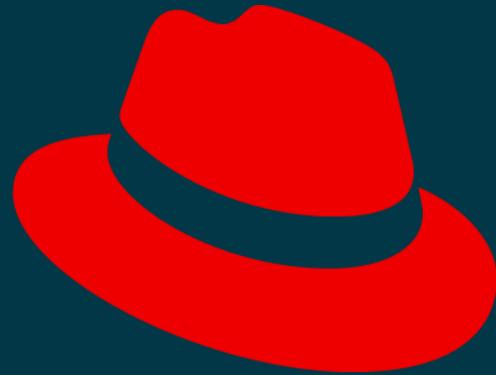


COMMAND LINE HEROES ARCADE: A PRACTICAL GUIDE TO OPEN GAME DEVELOPMENT

JARED
SPRAGUE



Red Hat
+
Scripta Games
& OpenJam.io

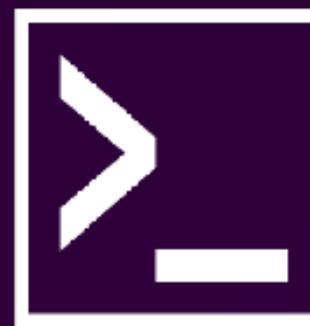
MICHAEL
CLAYTON



JSPRAGUE@REDHAT.COM

WHAT IS THIS ALL ABOUT?

- ① A PRACTICAL GUIDE TO OPEN GAME DEVELOPMENT
- ② THE MAKING OF "COMMAND LINE HEROES: BASH" AS A PRACTICAL EXAMPLE



COMMAND_LINE
HEROES
BASH



WHAT WILL YOU GET?

- ① The process of game development
- ② Open source game development tools available
- ③ Elements of what make a good game
- ④ How to make a game fun
- ⑤ How to make it open source friendly

WHAT THIS TALK IS NOT

- ① LOOKING AT A LOT OF SOURCE CODE, OR TEACHING THE DETAILS OF ANY GIVEN FRAMEWORK.
- ② I'LL LEAVE THAT UP TO YOU TO LEARN, AND THE SOURCE CODE IS AVAILABLE HERE:

<https://github.com/CommandLineHeroes/clh-bash>

THE STORY OF COMMAND LINE HEROES: BASH



Test your command line skills.

You have 60 seconds to type commands from:

BASH · JAVASCRIPT · PYTHON · HTML5

Set the terminal on fire.

Created by Michael Clayton, Jared Sprague, and the Command Line
Heroes team @ Red Hat. Listen to the podcast at
redhat.com/en/command-line-heroes.



OPPORTUNITY KNOCKS



PROTOTYPING IDEAS



**WHEN INSPIRATION COMES,
LISTEN**

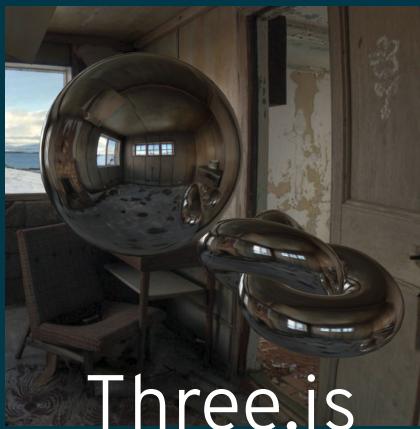


FINDING AN ARTIST HELPS A TON

I learned that the guy who made the 3D animation of the computer works at Red Hat



PICK YOUR TOOLS THERE IS AN OPEN SOURCE OPTION FOR EVERYTHING



Three.js



BIT.LY/AWESOME-GAMEDEV

PICK YOUR TOOLS

ENGINES



Godot
gdscript & C++



Phaser
JavaScript 2D



LÖVE
(Lua)



pygame
(Python)

PICK YOUR TOOLS

GRAPHICS



Piskel



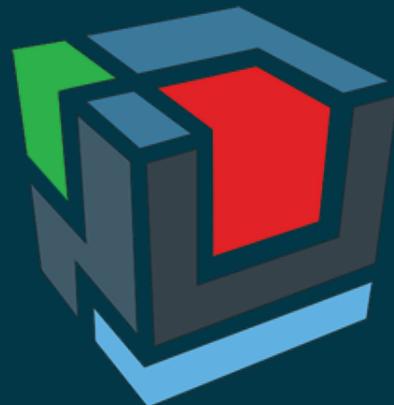
Blender



GIMP



three.js (JavaScript)



