

Designing Meaningful Animation

Val Head • @vlh

Designing Meaningful Animation

Val Head • @vlh

gochat
Socializing and sharing
for your website & blog

Builds engagement
Sends you traffic
Viral sharing
Free

3 ways to use GoChat on your website

Button 
An alternative button to
Google +1 & Facebook Like

Inline 
Embed directly in
the webpage

Toolbar 
Compact vertical-toolbar
in a fixed-position

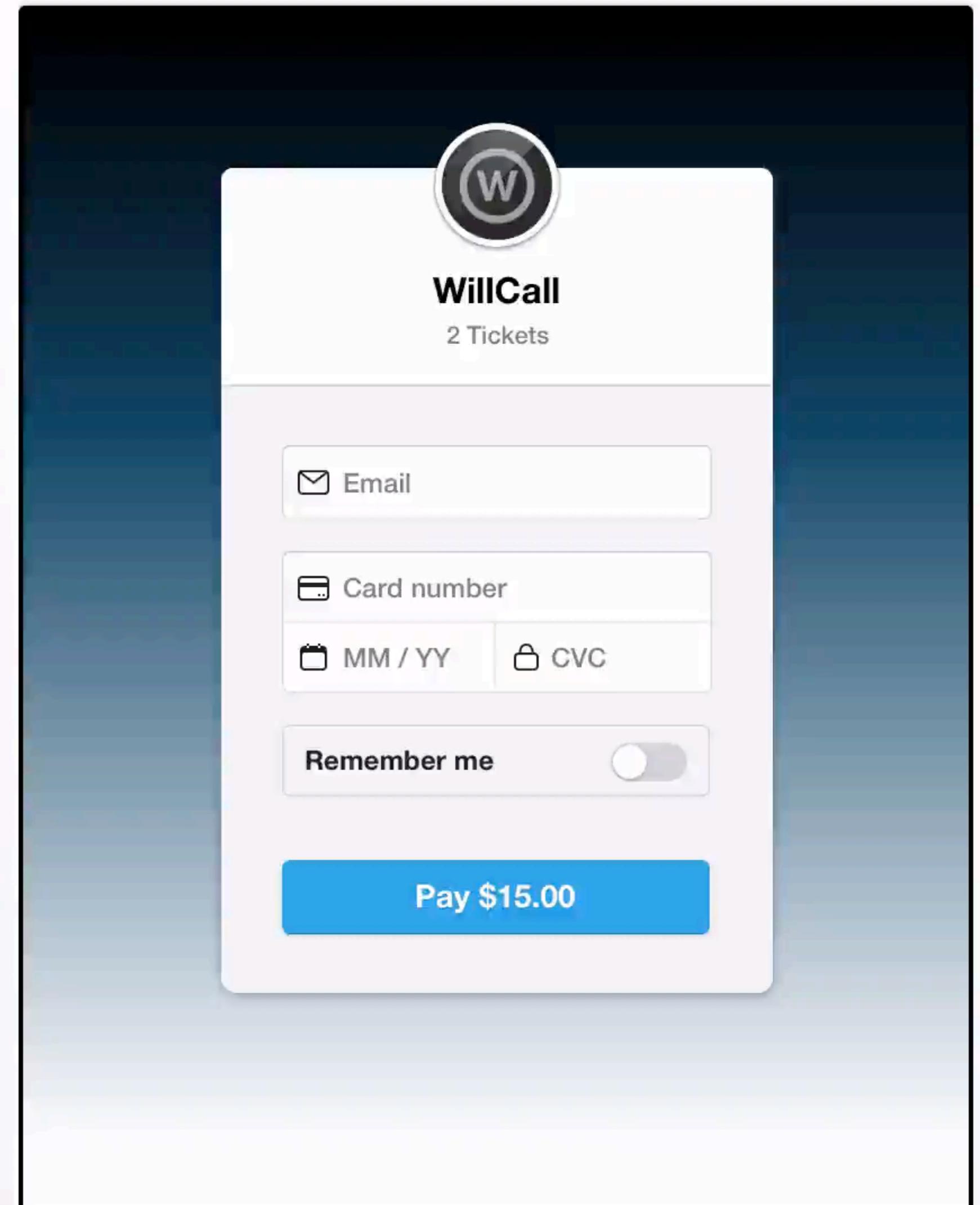
The payment form done right

Checkout is an embeddable payment form for desktop, tablet, and mobile devices. It works within your site—customers can pay instantly, without being redirected away to complete the transaction.

Donate to Watsi

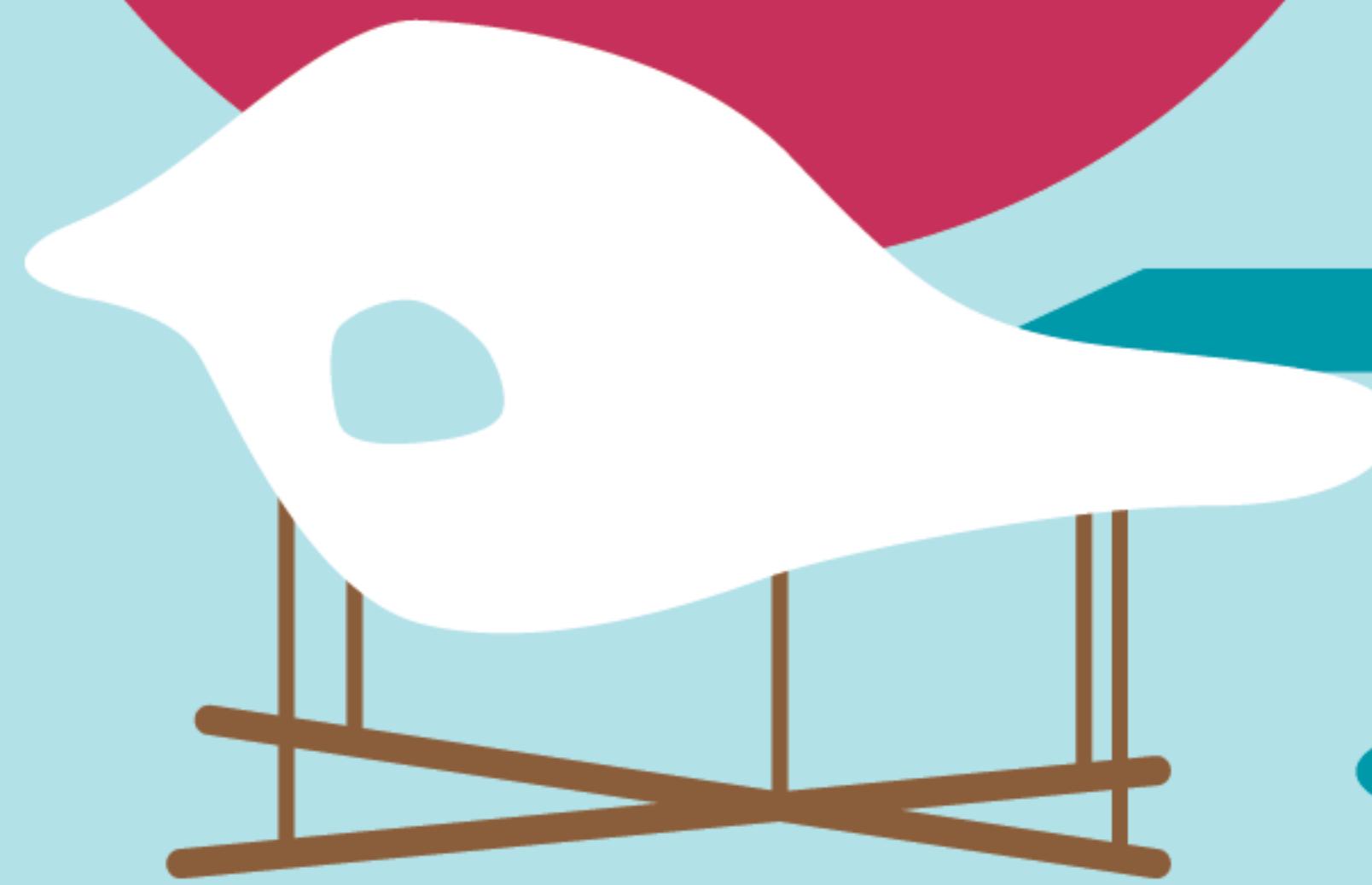
Try Checkout by donating \$1 to support [Watsi's medical work](#).

Checkout creates a [Stripe.js token](#) that you can use to charge a card, create a customer, start a subscription, or anything else you might normally do. [Documentation >](#)



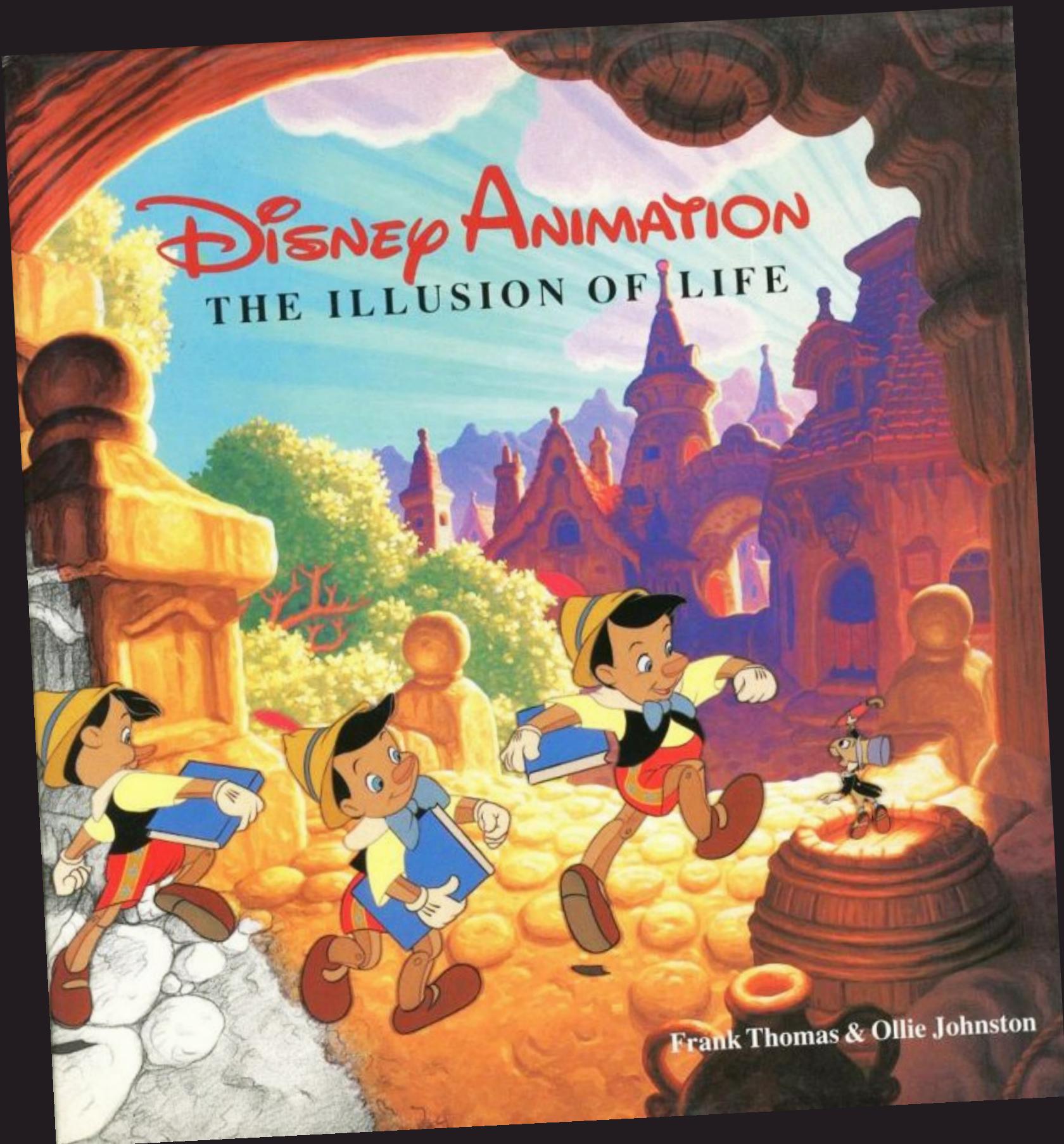
Great

UI animation has
purpose and *style*



Animating With Style





A screenshot of a website titled "the12principles.tumblr.com". The page has a dark background and displays the 12 principles of animation in a grid format. Each principle is accompanied by a small thumbnail image and a brief description. The principles are: SQUASH & STRETCH, STAGING, ANTICIPATION, FOLLOW THROUGH & OVERLAPPING, SLOW IN & SLOW OUT, ARCS, TIMING, EXAGERATION, and SOLID DRAWINGS. The top right corner of the browser window shows "THE ILLUSION OF LIFE" and "ABOUT" links, along with a "PRO" star icon.



△ Pinocchio

3. The Principles of Animation



"When we consider a new project, we really study it . . . not just the surface idea, but everything about it."

Walt Disney

A new jargon was heard around the studio. Words like "aiming" and "overlapping" and "pose to pose" suggested that certain animation procedures gradually had been isolated and named. Verbs turned into nouns overnight, as, for example, when the suggestion, "Why don't you stretch him out more?" became "Get more stretch on him." "Wow! Look at the squash on that drawing!" did not mean that a vegetable had splattered the artwork; it indicated that some animator had successfully shown a character in a flattened posture.

