Minos Maze Maker Lite/Full/Pro

User Guide - Version 2.0.0, October 2023

Table of Contents

1. Introduction: What is this software?

Minos Maze Maker[1] is a powerful maze generator that can create beautiful mazes and their solutions, which you can print or to export as high-quality graphics into your own publications. Any mazes you create are yours, royalty free. Make them sweet and easy, or make them diabolically difficult. You will be building and printing professional-looking mazes right away.

Add them to your newsletters, make and sell your own books with them without any need for any commercial licensing. The puzzles you create are all yours to distribute and sell. You may add a credits reference to my software in your product, but I do not require it.

You can create, edit, save, and re-open one or more maze document files, just like when using a word processor. Each document saves all the settings and other information to recreate and re-display the maze. When you run the software for the first time, it will open a new maze document with default settings for a maze. You can then change these settings, build a maze, print it, and save the maze document to a file on the computer, so you can open it back up later. This allows you to create, lay out and save many different mazes of different shapes and difficulty levels, and return to them later by simply opening them from your saved documents.

---
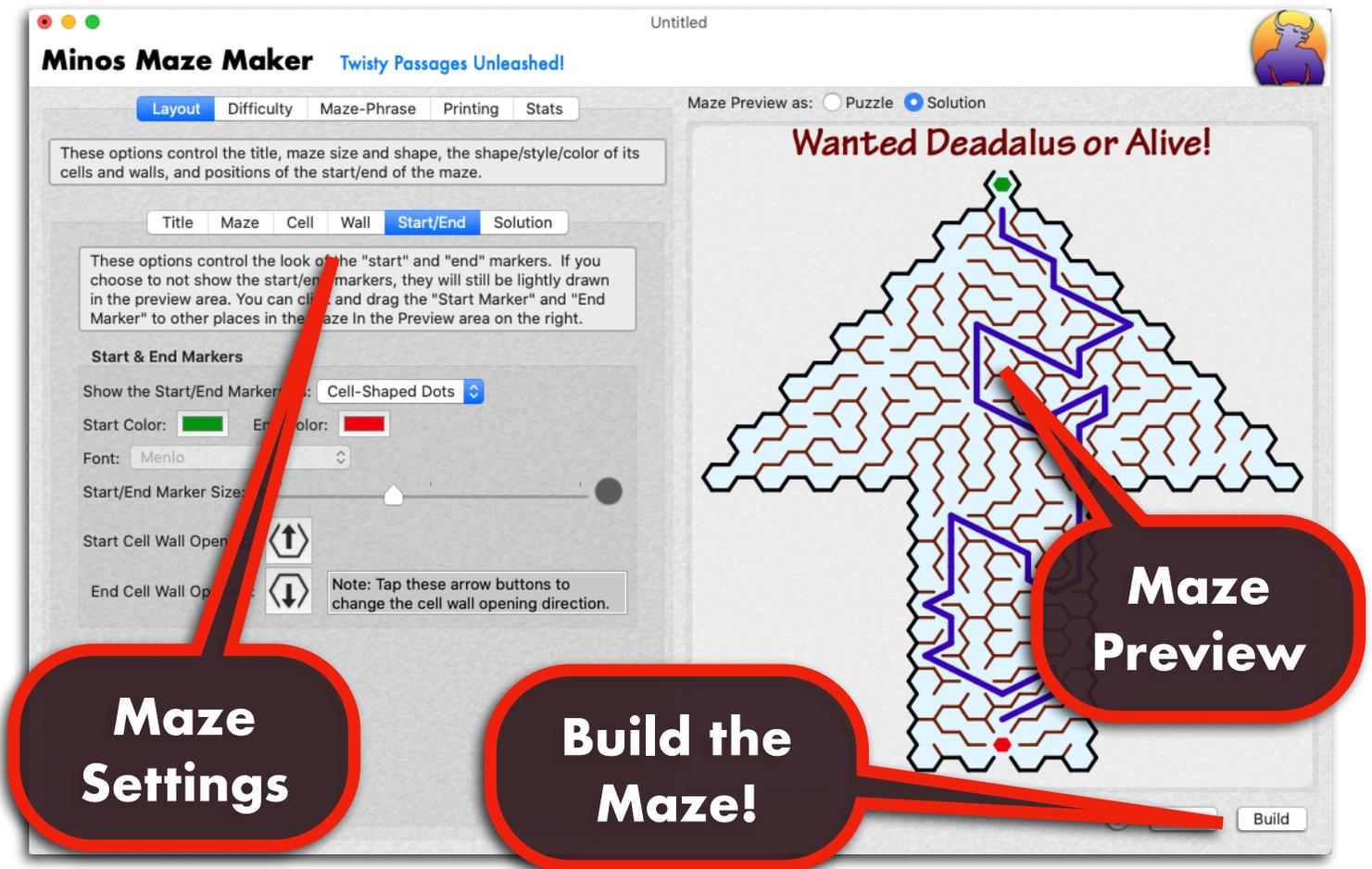
1 - The name "Minos Maze Maker" hints at the the story of the ancient Greek king Minos who hid his Minotaur monster away in a labyrinth.

# 2. Tutorial: Let's make a maze!

Here is a quick 5-step tutorial for creating your first maze. We will pick some settings for this tutorial, and you can try other shapes and sizes later. When finished, it will look like the image opposite.

1. Lay out the size and shape of your maze:

   Tap the "Layout" tab, and under that, tap the "Maze" tab. Change the maze size (number of cells across and down) to 20x20, and change the maze shape to "Mushroom". Tap the "Cell" tab and set the cell shape to "Hex (Sigma)".
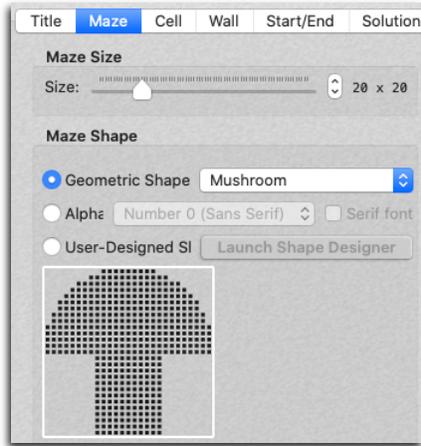
2. Choose how the Start marker, End marker and the Solution path will be displayed:
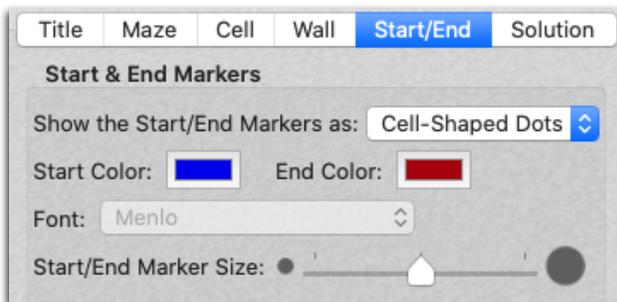
   Under the "Layout:Start/End" tab, set the Start/End markers to "Cell-Shaped Dots". In the "Layout:Solution" pane, set the "Show Maze Solution Path as:" to "Line", and choose a Green color for the Solution Path color.

3. Now choose how difficult the maze will be to solve. Under the "Difficulty" tab, move the "Maze Difficulty" slider to 9, for "pretty difficult":

4. Tap the "Build" button, or type ⌘-B to build the maze, and wait a moment for it to build. Set the "Maze Preview as:" to "Solution", and here is a maze for you, ready to print!
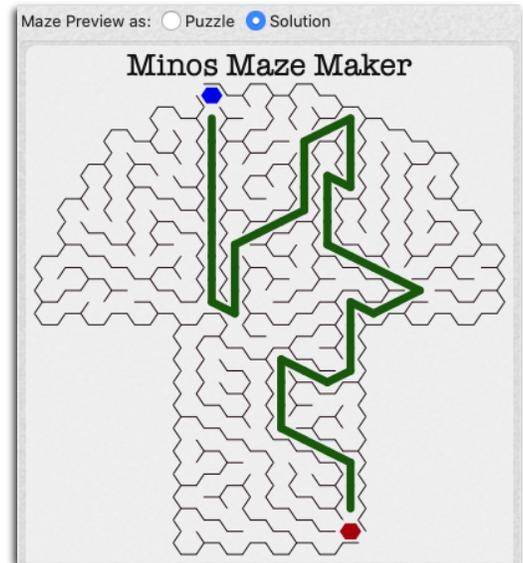
   It will look something like this, with a different solution path. You can press the Build button a few times to see how it creates a different maze and solution path each time, and stop when you see one you like.

5. Under the "File" menu, choose "Print…", or type ⌘-P, and you should see the Print Preview screen, ready to print your maze to your printer.
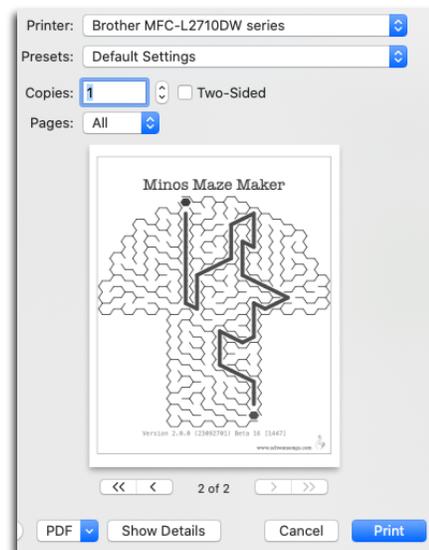
   Ah, but don't stop now! Read on to learn about all the customized mazes you can make!

3. Details: What does this thing do?

This section describes each setting and menu item available in this software. Note that some of the features described here are only available in the Full or Pro version, not the "Lite" version.

Main Window

When you start Minos Maze Maker, it opens a new Maze Window, which has <u>settings</u> on the left for you to configure the maze, a <u>preview</u> area on the right to display the maze as you design it, and some buttons along the bottom for quickly building, printing, or exporting your maze.
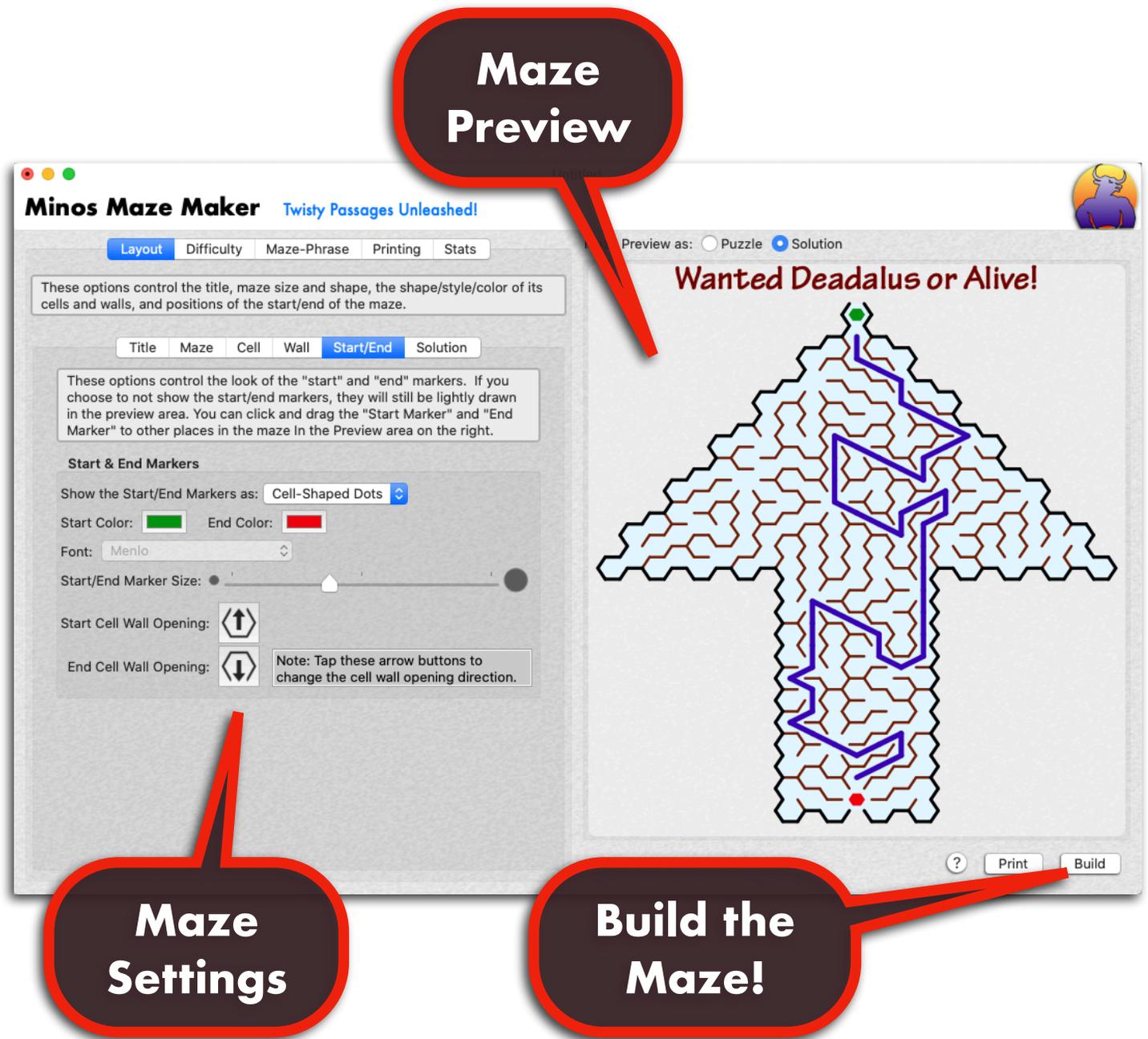
Maze Settings on the Left

There are many settings that you can customize to create unique looking mazes. They are grouped into sets of "tabs" along the upper left side of the document window. There are the main "Maze Settings" tabs along the top, and when you choose the Maze Setting tab called "Layout", then there are additional "Layout Settings" tabs underneath. All of these tab-grouped settings will be described below.

Minos Maze Maker — *Passajus Twisticus*

| Layout | Difficulty | Maze-Phrase | Printing | Stats |

These options control the title, maze size and shape, the shape/style/color of its cells and walls, and positions of the start/end of the maze.

| Title | Maze | Cell | Wall | Start/End | Solution |

Maze Title

Title: Wanted Deadalus or Alive!

Color: ▮   Font: Tekton Pro

Maze Settings Tabs

Layout Settings Tabs

Layout: Title Tab

This tab has settings that let you control the look of the title printed above the maze.

Layout: Title: Maze Title

Title: The main text that will be printed above the maze on the puzzle and answer pages. It will be centered, and wrap onto multiple lines if too long.

Color: The color of the title text.

Font: The font to use for the title text.