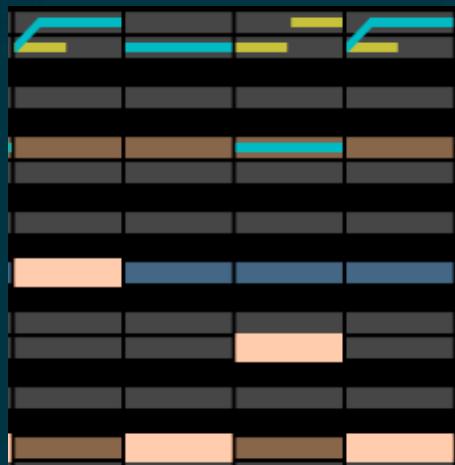
Babylon (JavaScript)



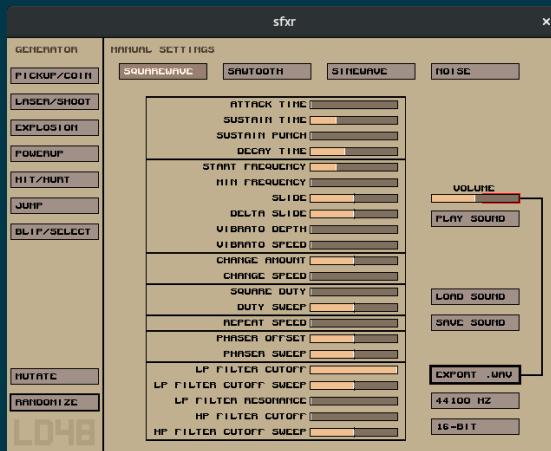
Inkscape

PICK YOUR TOOLS

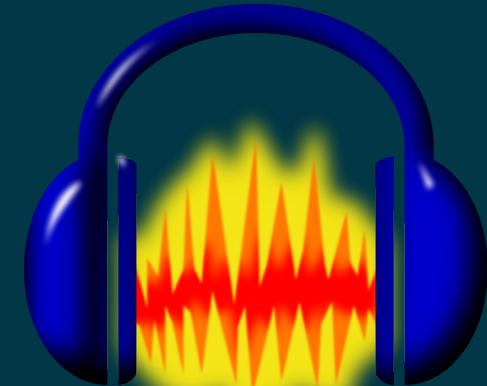
AUDIO



BeepBox



sfxr (& co)

