

Aug 29, 2013

A step-by-step guide to creating a simple arcade game in JavaScript.

Hello.

HUGE

Agenda:

- 1. Init**
- 2. Concept**
- 3. Demo**
- 4. goto 2.**

Intro.

Mims H. Wright

is a Principal Web Developer at **Huge** Los Angeles. He's been a programmer for 12+ years. He has made a handful of games and would love to make more.

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**Game
Concepts.**

Warning:
Sloppy code ahead!

Level 1.

Game Loop.

**Game loop is the heart
of every game.**

init



update

loop

wait

draw



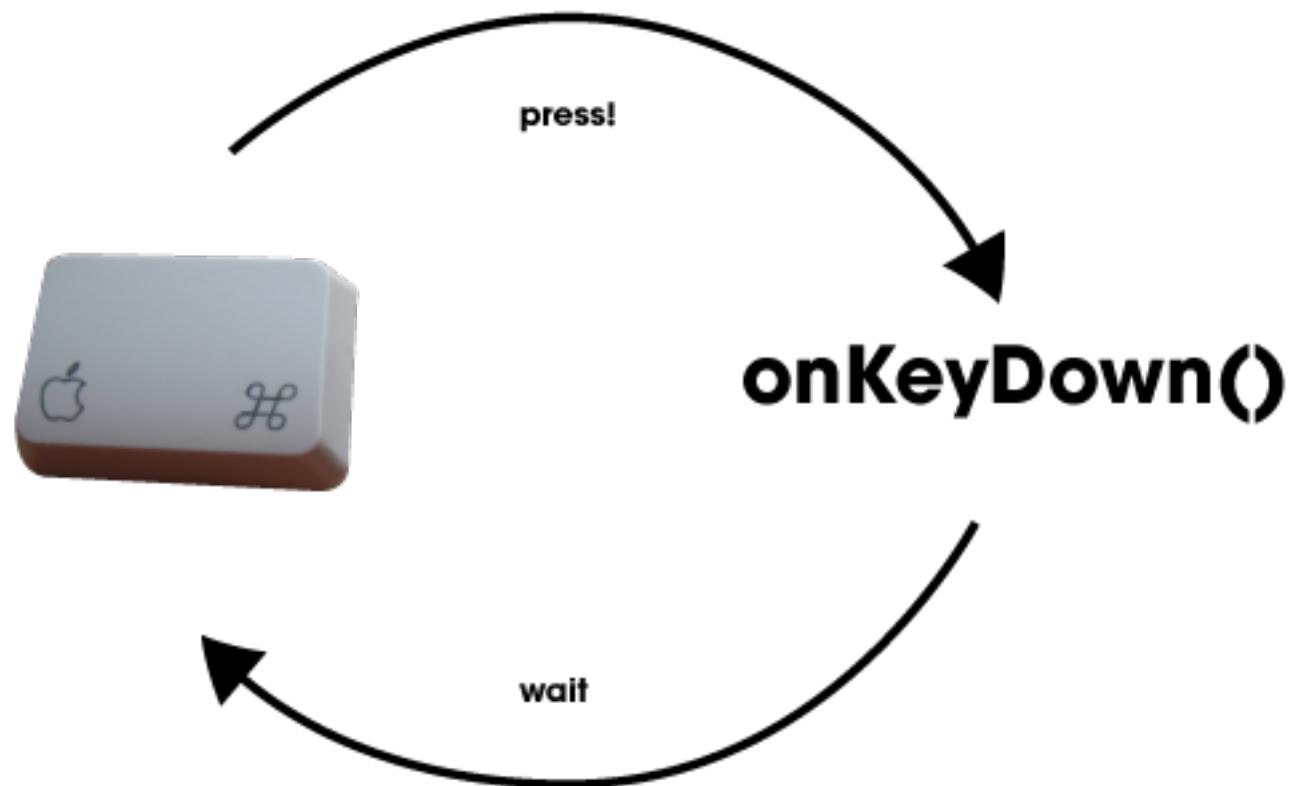
exit

Demo.

