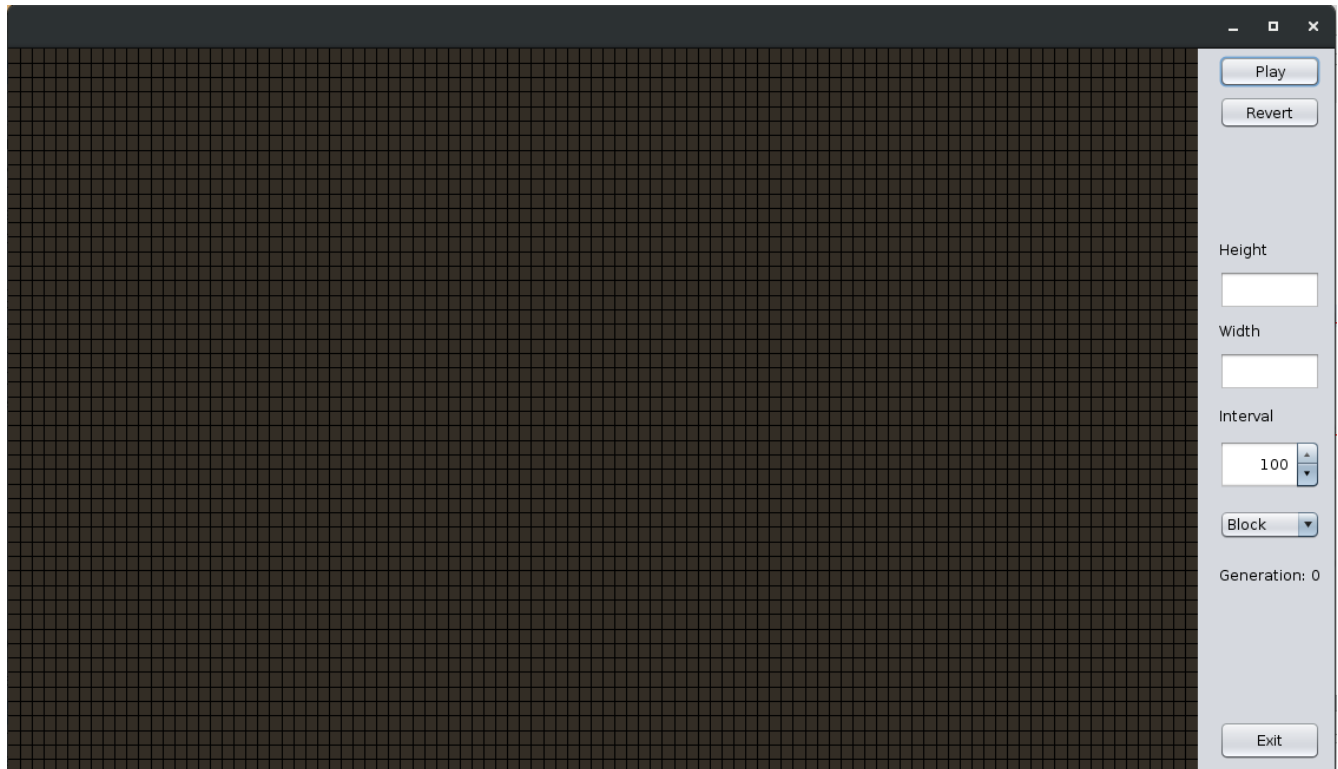


Conway's Game of Life Project

Java Project for MFF UK under Assoc. Prof. Petr Hnětynka
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By Alexandru Buhai



