User Manual:
Hidato The Game

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1. Introduction

"Hidato, the Game" is a group project for the subject of Programming Projects (PROP) in the Barcelona School of Informatics (FIB). The project was carried out by the students Nicolás Gouttefangeas Balló, Samuel Hönle, Marcos Riverola Errando and Sergi Serrano Casalins, and has been a very hard but very rewarding experience.

This manual explains how our application works and haw to have fun solving a huge variety of Hidatos while being able to choose specific characteristics that will adapt the problem to your needs and capacities.

This guide provides all the information needed to use and play the application. We hope you enjoy our game!

2. Start your Hidato experience

To start the game, the first thing a new user has to do is register. To do so, a new user has to enter a new username and a password on the registration screen.

If you are already registered in the game, you can enter your previously created user name and password to log in.

2.1. Sing up

To register for our game, you need to click on "Click here to create your account" on the application's home screen (Image1). Once there, you can choose your new username and password.

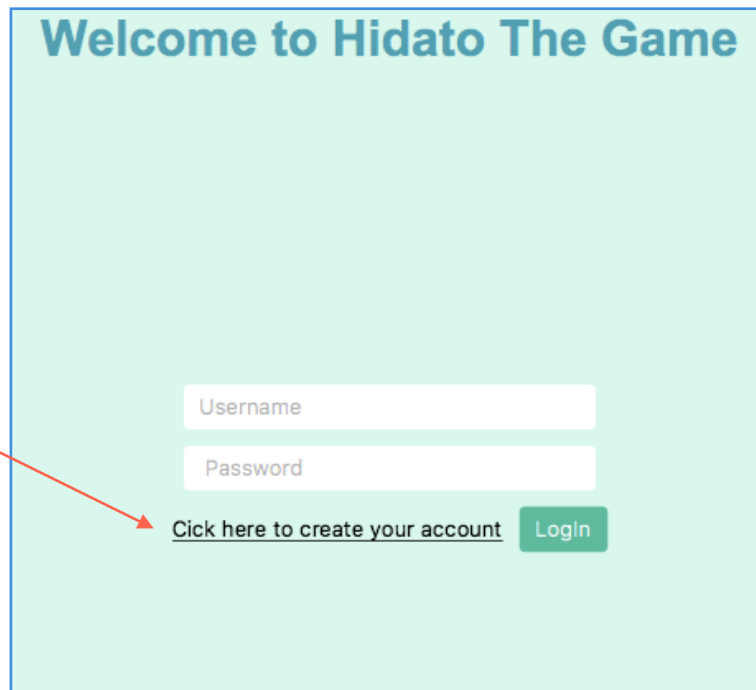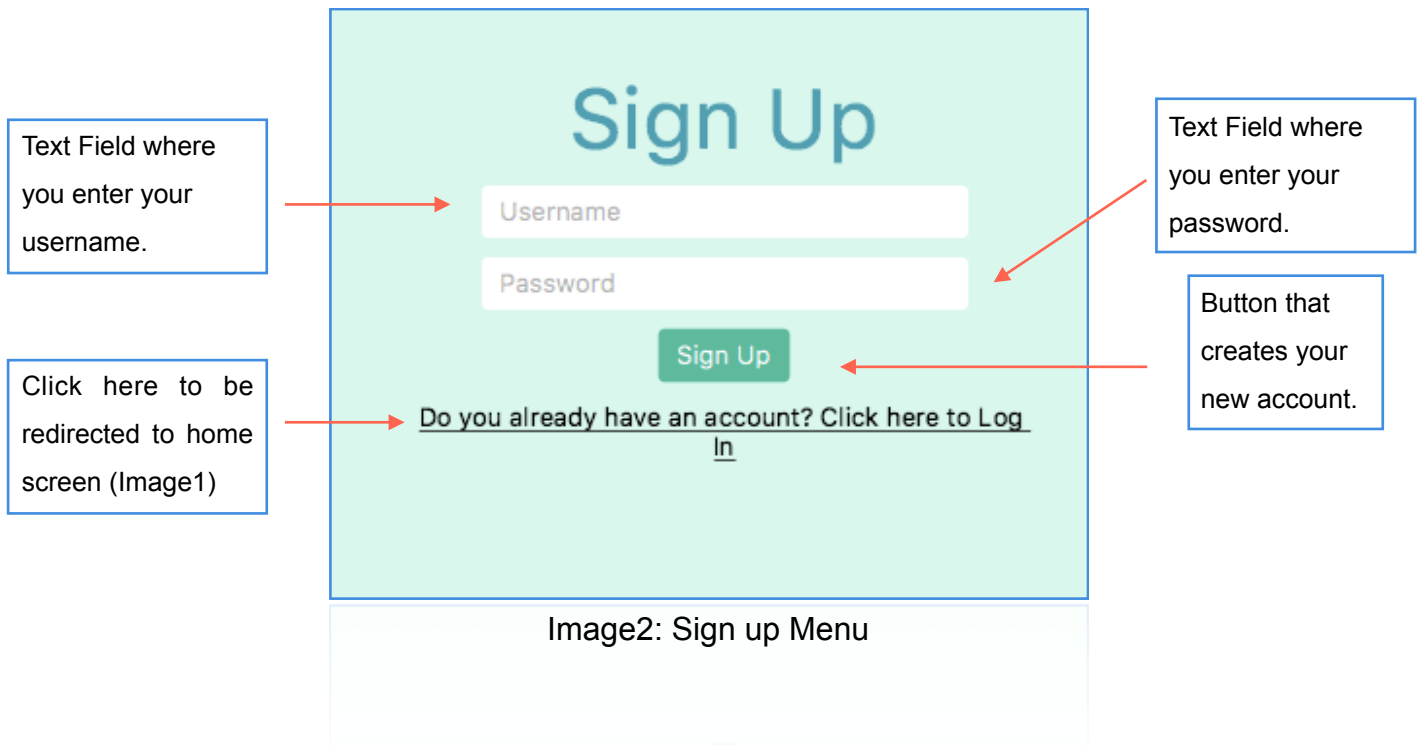If you click here, you will be redirected to the sing up menu

Welcome to Hidato The Game

Username

Password

Cick here to create your account   LogIn

Image1: Home Screen

In the sign up menu, you have to enter your new username and the password you will use every time you want to enter the game (Image2).

Text Field where you enter your username.

Text Field where you enter your password.

Click here to be redirected to home screen (Image1)

Button that creates your new account.

Image2: Sign up Menu

If the username is already taken by another user, an error message will be displayed. You have to think of another username to sign up

Image3: Error alert shown when the player already exists.

2.2. Log in

Once you have created your account, you can access it through the home screen (Image4). Enter your username and password, and if the account exists and the password is correct, you can start playing Hidato.

Text field where you have to write your username that must be created previously.

Text filed where you have to write your password that will be checked.