Layout:Maze Tab

This tab has settings that let you control the size and shape of the overall maze.
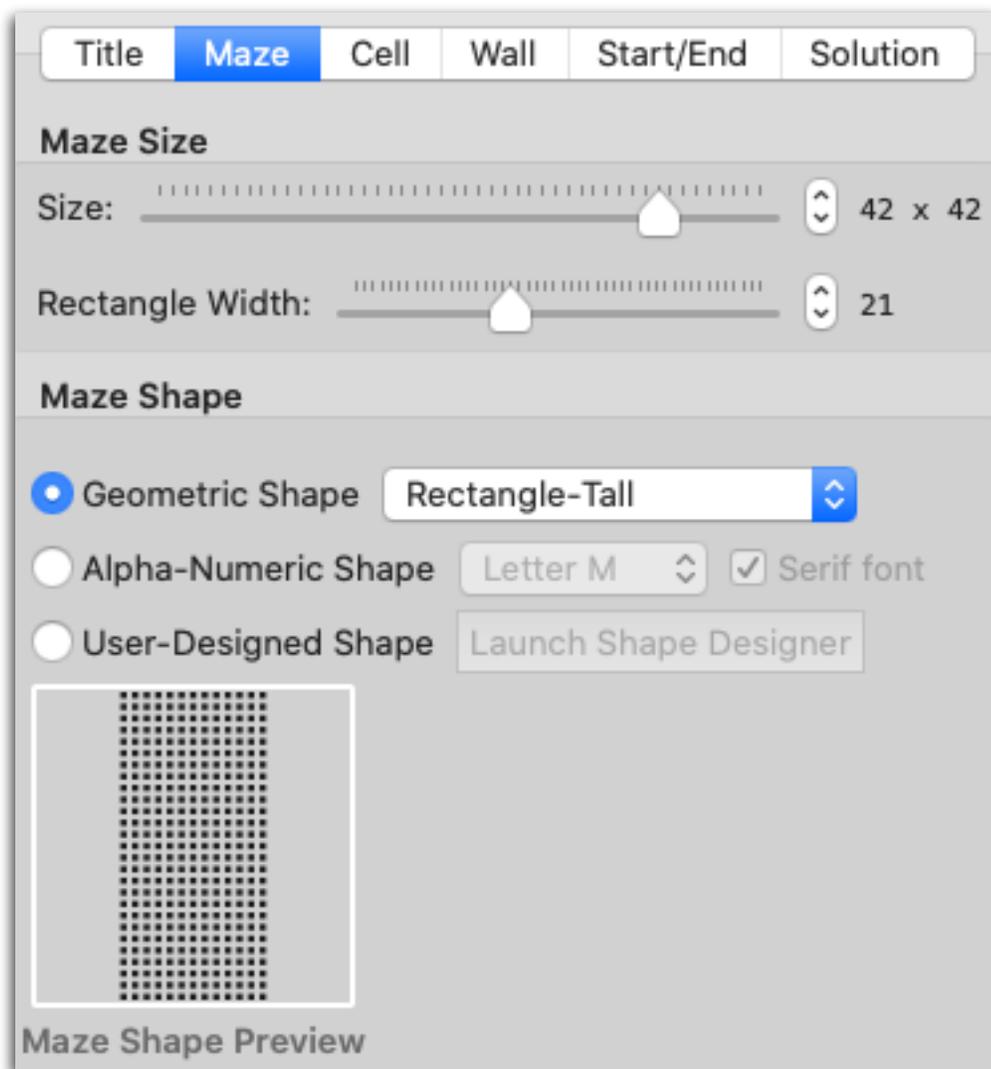
Layout: Maze: Maze Size

Size: This slider lets you choose the overall width and height (in "cells") of the maze. The larger the number, the more complicated the maze becomes, and the longer it takes to generate it. Also as you increase the size, the custom maze shapes will look nicer and less jagged. If you are printing the maze to a printer, then as you increase the maze size, the cell size will shrink so that the overall maze will always fit on a single page. If you *export* the maze files instead of printing them, you can then set a separate "output" pixel size for the maze, for high quality large-format images; See the "Export Maze: File Size…" section below.

Rectangle Width: This slider appears when you choose a maze shape of either Rectangle-Wide or Rectangle-Tall, and it lets you choose the short side width (in "cells") of the maze. The larger the number, the closer to a square it becomes. It ignores anything larger than the current Maze Size. Changing this allows you to fine-tune the rectangle maze to fit either a long thin column, or a full sheet of paper.

Layout: Maze: <u>Maze Shape</u>

<u>Geometric Shape</u>: This lets you choose from a number of preset shapes for the maze. Note that very small maze dimensions (less than 10) can only be a square shape. When you choose a maze dimension of 10 or larger, you can choose from different maze shapes.
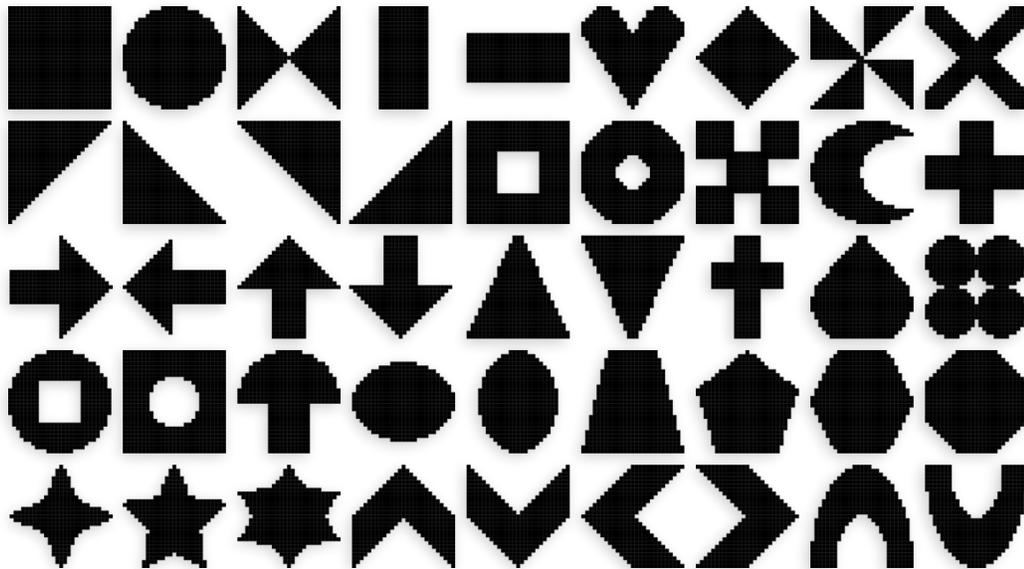
<u>Alpha-Numeric Shape</u>: (*Pro Feature*) This lets you choose from the upper-case letters A through Z, or the numbers 0 through 9. You can also choose to display the characters in either a Serif or a Sans-Serif font.

<u>User-Designed Shape</u>: (*Pro Feature*) This lets you design your own shapes. There is a built-in "Shape Designer" which allows you to design a logo or complex shape of your own, and then uses that to create your maze from. You can also export your shape to send to others, or import shapes designed by other software users.

Layout:Cell Tab

This tab has settings that let you choose from different maze cell shapes, and whether to fill the maze cell "floor" with a solid color, or leave it transparent.
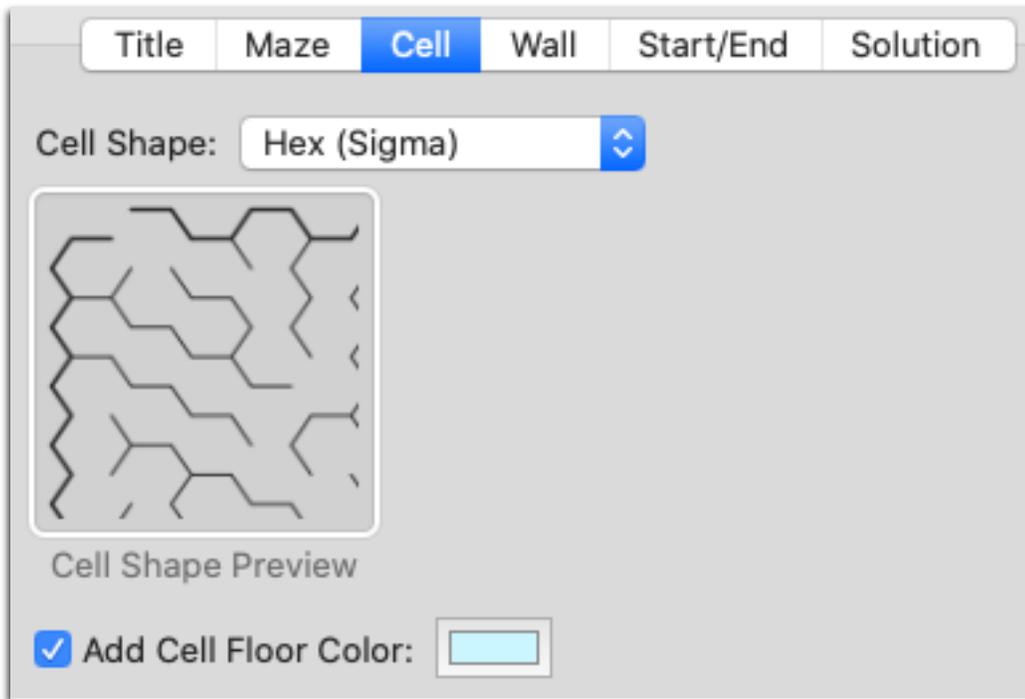
Cell Shape: This lets you choose from a number of cell shapes for the maze.
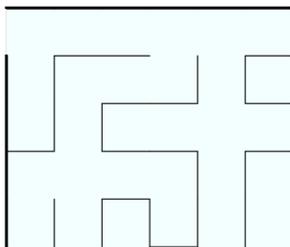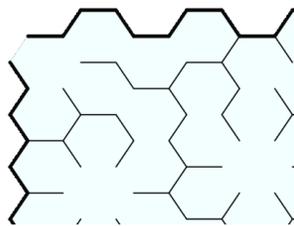
| **Square (Ortho)** | **Hex (Sigma)** | **Octo-Grid (Ortho)** | **Iso-Triangle (iDelta)** |
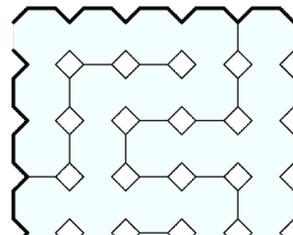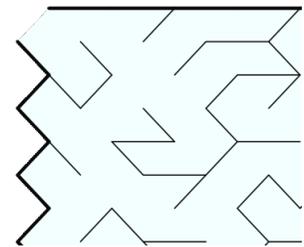
Note that regular square-cell mazes are usually referred to as "Orthogonal." Hexagon-cells are called "Sigma", and triangle-cells are called "Delta."

Add Cell Floor Color: Turn this checkbox *on* to "paint" each cell with a particular solid floor color. Turning this off leaves the cells transparent.

Color: When the above checkbox is on, you can tap the color box to change the cell floor color.

Layout: Wall Tab
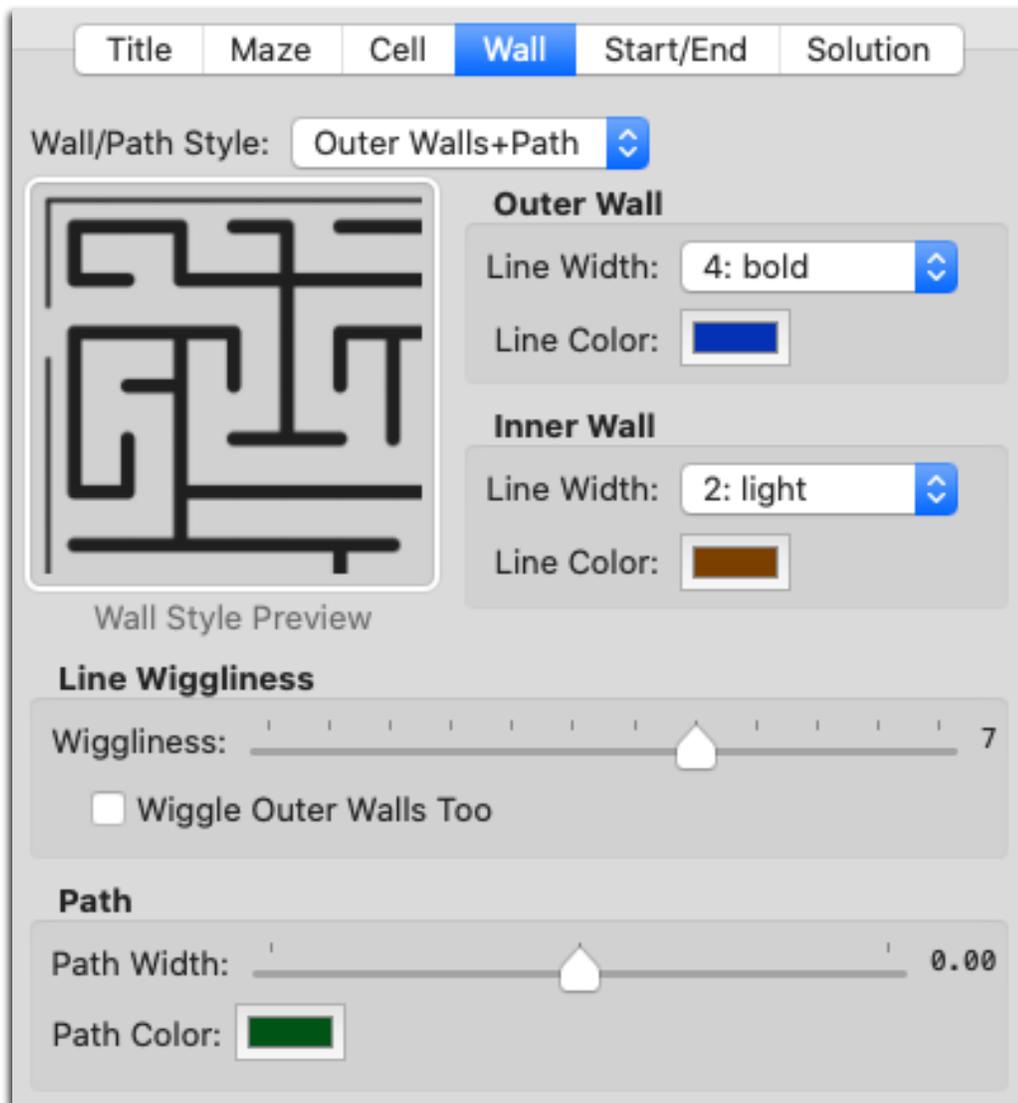
Wall/Path Style: Change how the maze walls are drawn. Mazes can be drawn with the usual outer and inner walls, or as just the outer wall and an inner line tracing all the paths, or just the path line:
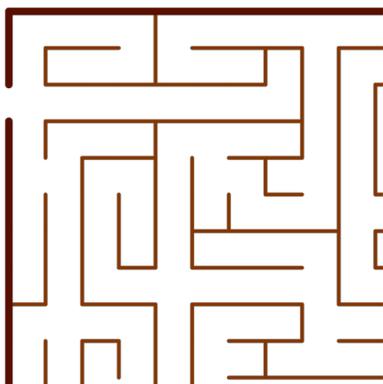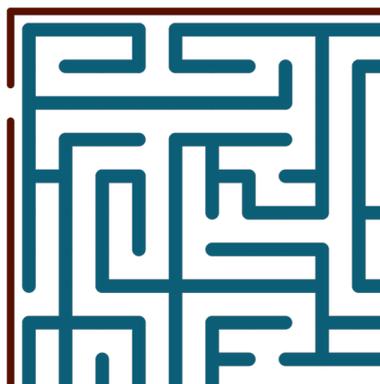
| Outer+Inner Walls | Outer Walls+Path | Path |
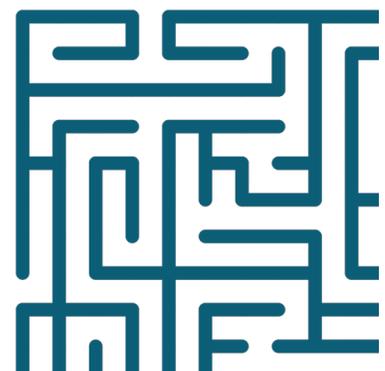
Layout: Wall: <u>Outer Wall</u>

<u>Line Width & Color</u>: Change the outer wall line thickness and its line color.

