

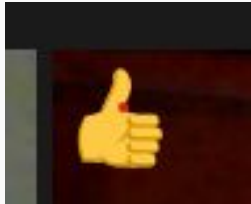
Harmony Tech Camp 2021

Pokemon Phaser - Special thanks to Devoxx4kids

Slides by Mark Waite (derived from Alex Wilk's Devoxx4Kids original work)
Source code at <https://github.com/MarkEWaite/pokemon-phaser>

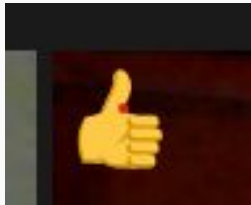
Let's Check that You're Ready

- We need to know that you're ready
- We need to see a "Thumbs up"
- Thumbs up in Zoom now



Let's Play a Game!

- Open <http://bit.ly/mw-pokemon>
- Catch the Pokemon
- Thumbs up in Zoom after first catch

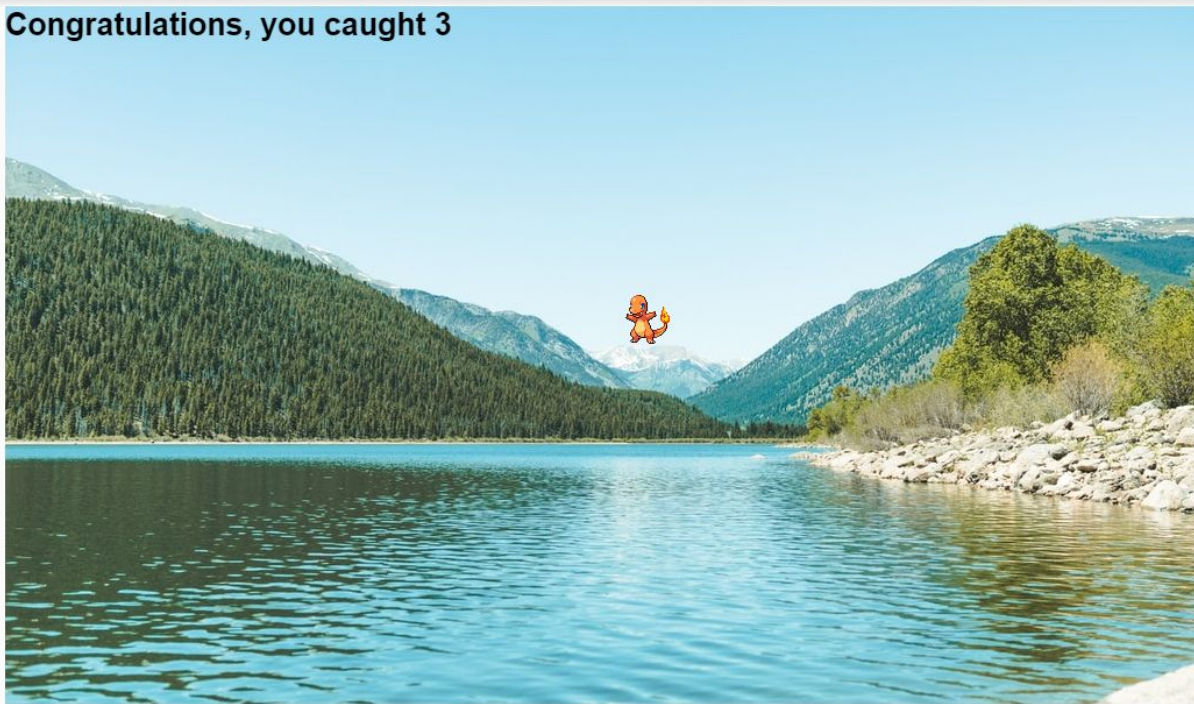


<http://bit.ly/mw-pokemon>

Let's Play a Game!

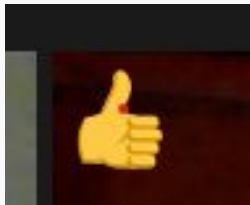
What happens when you reload the page?

