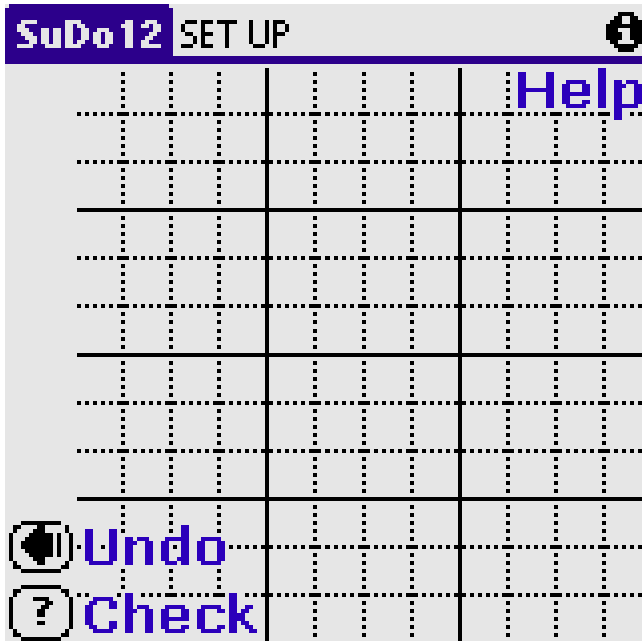# SuDo12 One 0.1 User Guide

Index

Initial Screen

The screen you see after starting SuDo12 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 initial game screen is then displayed.

There is nothing very interesting here. The bar at the top of the screen is referred to as the title bar.

For help tap on the information icon at the right of the title bar.

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

If you tap on a board square a popup list of letters that may be placed in that square will appear. As there are no constraints the list will initially include the letters A to L.

The back step button at the bottom left of the screen is called undo and has three uses:

- To backtrack through your letter entries
- To cancel a solution search (Check or Solve)
- To stop square flashing

The question mark button at the bottom left is called check and is used to see if the puzzle can be solved given the current puzzle position. A little hourglass will wander up and down the left of the screen during the Check process. Use Undo to cancel the check.

More information on these features is given in later sections of this guide.

Menus (top)

There are three menus

- Game

- Puzzle
- Help

You gain access to the menus by tapping the menu icon in the bottom left of the silk-screen area or by tapping SuDo12 in the title bar.

Menu Game (top)

This menu is used to automatically generate 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.
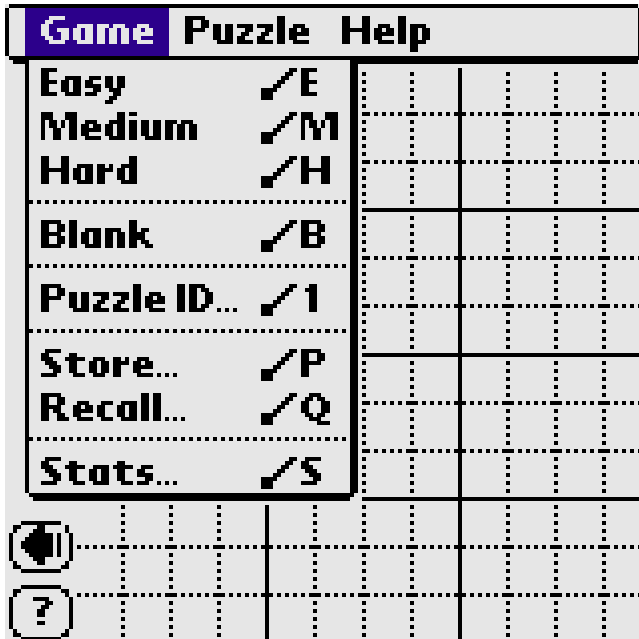

Game->Easy, Medium, Hard (top)

Select Easy, Medium, or Hard to automatically generate a SuDoku puzzle. 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 puzzle.
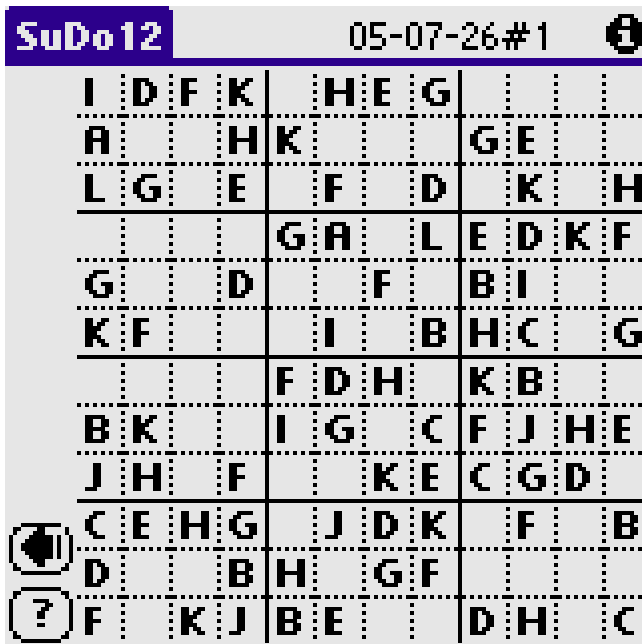
Note that a name has appeared in the middle of the title bar. This name will be the default used if you store or export the puzzle. The name is made up of the date with a number appended. The number increments for each puzzle you generate during a day.

We use the following terms:

- Clue letters: these define the puzzle and may not be altered.
- User letters: these are the letters you enter.
- Auto letters: these are letters entered by the program when you request a solution.
- Pencil marks: these are one or more letters you enter in a cell as an aide-memoir of the candidate letters for a cell.

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

Note that currently all the letters are displayed in bold. These are the clue letters and cannot be altered.

To solve the puzzle you have to enter letters in the blank squares such that the same letter does not appear more than once in any one row, column, or 3x4 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.
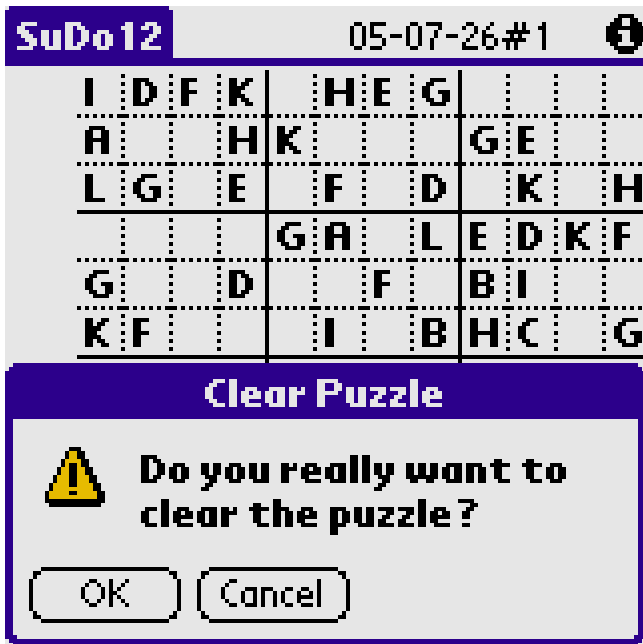
Game->Puzzle ID (top)