Some of this terminology was just assigning new meanings to familiar and convenient words. "Doing" a scene could mean acting out the intended movements, making exploratory drawings, or actually animating it; and once it was "done," the scene moved on to the next department. Layouts were done, backgrounds were done, recording was done, and, eventually, the whole picture had been done. Mixed in with these terms were the new names and phrases with more obscure meanings.

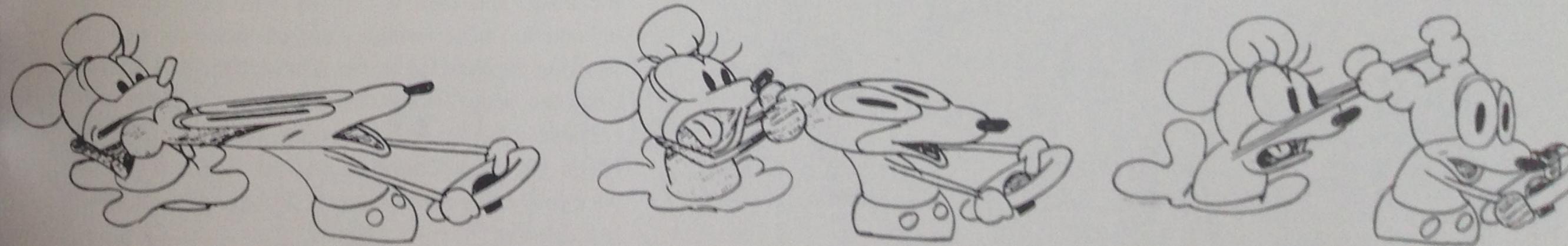
The animators continued to search for better methods of relating drawings to each other and had found a few ways that seemed to produce a predictable result. They could not expect success every time, but these special techniques of drawing a character in motion did offer some security. As each of these processes acquired a name, it was analyzed and perfected and talked about, and when new artists joined the staff

they were taught these practices as if they were the rules of the trade. To everyone's surprise, they became the fundamental principles of animation:

1. Squash and Stretch
2. Anticipation
3. Staging
4. Straight Ahead Action and Pose to Pose
5. Follow Through and Overlapping Action
6. Slow In and Slow Out
7. Arcs
8. Secondary Action
9. Timing
10. Exaggeration
11. Solid Drawing
12. Appeal

Squash and STRETCH

By far the most important discovery was what we call Squash and Stretch. When a fixed shape is moved about on the paper from one drawing to the next, there is a marked rigidity that is emphasized by the movement. In real life, this occurs only with the most rigid shapes, such as chairs and dishes and pans. Anything composed of living flesh, no matter how bony, will





```
104  
105 section {  
106   animation:  
107   slideIn 0.75s ease both, ←  
108   fadeIn 0.15s ease-in both;  
109 }  
110  
111 @keyframes slideIn { ←  
112   from {transform:rotateX(-30deg) translateY(400px);} ←  
113   to {transform:rotateX(0deg) translateY(0);} ←  
114 }  
115  
116 @keyframes slideDown {  
117   from {transform: translateY(-110px)} ←  
118   to {transform: translateY(0)} ←  
119 }  
120  
121 @keyframes fadeIn { ←  
122   from {opacity: 0;} ←  
123   to {opacity: 1;} ←  
124 }  
125  
126  
127  
128  
129
```

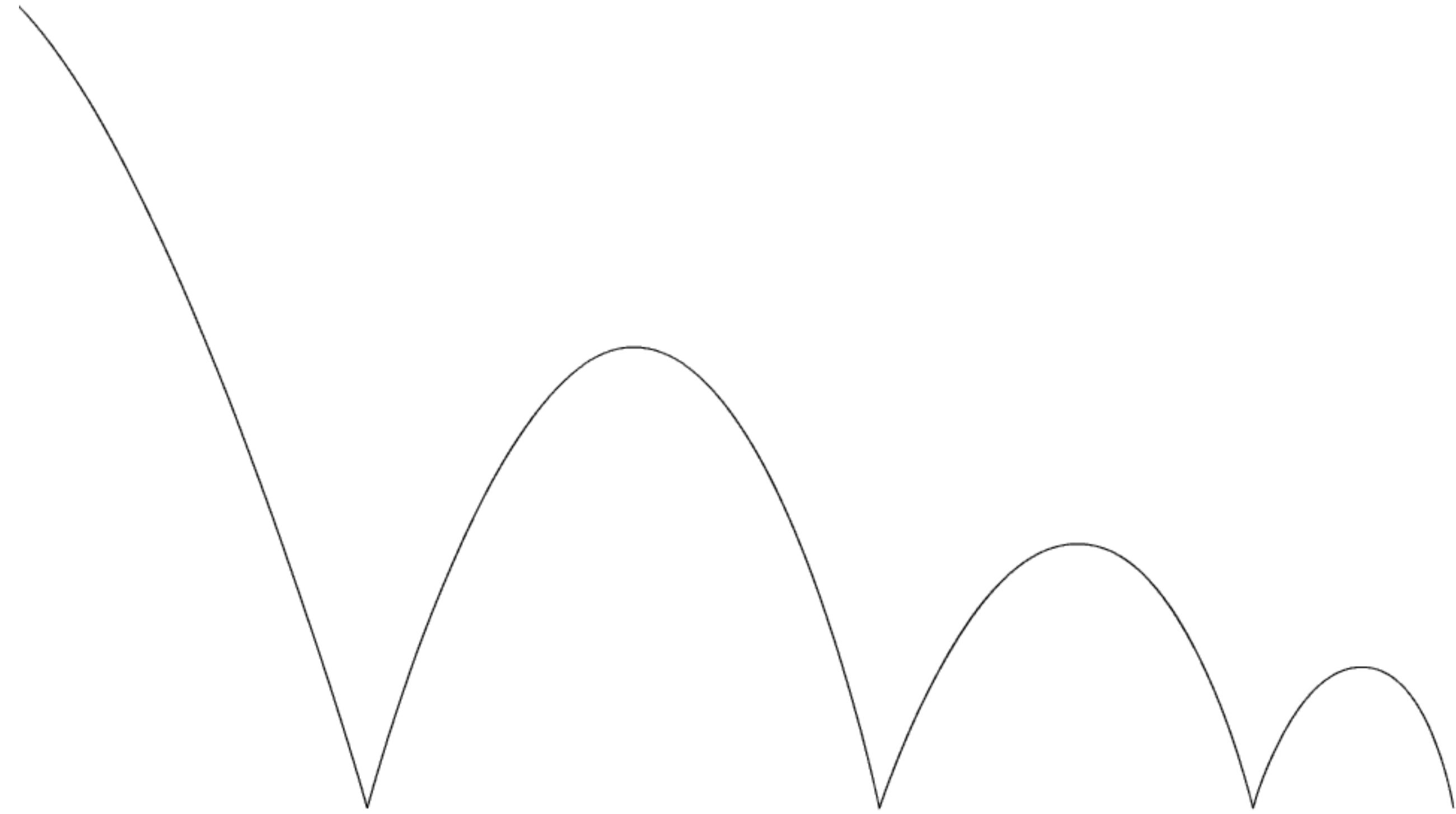


Animation Principle: **Timing & Spacing**

Timing

The amount of time it takes for an action to happen. The duration.

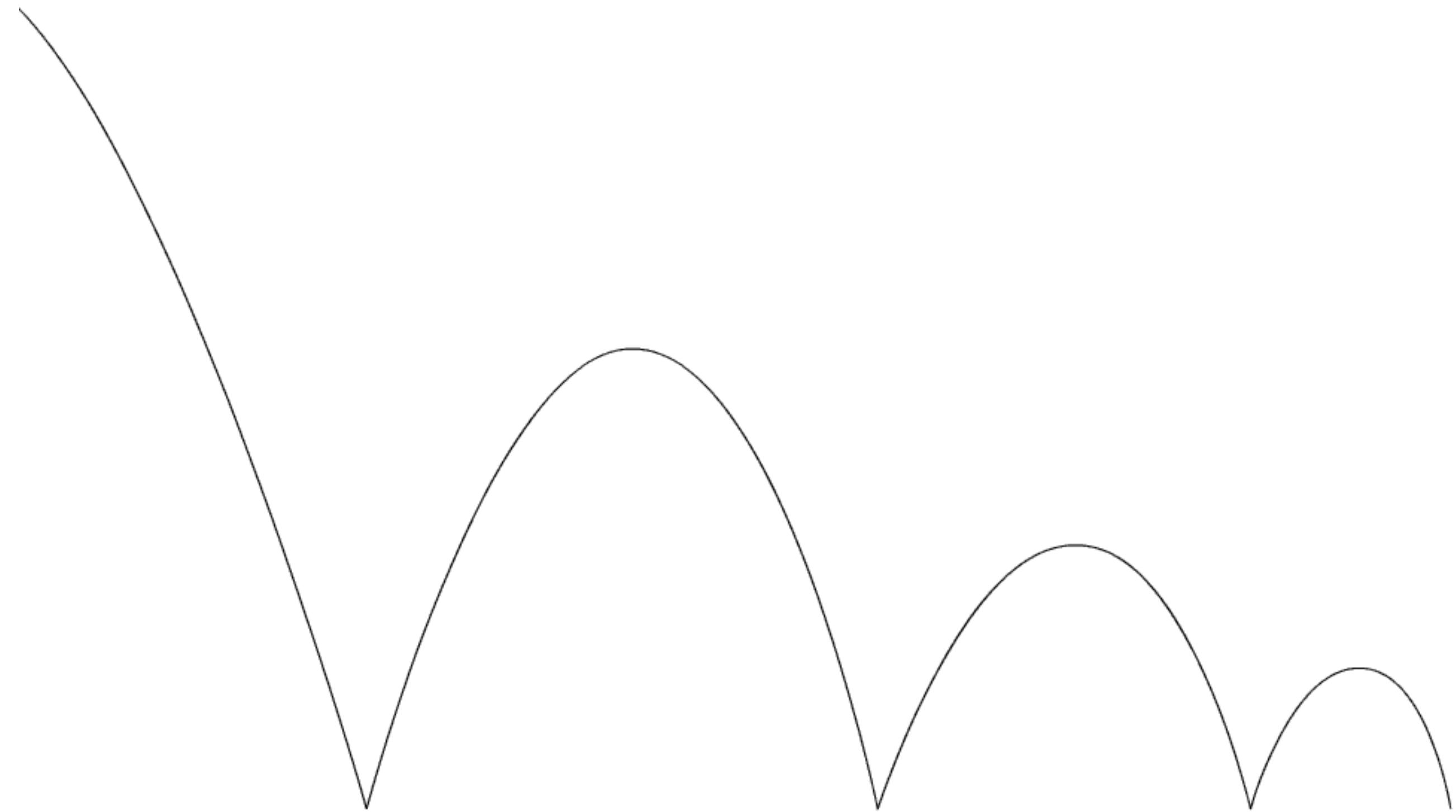




Timing

Spacing

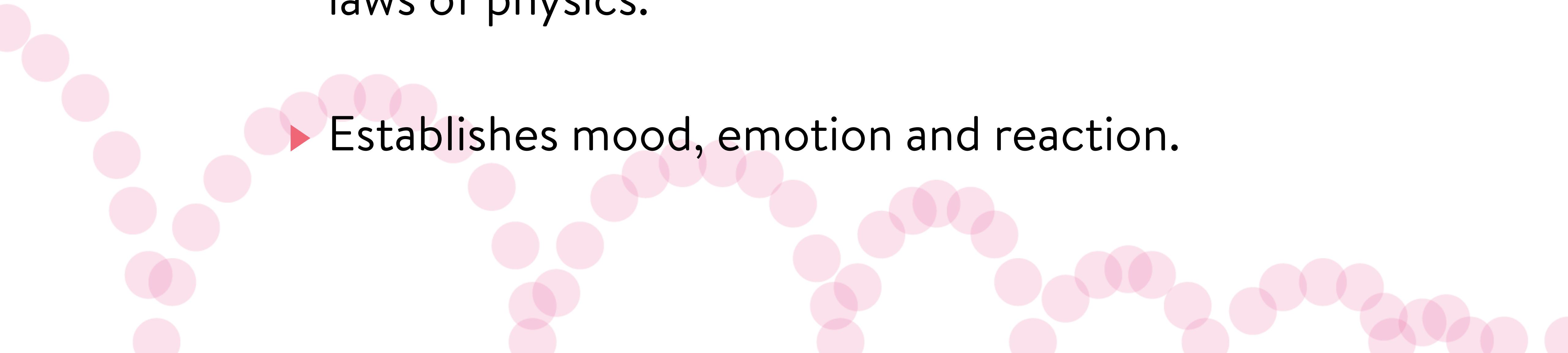
The changes in speed over the duration of the action's timing.