Congratulations, you caught 3



Let's See the Game Code

- Open <http://bit.ly/mw-code> or <https://jsfiddle.net/5v8yfo0e/>
- Thumbs up in Zoom when you see it



<http://bit.ly/mw-game>

Let's See the Game Code

Code & game
together

The screenshot shows a Fiddle editor interface with the following content:

- Fiddle meta:** Pokemon Phaser, Pokemon Phaser game for Harmony Tech Camp, Private fiddle EXTRA.
- HTML:**

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <title>Catch a Pokemon</title>
5 <!-- Download the phaser Javascript from cdn.jsdelivr.net
6 <script src="https://cdn.jsdelivr.net/npm/ Phaser-ce@2.7.
9/build/Phaser.min.js"></script>
7 <!-- Use main.js from the current directory -->
8 <script type="text/javascript" src="main.js"></script>
9 </head>
10
11 <body>
12 <div style="cursor: url('https://github.com/devvox4kids/m
aterials/raw/master/workshops/pokemon-phaser/en/app/assets/po
keball32.png') 24 24, default;"
13 <div id="gameContainer"></div>
14 </body>
15 </html>
```
- CSS:** (Empty)
- JavaScript + No-Library (pure JS):**

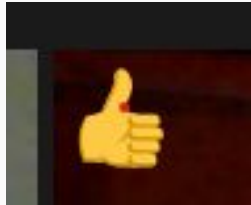
```
1 // Initialize Phaser, and create a game
2 var screenWidth = 1024;
3 var screenHeight = 600;
4 var game = new Phaser.Game(screenWidth, screenHeight, Phas
er.CANVAS, 'gameContainer');
5
6 var updatesCounter = 0;
7 var caughtPokemons = 0;
8 // var score = 0;
9 var message = null;
10
11 // See https://www.pokemon.com/us/pokedex/ for the associat
ion of Pokemon to number
12 var pokedexData = {
13   'bulbasaur': 1,
14   'ivysaur': 2,
15   'venusaur': 3,
16   'charmander': 4,
17   'charmeleon': 5,
18   'squirtle': 7,
19   'wartortle': 8,
```
- Preview:** A window showing the game output: "Congratulations, you caught 0" over a landscape image.
- Footer:** Anima logo and text: "Anima saves you time by translating design into workable React code".

What is the Game Code?

- HTML - web page
- Javascript - programming language

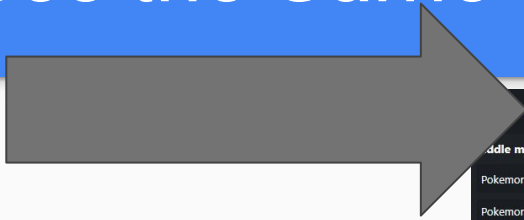
Let's Play the Game with the Code

- Press “Run” to play
- Thumbs up in Zoom after first catch



<http://bit.ly/mw-game>

Let's See the Game Code



Press "Run"
to play

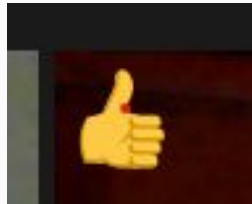
The screenshot shows a Fiddle code editor with the following content:

- HTML:** A basic HTML5 boilerplate with a title "Catch a Pokemon" and two script tags. One script tag loads Phaser from a CDN, and the other loads a local "main.js" file.
- CSS:** A single rule for a "gameContainer" with a cursor style.
- JavaScript (No-Library):** Code that initializes Phaser, sets screen dimensions, creates a game instance, and defines a pokedexData array with Pokemon names and IDs.

The preview window on the right displays a landscape image with the text "Congratulations, you caught 0".

Let's Change the Game

- Find a Pokemon name
- Replace it in createPokemon function
 - Line 73-74 - `sprite(horizontal, vertical, 'charmander');`
- Press “Run” to play again



Find a Pokemon name



pokedexData
has names