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.
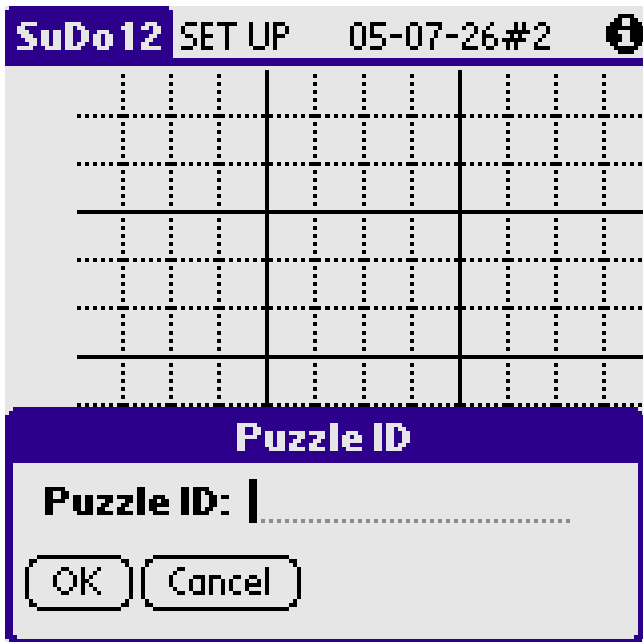
If the ID is invalid you will be warned and will have the option to select the closest matching puzzle (if you were told the puzzle ID check that you entered it correctly).
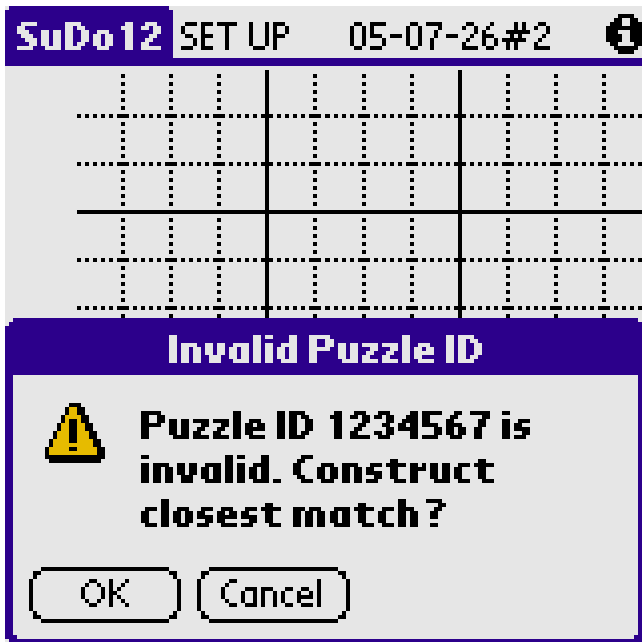
To check that your device is compatible with other PalmOS devices enter a puzzle ID of 0 and let the software construct the closest match. It should be as shown below.
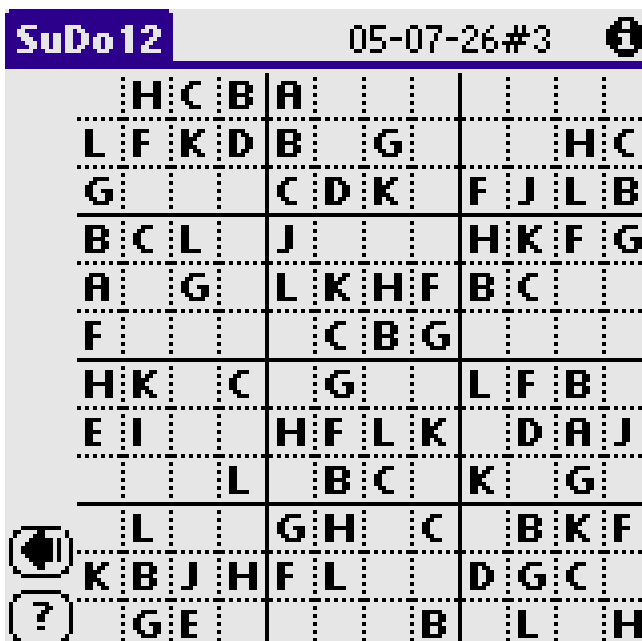

If you check on the Stats screen you will notice that the closest match has a puzzle ID of 1073743872. This is the ID you should record and pass on. When this ID is entered there will be no warning.

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.
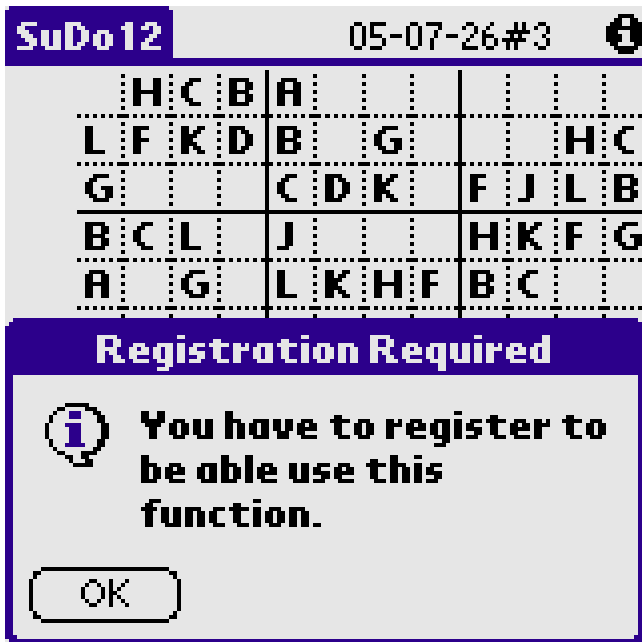
Registered users see the following screen.

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.