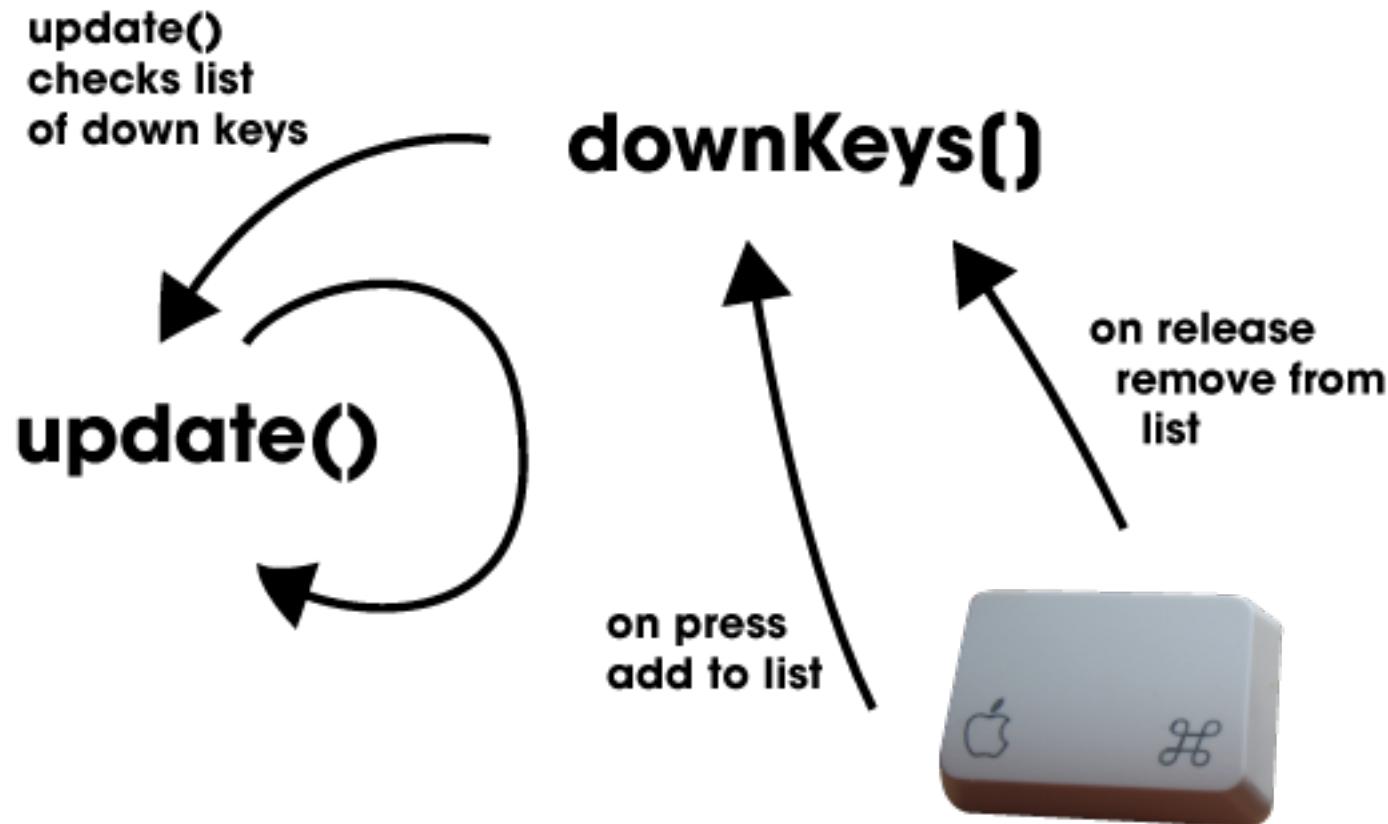
Level 2.

Keyboard.