Spacing



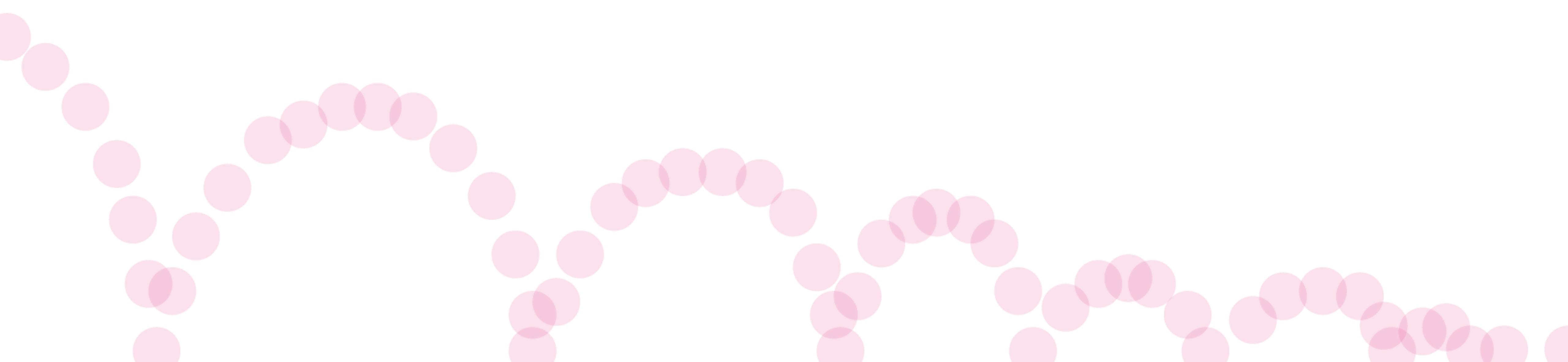
Timing & Spacing

- ▶ Makes animated objects appear to obey the laws of physics.
 - ▶ Establishes mood, emotion and reaction.
- 



Timing = duration

Spacing = easing



CSS Easing Keywords

linear

ease

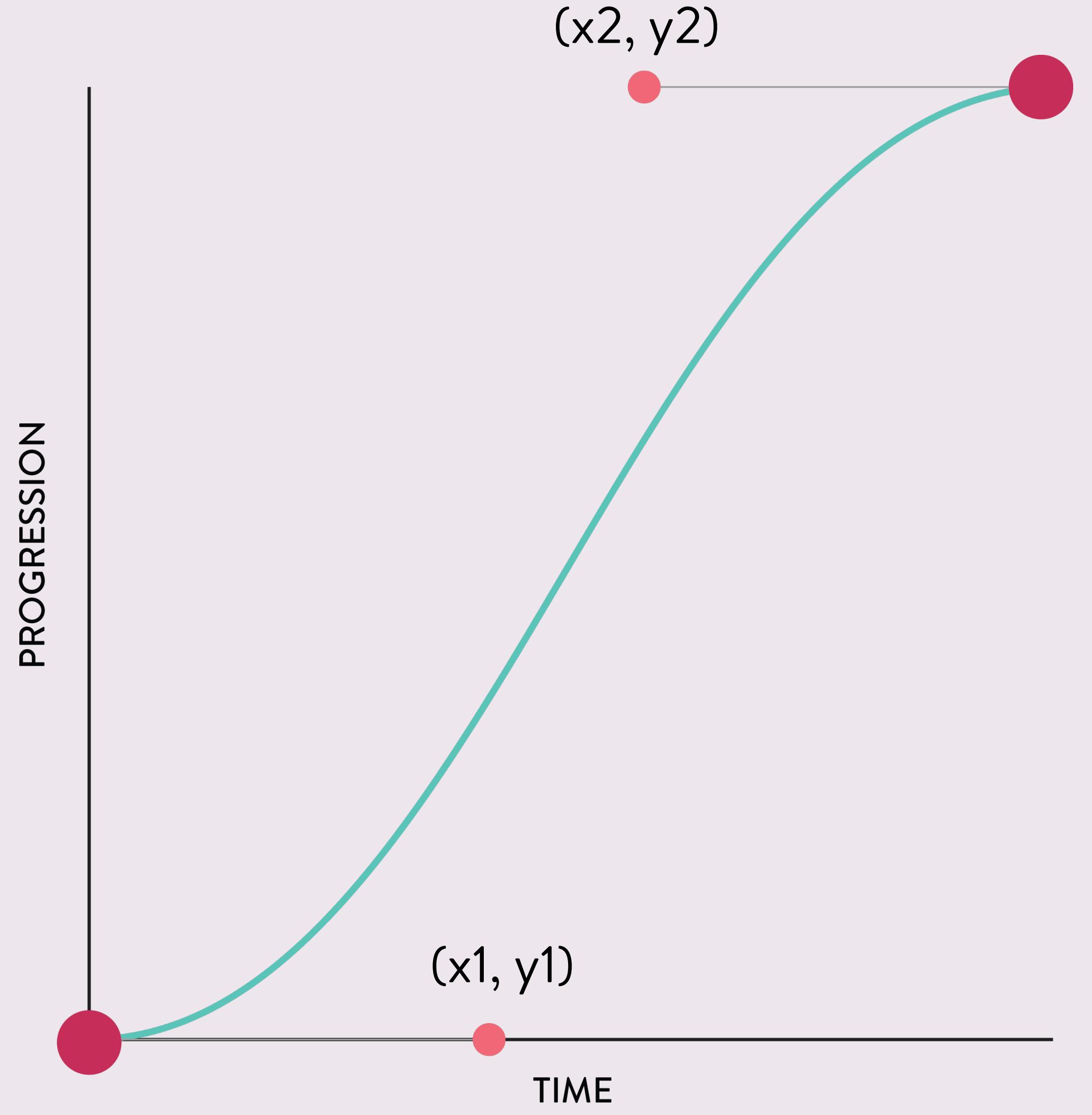
ease-in

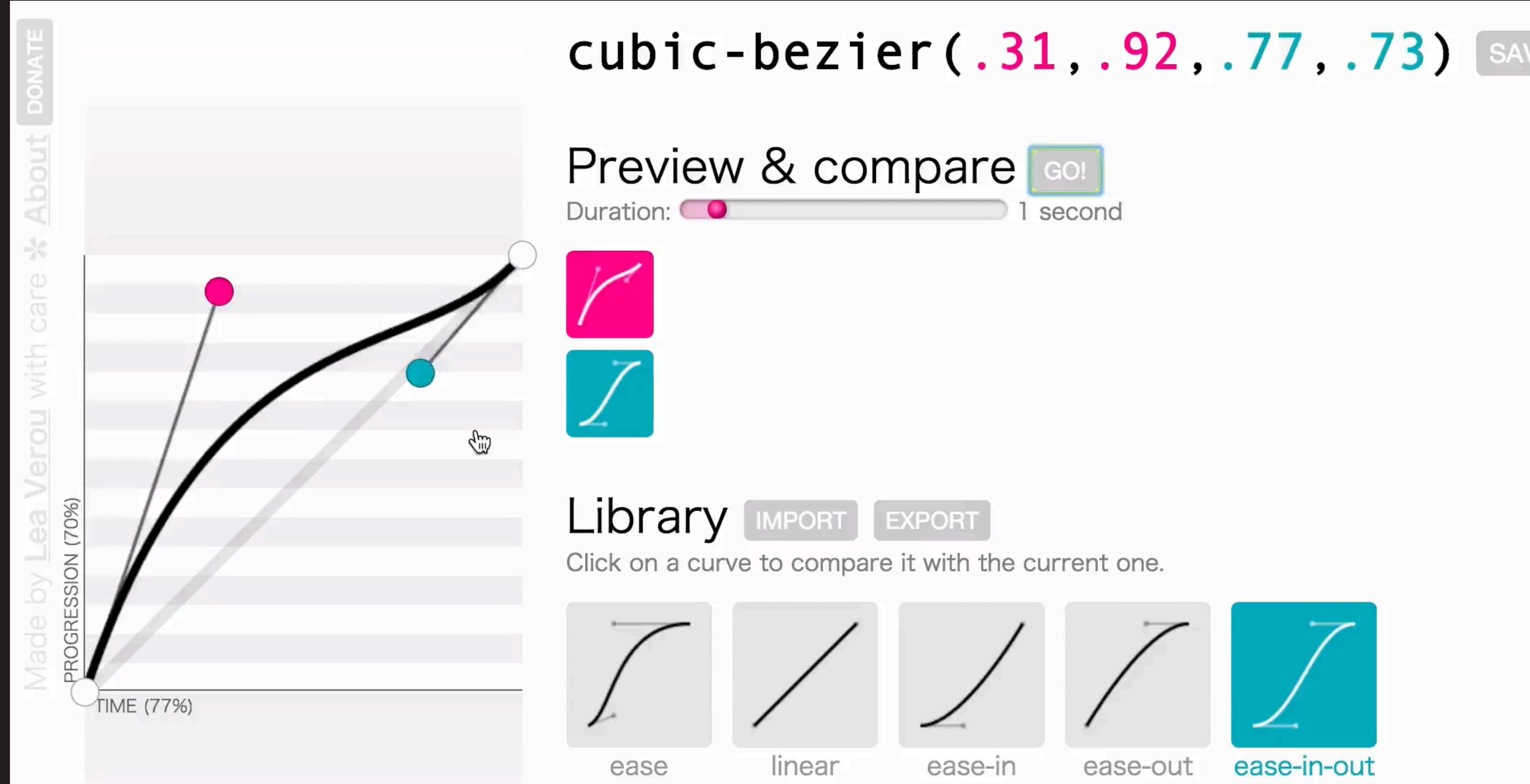
ease-out

ease-in-out

```
cubic-bezier(0.42, 0, 0.58, 1);
```

cubic-bezier(x1,y1,x2,y2);





cubic-bezier.com

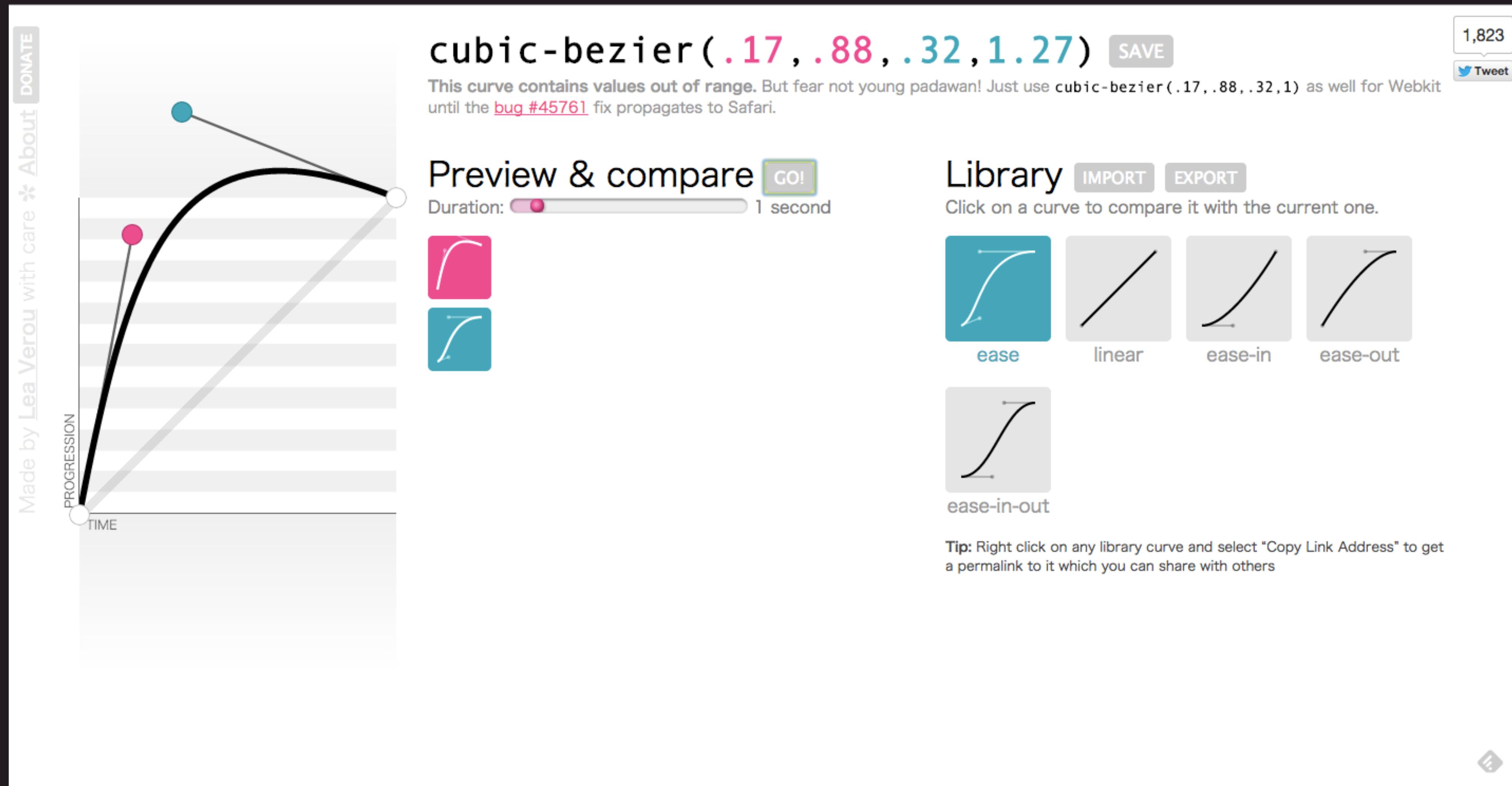


Everything
is better with
cubic-beziers



Timing & Spacing

- ▶ What sort of physical traits fit our modal?
- ▶ What sort of mood or emotion should it show?



