SuDoku One 0.92 User Guide

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Overview(top)

Normal game play is by using the stylus. If your device has the direction and select keys you may use those instead. Users of older models can set the Hardkey navigation option under the General Preferences screen. When this option is set the application and page up / down buttons substitute for the direction and select keys.
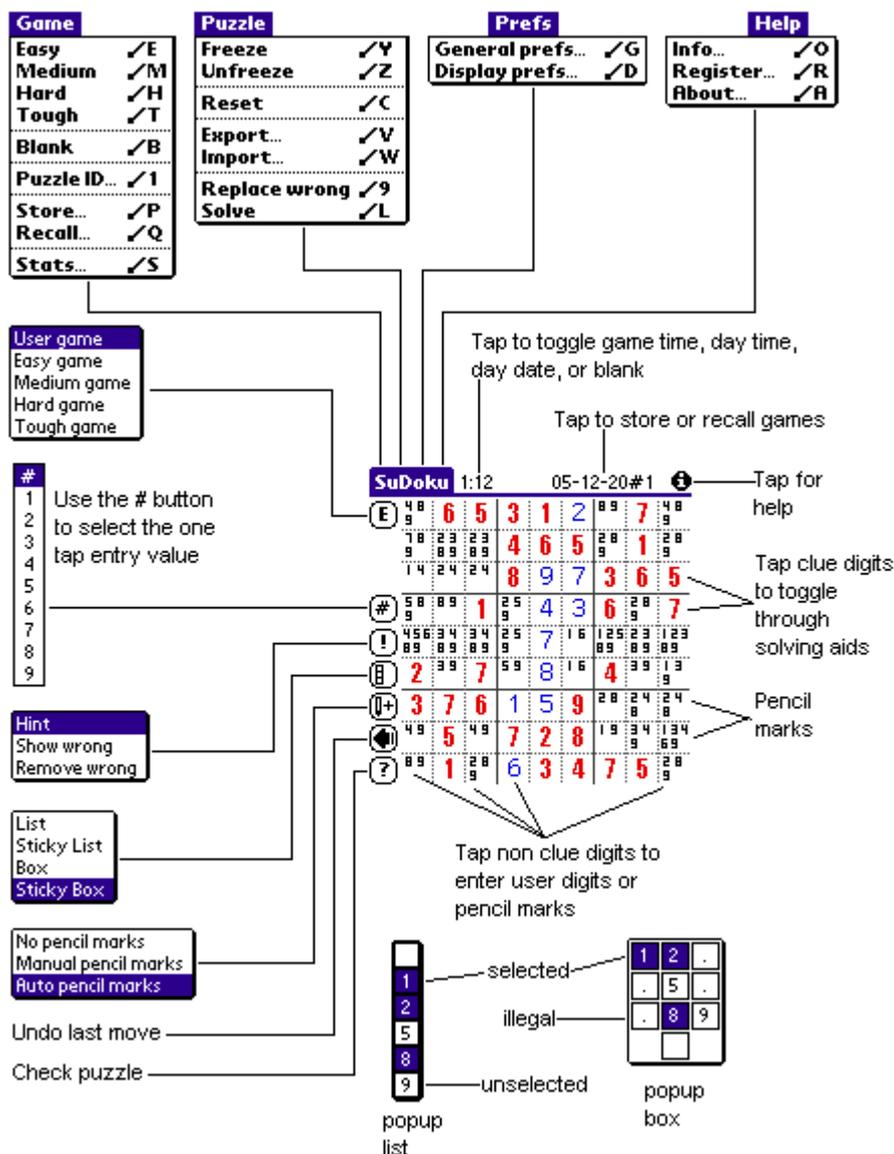

Initial Screen(top)

The screen you see after starting SuDoku One for the first time is the registration nag screen. This screen will be displayed once a day until you register.
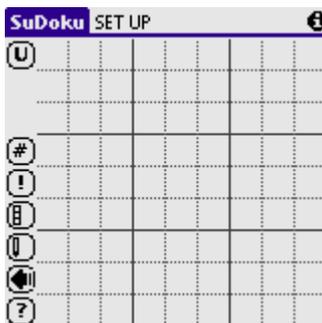
If you have a registration code enter it in the dotted field and press Register, otherwise just press Not Yet. The main screen is then displayed.