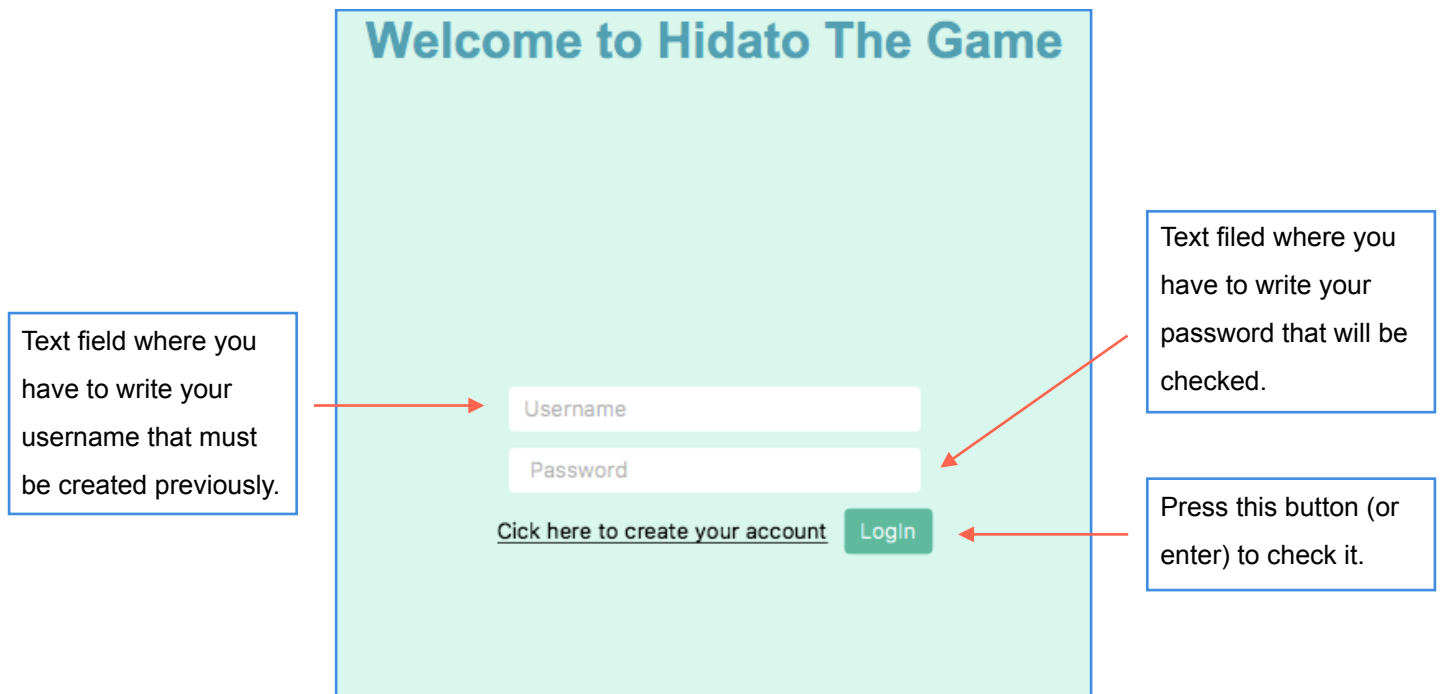Press this button (or enter) to check it.

Image4: Login Menu

If the player doesn't exist, an error alert will be displayed in order to inform the user that this user has yet to be created (Image5).
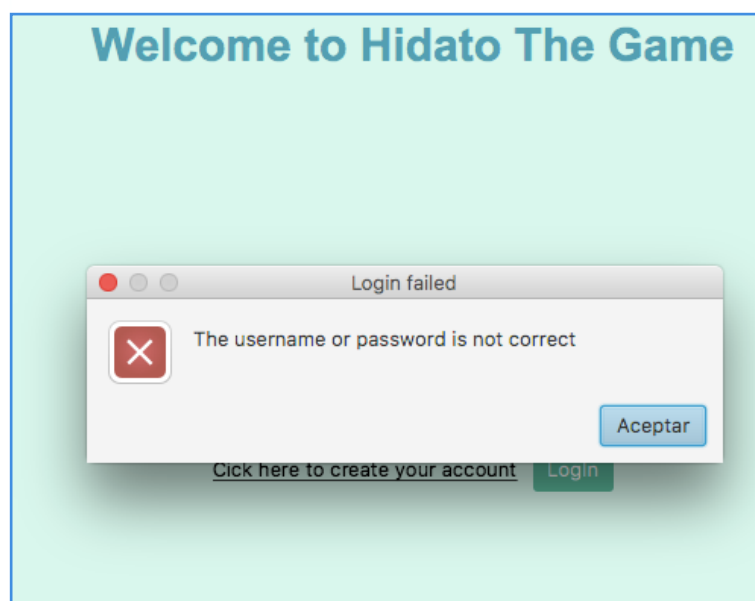
Image5: Error alert shown when the player doesn't exist.

3. Game Menu

After logging in, you will find the main menu of the application. Here you will find all the possibilities that you have inside our game with one button for each of the functionalities (image6).

The first, "Ranking of players", will open the ranking of all players. The list displayed will show all the points of each player who have been registered to the game (1).

In the second one you will find all Hidato games that you or other users have created. If you want, you can import some games that you already have made from files. This function will be accesible by clicking the button "List of games" (2).

After that, you will find the option to generate a new game, called "Generate". We will explain it later as it has a lot of possible options (3).

Besides starting new games, you can also continue attempts you've already started. We will do that by clicking on "Load Attempt". Here you will only see the attempts you have previously saved to continue them (4).

Moreover, the button "Help" will show an information alert explaining some Hidato information, like the origin of it and a basic guide of how to play (5).

Finally, the last three features are logging out, options and exiting the game (6).
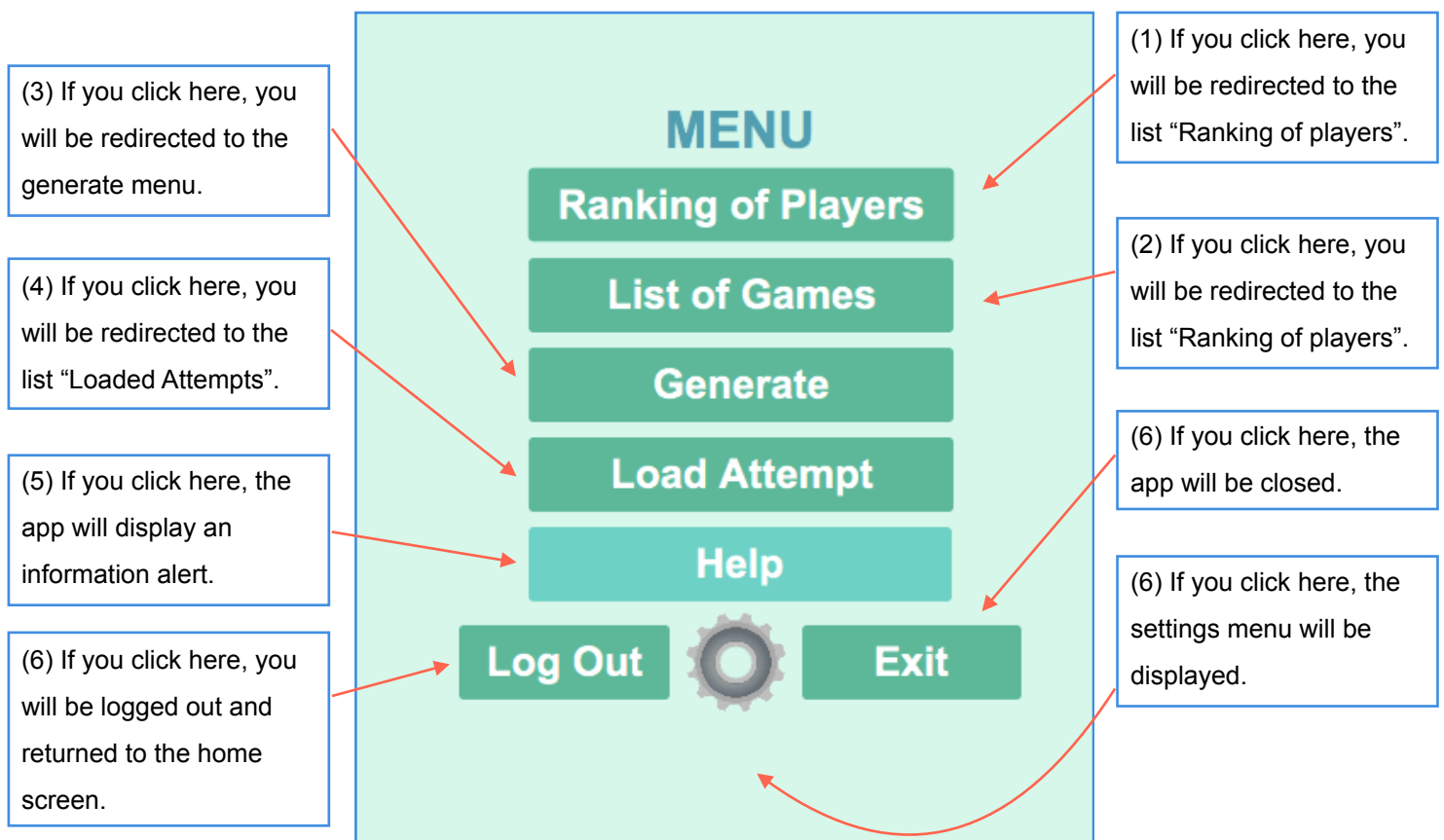

(3) If you click here, you will be redirected to the generate menu.

