Building Advanced iBooks HTML 5 Widgets and iAd Rich Media Ads

iAd Producer

Session 611

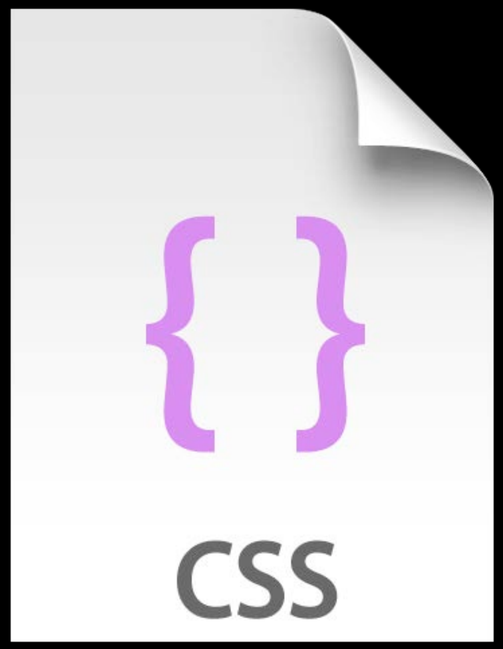
Chi Wai Lau
Software Engineer

Mark Malone
iAd Technology Evangelist

INTERGALACTIC ADVENTURES

PRESENTS

SPACE TOURS TO MARS


CSS


JS


HTML

Space Tours to Mars

Objects

General

Media

Audio

Video

WebGL

Multi-Cell

Carousel

Cover Flow

Gallery

Grid

Multi-View

Panorama

Stack

360°

Dynamic Content

Drawing

HTML

Map

Store

Search Objects

Overview

Splash

iPad (Retina)

38%

INTERGALACTIC ADVENTURES

PRESENTS

SPACE TOURS TO MARS

Page Appear

0.0 imageBackground Fade In

1.0 trip-ship-trans Position

Play Audio RocketBlast.mp3

End Total Duration 18.82s

Play Audio

RocketBlast.mp3

Must finish before starting next action

Start With Previous Action

Delay 0s

Assets

Objects

Actions

Layers

Code

Preview

What You'll Learn

Advanced development techniques

What You'll Learn

Advanced development techniques

- Content customization

What You'll Learn

Advanced development techniques

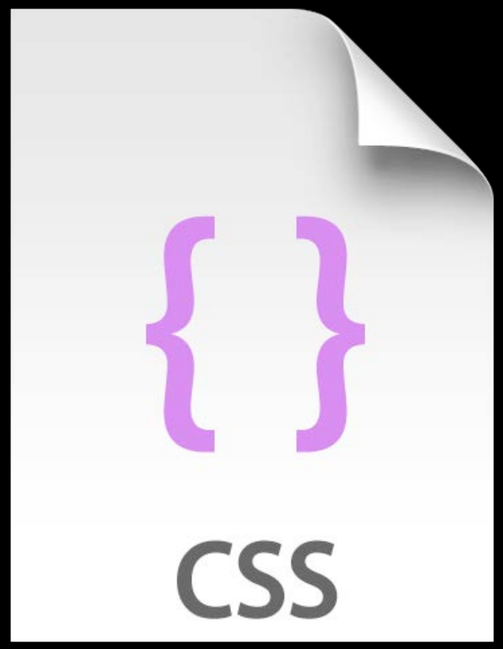
- Content customization
- Testing and debugging techniques

What You'll Learn

Advanced development techniques

- Content customization
- Testing and debugging techniques
- Performance optimization

Content Customization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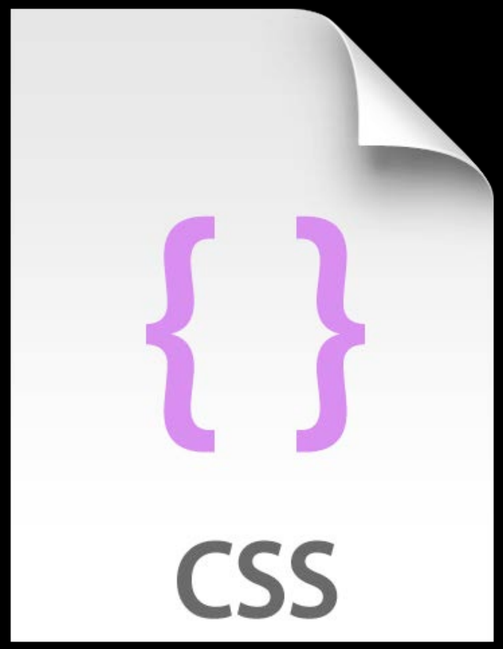
HTML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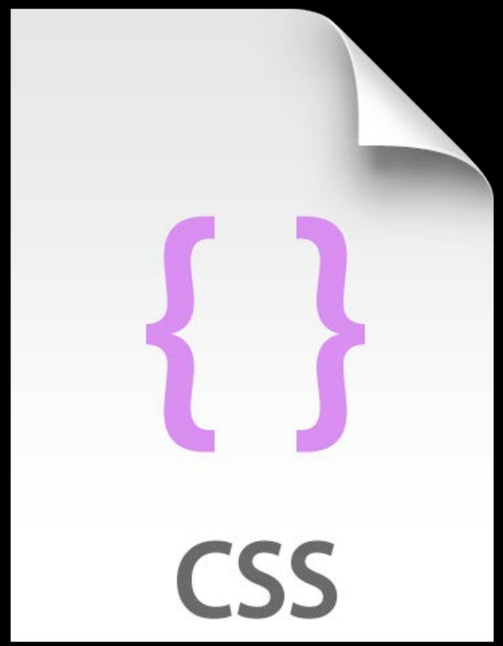