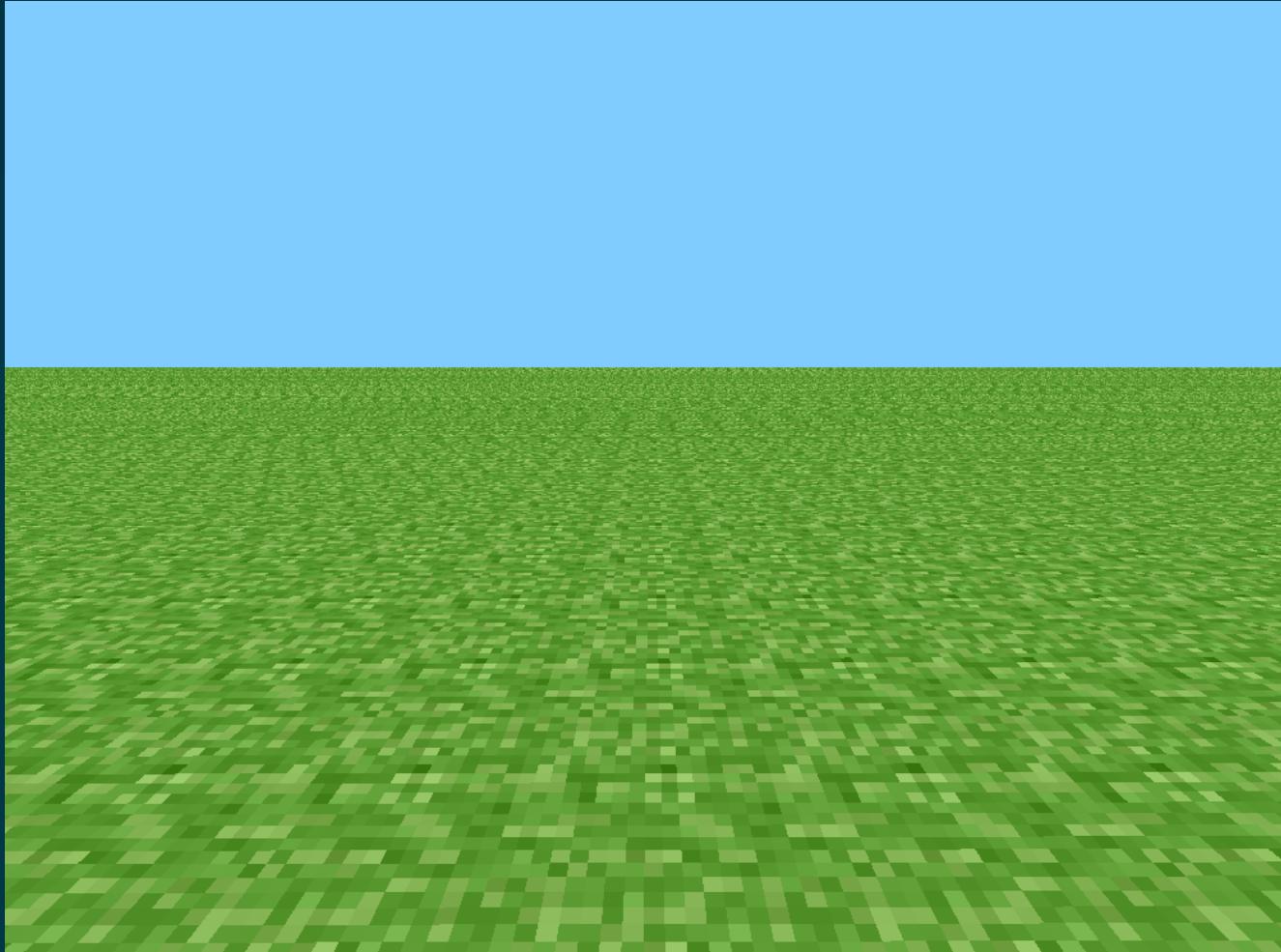


Audacity



howler.js

**FOUNDATION FIRST 90% OF GAME
DEVELOPMENT IS POLISH**



FOUNDATION FIRST 90% OF GAME DEVELOPMENT IS POLISH



One of the earliest World of Warcraft screenshots taken during development.

HACK & POLISH MAKE A TASK LIST AND GET CODING

Main elements of CLH-BASH:

- ① 3D MODEL OF COMPUTER
- ② CANVAS TEXTURE FOR THE SCREEN
- ③ HIDDEN TEXT AREA THAT RECEIVES KEYBOARD INPUT THAT IS LINKED TO ABOVE CANVAS
- ④ COMMAND LISTS STORED IN JSON FILES
- ⑤ FIRE SHADER
- ⑥ LEADERBOARD

HACKING MAKE A TASK LIST AND GET CODING

three.js - OBJLoader + MTLLoader

three.js / examples

mtl

webgl

loader / obj / mtl

CLH_Compute...mtl ^

Show all

Name	S T I...	S Ti	Waterfall
D...	20 ms	...	24
M...	20 sc	...	11 23
O...	20 sc	...	18 21
sta...	20 sc	...	2. 16
CL...	20 xf	...	38 31
CL...	20 xf	...	25 61
fav...	40 te	...	13 81

12 requests | 1.4 MB transferred | Finished

Console What's New

Highlights from the Chrome 71 update

Hover over a Live Expression to highlight a DOM node
Hover over a result that evaluates to a node to highlight that node in the viewport.

Store DOM nodes as global variables
Right-click a node in the Elements panel or Console and select "Store as global variable".

