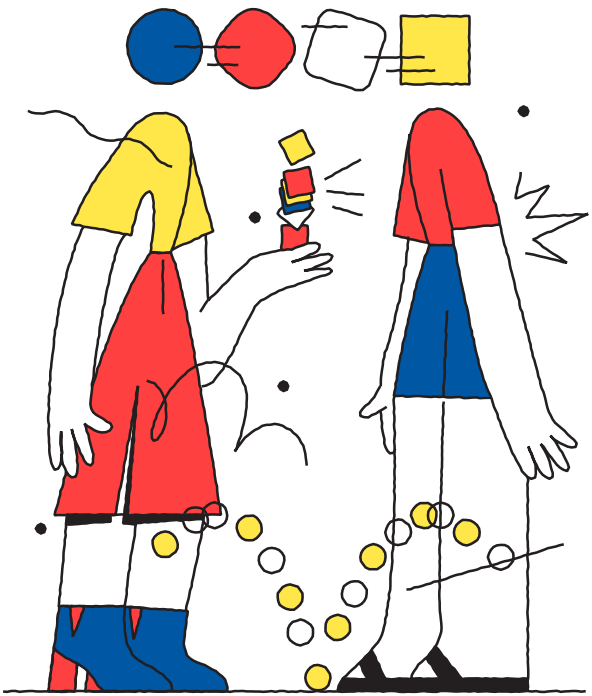
SUPERHI

Experimental Javascript

Our go-at-your-own-pace short course has 8+ hours of video lessons that will teach you the best practices for creating experimental digital projects.



Have a question? Get in touch!

hi@superhi.com

www.superhi.com/faq

twitter.com/superhi_

facebook.com/superhidotcom

About the course

Our short online course is designed to dive into the deep world of experimental Javascript. Discover the world of collision engines, displacement maps and interactive 3D in the browser with libraries like PIXI.js and Three.js.

If you're a creative person who wants to make experimental, art-driven websites, this is the perfect course to make websites that stand out from the crowd.

Who is this course for?

Anyone who is looking to take their creative Javascript skills to the next level, or anyone who is looking to get started with complex Javascript libraries like Three.js, PIXI.js or Matter.js.

We would recommend some knowledge of HTML, CSS and Javascript before this course starts. If you have done either our Foundation HTML, CSS + JS or Javascript for Designers course, this will be suitable for you.

What you'll learn

- How to work with Javascript in combination with creative browser-based media
- How to draw, control and interact with HTML canvases with CSS + Javascript
- Learn how to use Matter.js to create physics engines with in the browser
- Work with PIXI.js, a WebGL 2D rendering engine, to add filters and effects to your sites, such as displacement maps and color splitting
- How to add Three.js, a WebGL 3D rendering engine, to add 3D environments to your websites
- How to load import 3D models from places like Google Poly (or your own!) into the web.

What you'll get

8+ hours of video lessons
Covering the weirdest and newest browser Javascript techniques

Resources
Resources to get you started and keep you going post-course

Continued help post-course
Help from our expert instructors with years of experience in the industry

Real world projects
Projects and code that you can alter and remix to add your own sites

Extra homework challenges
Test your knowledge!

Access to the SuperHi community
Join our Slack and our super secret group on Facebook

Lesson 1

Scratch out

Thanks to SuperHi student, Sandra Autukaite, for her design work on this project

Getting to grips with the HTML Canvas

How to write “vanilla” Javascript (a.k.a no libraries involved!) to draw on a browser canvas

Multi-canvas interaction

With this project, we add two canvases to the same page and interact with them simulatenously

Adding mouse and touch events

With our canvas, we want to interact so our users can draw what they want so lets add some Javascript events

Blend modes

Using CSS’s mix-blend-mode Photoshop-style filters, we add in a scratch-out revealing effect to the page

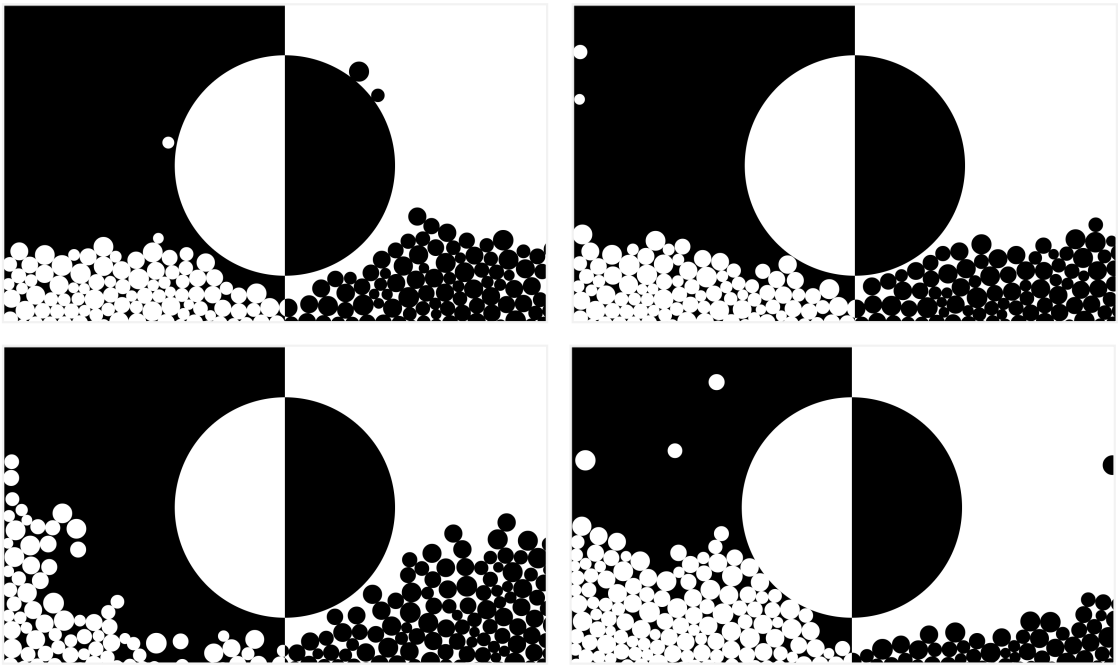
Do I have to finish the course in a certain amount of time?