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

In particular '*' games are stored just prior to:

- Game->Easy
- Game->Medium

- Game->Hard
- 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.
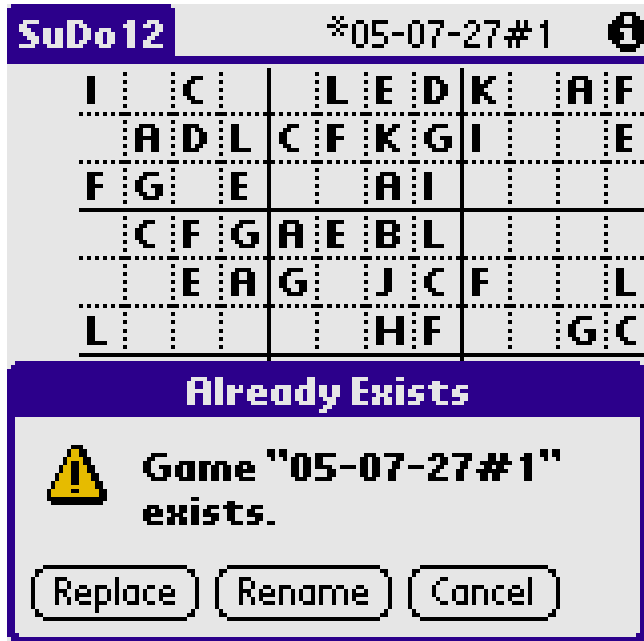
Game->Recall (top)

Select Recall to re-load a previously stored game. You may also use this screen to delete and rename stored games. Each stored game takes up 1700 bytes of RAM, i.e. if you store 31 games you will double the amount of RAM occupied by SuDo12 One.
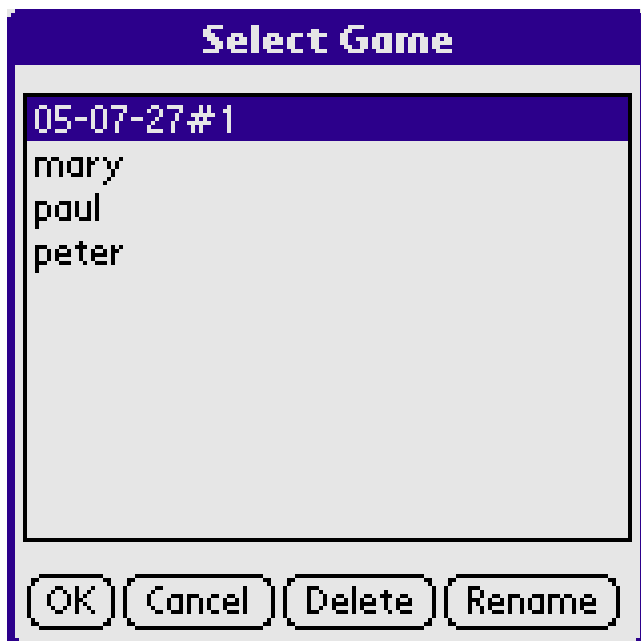
Game->Stats (top)

Select Stats to view play statistics. The top half of the screen deals with the current game. The bottom half shows your overall playing history.
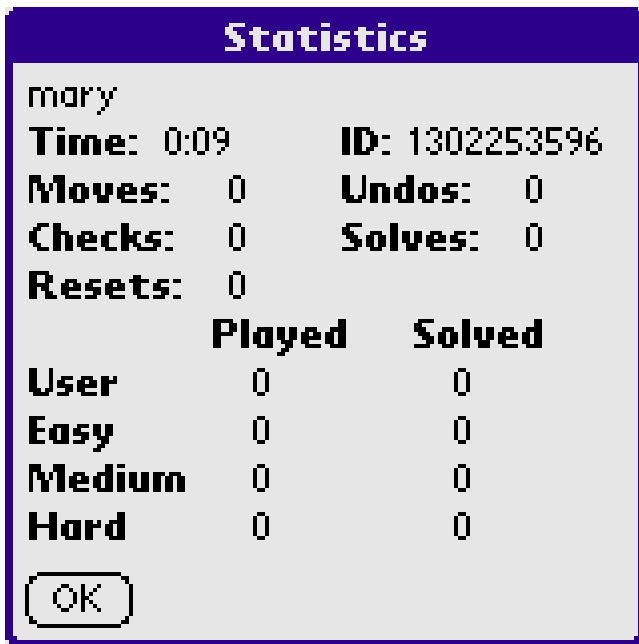

A game is considered played when you have entered at least 5 moves. Automatically generating a puzzle or entering the clue letters does not increment the played count.

A game is considered solved when you enter the final correct letter. 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.
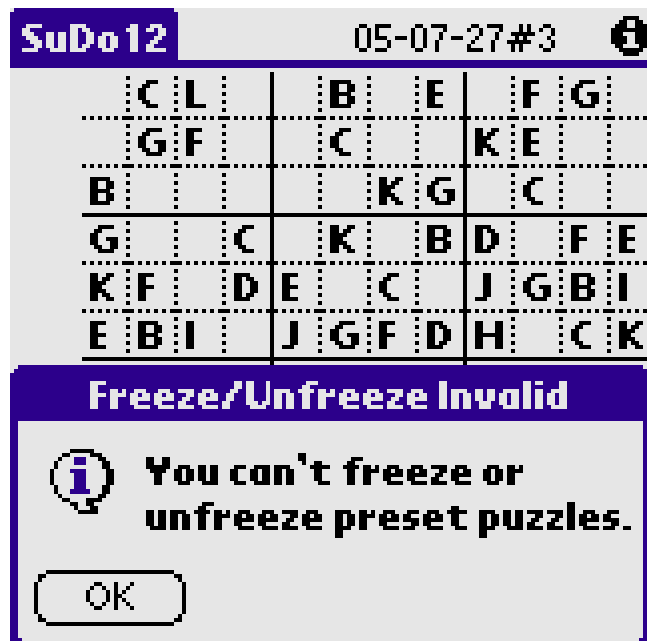
Menu Puzzle (top)

This menu is used to manipulate user generated puzzles, to reset puzzles to their initial state, to export and import puzzles, and to solve puzzles.
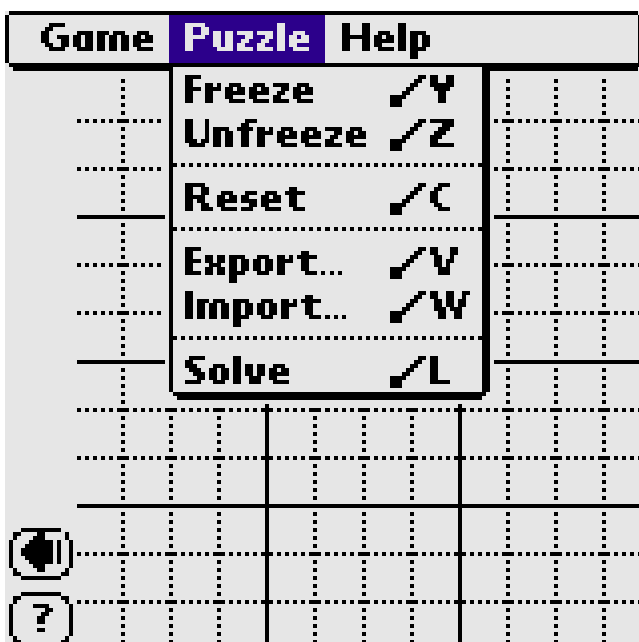
Puzzle->Freeze, Unfreeze (top)

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 letters by tapping on the screen squares. When all the clues have been entered use freeze to fix those letters in place. The frozen letters 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 letters for the square.

