Zen l'Initié

User Manual

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Groupe A1

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I - Introduction

A - Presentation of the application

The Zen l'Initié application allows you to play the board game of the same name from a computer. It allows the user to launch games in different modes and save them. The purpose of this manual is to guide the user in using the application and to describe its functionalities.

B - Summary of terms used in the document

Many modes and features are available in the application, therefore it is important to distinguish several elements: the application is available in two modes, one graphic and the other console. In each of its two modes, a game can be played by one or two players, moreover, whether it concerns one or two players, a game can be played in two different ways (classic or automatic, see II.A.2.Moving the counters). By player, one understands here human player because a game always sees two opponents opposing each other. In a one-player game, there are also two levels which allow to play against a more or less strong AI.

Thus, the mode of the application concerns only the graphic or console version and the level concerns only the level of the AI. A player will be considered as human unless otherwise stated.

II - Application tools

A - The different types of games

A.1 Number of players

A game can be played with one or two players. The choice of the number of players is made before the start of the game and cannot be changed during the game, including the opening of a recorded game.

If a one-player game is launched, the user will have to choose the level of the opponent he wants to play against. The player starts playing, then his automatic opponent will play in turn. The latter waits one second before playing, trying to make a move in this time is not useful since it will not be taken into account. On the other hand, it is possible to start entering the coordinates of the move while the automatic opponent is playing.

In any case, a game has two opponents playing in turn.

A.2. Moving counters

There are two ways to move the counters:

- A classic way in which the user has to enter the number of the counter he wants to move or 'z' if he wants to move the Zen and the coordinates of the move. The columns are each assigned a letter between 'A' and 'K' and the rows are identified by numbers from 0 to 10. Once the data of the move has been filled in, it is processed by the application, if the move is correct according to the rules set out in part V.A. Moving the counters, the move is made and the board is updated. If not, the move is not made and the player must re-enter the coordinates of his move.

- A way of automatically managing the movement of checkers in which the user simply has to enter the number of the checker he wants to move or 'z' if he wants to move the Zen and then indicate the direction in which he wants to move it. There are a total of 8 directions (corresponding to vertical and horizontal axes (North, South, East, West) as well as diagonals (Northeast, Northwest, Southeast, Southwest)). The application then calculates the number of squares the pawn must move and the move is made if it is correct. If not, the player must indicate another move.

A.3 Console and graphics mode

The entire application is available in two modes: a graphical mode and a console mode. These two modes have the same functionality and both have their own menu. It is possible to switch from one mode to the other using the menu. When launching a saved game, it is possible to resume the game in graphic or console mode, regardless of the mode in which the game was saved. It is also possible to switch from one mode to another during the same game:

- To switch from graphic mode to console mode, click on the pause button then on the console icon (see the list of icons at the end of the document).
- To switch from console mode to graphic mode, use the "graphic" command (to use this command, a game must be in progress).

Console mode displays and retrieves information about a terminal while graphic mode uses a standard window. To launch a game in console mode, you must in any case have launched the application jar from a terminal. Double-clicking on the jar does not access console mode. On the other hand, once the application is launched from a terminal, it is possible to switch from a game in graphic mode to a game in console mode via the menu.

B - Backup

B.1. General Operation

The application allows you to save the current game in order to continue it at another time. The extension of the backup files is .ser, if the extension is not given at the end of the filename when saving, it is added by the application. When saving, the user is asked where the file is saved.

The menu allows then to open a saved part. A window allows to choose the file to be opened then if this one is valid, the game is directly restarted. Otherwise, an error message warns the user who is returned to the menu. The errors of opening or recording can be due to various causes among which we frequently find :

- Incorrect file format
- File of the same name
- File opened in another application
- File modified after saving
- Incorrect file path

B.2 Console mode

In console mode, to save a file, the user must enter the full path of the file, i.e. the path to access it and then the name of the file (e.g. path/of/file/name.ser). If the backup cannot be done a message is displayed and the user is prompted to enter a new path. Once the backup is done, the user is prompted to continue the game. If the game has already been saved since its launch, it will not be necessary to enter the name of the backup file again since the game will be saved in the backup file previously used.