Push Method (event-driven)



Pull Method (polling)



Hint:
**This already happens
behind the scenes.**

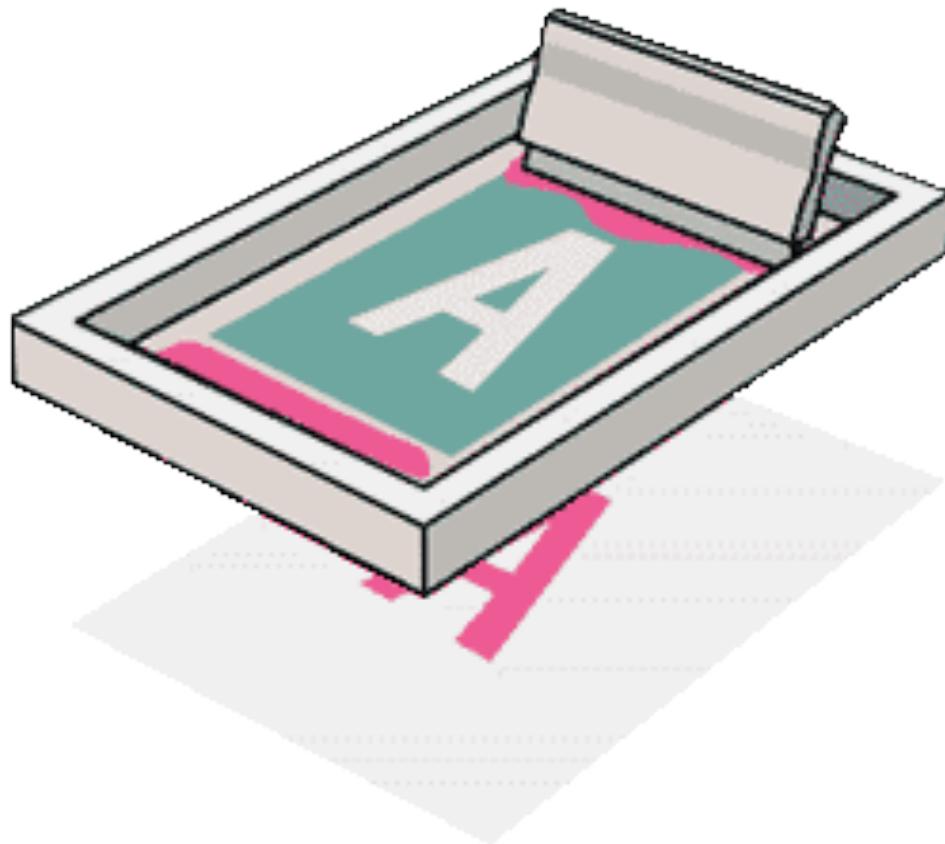
keymaster.js
**[https://github.com/madroddy/
keymaster](https://github.com/madroddy/keymaster)**

Demo.

Level 3.

Bitmaps.

drawImage()



Demo.

Level 4.

Bullets.

Bullets.

- Basically just elements / enemies.
- Very short life-span (usually die on impact.)
- Collide with other elements to deal damage.
- Usually originate from another element.

Bullet Manager.

- Tracks the bullets.
- Updates and draws bullets.
- Removes dead bullets.

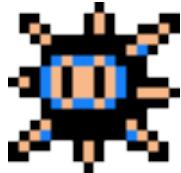
Demo.

Level 5.

Enemies.

Enemies.

- Elements controlled by AI.
- Collide with other elements to deal damage.
- Can be simple.



- Or Complex.



Our Enemy Sprite.



Level 6.

Sprite Sheets.

Sprite Sheets.