Initiator and priority information now in HAR imports and exports

HACKING MAKE A TASK LIST AND GET CODING



HACKING MAKE A TASK LIST AND GET CODING



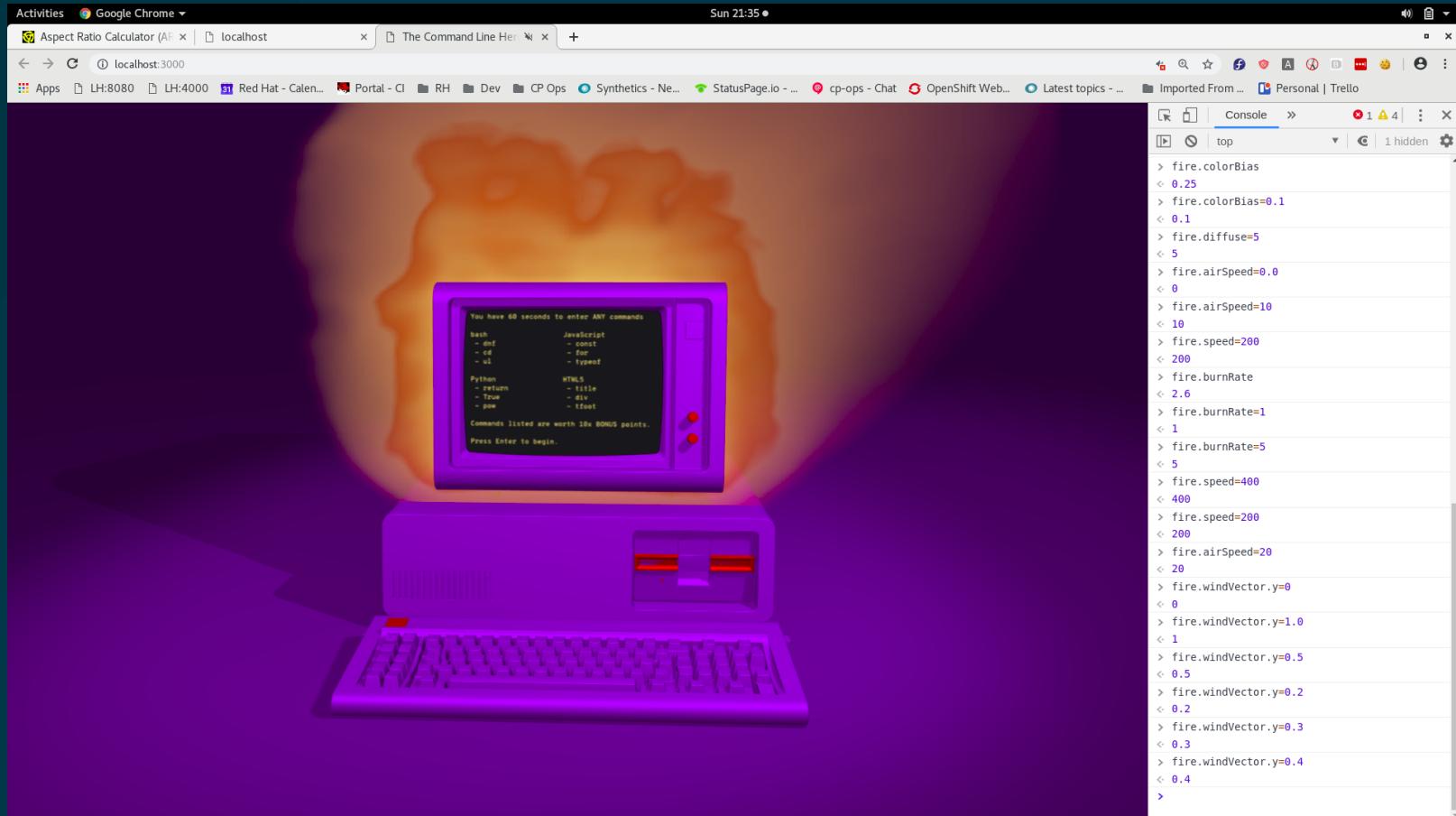
HACKING MAKE A TASK LIST AND GET CODING



HACKING MAKE A TASK LIST AND GET CODING



HACKING MAKE A TASK LIST AND GET CODING



HACKING MAKE A TASK LIST AND GET CODING



HACKING MAKE A TASK LIST AND GET CODING

BEHIND THE SCENES DEMO

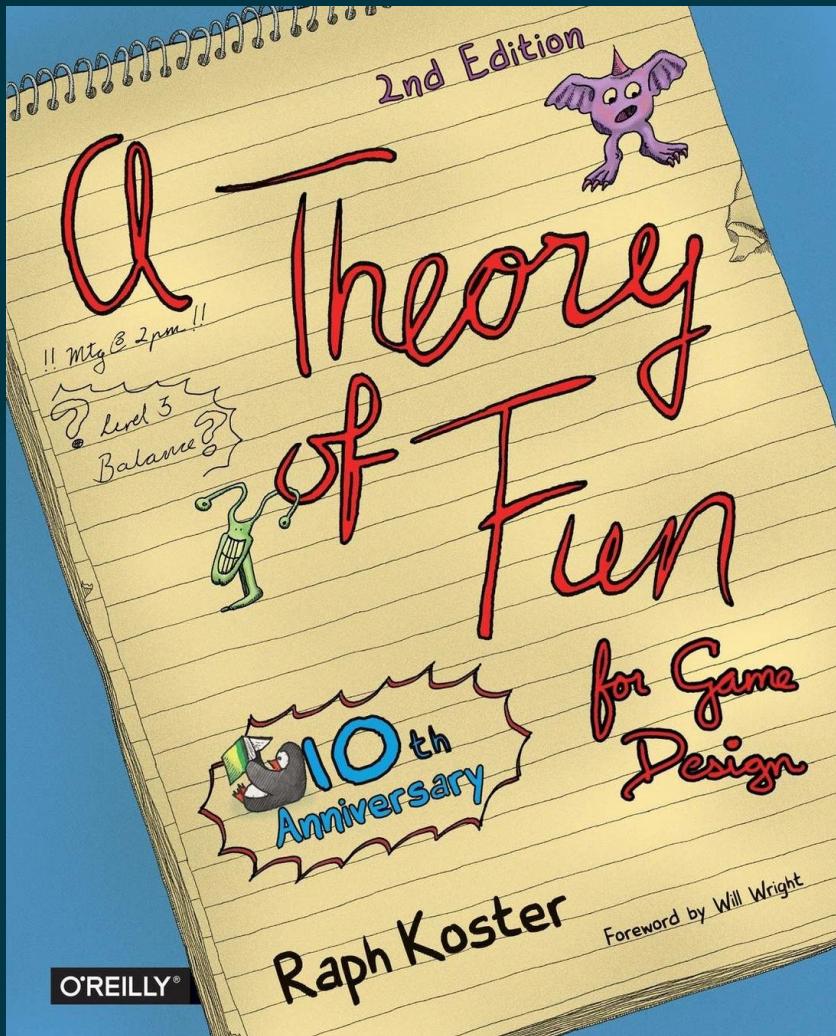
MUSIC & SOUND IS 1/3 OF YOUR GAME



Copyright 1993 - WAVESHAPER

[WAVESHAPER1.BANDCAMP.COM](https://waveshaper1.bandcamp.com)

MAKE IT FUN THE MOST IMPORTANT PART



- 1 If the game is too hard to understand or play, people will get bored and walk away
- 2 If the game is too easy to master people will get bored and walk away
- 3 There should be learning and rewards for that sweet dopamine