Layout: Wall: <u>Inner Wall</u>

<u>Line Width & Color</u>: Change the inner wall line thickness and its line color.

Layout: Wall: <u>Line Wiggliness</u>

<u>Wiggliness</u>: How much to "crinkle" the lines of the walls and paths. Setting this to 0 will leave walls completely straight. Increasing the wiggliness will break the wall into little pieces and make them twist more and more. Small values can give the maze a "hand-drawn" look. Large values can add to the difficulty level of following along the path. As you increase the number of cells of the maze, the wiggliness is slightly reduced (and number of broken wall segments is reduced) to keep them from getting too crazy-wiggly and completely cutting off a passage.
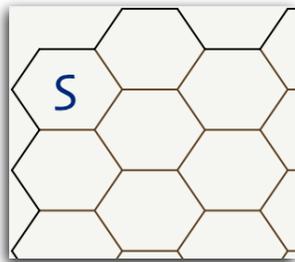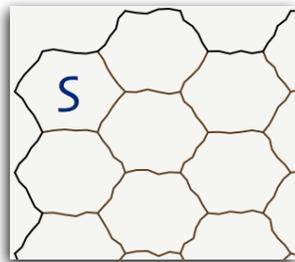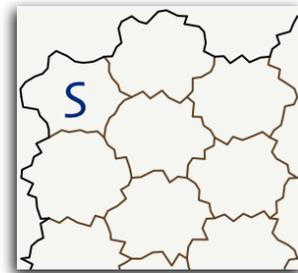
Wiggliness = 0   **Wiggliness = 2**   **Wiggliness = 11**

<u>Wiggle Outer Walls Too</u>: Turn this *on* to apply the wiggliness to the outer walls as well as the inner ones. Sometimes you will want the outer "outline" of the maze to not be wiggly, but the inner walls to be wiggly. This allows you to control that. If you turn on "Wiggle Outer Walls Too", then you will notice the overall maze will shrink slightly to allow the outer walls more room to squiggle outside the lines and not get cut off by the bounding area.

Layout: Wall: <u>Path</u>

<u>Path Width</u>: If you have chosen to draw the maze as a path, then the width of its line can be chosen here. As you change its width, you can see the result in the (Solution) preview area. If no maze has been built yet, the path width and color will be shown as a placeholder dot in each cell.

<u>Path Color</u>: Change the line color of the path.

Layout:Start/End Tab

This tab has settings that let you set whether there are markers shown for the start and end points of the maze, and what they should look like.
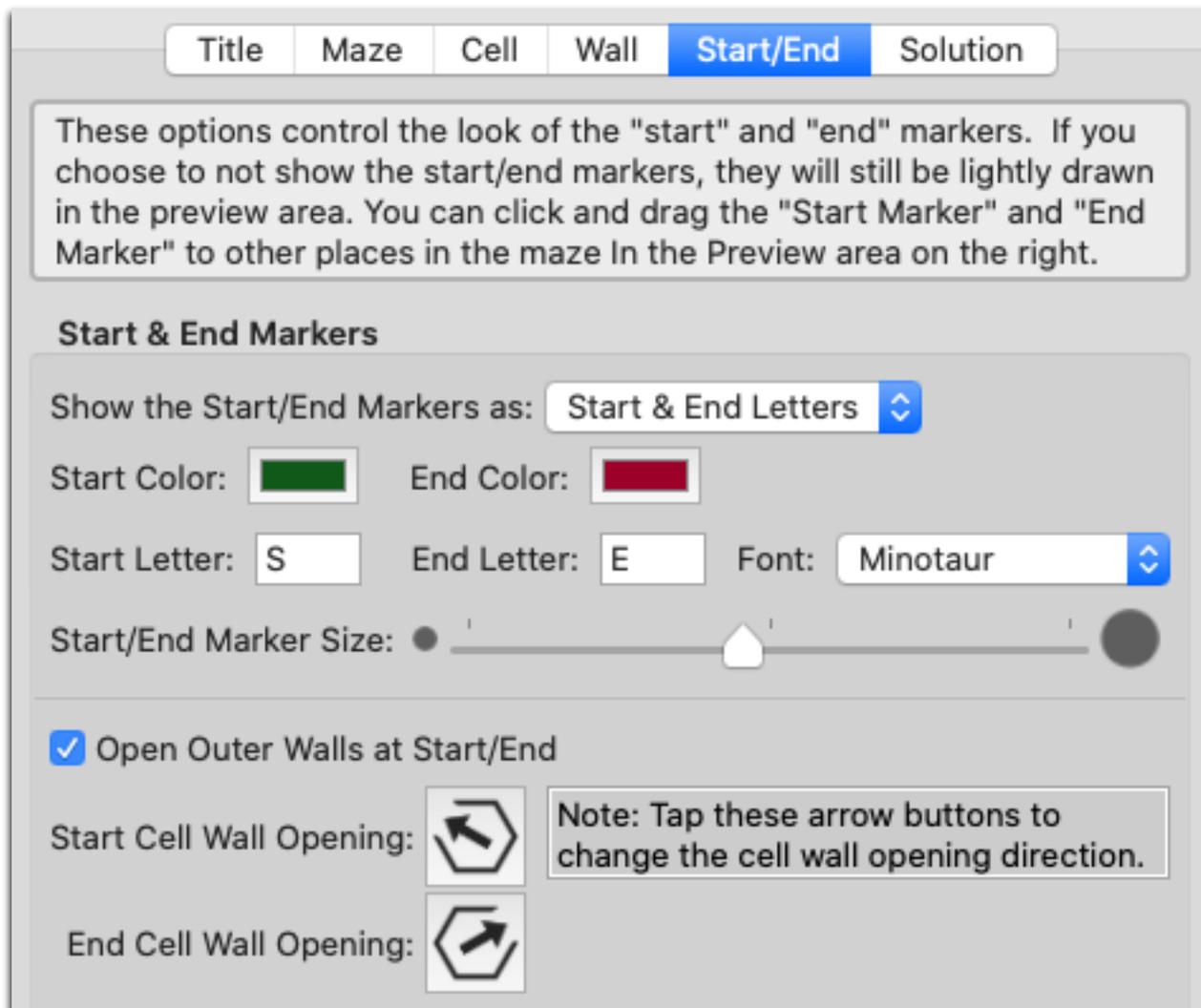
Layout: Start/End: Start & End Markers:

Show the Start/End Markers as: Change how the start and end markers are displayed in the maze.

- "Do Not Show" will hide the start and end markers completely. Note that this will also extend the Solution Markers (mentioned next) to fill in those start and end cells.

- "Start&End Letters" will print an "S" at the start and an "E" at the end, or whatever letters you choose under "Start Letter" and "End Letter" below.

- "Arrows" will display a solid arrow for the start and end markers, with the Start Marker pointing in, and the End Marker pointing out. Note that if a Start or End Markers is completely within the maze (i.e. not next to an outer wall) then the Marker will displayed as a "Circle Dot" instead. Also note that the Start arrow will point in a generic "in" direction away from the opening, not necessarily toward the correct path to start on.

- "Circle Dots" will display a solid colored circle for the start and end markers.

- "Cell-Shaped Dots" will display a solid colored inset cell shape for the start and end markers.

Examples of these Start/End marker settings are shown below:

| Do Not Show | Start&End Letters | Arrows | Circle Dots | Cell-Shaped Dots |
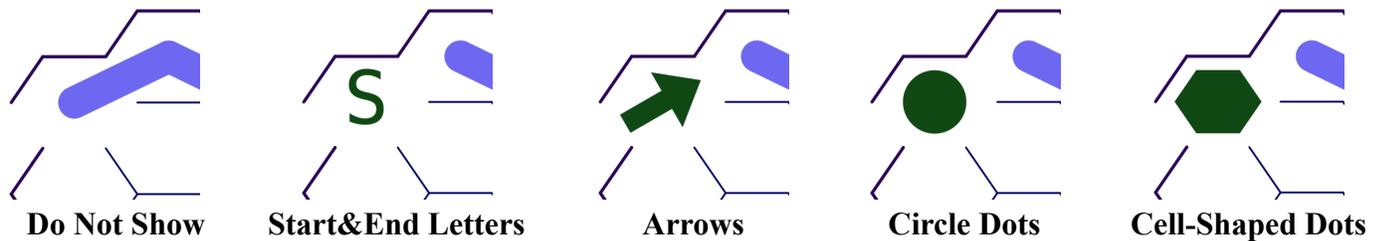
Start Color: Choose a color for the "Start" marker if shown.

End Color: Choose a color for the "End" marker if shown.

Start Letter: If you have chosen "Start&End Letters" for the markers, then here you can choose a letter for the "Start" marker. Note that this character can be Unicode in any language/alphabet, even emoji.

End Letter: If you have chosen "Start&End Letters" for the markers, then here you can choose a letter for the "End" marker. Note that this character can be Unicode in any language/alphabet, even emoji.

Font: If you have chosen "Start&End Letters" for the markers, then here you can choose the letter font to use.

Start/End Marker Size: Slightly increase or decrease the overall size of the start and end markers.

Open Outer Walls at Start/End: When checked, this opens the outer wall where the start and end markers are, if they are against outer walls. If un-checked, then the outer wall will remain closed, completely enclosing the maze shape. This option was suggested to prevent precocious people from drawing a simple line *around the outside* of the maze from the start to the end and claiming that they followed the instructions.

Start Cell Wall Opening: Tapping this button lets you cycle through all possible outer wall directions to break open for the Start cell. If the cell is completely inside the maze with no exterior (edge) wall, this button will be disabled.

End Cell Wall Opening: Tapping this button lets you cycle through all possible outer wall directions to break open for the End cell. If the cell is completely inside the maze with no exterior (edge) wall, this button will be disabled.

Layout:Solution Tab

This tab has settings that let you set the style and size of the solution path markers.

Title	Maze	Cell	Wall	Start/End	Solution

These options control the look of the markers used to show the solution (path) on the answer page. You can tap the "Solution" radio button above the Maze Preview on the right, to see how the solution path will be drawn.

Solution Markers

Show Maze Solution Path as: Circle Dots

Solution Path Color: [green]

Solution Path Marker Size:
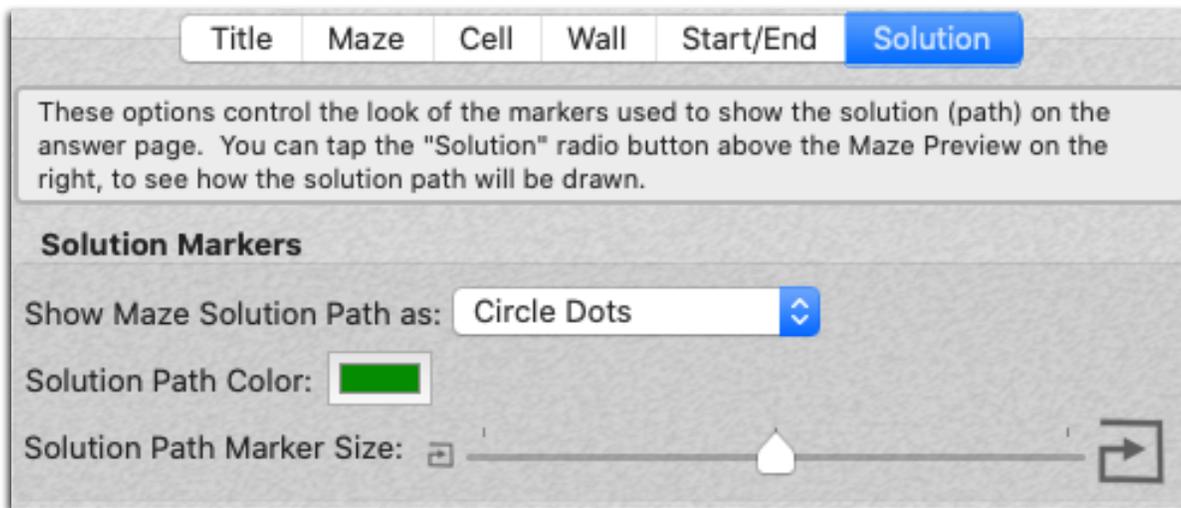
Layout: Solution: <u>Solution Markers</u>

<u>Show Maze Solution Path as</u>: Change how the solution markers are displayed in the maze.

- "<u>Do Not Show</u>" will hide the solution markers completely.

- "<u>Circle Dots</u>" will display a solid colored circle in each cell between the start and end markers.

- "<u>Cell-Shaped Dots</u>" will display a solid colored inset cell shape in each cell between the start and end markers.

- "<u>Line</u>" will display a continuously connected line through each cell between the start and end markers.

- "<u>Arrows</u>" will display a small arrow-pointer shape in each cell between the start and end markers, pointing *from* the start marker *toward* the end marker.

- "<u>Maze-Phrase…</u>" options will be available if you are creating a Maze-Phrase. See the "Maze-Phrase tab" section below for more information.

Examples of these settings are shown below:
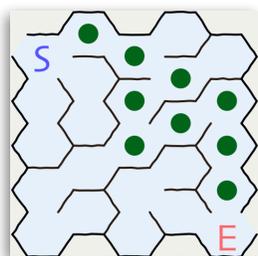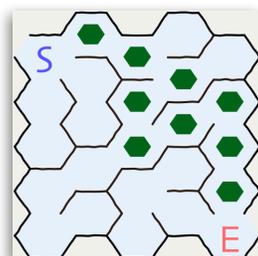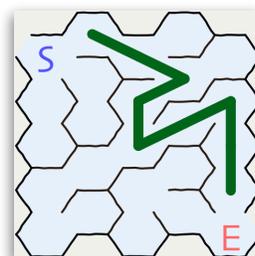
Circle Dots	**Cell-Shaped Dots**	**Line**	**Arrows**
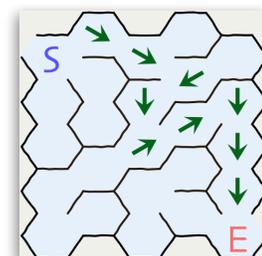
<u>Solution Path Color</u>: Choose a color for the solution markers if shown.

<u>Solution Path Marker Size</u>: Slightly increase or decrease the overall size of the solution path markers.

