

WinMaze

Maze Solver for Windows

Version 1.1

Thank you for trying out the Maze Solver screen saver. The following table of contents lists the sectional breakout of this document. It is not really long enough to bother with page numbers.

- 1.0 - Installation
- 2.0 - Hardware/Software requirements
- 3.0 - Disclaimers
- 4.0 - Registration
- 5.0 - General Info
- 6.0 - Configuring Maze Solver
 - 6.1 - The File Menu
 - 6.1.1 - New
 - 6.1.2 - Open Dialog
 - 6.1.3 - Save Dialog
 - 6.1.4 - Delete Dialog
 - 6.1.5 - Exit
 - 6.2 - The Edit Menu
 - 6.2.1 - Copy
 - 6.3 - The Options Menu
 - 6.3.1 - Color Dialog
 - 6.3.2 - Walls Dialog
 - 6.3.3 - Misc Dialog
 - 6.3.4 - Pause
 - 6.3.5 - Title Bar
 - 6.3.6 - Status Bar
 - 6.3.7 - Percent Dialog
 - 6.3.8 - Password Dialog
 - 6.4 - The Help Menu
 - 6.4.1 - About
- 7.0 - Questions and Answers (look here!)
- 8.0 - Registration Form

1.0 - Installation

The zip file should have included the following:

winmaze.scr	- The screen saver
winmaze.wri	- This file
readme.txt	- An overview text file
orderfrm.txt	- A text order form for printing. (Also found at the end of this document.)

To install the winmaze screen saver, simply copy winmaze.scr into your primary windows directory (the same directory win.com is in). For example, if windows is installed in c:\windows and you are at a dos prompt in the same directory as winmaze.scr, you can type:

```
copy winmaze.scr c:\windows
```

This will complete the installation. If you run the Desktop control panel, you will see 'Maze Solver' as one of the screen savers. Read the rest of this manual for instructions on configuring the screen saver. You may keep winmaze.wri and readme.txt anywhere you like.

2.0 - Hardware/Software requirements

The Maze Solver screen saver should run on any 286 or higher system running Microsoft Windows version 3.1. There are reports that this screen saver may have difficulty under the Norton Screen Saver, but we have not confirmed this. Registered users also receive a version that runs under Windows NT.

3.0 - Disclaimers

While care has been taken to ensure the quality of this product, we cannot be responsible if this product destroys your computer, your life, or the universe as we know it.

4.0 - Registration

If you are reading this, we are impressed. Registration is \$15. The registration form is contained at the end of this document. After registering, you will receive two disks (one PC, one Mac) which includes the most recent versions of the following:

- MS Windows 3.1 Maze Solver screen saver/program with password protection.
- MS Windows NT 3.1 Maze Solver screen saver/program for Intel based computers. (Password protection is built-into NT.)
- Macintosh Maze Solver screen saver for After Dark and Darkside of the Mac.
- Macintosh Maze Solver application program.

5.0 - General Info

Once installed and selected as the current screen saver, Maze Solver will run with default settings without any other configuration information. If you choose to further configure Maze Solver, see the following sections describing the dialog boxes and configuration options. Almost every facet of Maze Solver can be configured.

Maze Solver also runs correctly as an executable application. Change the name of the file winmaze.scr to winmaze.exe and put it in any directory you want. The primary item missing as an executable is that the size of the maze will always be the full size of the window.

The screen saver will store any needed configuration information in a .INI file that is in the same directory as the program. Under WinNT, this information is stored in the screen saver portion of the current user's registry. (Yes, each user can have their own settings).

The registered version of Maze Solver has password protection that we believe to be at least equal to the security provided with the built-in Windows screen savers. Unfortunately, built-in detection of network passwords is not supported. The registered version also comes with Macintosh-After Dark, Macintosh stand alone, and MS Windows NT versions of the screen saver.

As a final note, limits for certain values are shown in parenthesis. For example, if an integer edit box only accepts numbers 1-23, the description will be followed by (1-23).

6.0 - Configuring Maze Solver

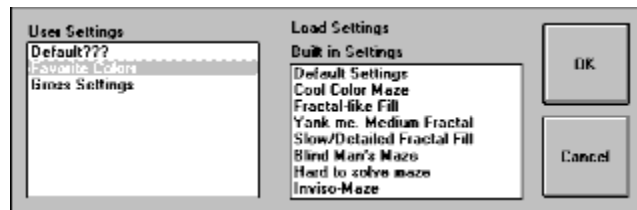
When run as a program, or in configuration mode, a menu is available which has many commands for configuring the display. The following will document these commands in menu order.