CSS


JS


HTML

CSS Customization

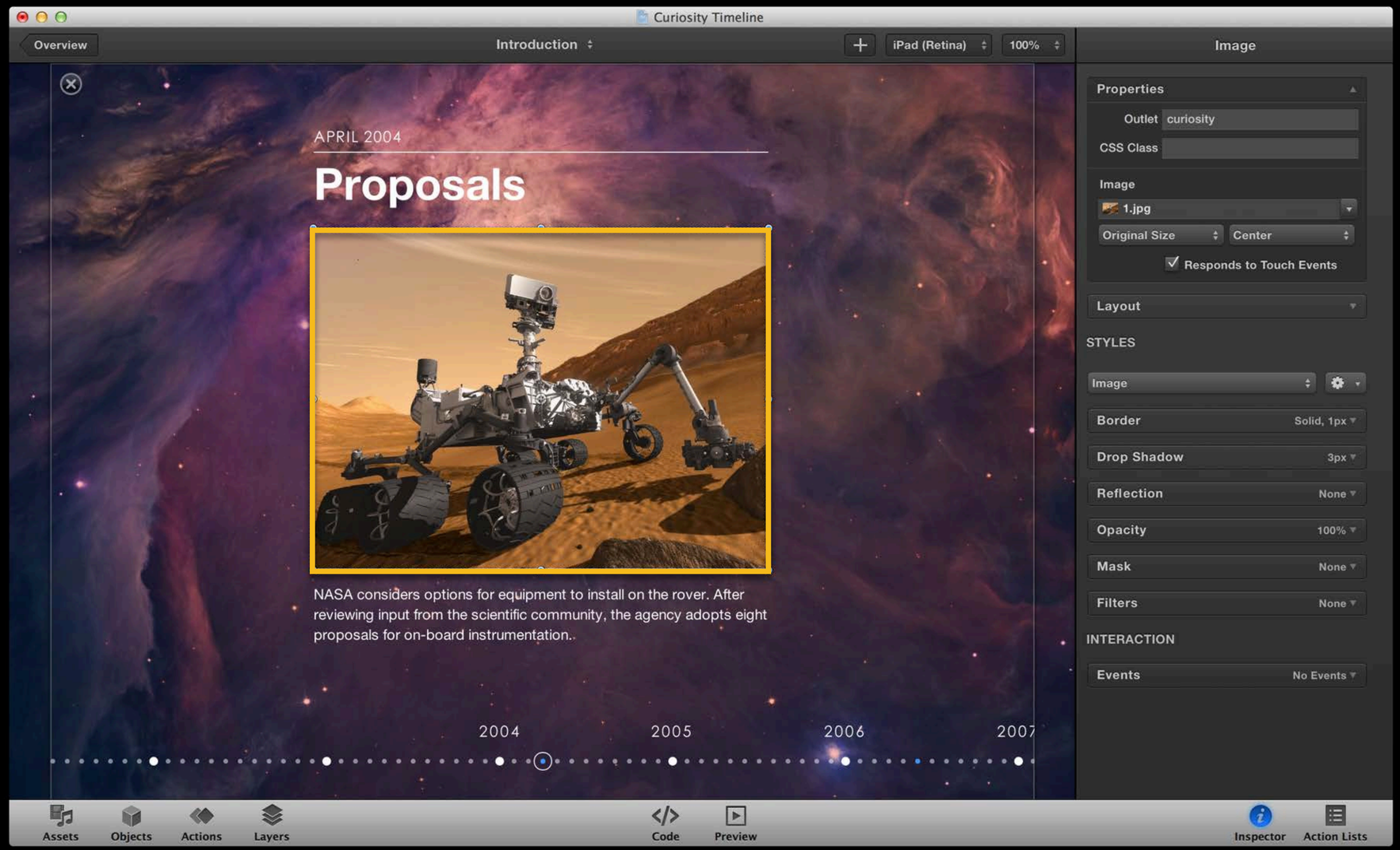
Styling objects

CSS Customization

Styling objects

CSS Customization

Styling objects