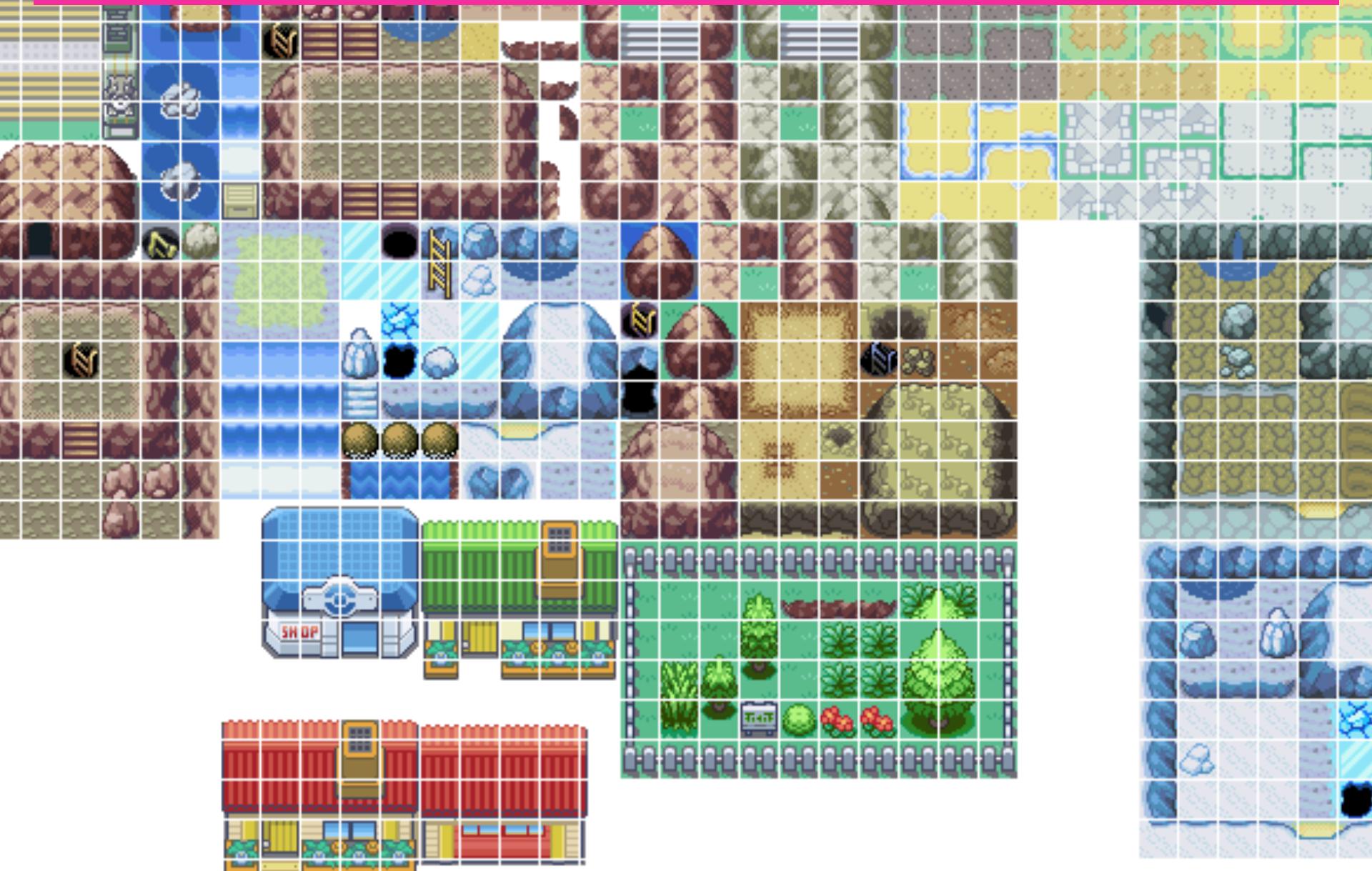
Frame 1



Frame 2



Also used for backgrounds.



Demo.

