Prog. Tech 2nd Assignment - Documentation

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Group 1

TASK – HUNTING GAME

Hunting is a two-player game, played on a board consists of n x n fields, where the first player (call him fugitive) tries to run away, while the second player (the hunter) tries to capture him/her. Initially, the character of the fugitive is at the center of the board, while the hunter has four characters (one at each corner). The players take turns moving their character (hunter can choose from 4) 1 step on the board (they cannot step on each others character). The objective of the hunter is to surround the fugitive in at most 4n steps, so it won't be able to move.

Implement this game, and let the board size be selectable (3x3, 5x5, 7x7 → turns are 12, 20, 28). The game should recognize if it is ended, and it has to show the name of the winner in a message box and automatically begin a new game.

User-Doc:

There are 4 hunters and 1 fugitive, the task of hunters is to catch the fugitive in such a way that he should not have any chance to escape , basically they have to block all the ways of fugitive.

The default board size is 5x5, but you can change and this game can be played in 3x3 or 7x7 size board as well.

If hunters catch fugitive in (4 * board size) steps, then hunters win, otherwise fugitive wins the game.

Plan:

HuntingGameGUI:- for rendering window

BoardGUI:- for rendering game board and step panel :

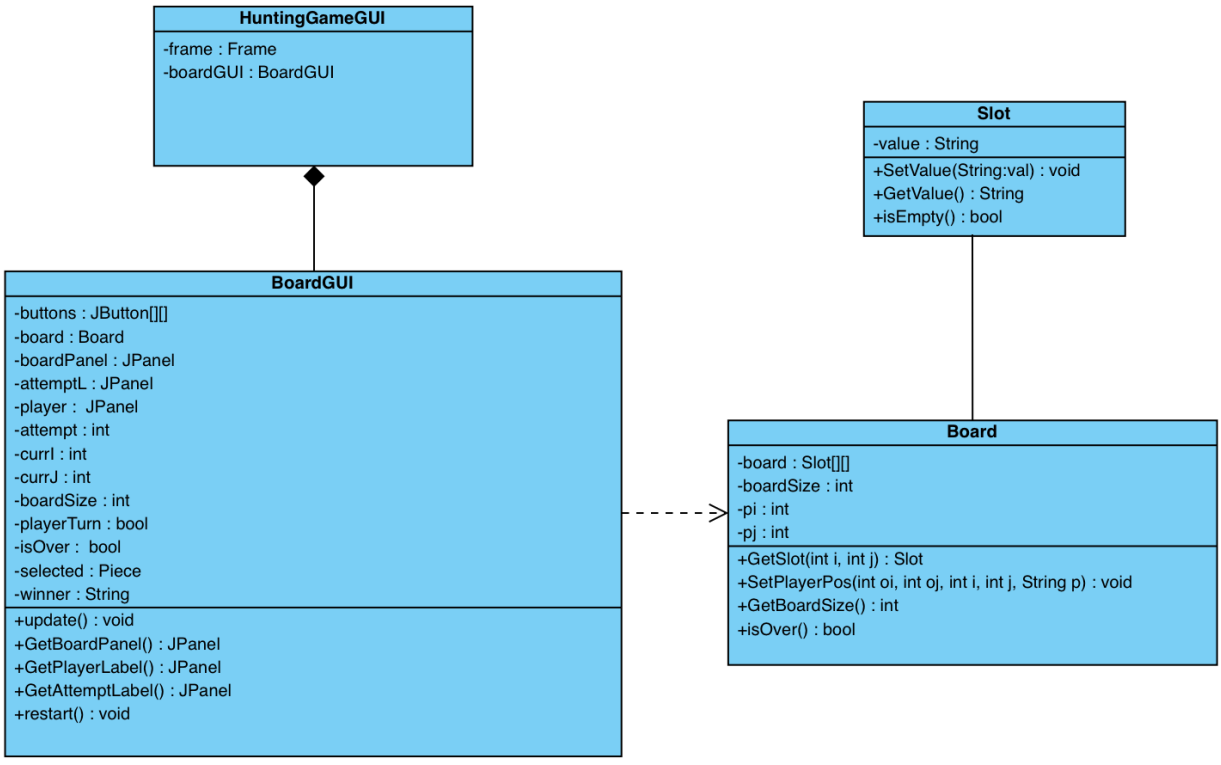
- BoardGUI(int boardSize) : generates game board of size boardSize
- GetBoardPanel() : returns the game board panel
- GetPlayerLabel() : returns the current player label to be displayed
- GetAttemptLabel() : returns the no. of attempts label to be displayed
- update() : updates board after every move
- restart() : resets the board and every variables

Board:- for storing the data for the whole board :

- Board(int size) : create the slots depending upon the value of size and generates the board data accordingly
- GetSlot(int i,int j) : returns the slot at a index i and j
- SetPlayerPos(int oi, int oj, int i, int j, String P) : sets the new position of the given player on the board
- GetBoardSize() : returns the current board size
- isOver() : checks if the fugitive loses

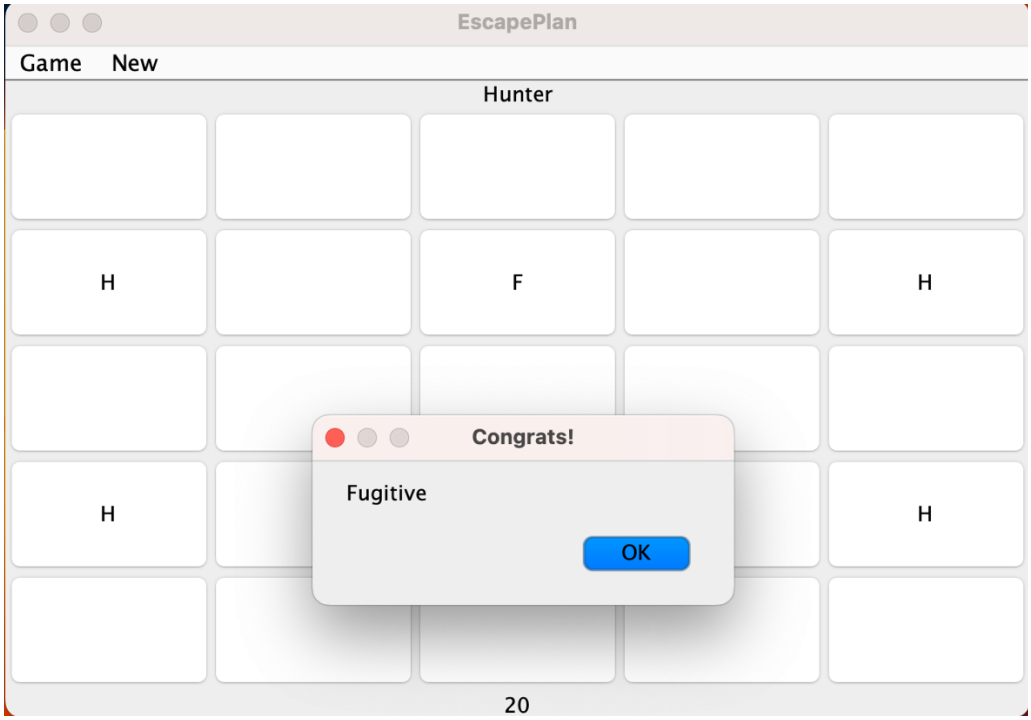
Slot:- for storing the data of a particular field

UML Class Diagram:



Testing:

Case 1 : Fugitive won



Case 2 : Hunter won