Difficulty Tab

This tab lets you set how difficult the maze is to solve. You simply move the slider from easy to hard and re-build the maze.
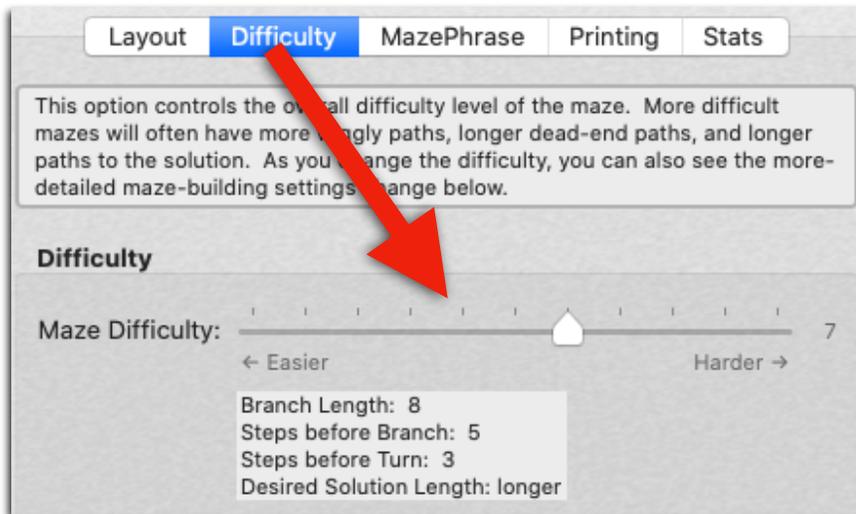
Difficulty: Difficulty

Maze Difficulty: This slider changes many aspects of the maze using a single value, from 1 through 11. In general, slid to the far left, "1" will be a much easier maze to solve, "6" will be moderately difficult, and slid to the far right, "11" will be very difficult to solve. Here are some examples of the same maze built with different difficulty settings. You can see that easy mazes have longer straighter paths, and a shorter run from start to end.
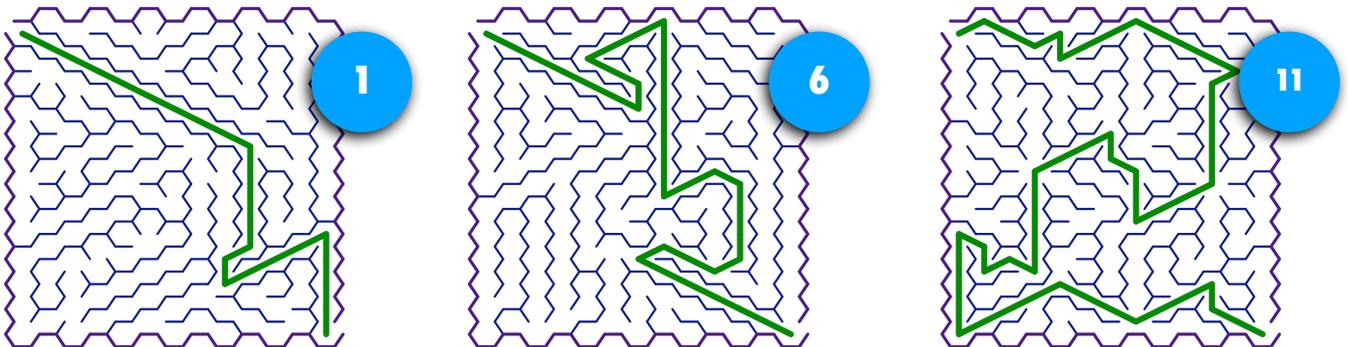
Under the difficulty slider is a list of some of the internal settings that are updated as you change the difficulty. These are informational, and probably not very interesting.

Desired Solution Length: This determines whether the software looks for and chooses from the shortest, shorter, longer, or longest possible paths for the solution path.

Steps before Turn: How long should a straight path try to go before changing direction.

Branch Length: How long (# of cells) should each dead-end path run.

Steps before Branch: How long should a path go before branching to multiple directions.

Number of Seeds: How many "magic maze-bushes" are planted in the grid. Don't ask. These are not the droids you are looking for. You can go about your business.

Maze-Phrase Tab

This tab has settings that let you enter a text phrase[2], which Minos Maze Maker will then lay out, letter-by-letter, along the solution path from start to end. It will fill the rest of the maze with letters from your phrase, but only the solution path will contain the entire correct phrase. All other dead-end branches will have incorrect (slightly scrambled) versions of the phrase. As you increase the difficulty setting, the "scrambling" happens later along the dead-end phrases.

Normally the phrase will spread the letters out along the solution path, but you also have the additional option to fill every cell of the maze with a letter ("Exact Fit" described below.)

The first and last letters of the phrase will land exactly on the start and end cells, and all the letters in between will be spaced out evenly between along the paths. If you choose to also show the Stard/End markers, then the Maze-Phrase will start and end one cell inside the markers, to allow spots for the Stard/End markers to show.

If the phrase is too long or short and a solution cannot be found, then an error message will display and help explaining how to adjust things to try again. You can make a minor change and re-build the maze until it fits, since a different solution path (and length) is created each time.

Minos, we have a problem!

Your 'Exact-Fit' MazePhrase is 8 letters long and is 3 letters too SHORT to fit with these maze settings. The shortest solution found was 11. Try building the maze again, or increase your MazePhrase length, or decrease the maze size or difficulty level, or turn off the MazePhrase "exact-fit" option.

For even more information on how to build one of these specialized "Maze-Phrase" puzzles, see the "How to make a Maze-Phrase puzzle" section below.

Maze-Phrase

Type Maze-Phrase Here: A line of text to lay out across the solution path. You may enter any text (in any language), and all letters and punctuation will be used. However, space characters will be removed along the

---

[2] This is an optional variation of maze-making, and if you leave the phrase empty, a regular maze will be created.

path. The phrase must be at least 3 letters long, and must be no longer than the maximum number of cells/steps possible for the solution of the maze (which depends on maze size, shape, and difficulty settings.) It cannot be a string of the identical letters and at least some letters must be unique. If you leave the phrase completely empty, then the Maze-Phrase feature will be "turned off", and a regular maze (with no letters inside) will be created instead.

Note also that when you start typing letters in the Maze-Phrase text box, a little tag will show up under the Preview Window, telling you that "Maze-Phrase" mode is on. Also, the number of letters used for the Maze-Phrase (ignoring spaces) is shown in the upper right above the Maze-Phrase text box, and will update as you type.
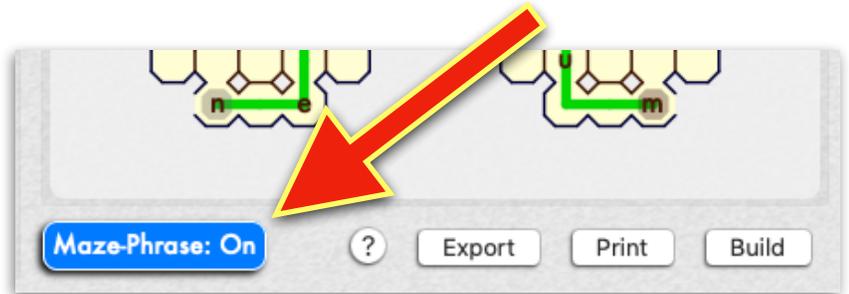
Puzzle Letter Color: The color to use for the Maze-Phrase letters in the puzzle.

Puzzle Letter Font Size: You can change the size of the letters within the cells of the puzzle. This will affect the letter size in the puzzle and the solution. This means that when you have created a Maze-Phrase, the "Solution Path Marker Size" under the Layout:Solution tab will have no effect on the solution font size.

Font: The font to use for the Maze-Phrase letters in the puzzle. Note that if you are using non-Latin alphabets, you need to choose a font that supports those letters, because some Macintosh fonts do not contain letters for other alphabets. ざんですね！

Puzzle Letter Baseline Adjust: This slider lets you move the letters up or down a little bit inside the maze cell, so they look vertically centered. Some fonts may look better if their letters are moved up or down a little.

Change Letter Case to: Choose here whether you want to (1) leave all the letters in the same case (capitalization) that you entered them, or (2) change them to all lower case, or (3) change them to all upper case.

Find an "Exact-Fit" Solution: Turn this *off* to space your phrase letters out so that they stretch exactly from start to end, no matter how big or difficult your maze is. This also spaces out the other random letters sprinkled through the maze to give a balanced look to the maze. As long as the maze is large enough to fit the phrase along the solution, it will succeed. Turn this *on* to choose a solution that is exactly the same number of cells as the phrase itself. This will create a maze where every maze cell will have a letter of the phrase.
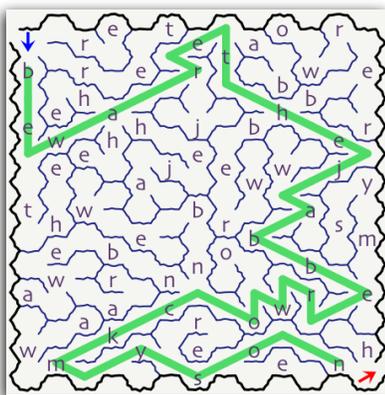
Find "Exact-Fit": *off*
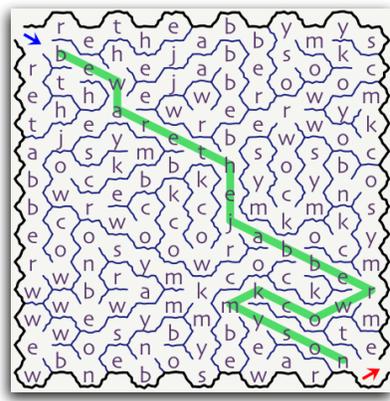
Find "Exact-Fit": *on*

Note that you will have to more carefully match and "fine-tune" your Maze-Phrase length to a maze size/shape/difficulty setting to get the maze to successfully build. Although the software will try *very hard* to find the exact solution for you, this option will require you to do some trial and error adjustment to get it to build an exact-fit maze. If it cannot, the error message will give you an idea of how far off you are, and you can try again. You may find that sliding the Difficulty slider toward the EASY setting will help it find a solution.

Print a Maze-Phrase Prompt on Puzzle Page: If your turn this on, it will show your Maze-Phrase at the bottom of the printed "Puzzle page" as an extra hint. If this is off, then the Maze-Phrase will only be shown on the printed "Answer page".

Maze-Phrase Solution Options

When you have created a Maze-Phrase, there are some extra options available for how to display the answer:
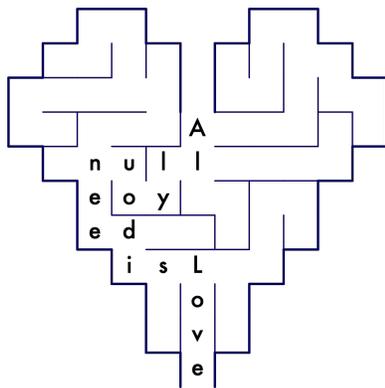
Maze-Phrase Letters (Sparse)
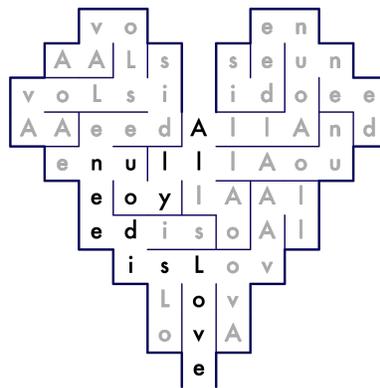
Maze-Phrase Letters (Dimmed)
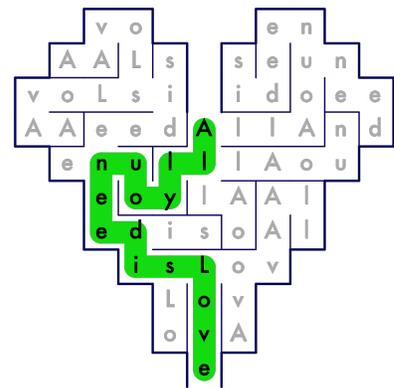
Maze-Phrase Letters & Line

Maze-Phrase Letters (Sparse): The answer will be printed with letters along the solution path, and the rest of the maze will be empty.

Maze-Phrase Letters (Dimmed): The answer will be printed with all the letters shown in the maze, and the letters along the solution path will be the "Solution Color" you chose, and all the non-solution letters will be dimmed as a light gray.

Maze-Phrase Letters & Line: The answer will be printed with all the letters shown in the maze, and the letters along the solution path will be the "Solution Color" you chose, and all the non-solution letters will be dimmed as a light gray. In addition, the solution path will be drawn as a solid line underneath the solution letters. You can adjust the width of the solution line and its color, just like you would for a regular maze solution line. See the section "Layout: Solution: Solution Markers" above.

Printing Tab

This tab has settings that let you set which maze pages should be printed.

Printing: Printed Pages

Which Pages to Print: Lets you choose what parts of the puzzle to print: *Puzzle* Page only, *Answer* Page only, or both *Puzzle* and *Answer* Pages. This only affects **printing** to a printer, not **exporting** the maze to files.

Puzzle Page   **Answer Page**

Print the Page Footers: Lets you turn on/off printing of the company logo at the bottom of each page.

Stats Tab

This tab displays a number of detailed statistics about the generated maze. If no maze is generated, this is empty. Depending on the kind of maze you create, different statistics may show up here. This is rather technical geeky information for most users, so feel free to ignore it.

Layout	Difficulty	Maze-Phrase	Printing	**Stats**
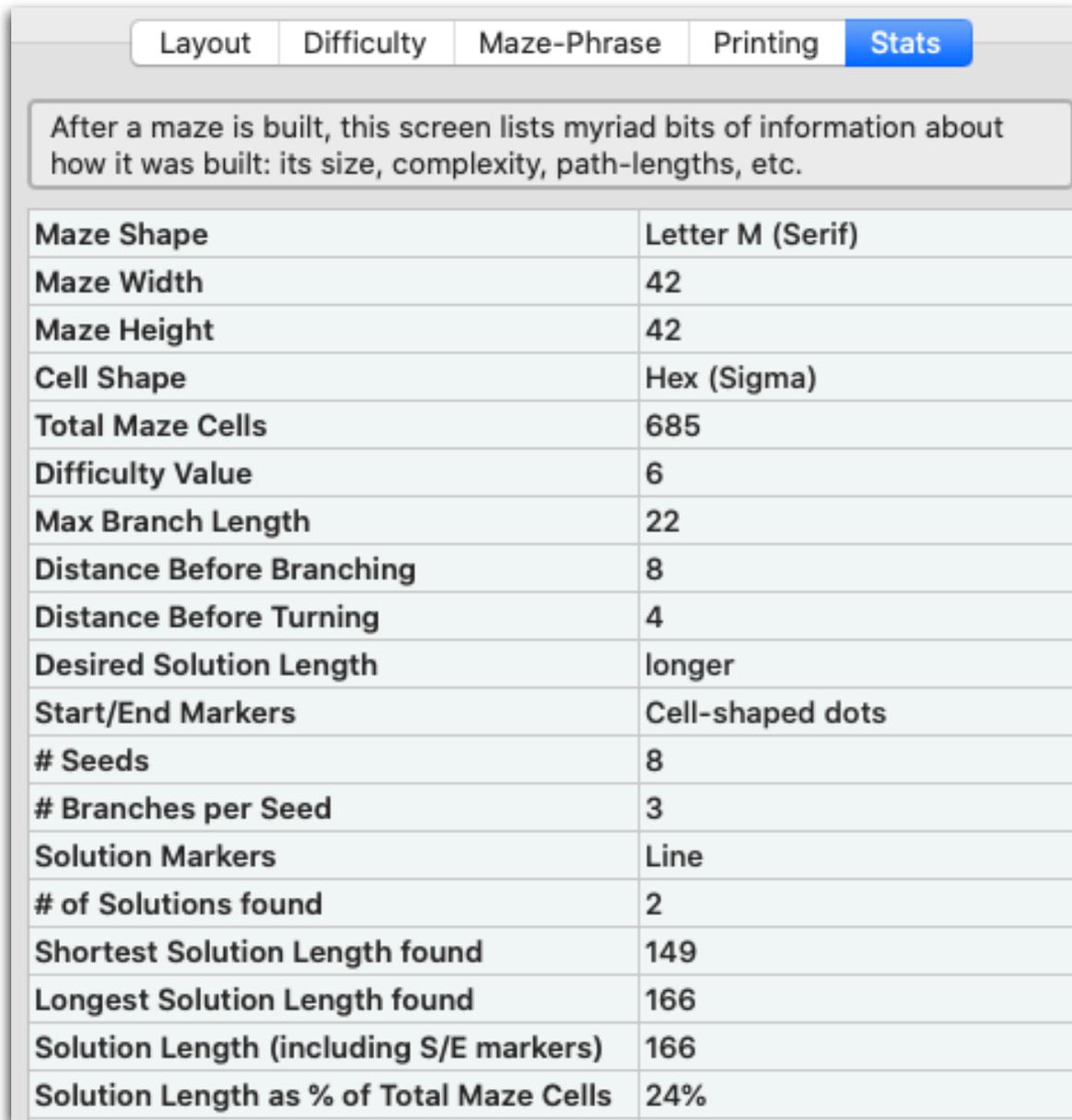
After a maze is built, this screen lists myriad bits of information about how it was built: its size, complexity, path-lengths, etc.

