

# CSS-ing the super silly Hackathon website

OMG PLZ  
follow me on  
TWITTER!  
@cheeaun

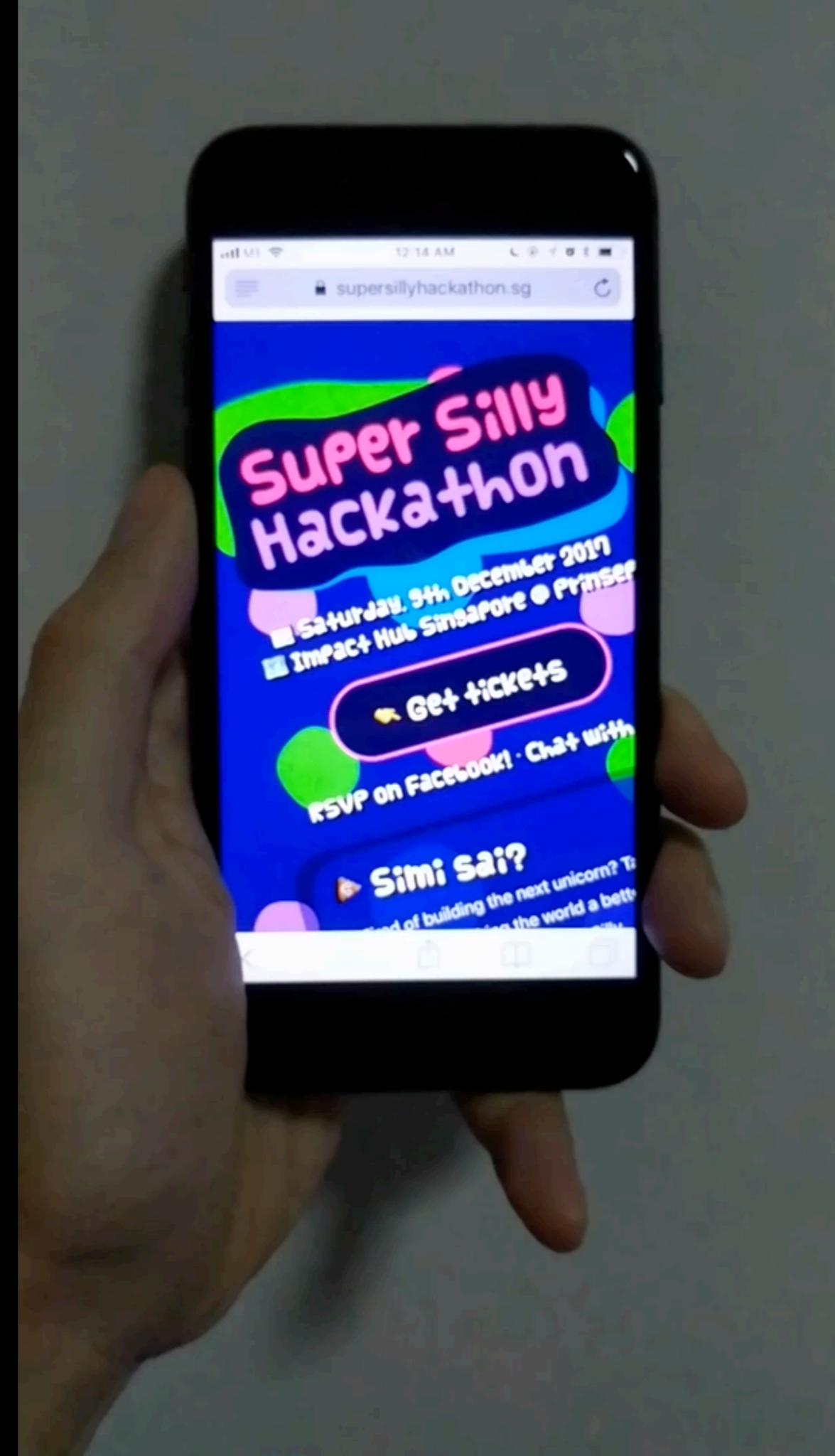




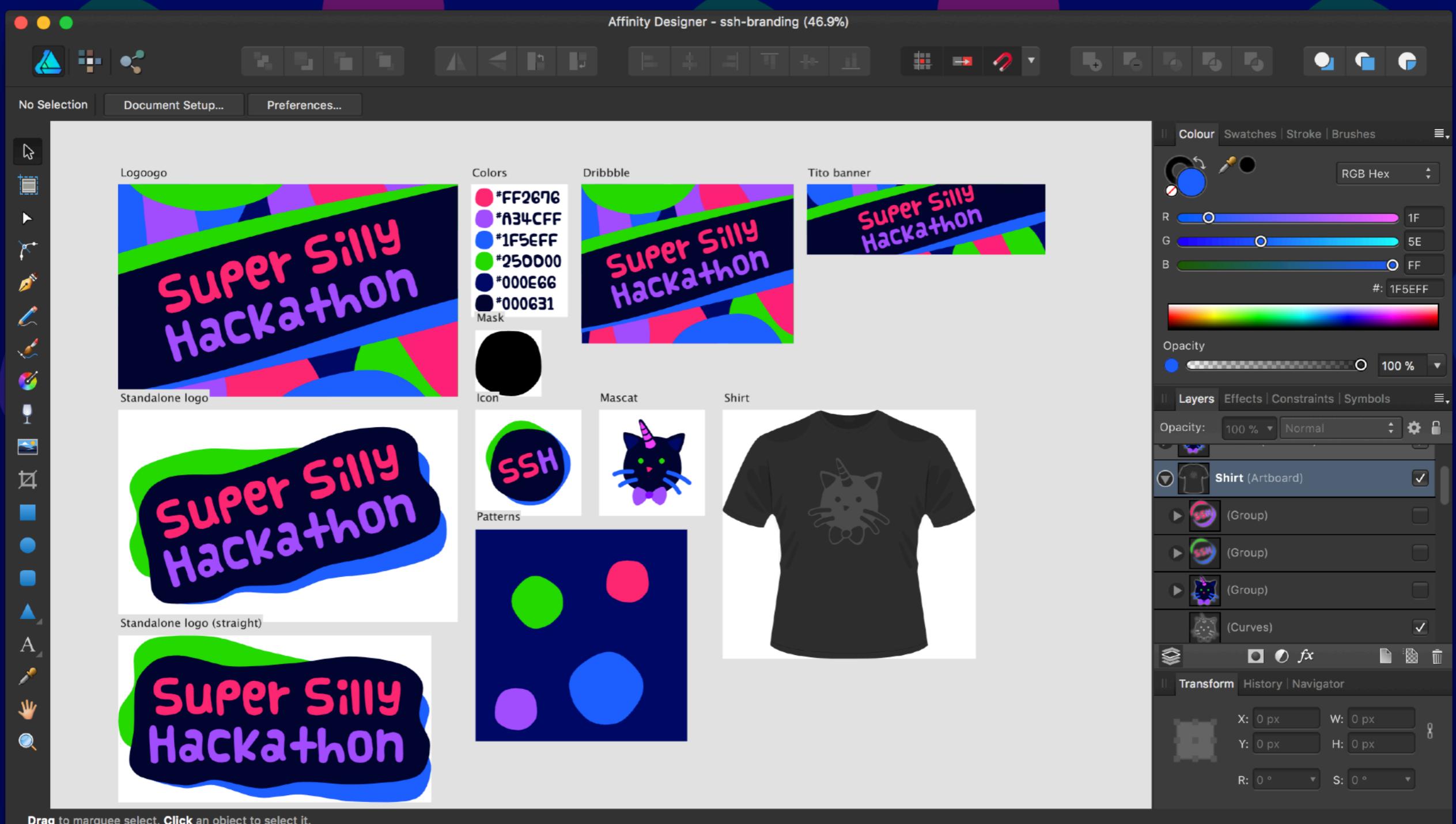
# Super Silly Hackathon

5:40

supersillyhackathon.sg



<https://youtu.be/lIdB466G90E>