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.
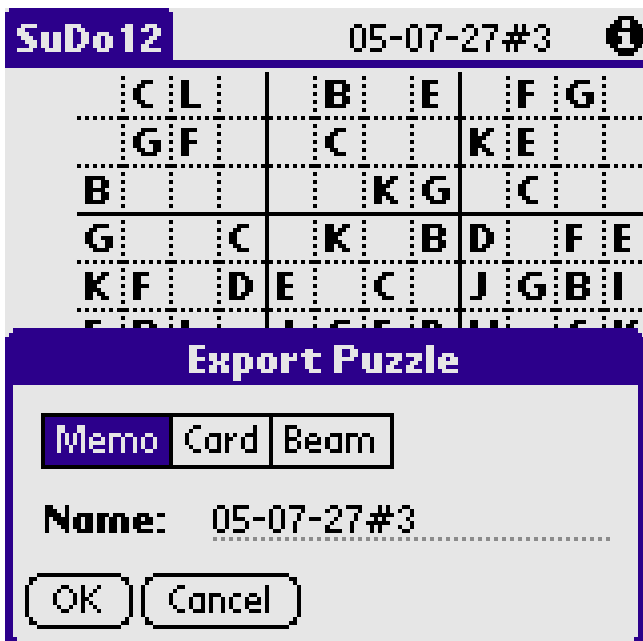
Puzzle->Export (top)

Select Export to export the current puzzle. You need to register to use this function.
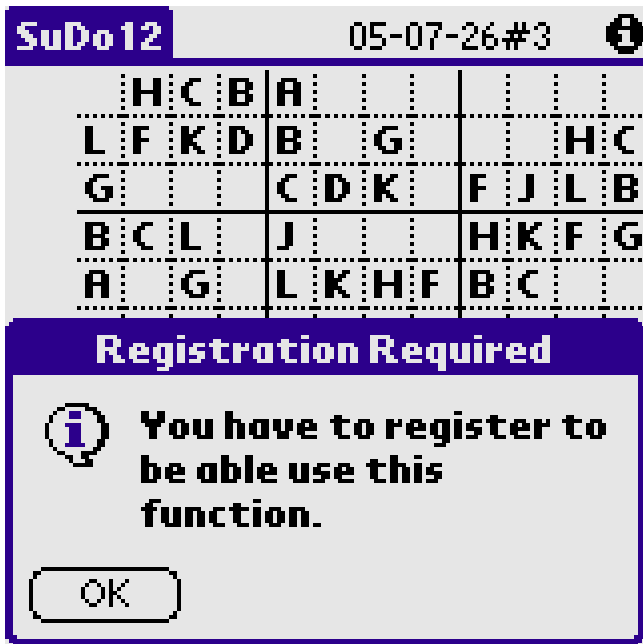
Registered users see the following screen.

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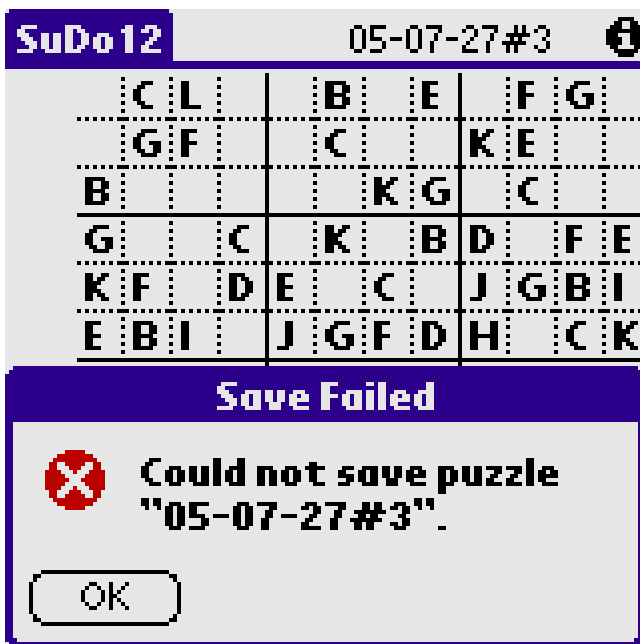
Use export to export the current puzzle as a memo, SD/MMC card file, or to beam it to another device.

An alert will be shown if you select Card or Beam and your device does not have this feature.
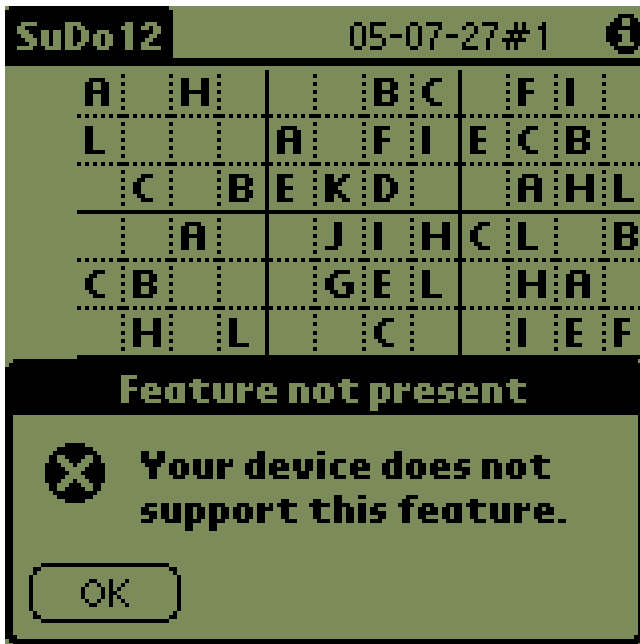
If the puzzle can not be saved to your chosen destination the following alert will be shown.

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/SuDo12 on your SD/MMC card. If this directory does not exist it will be created. If an ordinary file exists with the name /PALM/SuDo12 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 Palm OS devices this is normally memo pad. We originally implemented a direct SuDo12 to SuDo12 interface but decided it was too restrictive.