Maze Shape	Letter M (Serif)
Maze Width	42
Maze Height	42
Cell Shape	Hex (Sigma)
Total Maze Cells	685
Difficulty Value	6
Max Branch Length	22
Distance Before Branching	8
Distance Before Turning	4
Desired Solution Length	longer
Start/End Markers	Cell-shaped dots
# Seeds	8
# Branches per Seed	3
Solution Markers	Line
# of Solutions found	2
Shortest Solution Length found	149
Longest Solution Length found	166
Solution Length (including S/E markers)	166
Solution Length as % of Total Maze Cells	24%

Perhaps the most interesting line is "Solution Length as % of Total Maze Cells", which tells you how long the solution path is, compared to the size of the maze. That is, it tells you how much of the maze you have to wander around before you get to the exit.

Maze Preview on the Right

The pane on the right half of the window displays a preview of what your maze looks like. When you change the size or shape of the maze, its new shape and size will be instantly reflected here. When you build the maze, the final puzzle and the answer will be displayed here as well. There are radio buttons at the top for you to preview either the Puzzle or the Answer. You can see and drag the start/end markers around in the preview area.

(?) Help Button

The circled-question-mark button is a "Help" button, and opens a window with this user guide displayed for quick access. It is the same as choosing "User Guide" from the Help menu.

Export Button

After building the maze, you can immediately export the maze by pressing the "Export" button in the lower-right corner of the document window. You can also choose "Export Maze" from the File menu, or press ⌘-1. This will bring up an export dialog, letting you choose the destination directory and a number of other options. See the section "Export Maze" below for more information.

Print Button

After building the maze, you can immediately print the maze by pressing the "Print" button in the lower-right corner of the document window. You can also choose "Print" from the File menu, or press ⌘-P. This will bring up the standard print dialog, letting you choose the printer, page layout, number of copies, etc.
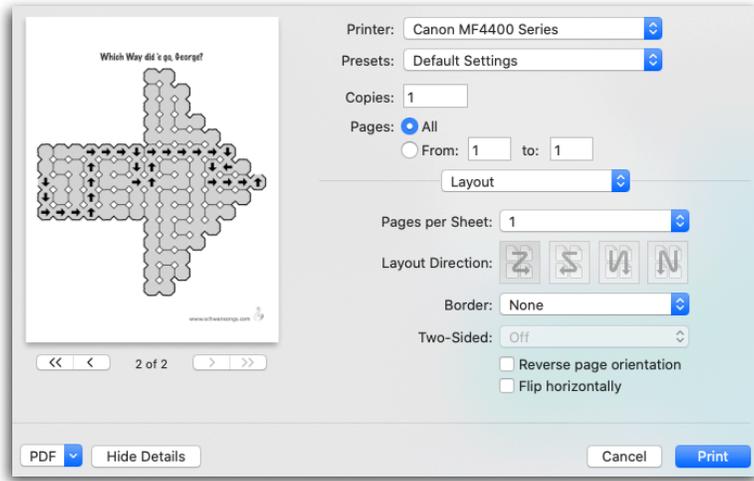
Note that before you print the pages, you can configure what to print and how the page looks, for example, the page title, footers, and whether to print the maze page or the answer page (or both). You can do this from settings under the main window's "Title" and "Printing" tabs, described above.

Build Button

After configuring the maze, you can tell the software to build a maze by pressing the "Build" button in the lower-right corner of the document window. You can also choose the "Build the Maze" item on the Action menu, or press ⌘-B.

Once the maze begins building, a progress sheet will display, showing the progress of laying out the maze. This could take from a few seconds to a minute or two, depending on how large or complex the maze is. If you want to stop the building of the maze, simply press the "Cancel" button on the sheet, and the maze will stop building and be cleared.
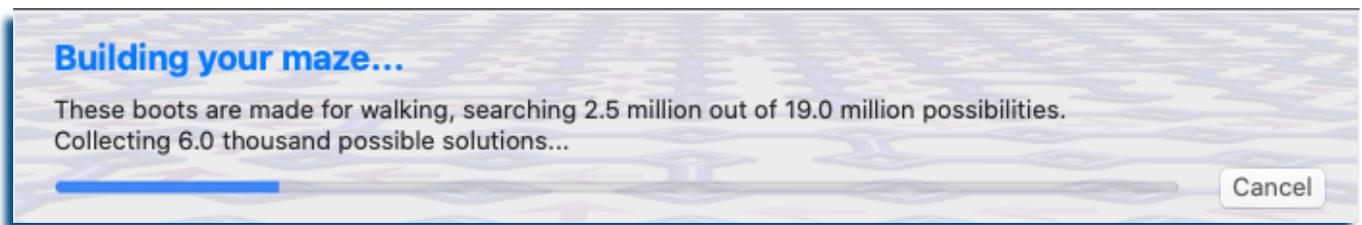
If you don't like the final solution path for the currently built maze, simply press the Build button again. Each time you press it, a completely new maze will be made with a different solution path.

Menus at the Top

The menu items along the top "menu bar" contain special commands for opening/closing/printing your documents, etc. You won't need to use them too often, but the menu items that are specific to Minos Maze Maker are explained here.

Minos Maze Maker menu

About Minos Maze Maker: Choose this item to display a window that gives credit to all the people who helped make this software happen, accompanied by some fun parade music as they scroll by and wave.

Settings: Choose this item to open a window that lets you change application-specific settings, that is, settings for the Minos Maze Maker software itself, not your mazes. See the "Settings window" section below for more information.

Save Current Settings as Default: Choose this item to take a "snapshot" of your open document's maze settings (including maze size & shape, difficulty, fonts/colors, etc.) Once you choose this, all new documents you create will start out already filled in with these settings as defaults.

Change All Colors to B&W: Choose this to quickly change all colors to black and white (and gray), best used for printing in a book or worksheet. This changes the colors in the currently opened document, and does not change them for other documents. To then save this as the default setting for all future newly-opened documents, choose "Save as default settings" described above.

Pro Upgrade…: This menu item allows you to purchase an in-app upgrade, which immediately gives you all the extra features available in the Professional (Pro) version of this software.

If you have already purchased the Pro upgrade on a different computer, but don't have the upgrade license on this computer, you can easily use this dialog to "Restore" your Pro purchase here as well. Restoring will auto-upgrade you to Pro on this computer. Once you have upgraded to Pro, you will be able to receive all future Pro updates and new Full and Pro features for free, forever.
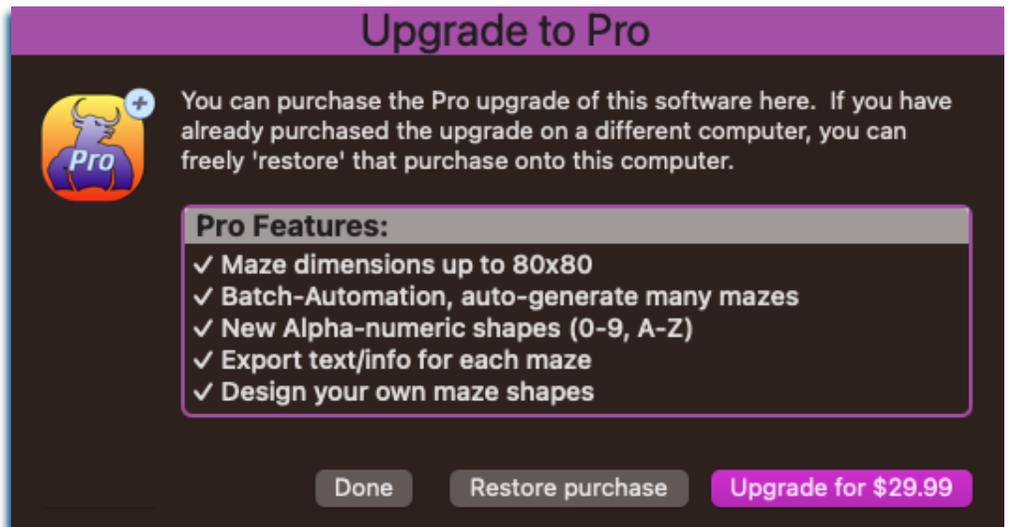
You will be asked to log into the Apple App Store with your Apple ID that you use to purchase software and then you will be able to upgrade or restore restore right there.
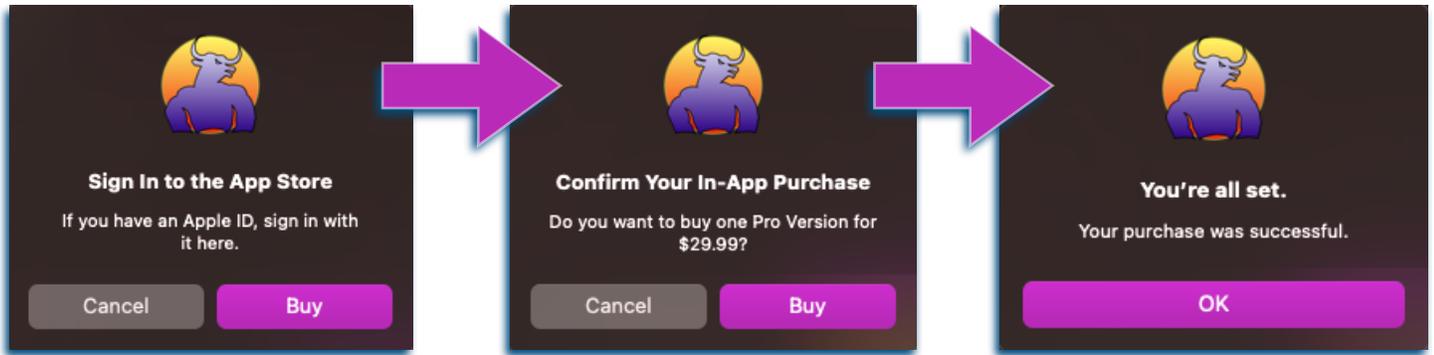
After upgrading you will need to quit and re-start the software to start up with the Pro features.

After that, you will have all the Pro features available to you (Bigger mazes, batch-build, user-designed shapes, alpha-numeric shapes, info-file exports, etc.)
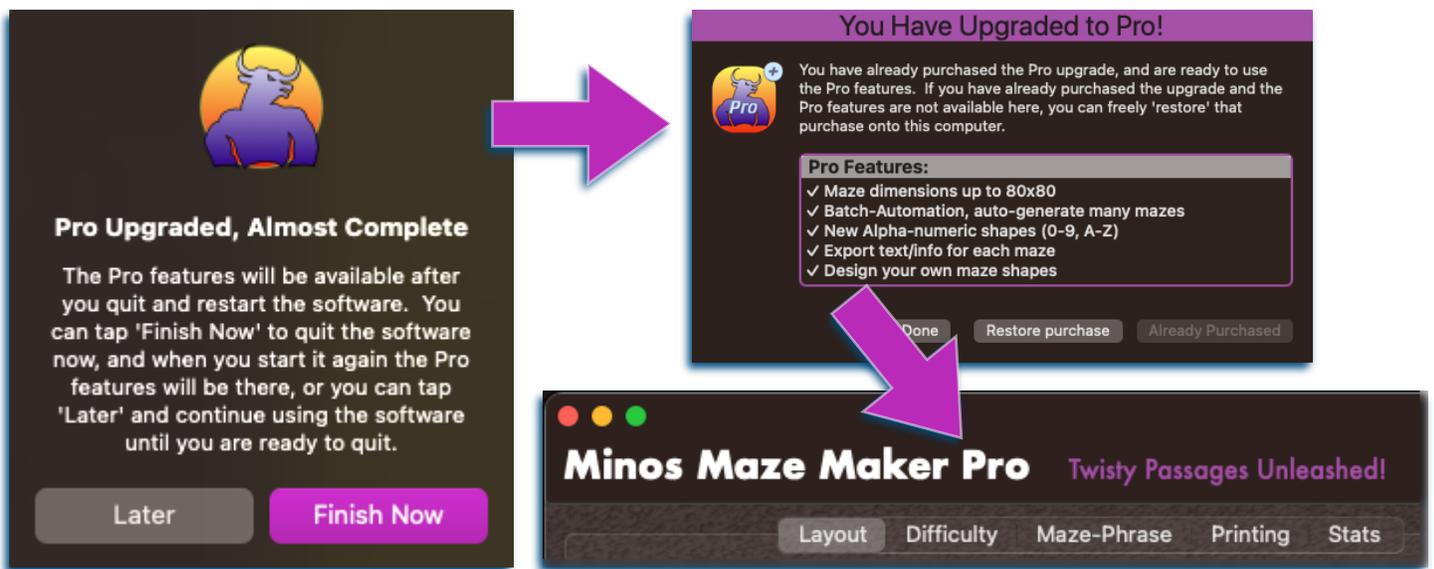
File menu

New: Creates a new empty maze window, which you can build a new maze from. You can also then save this as a file if you want to save all your maze design work and re-open it later. You can have multiple windows open at a time and switch between any of them to work on.

Open/Save: These items allow you to save an existing maze document to a file (including all your settings and solution), so it can be re-opened later. These files can also be sent to other Minos Maze Maker users who can open and use the maze too. These special files can only be opened by Minos Maze Maker. If you wish to save your maze as an image file for exporting to a word processor, etc., see the "Export Maze Image" item, covered next.

Export Maze: Choose a file name, and an image of the the maze will be converted and saved. This item will be disabled if you have not yet built a maze. You can export just the Puzzle image, or both the Puzzle and Answer images together.   This saves just the maze as an image file. It does not add your title above, or the Maze-Phrase text underneath. It is assumed that if you are using this export option, you will be separately arranging

the maze and answer pieces in a word processing or page layout document, and you will add your title and Maze-Phrase answer keys yourself. For more details about exporting, see the "Export Maze" section below.