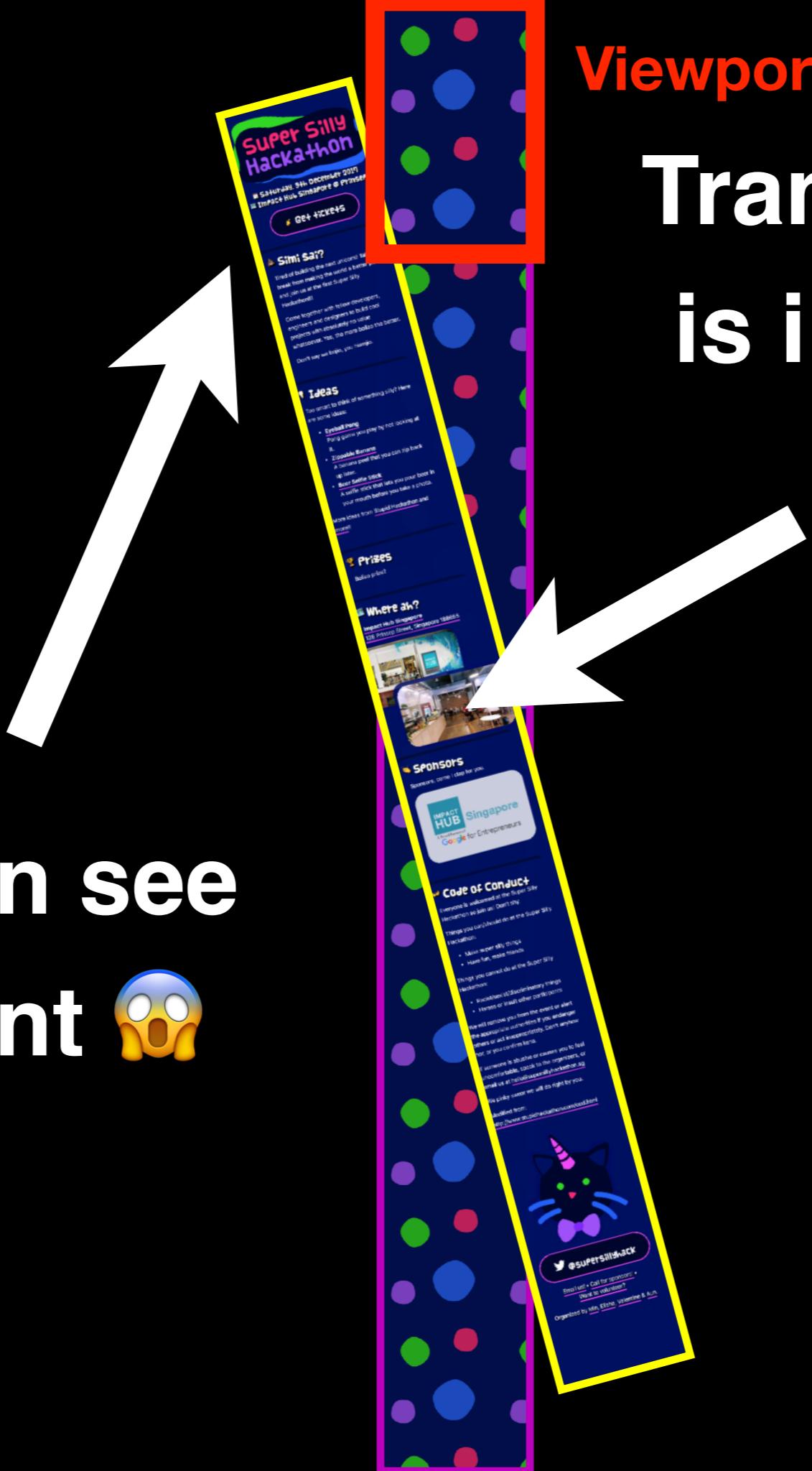


I design too one leh 😺

How do you  
make it  
diagonally tilted?  
slanted?

```
transform:  
rotate(-15deg);
```

No one can see  
the content 😱



Viewport

Transform origin  
is in the middle  
here!

