

Mozilla Shumway

Robert Szaloki

@rszaloki

Frontend developer

A man with grey hair, wearing a white lab coat over a patterned shirt and red and blue 3D glasses, is looking upwards with a focused expression. He is in a laboratory or office setting with various pieces of equipment and a computer monitor visible in the background. The lighting is somewhat dim, with some blue and green highlights from the equipment.

Render SWF files in JavaScript

Why?

Any application that can be written in JavaScript, will eventually be written in JavaScript.

- *Atwood's Law*

Why?

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Ars Tactica: Prelude 37 133K DUNGEON	Sacrifire 56 105K AVOIDER
Hyper Travel 37 93K SPACE	Caribbean Admiral 2 81 538K ONLINE SAVE
Jellydad Hero 77 129K PUZZLE	Phoenotopia 82 189K ADVENTURE
Rogue Soul 2 92 503K FIGHTING	Reckless Ruckus 69 117K MMO
The Weapon Masters	The Gate

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Clicker Heroes 92 7 6M MOUSE ONLY
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The Last Stand - Dead Zone

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Game News

Scratch

Fájl Módosítás Tippek Névjegy

Untitled



Szereplők

Új szereplő:

Játéktér
1 háttér

Új háttér:

x: 54 y: 44

Feladatok

- Mozgás
- Kinézet
- Hangok
- Toll
- Adatok

- Események
- Vezérlés
- Érzékelés
- Műveletek
- Továbbiak

menj 10 lépést

fordulj 15 fokot

fordulj 15 fokot

nézz 90 fokos irányba

nézz irányába

ugorj x: 0 y: 0

ugorj egérmutató helyére

csússz 1 mp-ig x: 0 y: 0

x változzon 10

x legyen 0

y változzon 10

y legyen 0

ha szélén vagy, pattanj vissza

Ars Tactica: Prelude
37 133K
DUNGEON

Hyper Travel
37 93K
SPACE

Jellydad Hero
77 129K
PUZZLE

Rogue Soul 2
92 503K
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The Gate

Clicker Heroes
92 7 6M
MOUSE ONLY

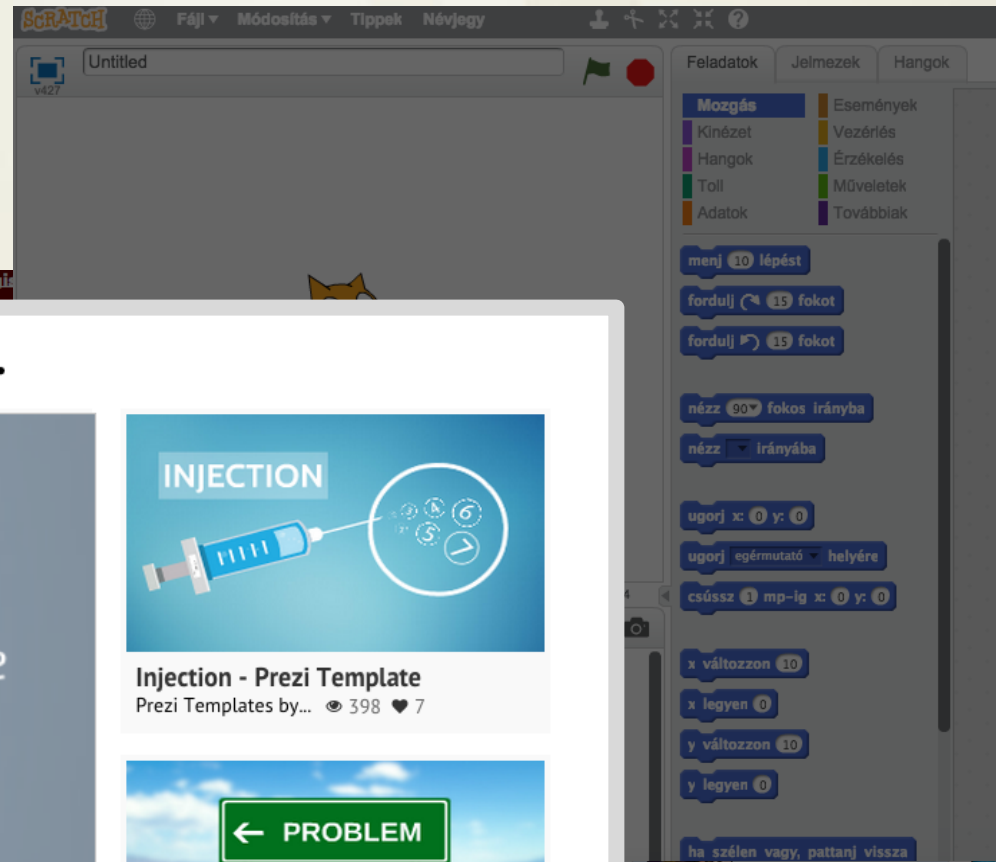
GemCraft Chasing Shadows
94 16 11M
STRATEGY