CSS Customization

Styling objects

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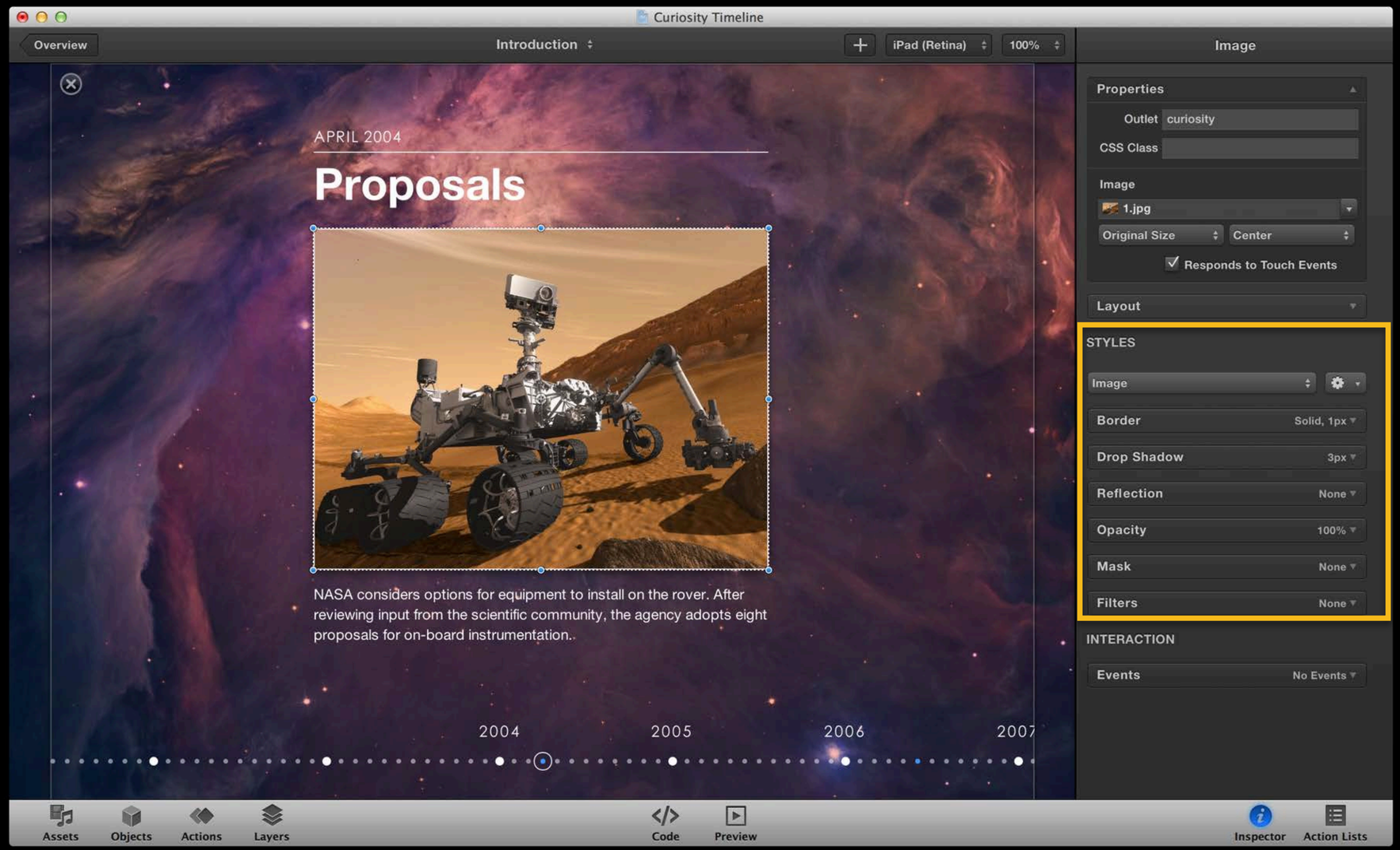
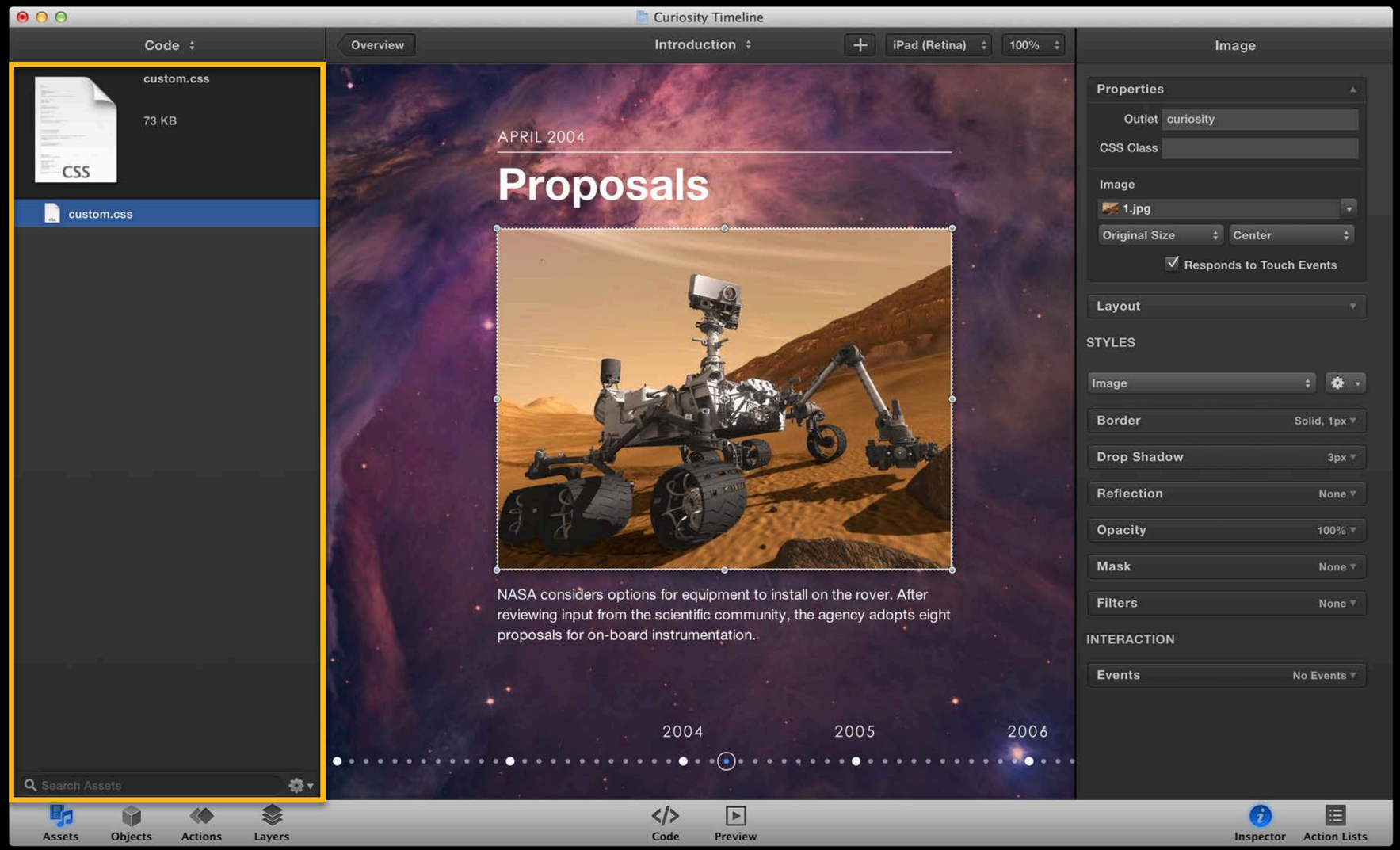


