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1 package packagel;
2
3 import javax.swing.*;
4 import java.awt.*;
5 import java.awt.event.MouseAdapter;
6 import java.awt.event.MouseEvent;
7
8 /**
9  * Created by jon on 1/27/14.
10 */
11 public class MinesweeperPanel extends JPanel {
12     private JButton[][] board;
13     private JButton quitButton;
14     private JButton resetButton;
15     private Cell iCell;
16     private MinesweeperGame game;
17     private static int boardSize = 10;
18     private static int mineCount = 10;
19     private ImageIcon flagIcon;
20     private ImageIcon mineIcon;
21     private ImageIcon unselectedIcon;
22     private ImageIcon[] mineCountIcons;
23     private int winCount;
24     private int loseCount;
25     private int flagCount;
26     private JPanel gamePanel;
27     private JPanel buttonPanel;
28     private JLabel lCounter;
29     private JLabel wCounter;
30     private JLabel fCounter;
31     private MouseListener mouseListener;
32     private boolean cheat;
33
34     /**
35      * constructor for the minesweeper panel
36      */
37     public MinesweeperPanel() {
38         init();
39     }
40
41     /**
42      * removes panels to avoid weird redrawing bug, reinits everything
43      */
44     private void reset() {
45         this.remove(gamePanel);
46         this.remove(buttonPanel);
47         init();
48         this.revalidate();
49         SwingUtilities.updateComponentTreeUI(this.getParent());
50     }
51
52     /**
53      * construct in separate method to allow easy resetting
54      */
55     public void init() {
56         // icons
57         flagIcon = new ImageIcon("icons/flag.png");
58         mineIcon = new ImageIcon("icons/mine.png");
59         unselectedIcon = new ImageIcon("icons/unselected.png");
60         mineCountIcons = new ImageIcon[9];
61         for (int i = 0; i < 9; i++) mineCountIcons[i] = new ImageIcon("
mine" + i + ".png");
62         // show mines in the beginning?
63         if (JOptionPane.showConfirmDialog(null,
64             "Are you a cheater?", "Show mines?",
65             JOptionPane.YES_NO_OPTION) == JOptionPane.YES_OPTION) che
at = true;

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66         // / handle input for size/mines, 10 for default
67         try {
68             boardSize = Integer.parseInt(JOptionPane.showInputDialog("
How large should the board be? (3-30)"));
69             mineCount = Integer.parseInt(JOptionPane.showInputDialog("
How many mines should there be?"));
70         } catch (Exception ignored) {
71         }
72         if (boardSize > 30 || boardSize < 3) boardSize = 10;
73         if (mineCount > boardSize * boardSize - 1 || mineCount < 1) mine
Count = 10;
74         flagCount = 0;
75         // create the game, board, listeners, components
76         game = new MinesweeperGame(boardSize, mineCount);
77         mouseListener = new MouseListener();
78         buttonPanel = new JPanel();
79         buttonPanel.setLayout(new GridLayout(1, 5));
80         gamePanel = new JPanel();
81         quitButton = new JButton("Quit");
82         resetButton = new JButton("Reset");
83         wCounter = new JLabel("W: " + winCount);
84         lCounter = new JLabel("L: " + loseCount);
85         fCounter = new JLabel("Flags: " + flagCount);
86         //add things
87         quitButton.addMouseListener(mouseListener);
88         resetButton.addMouseListener(mouseListener);
89         buttonPanel.add(quitButton);
90         buttonPanel.add(lCounter);
91         buttonPanel.add(wCounter);
92         buttonPanel.add(fCounter);
93         buttonPanel.add(resetButton);
94         gamePanel.setLayout(new GridLayout(boardSize, boardSize));
95         board = new JButton[boardSize][boardSize];
96         // loop that sets all the buttons, icons, listeners, adds to panel
97         for (int row = 0; row < boardSize; row++) {
98             for (int col = 0; col < boardSize; col++) {
99                 board[row][col] = new JButton("");
100                 board[row][col].setPreferredSize(new Dimension(25, 25));
101                 board[row][col].addMouseListener(mouseListener);
102                 board[row][col].setIcon(unselectedIcon);
103                 gamePanel.add(board[row][col]);
104             }
105         }
106         //put it all together
107         gamePanel.setPreferredSize(new Dimension(boardSize * 25, boardSi
ze * 25));
108         add(buttonPanel);
109         add(gamePanel);
110         displayBoard();
111     }
112
113     /**
114      * renders the board by setting the icons
115      */
116     private void displayBoard() {
117         flagCount = 0;
118         for (int row = 0; row < boardSize; row++) {
119             for (int col = 0; col < boardSize; col++) {
120                 iCell = game.getCell(row, col);
121                 if (iCell.isExposed()) {
122                     board[row][col].setIcon(mineCountIcons[iCell.getMine
Count()]);
123                     continue;
124                 }
125                 if (iCell.isFlagged()) {
126                     board[row][col].setIcon(flagIcon);
127                     flagCount++;

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128         } else {
129             board[row][col].setIcon(unselectedIcon);
130         }
131         if (cheat) if (iCell.isMine() && !iCell.isFlagged()) board[row][col].setIcon(mineIcon);
132     }
133 }
134 //labels
135 wCounter.setText("W: " + winCount);
136 lCounter.setText("L: " + loseCount);
137 fCounter.setText("Flags: " + flagCount);
138 }
139
140 /**
141  * shows everything on lose
142  */
143 private void displayAllMines() {
144     for (int row = 0; row < boardSize; row++) {
145         for (int col = 0; col < boardSize; col++) {
146             game.select(row, col);
147             iCell = game.getCell(row, col);
148             if (iCell.isMine()) {
149                 board[row][col].setIcon(mineIcon);
150             } else if (!iCell.isFlagged()) {
151                 board[row][col].setIcon(mineCountIcons[iCell.getMine
Count()]);
152             }
153         }
154     }
155 }
156
157
158
159 /**
160  * listener to detect clicks, handle actions
161  */
162 class MouseListener extends MouseAdapter {
163     public void mouseReleased(MouseEvent e) {
164         if (e.getSource() == quitButton) System.exit(0);
165         if (e.getSource() == resetButton) reset();
166         if (e.getButton() == 3) {
167             for (int row = 0; row < boardSize; row++)
168                 for (int col = 0; col < boardSize; col++)
169                     if (board[row][col] == e.getSource()) {
170                         game.flag(row, col);
171                     }
172             } else {
173                 for (int row = 0; row < boardSize; row++)
174                     for (int col = 0; col < boardSize; col++)
175                         if (board[row][col] == e.getSource()) {
176                             game.select(row, col);
177                         }
178             }
179         //game statuses
180         if (game.getGameStatus() == GameStatus.LOST) {
181             loseCount++;
182             displayAllMines();
183             return;
184         }
185         displayBoard();
186         if (game.getGameStatus() == GameStatus.WON) {
187             if (!cheat) winCount++;
188             JOptionPane.showMessageDialog(null, "You Win!");
189         }
190     }
191 }
192 }

```