However if your device is earlier than PalmOS 2.0 you will see the following:
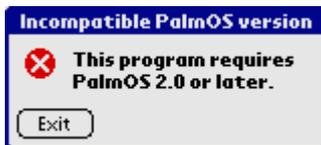
In this case your device is incapable of running SuDoku One version 0.92.

Main Screen(top)

Title Bar (top)

The bar at the top of the screen is referred to as the title bar.

SuDoku (top)

To follow the following you need to access the menus. If your device is earlier than PalmOS 3.5 you will need to tap on the menu symbol in the bottom left of the silk-screen area otherwise tap on SuDoku in the title bar.

1. tap on Game Puzzle ID...
2. enter a puzzle ID of 0 and tap OK
3. tap OK on the Invalid Puzzle ID alert

This should result in the following display:

Time/Date (top)

The game time should now be counting up in seconds in the Time/Date area.

Tap in the Time/Date area to cycle through day time, day date, blank, and finally back to game time display.

Store/Recall(top)

Note that a name has appeared in the middle of the title bar in the Store/Recall area. This name will be the default used if you store or export the puzzle. The name is made up of the date with a number appended. The number increments for each puzzle you generate during a day.

Tapping in this area act as a shortcut to the Game->Store/Recall command. If the current game is stored its name will appear in inverse video. Tapping on an unstored game invokes the Game->Store command. Tapping on a stored game invokes the Game->Recall command.
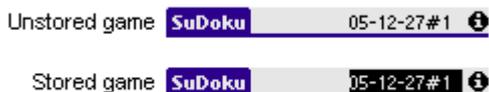
Tips (top)

Tapping on the information icon acts as a shortcut to the Help->Info command.

Buttons (top)

Game (top)

Tapping on the Game button acts as a shortcut to the Game->*new* commands. The letter in the button indicates the type of game. U indicates a user entered game. An E, M, H, or T will be shown for Easy, Medium, Hard, or Tough level preset puzzles respectively.

Hash (top)

Tapping the hash button allows you to select a digit for one tap entry. Thereafter tapping squares will toggle between entering the selected digit and a blank.

Hint (top)
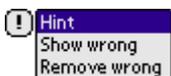
Use the hint button to get help:

Hint	Shows the cell the software would complete next
Show wrong	Highlights cells with incorrect entries by flashing their squares
Remove wrong	Blanks cells with incorrect entries

See the menu command Puzzle->Replace wrong for more details.

Popup (top)

Use the popup button to select the popup type:

	List	appears centred adjacent to the entry cell; dismissed as soon as an entry is made
	Sticky List	appears centred adjacent to the entry cell; stays displayed until explicitly dismissed by tapping outside the board area
	Box	appears close to the entry cell but does not obscure any entries in its row, column, or box; dismissed as soon as an entry is made
	Sticky Box	appears close to the entry cell but does not obscure any entries in its row, column, or box; stays displayed until explicitly dismissed by tapping outside the board area

Pencil Marks (top)
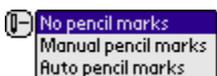
In pencil marks mode digit entry is by toggling. i.e. if a digit isn't in the cell it is added; if it is in the cell it is removed.

There are two exceptions to this rule.

- If you enter the same digit again when there is only one digit on display this toggles between the digit being a pencil mark or not. To remove single digits in this mode select blank from the digit list.
- If you select blank in a blank cell this fills in the legal pencil marks for that cell.

Use the Pencil marks button to select:

	No pencil marks	any pencil marks on display are cleared and pencil marks may not be entered
	Manual pencil marks	any pencil marks on display are unchanged and pencil marks may be entered manually.
	Automatic pencil marks	pencil marks are automatically refreshed as board entries are made.

Undo(top)

The undo button is used to backtrack through your digit entries.

The undo history is cleared whenever the puzzle is known to be solvable from the current position (after a successful hint, check, solve, show, remove or replace wrong).

Check (top)

The check button is used to see if the puzzle can be solved given the current puzzle position.

A little bar will rotate within the Check button during a solution search.
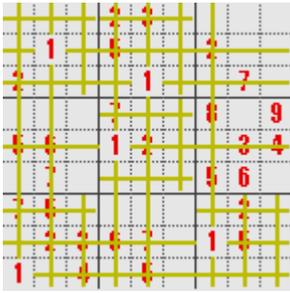
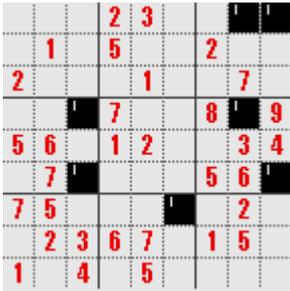See the menu command Puzzle->Solve for more details.