Kingdom Rush
97 15 57M
ONLINE SAVE

KingsRoad
93 875K
ACTION

The Last Stand - Dead

Why?



A mai nap 15 legnépszerűbb prezije.

Interactive Media - Prezi Template
by Prezi Templates by Prezibase

Interactive Media Prezi Template

Start Prezi

Prezi

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Tetszik

INJECTION

Injection - Prezi Template
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← PROBLEM

SOLUTION →

Traffic Signs - Prezi Template
Prezi Templates by... 3051 43

312

PAC-MAN

WHAT IS THE KEY TO SUCCESS?

Clicker Heroes
92 7 6M
MOUSE ONLY

GemCraft Chasing Shadows
94 16 11M
STRATEGY

Kingdom Rush
97 15 57M
ONLINE SAVE

KingsRoad
93 875K
ACTION

The Last Stand - Dead Zone

Game News

FIGHTING

MMO

The Weapon Masters

The Gate

How?

- swf parser
- ActionScript VM
- rendering
- *media playback, flex*



SWF format

- compressed and optimized container for animation
- documentation from Adobe
- old (from 1996)

DefineFont, DefineFont2, DefineFont3,
DefineFont4



ActionScript

- the Tamarin VM (AVM2) was donated by Adobe to Mozilla, for the development for ES4
- originally a C++ code, but compiled to javascript



Rendering

- font rendering - convert the embedded font into opentype
- shape rendering - easy, until you have to deal with the Adobe Flash's output
- **clipping, bitmaps, gradients**
- **bugs and no documentation**

Bugs!

```
173     var maxContours = 0;
174     var i = 0;
175     var code;
176     while ((code = codes[i++])) {
177         var glyph = glyphs[glyphIndex[code]];
178         var records = glyph.records;
179         var numberOfContours = 1;
180         var endPoint = 0;
```



Bugs!

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Bugs!



Bugs!



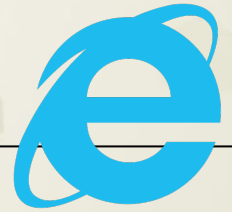
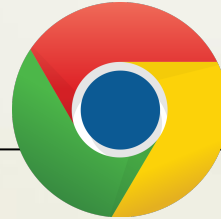



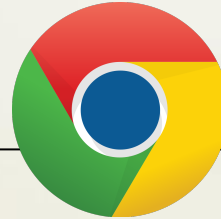

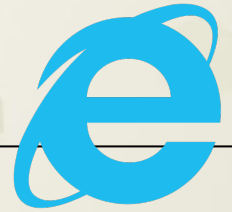
<http://mozilla.github.io/shumway/>

<http://mozilla.github.io/shumway/examples/inspector/inspector.html?rfile=../racing/race.swf>



Mobile?



				
Canvas	Green	Green	Green	Green
@font-face	Green	Green	Green	Green
Worker	Green	Green	Green	Green
postMessage	Green	Green	Green	Orange
TypedArray	Green	Green	Green	Orange



Minified, compressed
size: 1,2MB

Start the AVM2 on a
MotoG: 4-5sec

Optimized for speed,
not for memory





Thank You!

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[@rszaloki](#)