How did we try to achieve the above with CLH-BASH?

ADDING THE COOLNES

REMEMBER DAN?



GAME DEVELOPMENT IS REWARDING



HOW TO MAKE YOUR GAME OPEN SOURCE FRIENDLY

GAMES ARE ART. DECIDE AHEAD OF TIME WHERE YOU COULD USE OPEN SOURCE CONTRIBUTIONS.

GAME DEV PROCESS SUMMARY

- OPPORTUNITY
- PROTOTYPING
- INSPIRATION
- FINDING AN ARTIST
- PICK YOUR TOOLS
- FOUNDATION FIRST
- HACK & POLISH
- MUSIC & SOUND
- MAKE IT FUN
- OPEN SOURCE FRIENDLY

EVERYONE HAS A GAME IN THEM



= ∞

THERE IS NO END TO ORIGINAL GAME IDEAS.

NOW YOU HAVE THE PROCESS AND THE TOOLS,
GO MAKE ONE!



OPENJAM.IO

LETS BREAK THE
HIGHEST SCORE
TOGETHER!

QUESTIONS?

THANK YOU!

Jared Sprague - @caramelcode

Michael Clayton - @mwcz

Scripta Games - <http://scripta.co>

Open Jam - <http://openjam.io>

Exhaustive list of FOSS gamedev tools - bit.ly/awesome-gamedev