Print: This opens the print dialog and allows you to print one or more copies of your maze page (and solution page) to a printer. Note that this option will format and print your maze along with your title and the Maze-Phrase answer key underneath on the answer page.

Edit menu

Nothing special here… these are standard system text editing copy/paste items.

Action menu

Build Maze: Choose this to build a maze from the settings you have chosen. This menu item is equivalent to tapping the "Build" button on the main window.

Shape Designer: (*Pro Feature*) Design your own custom shapes and use them to create puzzles from.

Batch-Build: (*Pro Feature*) Choose this to build multiple mazes from the settings you have chosen. After you choose how many mazes to make and a destination directory, the puzzle and answer files will be generated together.

Window menu

Nothing special here… these are standard system window-handling items, minimizing, zooming to full screen, etc.

Help menu

Minos Maze Maker User Guide: This menu item opens a window that displays this user guide. You can adjust the size of the text by resizing the window larger or smaller. You can also choose "Print" it from the File menu, to make a printed copy of the user guide if you like.

Minos Maze Maker Introduction: This menu item opens a window that displays a multi-page introduction, giving you a quick jump-start on the main features of the features of the software. You can turn it off so it does not automatically open each time you start the software, and you can open it later from the Help menu.

Compare Features (Pro/Full/Lite): This menu item opens a window that displays the feature differences between the Lite, Full and Pro versions of this software. It also has buttons at the bottom which will open the App Store page for either the Lite or the Full/Pro version for you.

Rate/Review Minos Maze Maker: This menu item opens an Apple App-Store window that lets you add your rating, and write a review for this software, letting others know how you like it.

Contact Author: This menu item opens an e-mail window and pre-fills it with some information that you can send to me, in case you want to report a bug or ask for a new feature. Update the e-mail with what you want to ask, and send it off to me! I will always respond and let you know how I can make this software better.

Minos Maze Maker Product Web Page: This menu item opens a browser window that displays the product web page for this software.

Company Web Page: This menu item opens a browser window that displays my company web page, referencing all my software, music, books and other creations and hobbies in one place.

Settings Window

This window lets you change settings that are specific to the application software. The settings here alter the overall look or behavior of the application itself, and do not affect your individual maze documents.
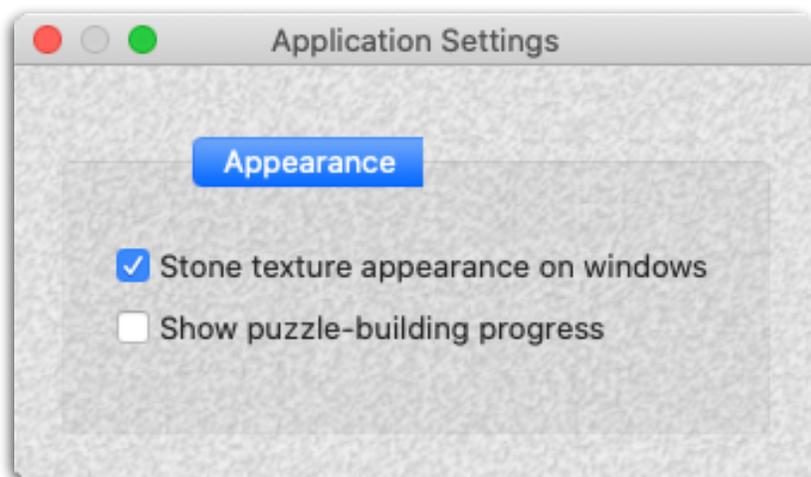
Appearance Tab

<u>Stone texture appearance on windows</u>: This turns on or off the stone-textured background on the windows.

<u>Show puzzle building progress</u>: Turn this on to watch the walls get torn down and solutions collected as the maze gets built step by step. This can be entertaining to watch, and gives you a peek at how my particular mazes are designed. However, in order to show all the steps it slows down the maze building quite a bit.

Export Maze

When you choose "Export Maze" from the File menu, you are first shown a sheet on your maze document:
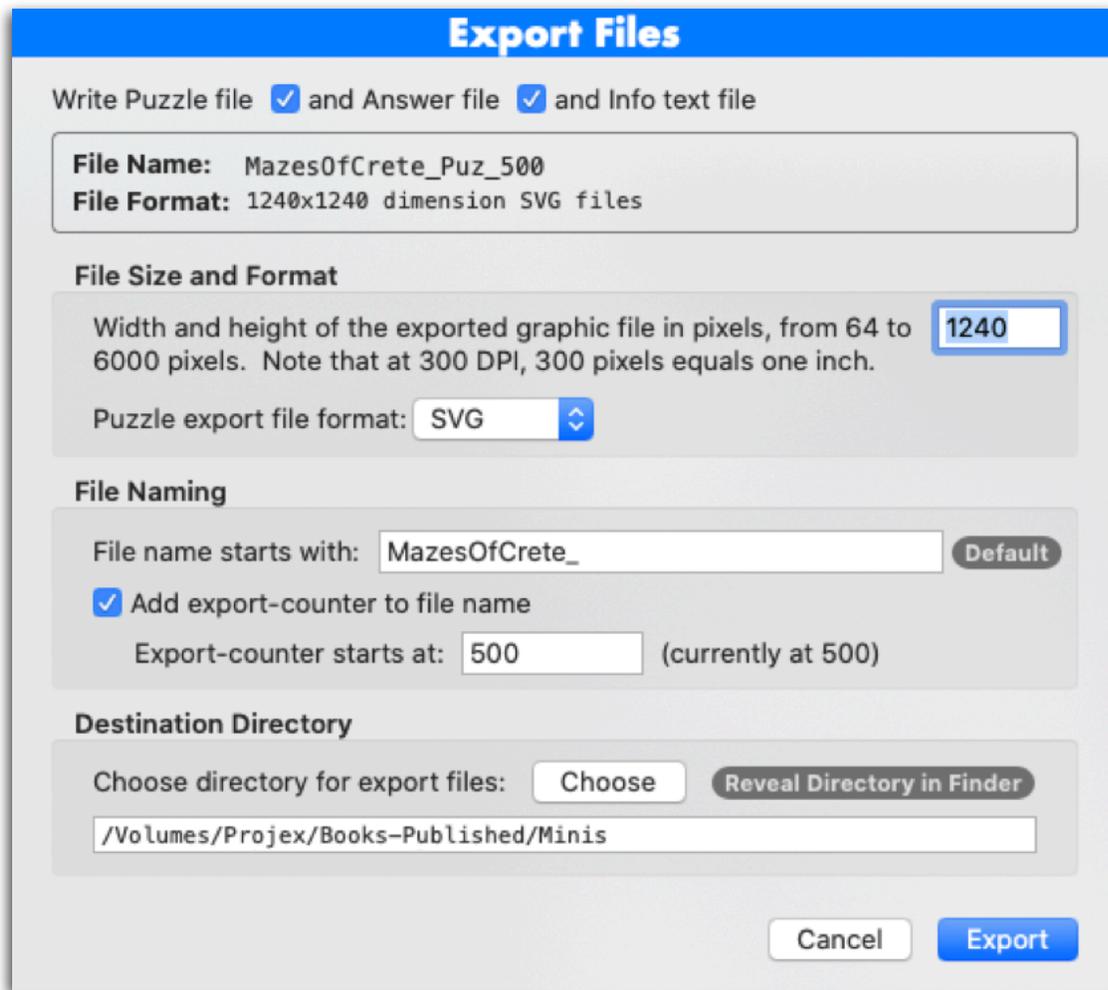
This sheet lets you choose which files to export, and which directory to write the files to.

It will always export the puzzle file. You can optionally tell it to export the answer file too. It can also export an "info text file", a simple text file "log" that lists many of the important settings that make up that particular maze (*Pro Feature*).

As you change these settings, they will be remembered for future exports. Near the top of the window is a box holding the proposed filename example and the currently chosen file size and format. These will update as you change any of the settings below.

Note: The export command will export just the puzzle or answer image, not the title or footer text.

File Size and Format

Write Puzzle File [✓] and Answer File: The puzzle file will always be exported, and here you can also enable the automatic exporting of the answer file too. The exported puzzle and answer files will have the same file names, ending in either "_Puz" or "_Ans".

[✓] and Info text File: (*Pro Feature*) A text file will be written that contains the important settings and layout of the maze, for reference. This text file will have the same exported file name, ending in "_Inf".

File Naming

Width and Height of exported graphic file…: This "size" setting lets you choose how large the puzzle image will be when you export it. This is only used for the image formats (PNG, JPEG, PDF, SVG.) The text-based formats don't need or use it. See section 3.13 above for more information on exporting puzzle files.

Puzzle export file format: You can choose what file format to use when saving your exported puzzles and answer keys.

- PDF: This is a high quality (vector) publishing file format, readable by many word processing and page layout applications.

- PNG, JPEG: These are graphic image file formats, readable by many photo and image editing and word processing and page layout applications.

- POV-Ray: A 3D text scene description language used by the freeware "POV-Ray" ray tracer to generate photographic-quality 3D images (or animated movies) of a scene. See www.povray.org for more information. Here is an example of an exported maze, which is then rendered into an image with POV-Ray:
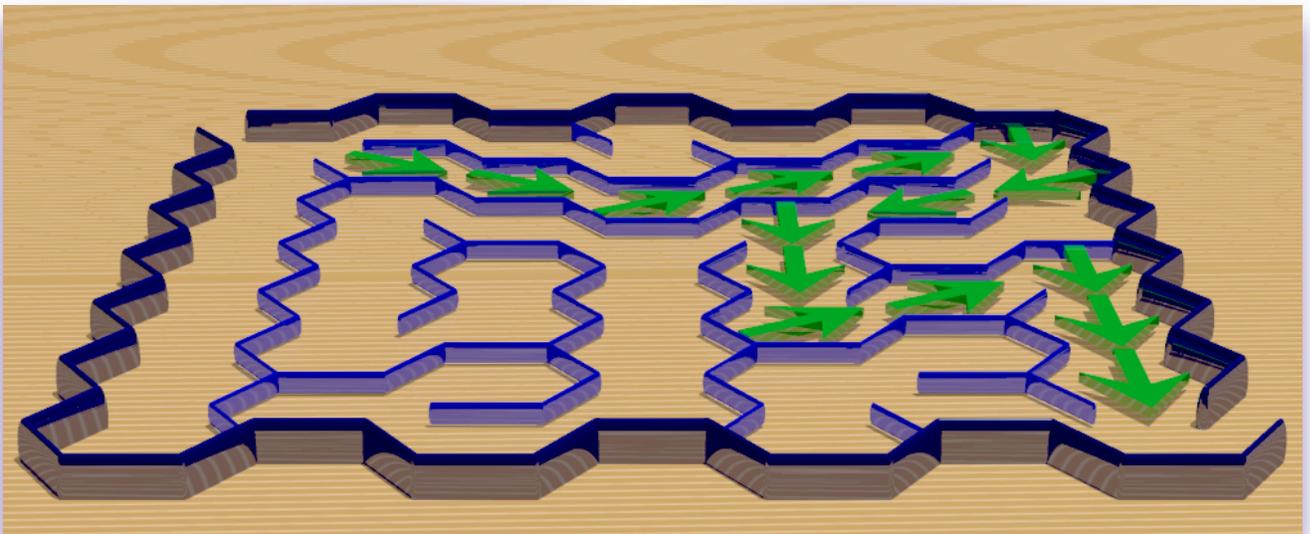
- SVG: This is a vector graphic file format readable by many web browsers and some page layout and graphic editing applications. It is non-interactive, but can be directly added to a web page, or imported and used to create an interactive game, or even into CNC or 3D printing machines. Let your creative imagination chew on that for a while! It is important to note that SVG format, unlike PDF and PNG/JPEG, cannot capture and use your computer's fonts for drawing letters, so the font used in SVG is a generic font. You can manually edit the SVG file after export and alter the font specification to your needs.

Note: The export size and file formats are limited in the Lite version of this software.

File name starts with: This string will be used as the beginning of both the puzzle and answer export file names.

Default: This button will reset the value of the "File name starts with" text field to the current document's file name if saved, or the generic "MinosExport_".

<u>Add export-counter to exported file name</u>: Turn this on to add an export-counter into the file name that increments each time you export. You can then build multiple puzzles with the same puzzle setup, and each time you export the files will automatically get a new unique set of filenames so they don't over-write the prior export. Each export would become, for example, "MyPuzzle_Puz_1.png", "MyPuzzle_Puz_2.png", "MyPuzzle_Puz_3.png".

<u>Export-counter starting value</u>: This lets you choose a starting value for the export-counter that is added to your filenames. For example, if you set this to 101, then every time you start the application and start exporting, your first exported puzzle files will start with that export-counter value, e.g., "MyPuzzle_Puz_101.png". Then each time you export again, the files will get the next-higher export number, e.g., "MyPuzzle_Puz_102.png", "MyPuzzle_Puz_103.png", etc. The export counter will reset and begin at this starting value each time you start the software.

Destination Directory

<u>Choose directory for export files</u>: This lets you pick a directory to write all your exported puzzle/answer files.

Exporting will be disabled if you have not yet created a puzzle.