Board (top)

Clue Digits (top)

By default the clue digits are displayed in a large bold font in red. Tapping clue digits cycles through the following solving aids.
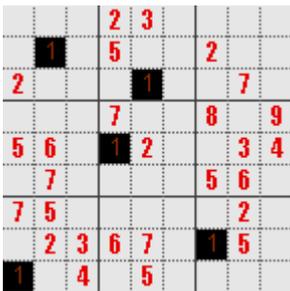
Tap a clue digit once to cross hatch that digit.

Tap again to show legal cells for that digit.

Tap again to show where that digit is present.

User Digits (top)

Tap on other cells to make entries using the current choice of popup.

Menus (top)

There are four menus

- Game
- Puzzle
- Prefs
- Help

You gain access to the menus by tapping the menu icon in the bottom left of the silk-screen area or (for PalmOS 3.5 or later) by tapping SuDoku in the title bar.

Menu Game (top)

This menu is used to automatically generate preset puzzles, to blank the board to allow entry of user defined puzzles, to select puzzles by their ID, to store and recall games, and to view game statistics.

```
Game
Easy       ✓E
Medium     ✓M
Hard       ✓H
Tough      ✓T
Blank      ✓B
Puzzle ID... ✓1
Store...    ✓P
Recall...   ✓Q
Stats...    ✓S
```

Game->Easy, Medium, Hard, Tough (top)

Select Easy, Medium, Hard, or Tough to automatically generate a SuDoku puzzle. You will have to confirm this action:

```
New Game
⚠ Do you really want to
   start a new game?
 OK    Cancel
```

The levels are a little arbitrary but in general they should reflect the relative difficulty of solving the puzzle. It's not our fault that one person's easy is another persons hard and vice versa. Only the simplest techniques are required to solve easy puzzles. Additional techniques are required for medium. Hard introduces the need to be able to plan several stages ahead as well as requiring the other techniques. Some of the techniques required are given in the how to play guide at the onesir site.

All our automatically generated puzzles are true Sudoku puzzles with the following properties:

- They have only one solution
- They may be solved by logic alone

The following shows a newly generated easy level puzzle.

Timing starts as soon as the puzzle is generated.

Regardless of whether the game time is displayed or not the current game time is always shown on the Stats screen.

We use the following terms:

Clue digits	these define the puzzle and may not be altered (default large bold red)
User digits	these are the digits you enter (default large blue)
	these are digits entered by the program when you request a solution (default small

Auto digits	gold)
Pencil marks	these are one or more digits you enter in a cell as an aide-memoir of the candidate digits for a cell (default black)

The visual distinction between clue digits, user digits, auto digits, and pencil marks depends upon the capabilities of your device and the preferences selected in menu Help->Display prefs.

To solve the puzzle you have to enter digits in the blank cells such that the same digit does not appear more than once in any one row, column, or 3x3 box.

Game->Blank (top)

Select Blank to clear the board so that you can enter your own puzzle. You will have to confirm this action.


SET UP at the left of the title bar indicates that the game is in board set up mode for user game entry. In this mode you enter puzzle clue digits, perhaps those found in a puzzle in your daily newspaper. When you have completed entering clue digits select menu Puzzle->Freeze to start solving the puzzle.

Timing starts as soon as the puzzle is frozen.

Game->Puzzle ID (top)

Select Puzzle ID to select a puzzle by entering its ID. All automatically generated puzzles have a 10 digit ID. The ID of the current puzzle is shown on the Stats screen. User puzzles all have an ID of -1. If you enter the same ID on two different Palms the same puzzle should be generated on each.
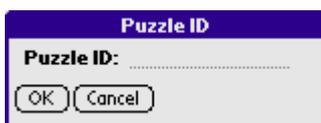
If the ID is invalid you will be warned and will have the option to select the closest matching puzzle (if you were told the puzzle ID check that you entered it correctly).