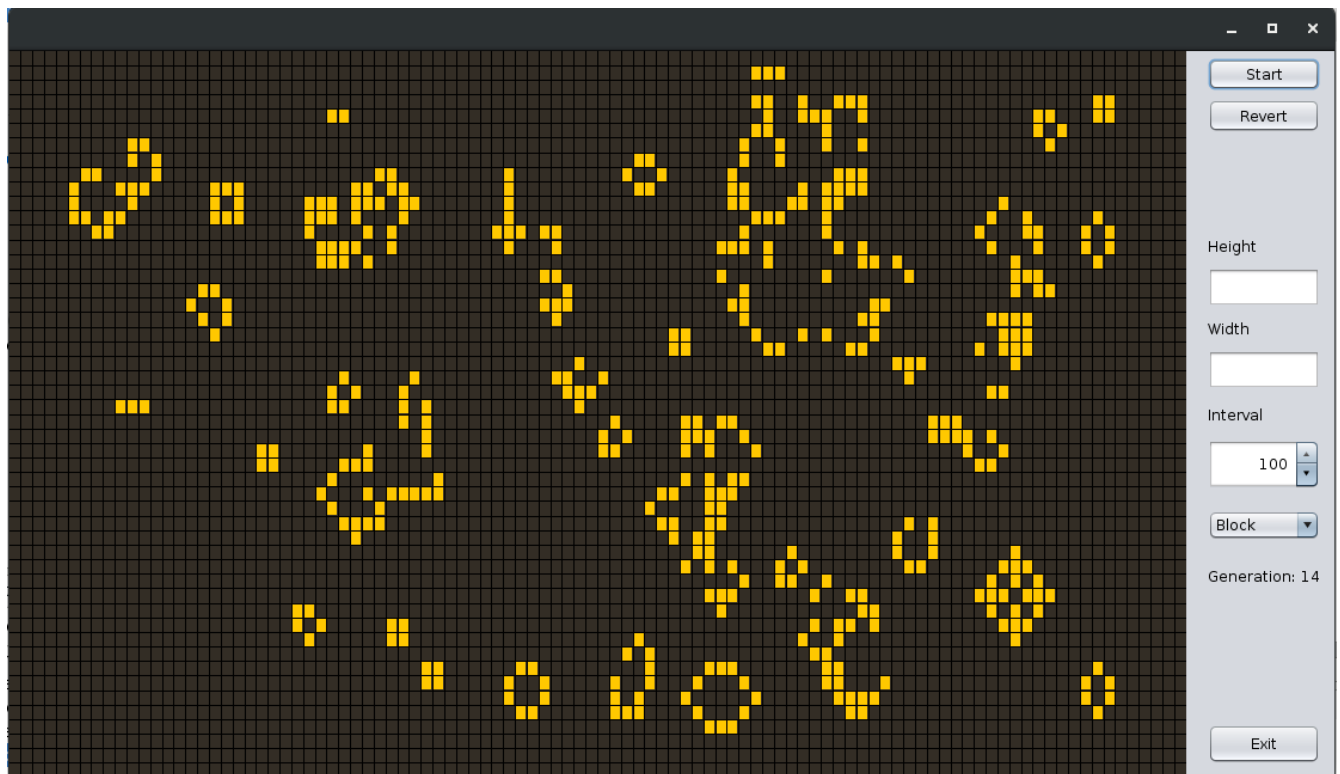
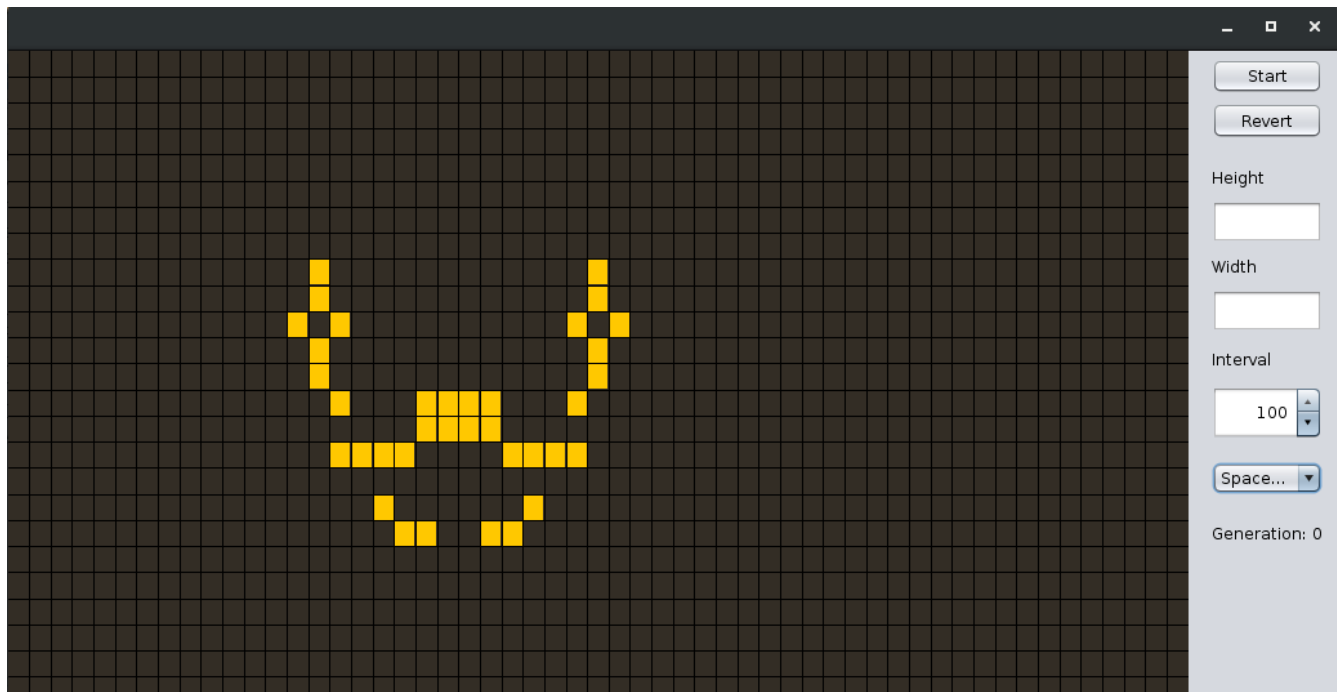
Conway Game of life is a simple zero player game, it has an infinite two-dimensional orthogonal grid of square cells, each of which is in one of two possible states, alive or dead, or "populated" or "unpopulated". Every cell interacts with its 8 neighbors based on 4 rules:

1. Any live cell with fewer than two live neighbors dies, as if caused by under population.
2. Any live cell with two or three live neighbors lives on to the next generation.
3. Any live cell with more than three live neighbors dies, as if by overpopulation.
4. Any dead cell with exactly three live neighbors becomes a live cell, as if by reproduction.

Those 4 simple rules allow us to observe interesting patterns and seemingly life.

To “play” the game you have to hit the Play button. After that the play button changes the text to “Start”. Now you can draw your own pattern on the panel (by holding mouse click and dragging over the squares) or choose one from the selector below. To change the size of the grid, you can add the number you choose into the Height and Width text boxes. Initial is 100 width x 50 height, and I recommend to be under 300 since anything more will make the grid unusable. The interval Spinbox is there to change the timer interval. This can be done dynamically while game is playing.

After pressing the start button, it's text will change to "Pause" and the game will be underway, with every box being able to change it's state according to the 4 rules. You can press the Pause button to stop the timer and allow you to interact with the board.



Things that don't work or still have to be done:

- More rigorous checks in regards to the Height and Width TextFields, such that letters cannot be added
- Extra skins and customization, like changing the color of the squares or grid
- Extra Threads – for improved performance

References:

Wikipedia:

https://en.wikipedia.org/wiki/John_Horton_Conway

https://en.wikipedia.org/wiki/Conway%27s_Game_of_Life