Ok, let's move  
this up here.

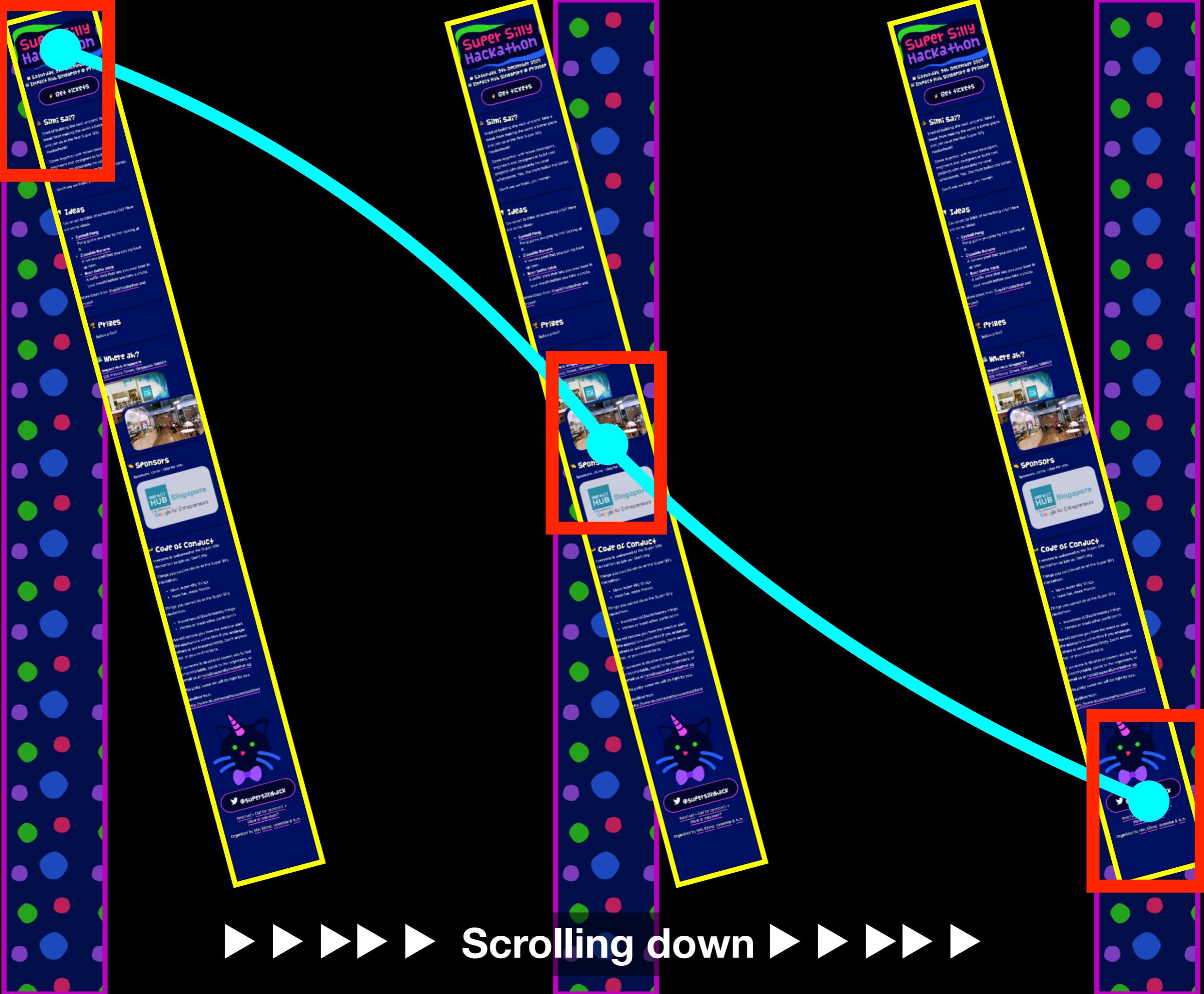


Now, how do  
we scroll  
here?

1st attempt  
Move the  
transform-origin

underStand  
transform-  
origin

Check this out: [http://cssreference.io/  
property/transform-origin/](http://cssreference.io/property/transform-origin/)