(4) If you click here, you will be redirected to the list "Loaded Attempts".

(5) If you click here, the app will display an information alert.

(6) If you click here, you will be logged out and returned to the home screen.

(1) If you click here, you will be redirected to the list "Ranking of players".

(2) If you click here, you will be redirected to the list "Ranking of players".

(6) If you click here, the app will be closed.

(6) If you click here, the settings menu will be displayed.

Image6: App general menu.

3.1. Ranking of Players

In the ranking of players, all the registered players are shown, ordered by the score they accumulated by playing different games. The score is based on the difficulty of the problems that they solved and the time needed. If a player has not resolved any Hidato, he has a score of 0 points.

Players usernames which are registered to the game.

Players scores.

If you click here, you will be redirected to the game menu.

Player Name	Points
Player4	36
Player2	24
Player1	20
Player3	0

Ranking of all Players

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Image7: Ranking of all players list

3.2. List of Games

In the List of all Problems, the application has all the problems created by the users. In this list it has, for each one, the type of problem cells, the number of rows and columns, the difficulty, the creator of the problem and two more columns with buttons with different functionalities (Image8). The type of cells in the problem are hexagon, triangle or square. The number of rows and columns can vary between 1 and 20. The difficulty can vary between easy and insane.

The columns with buttons have the following functions:

The first column called "Ranking" contains a button with which you access the ranking of that problem.The second column called "Play" contains a button with which you can play that problem and try to beat the time of other players.

This view also contain 2 buttons which allow loading a problem from a file and going back to the general menu.

The user can sort the list by type, difficuty or creator of the problem

If you click here, the selections to sort will be discarded.

Type of the Problem

Problem's rows

Problem's columns

Problem's difficulty

Problem's creator

If you click here, you will be redirected to the play screen, where you can resolve the Hidato Problem.

If you click here, you will be redirected to the Attempt Ranking.

If you click here, you will be able to load a new problem that you had stored in your disc, with a correct format file.

If you click here, you will be redirected to the general menu.

List of all Problems

Type	Rows	Columns	Difficulty	Creator	Ranking	Play
Triangle	7	7	Hard	Player3	Ranki...	Play
Hexagon	5	6	Medium	Player3	Ranki...	Play
Square	5	5	Pro	Player1	Ranki...	Play
Square	6	5	Insane	Player2	Ranki...	Play

Load from file   Back

Image8: List of all Problems(Hidatos).

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3.3. Generate

In the generator menu we have everything necessary to create a new Hidato. First of all, we will talk about the two possible ways to generate a new problem: Generating and personalising.

In the first one, the application automatically generates a Hidato which must have a series of parameters entered by the user. These must be the cell type, if you want adjacencies in the problem (except if it is hexagon type), the difficulty and the number of rows and columns. In consequence, by pressing the generate button, the problem is automatically generated.

The second way to do it is with the possibility of customising the problem. This option requires the same parameters as the the other option, but the user can enter numbers, asterisks or pads in the cells that he wants. You must always put the first and last number of the Hidato so that the problem can be solved. Once you're finished, click the customise button and the application checks if there is a valid solution to the Hidato it is about to create. If there is a solution, the problem is generated, available to play and added to the list of problems. Otherwise, it is discarded and an error alert is shown that the problem is wrongly personalised.

This are the parameters needed to generate or personalise:

Image9: Generator menu options

Here you can see the complete generator menu when the parameters are selected (Image10). An empty board is displayed in order to see which form it is going to have. Numbers, asterisks and pads will be added when we click the generate button.
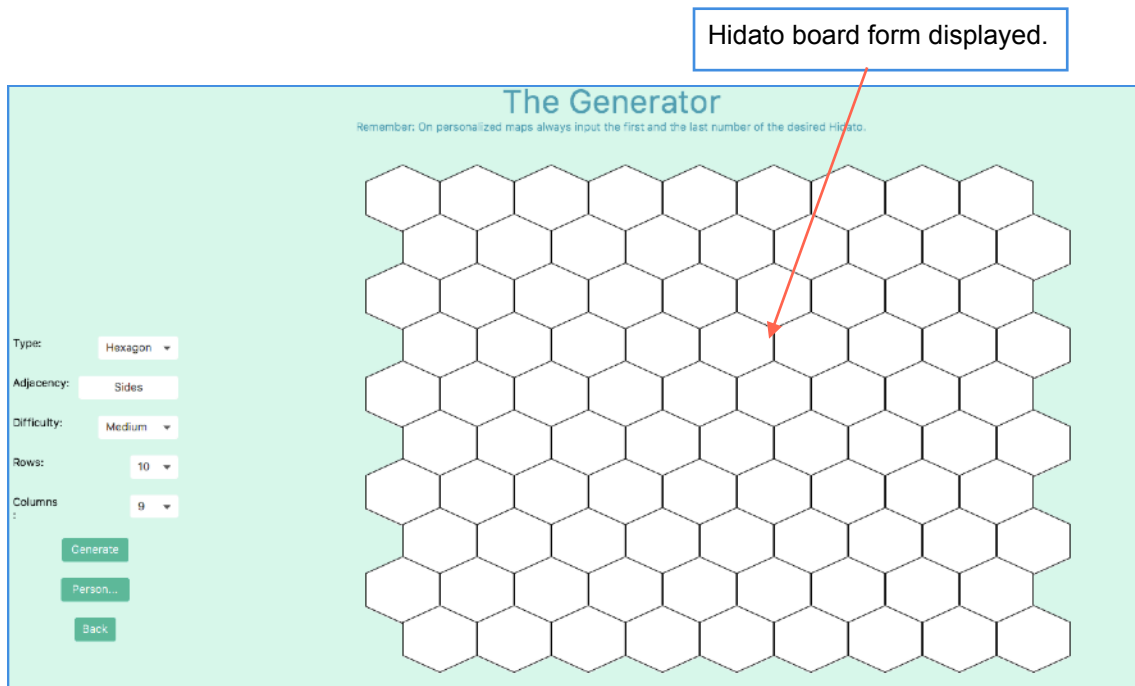

Image10: Generator menu

Tp personalise a board, click in the cell you want to fill and enter a valid input. The application only accepts numbers, asterisks or pads. This option is implemented with a personalised dialog (Image11). The user can remove any personalised cell right clicking or pressing enter with the text field in blank.