Once you buy the course, it’s yours forever! You’ll always have access to the lessons and our support.

This course has around 8 hours of video lessons, so you can break down your learning however works best for you and your schedule.

Lesson 2

Physics engine



Welcome to Matter.js

Using Matter.js, a 2D physics engine, we add a collision engine to our project

Fixed + moveable objects

We add both fixed and moveable objects to the project so that our balls have something to bounce off of!

How to change gravity

Matter.js gives you flexibility about how you interact with it and lets you change everything about the ‘world’.

Device orientation

To make the project more fun, we add orientation tracking so you can move a phone or tablet around to interact

Lesson 3

Displacement + color filters

Introducing PIXI.js

PIXI.js is a 2D WebGL rendering engine that lets you do complex techniques easily in the browser.

Displacement filters + maps

Add a displacement filter to let you change and distort how images look, with user-interaction or time-based animation

Color splitter

Let PIXI.js control how colors work within your image – if you want to agressive split them or just add subtle effects, it's up to you!

Animation loops

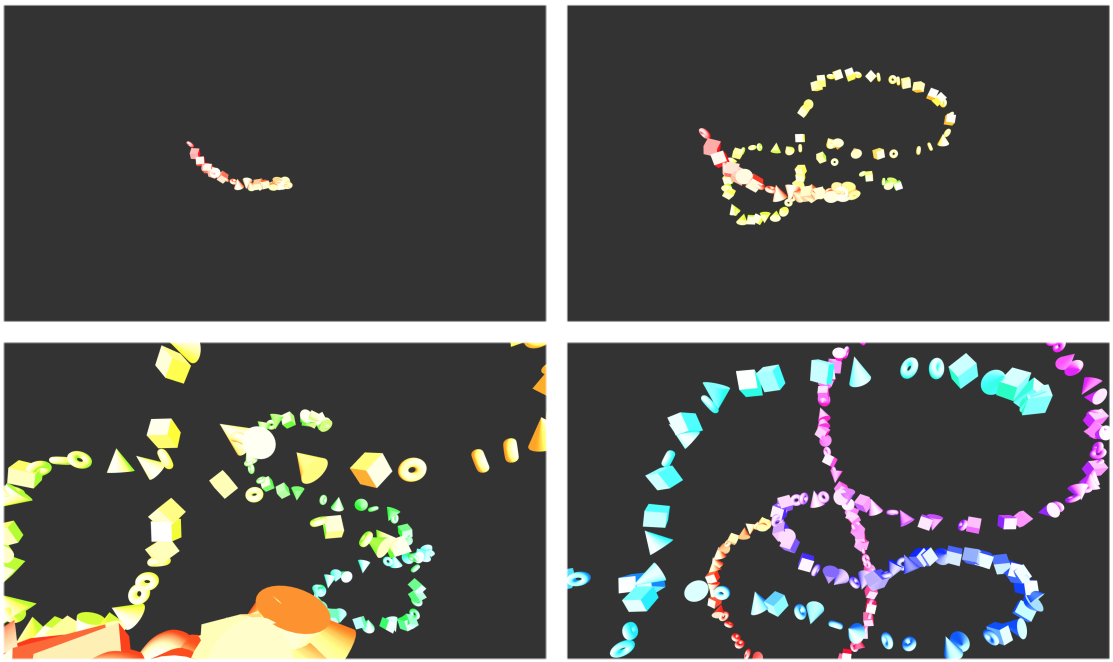
How to move and change your own animation loops to fit the speeds and designs you want to make

Continued support

If you're making your own projects after the course and need help, just ask us! We want you to make the projects you want to make.

Lesson 4

3D shape drawer



Welcome to Three.js

Three.js is a 3D WebGL rendering engine – think like PIXI.js but in three dimensions!

