Manalath User Manual

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Introduction

In the curricular unit of LAIG, the group was tasked with developing a graphical interface for a board game. An application, which already included the logical aspects of the game, had already been created using the prolog language, in the curricular unit of PLOG. As such, the students also had to implement a way for both parts, graphical interface and prolog application, to communicate with each other. The board game chosen for this project was Manalath.

How to run the game

1. Open SICStus Prolog and consult the file *server.pl* present in the Manalath directory.
2. After consulting the file run the command “server.” in SICStus Prolog.
3. Create a local server, this can be achieved using an executable like *Mongoose,* this should open a new browser window.
4. While in the new browser window open the folder named *Graphic_Interface.*

Manalath

Manalath is a game played by two players on a hexagonal board with 61 spaces. Each player has 30 pieces of an assigned color (usually black and white). In the implemented game, purple is assigned to the first player and green is assigned to the second player.

The game starts with an empty board, at each turn the current player chooses a piece of any color (own or opponent's) and places it in an empty space on the board. However, the player can never play in such a way that a group of more than 5 pieces of the same color is created. A group is formed by adjacent pieces.

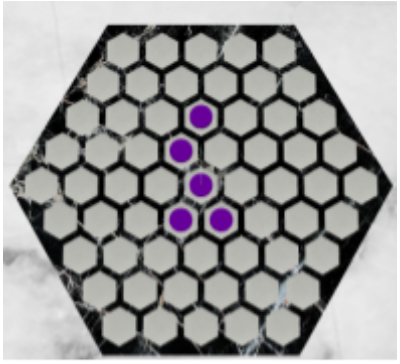

Fig1 : group of 5 pieces

If at the end of a player’s turn there is a group of 5 pieces of its assigned color, the player wins. On the other hand, if there is a group of 4 pieces in the same condition, the player loses. If both situations occur at the end of the round, the player loses.
The game ends in a draw if there are no more valid plays.

User instructions

Interface

After initializing the program the default game scene is displayed. In order to configure the program, the user can use an interface (displayed in the upper right corner) to choose the current scene (Garden or Space), the mode of the game (Player vs Player, Player vs Bot or Bot vs Bot) and the difficulty of the game, in case one or two bots are playing.

A button to initialize the game is also present, this button can be pressed at any stage of the program to start a new game. The undo of a play and the game movie functionalities are available by pressing the correspondent buttons, the first is only available in a short interval of time after a player has executed a play and the second is available after the game ends.

In the interface it is also possible to turn the scene's lights on and off, as well as to change the current perspective. An option to lock the camera in place was also added.

Game

In order to make a play, the player should select a piece from the group of pieces displayed next to the board, the selected piece turns yellow, if the user desires he/she can change the selected piece by clicking on another piece, in this case the newly selected piece turns yellow and the other one goes back to its original color. After the piece selection, the valid cells in the board are displayed in red, these cells are the only ones the user can select to make the play.

Each player has a chronometer and a marker. The marker is used to indicate whose turn is it, which color corresponds to which player and the current score of the game. The chronometer is used to inform the player of the time he/she has left to finish the play, if the player is unable to execute a play within that time the turn is skipped. The chronometer pointer takes 12.0 seconds to do a whole circumference, which consists in the maximum duration a turn can have.