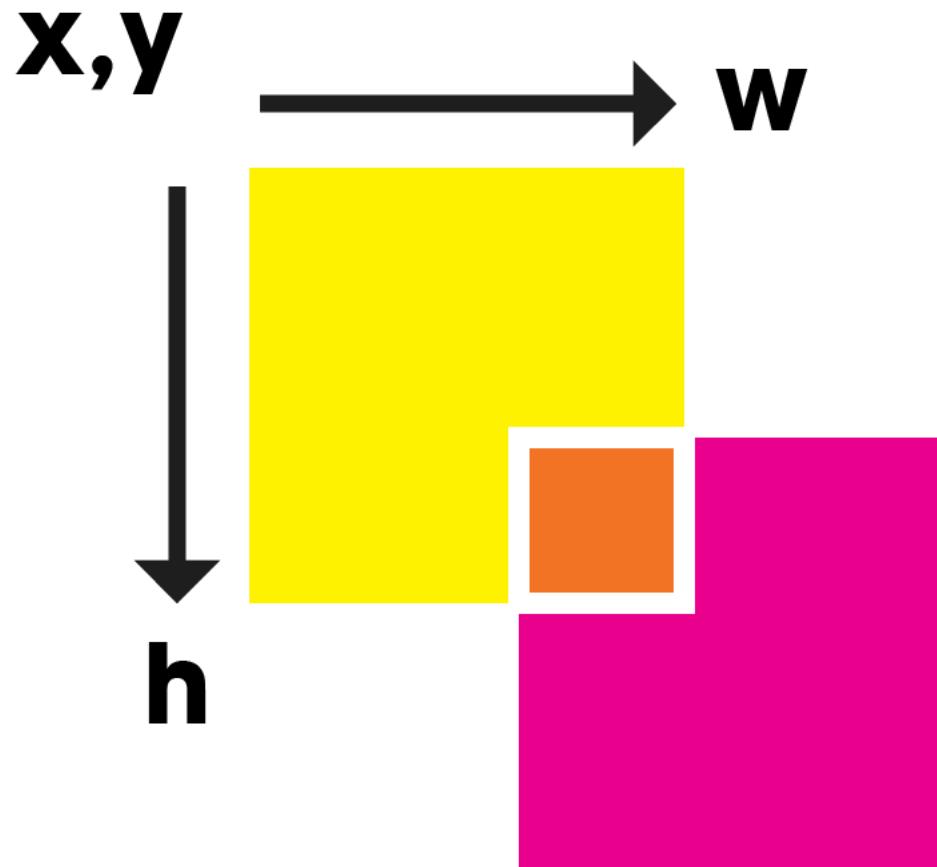
Level 7.

Collisions.

Detecting Collisions.



Simple Hit Testing.



Demo.

Level 8.
Text.

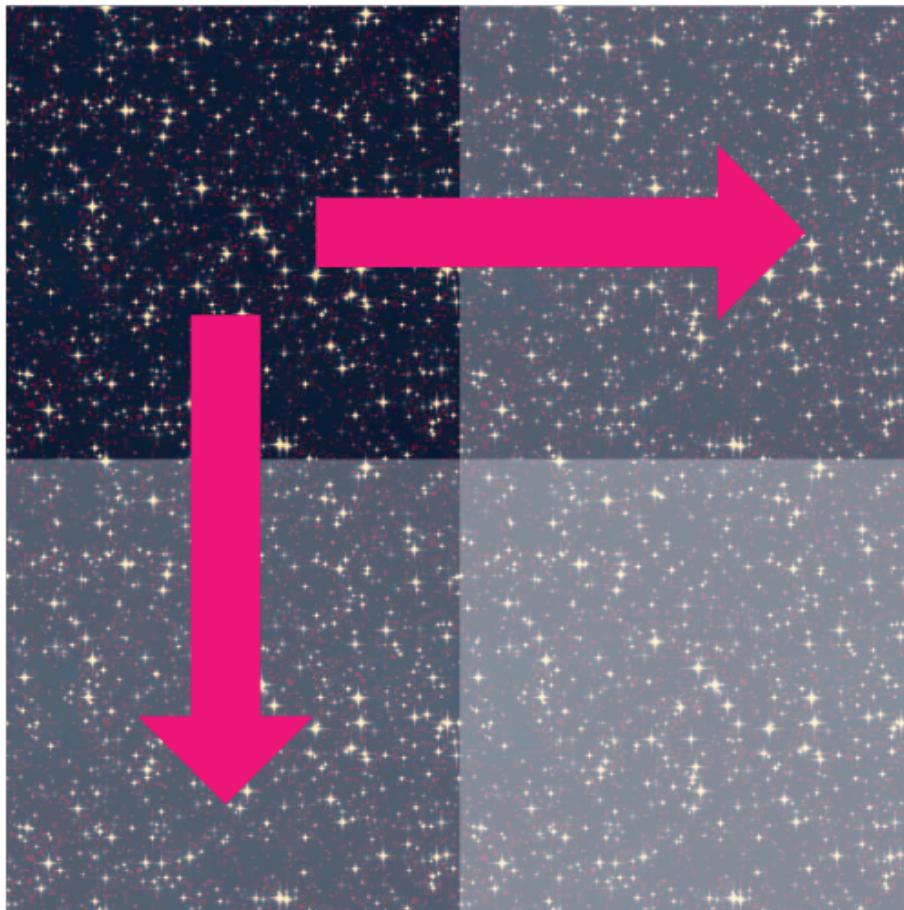
fillText()