CSS Customization

Using imported file

CSS Customization

Using imported file



CSS Customization

Using imported file

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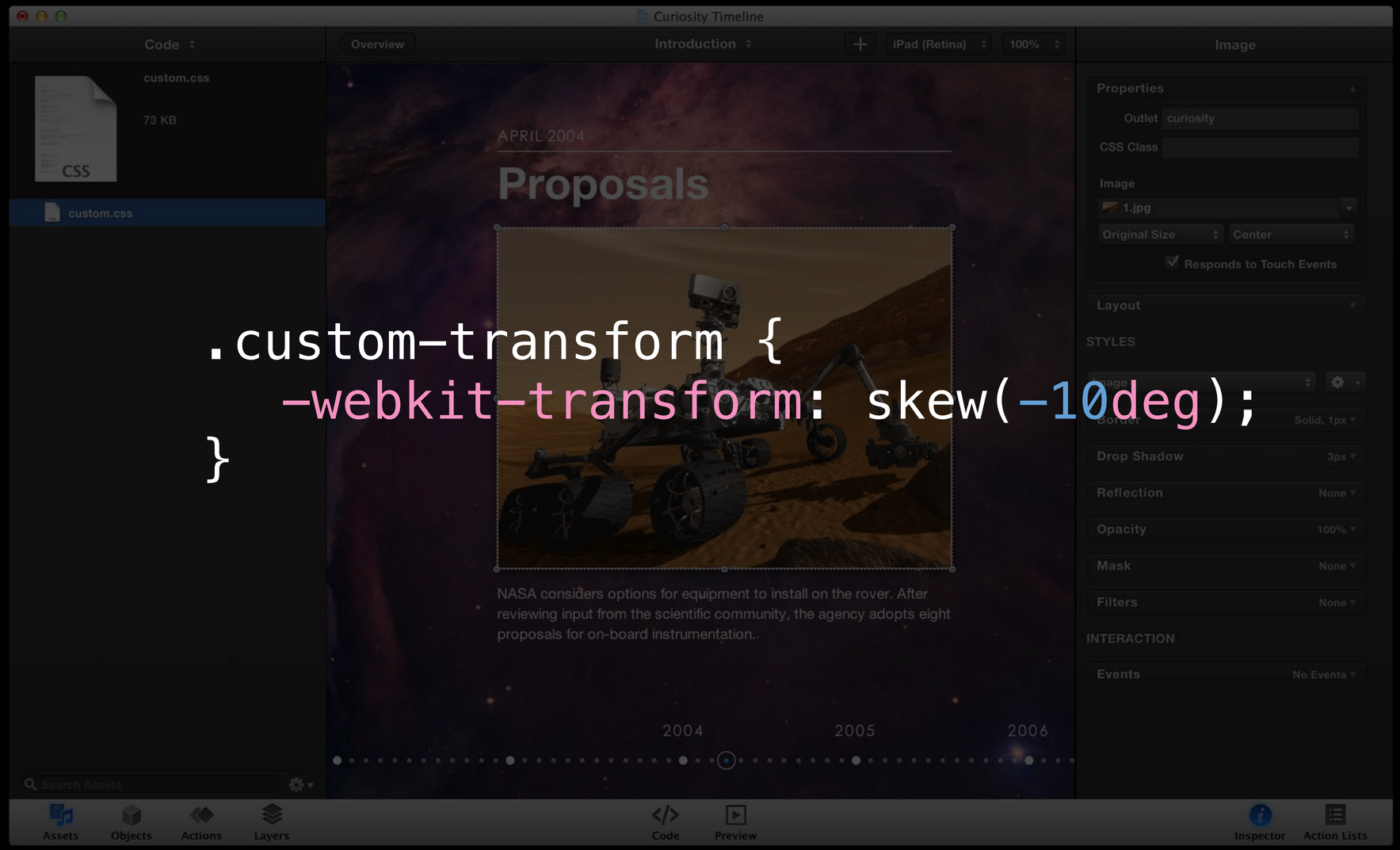
Using imported file