It is possible to save a game at any time by typing the 'save' instruction in the terminal. A message will ask you to enter the file path.

To restart a saved game, the user must enter the full path of the backup file as before (e.g. path/of/file/name.ser). If the file can be read by the application, the game is launched. The opening of a saved game is done exclusively via the menu.

B.3 Graphic mode

In graphic mode, to save a file the user simply has to enter its name and select the folder in which he wants to save it. To save a game, use the "Save" or "Save-under" icons. As in console mode, if a game has already been saved, it is not necessary to specify the save file again. On the other hand, if the user wants to save the current game in different files, he can use the "Save as" feature.Pour ouvrir un fichier, il faut se rendre dans le dossier où se trouve le fichier sauvegardé et cliquer sur le fichier de sauvegarde. Une partie enregistrée se lance exclusivement depuis le menu.

C - Restart a game in progress

It is possible to restart the currently open game. Restarting a game means putting the checkers back to their initial position while keeping the configuration of the game (level of the automatic player, colors of the checkers, automatic or not movement of the checkers, ...). To restart the current game, you must :

- In console mode: enter the instruction "replay", the initial board is then directly displayed and the game is ready to be restarted.
- In graphics mode: click on the "Pause" menu in the menu bar on the left, then click on the "replay" icon (see VII-B). The window closes before reopening with the game board in its initial state.

D - Sound

By default, the application offers different sound effects when a counter is moved, when a move is impossible or when a click on one of the buttons of the graphics menu takes place. This feature can be activated or deactivated at any time in the following way:

- In console mode: typing the "sound" instruction will enable the sound if it is disabled or disable it if it is enabled (a message indicates the operation performed).
- In graphic mode: in the menu by clicking on the icon at the bottom left of the window (the icon indicates the current status), during a game by clicking on the "Settings" icon in the menu bar on the left of the window and then by clicking on the sound icon (the icon also indicates the current status here).

E - Languages

E.1. General operation

The application is available in two different languages: English and French. The default language when the application is launched is English. Some commands do not change depending on the language (this is the case for commands used in console mode such as "sound" or "replay"), so you must always enter these commands in English. When the language is changed, it is the case for the whole application: regardless of the mode used, including the menu.

E.2 Console mode

It is possible to change the language in console mode at any time, whether you are in the menu or playing a game. To switch the application to English, use the instruction "en", a message in English will be displayed indicating that the language has been changed. To switch the application to French, use the instruction "fr", the same message as before is displayed but this time in French.Si une partie est en cours et que l'instruction est utilisée lors de la demande de la coordonnée d'un déplacement, il faut attendre d'avoir saisi correctement la donnée demandée pour que l'application passe dans la langue demandée.

E.3. Graphic mode

In graphic mode, the language change depends on the context in which it is made:

- In the menu: just click on the flag corresponding to the language of your choice at the top right of the menu window. The current page displayed by the menu will then reload in the desired language.
- During a game: you have to click on the "Settings" icon, then on the icon allowing you to change the language and finally click on the flag representing the chosen language.

F - Demo

The graphical menu gives access to a demo that explains the main features of the game. It gives a brief overview of the use of the graphical menu but also the function of automatic moving of checkers for a one or two player game. It is not possible to leave the demo once it is launched, at the end of the demo the home page of the graphical menu is displayed and the user can start a game.

To access the demo, first click on "New Game" and then click on the "Demo" button at the bottom of the window.