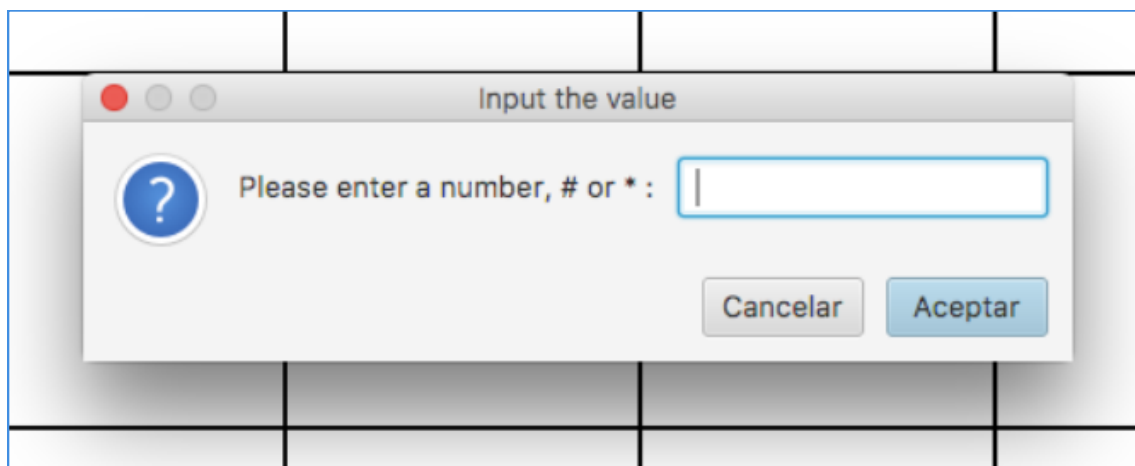Image11: Custom dialog used to introduce new values.

The next image (image12) showns a personalised Hidato board by a user. To do so, the user must introduce the first and last number of the problem. The purple cells represent the pads added by the user. The dark green cells represents the asterisks. And, finally, the light green are the numbers.
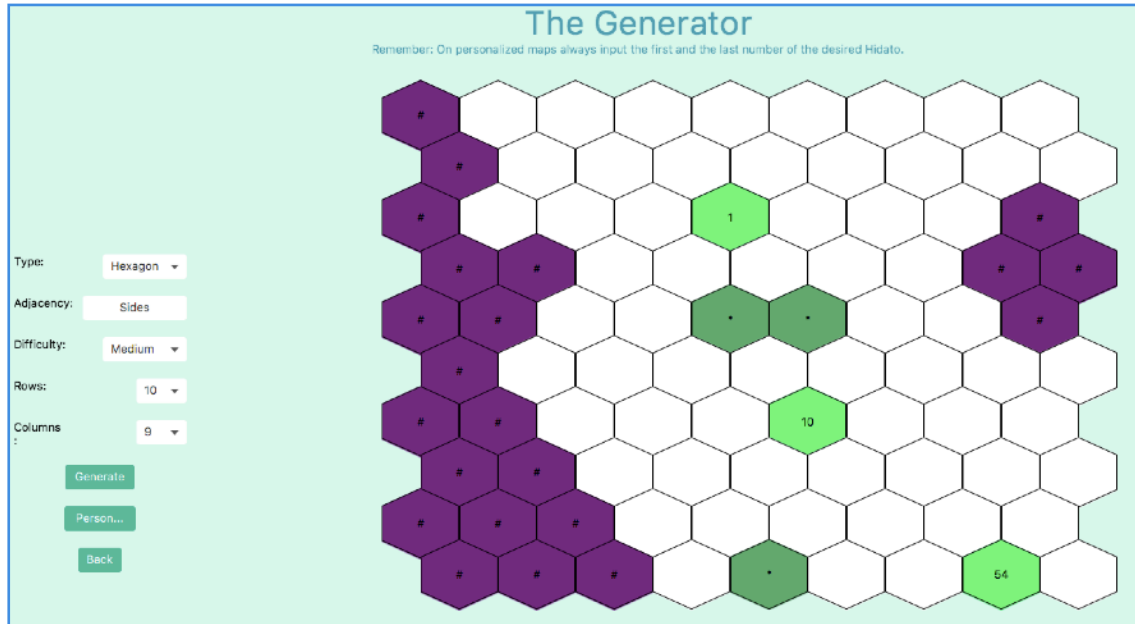

Image12: Generator menu with some personalised cells.

3.4. Load Attempt

In the List of all Attempts, the application has all the attempts of solving problems. It is individual for each player registered in the game.

This list has, for each problem, the type of cells, the number of rows and columns, the difficulty, its creator and one more columns with a button with a specific functionality (Image13). The type of cells in the problem are hexagon, triangle or square. The number of rows and columns can vary between 1 and 20. The difficulty can vary between easy and insane.

The column with the button has the following functionality:

The button allows the user to follow the game with the same board and time that he had when saving it.

This view also contains one button that permits the user going back to the general menu.
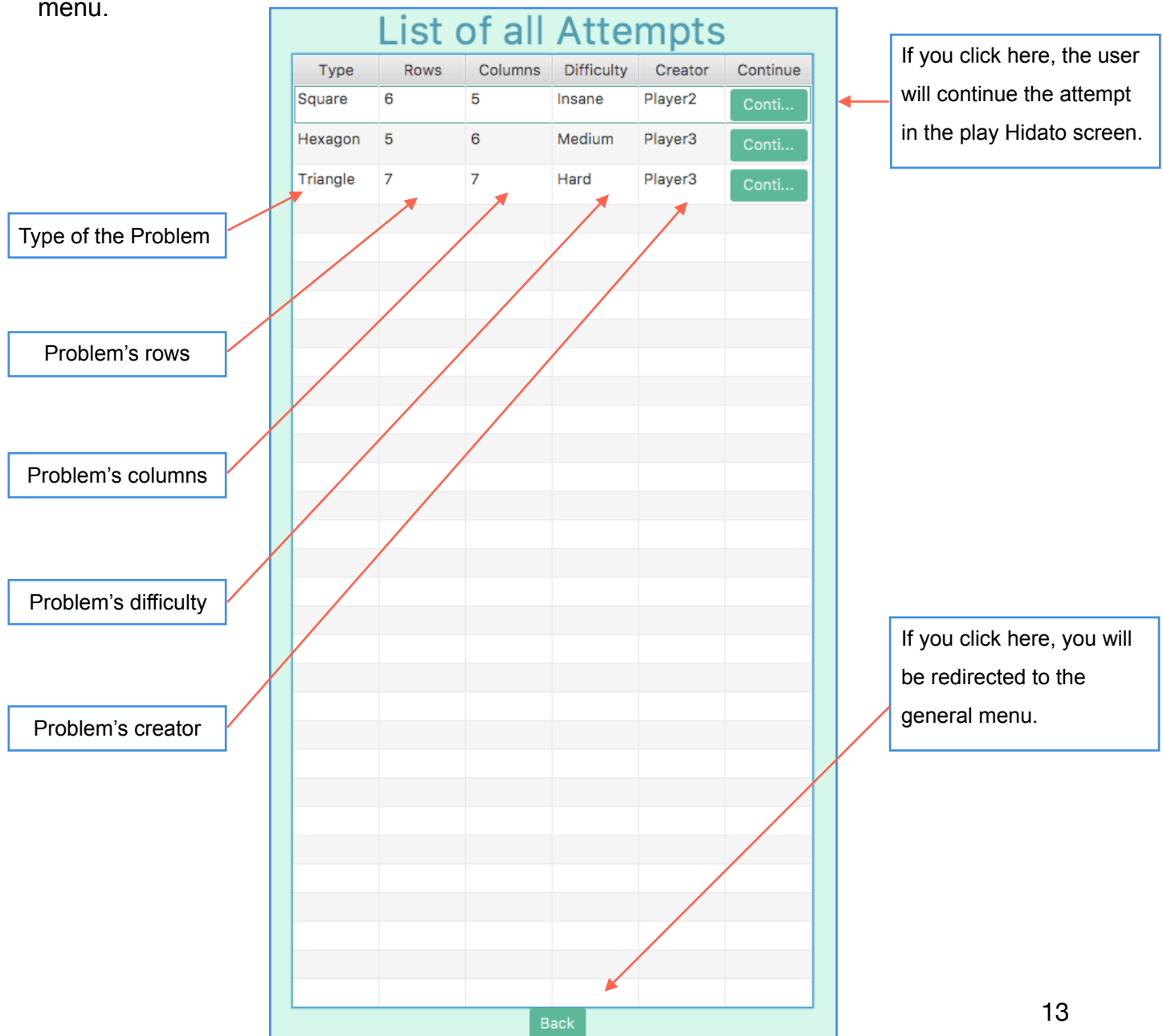
Type	Rows	Columns	Difficulty	Creator	Continue
Square	6	5	Insane	Player2	Conti...
Hexagon	5	6	Medium	Player3	Conti...
Triangle	7	7	Hard	Player3	Conti...