►►►►► Scrolling down ►►►►►

pros: easy++  
cons: slow,  
weird &  
horizontal  
scrollbar

2nd attempt  
translate CSS  
with awesome  
Math

Check this out: <https://developer.mozilla.org/en-US/docs/Web/CSS/transform-function/translate>

$$x^2 = (b \tan 15)^2 + b^2$$

$$= b^2 (\tan^2 15 + 1)$$

$$b^2 = \frac{x^2}{\tan^2 15 + 1}$$

$$= \frac{(y \tan 15)^2}{\tan^2 15 + 1}$$

$$b^2 = \frac{y^2 \tan^2 15}{\tan^2 15 + 1}$$

$$x^2 = a^2 + b^2$$

$$\tan 15 = \frac{a}{b}$$

$$a = b \tan 15$$

$$x^2 = (b \tan 15)^2 + b^2$$

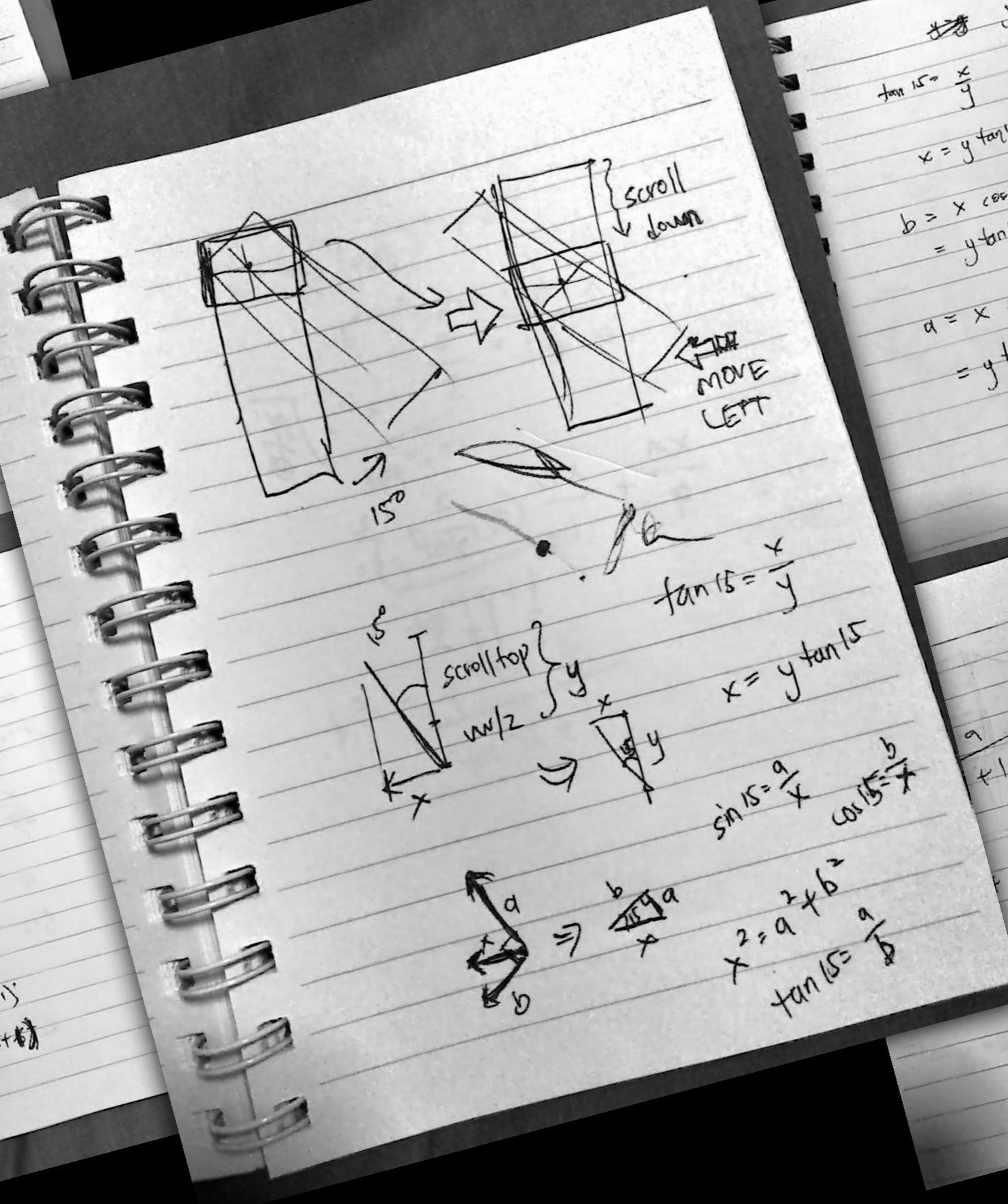
$$= b^2 \tan^2 15 + b^2$$

$$= b^2 (\tan^2 15 + 1)$$

$$x = \sqrt{b^2 (\tan^2 15 + 1)}$$

$$y \tan 15 = \sqrt{b^2 (\tan^2 15 + 1)}$$

$$\tan^2 15 = b^2 (\tan^2 15 + 1)$$



~~get value~~ got value !!