III - The menu

A - Launching the game

When the game is launched the following window appears:


```
:::::::::: ::::::::::: ::::      :::      :::        :::  ::::::::::: ::::    :::  ::::::::::: ::::::::::: ::::::::::: :::::::::::
   :+:   :+:          :+:+:   :+:       :+:       :+       :+:    :+:+:   :+:     :+:        :+:         :+:         :+:
  +:+   +:+          :+:+:+  +:+      +:+       +:+       +:+    +:+:+:+  +:+    +:+        +:+         +:+         +:+
 +#+   +#++:++#      +#+  +:+ +#+     +#+       +#+       +#+    +#+ +:+ +#+    +#+        +#+         +#+         +#++:++#
+#+   +#+          +#+   +#+#+#     +#+       +#+       +#+    +#+  +#+#+#    +#+        +#+         +#+         +#+
#+#   #+#          #+#    #+#+#     #+#       #+#       #+#    #+#   #+#+#    #+#        #+#         #+#         #+#
######### ########## ###    ####    ##########    ########### ###    #### ###########    ###    ########### ##########
Welcome in Zen l'Initié ! Do you want to go in graphic mode ? (y/n)
```

It prompts the user to choose whether to continue in console mode or switch to graphics mode. The menu corresponding to the chosen mode is then displayed.

B - Welcome

A.1 Console mode

The home page allows you to recall the main commands of the application as well as to launch a game or to see the rules of the game. Once the display is done, the game waits for an input from the user who can then choose to create a new game, launch a saved game or view the main rules of the game. To indicate which action the application should perform, the user must enter the corresponding number and then press the enter key. The application then displays the message(s) corresponding to the choice made.

You can return to the menu at any time by typing "m" or "menu". If the user enters "y" or "yes", the menu is displayed.

A.2. Graphic mode

The game's home page allows you to choose the action to be carried out (load a game, launch a new game or see the rules of the game). It also allows you to change the language and to activate or deactivate the sound of the application using the buttons described above. Moreover, when a new menu page is displayed, it is possible to return to the home page by clicking on the house at the top left, if a game has been set up, the setting is not saved.
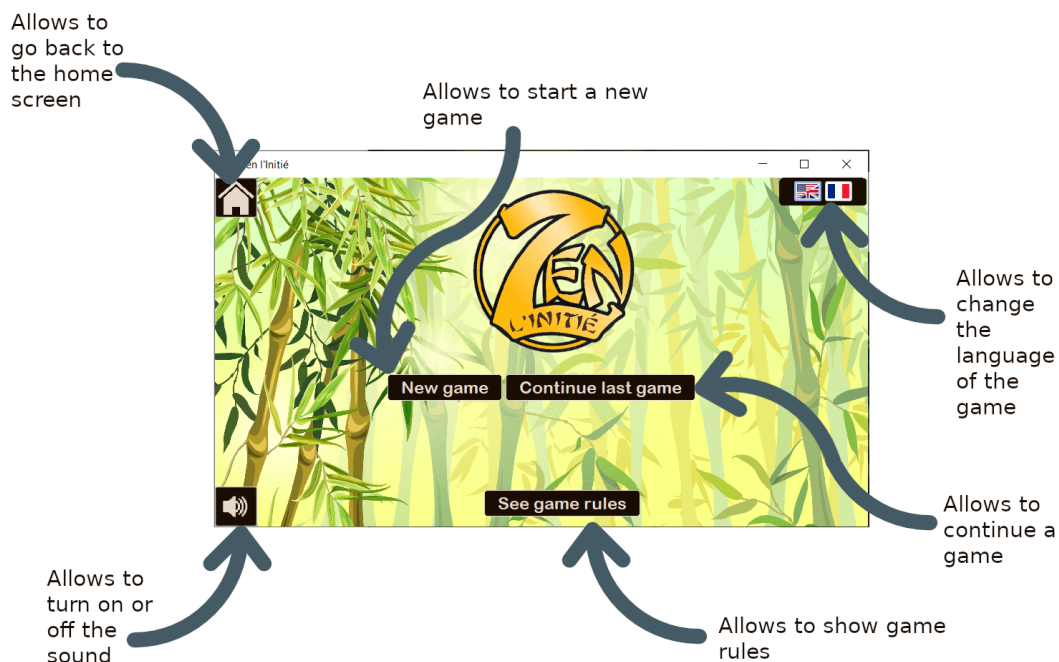
C - The configuration of a game

C.1 Console mode

The console menu allows the same configurations as the graphical menu. Simply, the inputs are made one after the other and each input is checked before moving on to the next one. If an entry is not valid, a message tells the user to re-enter the requested information. At the end of the configuration, the user can choose to launch his game in console mode or to switch to graphic mode.

