb indices to equal their value.
Clk	- a problem reading or writing the clock. Checkout your machine.
Nil Ptr	- dTimer wanted a handle/pointer and didn't get it. Possible software conflict.
Low Mem	- the segment loader isn't happy. Increase the dTimer partition by at least 8kB.

Limited Warranty

Neither dSoft nor David Hairston warrant that dTimer is free from all bugs, errors or omissions. dTimer has been extensively tested and found to be stable under all tested environments. However it is impossible to test every environment. If you have an extremely unusual environment and therefore experience problems with dTimer, you should contact the author who will attempt to modify dTimer in a subsequent version to include compatibility with your environment or who will refund your $5.00 registration payment. Neither dSoft nor David Hairston will be liable for incidental or consequential damages or loss of data and or revenues directly or indirectly related to the use of this product.

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Other dSoft Shareware Products ... "as simple as possible".

dScreenSaver package - A no-INIT, extensible trio of applications for doing screensaving.
dDog - a wacky, good for nothing, desktop do-dad guaranteed to bring a smile.
dBridgIt - a 1 or 2 (recommended) user game that requires logic and strategy.