$$\tan 15 = \frac{x}{y}$$

$$x = y \tan 15$$

$$b = x \cos 15$$

$$= y \tan 15 \cos 15$$

$$a = x \sin 15$$

$$= y \tan 15 \sin 15$$

$x = b$

$y = a$

$$\frac{9}{1} > \frac{2}{3}$$

$$\frac{x^2}{1} = \frac{2}{2} + \frac{2}{1}$$

$$= 1 + 2$$



scrollTop +  
viewport / 2



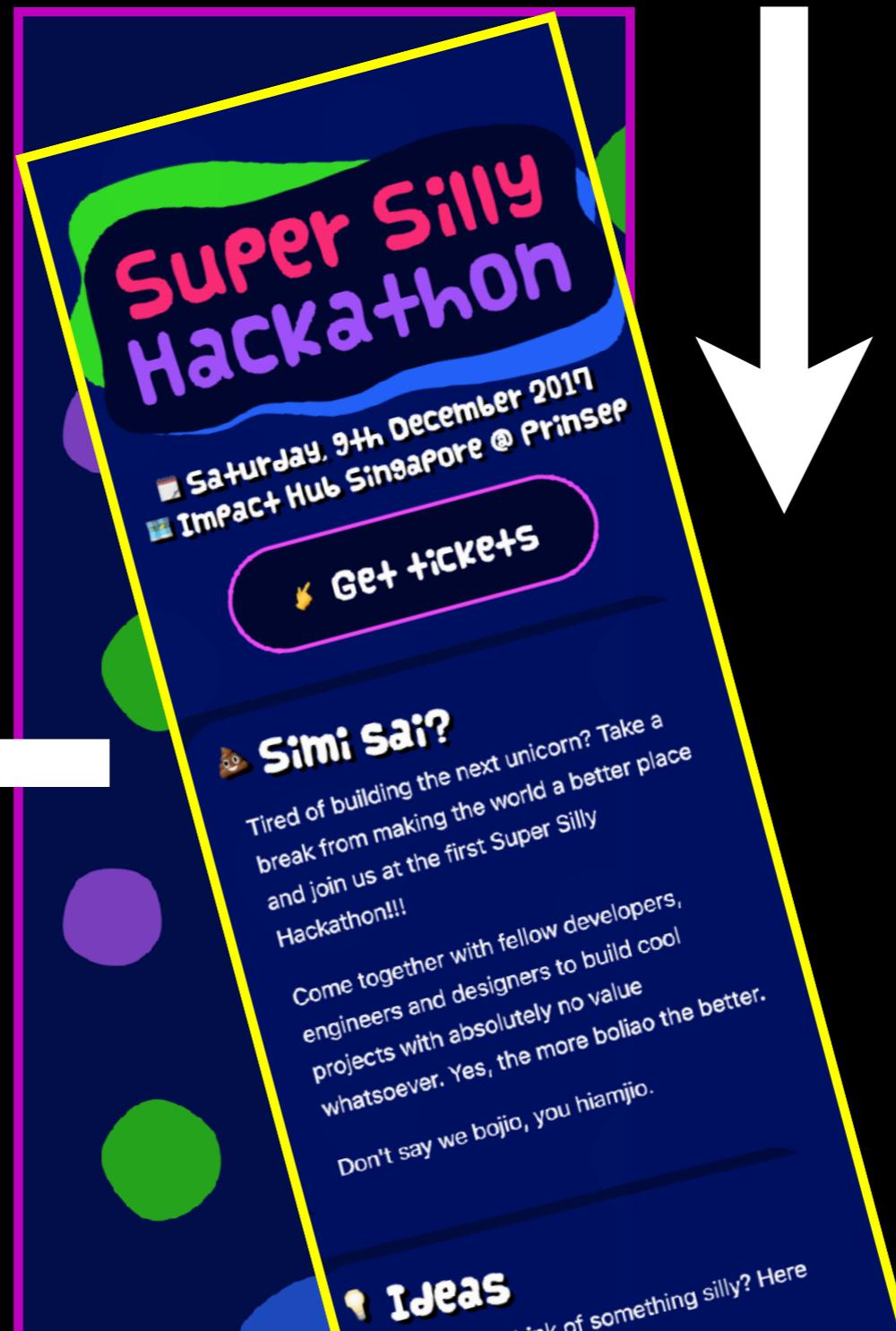
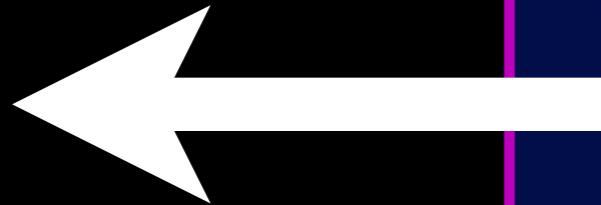
Move left



