

PHASER WORLD

JULY 2017

ISSUE
90



THIS WEEK...

TETRIS CLONE

SLITHER TUTORIAL PART 3

RANDOMLY

DOWN THE MOUNTAIN TUTORIAL

Welcome to Issue 90 of Phaser World

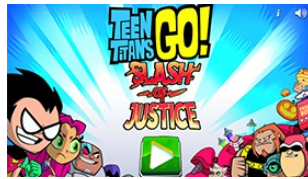
Just 10 issues away from 100! That feels like quite an achievement. From humble beginnings and all that. This week we've some superb games, loads

more tutorials and another Phaser 3 Dev Log. This week we're in full lock-down mode trying to get the Phaser 3 Alpha ready. There is still a long way to go but it will feel good to start putting it in the hands of devs.

So, until the next issue, keep on coding. Drop me a line if you've got any news you'd like featured (you can just reply to this email) or grab me on the Phaser [Slack](#) or [Discord](#) channels.

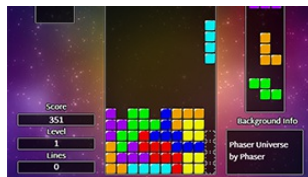


The Latest Games



[Teen Titans Go!](#) >>> **Game of the Week**

Play the new Teen Titans game: Slash of Justice, a good old fashioned beat 'em up.



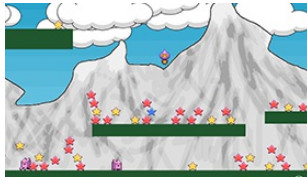
[Tetris Clone](#) >>> **Staff Pick**

A comprehensive and polished Tetris clone with loads of settings and open source.



[Catch It!](#)

Can you collect all the fruit in this brain twisting action game?



Randomly

How far can you make it in this randomly generated platform game that is unfair on purpose?



Follow My Lead

A soothing and challenging take on the Simon concept.



What's New?



Slither.io Tutorial Part 3

In part 3 of the tutorial series the game is evolved further, adding in players and bots.

Phaser Starter



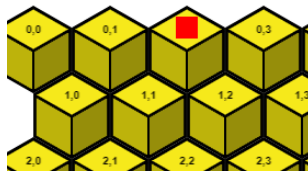
Phaser Starter

A starter project for Phaser with Webpack, ES6, page reloading and Github publishing.



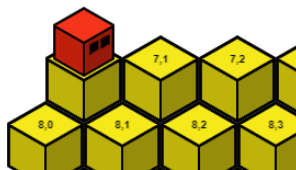
Creating an Endless Runner Part 1

A comprehensive multi-part tutorial on making your own endless runner game.



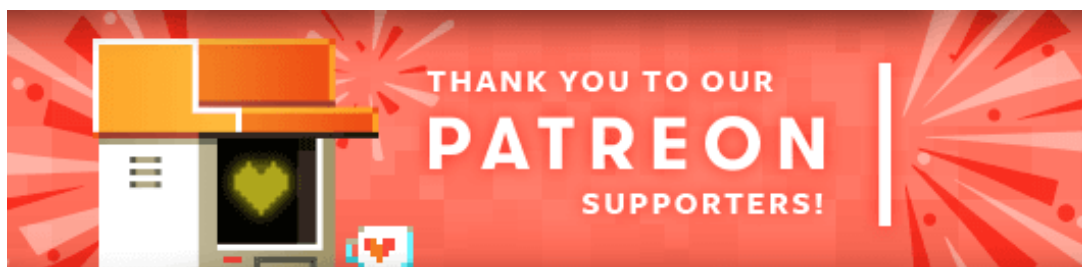
Down the Mountain Prototype Updated

A tutorial on updating a previous prototype for the latest version of Phaser and new controls.



Down the Mountain Prototype Update 2

In this update to the game a player character is added, assets are recycled and arrays are removed.



Welcome and a massive thank you to the new [Phaser Patreons](#) who joined us this week: **Peter kasamias** and **Andrew Butkus**.

Patreon is a way to contribute towards the Phaser project on a monthly basis. This money is used *entirely* to fund development costs and is the only reason we're able to invest so much time into our work. You can also [donate](#) via PayPal.

Backers get forum badges, discounts on plugins and books, and are entitled to free monthly coding support via Slack or Skype.