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

```
SuDo12 05-07-26#10
Puzzle ID: 1672570939
EHCBGFKIJLAD
KDJFEHALICGB
ILAGBJCDKHEF
BCGKADJEHFIL
LAIJKCHFGDBE
FEHDLBIGAJKC
CIEHFKLBDAJG
JFBADIGCEKLH
GKDLJAEHCBFI
ABFECGDKLIHJ
HJLCIEFABGDK
DGKIHLBJFECA


E-CBGFKIJ--D
-DJ--HAL-C-B
ILA--J-DKHE-
BC-KA-JE--IL
L--J-CH--DBE
-EHDLB--AJKC
C-E---LBDAJ-
J-B-D--CE-L-
----J-E-CB--
----C-D-LI--
-J-CI--AB-D-
-G-IH-BJ-EC-
```
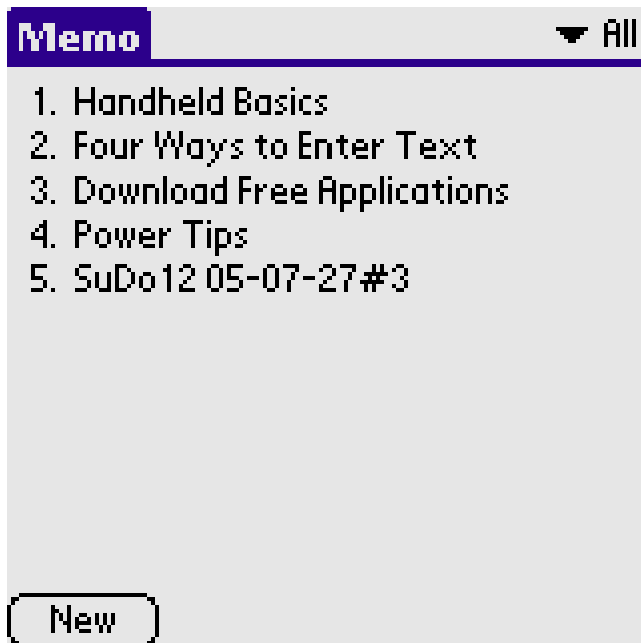
The second block of twelve rows of letters is only present if the puzzle is frozen and contains the clue letters. All automatically generated puzzles are considered to be frozen.
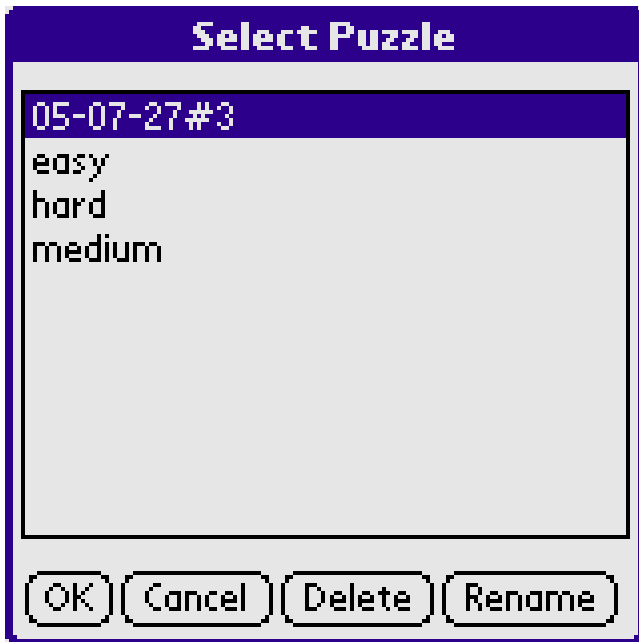
N.B. if pencil marks have been used they will not be saved.

The memo will be named in the form "SuDo12 YY-MM-DD#n" as shown in the following example.

Puzzle->Import (top)

Select Import to re-load a previously exported puzzle. You may also use this screen to delete and rename exported puzzles.

Every SD/MMC card file in the /PALM/SuDo12 directory will appear in this list as will every memo starting with the text "SuDo12 ". The contents of the file/memo will be validated after you select an entry and tap OK.

If you have thousands of memos it may take several seconds to find all those starting with "SuDo12 ".

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

Puzzle->Solve (top)

Use solve to complete the current puzzle. Only registered users are allowed to solve user entered puzzles. Non-registered users will receive the following alert for user-entered puzzles.
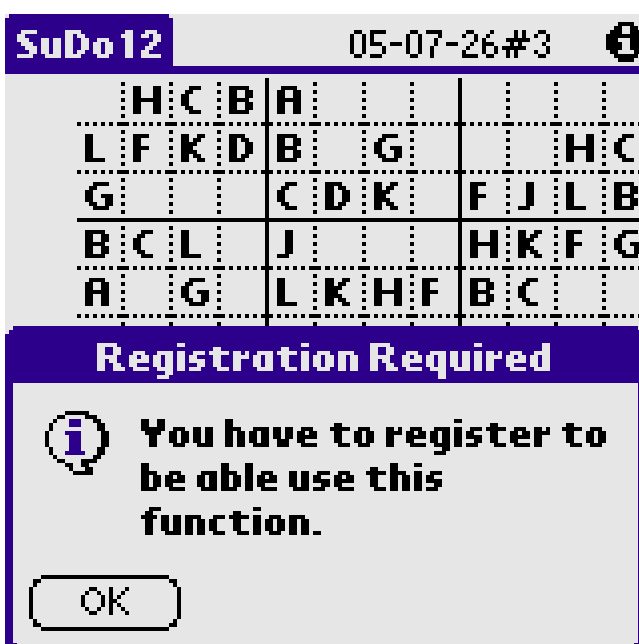
A little hourglass will wander up and down the left of the screen during the Solve process. Use Undo

to cancel the Solve. The letters filled in by the solve process are termed Auto letters and will be highlighted as per the preferences set in Help->Display prefs.
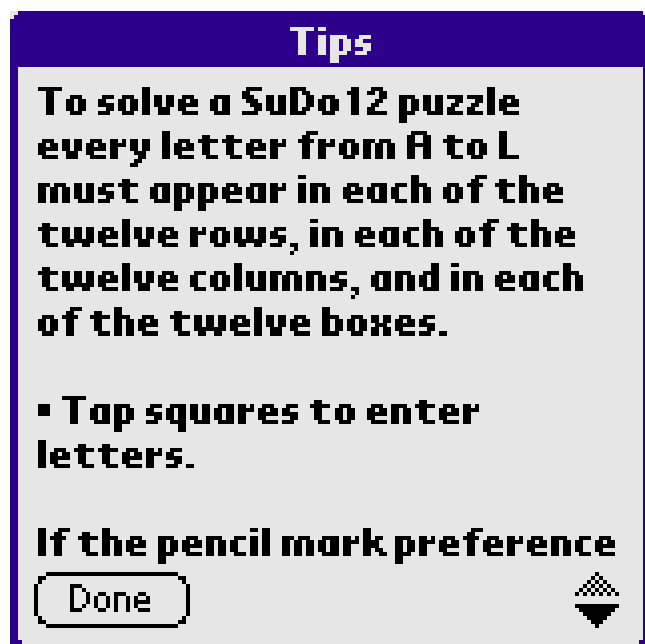
Menu Help (top)

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

Help->Info (top)

Use Info to view on-screen help.

