

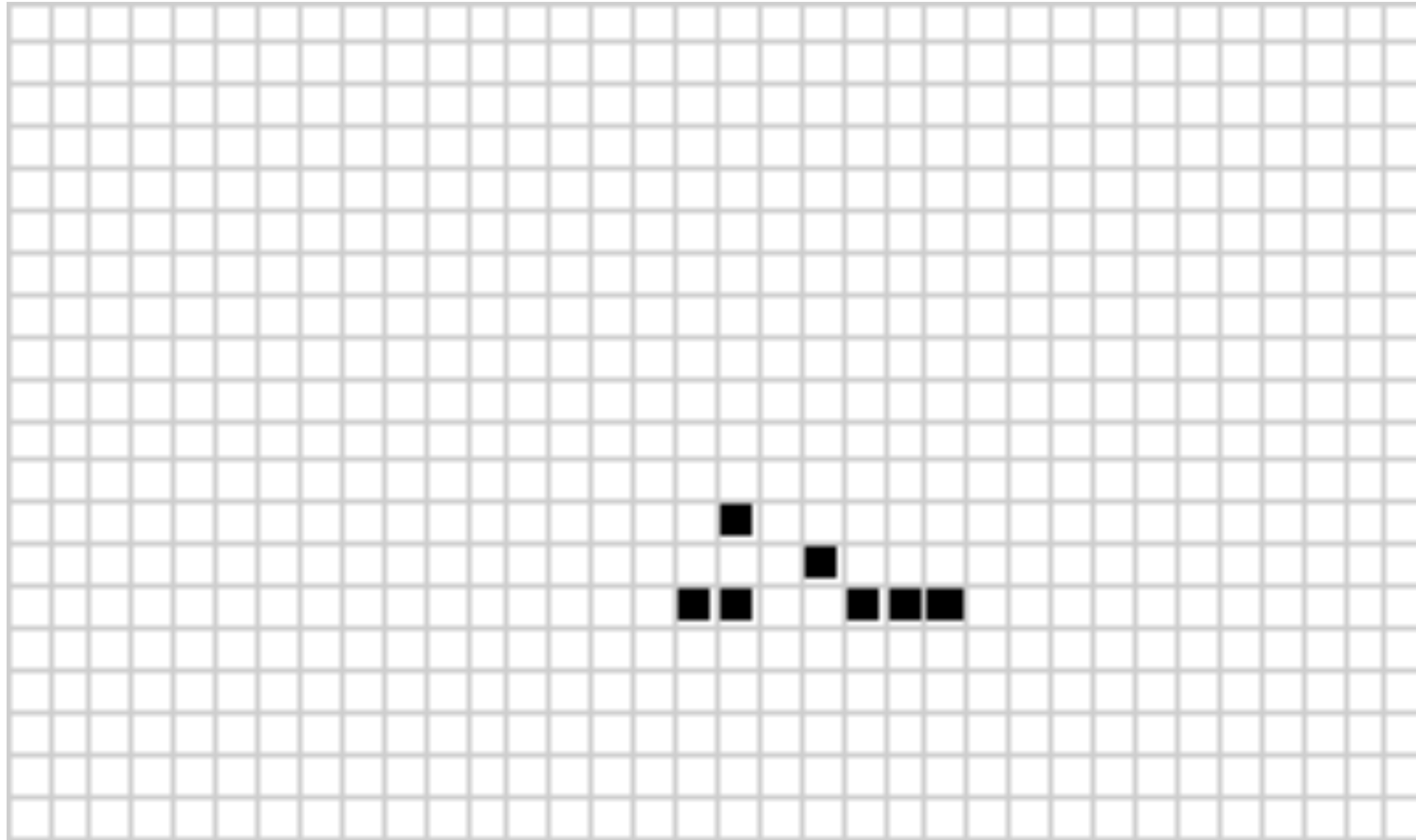
GAME OF LIFE

Skynet alpha?