If a game in two-player mode is chosen, the first information entered concerns the first player who will start playing. It is important to pay attention to the color chosen by each player because it allows to identify the pieces on the board. Therefore, two players cannot have the same color of checkers (this is not allowed in the application).

The rest of the configuration depends on the number of players, and depending on the number of players, the user will be asked to enter, for example, the level of the automatic player.

C.2 Graphic mode

The graphical mode allows an easier configuration of the game. This is done in two parts. First, you are asked to choose the number of players (it is possible to ask to see the demo by clicking on the corresponding button at the bottom of the window, see II.E - Demo).
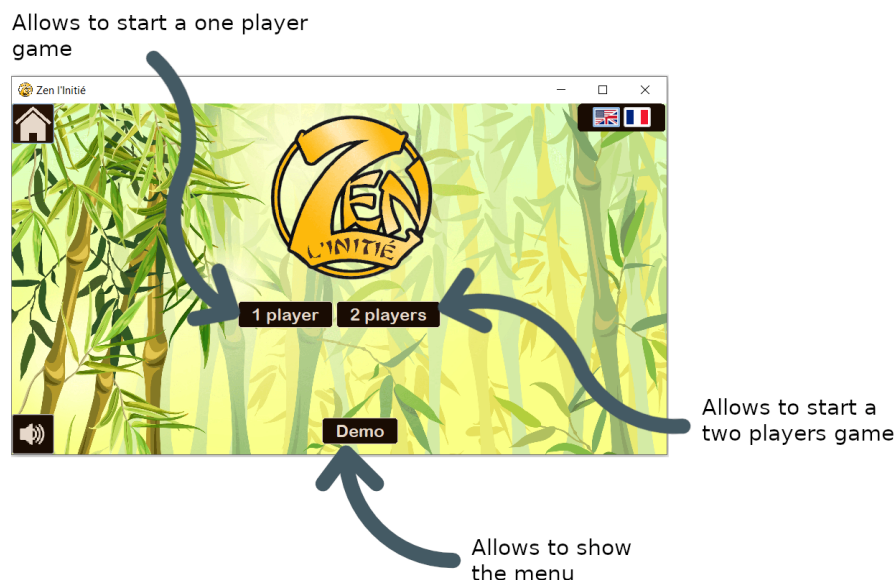
Once the number of players has been chosen, the corresponding menu opens. This menu allows you to configure all the game parameters simultaneously.

!

Just like in graphic mode, two players necessarily have different colors of counters. This is done automatically if there is only one player (the second color is chosen randomly among the remaining colors). On the other hand, on the configuration page for two players, it is up to the user to take care not to choose two identical colors. If he leaves the same two colors, the game will not start.

Allows to choose the mode on which the game will be started : graphic or console

Allows to choose the color of the player's pawns

Allows to choose the level of the opponent

Allows to start a game

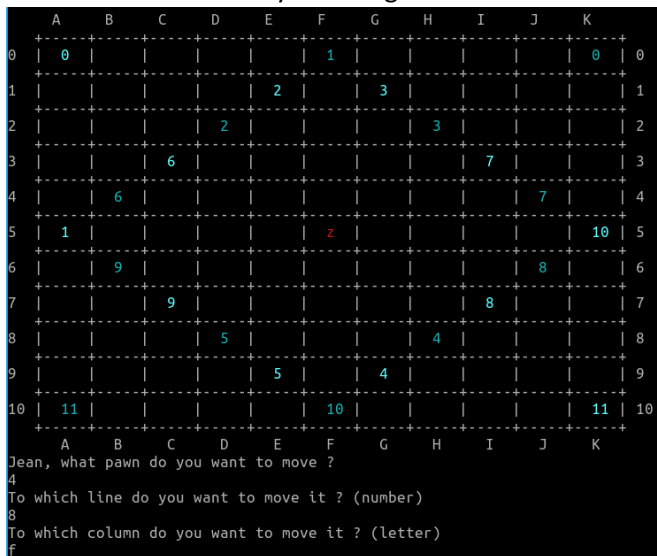Allows to choose easy displacement mode or not