6.1 - The File Menu

6.1.1 - New

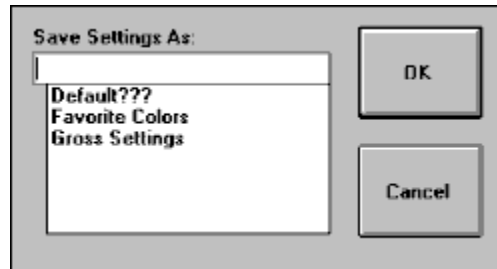
This command is executed by choosing New from the File menu or pressing the letter 'N'. There is no dialog box associated with this command. This command allows a new maze to be generated. It will restart the maze if it is paused.

6.1.2 - Open Dialog



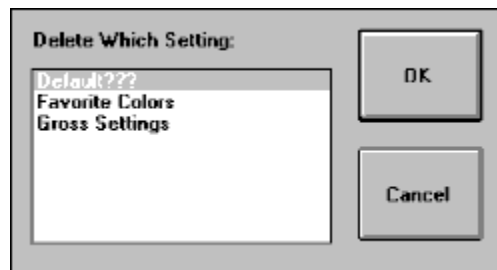
This dialog is brought up by choosing Open from the File menu or pressing the letter 'O'. From this dialog you can load any setting you have saved, or any of the built-in settings. Simply choose OK after making a selection, or double click on a selection.

6.1.3 - Save Dialog



This dialog is brought up by choosing Save as from the File menu or pressing Control and S keys at the same time (Control-S). Type in a name up to 32 characters long and select OK to save the settings. Any printable character is valid. Double clicking an existing name will allow you to replace that entry. A Yes/No confirmation box will pop up before overwriting an existing setting.

6.1.4 - Delete Dialog



This dialog is brought up by choosing Delete from the File menu or pressing the letter 'D'. Select the entry to delete, or double click on an entry. A Yes/No confirmation box will pop up before deleting the entry. NOTE: If you are running under Windows 3.1, this will not free up any space in the .INI file. If you are so low on disk space that this is an issue, load the .INI file into a text editor and remove a section that starts with '[user.' that does not exist in the [EntryInfo] section. The [EntryInfo] section may also be compressed by 'squeezing out' the blank entries. Keep in mind that the entries must remain sequential, so don't just yank them. Also, update the NumEntries field appropriately.

6.1.5 - Exit

This command is executed by choosing Exit from the File menu or pressing the letter 'Q', or by pressing Alt-F4. There is no dialog box associated with this command. This command quits the program when it is running as a stand alone program, or in screen saver configuration mode. Any settings will be saved and retrieved the next time the program is run.

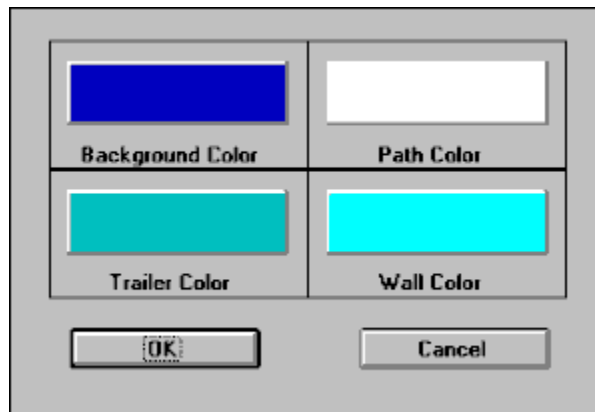
6.2 - The Edit Menu

6.2.1 - Copy

This command is executed by choosing Copy from the Edit menu or pressing Control-C. There is no dialog box associated with this command. This command allows the current maze in its current state to be copied into the edit (cut and paste) buffer. You can then paste the maze into any paint program.

6.3 - The Options Menu

6.3.1 - Color Dialog



This dialog is brought up by choosing Colors from the Options menu or pressing the letter 'C'. Choosing any of the color buttons will bring up the Windows standard color selector. The color buttons have the following meanings:

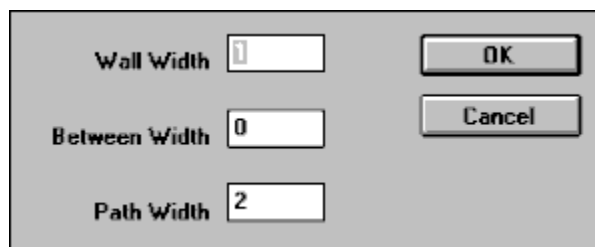
Background Color: The color 'underneath' the maze.