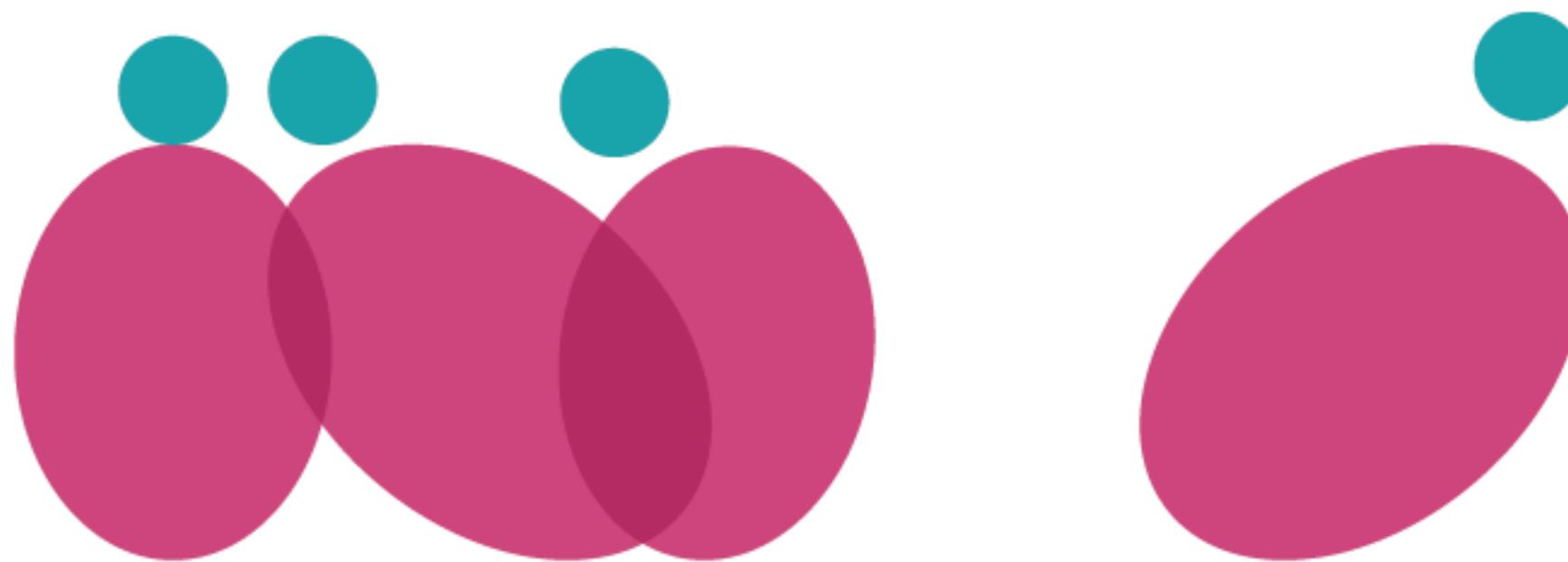
Animation Principle:

Follow Through

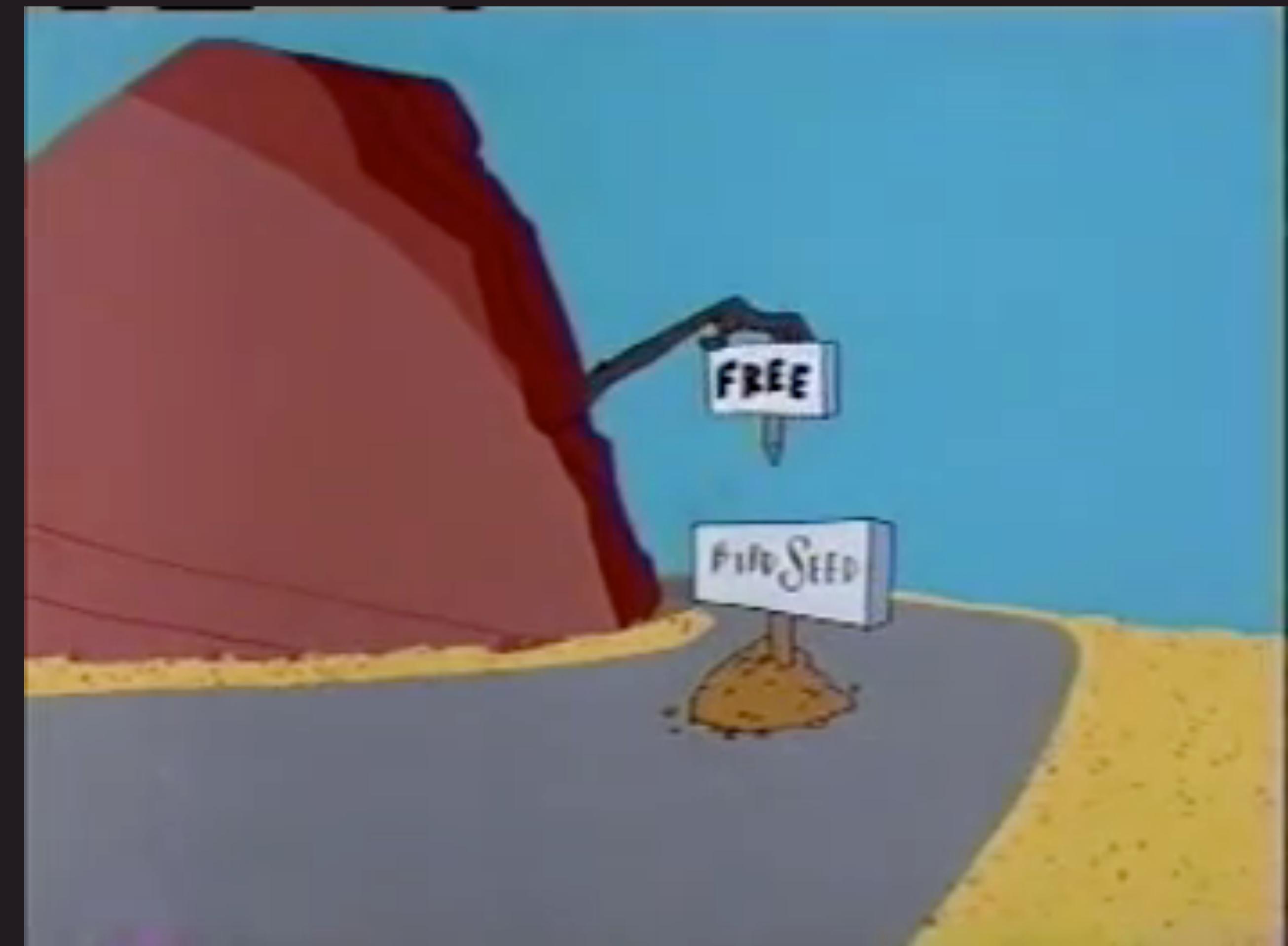


Follow Through

Not everything comes to a stop at once.

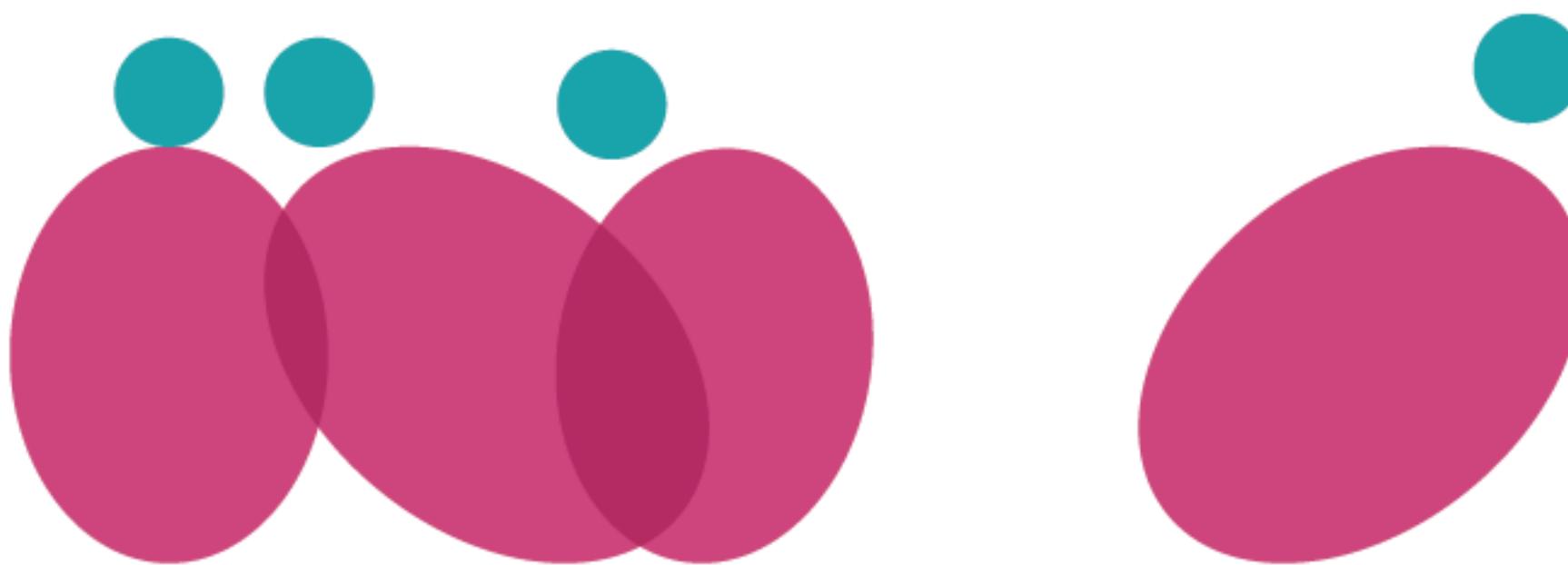


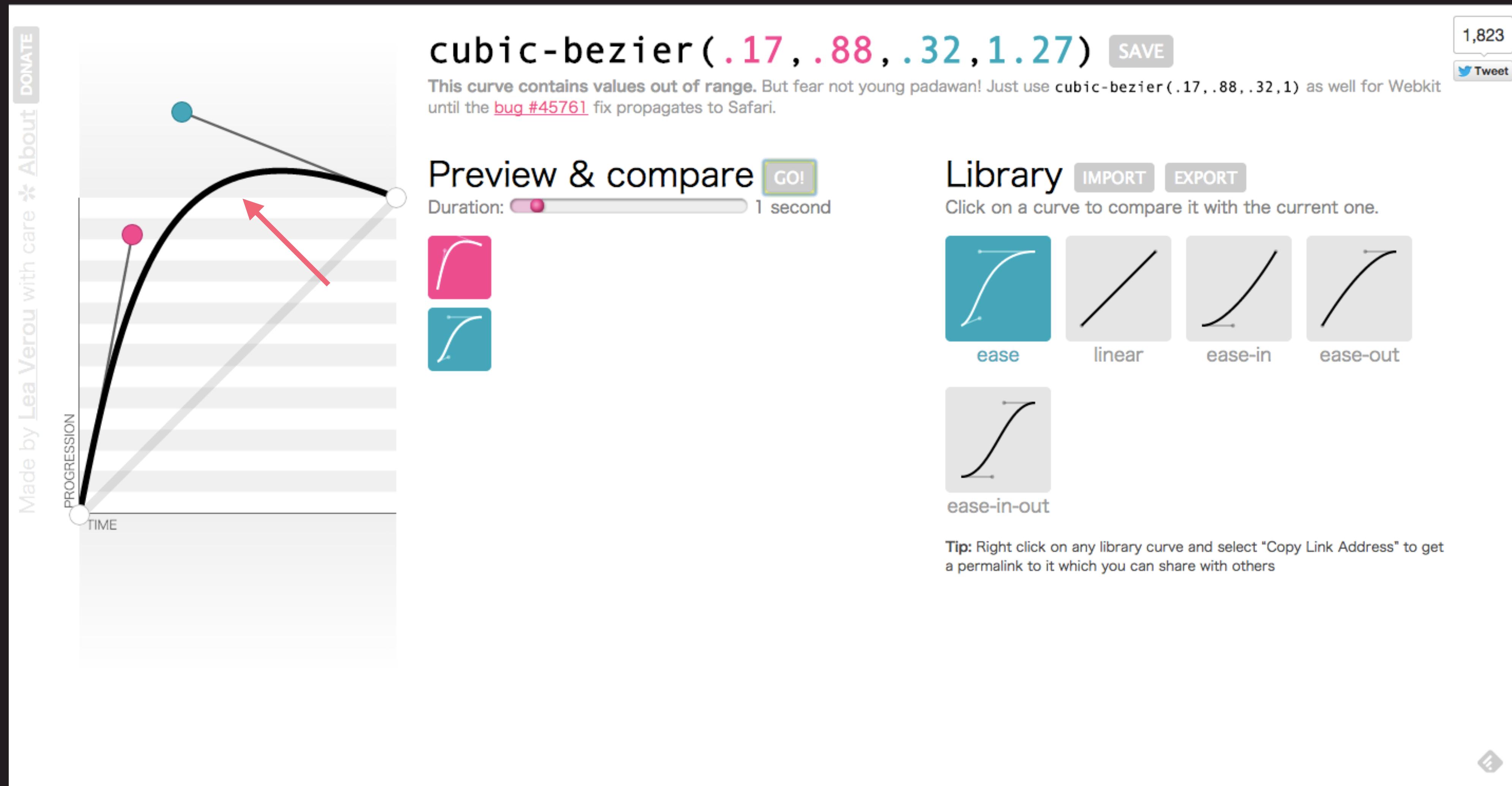
Follow Through



Follow Through

Overshooting the target position.