IV - The Game Screen

A - Console mode

In console mode, the game board is displayed after each move, including when an automatic player moves one of his checkers. In this case, the board is first displayed with the move just made by the human player and then again with the move made by the automatic player.

A.1. Classic move of checkers

The user must successively enter the number of his pawn (or 'z' for Zen), then the row of the move (number) and finally the column of the move (letter). After each entry he must press enter and wait for the program to ask him to enter the next one. Each entry is checked independently and, if it is not correct, the user is immediately asked again.

```
       A    B    C    D    E    F    G    H    I    J    K
     +----+----+----+----+----+----+----+----+----+----+----+
0    | 0  |    |    |    |    | 1  |    |    |    |    | 0  | 0
     +----+----+----+----+----+----+----+----+----+----+----+
1    |    |    |    |    | 2  |    | 3  |    |    |    |    | 1
     +----+----+----+----+----+----+----+----+----+----+----+
2    |    |    |    | 2  |    |    |    | 3  |    |    |    | 2
     +----+----+----+----+----+----+----+----+----+----+----+
3    |    |    | 6  |    |    |    |    |    | 7  |    |    | 3
     +----+----+----+----+----+----+----+----+----+----+----+
4    |    | 6  |    |    |    |    |    |    |    | 7  |    | 4
     +----+----+----+----+----+----+----+----+----+----+----+
5    | 1  |    |    |    |    | z  |    |    |    |    | 10 | 5
     +----+----+----+----+----+----+----+----+----+----+----+
6    |    | 9  |    |    |    |    |    |    |    | 8  |    | 6
     +----+----+----+----+----+----+----+----+----+----+----+
7    |    |    | 9  |    |    |    |    | 8  |    |    |    | 7
     +----+----+----+----+----+----+----+----+----+----+----+
8    |    |    | 5  |    |    |    | 4  |    |    |    |    | 8
     +----+----+----+----+----+----+----+----+----+----+----+
9    |    |    |    | 5  |    | 4  |    |    |    |    |    | 9
     +----+----+----+----+----+----+----+----+----+----+----+
10   | 11 |    |    |    | 10 |    |    |    |    | 11 | 10
     +----+----+----+----+----+----+----+----+----+----+----+
       A    B    C    D    E    F    G    H    I    J    K
Jean, what pawn do you want to move ?
4
To which line do you want to move it ? (number)
8
To which column do you want to move it ? (letter)
f
```

A.2. Simplified moving of counters

The user always has to enter the number of the pawn he wants to move, but he only has to enter the direction of the move and not its precise coordinates. The player can thus choose one of the 8 directions specified in II.A.2. Move the checkers, indicating the initials 's', 'n', 'e', 'w', 'ne', 'nw', 'se', 'sw' (note that the coordinates are in English).

### A.3 Returning to the menu and saving a game

To return to the menu at any time, the user can enter the command "menu" or simply "m". A request for confirmation is then made and if he validates his choice he returns to the menu in console mode. The game is not saved, so be sure to save the game before returning to the menu if you wish to continue later.

To save a game, use the " save " command. During the first save, the user is asked to enter the game's save path, then during the next saves, the game will be saved in the file indicated during the first save.