Dev Log #90

We're currently working on sprints of around 1 week for all of the Phaser 3 work. This fits in well with the newsletter as when a bunch of new features land I can write about them in the following issue. However, it's not always possible to fit the work into nice 5 day chunks and sometimes it just takes longer or needs more time to complete. The Input Manager is one such area.

Since the last issue, it has gone through some significant internal revisions. The API has changed dramatically even compared to that from a week ago and is still changing even now.

It was inevitable that at some point we would have a Dev Log that was going to talk about the process rather than show off any demos and I'm afraid that is what will happen this issue.

Input Scaling

On a positive note, the Input Manager is now handling canvas resizing, position and scaling properly. In the previous demos if you were to scroll the page with the canvas on it would mess up all of the input coordinates. Or if you scaled the canvas. These are now factored in. This means v3 demos using input can be placed anywhere within the web page and work. This wasn't something I was going to handle until starting the new Scale Manager but it felt too important to

leave to them, so I bought that task forward. It will also be a good feature to have in place with the Alpha release.

Input Updates

Internally the Input Manager has gone through a lot of changes over the past week. While the previous iteration worked it wasn't set-up to handle multi-pointer input. For example, if you were to touch down on a sprite with one finger, then touch it with another finger and then release the first finger, the sprite would have thought it had entered an 'up' state (because a previously active pointer had left it). This is fine for desktops with mice, less so for touch screens. Although the number of mobile games that use multiple inputs on a single sprite is really low it was time to address this lingering v2 issue and put it to bed for once and all.

So I had to modify both the data structures for the interactive objects and also the input manager itself to cope with this. It does mean you could do some cool things now though: for example, you could have a sprite that looks like a Christmas cracker and pull it apart by dragging from each end of it with two fingers. This is something not possible in v2 without using two different sprites.

Move Events

Also new in v3 are move events. These events are dispatched whenever a pointer is in the processing of moving across an interactive object. It doesn't have to be pressed down or dragging, it just has to be moving. As part of the event you are sent the local coordinates of the pointer within the sprite. So you could use it for a 'sliding' UI element that you control by just sliding a finger up and down it, such as a volume meter.

Callbacks and Events

In v2 nearly all input was handled via Signals. You'd listen to a signal bound to a specific sprite to know if the pointer was pressed down on it.

In v3 you can use both callbacks and events. The events belong to the Input Manager itself, not the game objects. So, you could listen for a Pointer Down event from the Input Manager. As part of the event properties you are given a list of all the Game Objects that the pointer went down on, as well as the top-most one in the display list.

The callbacks, however, belong to the Game Objects. You can set a callback for every type of input event: over, down, up, out, move and the drag events: start,

drag and end. Callbacks are invoked on a per-Game Object basis and are sent a bunch of useful arguments as well. Depending on the type of game you're building you may favour one approach over the other, or maybe just out of personal preference too. By having both options available though it gives you the flexibility to decide, rather than enforcing it upon you.

Top Most Game Objects

Part of the reason for the refactor last week was to implement a new feature across all of the input events. The feature was the ability for the Input Manager to process either just the top-most Game Object in the display list or all of them.

For example, if you had 3 overlapping Sprites and each of them is set to be interactive, then you can now set a toggle in the Input Manager as to how it should deal with them. The default setting is that if you were to click on the top-most sprite then it, and only it, would have its callbacks fired and appear in the event. The other two, being lower than it, would be skipped.

This is how browsers work and how the DOM works. If you have 2 DIVs above each other then only the top-most one gets any input events. So it's how Phaser 3 is going to work by default too. However, it's often very useful to be able to get *every* Game Object the pointer just pressed down on, or moved over, or dragged, so now you have the ability to do that as well.