Shape Designer (*Pro Feature*)

You can design your own shape, and build a maze with it. First, you must go to the Layout tab, and under the Maze tab, choose "User Designed Shape from the Maze Shape box.
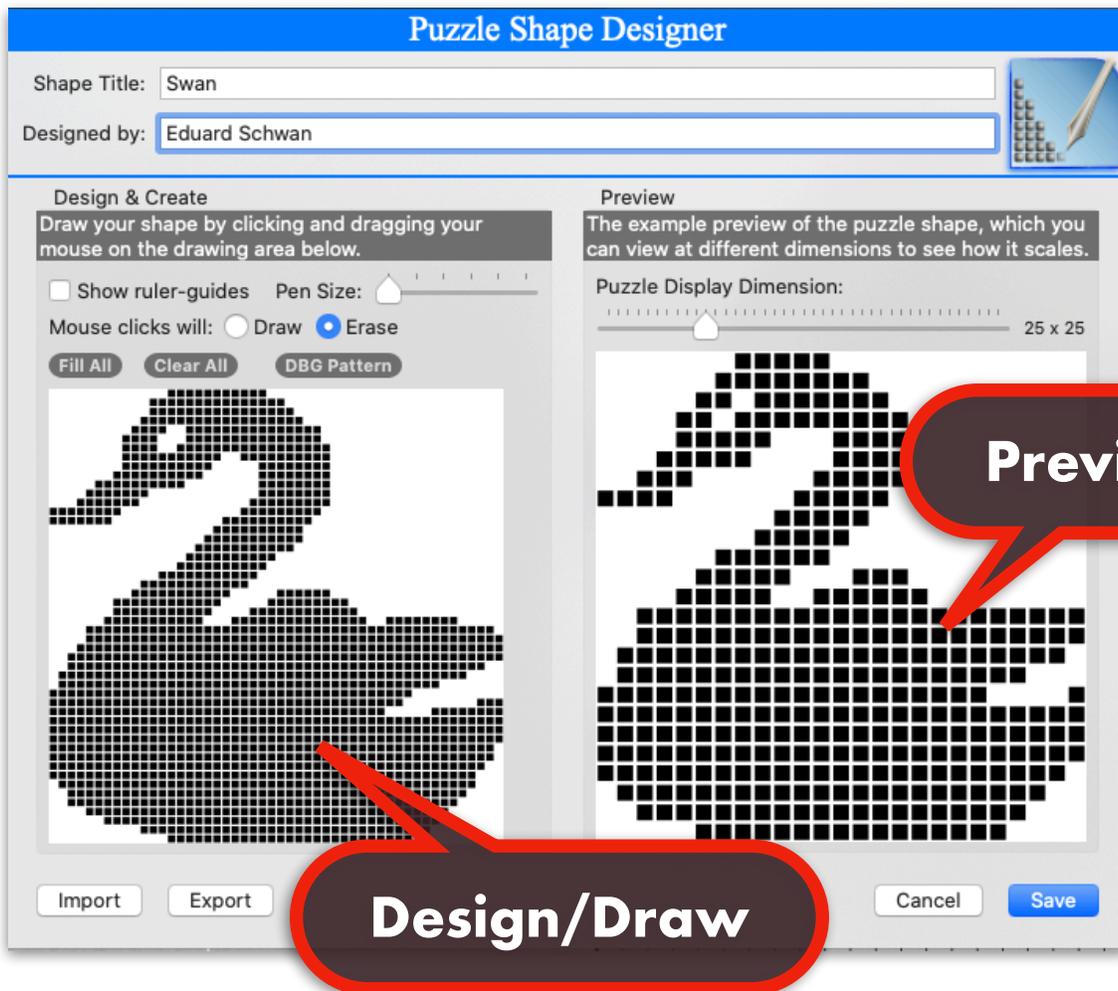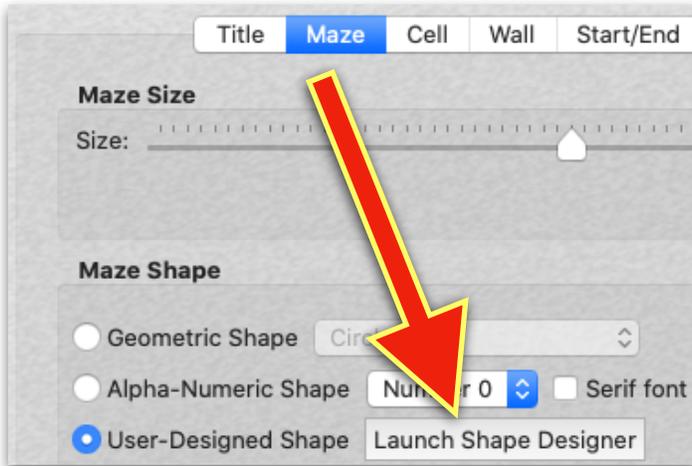
Now you can start the "Shape Designer" from the "Launch Shape Designer" button right there, or from the Action menu. The shape designer sheet is presented on top of your current maze document and lets you design your own custom-designed shape to fit the maze into. You can make a company logo, an animal, tree, holiday

shape, just about anything you can think of. The shape designer lets you draw the shape in full puzzle resolution (50x50) in the "Shape Grid" on the left, and shows you a preview at different sizes in the "Preview Grid" on the right. If you open the shape designer from a document that has an already-created user-designed shape, the Shape Designer will load that shape and let you edit it. There is only one user-designed shape in each document.

Shape Title/Designed By

You can add a "Shape Title" and add your name/copyright to the "Designed by" text fields, and they will be saved with this shape. If you choose to export the shape later, these fields will stay with that file.

Design - Show Ruler Guides

Turning this on will draw faint ruler lines inside the design grid.

Design - Pen Size

This lets you change the pen size to draw/erase with. The left side makes you draw smaller, the right side lets you draw larger.

Design - Mouse clicks will Draw/Erase

You can draw or erase by dragging the mouse around the "Design and Create" grid with the mouse button down.

Preview - Puzzle Display Dimension

You can change the "Preview Display Dimension" slider to different sizes to see what the puzzle would look like at those sizes. This lets you fine-tune your drawing to work well at a particular dimension or range.

Import/Export

These buttons allow you to immediately create a copy of your current shape and save it as a separate file, or import a shape file that you or somebody else created earlier, from this software or other software that supports the "SchwanSongs User-Designed Shape" file format.

Import - Lets you import a previously exported user-design file into this design window session.

Export - Lets you save the current user-design as a separate file, which can be imported later by Minos Maze Maker or other products that read this file format.

Save/Cancel

Save - saves your shape in your currently-opened document. Once saved, the Shape Designer sheet closes and the shape you have designed is shown in the Maze Preview window, ready to make mazes from. If you save this Minos Maze document to disk as a file, your user-shape is saved with it, and will be there when you re-open the document later.

Cancel - Throws away your current edits and leaves the document's user-designed shape unchanged.

Exported .ssuds Shape File Format

When you export your user-designed shape, it is saved in a special file format that can be read/imported by any SchwanSongs software that supports this format. Currently the only two software applications that support this format are Minos Maze Maker Pro and Whirlwind WordSearch Pro.

The ".ssuds" file extension stands for "SchwanSongs User-Defined Shape". The file format itself is in XML format, specifically an Apple .Plist file format. It consists of a dictionary of key-value pairs that define the version of the file, the title/credit strings, width/height dimensions, and the actual 2-dimensional bitmap of the shape in Base64 encoding. If you are interested in parsing this yourself, e-mail me a request and I can send the specification details.

Batch-Build (*Pro Feature*)

When you choose "Batch-Build" from the Action menu, a sheet is presented on top of your current maze document. This sheet lets you automatically build a large number of different maze puzzle and answer files and save all the completed files in a directory of your choosing. These files will be the exported puzzle and answer image files. Batch-building is most useful for creating a large number of maze files that you will later select and place into a book or newsletter yourself.
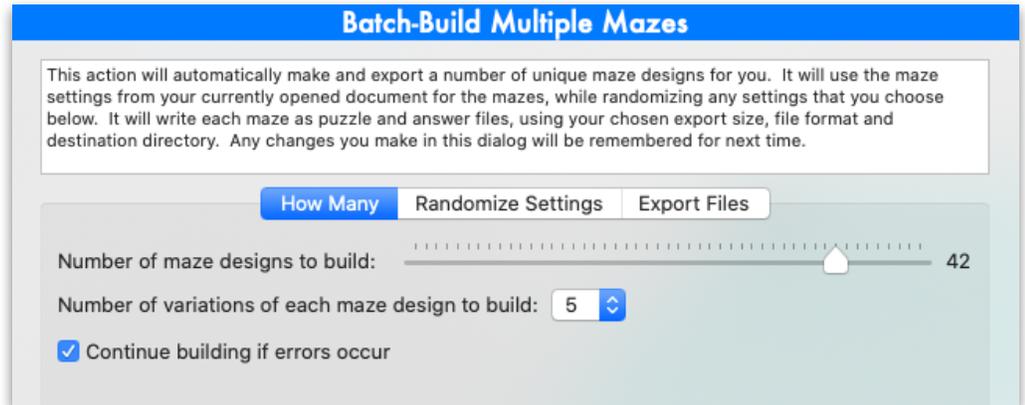
Before starting a batch build, you must first set up a maze document with the settings you want to use for this batch of mazes. This document will be your starting template, and every maze created during this batch will use the layout you have set up in this maze document and then will randomly change certain settings you choose for each maze it creates. You do not need to save this "template" document to a file or even build a maze from it first, but you may if you wish.

To prepare, first choose the initial maze size, shape, cell style, wall colors, solution path style, etc. just like you were preparing to build a single maze. Every maze that is created will start with these settings.
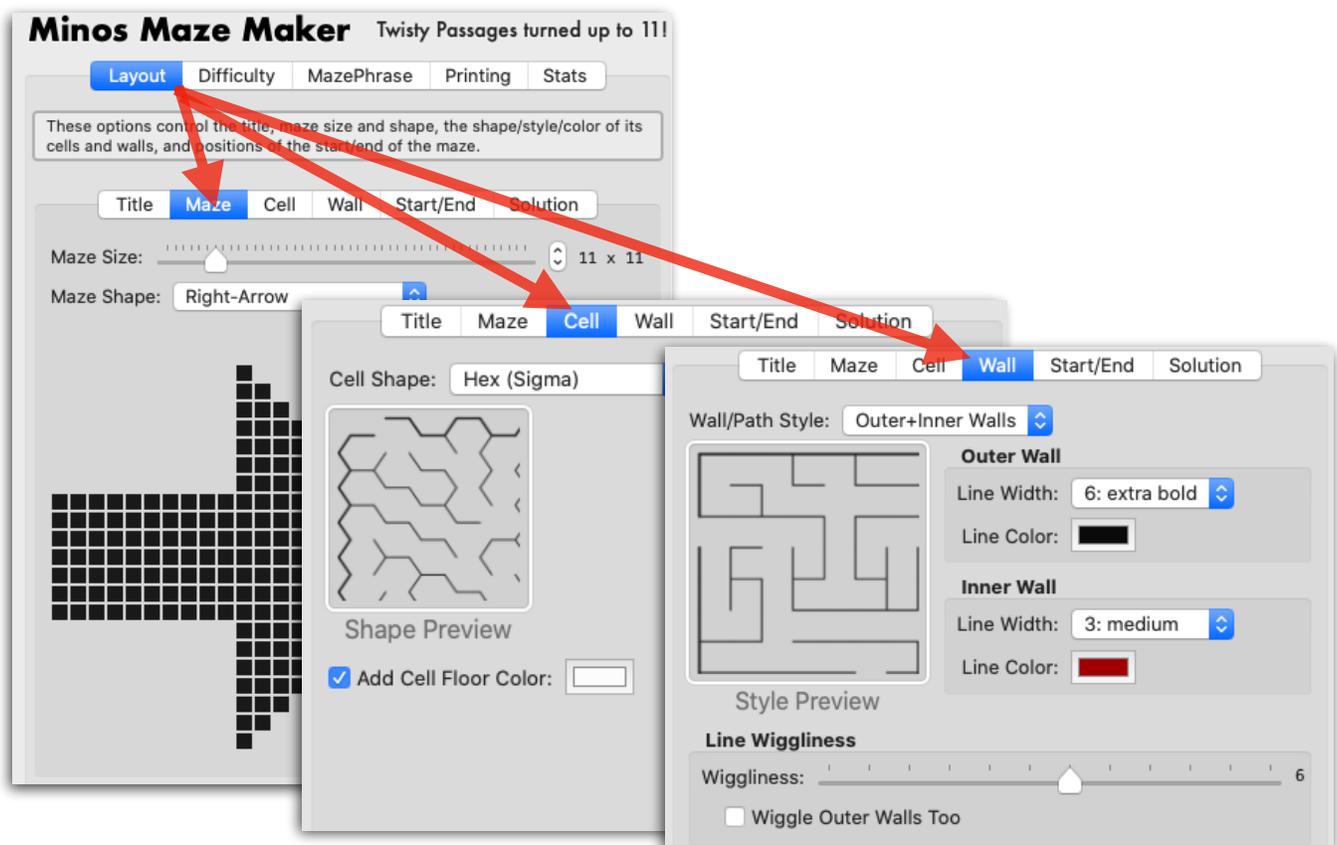
Now you are ready to configure the settings for the batch run. Open the batch-build sheet by choosing "Batch-Build" from the Action menu. The batch settings are separated/grouped into 3 tabs. Note that each time you open the Batch-Build window and make changes here, your past changes will be remembered, and the next time you open the Batch-Build menu, it will start out just as you left it last time.

The batch generator works like this: If you want 10 different mazes, it will create 10 random mazes, or "maze designs." For each maze design, you can additionally have it build 1, 2, 3… up to 5 different "variations" on that maze design. For each design, it will re-build that same maze as a new variation (each time with a different solution path) and save that maze file. So if you ask for 3 variations of each design, it will generate 10 x 3, or 30 different mazes for you. This lets you choose your favorite variation for each design without having to re-run a new batch if there was one you didn't like much.

How Many

This tab lets you choose how many maze designs and variations to create in this batch run.

Number of maze designs to build

Choose the number of unique mazes ("designs") that you want to batch-build. When you start the batch it will build this many unique mazes while randomly changing the settings that you choose below, and it will automatically save a new maze puzzle file (and a maze answer & info file) for each design it builds.

Number of variations of each maze design to build…

Normally you will simply want one maze built for each design. But there may be times when you want to choose from several variations of a maze design. Let's say you want to build 42 mazes, but you know that you don't always like the particular random solution path of any given maze, and you want a few extra variations of that maze design for you to choose the best from. You can do this by choosing to create more than one variation for a design. If you choose 5 variations, then the batch operation will build 42 maze designs, and for each design it sets up, it will build and save 5 different mazes with that design setup. That means it will create 42 x 5 (210) total mazes. Each maze file will be numnbered 1,2,3…42, but it will now also have the 5 variations added to the filename as a,b,c,d,e. So the files will be named MyMaze_1a, MyMaze_1b, MyMaze_1c, MyMaze_1d, MyMaze_1e, MyMaze_2a, MyMaze_2b, etc. When it is complete, you can choose your best variation (a-e) for each of the 42 maze designs.

Continue building if errors occur

Normally, if there is a problem building or writing a maze file during this long batch run, you will want it to immediately stop running. However, if you want it to ignore the error of one maze and charge ahead making more mazes, you can turn this checkbox on. This may be useful when you are trying to build many Maze-Phrase style mazes, where sometimes the phrase doesn't fit the particular maze size/shape, and you want to ignore the problem and keep trying other maze designs.

Randomize Settings

This tab lets you select certain maze settings in your document to randomly change for each maze design. If you leave a checkbox OFF here, it will simply use the setting from your underlying maze document for every generated maze.
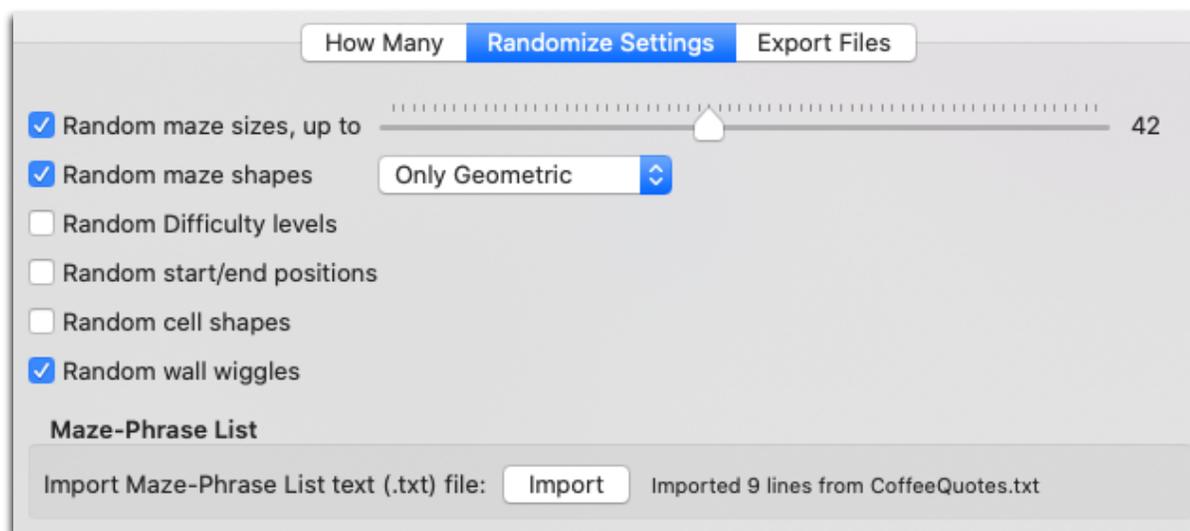
For "Random Maze Shapes", you can choose to randomly pick from the Geometric shapes only, pick from the Alpha-Numeric shapes only (using your current document setting for whether to use Serif fonts), or Any which will choose both Geometric and Alpha-Numeric shapes. If you choose "Any", it will tend to choose more Geometric shapes than Alpha-numeric shapes. It does not randomly add your user-designed shape into the mix. You can batch-create mazes from your user-designed shape simply by choosing your user-designed shape in the document, and turning off "random maze shapes" here in the Batch-Build window.