Animation Principle:
Secondary Action

Secondary Action

Supplemental action, reinforces
and adds dimension.

12:55 PM - 14 Mar 2016

📍 Nashville, TN



...



(live demo - no slides)

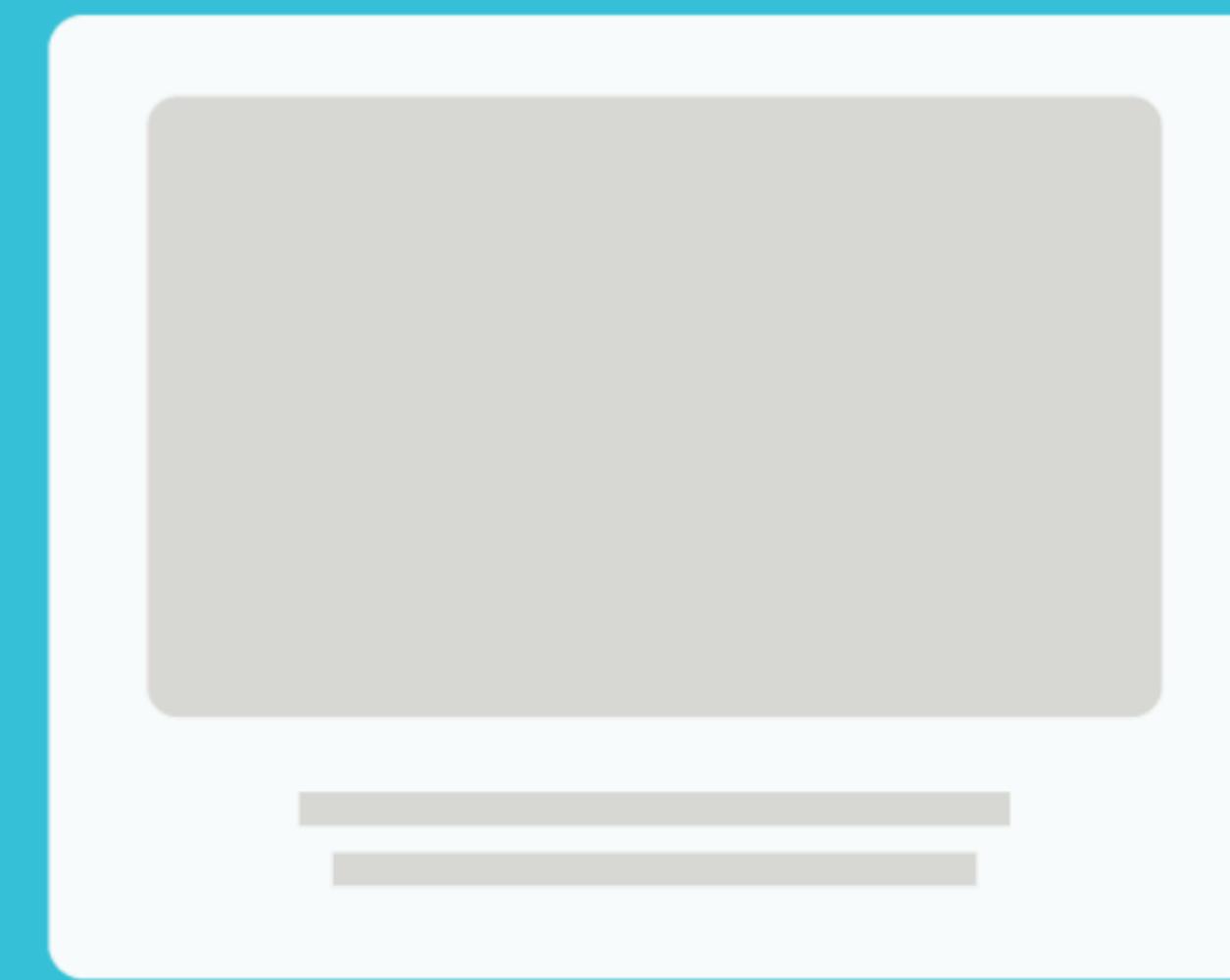
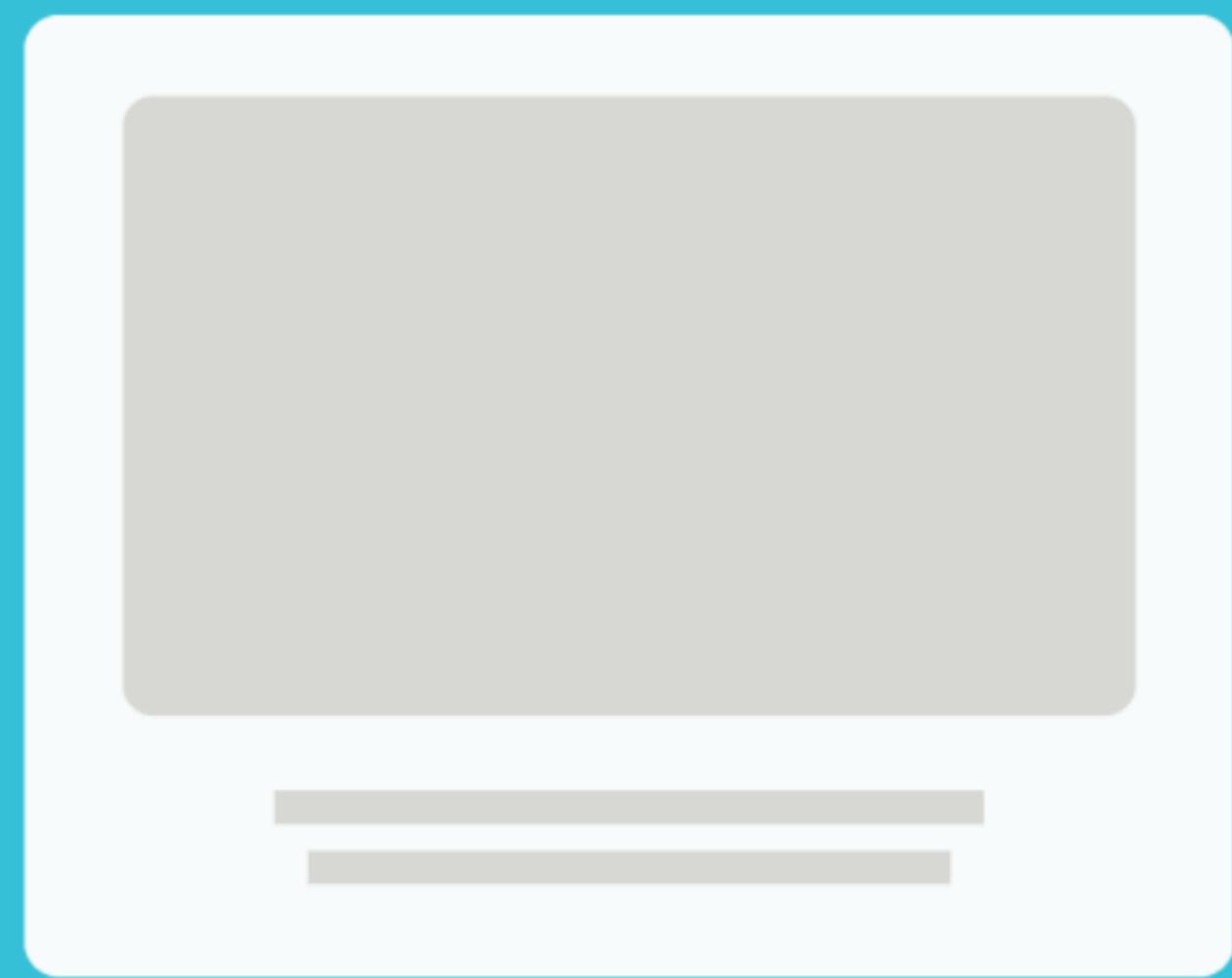
The Bigger Picture



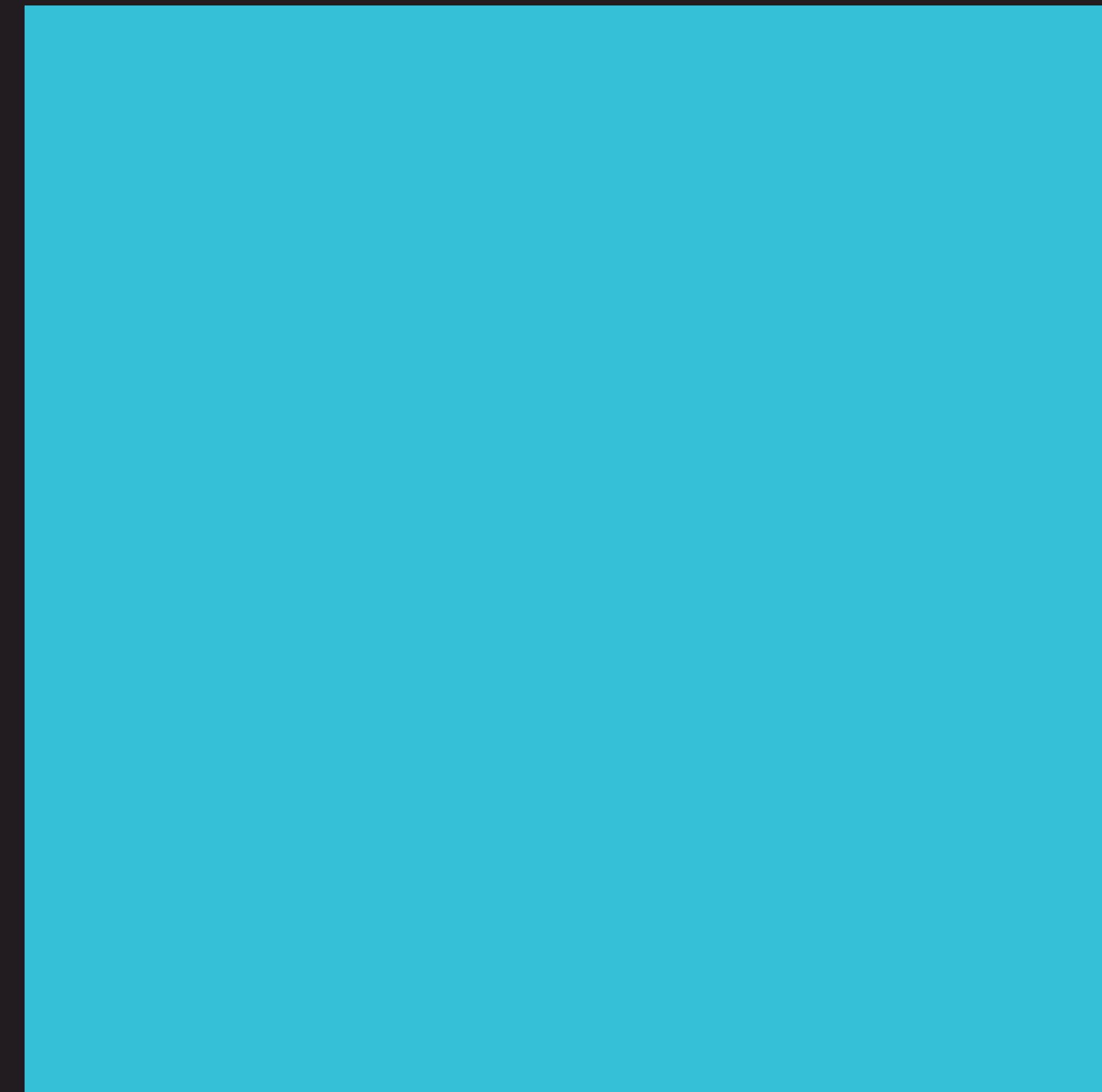
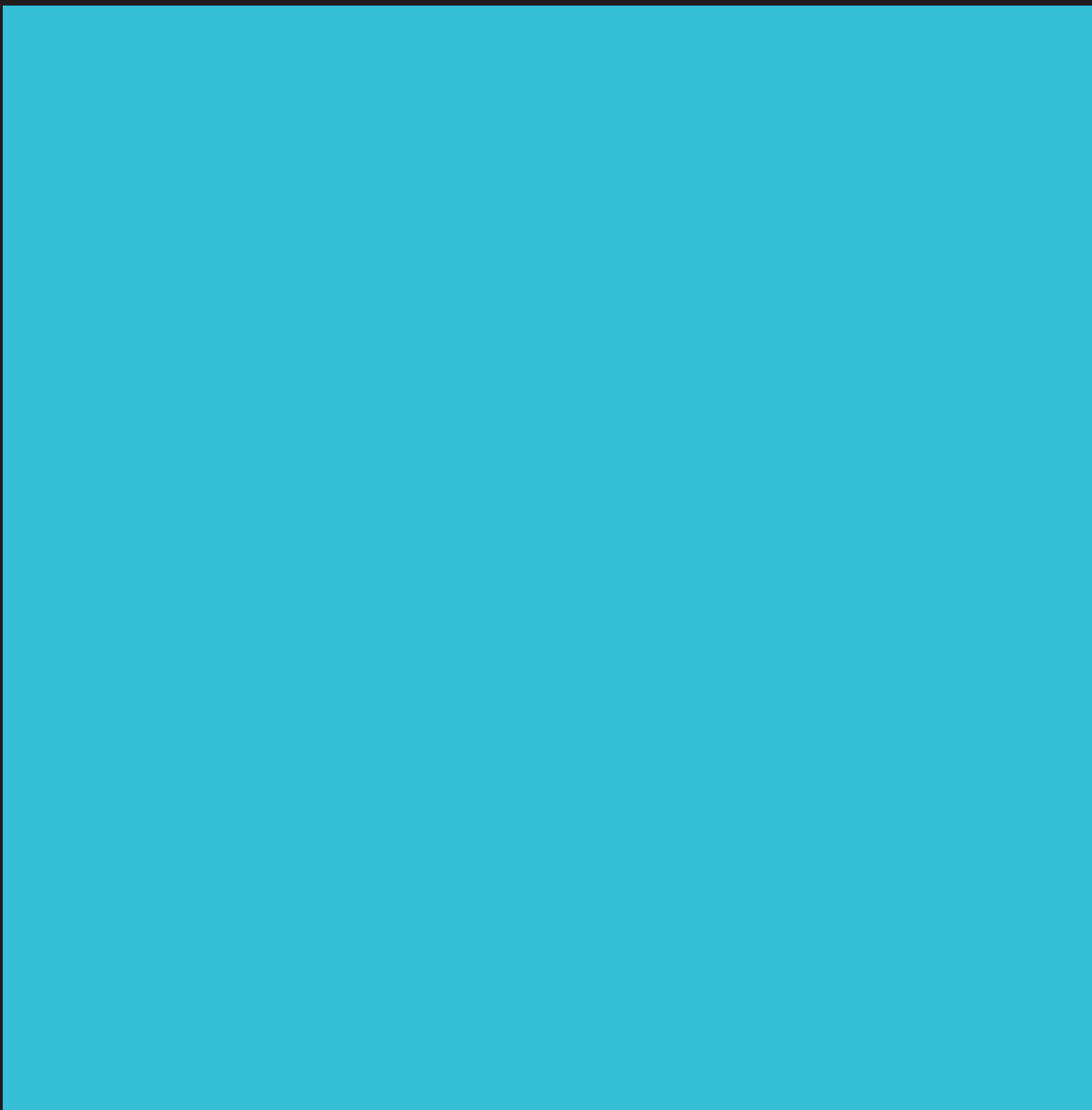
Choreography