translateX

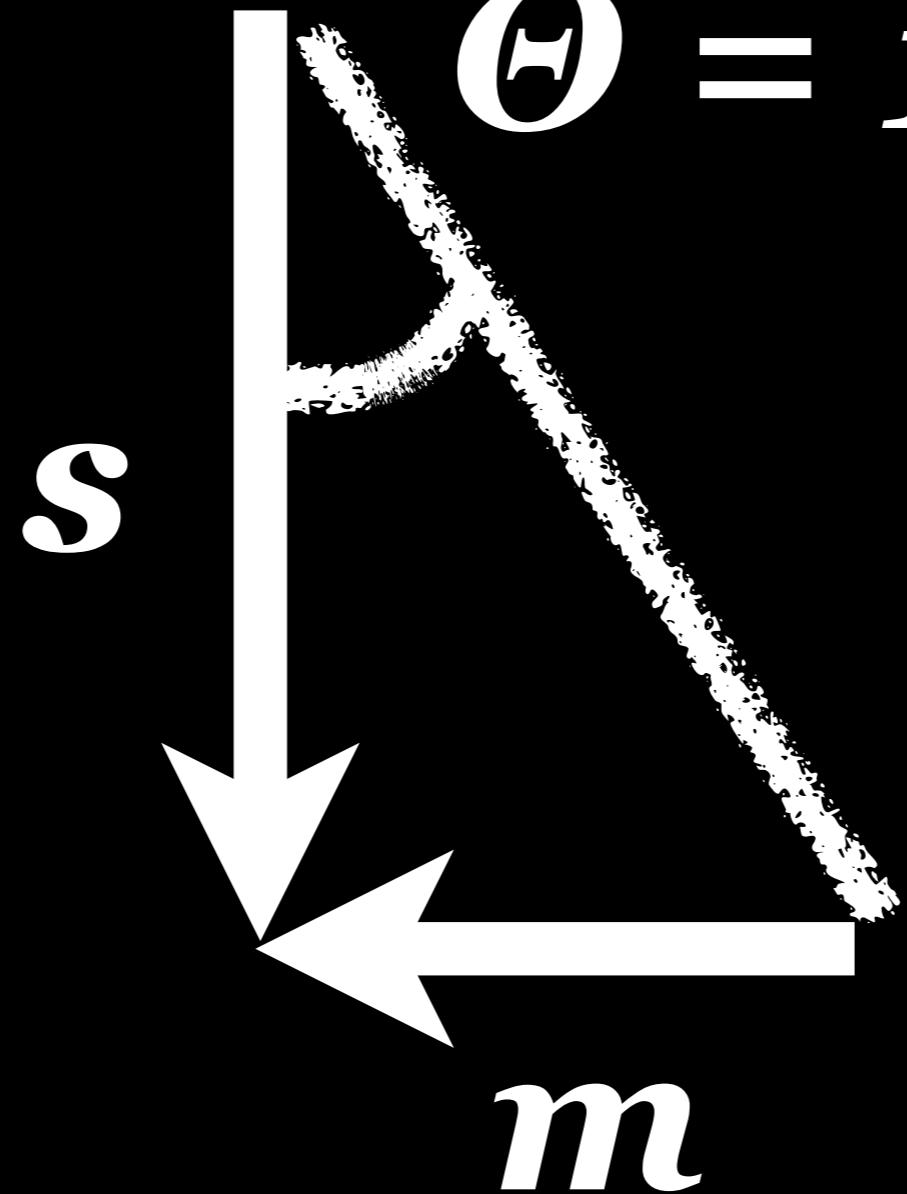


Move left

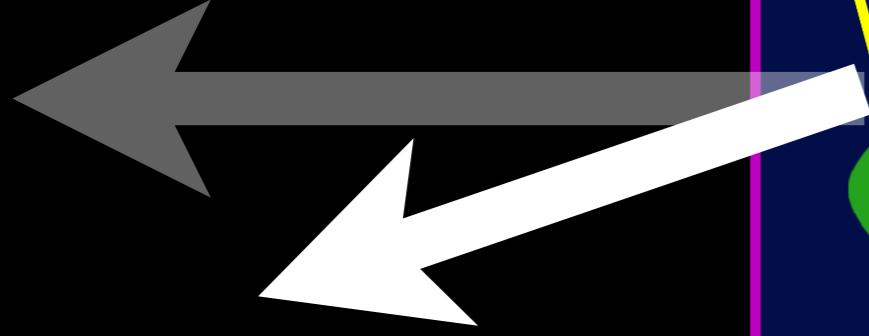


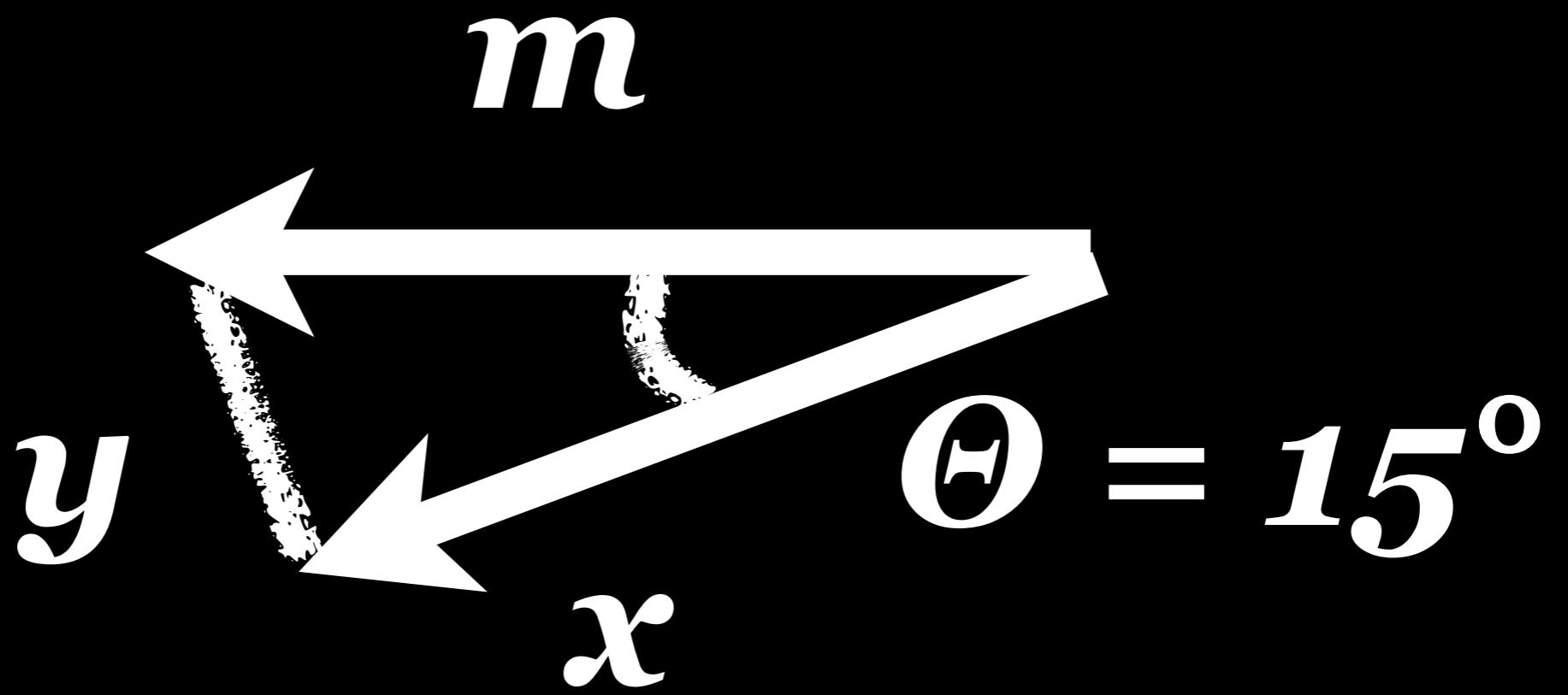
`scrollTop +  
viewport / 2`

$$\Theta = 15^\circ$$



$$m = s \tan\Theta$$





$$x = m \cos\theta$$

$$y = m \sin\theta$$

Magic  
It works!