Type of the Problem

Problem's rows

Problem's columns

Problem's difficulty

Problem's creator

If you click here, the user will continue the attempt in the play Hidato screen.

If you click here, you will be redirected to the general menu.

Back

Image13: List of all Attempts of a

3.5. Help

Pressing the "Help" button in the general menu of the application shows an informative alert which explains who is the creator and the objective of the game Hidato.
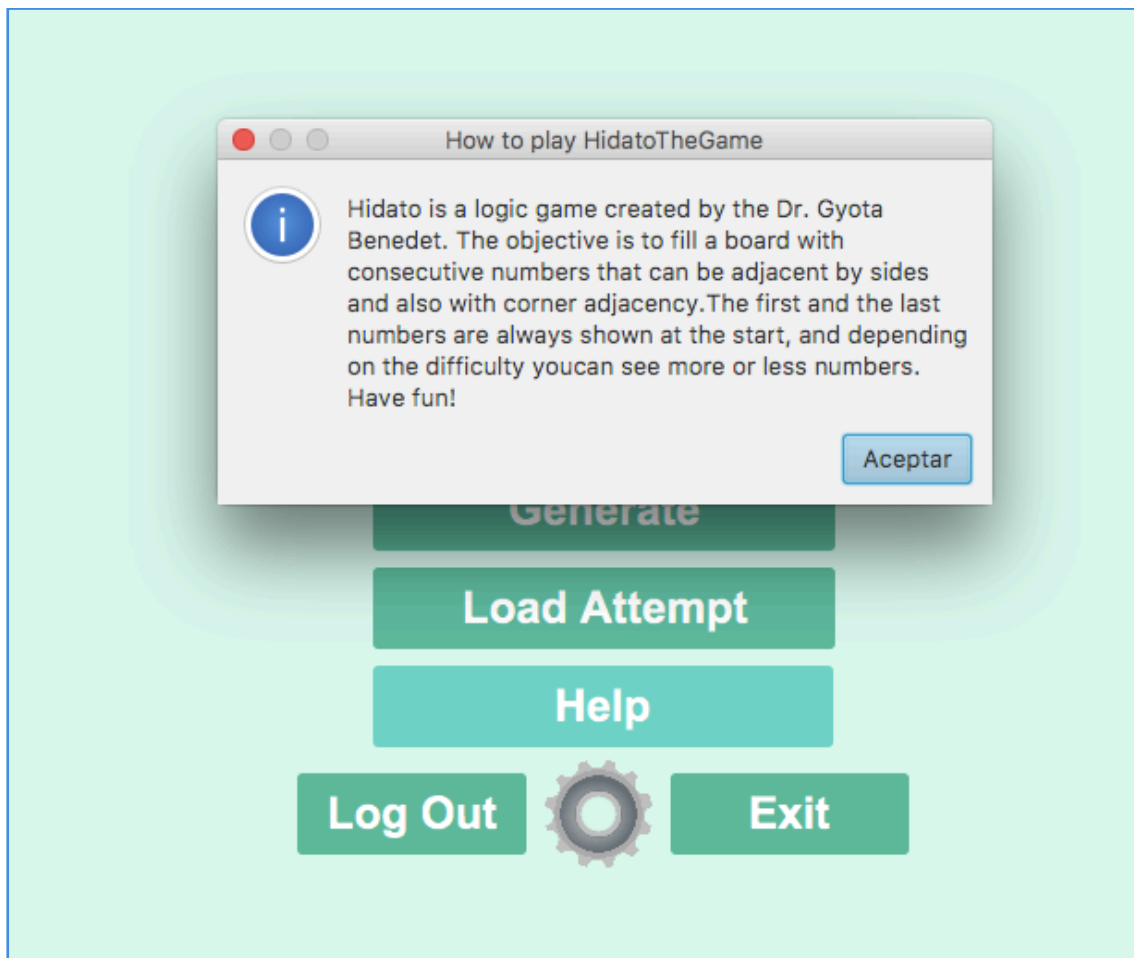

Image14: Help button informative alert

3.6. Log Out

By pressing the "Log out" button the player, closes the session and the application returns to the main screen so that another user can register or log in (Image1).

3.7. Settings

By pressing the "Settings" button, the player can access the settings menu (Image15) which shows options like changing the password of the player and his avatar. The new avatar image must be in a .png format to be accepted.

If the user click here and the parameters in text fields are correct, the password is changed.

Text field where the user has to introduce his old password.

Text field where the user has to introduce his new password.

Text field where the user has to introduce his new password again to confirm it.

Actual image of the logged-in player.

If the user clicks here, he is able to change his avatar using a image in .png format from his computer.

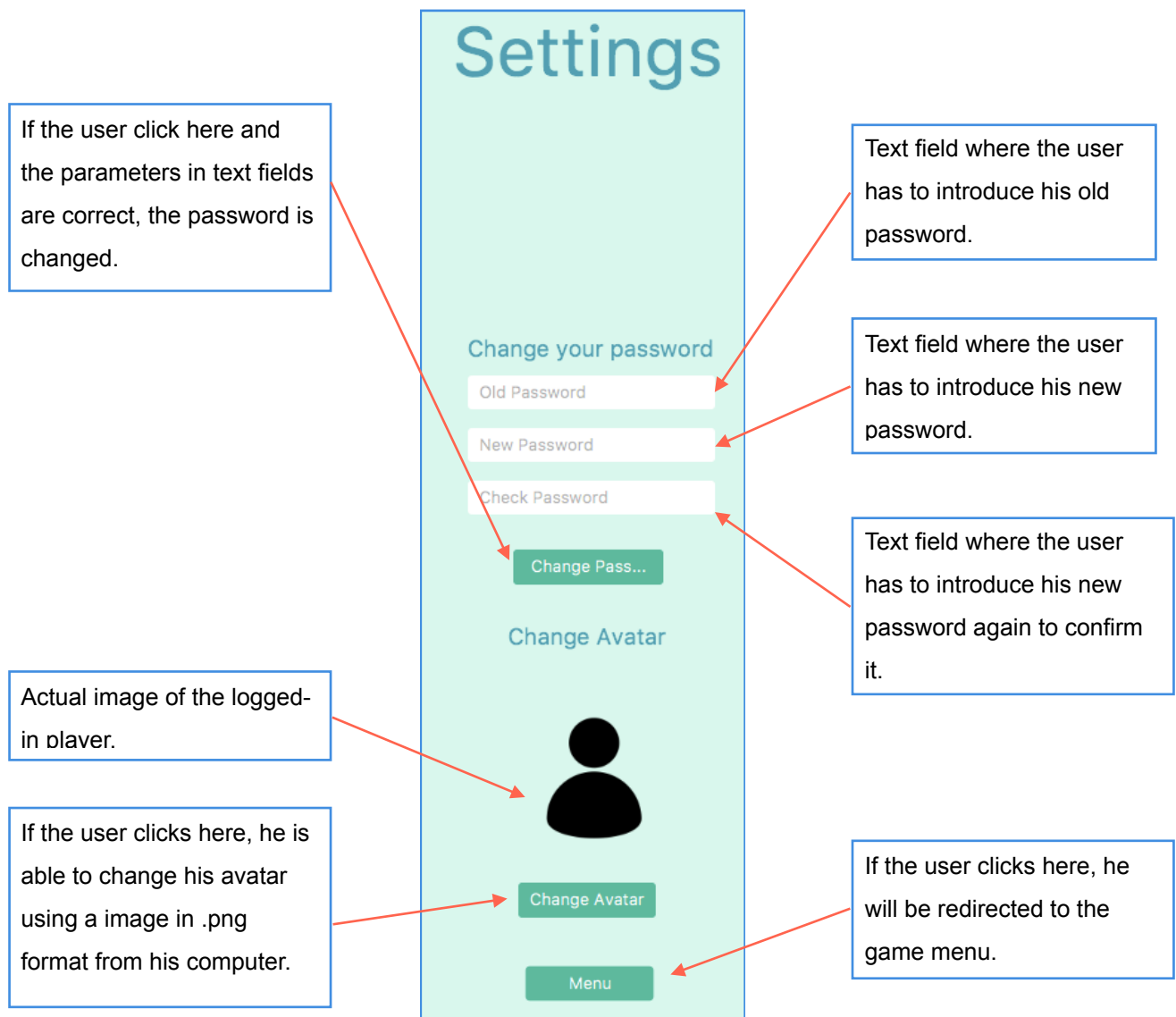If the user clicks here, he will be redirected to the game menu.