CSS Customization

Using imported file

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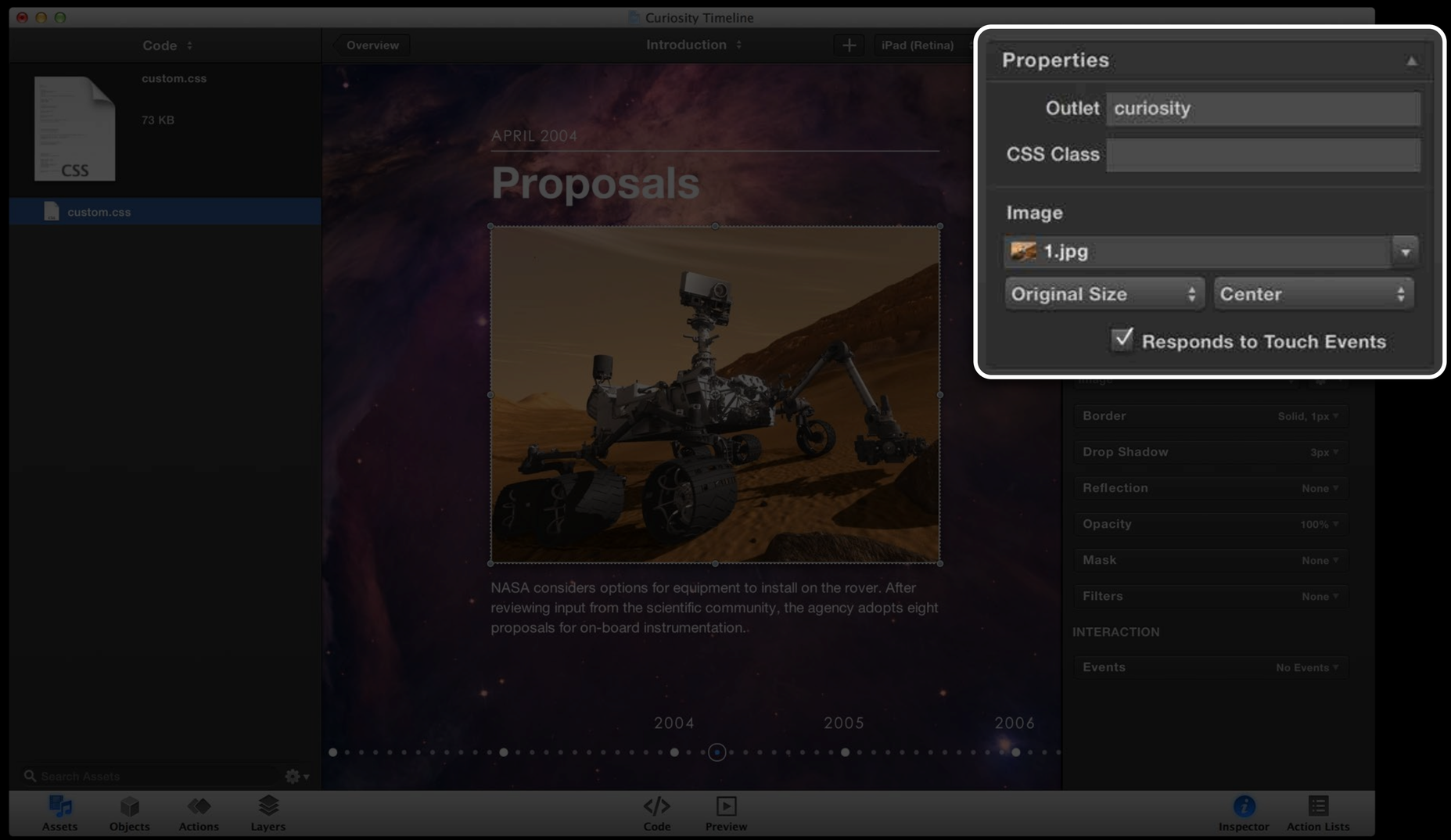
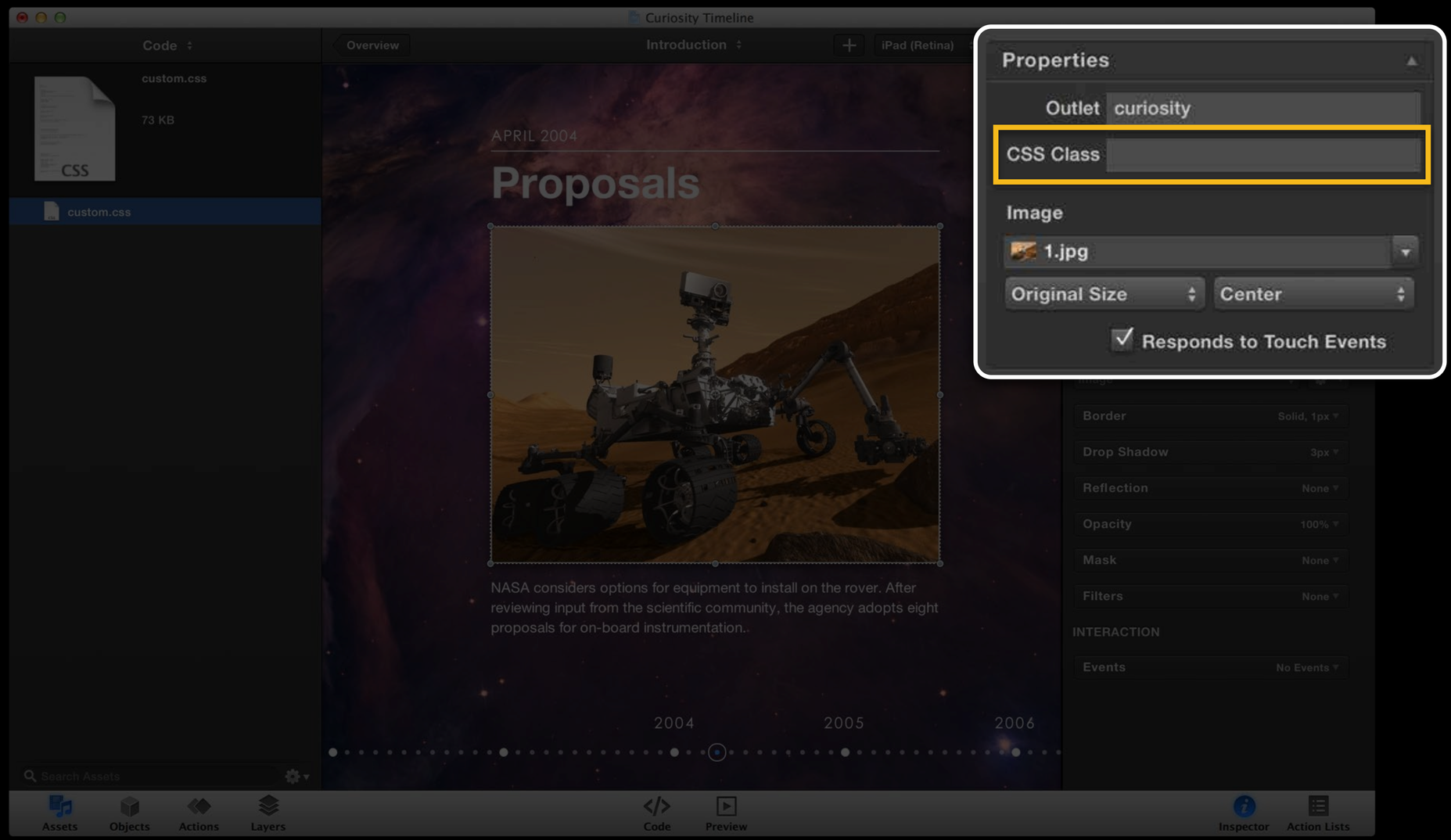
Using imported file