cons: slow &  
horizontal  
scrollbar

3rd attempt  
wrap around  
another div and  
translate it

This dotted  
div  
translateX  
to the left



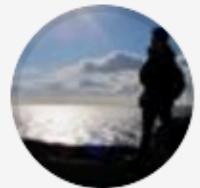
This div  
rotate 15°

pros: Simple,  
transitional  
cons: Still  
lag a bit

performs well  
on mobile  
browsers,  
decent on  
desktop  
browsers

# Super Silly Hackathon

Firefox 😭😭😭



**キヨン キヨン** Damn. On my monitor, for every scroll down, the entire thing is sort of like vibrating. My eyes died.

Then I use another mac and the scroll is fluid. ahhhh

[Like](#) · [Reply](#) · November 23 at 1:32pm



**Ted Johansson Valentine:** Because the background is not `fixed`, scrolling on a mouse wheel creates a pretty strong flicker.

[Like](#) · [Reply](#) ·  1 · November 25 at 1:39am



# research time



# scroll jank

When you scroll a page and there's such a delay that the page doesn't feel anchored to your finger, that's called scroll jank.

Quoted from <https://developers.google.com/web/updates/2016/06/passive-event-listeners>

# passive event listeners

- Read this plz: <https://github.com/WICG/EventListenerOptions/blob/gh-pages/explainer.md>
- Check out the browser support yo: <https://caniuse.com/#feat=passive-event-listener>



moz://a

# HACKS



Search Mozilla Hacks

# Async Pan/Zoom (APZ) lands in Firefox Quantum

By [Belén Albeza](#)Posted on November 6, 2017 in [Featured Article](#), [Firefox](#), [Firefox Releases](#), and [Quantum](#) Share This 

Asynchronous pan and zoom (APZ) is landing in Firefox Quantum, which means jank-free, smooth scrolling for all! We talked [about APZ in this earlier](#)

## With APZ, scrolling is decoupled from the JavaScript thread

Until now, scrolling was part of the main JavaScript thread. This meant that when JavaScript code was being executed, the user could not scroll the page.

With APZ, scrolling is decoupled from the JavaScript thread. This happens on its own, leading to a smoother scrolling experience, especially in slower devices,