Image15: Setting menu

When the user is trying to change his password and the old password is incorrect, an error alert is shown in the screen (Image16).
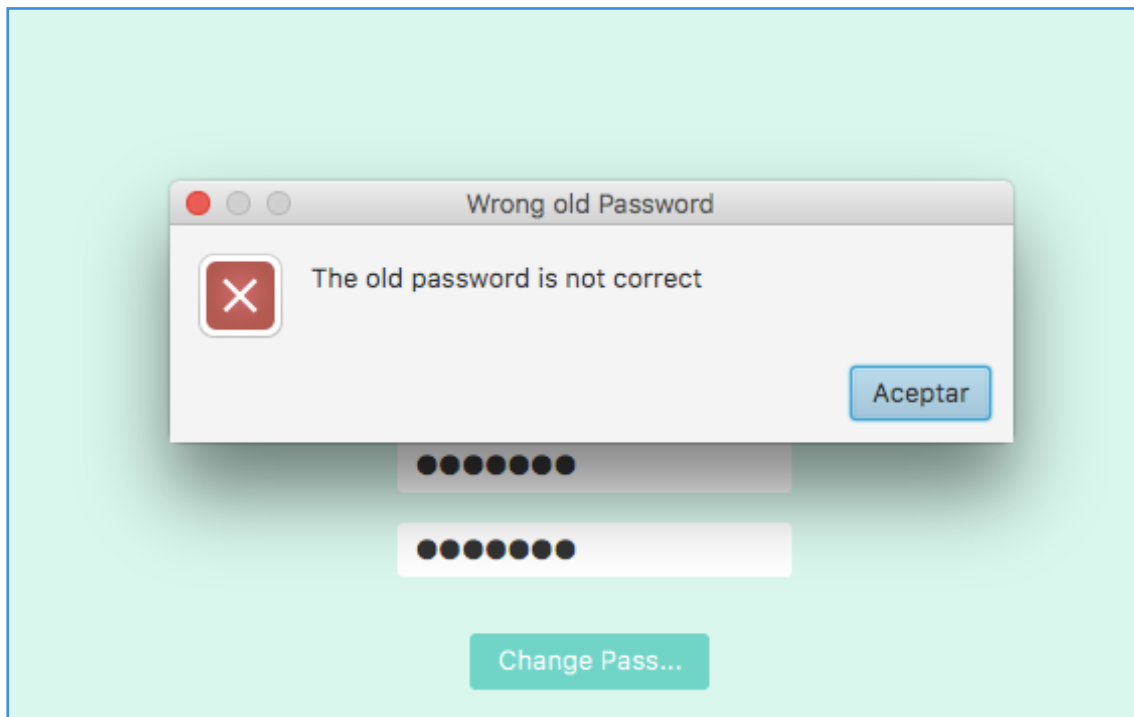

Image16: Wrong old password error alert.

When the user is trying to change his password and the new password and the confirmation are different, an error alert is shown in the screen (Image17).
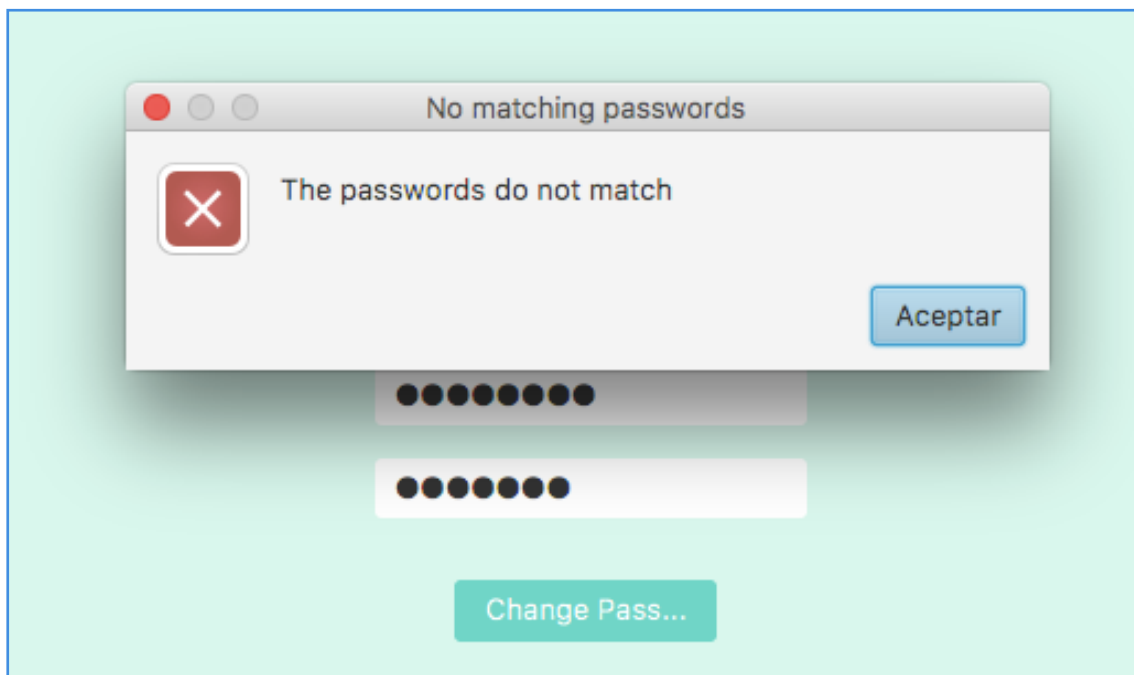

Image17: Different new password error alert.