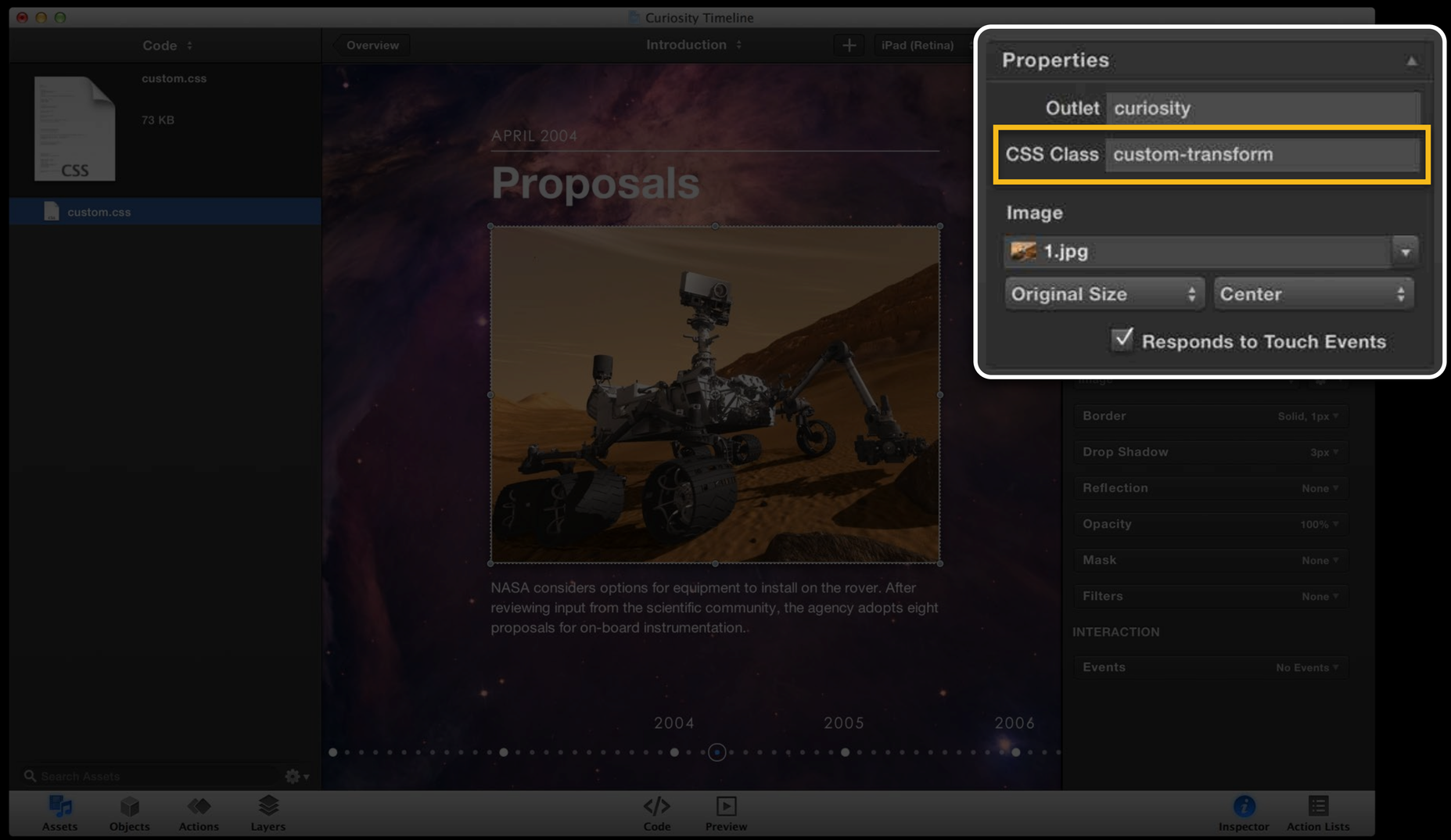
CSS Customization

Using imported file



CSS Customization

Using imported file



CSS Customization

