Use case ID:	#01
Use case name:	Selection and Move
Created by:	Margherita Cattapan Mattia Sartori Francesca Damian
Date created:	21/08/2023
Actors:	User
Description:	This use case permits the user to select/move a block on the board.
Trigger:	The user poited the cursor on a block and the user used WASD to do a move.
Preconditions:	The game has to be started.
Post conditions:	
Normal flow:	A selection/move of a block has been made and the counter of the moves increases.
Alternative flow:	The move requested was not possible to make, so the block has not moved.
Exception:	The block can't be moved.
Includes:	Win, Counter
Priority:	High
Frequency of use:	Always

Use case ID:	#02
Use case name:	Win
Created by:	Margherita Cattapan Mattia Sartori Francesca Damian
Date created:	21/08/2023
Actors:	User
Description:	The player has resolved the configuration in game.
Trigger:	The special block has exited the board.
Preconditions:	The move that permits the big block to exit has been made.
Post conditions:	The game is over. The configuration has been resetted and the counter has been setted to 0.
Normal flow:	The win has been declared. The counter goes to 0 and the configuration has been resetted.
Alternative flow:	The user has to continue to play.
Exception:	-
Extend:	Selection and Move
Priority:	High
Frequency of use:	Always.

Use case ID:	#03
Use case name:	Undo function
Created by:	Margherita Cattapan Mattia Sartori Francesca Damian
Date created:	21/08/2023
Actors:	User
Description:	The last move has been eliminated.
Trigger:	The user clicks on the button 'Undo'
Preconditions:	A move has to be made.
Post conditions:	The board returns to its previous configuration at the last move.
Normal flow:	The board returns to its previous configuration at the last move.
Alternative flow:	
Exception:	No moves have been made, the application shows an alert 'Don't you see that the game has just started?'.
Includes:	Save, Counter
Priority:	Hgh
Frequency of use:	Only on request
Notes and Issues:	The player can undo as many moves as he wants until he finds the original configuration of the game.

Use case ID:	#04
Use case name:	Reset
Created by:	Margherita Cattapan Mattia Sartori Francesca Damian
Date created:	21/08/2023
Actors:	User
Description:	The pieces have been returned to their starting position of the game
Trigger:	The user has clicked on the button 'Reset'.
Preconditions:	The game has to be started.
Post conditions:	The configuration has returned to the original state at move 0.
Normal flow:	The user can replay the same game from the starting configuration
Alternative flow:	The user has decide to change the starting configuration
Exception:	No moves have been made.
Includes:	Save, Counter
Priority:	High
Frequency of use:	Only on request

Use case ID:	#05
Use case name:	Next Best Move
Created by:	Margherita Cattapan Mattia Sartori Francesca Damian
Date created:	21/08/2023
Actors:	User
Description:	The user has asked to see the best next move to do to resolve the configuration that he is playing at the moment.
Trigger:	The user has clicked the button 'Next Best Move'.
Preconditions:	One game has to be playing at the moment of the request
Post conditions:	The solver has shown the best move to do next.
Normal flow:	The user does the move that has been suggested.
Alternative flow:	The user stops playing. The user reset the configuration. The user does another move that is different from the suggested move.
Exception:	-
Includes:	Solver, History
Priority:	High
Frequency of use:	Only on request

Use case ID:	#06
Use case name:	Configuration
Created by:	Margherita Cattapan Mattia Sartori Francesca Damian
Date created:	21/08/2023
Actors:	User
Description:	The user can choose to start to play a configuration of the blocks on the board.
Trigger:	The user chooses from the home page by clicking over it.
Preconditions:	-
Post conditions:	The counter has been put on 0.
Normal flow:	Based on the choice of the user the elements of the board are shown on screen.
Alternative flow:	If the player wants to change configuration during a game it's possible but all the progress of the current game will be lost and not saved.
Exception:	-
Includes:	Reset, History
Priority:	High
Frequency of use:	Only on request
Notes and Issues:	The user should be aware that if he chose to change the configuration the game that he is playing at the moment if not saved will be lost.

Use case ID:	#07
Use case name	Save
Created by:	Margherita Cattapan Mattia Sartori Francesca Damian
Date created:	21/08/2023
Actors:	User
Description:	The history of the moves of the game that the user is playing has been saved.
Trigger:	The user clicks on the button 'Save'
Preconditions:	A game has to be started and also a move has to be made.
Normal flow:	The user has saved the game and can close the app or continue to play.
Alternative flow:	Every move has been automatically saved in History order to permit the undo function.
Exception:	No moves have been made. No game has been started. The game can't be closed before the finish of a saving process.
Includes:	History
Priority:	High.
Frequency of use:	Every time the user clicks on 'Save'
Notes and Issues:	The game comprehends all the configurations generated at the moment of the save and the counter of the moves. But if the user wants to undo after the save or to reset the configuration, the game will go only until the last load.

Use case ID:	#08
Use case name:	Reload
Created by:	Margherita Cattapan Mattia Sartori Francesca Damian
Date created:	21/08/2023
Actors:	User
Description:	If a game has been saved before, the user, while opening the game, can continue a previous game or to play a new one.
Trigger:	The user wants to continue to play a previous game that has been saved.
Preconditions:	The game has to be saved before the game has been closed.
Post conditions:	-
Normal flow:	The app reopens directly to the last saved game.
Alternative flow:	The user can choose not to continue the game and to reset it the current board.
Exception:	No game has been saved.
Includes:	Save, History
Priority:	High
Frequency of use:	One time every run

Use case ID:	#09
Use case name:	Solver
Created by:	Margherita Cattapan Mattia Sartori Francesca Damian
Date created:	21/08/2023
Actors:	Program
Description:	The program has to know how to solve the configuration in order to always give a "next best move" to the win
Trigger:	The user has clicked on the button 'Best move'
Preconditions:	The solver knows all the possible solutions for each configuration
Post conditions:	There are none.
Normal flow:	The user requests a best move o an entire solve game and the program shows it
Alternative flow:	The configuration can't be solved or is not on the database
Exception:	
Includes:	
Priority:	High
Frequency of use:	Only on request

Use case ID:	#10
Use case name:	Counter
Created by:	Margherita Cattapan Mattia Sartori Francesca Damian
Date created:	21/08/2023
Actors:	User
Description:	The counter is a user case to count the total of the moves that the user has made on the configuration that is active at the moment.
Trigger:	A move has been made or undone.
Preconditions:	A game has to be started.
Post conditions:	
Normal flow:	The game continues.
Alternative flow:	
Exception:	Negative counter.
Extend:	Selection and Move
Priority:	High
Frequency of use:	Always

Use case ID:	#11
Use case name:	History
Created by:	Margherita Cattapan Mattia Sartori Francesca Damian
Date created:	21/08/2023
Actors:	-
Description:	This use case describes the function that is capable of enlist every move made in game by the user.
Trigger:	-
Preconditions:	A game has to be started.
Post conditions:	-
Normal flow:	If a move has been made the counter increases by one and the move will be stored in the file with the other moves made earlier in the game.
Alternative flow:	If a move has been erased in game, it will be deleted even on the history file and the counter of the moves decreases by one.
Exception:	-
Extend:	Save
Priority:	High
Frequency of use:	Always