

FinnPack



version 1.0

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Introduction

FinnPack is a collection of two of my games. The first one is **Dots**, a game that's played on paper in almost every school, but now you can play it on your calc. The other one is the **Towers of Hanoi**, the classic puzzle where you have to move the different-sized discs from one peg to the other.

Summary of design

The application FinnPack is run from the 'APPS' menu on the calculator. It uses no direct access to I/O ports; instead it uses proper entry points. APD (Automatic Power Down) is enabled to maintain low battery power.

When the application is started, you are presented with the title screen where you can choose which one of the two included games you want to run. The selected game is inverted. The selection is changed with [LEFT] and [RIGHT], and confirmed with [ENTER]. To exit from the title screen you press [CLEAR] or [2nd][QUIT]. In almost every situation in the application, you can use [2nd][QUIT] to return to the homescreen.

The usage of the two included games can be found further down in this document.

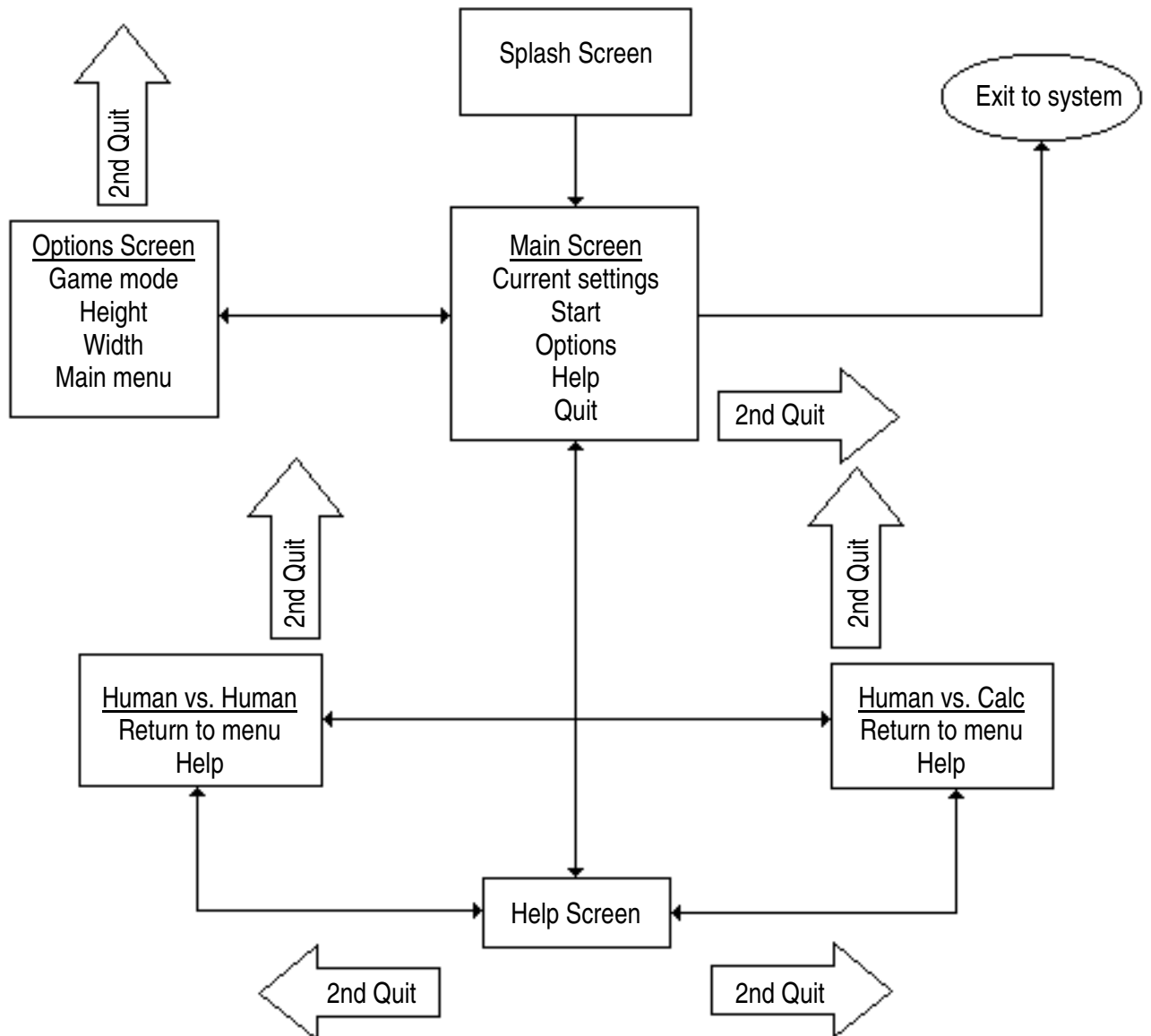
Screenshots



Title Screen

Dots

Flow of application



Summary of design

The menu interface should be intuitive. The selected menu item is inverted and you navigate the menus by using the arrow keys and [ENTER]. See the screenshots section to get a detailed picture.