<https://hacks.mozilla.org/2017/11/async-panzoom-apz-langs-in-firefox-quantum/>

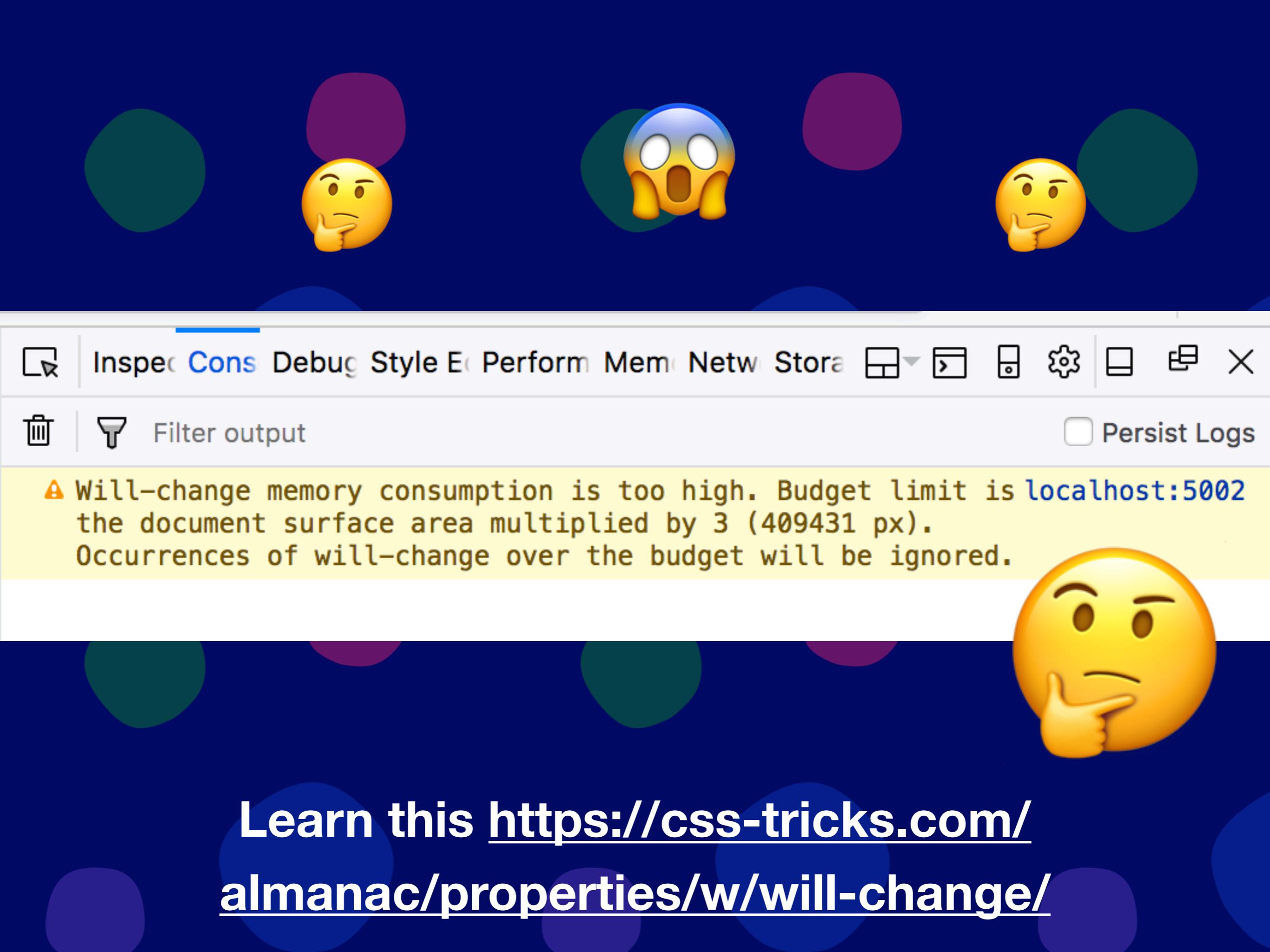
# animation worklet

A new primitive for creating scroll-linked and other high performance procedural animations on the web.

Read more from

<https://github.com/WICG/animation-worklet>

I suspect  
that's the  
problem.  
**BUT wait**



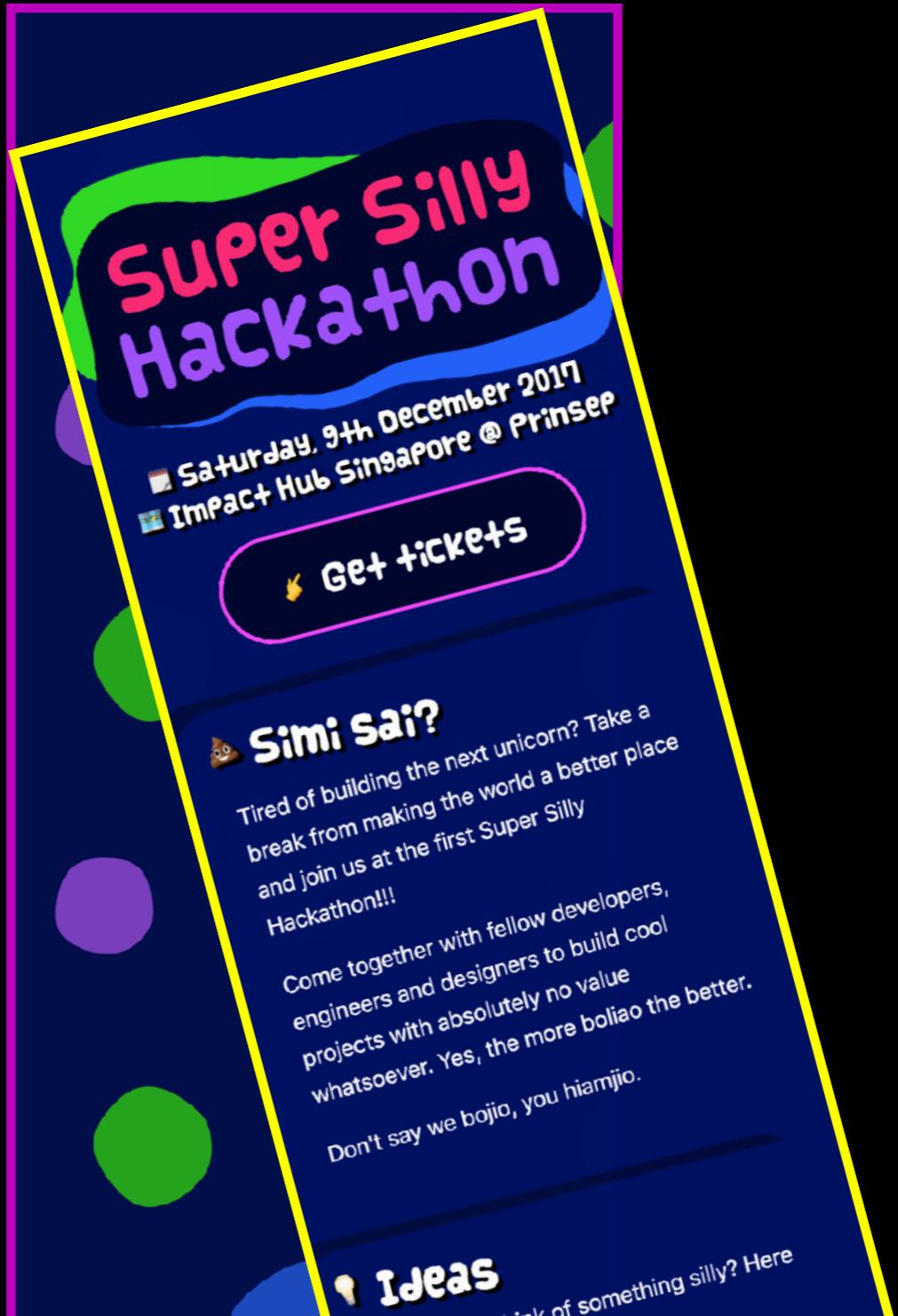
Learn this [https://css-tricks.com/  
almanac/properties/w/will-change/](https://css-tricks.com/almanac/properties/w/will-change/)

# Reduce paint areas

...often a case of orchestrating your animations and transitions to not overlap as much, or finding ways to avoid animating certain parts of the page.

Text stolen from

[https://developers.google.com/web/fundamentals/performance/  
rendering/simplify-paint-complexity-and-reduce-paint-areas](https://developers.google.com/web/fundamentals/performance/rendering/simplify-paint-complexity-and-reduce-paint-areas)



Large  
paint area  
animate  
everything



In the end,  
I have  
no idea what  
I'm doing

but at least  
I learnt  
something



# Thank you



@cheeaun

<https://supersillyhackathon.sg/>

<https://github.com/supersillyhackathon>