Here is how the Game web page looks like.

The universe of the Game of Life or Conway’s Game of Life is a two-dimensional grid, in which cells can have 2 states alive or dead (so, the blue cells are alive and white are dead). The game is defined by a set of rules that determine the state of a cell in the next generation depending on a current state of its neighbors. For example, if a live cell has more than 3 neighbors, it dies in the next generation, if dead cell has exactly 3 live neighbors it become alive in the next generation and so on.

The Game of life is a zero-player game where a player interacts with the game by creating an initial configuration of the grid only and then observing how it evolves.

The project consists of 3 files: Javascript, HTML and CSS.

Javascript file is where all the magic happens. The code consists of a bunch of functions that call each other, but the main function is playTheGame() function. It calls drawTheGrid() function that draws current grid to the HTLM canvas (The HTML <canvas> element is used to draw graphics on a web page.), then it loops through every cell, determines cell status in the next generation and saves it in the new grid. Then this function determines keypresses on a keyboard with a switch statement. The last step is calling on requestAnimationFrame(playTheGame) function, which is basically javascript built in function that allows us to create animation by sending callback function containing the code we wish to run as a parameter and requestAnimationFrame() will run it when the screen is ready to accept the next screen repaint. So, we call playTheGame recursively and it does all these steps again and calls requestAnimationFrame(), so this function will be looping infinitely until we quit the game.

The HTML code splits the web page into 2 vertical sections, the leftside displays the canvas with the grid and rightside has 2 buttons with dropdown text blocks.

The CSS part is all about styling, it sets colors, font sizes, text align and so on.

There is 2 buttons. When you click on The Rules of Life button, you’ll see a dropdown block with the set of rules for cells, so the player’ll have understanding how this little universe lives.

When you click on Let’s Play button dropdown block with the set of instruction for trying different patterns for alive and dead cell on the grid. To play you’ll need to press a certain key.

Here are some examples of interesting patterns of life.