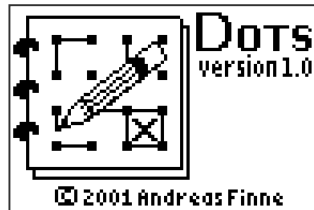
On the Main Screen you see the current settings for the game (Game mode and Board size). These settings can be changed in the Options Screen. The menu items are 'START', 'OPTIONS', 'HELP', and 'QUIT'. 'START' begins a new game with the current settings. 'OPTIONS' enters the Options Screen where you can change the settings for the game. 'HELP' enters the online help. 'QUIT' exits Dots and returns to the title screen of FinnPack.

On the Options Screen you can change the current settings of the game. The menu item 'Game mode' indicates whether you play against another person, or against the calculator. The setting is changed using [LEFT]/[RIGHT] or [ENTER]. Height and Width indicates the size of the field of dots inside the game. Again, the value is changed using [LEFT]/[RIGHT] or [ENTER]. Finally, you return to the Main Screen by pressing [ENTER] when the 'Main menu' item is selected.

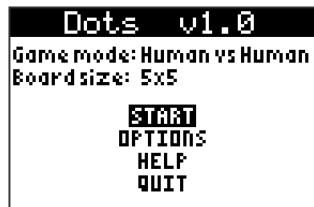
Dots also features online help. The online help can be accessed from both the Main Screen and from inside the game. The online help is designed to look like ordinary computer programs with a scrolling bar on the right side of the screen. You scroll the text by using [UP] and [DOWN]. The help text includes instructions on the object of the game and also a guide to the keys used throughout the game. The entire help text can be found at the end of this presentation.

In the game screen you see a field of dots and a marker (a small square). The marker is moved by using the arrow keys. Draw mode is entered by using the softkey marked 'Pen', i.e. [Y=]. The other softkeys in the game screen are 'Quit' [ZOOM], which returns to the Main Screen after confirmation, and 'Help' [GRAPH], which enters the help screen. On the right there's a part which shows the current score for each player, whose turn it is, and whether draw mode is active or not. When the entire field is filled, a line in the middle of the screen comes up with the result (Player 1 wins / Player 2 wins / You win / The calc wins). By pressing [ENTER] you are returned to the Main Screen.

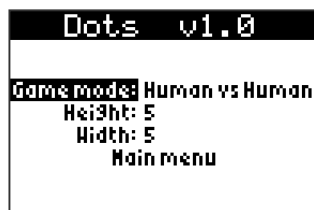
Screenshots



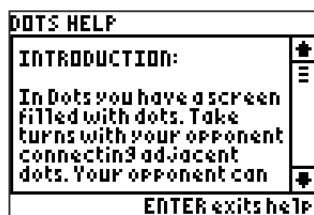
Splash Screen



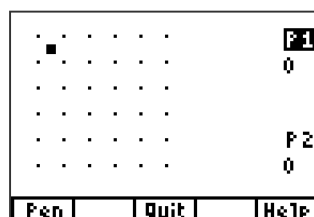
Main Screen



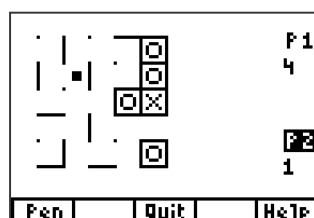
Options Screen



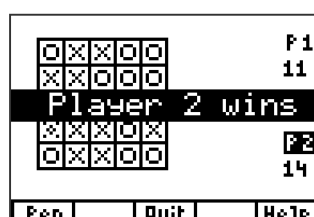
Help Screen



In game



In game



In game

Help text

INTRODUCTION:

In Dots you have a screen filled with dots. Take turns with your opponent connecting adjacent dots. Your opponent can be the calculator or another person. The object of the game is to complete the fourth side of as many squares as possible. After a square is completed the same player must continue connecting dots until a square is not completed. The game is over when all of the squares have been completed. The winner is the player who has completed the most squares.

CONTROLS:

Main menu:

UP/DOWN	Move sel. bar
ENTER	Confirm

Options menu:

UP/DOWN	Move sel. bar
LEFT/RIGHT	Change
ENTER	Change/Conf.