Designing all your UI animations
to feel logical and related.

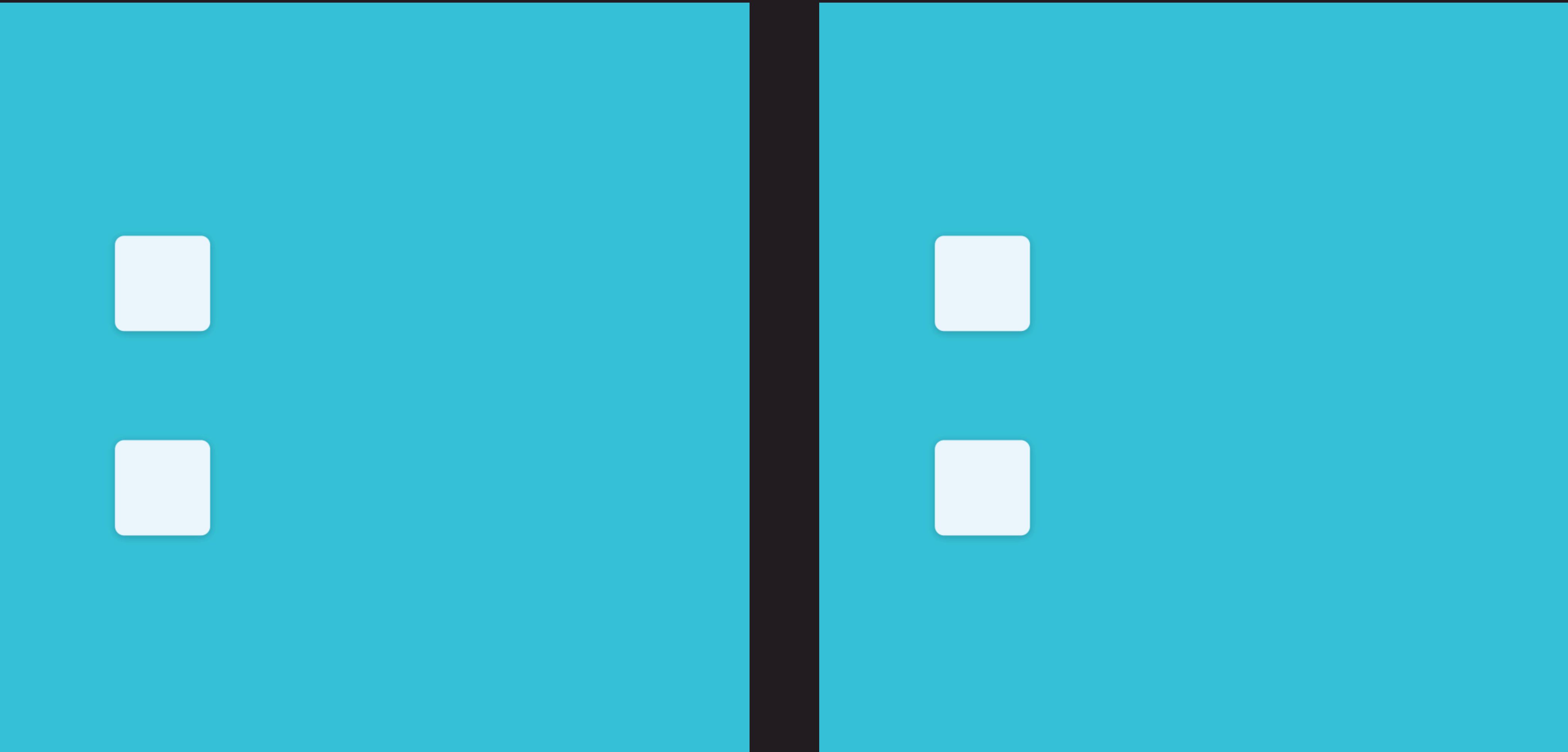
Similar objects animate in similar ways



Entrance informs exit



Match velocities



Cohesive over consistent.

Consistent

The image shows the homepage of the Nixon website. At the top, there is a dark header bar with the Nixon logo, language selection (EN), a search icon, login, my favorites, and a shopping cart icon. Below the header is a large banner with a black and white photograph of a desert road. On the left side of the banner, the text "LEAVE DONE IN THE DUST." is displayed in white, bold, sans-serif capital letters. In the center of the banner is a Nixon Sentry Chrono watch with a dark dial, three sub-dials, and a brown leather strap. At the bottom of the banner is a white rectangular button with the text "SHOP NEW ARRIVALS". Below the banner, there are three smaller images: a close-up of a hand holding a Nixon watch, a view of a street with a Nixon storefront, and a person's wrist wearing a Nixon watch next to a car window.

NIXON

NEW MENS WOMENS WATCHES

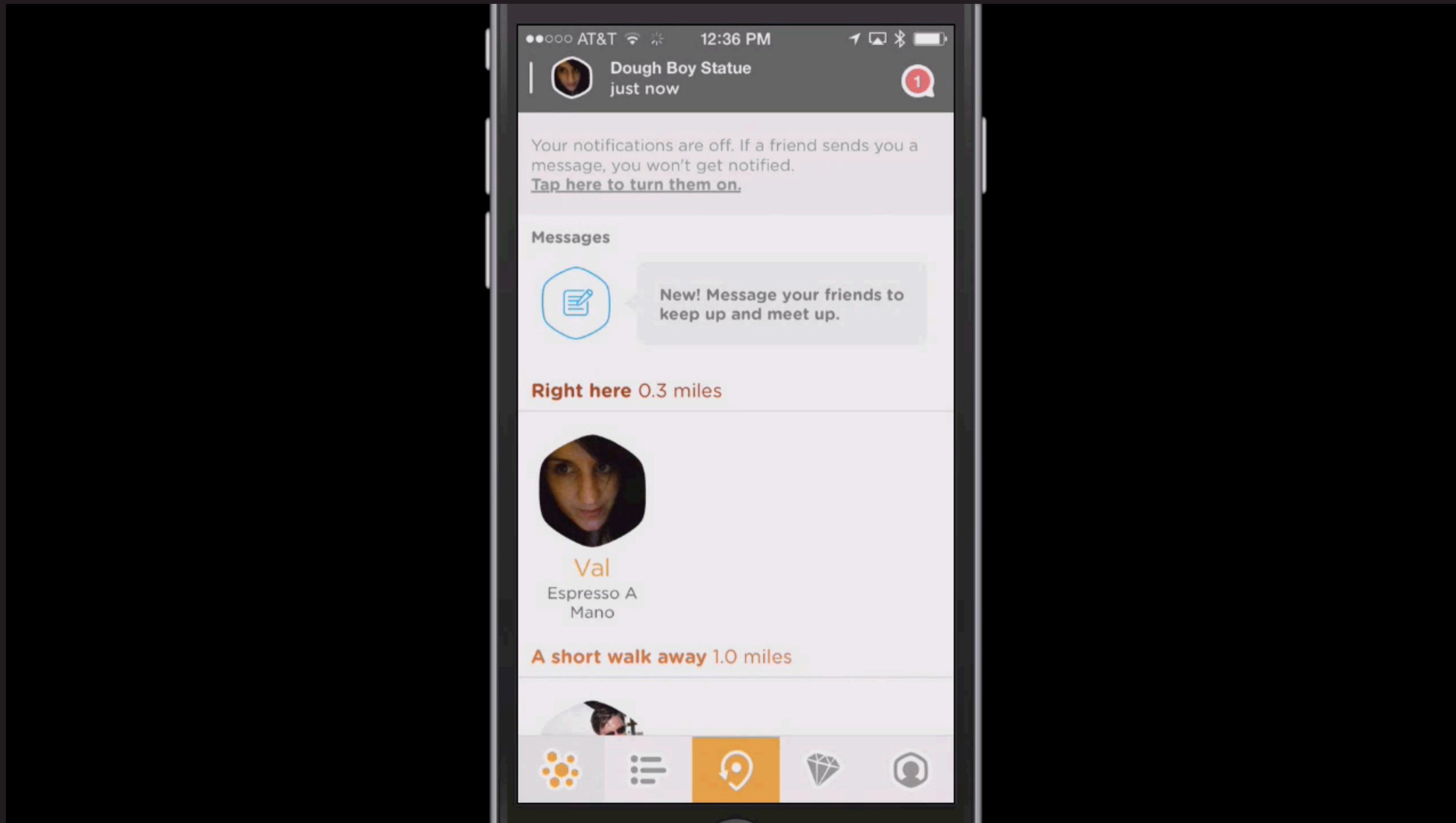
LEAVE DONE IN THE DUST.

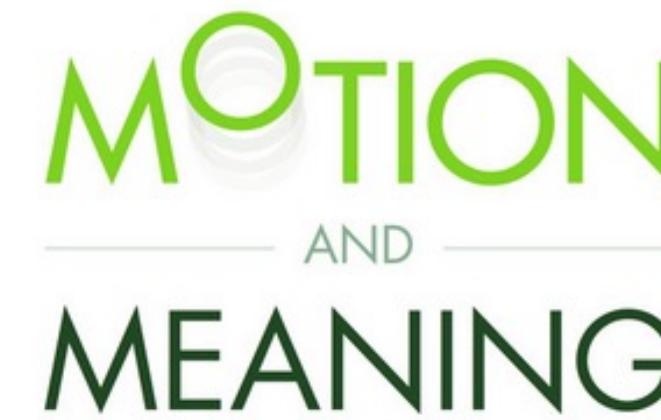
THE SENTRY CHRONO

This season our inspiration is fueled by the shifting environments of our team, driving us to new places and new ideas.

SHOP NEW ARRIVALS

Cohesive





Cookie policy



motionandmeaning

Playing Director with choreography - Motion And Meaning Ep 4

SOUNDCLOUD



30:07

▶ 481

[Subscribe in iTunes](#) or [RSS](#)

Episode 4: Playing Director with choreography

No UI animation acts alone. All the bits of motion across your product or site add up to create a bigger picture. Keeping that in mind means thinking about choreography and how everything works together. In this episode we discuss what choreography means in our digital realm while using a lot of words that start with C: choreography, consistency, and cohesiveness.

Episode Links

[Material Design - Authentic Motion](#)

[Glen Keane on animating the plausible](#)

Expressing Your Brand In Motion



Match animation styles
to voice and tone



IBM DESIGN LANGUAGE | ANIMATION UPDATE

Machines in motion

Start exploring

Design Adjectives

- ▶ Energetic?
- ▶ Friendly?
- ▶ Sleek?
- ▶ Strong?
- ▶ Playful?