Path Color: The color used to draw the current path.

Trailer Color: The color to draw where the maze has already been.

Wall Color: The color of the dividing walls.

6.3.2 - Walls Dialog



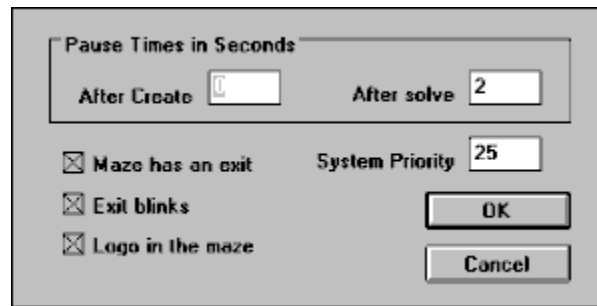
This dialog is brought up by choosing Walls from the Options menu or pressing the letter 'W'. These settings change the granularity of the maze. Many interesting things can be created by adjusting these settings since 0 is a valid value for the wall and between width. Each width has the following meaning:

Wall Width: Width in pixels of the dividing walls in the maze. (0-32)

Between Width: Width in pixels of the space to leave on either side of the path when traveling through the maze. (0-32)

Path Width: Width in pixels of the path that travels through the maze. (1-32)

6.3.3 - Misc Dialog



This dialog is brought up by choosing Misc from the Options menu or pressing the letter 'M'. The fields have the following meaning:

Pause Time: These allow you to choose how many seconds the maze pauses after it is first created and after it is solved respectively. (0-60)

Maze has an Exit: Most mazes have an exit. If you choose to remove exits, then a maze path will travel through the entire maze. The maze is finished when every cell has been visited. This is a good way to 'fill' the maze when the trail color is different from the background color.

Exit Blinks: This option is only available if the maze has an exit. With this option set the exit square will blink every half a second.

Logo in the Maze: When the maze is large enough, the Knoware logo will pop up in a random position in the maze. Disable this setting if you don't like the logo.

System Priority: This determines how much work the maze will try to do before giving time back to the system. If the maze is moving too quickly for your tastes, lower this number. Of course raising the number will increase the performance of the maze to a point (values above 250 don't seem to change the behavior much). If you are running the maze as a program, or if you have a background task going on while the screen saver is active (ie: a modem download), you may want to keep this number lower - under 50 should be good. Your mileage may vary. (0-10000)

6.3.4 - Pause

This command is executed by choosing Pause from the Options menu or pressing the space bar. There is no dialog box associated with this command. This command allows the current maze to be pause and resumed during creation or solving. It is useful to pause and 'Copy' the maze.

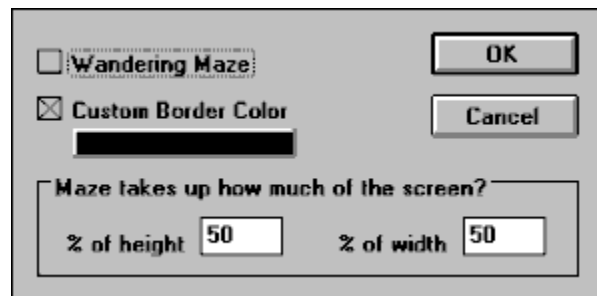
6.3.5 - Title Bar

This command is executed by choosing Title Bar from the Options menu, pressing the letter 'T' or double clicking on the client region of the screen (the part where the maze is). There is no dialog box associated with this command. This command removes and brings back the menu and title bar from the window. Using this command will also cause the menu bar to disappear. Remember, to bring it back, either press the letter 'T', or double click the mouse in the client area of the window.

6.3.6 - Status Bar

This command is executed by choosing Status Bar from the Options menu or pressing the letter 'S'. There is no dialog box associated with this command. This command toggles a visible status bar at the bottom of the screen. The status bar displays context hints on the currently highlighted menu item. When idle, it displays the name of the program and the current version. There are two small displays on the right side also. One will display 'Pause' if the solver is currently paused, the other one will show a percentage complete display while the maze is being created. This is very useful if the maze being created is 'invisible'. Try loading the 'Fractal Like Maze' as an example of this.