ERICK OH

GAME OF LIFE



[HTTP://WWW.ERICWEISSTEIN.COM/ENCYCLOPEDIAS/LIFE/ACORN.HTML](http://www.ericweisstein.com/encyclopedias/life/acorn.html)

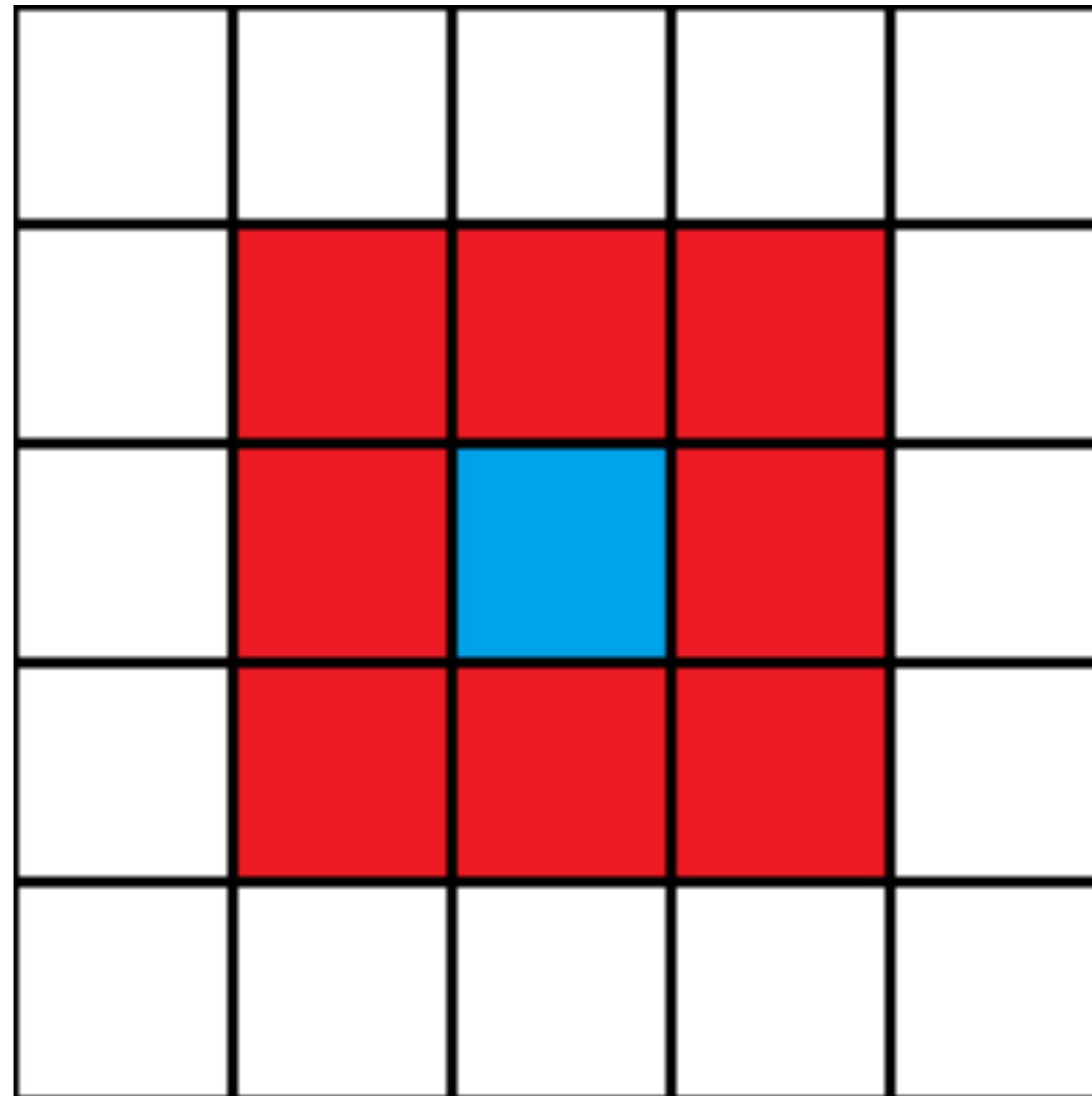
GAME OF LIFE

- “Zero-player” game (see *animation*)
- Rooted in Von Neumann’s quest for artificial/simulated life
- Created by Jon Conway in 1970
- Sparked niche field: **cellular automaton**
- Simple rules can produce complex behavior

