

Sprint 1 Challenge

Mine Sweeper

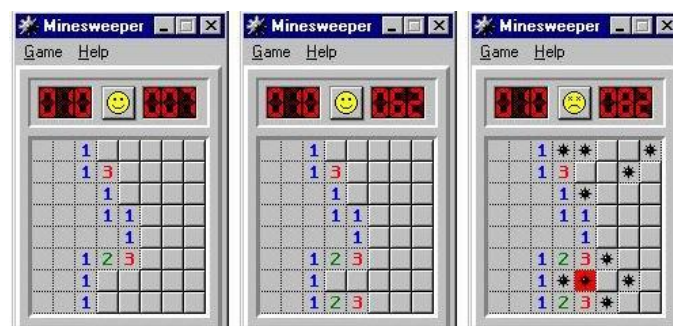
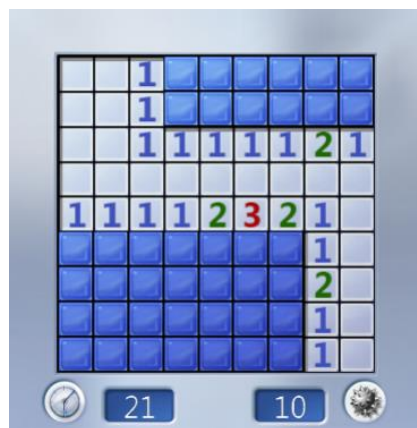
Blow your Mind

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:

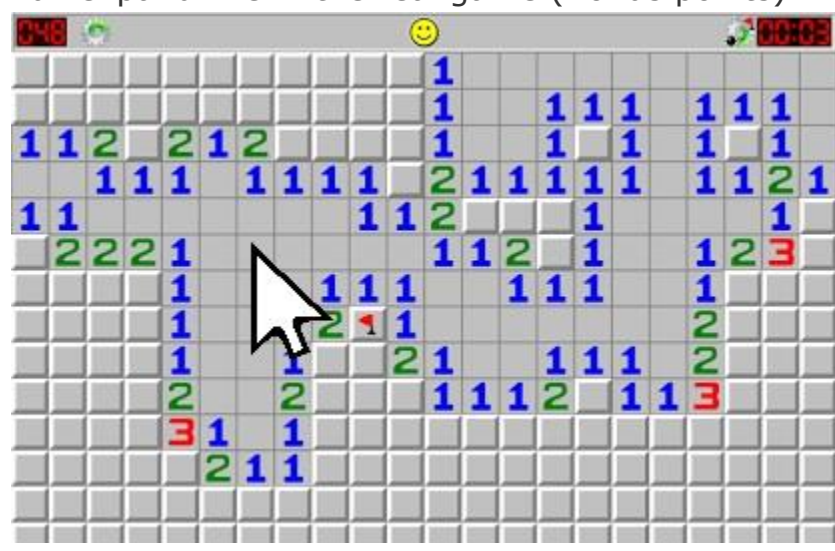
- Minesweeper functionality based on the reference game
- Show a timer that starts on first click (right / left) and stops when game is over.
- Left click reveals a cell
- Right click to flag/unflag a suspected cell (you cannot reveal a flagged cell)
- When clicking a mine, all mines should be revealed
- game ends when:
 - user clicked a mine
 - 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 (8 * 8 with 12 MINES)
 - Expert (12 * 12 with 30 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 points):



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).

<code>initGame()</code>	This is called when page loads
<code>buildBoard()</code>	Builds the board Set mines at random locations Call <code>setMinesNegsCount()</code> Return the created board
<code>setMinesNegsCount(board)</code>	Sets mine's count to mine's neighbors
<code>renderBoard(board)</code>	Render the board as a <code><table></code> to the page
<code>cellClicked(elCell, i, j)</code>	Called when a cell (td) is clicked
<code>cellMarked(elCell)</code>	Called on right click to mark a cell (suspected to be a mine)
<code>checkGameOver()</code>	Game ends when all mines are marked and all the other cells are shown
<code>expandShown(board, elCell, i, j)</code>	When user clicks a cell with no mines around, we need to open not only that cell, but also its neighbors.

	<p>NOTE: start with a basic implementation that only opens the two-level neighbors</p> <p>BONUS: if you have the time later, try to work more like the real algorithm.</p>
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Here are the **globals** you might be using:

<p><code>gBoard</code> - Matrix contains cell objects:</p> <pre>{ minesAroundCount: 4, isShown: true, isMine: false, isMarked: true, }</pre>	<p>The model</p>
<pre>gLevel = { SIZE: 4, MINES: 2 };</pre>	<p>This is an object by which the board size is set (in this case: 4*4), and how many mines to put</p>
<pre>gGame = { isOn: false, shownCount: 0, markedCount: 0, secsPassed: 0 }</pre>	<p>This is an object in which you can keep and update the current game state:</p> <ul style="list-style-type: none"> <code>isOn</code> - boolean, when true we let the user play <code>shownCount</code>: how many cells are shown <code>markedCount</code>: how many cells are marked (with a flag) <code>secsPassed</code>: how many seconds passed

Next Steps

1. Make sure the first clicked cell is never a mine (like in the real game)

HINT: place the mines and count the neighbors only on first click.

2. Add support for "LIVES":
 - a. The user has 3 LIVES:



- b. When a MINE is clicked, there is an indication to the user that he clicked a mine. The LIVES counter decrease. The user can continue playing.

3. Add smiley :

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

4. Make it look nice
5. Bonus: Keep the best score in [local storage](#) (per level) and show it on the page
6. Bonus: Open not only "two-level neighbors" around but all which is NOT a number or a MINE (as is done at [the game](#))
7. Bonus: Add support for hints:

- a. The user has 3 hints:



- b. When a hint is clicked, there is an indication to the user that he can safely click one (unrevealed) cell and *reveal* it and its neighbors for a second.
- c. The clicked hint disappears.

Rules & Delivery Schedule

In this sprint we will work alone, please respect the rules!

1. First day 8:30pm - Partial
2. Second day 8:30pm – Final
3. Saturday night 10pm - Optional