In game:

Arrows	Move
Y=	Enter draw mode
ZOOM	To menu
GRAPH	Help

In draw mode:

Arrows	Draw line
Y=	Exit draw mode

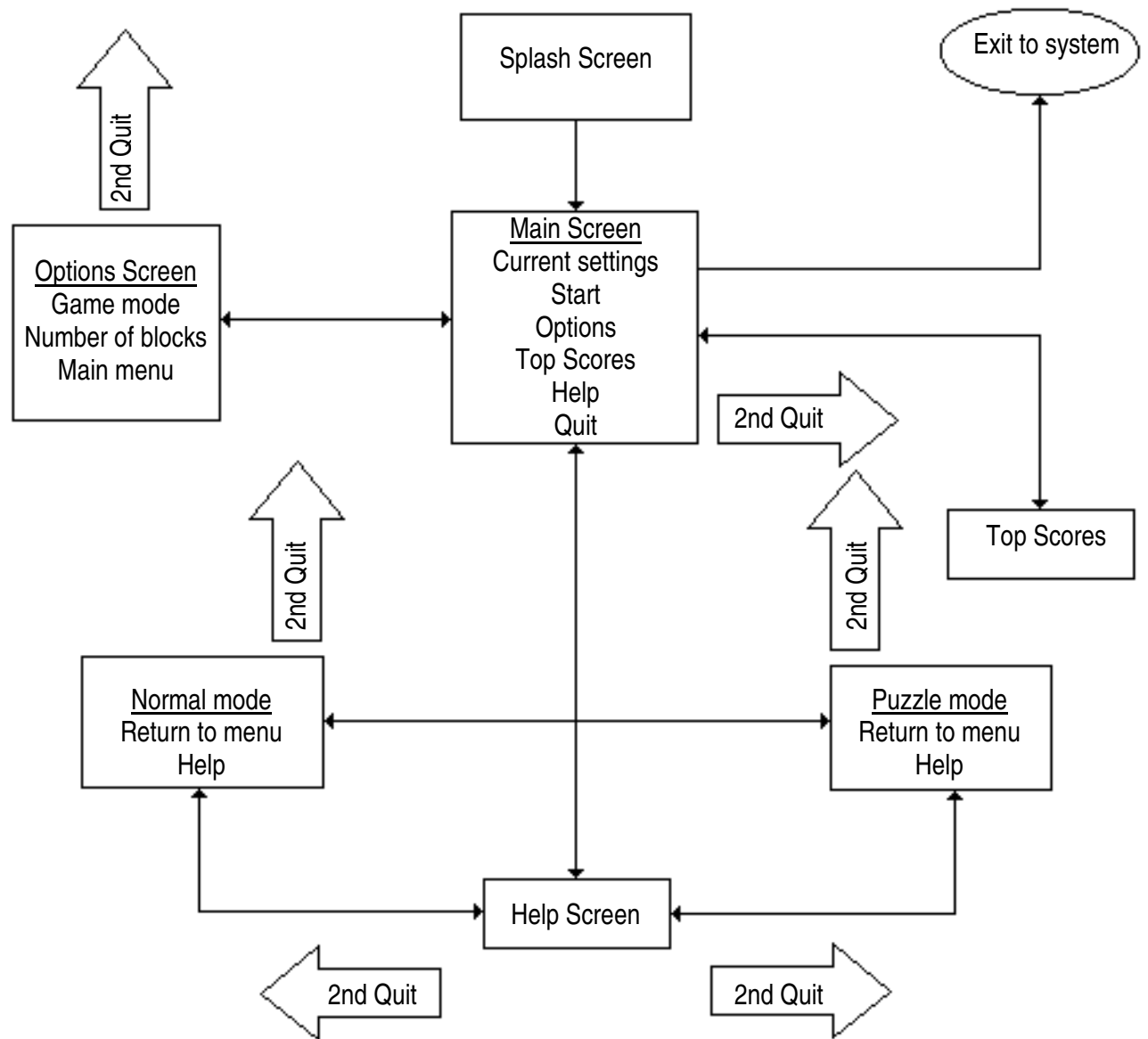
Any time:

2nd QUIT	Homescreen
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Towers of Hanoi

Flow of application



Summary of design

The menu interface should be intuitive. The selected menu item is inverted and you navigate the menus by using the arrow keys and [ENTER]. See the screenshots section to get a detailed picture.

On the Main Screen you see the current settings for the game (Game mode and Number of blocks). These settings can be changed in the Options Screen. The menu items are 'START', 'OPTIONS', 'TOP SCORES', 'HELP', and 'QUIT'. 'START' begins a new game with the current settings. 'OPTIONS' enters the Options Screen where you can change the settings for the game. 'TOP SCORES' enters the score list of the application, where the least numbers of moves for the different modes are listed. 'HELP' enters the online help. 'QUIT' exits Towers of Hanoi and returns to the title screen of FinnPack.