Follow through & anticipation:
Energetic, friendly, bold

Squash and stretch:
High energy and playful

Ease-in-outs:
Balanced and measured

Smaller movements:
Calm and subtle

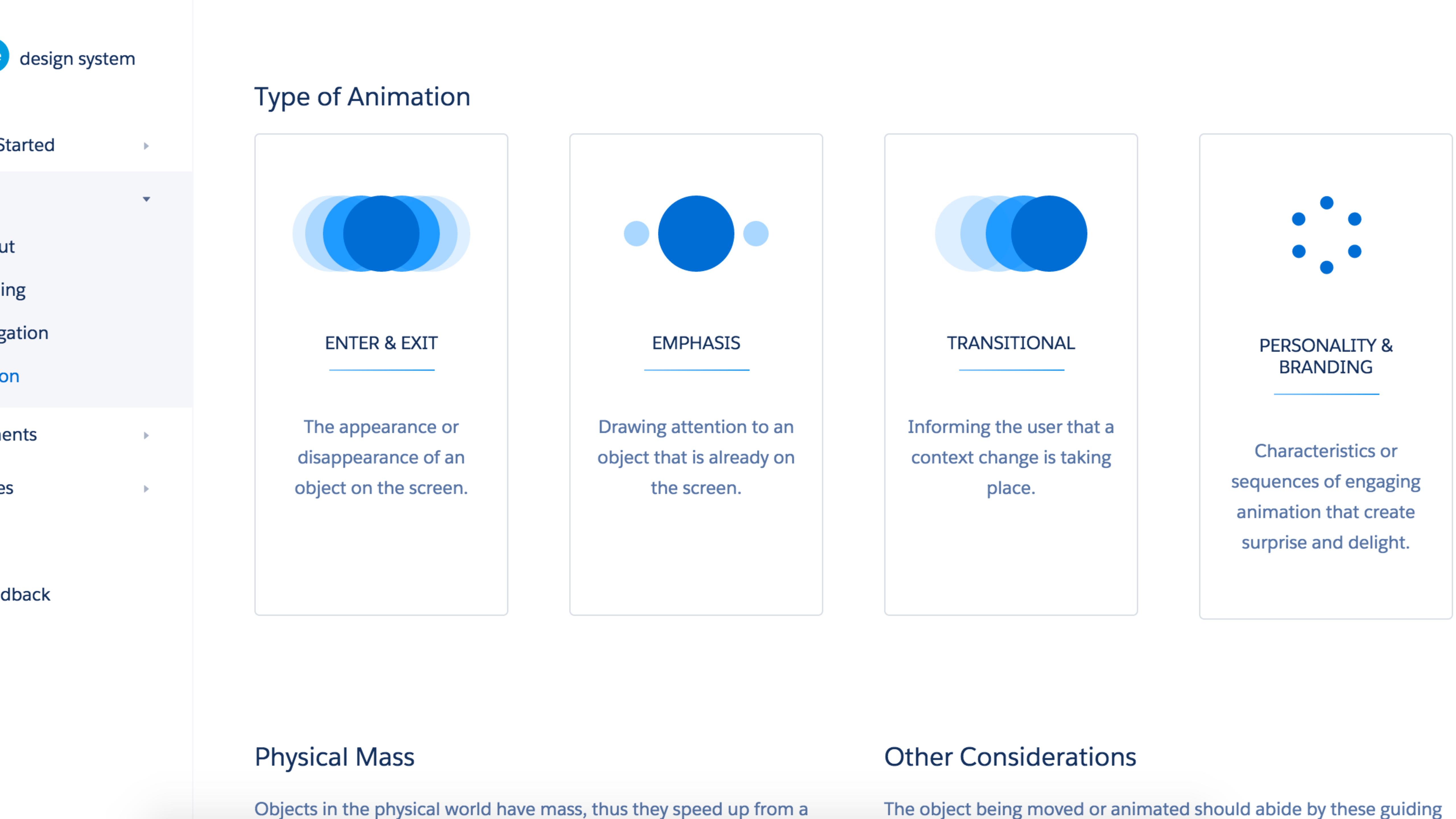
Opacity and blurs:
Soft and stable

Animation belongs
in your style guide



Document categories of animation

- ▶ Entrances and exits
- ▶ Give emphasis
- ▶ Give feedback
- ▶ Transitions between states
- ▶ Personality and brand
- ▶ Orientation
- ▶ Storytelling



Document your building blocks

- ▶ Opacity
- ▶ Position
- ▶ Scale
- ▶ Rotation
- ▶ Colour
- ▶ Depth

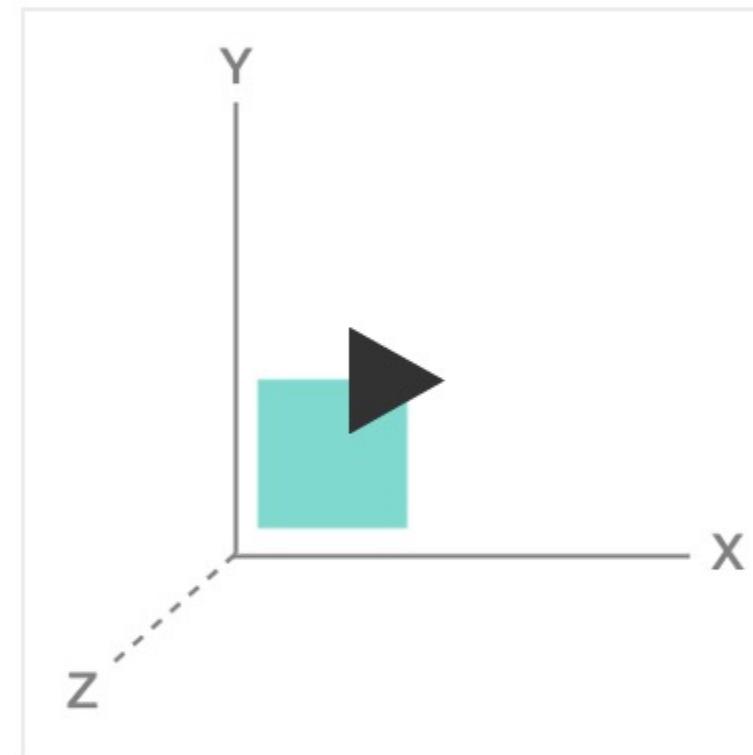
Basics determine the essential qualities of how objects animate.

BUILDING BLOCKS

Properties are building blocks that can be used individually or in combination to create animations.

POSITION

When an object is placed on an axis, it informs the path on which it travels. Positioning can be influenced by forces such as resistance, thrust and gravity.



SCALE

The relative size of an item can make an object appear closer or further away in space, signifying an object's importance and drawing users' attention.



Fade In/Out



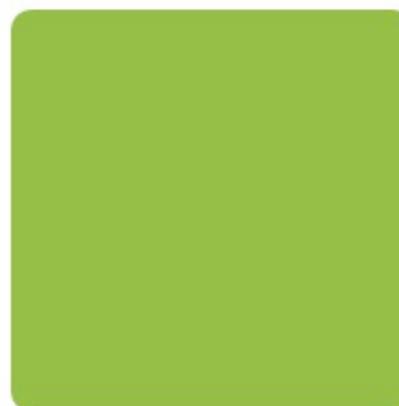
Opacity animated only

Scale In/Out



Scale and opacity, offset timing

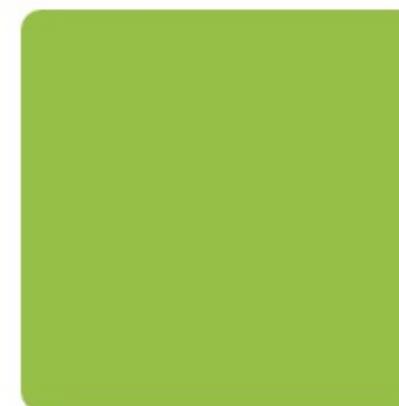
Slide



TranslateY

combine with fade in/out for long slides

Point to point



TranslateX

Strong and stable

"Ease-In"



Scale



TranslateX

\$easeln

cubic-bezier(.56,0,1,1)

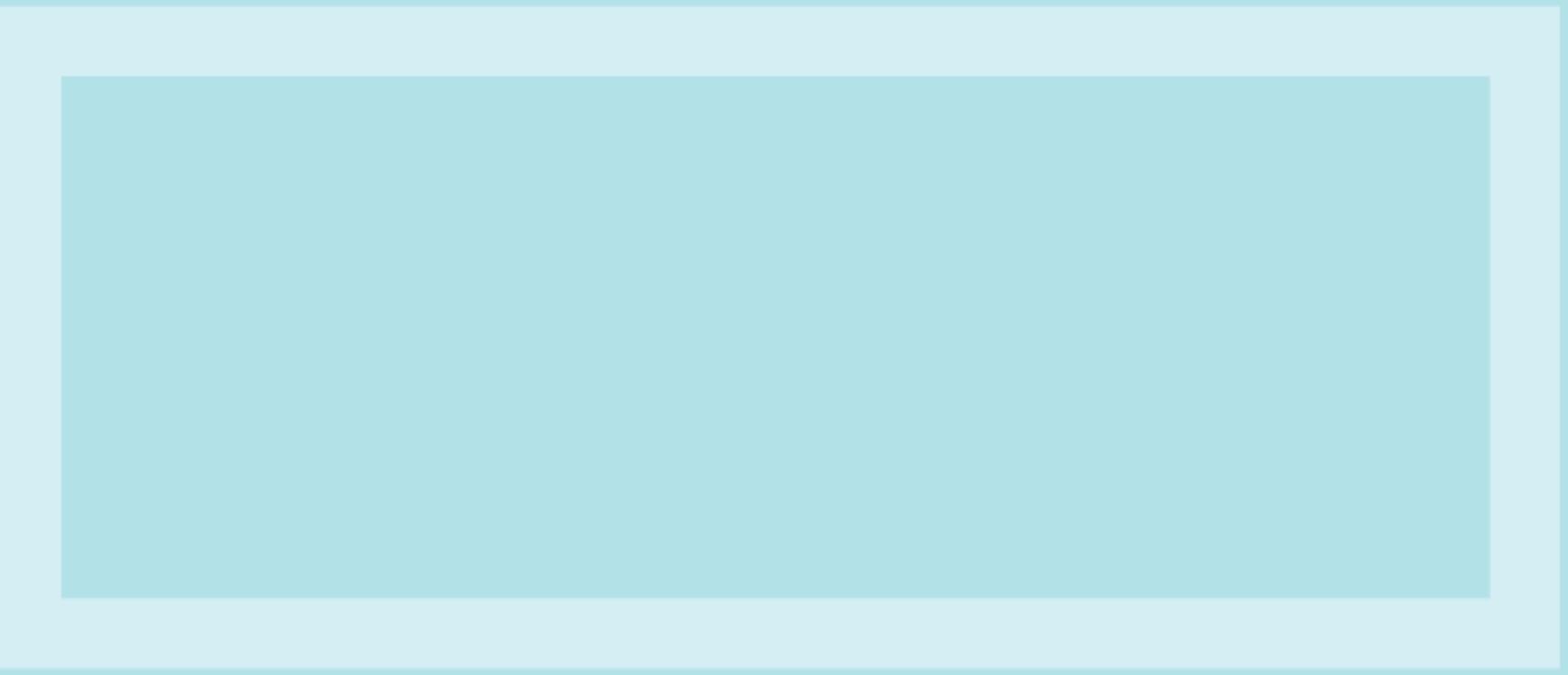


"Ease-Out"





Aim to build *your*
own animation
library



Be Inspired!