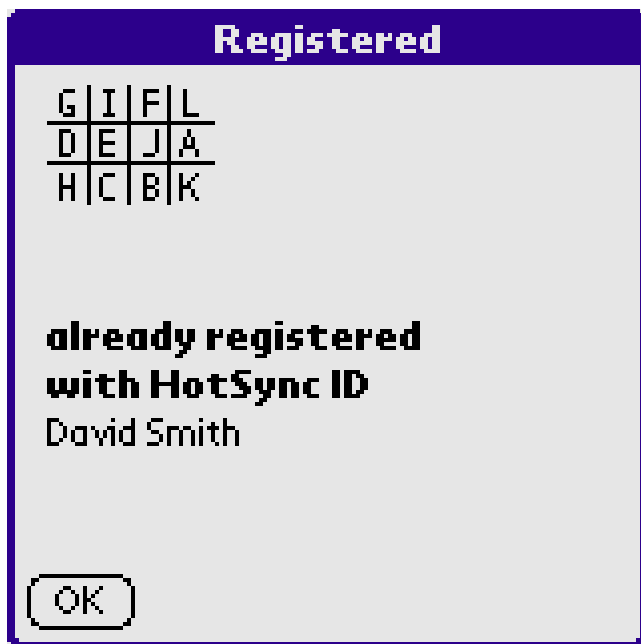### Help->Register (top)

Use Register to enter your registration code.

Upon entering a legal code the following will be displayed.

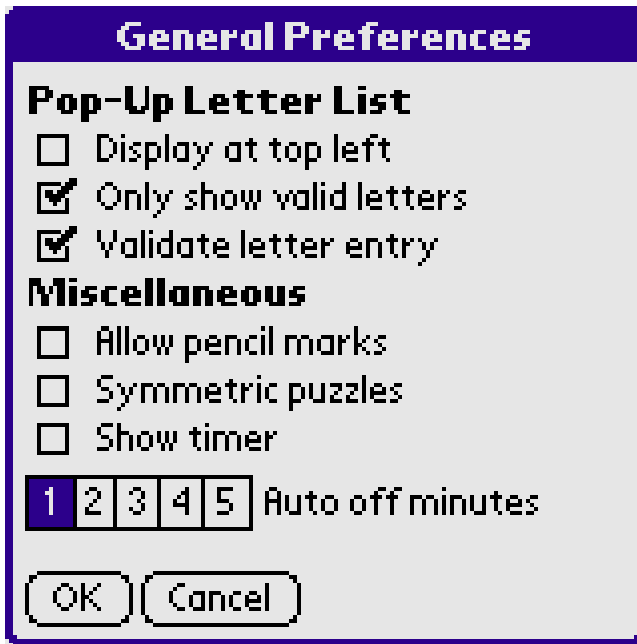If you enter an illegal code the following will be displayed.

Register

```
G | I | F | L
D | E | J | A
H | C | B | K
```

Register at

www.palmgear.com/?108888

Registration Failed

❌ **Wrong registration code for user.**

[OK]

If you are already registered the following will be displayed.

Registered

```
G | I | F | L
D | E | J | A
H | C | B | K
```

already registered with HotSync ID

David Smith

[OK]

Help->General prefs (top)

The default preferences are shown checked below.

General Preferences

Pop-Up Letter List
☐ Display at top left
☑ Only show valid letters
☑ Validate letter entry
Miscellaneous
☐ Allow pencil marks
☐ Symmetric puzzles
☐ Show timer
[1] 2 3 4 5 Auto off minutes

[OK] [Cancel]

The following preferences are available:

- Pop-Up Letter List
    - Display at top left
    - Only show valid letters
    - Validate letter entry

- Miscellaneous
    - Allow pencil marks
    - Symmetric puzzles
    - Show timer
    - Auto off minutes

Display at top left

If this is checked the letter list pops up at a fixed position at the top left of the screen. Otherwise the letter list appears centred to the left of the tapped square.

Only show valid letters

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

There is one exception to this rule. If you have used pencil marks and one of the letters is no longer legal for the square it will still be in the list (so that it can be removed by toggling). Such letters are indicated by a decimal point.

Validate letter entry

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

Allow pencil marks

If this is checked more than one letter may be entered in a square.

If more than six letters are selected dots are used to represent letters in alphabetic order, e.g.

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

represents A, B, D, E, H, I, K, L.

In pencil marks mode letter entry is by toggling. i.e. if a letter isn't in the square it is added; if it is in the square it is removed.

There is one exception to this rule. If you enter the same letter again when there is only one letter on display this toggles between the letter being a pencil mark or not. To remove single letters in this mode select blank from the letter list.

Symmetric puzzles

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

Show timer

If this is checked the number of minutes and seconds taken so far to solve the current puzzle counts up at the left of the title bar.

For user entered puzzles the timing starts as soon as the puzzle is frozen. For automatically generated puzzles the timing starts as soon as they are generated.
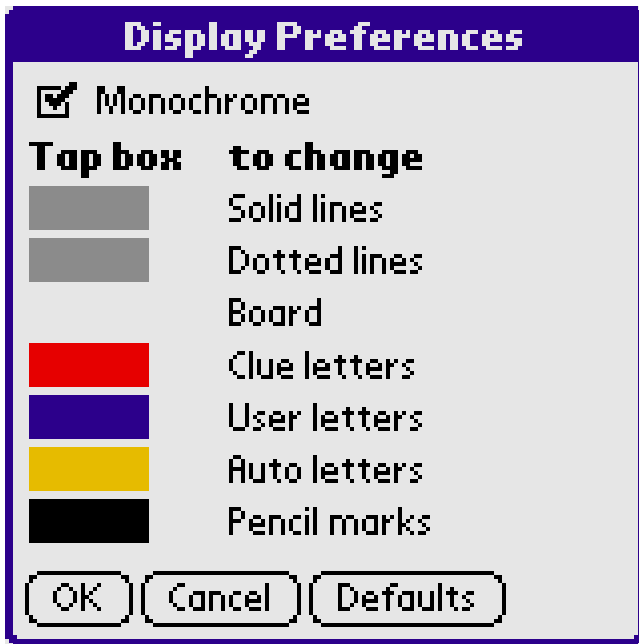
Regardless of whether Show timer is checked or not the current time is always shown on the Stats screen.

Auto off minutes

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

Help->Display prefs (top)

The default preferences are shown checked below.