To check that your device is compatible with other PalmOS devices enter a puzzle ID of 0 and let the software construct the closest match.
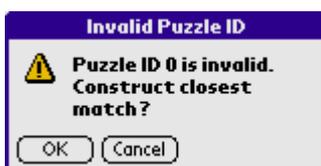
It should be as shown below.

If you check on the Stats screen you will notice that the closest match has a puzzle ID of 1073743872. This is the ID you should record and pass on. When this ID is entered there will be no warning.

The term 'closest match' is unfortunate. The 'closest match' ID the program generates to an invalid puzzle ID may not be at all close in numerical terms.

Game->Store (top)

Select Store to store the current game. You need to register to use this function.

Registered users see the following example screen.

You may name the game. We recommend that you use the default names until you decide upon a consistent naming strategy. You can always rename the game later.

The full game state is recorded.

Each stored game takes up 700 bytes of RAM, i.e. if you store 115 games you will double the amount of RAM occupied by SuDoku One.

N.B. Once you have stored or recalled a game its name will be displayed inverted in the title bar. You need not store the game again unless you want to make a copy. When the game's name is inverted it indicates that the game will automatically be stored just before you start a new game.

In particular such games are stored just prior to:

- Game->Easy
- Game->Medium
- Game->Hard
- Game->Tough
- Game->Blank
- Game->Puzzle ID
- Game->Recall
- Puzzle->Import

If a stored game of that name already exists you may replace it or choose another name.
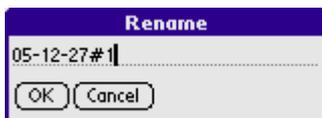

Game->Recall (top)

Select Recall to re-load a previously stored game. You need to register to use this function.

Registered users see the following example screen.

You may also use this screen to rename and delete stored games.

You will need to confirm game deletion.

Game->Stats (top)

Select Stats to view play statistics. The first screen displayed deals with the current game.

Count	Incremented
Moves	Every time a digit is selected (toggles included)
Undos	Every time the Undo button is tapped
Checks	Every time the Check button is tapped

Hints	Every time the Hint function is requested
Shows	Every time the Show wrong function is requested
Removes	Every time the Remove wrong function is requested
Replaces	Every time the Replace wrong function is requested
Solves	Every time the Solve function is requested
Resets	Every time the Reset function is requested. The other counts are zeroed

A game is considered played when you have entered at least 5 moves. Automatically generating a puzzle or entering the clue digits does not increment the played count.

A game is considered solved when you enter the final correct digit. Once a game is solved the statistics are no longer updated. If you want to play the puzzle again use Puzzle->Reset which resets the puzzle to its base state.

Historical data is kept separately for User, Easy, Medium, Hard, and Tough level games - consisting of the games played, solved, and time taken.

Totals are given on the All screen.

Versions of SuDoku One earlier than 0.8 did not record time statistics. This means that the average solution times will be incorrect if you have solved games in prior versions of SuDoku One. To correct this situation you should select the Reset Stats option on the All screen.
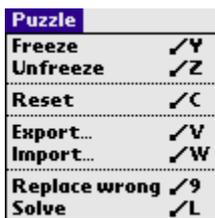
You will need to confirm the Reset Stats request.

Menu Puzzle (top)

This menu is used to manipulate user generated puzzles, to reset puzzles to their initial state, to export and import puzzles, to replace wrong entries with the correct values, and to solve puzzles.

Puzzle->Freeze, Unfreeze (top)

You may only freeze and unfreeze user generated puzzles. If you use this command on an automatically generated puzzle the following will be displayed:
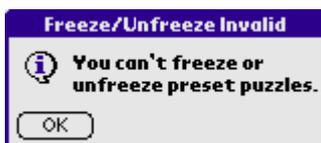
When you wish to enter your own puzzle you start by blanking the board and then enter the clue digits by tapping on the screen cells. When all the clues have been entered use freeze to fix those digits in place. The frozen digits will be displayed in bold and may not be altered. If you make a mistake unfreeze allows you to edit the board before freezing it again.

N.B. in board SET UP mode pencil marks are not allowed and you are only allowed to enter legal digits for the cell.

You will have to confirm the action of re-freezing an already frozen user puzzle:

Puzzle Already Frozen
⚠ **Do you really want to freeze the puzzle?**
[OK] [Cancel]

Puzzle->Reset (top)

Use reset to restore an automatically generated puzzle to its initial state and a user puzzle to its frozen state. You may need to do this if you get hopelessly lost in your search for a solution.