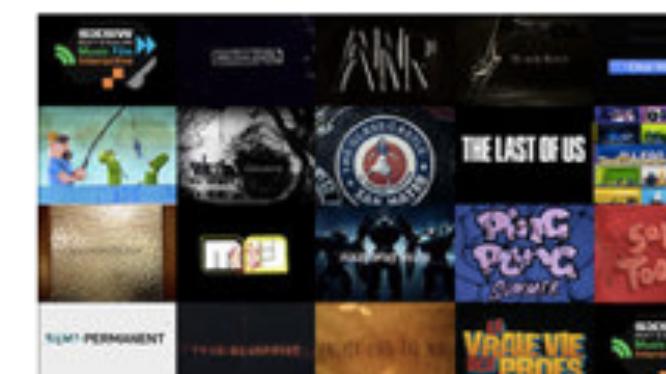
Auntie Mame (1958)

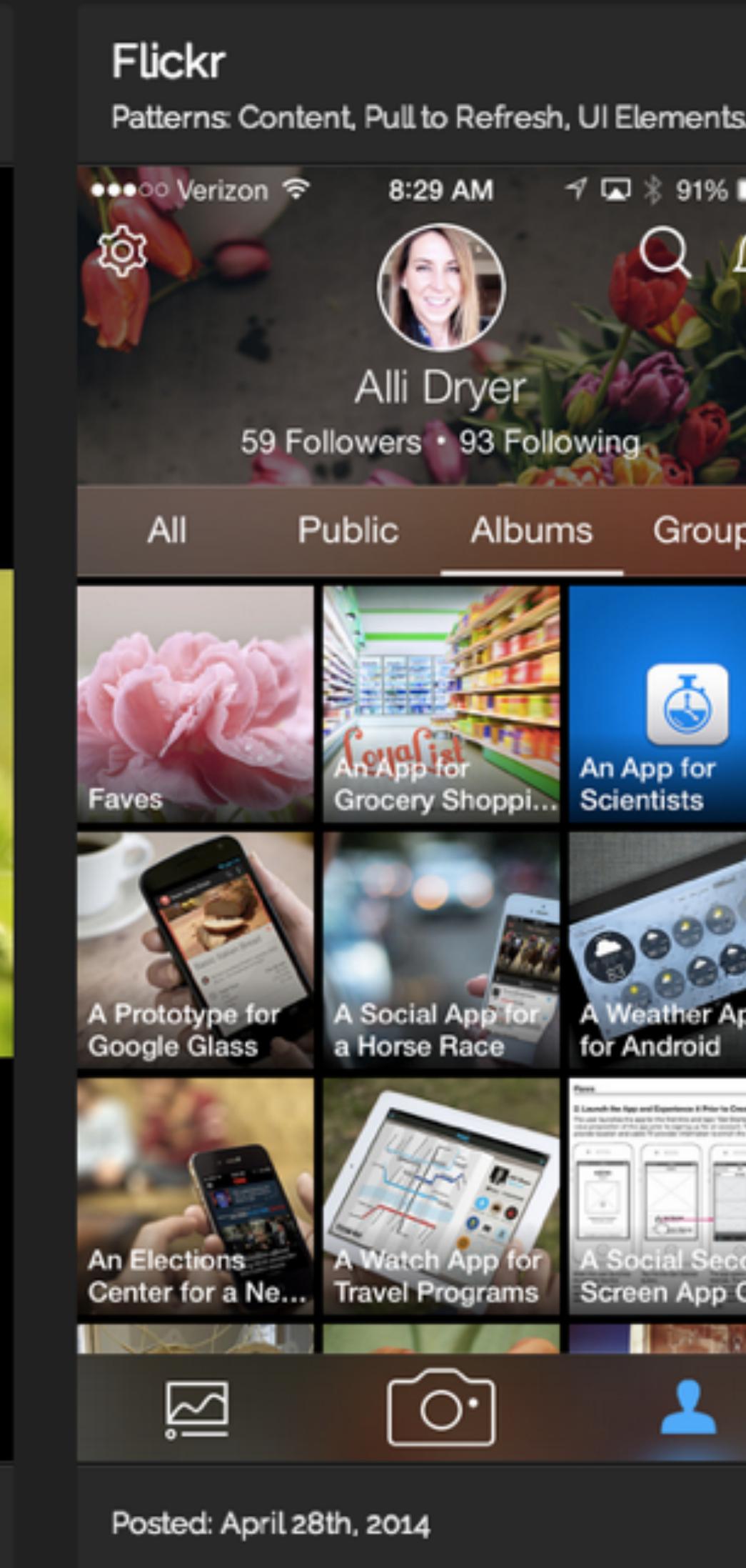
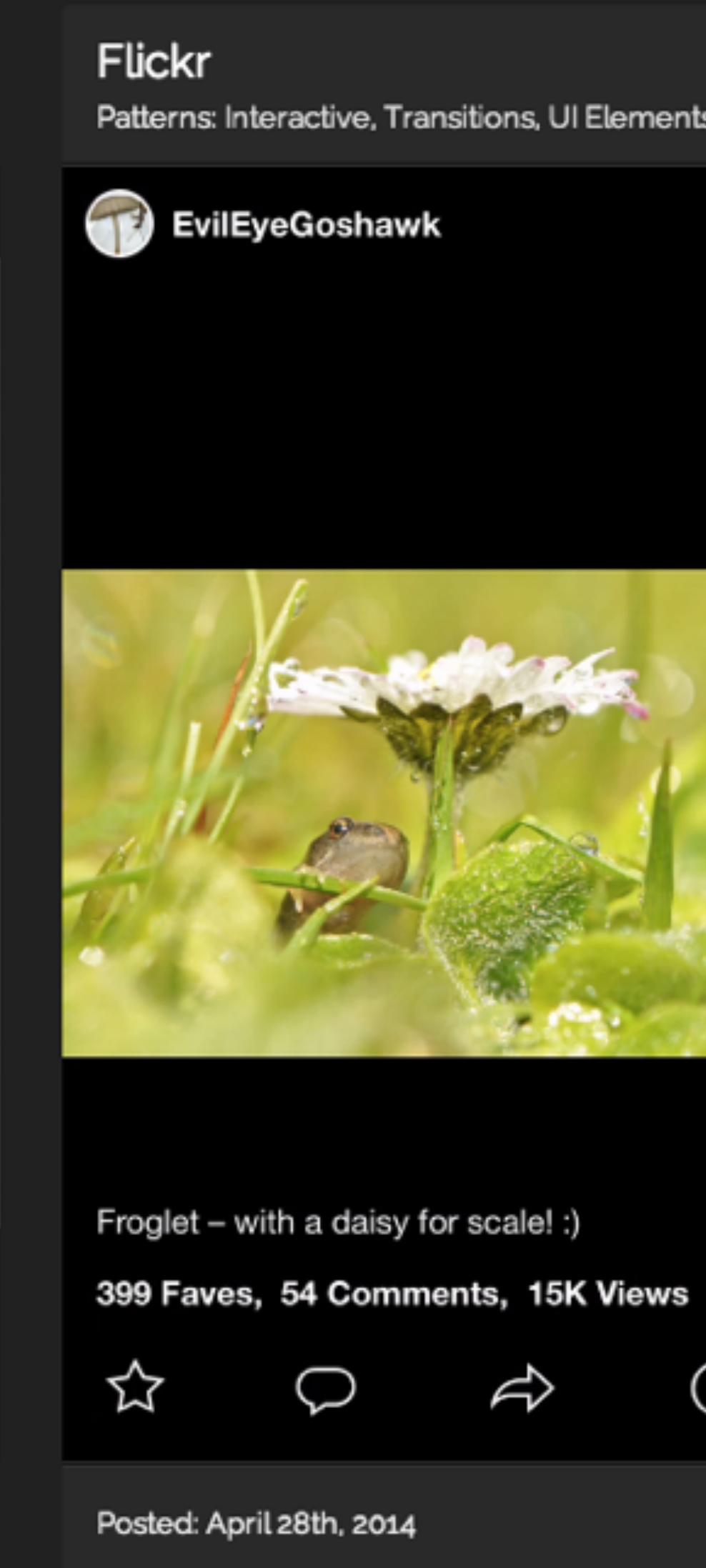


MARCH 25, 2014

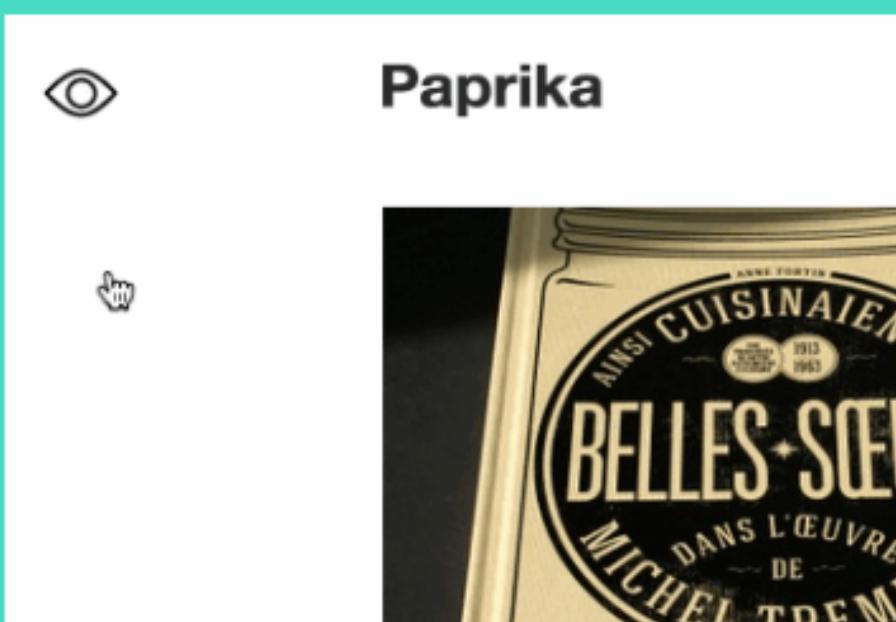
The vibrant and joyful 1958 film *Auntie Mame* presents the art of the title sequences. / BY LOLA LANDEKIC [View article](#)

Subscribe to Art of the Title



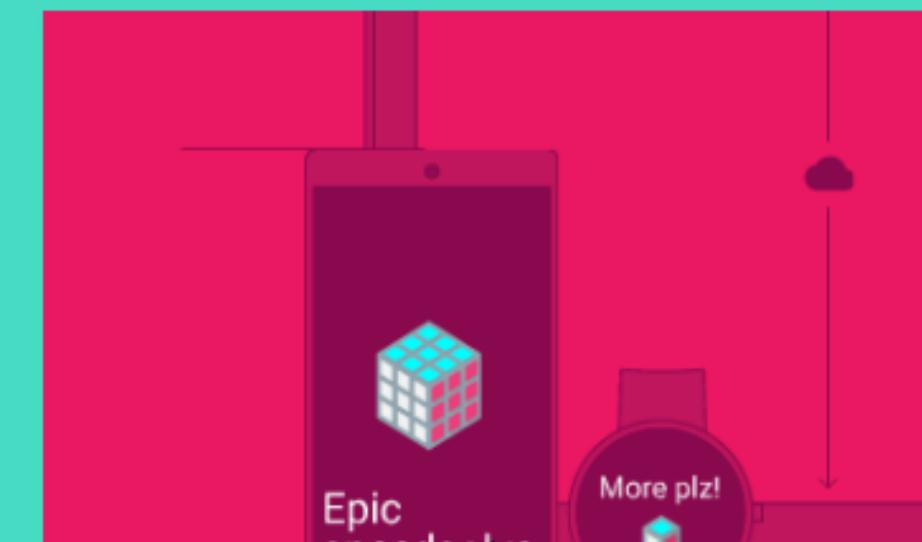


Discover and share moving interfaces

[View the latest](#)

The Empathy Mirror Neurofeedback enables us to better understand our own emotions and those of others.

Don't Turn Away Colin Finlay photographs the consequences of climate change.



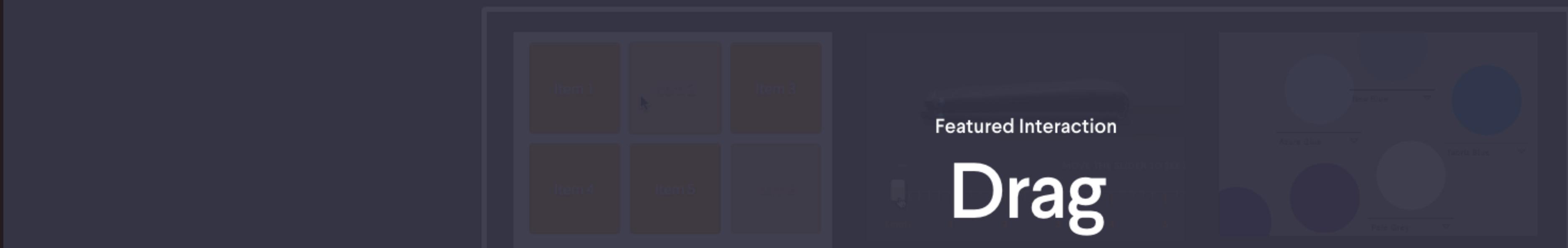
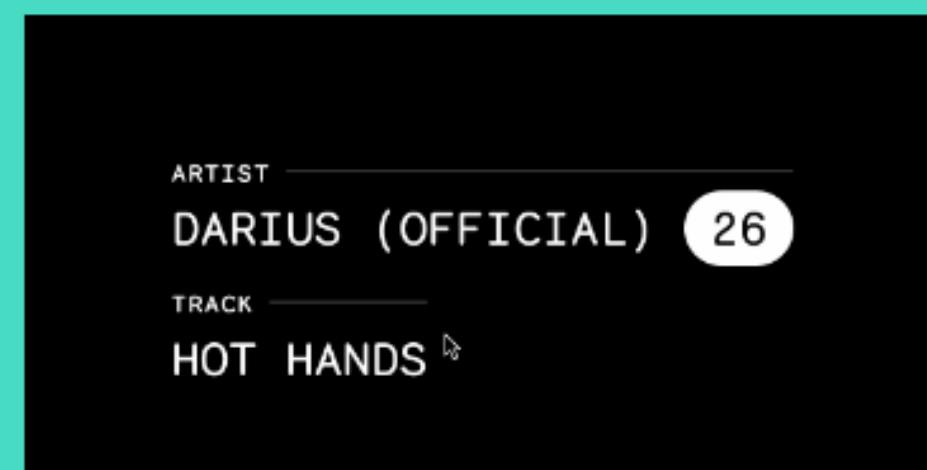
INSTALLATIONS:

01. **AUDITORY MAZ LINZ** 04. **CUBES** 05. **I ASLEEP** 10. **JUDE**

07. **[REDACTED]** 08. **FUT**

DARIUS (OFFICIAL) 26

HOT HANDS ↗



<http://uyi.io/>

Designing Interface Animation

designinginterfaceanimation.com



Thanks!

Join the crew: uianimationnewsletter.com

Let's chat on twitter: [@avlh](https://twitter.com/@avlh)