```
JavaScript + No-Library (pure JS) ▼
 9  var message = null;
10
11  // See https://www.pokemon.com/us/pokedex/ for the associat
    ion of Pokemon to number
12  ▼ var pokedexData = {
13    'bulbasaur': 1,
14    'ivysaur': 2,
15    'venusaur': 3,
16    'charmander': 4,
17    'charmeleon': 5,
18    'squirtle': 7,
19    'wartortle': 8,
20    'metapod': 11,
21    'butterfree': 12
22  };
23
24  // Create our 'main' state that will contain the game
25  ▼ var mainState = {
26
27  ▼ preload: function() {
28    game.load.crossOrigin = 'anonymous';
29  }

```

A screenshot of a code editor with a dark background. The code is written in JavaScript. It includes a variable 'message' set to null, a comment about the Pokemon website, and a 'pokedexData' object with names and numbers. There is also a 'mainState' object with a 'preload' function. A vertical scrollbar is on the right. A partial view of a 'Cong' message is visible on the far right edge.

Replace the Pokemon Name

Put Pokemon
name here

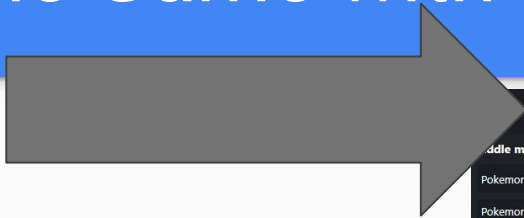


```
JavaScript + No-Library (pure JS) ▼
--
69 // 'bulbasaur', 'ivysaur', 'venusaur', 'charmander',
70 // 'charmeleon', 'squirtle', 'wartortle', 'metapod', 'but
   terfree'
71
72 // Display the Pokemon on the screen
73 var pokemon = game.add.sprite(horizontal, vertical,
74                               'charmander');
75
76 // Enables all kind of input actions on this image (click, etc)
77 pokemon.inputEnabled = true;
78
79 // Do stuff when the mouse is clicked over the Pokemon
80 ▼ pokemon.events.onInputDown.add(function() {
81     caughtPokemons++;
82     // score += 100;
83     // score += Math.round(pokemon.body.speed);
84     pokemon.destroy();
85 }, this);
86
87 // Do stuff when the cursor is hovering over the Pokemon
88 ▼ pokemon.events.onInputOver.add(function() {
```



<http://bit.ly/mw-game>

Play the Game with the new Pokemon



Press "Run"
to play

The screenshot shows a Fiddle code editor with the following content:

- HTML:** A basic HTML structure with a title "Catch a Pokemon" and a script tag for "phaser-ce@2.7.9/build/phaser.min.js". It also includes a script tag for "main.js" and a body with a div for the game container.
- CSS:** A single line of CSS: `div { cursor: url("https://github.com/devvox4kids/materials/raw/master/workshops/pokemon-phaser/en/app/assets/pokeball32.png") 24 24, default; }`
- JavaScript (No-Library):** A game initialization script that sets screen dimensions, creates a Phaser game instance, and defines a pokedexData array with the following Pokemon: bulbasaur, ivysaur, venusaur, charmander, charmeleon, squirtle, and wartortle.

The game output area displays the message: "Congratulations, you caught 0".

Experiment Time

- Move horizontally
- Choose a different background image
- Gravity - how fast Pokemon accelerate
- Start from a different location
- Choose a different Pokemon each time
- Choose a random Pokemon

Move horizontally

```
+ No-Library (pure JS) ▼  
  f, this);  
  
  // Do stuff when the cursor is hovering over the Pokemon  
  pokemon.events.onInputOver.add(function() {  
  }, this);  
  
  pokemon.checkWorldBounds = true;  
  pokemon.events.onOutOfBounds.add(function() {  
    // score = Math.max(0, score-100);  
    pokemon.destroy();  
  }, this);  
  
  // Add gravity to the pokemon to make it fall  
  game.physics.arcade.enable(pokemon);  
  pokemon.body.gravity.y = 300;  
  pokemon.body.gravity.x = 43;  
};  
  
// Add and start the 'main' state to start the game  
game.state.add('main', mainState);  
game.state.start('main');
```

Add a line:

`pokemon.body.gravity.x = 43`



<http://bit.ly/mw-game>

<https://jsfiddle.net/5v8yfo0e/>

Experiment Time

- Move horizontally
- Gravity - how fast Pokemon accelerate
- Start from a different location
- Add scoring based on difficulty of the catch
- Choose a different Pokemon each time
- Choose a random Pokemon

Source code for the game

<https://github.com/MarkEWaite/pokemon-phaser>