The following preferences are available:

- Check boxes
    - Monochrome

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

Monochrome

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

Rectangles

Tap a rectangle to change the appearance of the labelled object. Provided your device supports this feature 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.
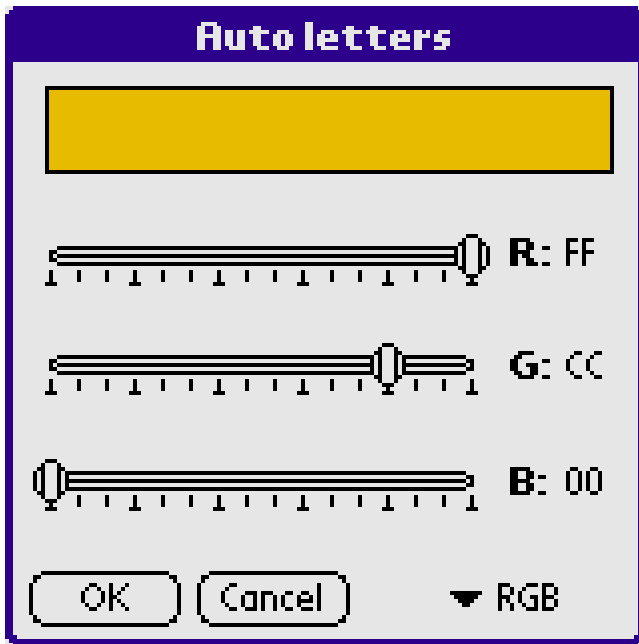
Click on RGB at the bottom right of the screen to optionally use the palette selection screen.
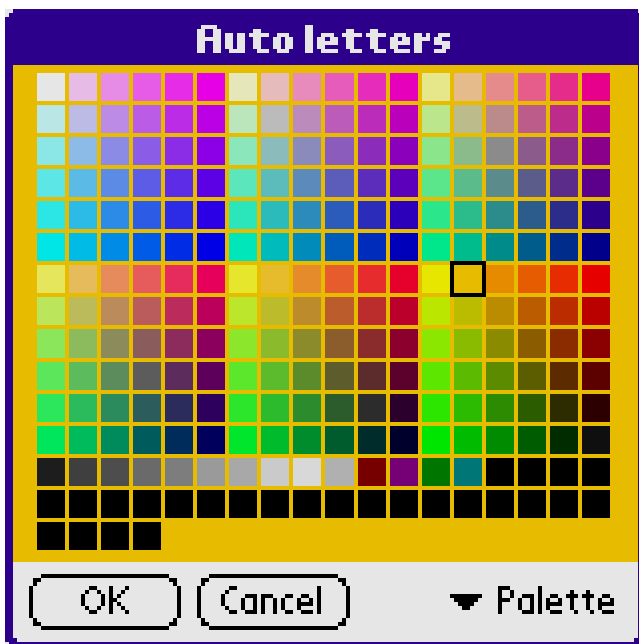
Help->About (top)

Use About to view SuDo12 details.
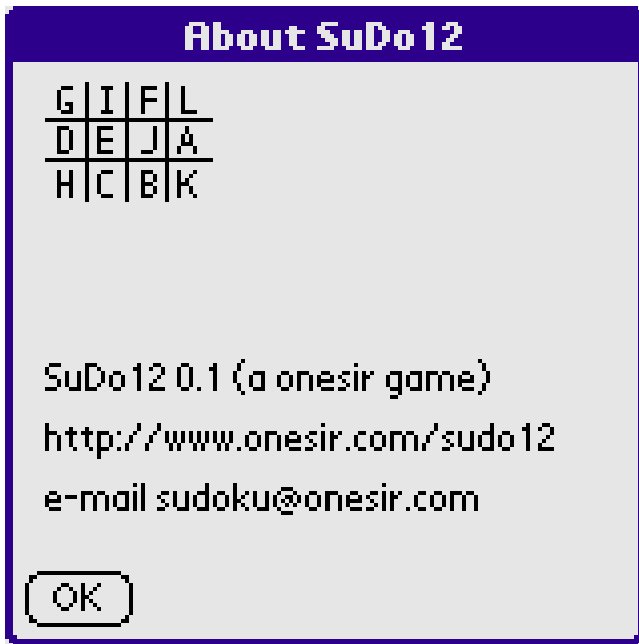
Game Play (top)

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

- A letter cannot appear more than once in any one row.
- A letter cannot appear more than once in any one column.
- A letter cannot appear more than once in any one 3x4 box.

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

To enter a letter into a square tap the screen square with your stylus. A list will popup showing the letters and a blank. The list letter entries will be determined by the preferences you have chosen. Tap your selection to make the entry. Tap outside the list to cancel the command.
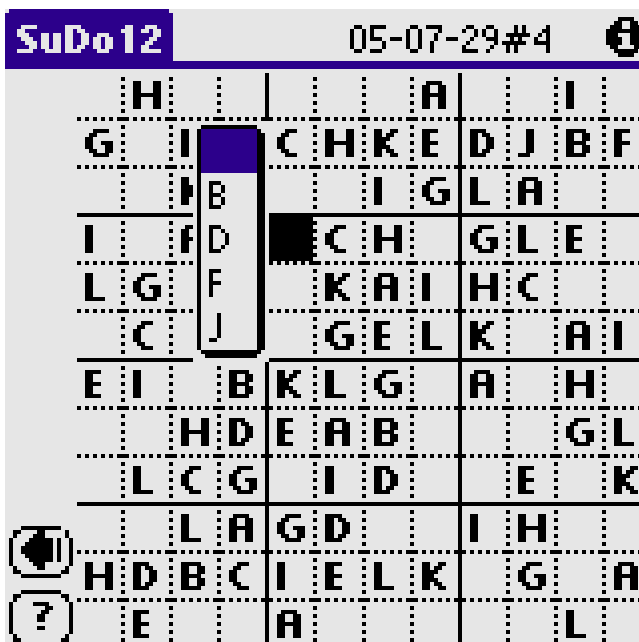
After a few entries the screen will contain a mixture of bold and non-bold letters. Remember that the bold letters are the clue letters and that the non-bold letters are ones that you have entered.
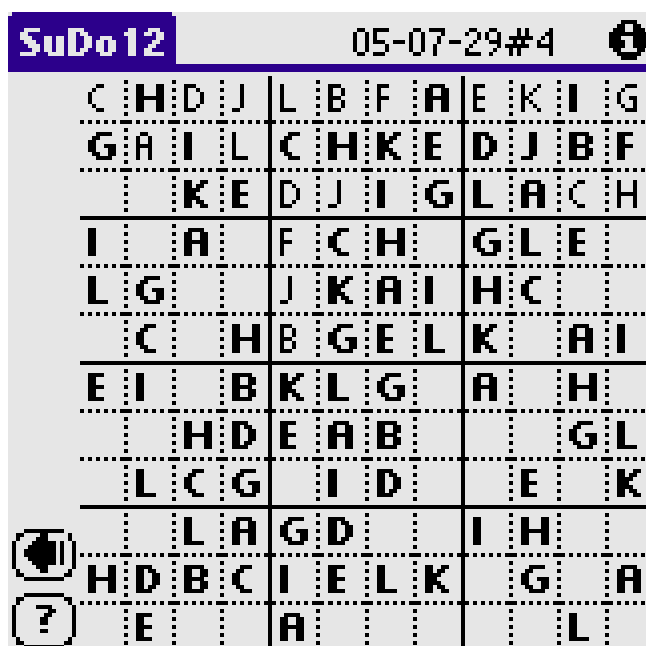
Or if you have been making changes to Help->Display prefs perhaps like
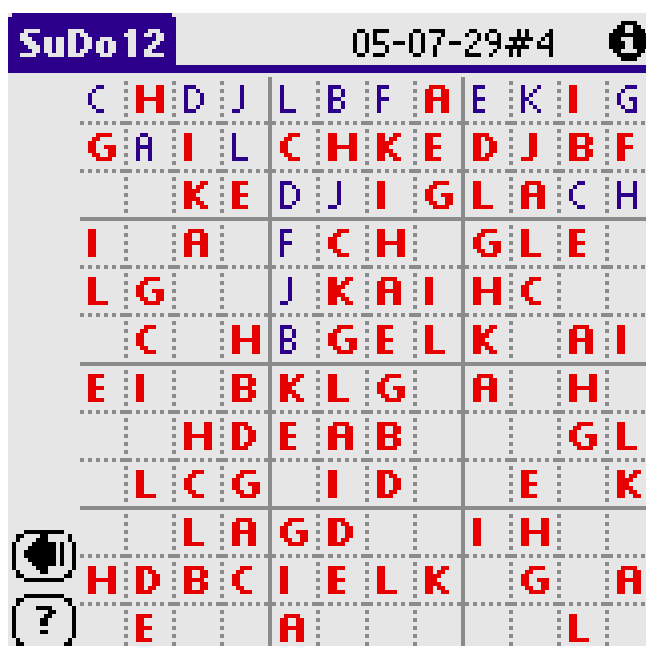
After a while you may be worried that you have made a mistake in solving the puzzle. Tap the Check button. If the letters already entered are correct than the following will be displayed.