You will have to confirm the action of resetting an unfrozen user puzzle as this is equivalent to blanking the puzzle:

Puzzle Not Frozen
⚠ **Do you really want to clear the puzzle?**
[OK] [Cancel]
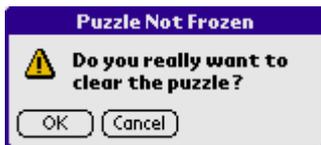
Puzzle->Export (top)

Select Export to export the current puzzle. You need to register to use this function.

Registration Required
✖ **You must register to use this feature.**
[OK]

Registered users see the following example screen.

Export Puzzle
| Memo | Card | Beam |
05-12-27#1
[OK] [Cancel]

You may name the puzzle. We recommend that you use the default names until you decide upon a consistent naming strategy. You can always rename the puzzle later.

Use export to export the current puzzle as a memo, SD/MMC card file, or to beam it to another device.

An alert will be shown if you select Card or Beam and your device does not have this feature:

Feature not present
✖ **Your device does not support this feature.**
[OK]

If the puzzle can not be saved to your chosen destination the following example alert will be shown:
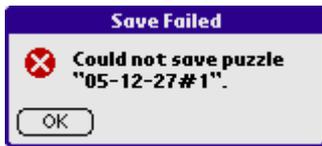
Normally this will only occur when saving to SD/MMC cards. The most likely problem is that no card is present. If you know a card is present check that your chosen puzzle name conforms to any standards expected by your card. Alphanumeric names of up to eight characters should always be safe.

Puzzles are saved to a directory named /PALM/SuDoku on your SD/MMC card. If this directory does not exist it will be created. If an ordinary file exists with the name /PALM/SuDoku then the directory will not be created and you will not be able to save puzzles to that SD/MMC card.

Beamed puzzles are transferred to the receiving devices default text application (for PalmOS devices this is normally memo pad).

Whatever the destination the content will be plain text in the following example format.

```
SuDoku 05-07-06#1
Puzzle ID: 1664621579
378625941
921483675
6541792--
296814357
-83957126
-17362489
165238794
8--746512
7425918--


--8-25941
921-8---5
6--------
----14-5-
---9-7---
-1-36----
---------
8---4-512
74259-8--
```

The second block of nine rows of digits is only present if the puzzle is frozen and contains the clue digits. All automatically generated puzzles are considered to be frozen.

The memo will be named in the form "SuDoku YY-MM-DD#n" as shown in the following example.

Puzzle->Import(top)

Select Import to re-load a previously exported puzzle. You need to register to use this function.
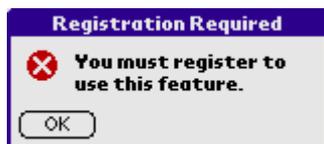
Registered users see the following example screen.

You may also use this screen to delete and rename exported puzzles.

Every SD/MMC card file in the /PALM/SuDoku directory will appear in this list as will every memo starting with the text "SuDoku ".

The contents of the file/memo will be validated after you select an entry and tap OK.

The following alert will be shown if the data is invalid:
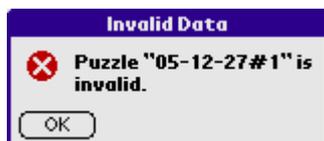
If you have thousands of memos it may take several seconds to find all those starting with "SuDoku ".

SD/MMC card entries will be highlighted with a little SD/MMC card symbol at the right hand edge of the screen.

Puzzle->Replace wrong (top)

Use replace wrong to replace all incorrect entries with the correct ones.

User puzzles must be frozen to use Hint, Show wrong, Remove wrong, and Replace wrong. If the puzzle isn't frozen the following alert will be given:
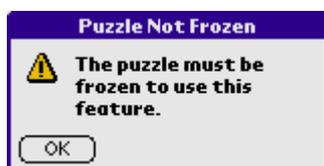
If Show, Remove, or Replace wrong is used and there are no incorrect entries the following alert will be given:
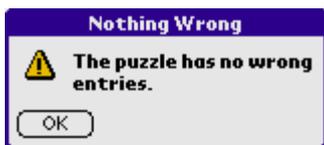
Puzzle->Solve (top)

Use solve to complete the current puzzle. A little bar will rotate within the Check button during the Solve process. Use Undo to cancel the Solve.