On the Options Screen you can change the current settings of the game. The menu item 'Game mode' indicates whether you play the traditional way, or in puzzle mode. In puzzle mode the blocks are randomly put out on the pins. This should make the game more interesting and demanding. The setting is changed using [LEFT]/[RIGHT] or [ENTER]. The number of blocks item indicates how many blocks that are used in the game. The number can be between 3 and 8. Again, the value is changed using [LEFT]/[RIGHT] or [ENTER]. Finally, you return to the Main Screen by pressing [ENTER] when the 'Main menu' item is selected.

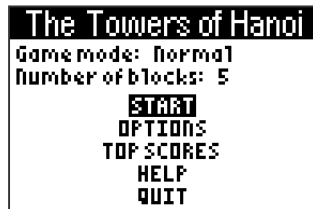
The Towers of Hanoi also features online help. The online help can be accessed from both the Main Screen and from inside the game. The online help is designed to look like ordinary computer programs with a scrolling bar on the right side of the screen. You scroll the text by using [UP] and [DOWN]. The help text includes instructions on the object of the game and also a guide to the keys used throughout the game. The entire help text can be found at the end of this presentation.

In the game screen you see three pins and a number of blocks on one or more of the pins. Where the blocks are located is depending on which game mode that is currently selected. In normal mode, all blocks are on the leftmost pin, and in puzzle mode they are spread between the three pins. You move blocks according to the rules of the Towers of Hanoi. The rules are available in the online help. The help text can also be found at the end of this document. You move a block by first selecting the pin to move a block from, and then you select the pin that the block should be moved to. The three pins are responding to the softkeys marked 'Left', 'Mid', and 'Right' ([Y=], [ZOOM], and [GRAPH] accordingly). The other softkeys in the game screen are 'Quit' [TRACE], which returns to the Main Screen after confirmation, and 'Help' [WINDOW], which enters the help screen. At the top of the screen the number of moves is written. When all of the blocks have been moved to the middle or the right pin, a line in the middle of the screen comes up saying 'Well Done!'. Then, after a key is pressed, and if you have a new top score, a window comes up where you can enter your initials for the score list. You enter them by using the regular letters. You can also use [DEL] to delete a character. After your initials are written, you are brought to the Top Scores Screen by pressing [ENTER]. If you didn't get a top score, you are returned to the Main Screen.

Screenshots



Splash Screen



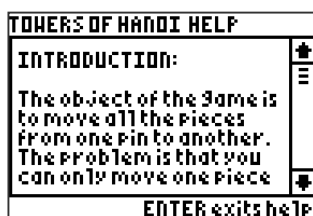
Main Screen



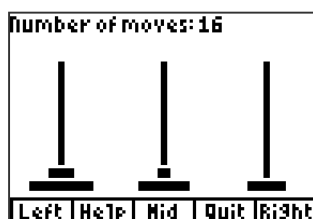
Options Screen

TOWERS OF HANOI SCORES		
#	Normal	Puzzle
8
7
6
5	JOE	44
4
3

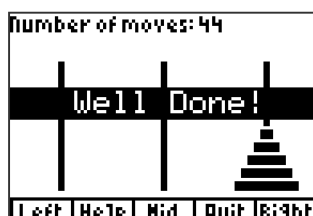
Score List



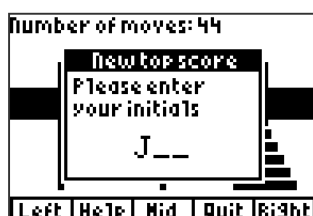
Help Screen



In game



In game



In game

Help text

INTRODUCTION:

The object of the game is to move all the pieces from one pin to another. The problem is that you can only move one piece at a time, and you are only allowed to put a smaller piece on a larger one, never a larger one onto a smaller one. When all the pieces have been moved to another pin, the puzzle is completed. The minimum number of moves needed to finish the puzzle can be calculated using the formula $2^n - 1$, where n is the number of pieces.

PUZZLE MODE:

The difference from normal mode is that your calculator has tried to solve the puzzle, but it has given up. Your task is to complete the puzzle for it.

CONTROLS:

Main menu:

UP/DOWN	Move sel. bar
ENTER	Confirm

Options menu:

UP/DOWN	Move sel. bar
LEFT/RIGHT	Change
ENTER	Change/Conf.

In game:

Y=	First pin
ZOOM	Second pin
GRAPH	Third pin
WINDOW	Help
TRACE	To menu

Any time:

2nd QUIT	Homescreen
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