- context.font – Set font.
- context.fillStyle – Set fill.
- `fillText(text)` – Draw text to screen

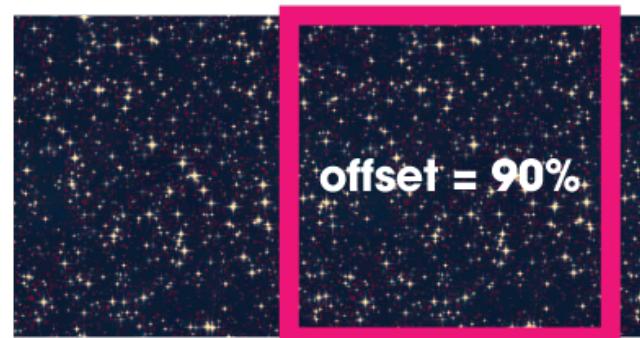
Level 9.

Scrolling Background.

Repeating the background.



Offsetting the background.



Demo.

Level 10.
Sound.

Sound

Using the Audio object.

Demo.

Level 11.

Game States.

Game states.

- Contain all the logic for a “mode” of your game.
- Can manage their own setup and teardown.
- Make memory management and transitions easier.

Demo.

Level 12.
Polish.

Polish.

- Added a fade to the intro state.
- Added a fade to the background image.
- Added a particle generator.
- Added a counter for hit points.

Demo.

Go make
something.

Questions...

Done.

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Links.

Play with it.

- <https://github.com/mimshwright/jsGameDemo>

The screenshot shows a GitHub repository page for 'jsGameDemo' owned by 'mimshwright'. The repository is public and has 17 commits, 1 branch, 0 releases, and 1 contributor. The master branch is selected. The README.md file contains a step-by-step guide to building a game from scratch in JavaScript, with a 'Play it!' button and a 'View Source' link. The right sidebar includes links for Code, Issues, Pull Requests, Wiki, Pulse, Graphs, Network, and Settings.

A very simple game created step-by-step for learning purposes. — Edit

17 commits 1 branch 0 releases 1 contributor

branch: master jsGameDemo / +

changed avatar starting position

Mims H. Wright authored a day ago latest commit 977bd6de7e

demo changed avatar starting position a day ago

README.md Create README.md 5 months ago

README.md

Here's a step-by-step guide to building a game from scratch in JavaScript.

Play it!

Be sure to View Source!

Code Issues Pull Requests Wiki Pulse Graphs Network Settings

SSH clone URL git@github.com:mimshwright

Canvas Libraries.

- <http://kineticjs.com/>
- <http://www.createjs.com/>
- <http://fabricjs.com/>
- <http://threejs.org/>

Physics Libraries.

- <http://box2d-js.sourceforge.net/>
- <https://github.com/soulwire/Coffee-Physics/>

Keymaster

- <https://github.com/madroddy/keymaster>

Commonwealth.js

- Commonwealth.js
<https://github.com/mimshwright/commonwealth.js>