The digits filled in by the solve process are termed Auto digits and will be highlighted as per the preferences set in Help->Display prefs.

The default for non-box symbols is gold.

For boxes the auto digits are displayed as small centred boxes.
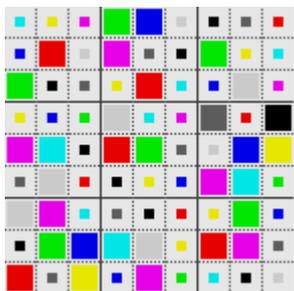
If a user puzzle has been entered incorrectly there may be no solution for the clue digits in which case the following will be shown:
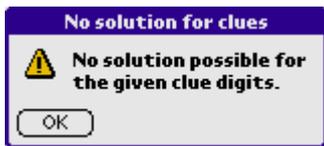
If you have made incorrect entries there may be no solution from the given position in which case the following will be shown:
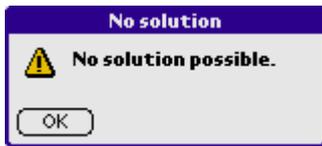
If you have the same digit more than once in any row, column, or box, the first such mistake found will be highlighted by flashing squares. The flashing will stop after 10 seconds or when you tap anywhere on the screen.

Menu Prefs (top)

This menu provides access to the preferences screens.

Prefs->General prefs (top)

The default preferences (shown checked below) mean that by default the game is played in the same fashion as earlier versions of SuDoku One.
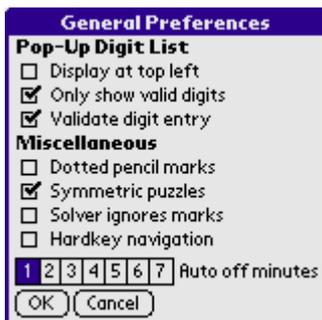
The following preferences are available:

- Pop-Up Digit List
  - Display at top left
  - Only show valid digits
  - Validate digit entry

- Miscellaneous
  - Dotted pencil marks
  - Symmetric puzzles
  - Solver ignores marks
  - Hardkey navigation
  - Auto off minutes

Display at top left

If this is checked the popup list is displayed at a fixed position at the top left of the screen. Otherwise the popup list appears centred to the left of the tapped cell. Note, the positioning of the popup box is unaffected.

Only show valid digits

If this is checked the popup only contains digits that are currently legal for the tapped cell, i.e. it only contains digits not already in the cell's row, column, or box. Otherwise all digits are present in the popup.

There is one exception to this rule. If you have used pencil marks and one of the digits is no longer legal for the cell it will still be in the popup (so that it can be removed by toggling). Such digits are indicated by a hyphen '-'.
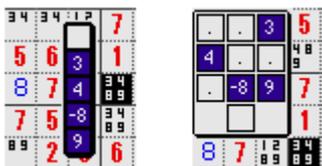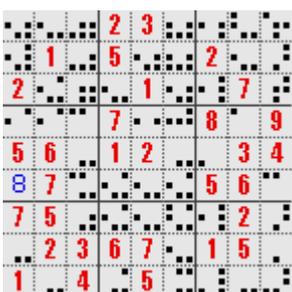
Validate digit entry

If this is checked invalid entries are rejected with a beep. Otherwise invalid entries are allowed. N.B. this setting is irrelevant if the "Only show valid digits" preference is checked.

Dotted pencil marks

If this is checked pencil marks are represented by dots as shown below.

This is equivalent to the following non-dotted pencil marks.

The position of a dot within the cell indicates the particular pencil mark, e.g.

```
. .
. . .
  .
```

represents pencil marks 1, 3, 4, 5, 6, 9.

Symmetric puzzles

If this is checked the automatically generated puzzles will have rotational symmetry in the clue cells (a bit like the blocked off squares in a crossword puzzle).

Solver ignores marks

If this is checked the software ignores pencil marks as far a solution checking is concerned.

Hardkey navigation

If this is checked use page up / down for up / down. Use outer hard keys for select. Use inner hard keys for left / right.

Auto off minutes

After the chosen number of minutes of inactivity your device will be switched off.