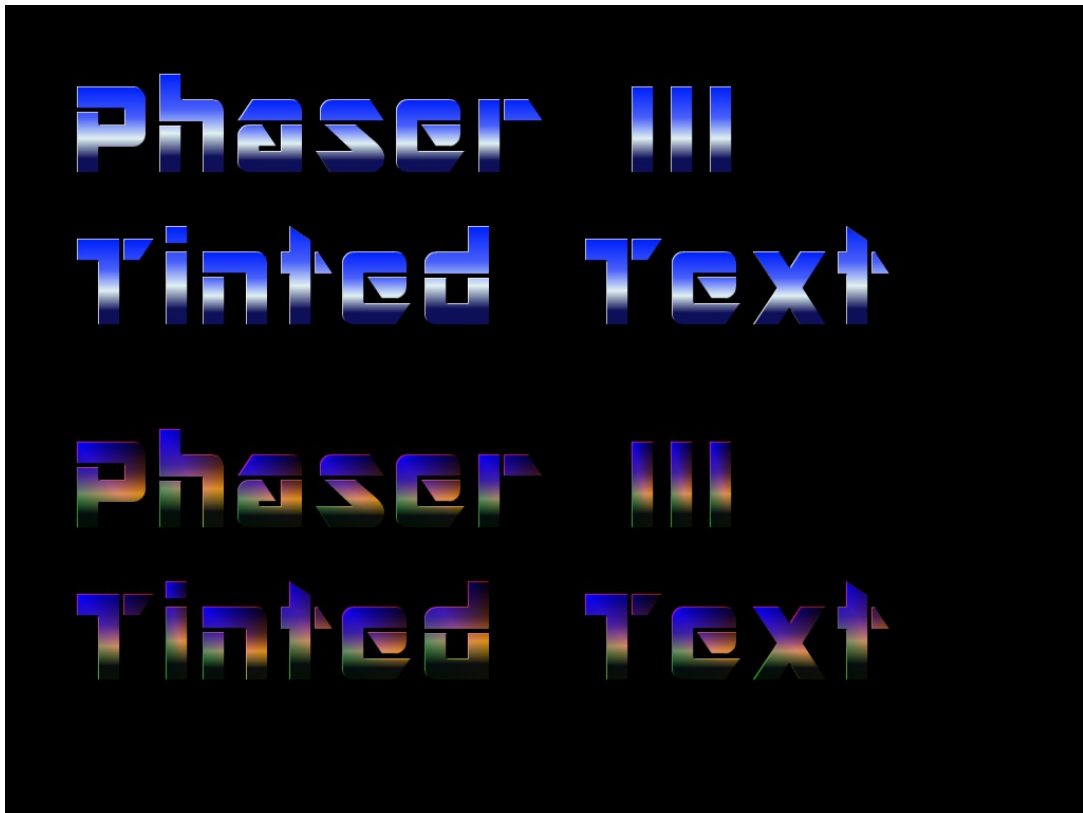
Onwards to the Alpha

I spent this morning updating the v3 progress chart, marking off the things we've done and moving other tasks around. I still need to spend several days on the Input Manager and then will look at preparing the Alpha release of v3. part of the release process will be authoring a Getting Started guide, so you can pick it up and have a play without using the API docs (because they don't exist yet!). We're still on schedule to release the Alpha on Monday 31st July, which is the same day as the next newsletter.

I need to start looking at how to handle the API docs very soon. I want to use JSDoc again because it's so common and IDEs support it so well, but without using the same template as v2 has. So it's going to take a while to do some R&D to work out the best approach here. If you've any recommendations for decent documentation tool chains then *please* let me know!

Tinted Bitmap Text

I couldn't go a whole Dev Log without at least one new example :) The other week Felipe added in the ability to set the vertex colors in the Bitmap Text renderer. I finished that off by implementing the Tint component and hooking it into both the Static and Dynamic Bitmap Text objects. This means you can now tint text:



And also change the tint in the dynamic texts callback by just modifying the data object like usual:

- Phaser III -

Just a little tweak, but one that opens up a lot of display options in your games. You can now color text without having to use more textures. And it also works on [Retro Fonts](#) too :)

Phaser 3 Labs

Visit the [Phaser 3 Labs](#) to view the new API structure in depth, read the FAQ, previous Developer Logs and contribution guides. You can also join the [Phaser 3 Google Group](#). The group is for anyone who wishes to discuss what the Phaser 3 API will contain.





[Unprogress by Fairlight 2017](#) is a PC 4k demo. Just incredible what can be done in 4096 bytes.

Take part in the [State of JavaScript 2017](#) Survey

[How Checkers Was Solved](#) - The story of a duel between two men, one who dies, and the nature of the quest to build artificial intelligence.

Further Reading ...

[Phaser Facebook Group](#)

[GameDev.js Weekly Newsletter](#)

[HTML5 Game Development](#)

[Lostcast](#)

Phaser Releases

The current version of Phaser CE is [2.8.3](#) released on July 24th 2017.

Phaser 3.0.0 is in active development in the GitHub [v3 folder](#).

Please help [support](#) Phaser development

Have some news you'd like published? Email support@phaser.io or [tweet us](#).

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