RULES

- ◉ 2D grid of cells that are currently on or off (dead or alive)
- ◉ Each step, grid updates all-at-once
- ◉ Currently alive cell
 - ◉ “Underpopulation”: dies given fewer than 2 live neighbors
 - ◉ “Overcrowding”: dies given greater than 3 live neighbors
 - ◉ Otherwise, lives on
- ◉ Currently dead cell
 - ◉ “Birth”: comes to life given exactly 3 live neighbors
 - ◉ Otherwise, remains dead

NEIGHBORS



[HTTPS://EN.WIKIPEDIA.ORG/WIKI/CELLULAR_AUTOMATON](https://en.wikipedia.org/wiki/Cellular_Automaton)

PAIRPROJECT

A SLIGHTLY LESS DIRECTIVE, LONGER AND MORE DIFFICULT WORKSHOP.

MANIPULATING THE DOM

- Changing Attributes for Style
- Making Elements
- Putting them into the DOM
- Remove Elements

CHANGING CSS CLASSES

- *classList* is HTML5 way to modify which classes are on an

```
document.getElementById( "MyElement" ).classList.add( 'class' );
```

```
document.getElementById( "MyElement" ).classList.remove( 'class' );
```

```
if ( document.getElementById( "MyElement" ).classList.contains( 'class' ) )
```

```
document.getElementById( "MyElement" ).classList.toggle( 'class' );
```

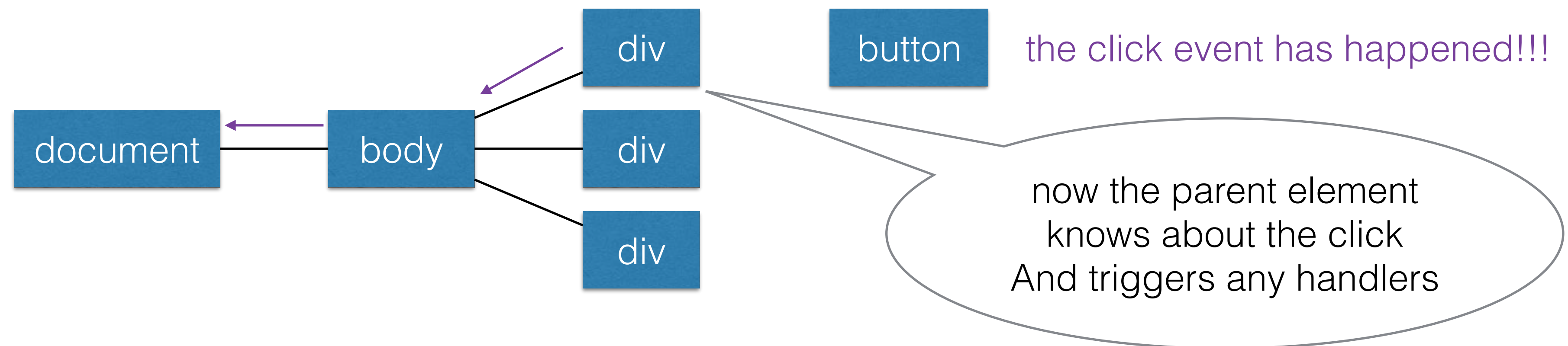

EVENT HANDLERS

```
element.addEventListener('click', function(event) {  
    // Run this code on click  
});
```

- JS that handles things that happen in the DOM
- Event examples:
 - click
 - (form) submit
 - hover
 - mouseover

EVENT PROPAGATION/BUBBLING

- An event is directed to its intended target
- If there is an event handler it is triggered
- From here, the **event** *bubbles* up to the containing elements
- This continues to the document element itself



WORKSHOP TIME