6.3.7 - Percent Dialog



This dialog is brought up by choosing Percent from the Options menu or pressing the '%' key. This choice is not available if you are running the maze as a program. Each of the fields has the following meaning:

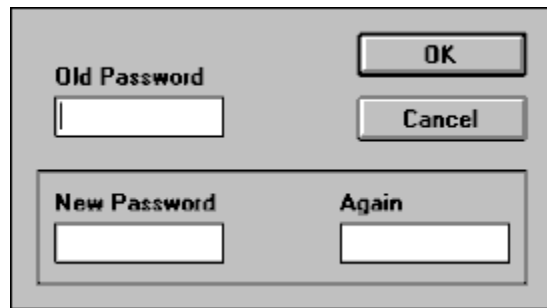
Wandering Maze: If enabled, the maze will slide around on the screen as it is created and solved. When enabling this button another dialog will come up requesting how many times per second to slide the box. Legal values are from 1-30, although under Windows 3.1 values above 18 will probably all execute at about the same frequency. NOTE: To change the update frequency deselect the checkbox and reselect it. If the Wandering Maze option is disabled, the maze will be relocated before each new creation so as to prevent burn in. Even if the maze screen saver is running 'full screen', there is a small area set aside for it to bounce around in.

Custom Border Color: Enable this if you wish the background of the screen to be different from the background of the maze. When enabled the color button will appear below it. Also choose this if the background color for the maze is not a solid color and you are seeing aliasing on the screen when the maze slides.

Color Button: When Custom Border Color is enabled, this button exists. Choose it to select a custom background. Custom backgrounds must be a solid color, if you choose a 'pattern' color, you will be informed that the closest solid will replace it. If you care, the reason for this is the way the maze is moved when it slides. The maze is simply copied from its current location to a new location 1 or 2 pixels away. A little extra is dragged along to remove leftovers from the original maze. Using a pattern color tends to drag the background without preserving correct pattern layout.

Percentages: Set these values to select what percentage of the screen is filled in with a maze. (5-100)

6.3.8 - Password Dialog



The image shows a standard Windows-style dialog box with a light gray background. At the top left, there is a label 'Old Password' above a single-line text input field. To the right of this field are two buttons: 'OK' and 'Cancel'. Below the 'Old Password' field, there is a larger rectangular frame containing two more text input fields. The left one is labeled 'New Password' and the right one is labeled 'Again'.

This dialog is brought up by choosing Password from the Options menu or pressing the letter 'P'. This choice is not available if you are running the maze as a program. Also, this choice is only available if you have the registered program. NOTE: All three of these text fields display a '*' for each character typed. Also, there is a limit of 12 characters for each field. Each of the fields has the following meaning:

Old Password: If a password is already set, you must type the current value here.

New Password: Your selection for the new password.

Again: Same as the 'New Password'. Entered to verify correct typing.

6.4 - The Help Menu

6.4.1 - About

This command is executed by choosing About from the Help menu. There is no hotkey for it. It just brings up the about box. Whee.

7.0 - Questions and Answers (look here!)

Q: Can I make the maze slide around on the screen?

A: Yes, when configuring the screen saver, select Percent from the Option menu. Choose the top radio button (Wandering Maze), and select how often the screen should update.

Q: Will sliding the maze be too slow on my system?

A: Maybe. It looks good on the 486 systems we tried it on. It should be ok on 386 system with good video boards. If the maze flickers or does not create/solve fast enough, try setting a lower update frequency.

Q: How do I adjust the update frequency for when the maze slides?

A: Well, it isn't obvious, we admit it. In the Percent dialog from the Options menu, turn the 'Wandering Maze' option on. If it is already on, turn it off and then on again.

Q: I get weird 'artifacts' on the screen when I select 'Wandering Maze'. What's up with that?

A: Well, by forcing the true border/background to be solid we usually stop this from happening, however it can be seen if either of the following are true:

- The 'Custom Border Color' option is turned off in the Percent dialog from the Option menu AND the maze background color is not solid.
- The maze tends to build towards a solid pattern while solving, ie: the wall width is zero, and the trail color is non-solid.

The reason this occurs is because the maze is not always shifted in increments that conform to the size of the repeating pattern that gives a patterned color its apparent color. If this happens, simply choose a solid color for the offending attribute. A solid color can always be found above the word 'Solid' in the color selection palette dialog.