Lighting our scene

We have a lot of options about how we light a 'scene' in Three.js. In this project, we talk about directional lighting

Scenes, cameras, geometries + meshes

In 3D, there's a few more parts to think about. From how a shape is formed to how the camera looks at those shapes

Adding user interaction

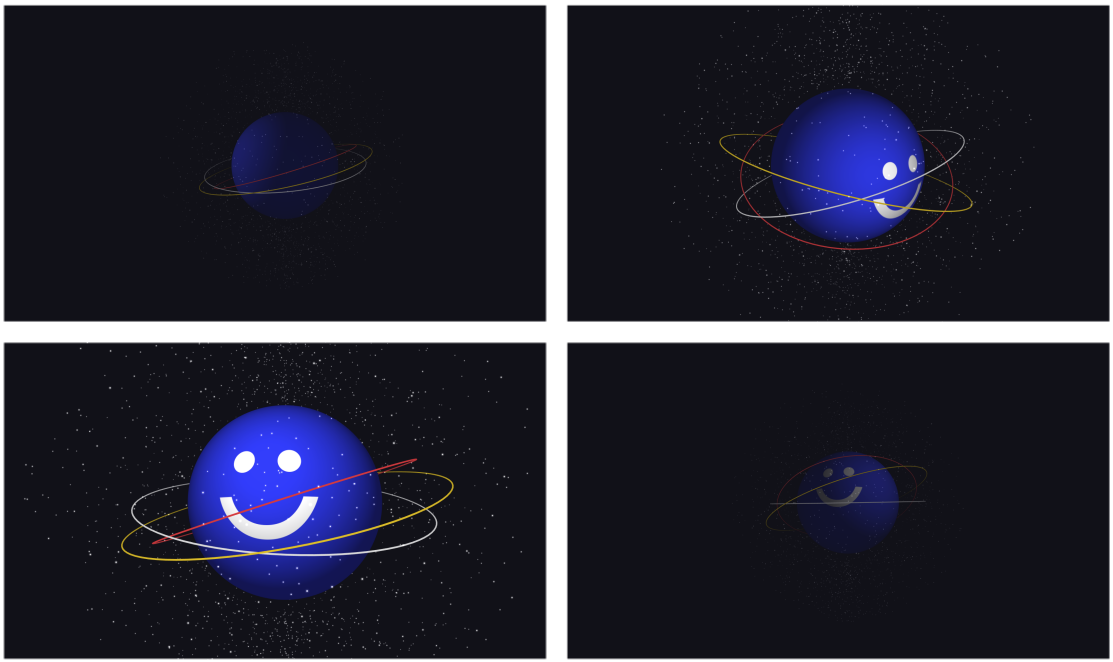
Using the same technique as Project 1, we go from a 2D scratch out effect to a 3d shape painter!

Video requests

Joining the course also means you have access to our video requests page so you can request a video tutorial on a particular technique or vote up other people's requests!

Lesson 5

Particle systems



More Three.js

Three.js is a 3D WebGL rendering engine – think like PIXI.js but in three dimensions!

Particle systems

Not only does Three.js include a ton of shapes, but it also lets us add custom particle systems to our projects

Loading textures

By adding our own images to our shapes, we can get a bit more control over our project's design

Camera + object movement

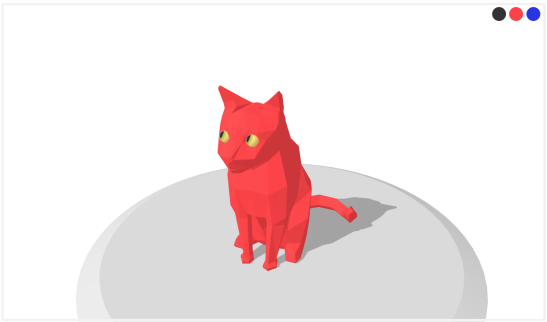
We don't want a static design so let's add cameras that move with our user's mouse and objects that auto rotate!

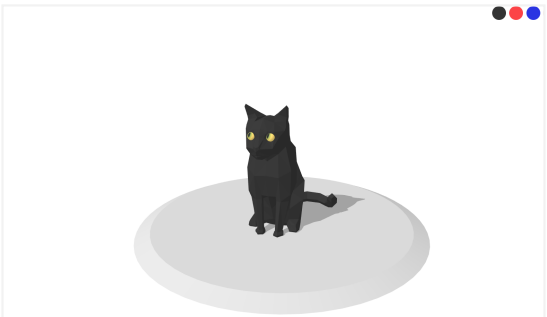
Requirements

To join this course, you need to know how HTML, CSS + Javascript work together. You don't need to be an expert but at least comfortable with them. We would recommend taking either our Foundation HTML, CSS + JS course or our Javascript for Designer course before this one, if not.

Lesson 6

Interactive kitty



Loading objects + meshes

Using Google Poly (or your own .obj files!), we load full 3d-rendered objects into the browser to interact with

Shadows

For our imported object, we add both ambient and directional lights to let our kitty have a realistic shadow

External events

For many projects, we might want to interact with our canvas from outside the canvas itself

Mouse wheel zoom

Our kitty wants a close up! Using the mouse wheel, we can alter the camera position to near or far away

Course focus

This course is particularly focused on artist and creative coding. It's less "functional" than other courses we do. If you're interested in a more traditionally UX/UI-led Javascript course, try our Javascript for Designers or Advanced CSS + JS courses.