When the user is trying to change his password and the old and the new password are equal, an error alert is shown in the screen (Image18).
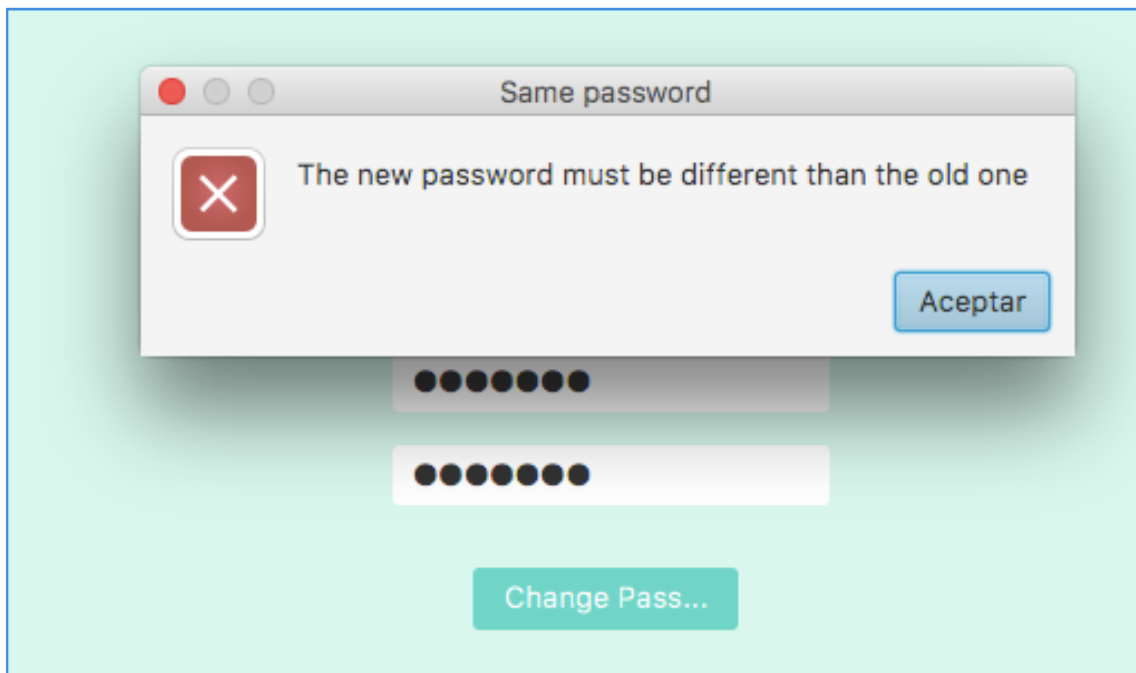

Image18: Equal old and new password error alert.

3.8. Exit

When the user presses the "Exit" button the application closes.

4.   Rankings

In this application we can find two types of rankings: An overall ranking of players and a ranking of players for each problem when solving an Hidato. The ranking of players is ordered by the accumulation of points that each player has. In the other one, the players are ranked by the time of resolution of an Hidato. The less time you spend solving the attempt, the higher your score will be.

4.1. Displayable Ranking of Players

The ranking of players refers to the Ranking of Players (point 3.1 in this manual).

4.2. Displayable Ranking of Problems

The ranking of each problem is unique for each Hidato game. It will be displayed by pressing the button "Ranking" in the List of Games (image8). This ranking shows the name of the player that solved the problem and the time he spent solving it. One player can do the same problem many times as he wants to improve his time (Image19).

Name of the players that had solved the Problem.

Time spent by a concrete player solving an Hidato.

Image19: Ranking of an attempt

5. How to start a new Hidato game

To be able to solve a Hidato, either a generated or personalised one, or a problem from the List of Problems, you will aways be taken to the problem resolution screen (Image20). This is made up of different parts:

The upper part contains the problem information (type, rows, columns, adjacency, difficulty).

In the central part we have the Hidato board. In it, we can identify different types of cells. Dark green cells represents invalid boxes, which can not have any type of value. The light green cells are the numbers that are already defined in the problem. Normal greens cells are the numbers that the player has entered. The blue ones represents the minimum and maximum number of the board. The minimum will always be 1. Finally, white cells are what remains to fill.

The left part of the screen contains the counter in time format of the problem on the top. Below this, we have a series of buttons that execute different functionalities.

The "Validate" button takes the complete problem (without any white cells) and verifies if the solution is correct.

The "Menu" button returns the user to the general menu of the application without saving the attempt.

The "Save" button saves your current attempt in the personal list of attempts, to be able to solve it later.

The "Ranking" button opens the ranking of this particular problem that you are solving.

The "Hint" button offers you the possibility to receive a clue for to the position of the next number of your solution. Consequently, it penalises you with seconds depending on the difficulty of the problem.

The "Clear" button erases all the numbers you have added to make it more comfortable to start again if you were wrong at some time.

The mouse also has different functionalities. By clicking the left button, the number in the text field on the bottom right is added to the cell where the cursor is located. Moreover, doing right click deletes the content of the cell where the cursor is located.

Problem information

Problem Info: Type: Hexagon   Rows: 15   Columns: 15   Adjacency: C   Difficulty: Hard

Image20: Play Hidato screen

If the user clicks here, the user saves the attempt and it is stored in the List of Attempts
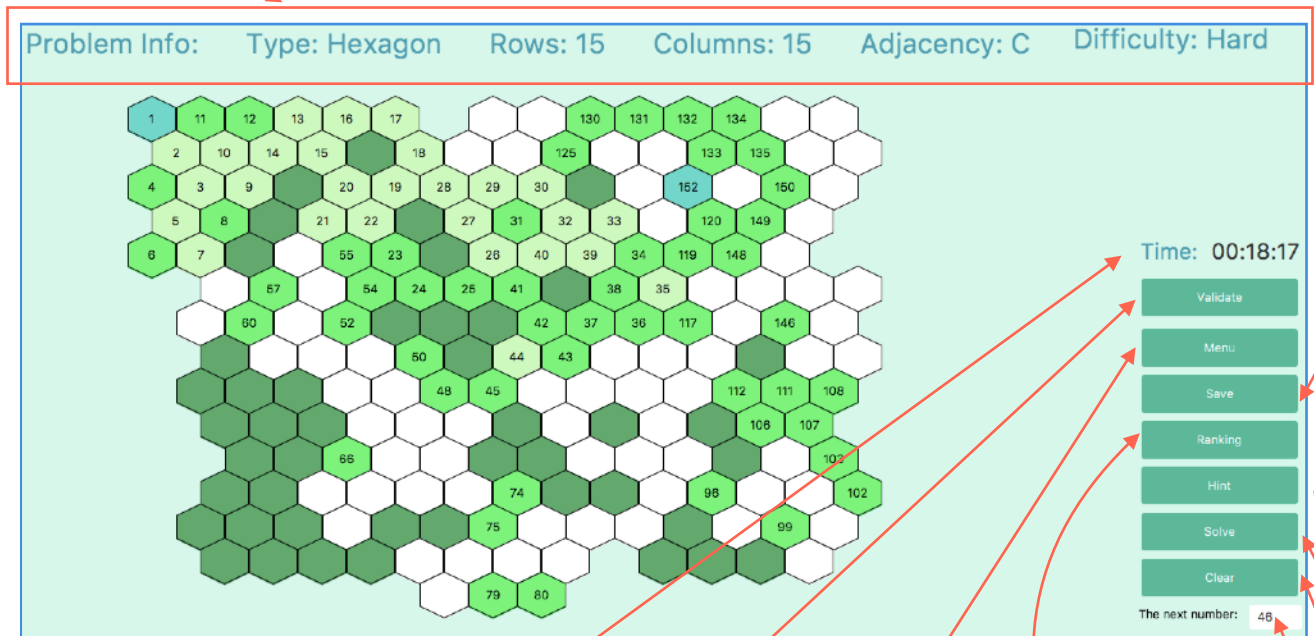
Attempt Timer