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 letter entries.
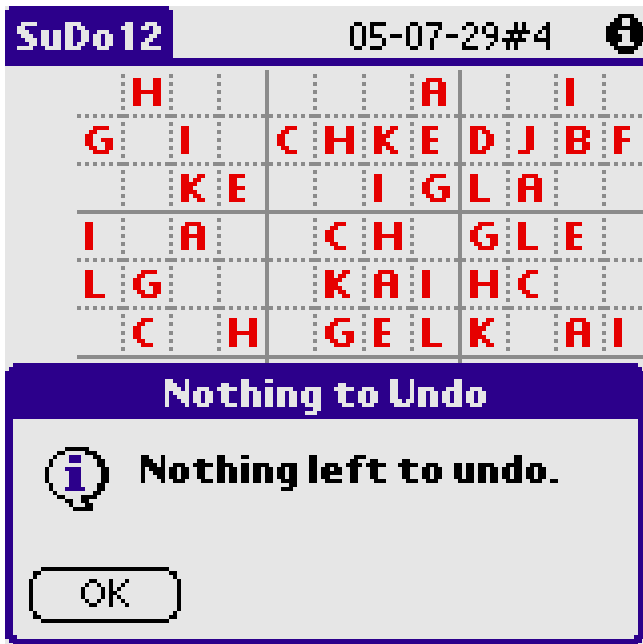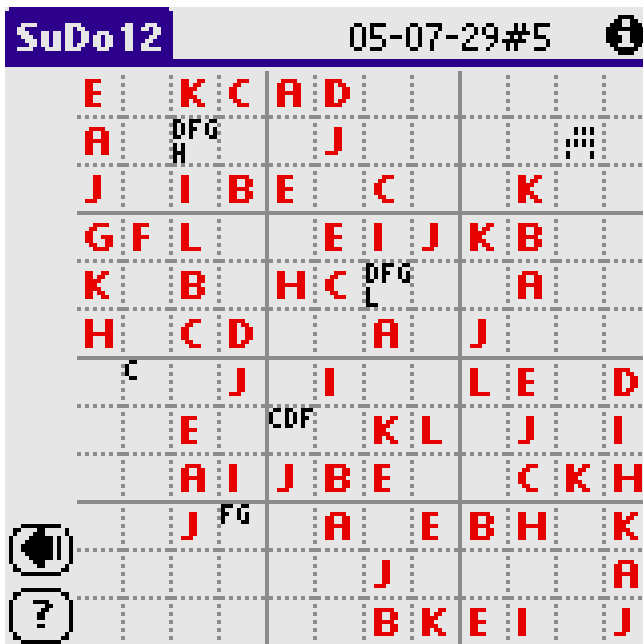

The last 64 changes are held in the undo list. When there is nothing left to undo the following is displayed.

If you check the pencil mark preference you may make entries as shown beneath.

The point of pencil marks is to make a note of the letters you think may be correct for a square. These pencil marks are taken into account when Check or Solve is pressed.

If more than six letters are selected dots are used to represent letters in alphabetic order as follows

```
ABCD
EFGH
IJKL
```

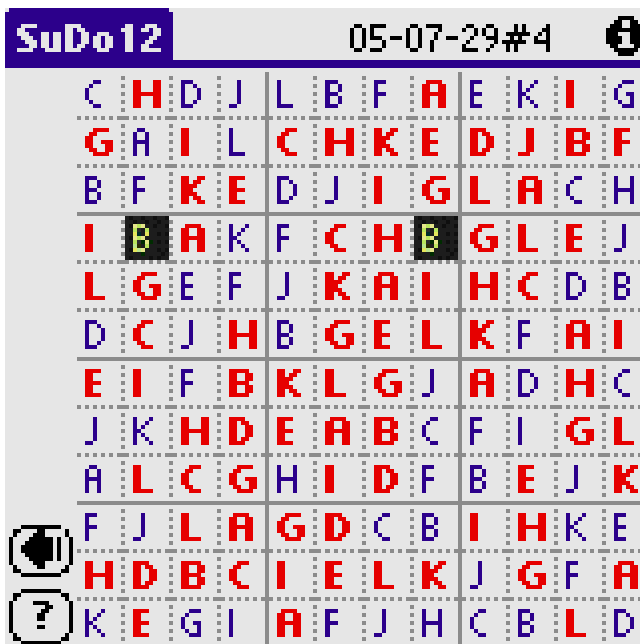An example of this is shown in the second row seventh column. e.g.

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

represents B, C, D, E, F, G, H, I, L.

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 letter 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 Undo is pressed.

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

SuDo12 05-07-29#4

C	H	D	J	L	B	F	A	E	K	I	G
G	A	I	L	C	H	K	E	D	J	B	F
B	F	K	E	D	J	I	G	L	A	C	H
I	B	A	K	F	C	H	D	G	L	E	J
L	G	E	F	J	K	A	I	H	C	D	B
D	C	J	H	B	G	E	L	K	F	A	I
E	I	F	B	K	L	G	J	A	D	H	C
J	K	H	D	E	A	B	C	F	I	G	L
A	L	C	G	H	I	D	F	B	E	J	K
F	J	L	A	G	D	C	B	I	H	K	E
H	D	B	C	I	E	L	K	J	G	F	A
K	E	G	I	A	F	J	H	C	B	L	D