B - Graphics mode

B.1. Classic pawn move

Three spaces are available on the right side of the screen for entering the different coordinates. These coordinates can be entered manually by the user or automatically by clicking on a pawn and the square on which the user wishes to move the pawn. In any case, once the data is displayed in the different boxes, the "Go" button must be pressed to validate the move. Once the move has been confirmed, the game checks the move and if it is correct, the pawn moves on the board. A line displaying the name of the player, the number of the piece moved and the coordinates of the move is then added to the history panel at the bottom right.
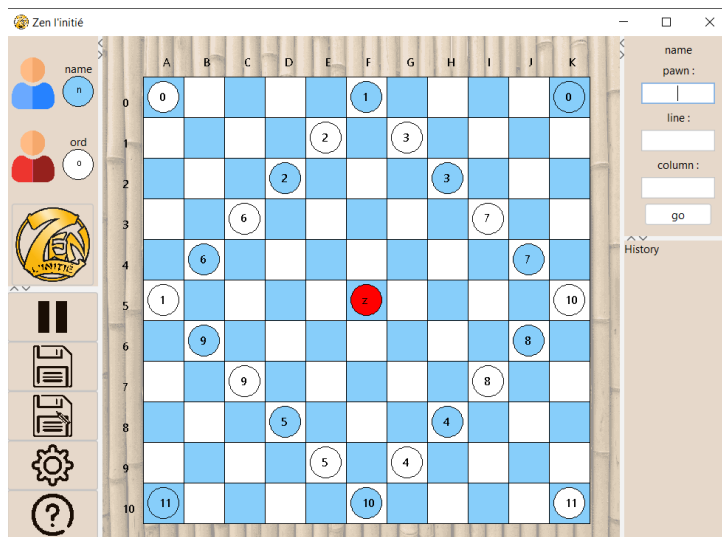
B.2 Simplified moving of checkers

Here there is only one input field left in the center of the individual arrows. This field is to contain the number of the pawn being moved. It can be filled in manually or automatically by clicking on the chosen piece. Once this has been done, simply click on the arrow corresponding to the direction chosen for the move. If the move is correct, the pawn will advance by the number of squares there are pawns on the move line and a line will be added to the history.
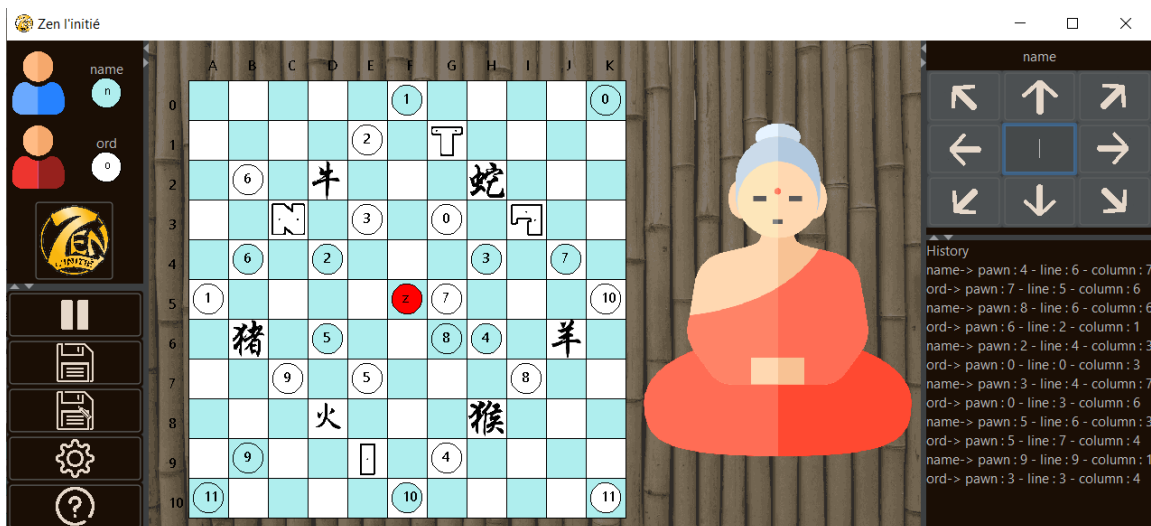
B.3 Help display

To find some instructions on how to use the graphical interface, you can display a help page by clicking on the icon in the menu and selecting the "help" sub-menu. Via this menu, you can also access the rules of the game by clicking on the "rules" sub-menu. The window can be kept open during the game.