Prefs->Display prefs (top)

The default preferences are shown checked below.
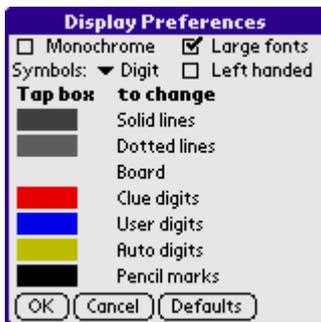
The following preferences are available:

- Check boxes
    - Monochrome
    - Large fonts
    - Left handed

- Pop-up List
    - Symbols
        - Digits
        - Letters
        - Maths
        - Boxes

- Rectangles
    - Solid lines
    - Dotted lines
    - Board
    - Clue digits
    - User digits
    - Auto digits
    - Pencil marks

Monochrome

If this is checked the display will be limited to monochrome.

Large fonts

If this is checked the largest fonts your device supports will be used.

Symbols

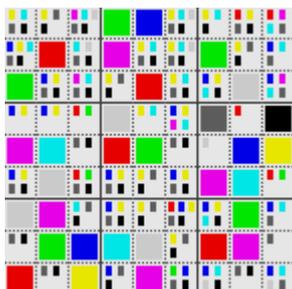Use this to select whether you want to play with digits ...
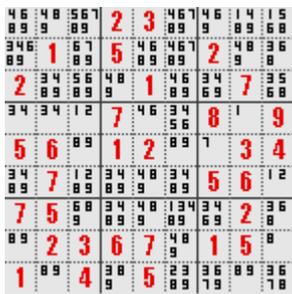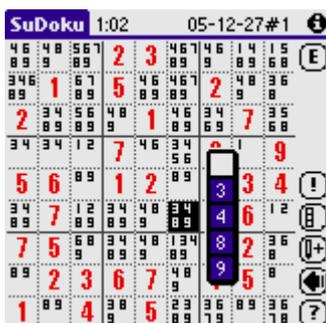

letters ...
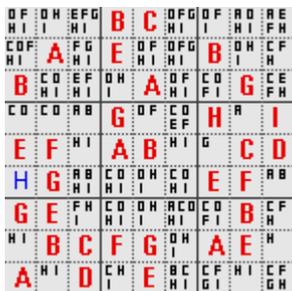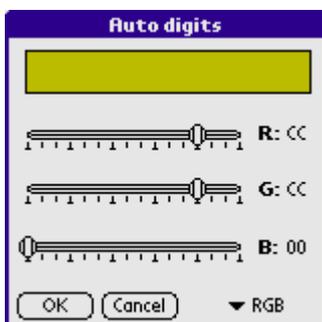

maths ...
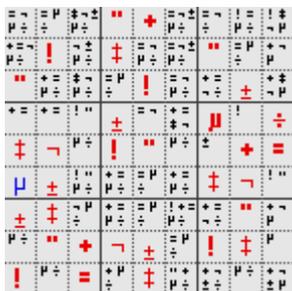
or boxes (PalmOS 3.5 or later devices only)

Left handed

Use this to select a main game display more suitable for left handed players:


Rectangles

Tap a rectangle to change the appearance of the labeled object. Provided your device supports this feature (PalmOS 3.5 or later) the following example screen will be displayed:

Use the sliders to alter the red, green, and blue components of the selected objects. If your display is limited to grey scale the sliders will all be set to the same setting.

Click on RGB at the bottom right of the screen to optionally use the palette selection screen.
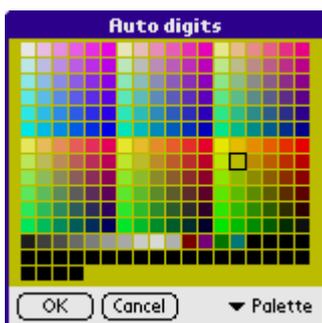
Menu Help (top)

This menu provides access to the information, registration, and about screens.