If the user clicks here, the problem is validated

If the user clicks here, the user is redirected to the general menu

If the user clicks here, the user is redirected to the ranking of the problem

Next number that will be added left clicking

If the user clicks here, the board is cleared

If the user clicks here, the solution of the Hidato is displayed

If the user clicks here, a hint is given

If the solve button is clicked, the solution will be displayed and deactivating all the functionalities of the other buttons of the screen but the menu button.If the user wants to validate the Hidato and it is not yet finished, an error alert will be displayed in the screen.
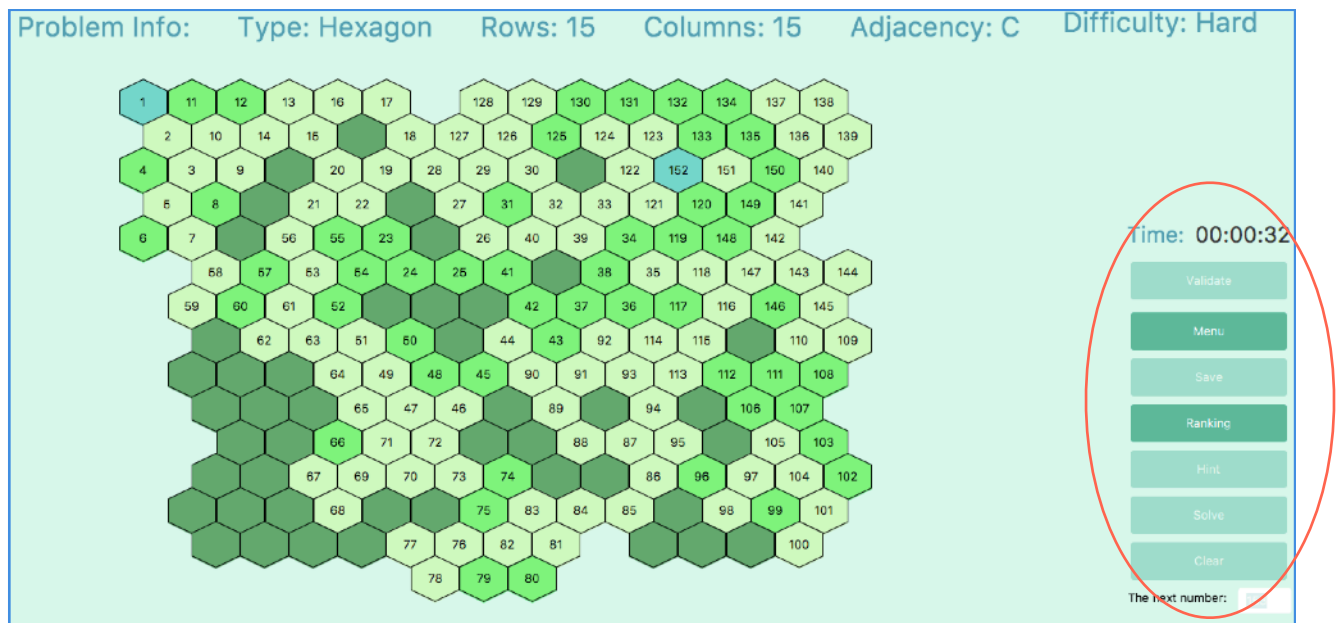

Image21: Play Hidato screen solved

If the user wants to validate the Hidato and it is not correct, an error alert will be displayed in the screen.
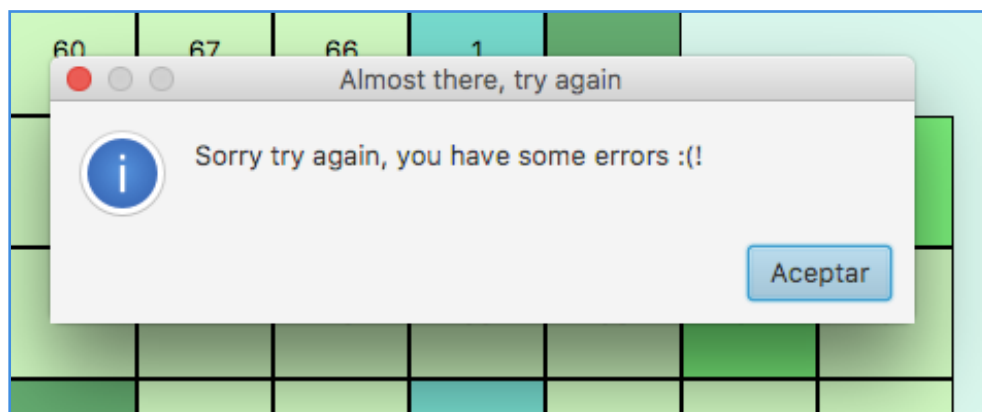

Image22: Not correct Hidato error alert

If the user wants a hint and the Hidato is already completed, an error alert will be displayed in the screen.
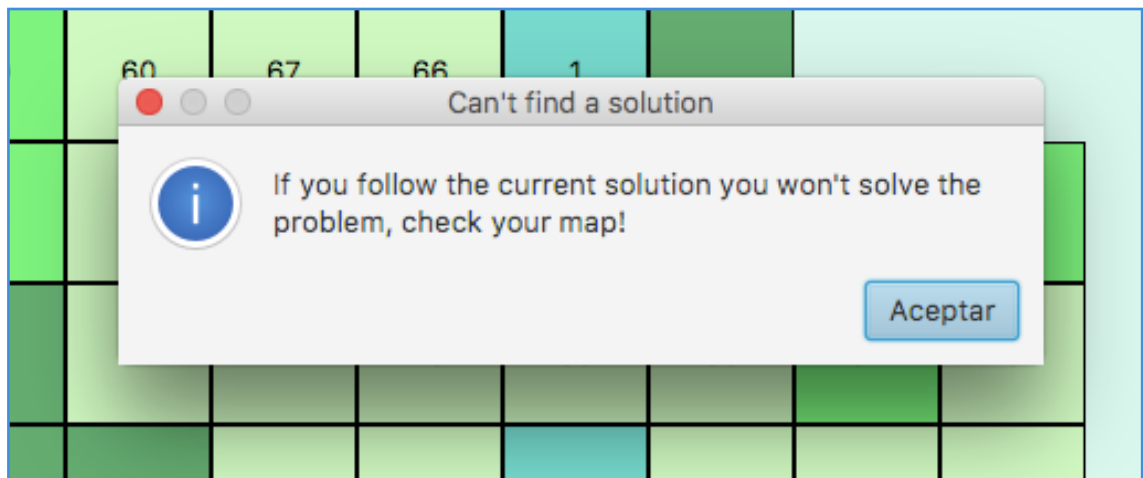

Image23: Already completed Hidato error alert

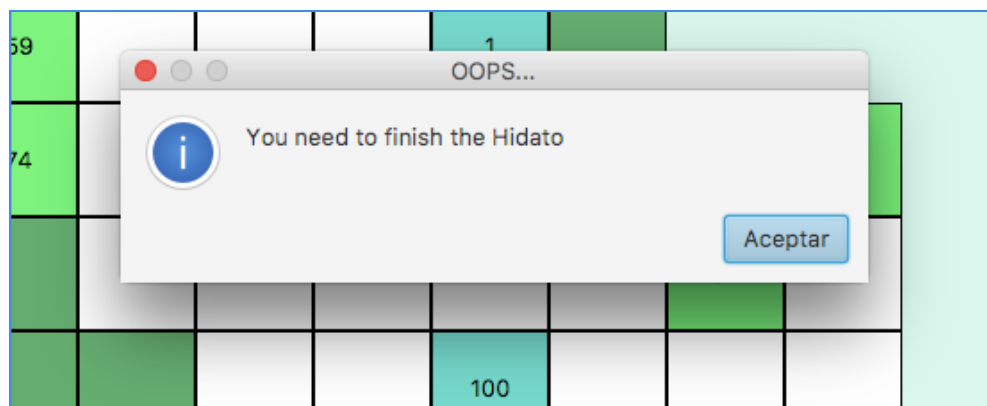If the user wants to validate the Hidato and it is not finished, an error alert will be displayed in the screen.

Image23: Not finished Hidato error alert