If you turn on "Random Start/End positions", it will choose semi-random positions but the start and end markers will always be on an edge wall.

Maze-Phrase List Import

Maze-Phrase List: This section lets you import a text file of Maze-Phrase lines, and for each maze design it builds, it will read and use the corresponding text line from your text file as the Maze-Phrase text. The first maze design will use the first line of text, the second maze design will use the second line, etc. If a line is left blank or there are fewer lines than mazes, those mazes will become regular mazes, not Maze-Phrase mazes. The Maze-Phrase settings from your current document will be used to determine how to build the Maze-Phrase (font, exact-fit, etc.) The text file can be Mac or Windows format, but expects ASCII or UTF-8 format. The file can have any file name as long as it has a ".txt" extension. The imported lines are *not* automatically saved/

remembered between batch runs, so to use this feature you must import a file each time you open a batch window.

<div style="background-color: yellow;">

Text Files on a Mac? Here's a quick note to help you create regular text files on a Macintosh, since not many people know about this important trick. First you open the application called "TextEdit" which can be found in the Applications folder. Tap the bottom button to create a new document, and either type in or copy/paste in the text lines you want saved. Under the Format menu at the top of the screen, choose the menu item called "Make Plain Text". Now when you save the file, it will be saved as a plain text file with a ".txt" extension.

</div>

Export Files

This lets you choose various settings related to the destination files that are exported for each maze, for example what file format to use, what the filenames should look like, and what directory to write them all to. Note that this is identical to the "Export Maze" described above, so you can refer to that section to learn more about each setting here. The only difference is that the "Add export counter" setting is always ON for batch runs, so that each exported file will be uniquely numbered. The batch-export settings here are identical/shared with your regular export directory settings, so changing them in one place will change the other.

Start Batchin'!

Finally, tap the Start button, and the mazes will be generated one by one, and their puzzle and answer and info files will be saved to the export directory you chose. If your maze dimensions are large, this can take many minutes to build a lot of large mazes. If you want to stop the batch build partway through the build process, simply tap the Stop button and it will stop building mazes. It will cleanly stop, and any existing maze files that it has already built will remain in the directory. When you start the batch again, it will restart from the beginning.

Here are some additional batch building notes

If you have a Maze-Phrase set up, then Batch build will try to create a Maze-Phrase for each maze, and it will use the same phrase each time, unless you have imported a Maze-Phrase file.

If you also have "Maze-Phrase:Exact Fit" turned on, or random maze size turned on, it is possible that during the batch operation it will create mazes that cannot place the Maze-Phrase successfully, and it would fail. If you want to get a as many good mazes as you can, simply turn on the "Contine building if errors occur" checkbox under the "How Many" tab so it will try to create each Maze-Phrase design with as many Variations as you have set it to.

If you turn on the "Random Start/End" positions, it will usually put the start and end markers on opposite corners of the maze, or sometimes half-way down near the middle. But it always will put them along an edge. Occasionally it might put them right next to each other. It is up to you to discard any generated mazes that are just plain silly. Fate is guaranteed to be random and thus seemingly cruel.

4. Help: How to…

Here are some quick answers to questions you may have, helping you do more advanced things with this software.

Move the start and end points elsewhere

The maze software will automatically pick default starting and ending points for every shape. It always chooses the start point at the far upper left corner, and the end point at the far lower right corner. But you can change them to be at any cell in the maze, even somewhere *inside* the shape, not on an edge if you wish.

If the "Show the Start/End Markers as" are set to "Do Not Show", then they will still be shown in the Preview area, but just as a light transparent color. That way you can still find them there to drag them around.

You can move the mouse pointer over one of the Start or End markers, and tap and drag it to a new position, and let go to drop it in its new spot. Do the same with the other marker.

Note that when you move the markers, you are invalidating any maze and solution you have already built. This means that when you move a marker, the maze is immediately cleared and you must re-make a new one using the new start/end spots.

Also, if you change the maze shape or size or cell style, the markers will be automatically reset back to their default positions. If you want them in your favorite custom spot after you change the maze shape or size, you will need to move them back again.

Note that once you have set a maze shape, size, difficulty, and moved the start/end markers to a new spot, you can choose the "Save as Default Settings" menu item to remember all these settings for newly created mazes.

Make a really easy maze

Here are several suggested settings to make easy-to-solve mazes.

Under the Layout tab, choose a small number for Maze Dimensions, perhaps between 8 and 20. Note that you can only choose a different maze shape if you choose a maze dimension of 20 or higher. Choose a Cell Shape of square or Triangle. You may want to choose a larger Wall Line thickness so they are easier to see.

Under the Markers tab, choose to show the markers as "S&E", or just choose "Circle" and tell them to connect the two circles. You can also increase the Start/End marker size. For the Solution Markers, choose "Arrows" or "Line".

Under the Difficulty tab, choose "Basic Mode", and set the Maze Difficulty to something between 1 and 5.

Now, simply press the "Build" button in the lower right corner to create a maze. If you don't like that one, press the Build button again. Each time you press it, a new maze will be built with a completely different solution path.

Make a really hard maze

Here are several suggested settings to make difficult-to-solve mazes.

Under the Layout tab, choose a larger number for Maze Dimensions, perhaps between 20 and 50. Note that the larger the dimensions, the longer it takes to build a maze, and the smaller the cells are, in order to fit the entire maze onto a single printed page. Choose a Cell Shape of Hexagon, for more dead-end branch possibilities.

Under the Layout:Wall tab, turn up the "Line Wiggliness".

Under the Layout:Markers tab, choose "Arrows" or "Line" for the Solution Markers.

Under the Difficulty tab, set the Maze Difficulty to a high number, between 8 and 11.

Now, simply press the "Build" button in the lower right corner to create a maze. If you don't like that one, press the Build button again. Each time you press it, a new maze will be built with a completely different solution path.

And of course, turn on the Maze Preview for "Solution", and you can hit the Build button until you see a crazy-windy solution path you like.

Make a "Maze-Phrase" puzzle

The Maze-Phrase feature works by letting you first design a maze any way you like, easy or hard, any shape and size. You then select the Maze-Phrase tab and type in a phrase that will be laid down, letter by letter, along the solution path of the maze as it is built.

When it builds the maze, it lays your phrase out into the maze from the Start position to the Finish position along the solution path. The other dead-end paths of the maze will be filled with "almost" the same letters in your phrase, with a letter or two swapped around so that there will be only one complete properly-spelled phrase in the puzzle. The higher the difficulty of the maze, the later along the dead-ends the incorrect/swapped letters appear. This allows your puzzle solving user to go farther down wrong paths before they notice the phrase is wrong.

Notice that your phrase of letters must be shorter than the total number of solution maze cells/steps from the start to the finish, in order for it to fit. If your maze has an "easy" difficulty setting, the solution path is fairly

short and direct. If your maze has a "hard" difficulty setting, the solution path will be more windy, and have more space for a longer phrase. This will help you decide how many letters you can use.

If your phrase is too short or too long to match a solution, then when you build the maze it will fail and display an error message. The message will give you extra information about how close the phrase was to fitting, so you can then adjust the phrase length or the maze size or cell style or the difficulty and try to build again.

Minos, we have a problem!

Your 'Exact-Fit' MazePhrase is 8 letters long and is 3 letters too SHORT to fit with these maze settings. The shortest solution found was 11. Try building the maze again, or increase your MazePhrase length, or decrease the maze size or difficulty level, or turn off the MazePhrase "exact-fit" option.

If you have the "Exact Fit" checkbox *turned off*, the letters of your phrase will be spaced out to evenly stretch from the Start to Finish markers.   The extra fill letters along dead-ends will also be stretched out in the same way, so the correct-solution and dead-ends will all look similarly populated.

☑ Find an "Exact-Fit" Solution

NOTE: Given the current maze settings, an "Exact-Fit" phrase can be between about 5 and 34 letters long, ignoring spaces and punctuation.

If you have the "Exact Fit" option *turned on*, then Minos Maze Maker will try to build a solution that is *exactly* the same number of cell steps as there are letters in the phrase. This means there will be a letter in every single cell of the maze. It will take into account your Difficulty setting and build a maze at that difficulty, then try to find a solution exactly the length of your Maze-Phrase.

If creating the maze and finding an exact fit of your phrase is impossible or impractically time-consuming, then building the maze will fail and display an error message. The error message will give you information about how far off the length is, and will suggest ways you can try to fix it. If your Maze-Phrase is within a single letter or two, it is likely that simply re-building the maze again might have it find the perfect solution.

So, set up the maze, shape, colors, difficulty any way you like. Keep in mind whether you want "Exact Fit" or not. Exact Fit will require you to more carefully match the length of the phrase with the number of cells between the start and finish positions, start and end positions, and difficulty level. One *important* note for "Exact Fit" Maze-Phrases is that it will will fail more often with very short phrases and small mazes. You can help it succeed more often by reducing the "Difficulty" setting down to 1 or 2.

 Select the Maze-Phrase tab and enter the phase you want. As soon as the Maze-Phrase text is not empty, a little tag will show up under the Preview area, showing that the "Maze-Phrase" feature is activated. If you do not want to use a Maze-Phrase, simply delete all the text in the Maze-Phrase text box.

Then tap the Build button to create the maze. If the phrase is too long, or if you have turned on "Exact Fit" and the phrase doesn't exactly fit, an error message will display showing how many letters you must add/remove. Make any changes and build the maze again until it succeeds and looks the way you like.

When the Maze-Phrase option is on, you can change the answer key to show the Maze-Phrase letters along the solution path. Simply select the Markers tab, and under "Solution Markers", set the "Show Maze Solution Path as:" menu to one of the "Maze-Phrase Letters" options. You can now display the Answer Preview and see your Maze-Phrase letters laid out along the solution path.

Save customized settings for all future maze documents

You may find that every time you start the software, you have to go in and update certain settings the way you like! You really just want the software to remember your settings and open every new maze for you this way. Minos Maze Maker can do that for you!

Simply set up a maze with all the settings you want to start with, and then choose "Save as Default Settings" from the Minos Maze Maker menu. It will remember every setting (size, shape, difficulty, colors, page title and font, etc.) and use them for every subsequent new maze.

Any time you want to change these "default" values, simply do those steps again and it will update and use your new settings.

Note: If you want multiple "default" settings, for example creating 10 puzzles of one style, and 10 puzzles of a second style, then it is best to use saved maze documents for this purpose. Simply save a first maze document with the style settings you want for those first 10 mazes, then open and save a second maze document with the second style settings, etc. Now you can open the first document and create and save 10 mazes from it (or use the Batch feature in the Pro version to automatically create 10 mazes from it.) Then you can open the second document and make 10 mazes from it with the second maze style.

Save a maze as a high quality file for publication

If you are working on a newsletter or book, and you want to add a maze and maybe its answer key as well, here is the best way to get the maze puzzle and answer from this software into your document for publishing.

First, choose settings for the size, shape, and colors for your maze, and then build the maze. You may want to save this maze document once you like it, in case you need to open it later and change and re-build and re-export the maze file (You know, in case of those eagle-eyed editors.)

If your final book will be printed in black and white, then there is no need to choose colors for lines and markers, set them all to black/white/gray by choosing the "Change all colors to B&W" menu item.

The maze is ***normally*** drawn using solid/opaque lines for the walls and <u>transparent</u> areas for the inner cell areas. This is useful if you want to lay the maze on top of some other background in your book and let the background show through. However, you may instead want the background behind the maze to be a <u>solid opaque color</u>. That way it will block out the background inside the maze area. You can make mazes either way to suit your purpose.

To get a *transparent* background, go to the Layout tab and turn *off* the "Add Cell Floor Color" checkbox.

To get a *solid color* background, turn *on* that checkbox, and choose a solid color by tapping the color rectangle just to the right of the checkbox.

Now that you have built a maze and have chosen an export format, you now choose "Export Maze…" from the File menu (see the section above entitled "Export Maze" for details on this step.) Tap the Export button and the maze puzzle and answer files will be written to your chosen directory. Repeat for as many mazes as you want to make.

And finally, open your book in your other publishing software, and import the maze/answer files you just exported, place them and size them, and you are done!

Get a commercial license to sell mazes in your own books/products

Not needed! All exported mazes and answers are copyright-free and royalty-free without any requirement for a commercial-use licence. You are explicitly allowed to give away or sell all the mazes you create with my software. You can even use the SVG/POV-Ray exported information to generate your own games from them. I *do not* require you to fill out a commercial license, ever! If you still want to offer something, see the next item!

Add Minos Maze software credits to your own product

I *do not* require you to credit my software in your own publications or software that use the mazes. However I would certainly appreciate it if you do mention it, since doing so will help advertise my own products, which will then allow me to work on even more features and other software products for you. You are also encouraged to write and publish a review of my software on Apple's App store. Here is a suggestion for a "credits line" that you could add somewhere in your newsletter, book or web/software product.

```
These mazes were designed with Minos Maze Maker by SchwanSongs: www.schwansongs.com
```

Print this user guide to a printer

Here is how you would print out a copy of this user guide, instead of viewing it on-screen.

First open the user guide window by choosing "Minos Maze Maker User Guide" from the "Help" menu. With the user guide window displaying, now choose the "Print" item from the "File" menu, and it will print the entire user guide to your printer.

You can also download the full PDF file of this file directly from the software product page of my web site if you want to read it elsewhere.

Contact the author with a feature request or bug report

If you found something that isn't working correctly, or if you wish that this software did something differently, or you would like a new feature added, I would like to know. I am already collecting a to-do list from my users and testers, and I always strive to update my software so that it does what *you* want. You can even write just to let me know it is working well and you are enjoying it!

The best way to contact me is to run the software and choose "Contact Author" from the Help menu. This will open your e-mail software and automatically create an e-mail to me. This also includes the version of the software you are using at the bottom of the e-mail, which can be helpful to me when answering your questions.

Send any feedback or correspondence to me at: note@schwansongs.com, or via the "Contact" link on my web site at: www.schwansongs.com

5. More Information

This original software was written by Eduard Schwan of SchwanSongs over several years.

The maze software has now grown to over 23,000 lines of Objective-C code, carefully designed and built by me, and tested with the help of a small group of friends. The algorithm for generating these easy-to-hard configurable mazes is something I invented, and as far as my own maze research shows, is a unique new way of creating mazes. I hope to publish a little paper on my new approach someday.

SchwanSongs
Bringing Software to Delight!