Help->Info(top)

Use Info to view on-screen help.
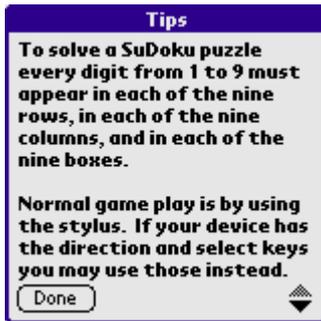
Help->Register (top)

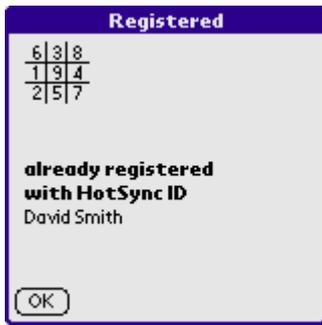Use Register to enter your registration code.
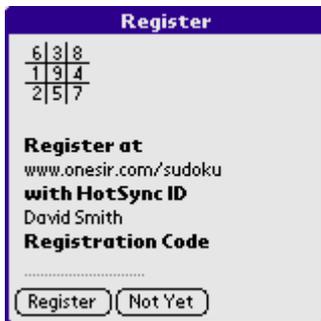
Upon entering a legal code the following will be displayed.

If you enter an illegal code the following will be displayed.

If you are already registered the following will be displayed.
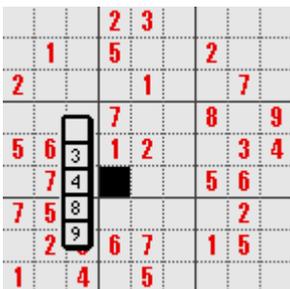
Help->About (top)

Use About to view SuDoku details.

Game Play (top)

To solve the puzzle you have to fill all the blank cells with digits while obeying the following rules:

- A digit cannot appear more than once in any one row.
- A digit cannot appear more than once in any one column.
- A digit cannot appear more than once in any one 3x3 box.

Note that digits in bold are clue digits and cannot be altered.

To enter a digit into a cell tap the cell with your stylus. A popup will be displayed showing digits and a blank. The digits will be determined by the preferences you have chosen. Tap your selection to make the entry. Tap outside the board to cancel the command.

You can choose to use a popup list ...

... or a popup box.

After a few entries the screen will contain a mixture of bold and non-bold digits.

Remember that the bold digits are the clue digits and that the non-bold digits are ones that you have entered.

Or if you have been using pencil marks ...

After a while you may be worried that you have made a mistake in solving the puzzle. Tap the Check button. If the digits already entered are correct than the following will be displayed.
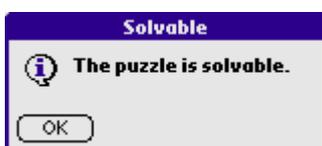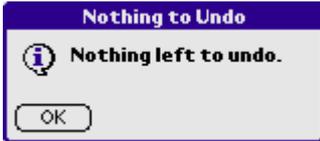

If you have gone wrong somewhere and the puzzle is no longer solvable the following will be displayed.
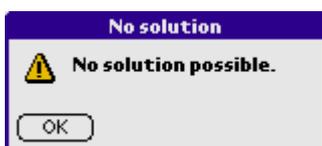
Tap the Undo button to back track through your history of digit entries.

The last 64 changes are held in the undo list. When there is nothing left to undo the following is

displayed.

When you successfully complete a puzzle the following will be displayed.

If this is not displayed use Check to check the solution.

If you have the same digit more than once in any row, column, or box, the first such mistake found will be highlighted by flashing squares. The flashing will stop after 10 seconds or when you tap anywhere on the screen.

Finally, the point of the exercise, a completed puzzle.

Once a game is completed you will need to use undo or a menu option to start a new game.
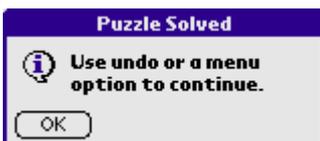
Cheats (top)

Any help the program gives which is not available to the pencil and paper player will be considered cheating by Sudoku purists.

The following functions fall into this category:

Function	Action
General Preferences - Only show valid digits	Limits popups to the display of digits not in the current row, column, or box
General Preferences - Validate digit entry	Beeps and rejects invalid digit entries
Clue Digits - Tap 1, 2, 3 times	Cross hatch, show legal cells, show present cells
Hint Button - Hint	Shows the cell the software would complete next
Hint Button - Show wrong	Shows incorrect entries
Hint Button - Remove wrong	Removes incorrect entries
Pencil Marks Button - Auto pencil marks	Automatically fills in pencil marks to show valid digits for the cells
Check Button	Checks to see if the current board is solvable
Menu Puzzle - Replace Wrong	Replaces incorrect entries with the correct ones
Menu Puzzle - Solve	Solves the puzzle

You must decide for yourself what type of cheats are acceptable.