V - Rules of the game

A - Moving the counters

There are several rules for moving checkers. First of all, a checker can move in 8 directions (horizontally, vertically, diagonally). It must also always move the number of squares that there are checkers on the chosen line of movement (including the moved checker and the opponent's checkers). Furthermore, to move, a pawn may not pass over an opponent's pawn. It is, however, possible to move over one's own checkers.

It is also possible to eat the opponent's checkers in accordance with the rules above. It is not possible to eat one's own checkers, except in Zen.

Zen is a common checker for both players that can be used to eat opponent's checkers, but can also be eaten by both players. To be moved, the Zen must be in contact with at least 1 other checker. If being on square A, it is moved by one player to square B, it cannot be moved back to square A by the other player.

B - End of the game

The game ends when at least one of the two players has managed to connect all these checkers by one side or corner. The created chain of checkers must contain Zen if it has not been eaten before. There may be a tie, in which case a message informing the players is displayed and both players win a point.

C - Points

At the end of a game, the player(s) who has/have won is/are awarded 1 point. The user is then asked if he wants to play another game, this game keeping the same configuration as the previous one (and therefore the same players). If the user decides to play again, the points won in each game are added together. When the player decides to stop the game (and thus decides not to play again when asked) the total number of points of both players is displayed. The player with the most points wins.

VI - Main problems and solutions

A - Display in terminals

The game uses two different colors to represent the players' counters. This is also the case in console mode. So it is necessary to use a terminal that supports the use of colors. This is normally the case with the vast majority of terminals today.

However this can cause some problems under Windows. This can be solved by launching the application from the Windows Terminal (the Windows Terminal can be downloaded from the Microsoft Store), which allows a high-performance display of colours.

B - Saving games

Parties can be saved in .ser format. This format does not allow the user to modify the file if he wants to be able to reuse it. To save a file or open one, you must make sure that :
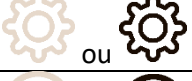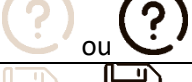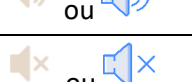
- Use a file in the right format
- Do not use a file opened in another application.
- Do not use a modified file
- Avoid using already existing file names
- Check the validity of the path entered

VII - Summary of available orders

A - Console

Commande	Fonction
fr	Switches the language of the application to French
en	Switches the language of the application to French
sound	Turn on or off the sound depending on its actual state
s / save	Save the current game
r / replay	Restart the current game
m / menu	Go back to the menu
q / quit / exit	Allows to quit the application
graphic	Switch to graphic mode (only during a game)
y / yes	Confirm (confirmation question)
n / no	Cancel (confirmation question)
help	Show this list of commands

B – Graphic

N°	Icône	Fonction
1		Go back to the home page
2	ou	Allows to acceed to functionnalities 1, 12, 13 and 14
3	ou	Allows to acceed to functionnalities 7 à 11 and 15 à 18
4	ou	Allows to acceed to functionnalities 19 and 20
5	ou	Allows to save a game
6	ou	Allows to save a game to a special file
7		Allows to switch language
8	ou	Switches the language to english
9	ou	Switches the language to french
10	ou	Indicates that the sound is activated, a click on this icon deactivates the sound.
11	ou	Indicates that the sound is deactivated, a click on this icon will activates the sound.
12		Allows to restart the current game
13		Allows to quit the application
14		Switch to console mode
15		Allows to switch the scheme of the application
16		Switch to light scheme
17		Switch to dark scheme
18		Switch to system scheme
19		Shows the rules of the game
20		Shows the help for graphic mode
21		Allows to go back to the last screen (while navigating on a menu)