Sprint 1 Challenge

We will start by implementing a Mine Sweeper game, then we will implement a Sokoban game, Wow! Can you do that? Let us see then.

Important note about priority: some of you will only have time to complete part of the challenge, this is fine, make the best of your time and try to enjoy.

In case you do not manage to complete all features on time – select the important subset of features that still present the "core" idea of the games.

Complete Mine Sweeper (not including bonus) before you start implementing Sokoban.

So, first thing first, build the mine sweeper.

Mine Sweeper

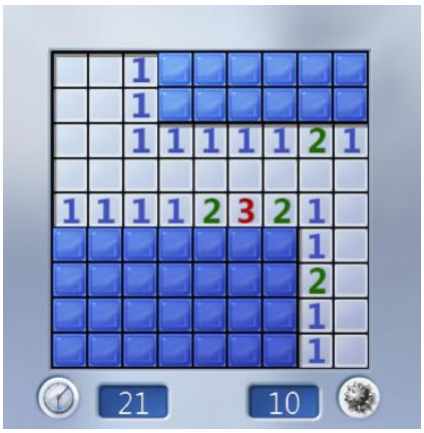
Blow your Mind

Preview

Your challenge is to create the Minesweeper game, and it's not an easy one. Let's practice some breaths.

Good.

Play the game a little bit and relax



It’s a good thing we studied about Matrixes. Isn’t it?

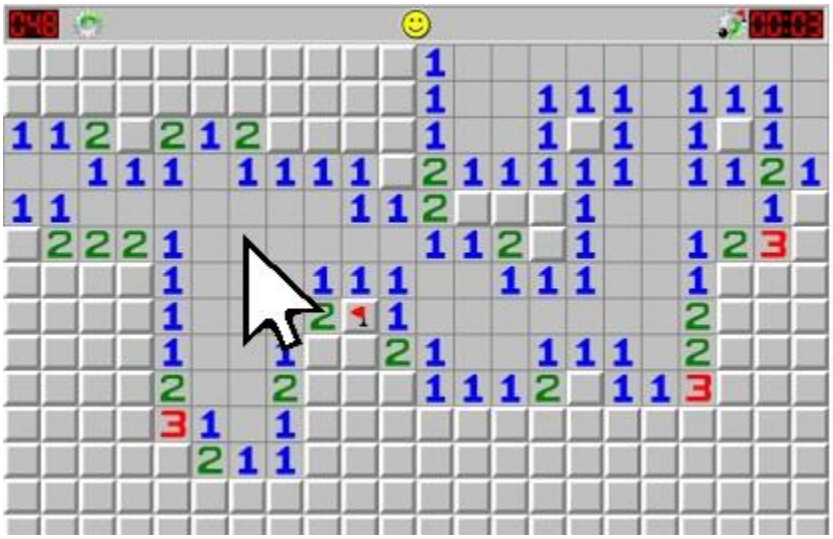
Features:

- Minesweeper functionality based on the reference game
- Right click to flag/unflag a suspected cell
- game ends when:
    - user clicked a bomb
    - all the mines are flagged and all the other cells are shown
- Support 3 levels of the game
    - Beginner (4*4 with ~2 MINES)
    - Medium (6 * 6 with ~5 MINES)
    - Expert (8 * 8 with ~15 MINES)
- If you have the time, take freedom with the design and try giving it a nice shape.

About Expanding

Expanding a cell to 2 levels:

Full expand like in the real game (BONUS):



Development - Tips and Guidelines

As you know, there is usually more than one way to approach a challenge.

But as a guideline, we suggest having the following functions (it is ok to have more functions as needed).

`initGame()`	This is called when page loads
`buildBoard()`	Builds the board by setting mines at random locations, and then calling the setMinesNegsCount() Then return the created board
`setMinesNegsCount(board)`	Sets mines-count to neighbours
`renderBoard``(board)`	Print the board as a <table> to the page
`cellClicked(elCell, i, j)`	Called when a cell (td) is clicked
`cellMarked``(elCell)`	Called on right click to mark a cell as suspected to have a mine
`checkGameOver()`	Game ends when all mines are marked and all the other cells are shown
`expandShown``(board, elCell, i, j)`	When user clicks an empty place (0 negs), we need to open not only that cell, but also its neighbors.

	TIP: At this point you might find yourself giving each cell an id (or a class) that looks like that: *"cell-3-2"* (3 and 2 are just examples) NOTE: start with a basic implementation that only opens the two-level neighbors BONUS: if you have the time later, try to work more like the real algorithm.

Here are the **globals** you might be using:

gBoard – Matrix contains cell objects:
 	
{
bombsAroundCount: 4,
isShown: true,
isBomb: false,
isMarked: true,
 	
}
	The model

gLevel = {
SIZE: 4,
MINES: 2
};
	This is an object by which the board size is set (in this case: 4*4), and how many mines to put

gState = {
isGameOn: false,
shownCount: 0,
markedCount: 0,
secsPassed: 0
}
	This is an object in which you can keep and update the current state:
	isGameOn – boolean, when true we let the user play
	shownCount: how many cells are shown
	markedCount: how many cells are marked (with a flag)
	secsPassed: how many seconds passed

Next Steps

1. Make sure the first clicked cell is never a bomb (like in the real game)
   HINT: place the mines and count the neighbors only on first click.
2. Keep the best score in local storage (per level) and show it on the page
3. Add this section:

Implement the following states on the smiley:

- Normal
- Sad & Dead – stepped on a bomb
- Sunglasses – Victory