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1: // Copyright 2023 Thomas O'Connor
2: #ifndef CHECKERS_HPP
3: #define CHECKERS_HPP
4:
5: #include <algorithm>
6: #include <fstream>
7: #include <iostream>
8: #include <string>
9: #include <vector>
10: #include <SFML/Audio.hpp>
11: #include <SFML/Graphics.hpp>
12: #include <SFML/System.hpp>
13: #include <SFML/Window.hpp>
14:
15: using std::cout;
16: using std::endl;
17: using std::vector;
18: using sf::Vector2f;
19:
20: #define TILE_SIZE 64
21: #define BOARD_DIMENSIONS 8
22: #define BOARD_OFFSET 32
23:
24: class Checkers : public sf::Drawable {
25: public:
26:     // Constructors
27:     Checkers() { initializeBase(); }
28:
29:     // Getters
30:     bool nothingSelected(void) { return !stillPlaying; }
31:     bool isWon(void);
32:     bool getWinner(void);
33:     sf::Vector2i getSelectedPawn(void);
34:
35:     // Interactors
36:     void selectPiece(sf::Vector2i mouseLocation);
37:     void movePiece(sf::Vector2i mouseLocation);
38:     void deselectPiece(void);
39:     void switchTurn(void) { playerTurn = !playerTurn; }
40:     void restart(bool& winCondition);
41:
42:     // Performers
43:     void playSound(void);
44:     void visualMoveAssist(sf::RenderTarget& target);
45:     void drawStar(sf::RenderTarget& target, sf::Texture star, int yc, int x
c);
46:
47: private:
48:     // Draw game in SFML
49:     virtual void draw(sf::RenderTarget& target, sf::RenderStates states) co
nst;
50:     // Initialize game storage vectors
51:     void initializeBase(void);
52:     // Automatically king pawns at respective finish lines
53:     void finishLine(void);
54:
55: private:
56:     // 2D array that stores the current game state
57:     vector<vector<char>> currentGameState;
58:     // player turn - 0 is black 1 is red
59:     bool playerTurn = 0;
60:     // if still playing, don't end the game prematurely
61:     bool stillPlaying = 0;
62:     // if unable to move final piece, set win to true
63:     bool setWinTrue = 0;
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64: };
65:
66: // Helper functions
67: bool mouseInGameBounds(sf::Vector2i mouseLocation);
68: void drawBackingRectangle(sf::RenderTarget& target, int x, int y);
69:
70: #endif
```