Minesweeper Documentation

EC1 Mini project

Group members

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The code can be divided into 2 parts:

1. The menu, where a user is prompted for difficulty settings (game field size, and amount of bombs).
2. The game itself.

The menu

The Menu is a simple FXML file, controlled by basic Controller class. The main functionality of the menu is to get the difficulty setting, and use that setting to create a scene, in which the game can be placed.

The game

The game itself is represented by a GameGrid, a GridPane extension. GameGrid is the root of the game-scene, and contains a 2D FieldButton grid, a custom Button-type. GameGrid handles basic game-logic by keeping track of the number of bombs that have not been flagged, as well as the number of tiles that have been revealed. GameGrid is also contains the EventHandler and distributes said handler to all buttons in the grid. The minesweeper cascade function is also implemented here.

FieldButton is representative of a single button in the game. FieldButton functions mainly as a data-vault comprised of the location, state and style for itself. FieldButtons incorporates an FSM to keep track of which state they are in. The states pertain to game-logic and uses the enumerated type BtnState (defined in FieldButton). The states are represented graphically by CSS-styles tied to each relevant state.

The overall structure

The game is structured around being a grid of specialized, interactable fields that change states depending on their internal values and outside interaction(mouse clicks). The fields themselves are simple data collections, while the grid itself handles game logic.