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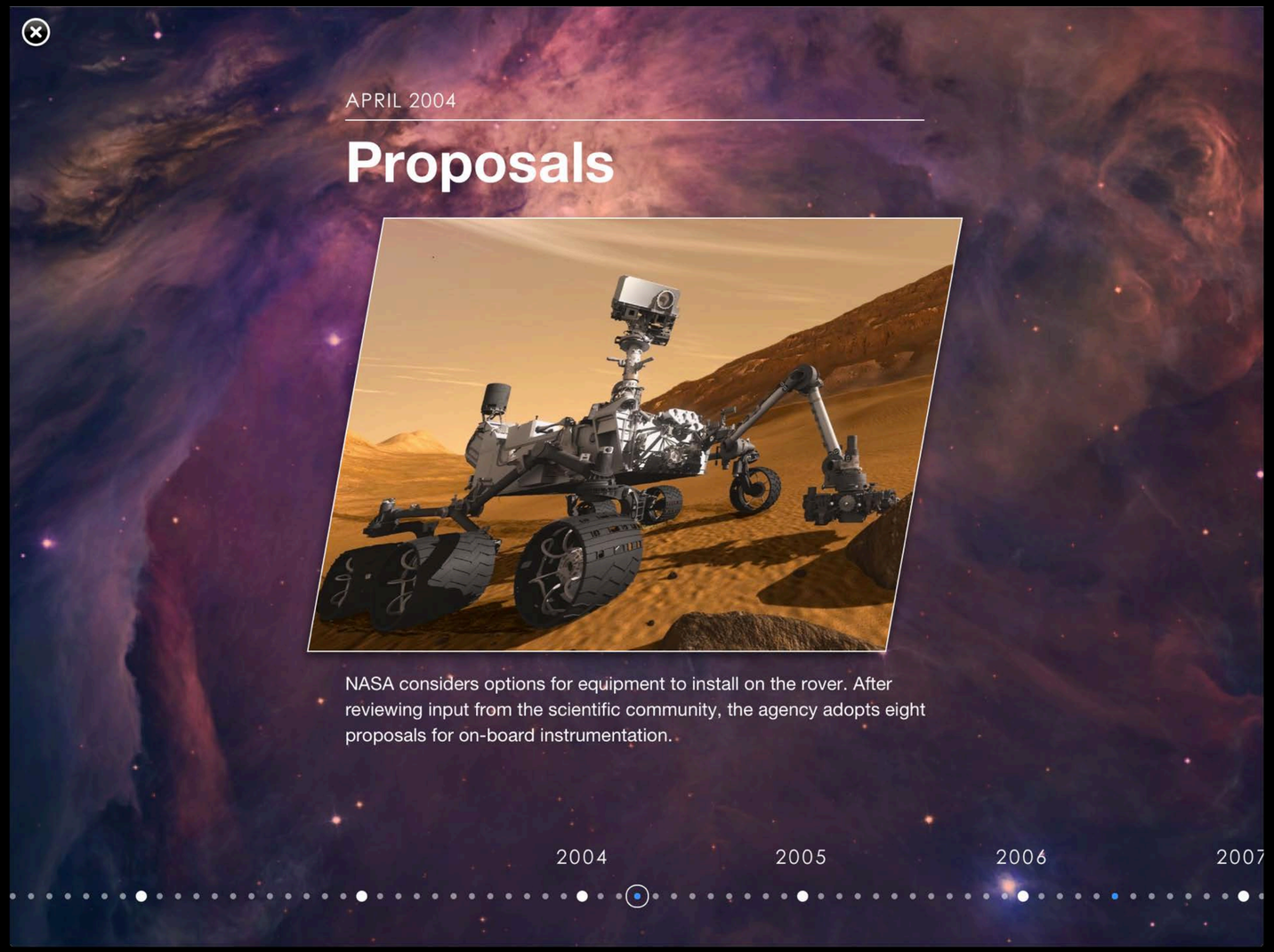
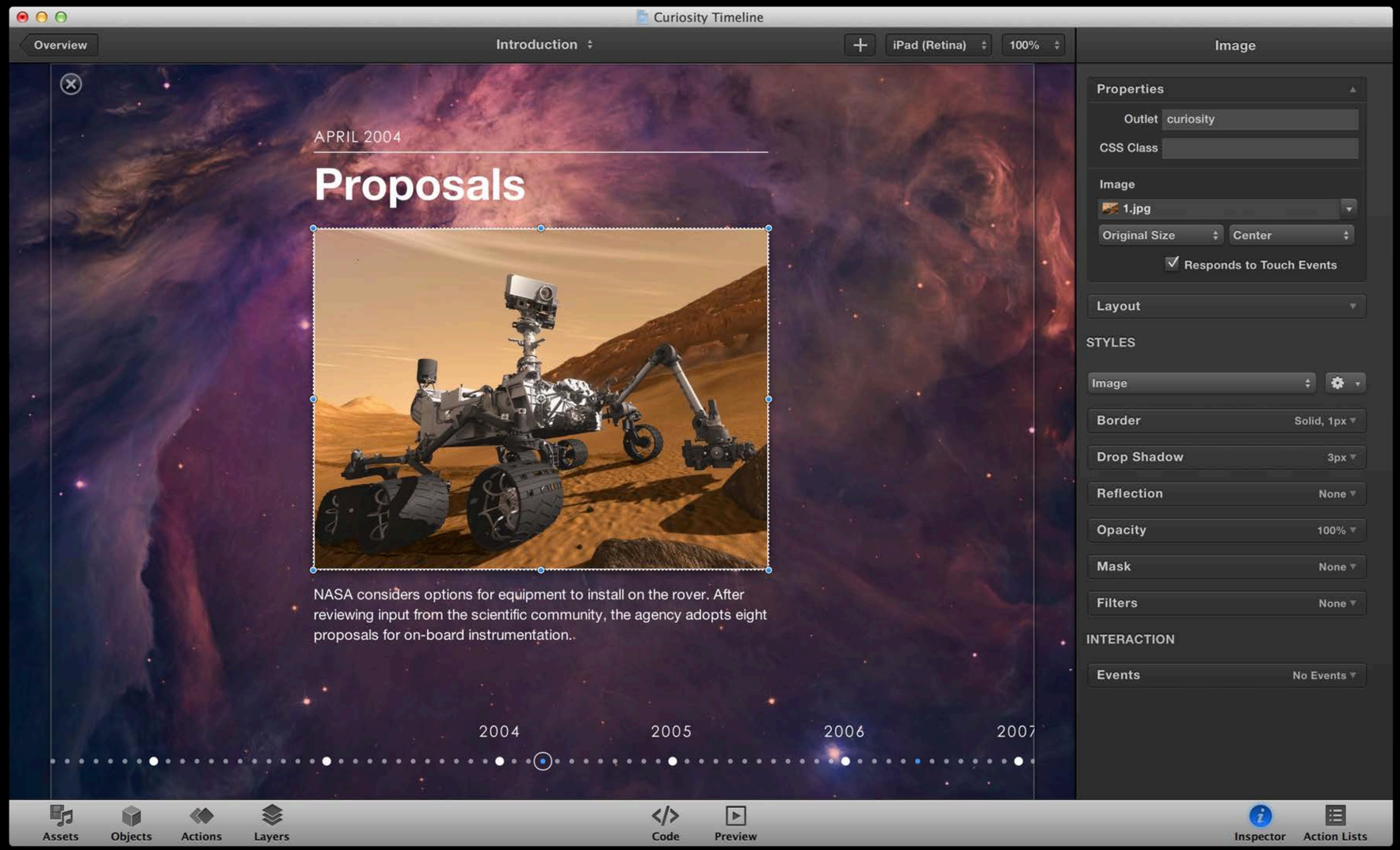