Q: What about system priority? Do I really care?

A: This parameter allows you to control how much work the program does before giving time back to the system. You can set it to very low numbers (ie: 1) if you would like to see the maze solve slower. Also, if the system will be doing 'work' while the screen saver is running (ie: a modem downloading), try keeping this number under 100. You may even need a lower number depending on your system. As to the second question, no, you probably don't care. Lastly, under WinNT, this number only affects speed of the creation/solve. It will not significantly influence how well other programs run.

Q: Hey, in 'Wandering Maze', when I set the frequency over 18 per second it doesn't seem to make a difference. What's going on?

A: You are correct, the wandering is implemented with a system timer. Windows 3.1 does not support timers faster than this. I am not sure if the NT timers have a finer resolution, but if they do, the program will take advantage of it.

Q: The maze does not wander. My delay settings are being ignored. My exit does not blink. What's up?

A: All these things are implemented with timers. Win3.1 only supports 32 concurrent timers. If a timer request fails, the program will do without. It should never do anything fatally wrong, the worst that should happen is what is described in the question. Oh, under Win3.1 if you have the registered version, and the password request box comes up to terminate the screen saver, it will cancel itself and resume the saver after 15 seconds of no keyboard input. It will not go away with inactivity if the timer request fails.

Q: Just how secure is the password protection in the Win3.1 registered version?

A: Eh, not bad. Seriously, there is only so much security that can be enforced. The password is stored in an encrypted format in the .INI file. The user cannot Ctrl-Alt-Del to terminate the screen saver. Of course we cannot prevent a reboot. The user cannot Alt-Tab or Ctrl-Esc out. If there are unusual custom keys that the screen saver cannot intercept, it will attempt to steal back the focus as soon as possible (the same as the built-in MS screen savers). When a correct password is entered the user will be told how many failed

attempts at passwords were made. Pressing Esc will not count since the password is not checked, and of course if the password is entered correctly the first time, nothing is noted.

Q: Can I run Maze Solver as an application?

A: Sure, just copy it into any directory, rename winmaze.scr to winmaze.exe and set up an icon for it in the program manager. The maze will always take up 100% of the screen, and so no wandering options can be set. **Note:** For those who really really want to have these options available (why?), this is how you can do it. A screen saver is nothing but a special program that look at some command line parameters. If you add the parameter /c to the Program Manager entry, it will run just like the configuration mode of the actual saver.

Q: Why is it that when Maze Solver is running as a program, or in configuration mode, the actual screen saver never kicks in?

A: Well, in a word, Maze Solver is fooling Windows into thinking a screen saver is already running. This will only happen if Maze Solver is the active application. Windows always asks the active application if it is ok to run the screen saver. Maze Solver assumes that since it is the active application, and it is pretty much a screen saver, there is no reason to let windows run the screen saver. This logic is not always valid for all users, but hey, how often is this really going to be a problem?

Q: Where can the authors be contacted for questions and comments?

A: The authors may be contacted through E-Mail at the following addresses:

CompuServe - 70004,644

Internet - 70004.644@compuserve.com

8.0 - Registration Form

WinMaze/MacMaze Order Form

Knoware
5696 Blinnton Place
Columbus, OH 43235

Registration for MacMaze/WinMaze is \$15. After registering, you will receive two disks (one PC, one Mac) which includes the most recent versions of the following:

- MS Windows 3.1 Maze Solver screen saver/program with password protection.
- MS Windows NT 3.1 Maze Solver screen saver/program for Intel based computers. (Password protection is built into NT.)
- Macintosh Maze Solver screen saver for After Dark and Darkside of the Mac.
- Macintosh MacMaze application program.

Name _____

Company _____

Address _____

Where did you hear about MacMaze/WinMaze? _____

Do you have a CompuServe ID? Y N

If you would like product upgrades or information about future Knoware products sent to your CompuServe account, please supply your ID number _____

Do you have an Internet email address? Y N

If you would like information about future Knoware products sent to your Internet account, please supply your address _____

Macintosh users: Do you currently run System 7? Y N

Disk size (for PC disk): ___ 3.5" ___ 5.25"

<u>Product</u>	<u>Quantity</u>	<u>Price</u>
MacMaze and WinMaze registration, \$15	_____	\$ _____
Sales Tax (Ohio customers only, (5.75% currently))		\$ _____
Total Enclosed		\$ _____