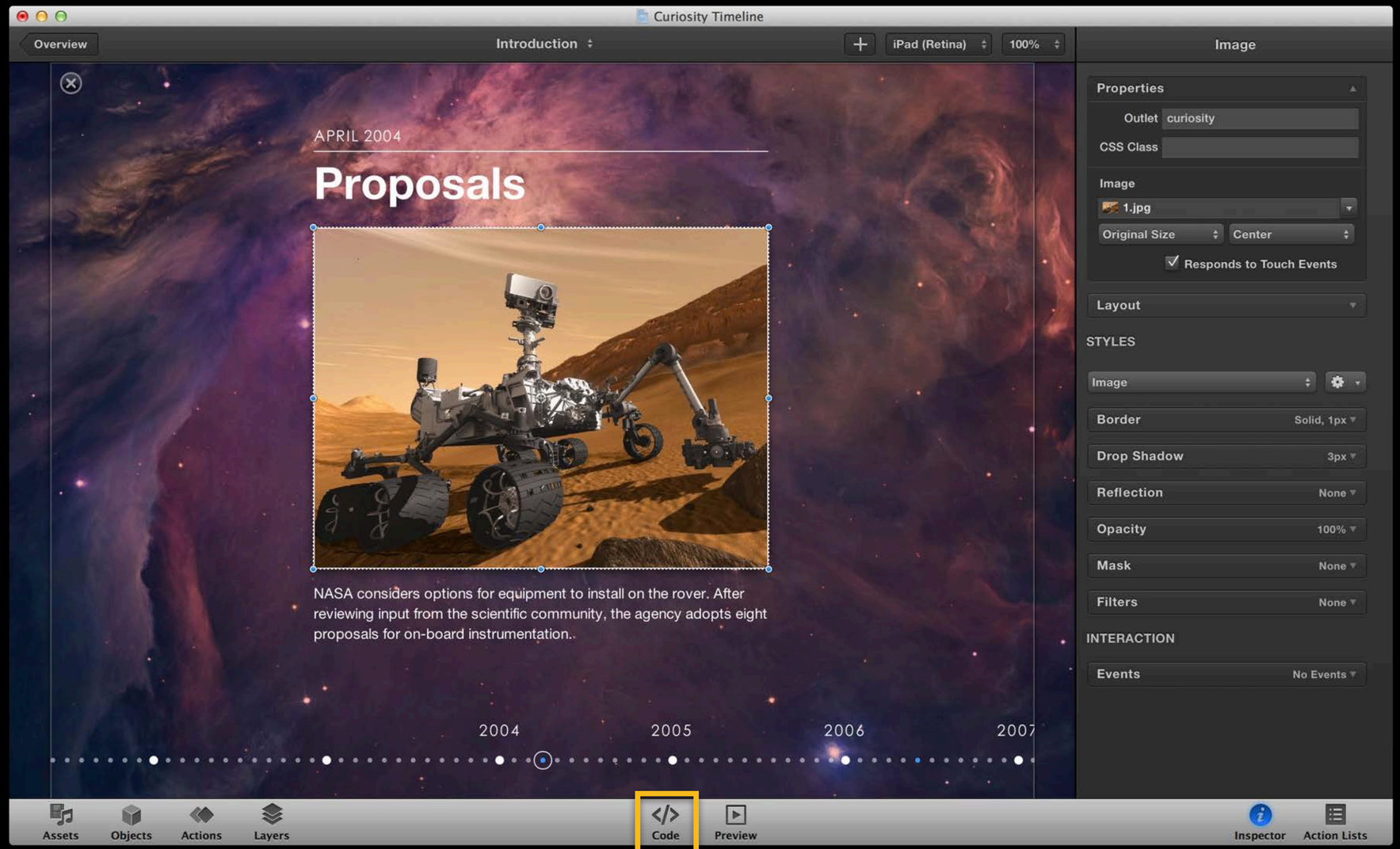
CSS Customization

Using code editor



CSS Customization

Using code editor



CSS Customization

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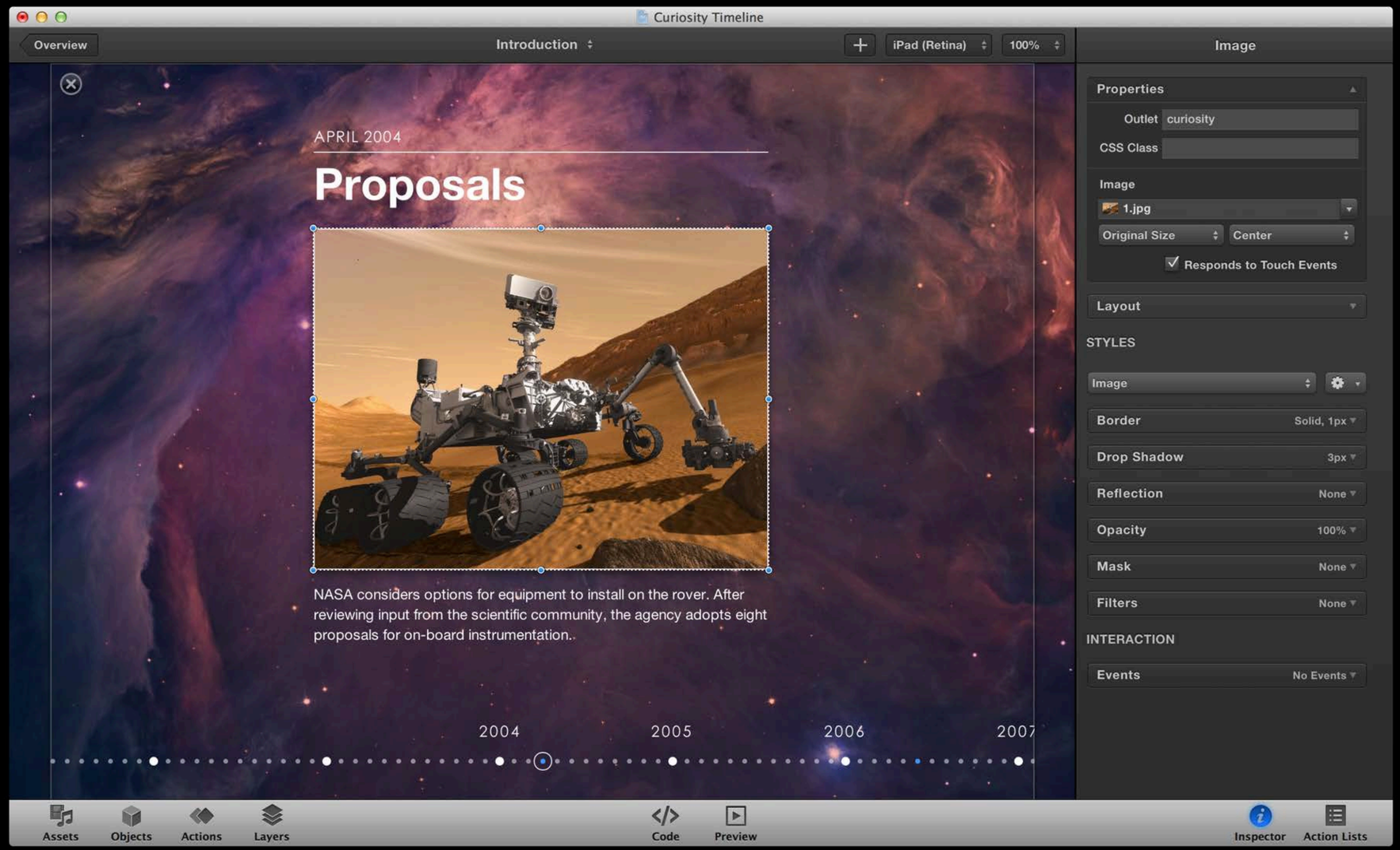

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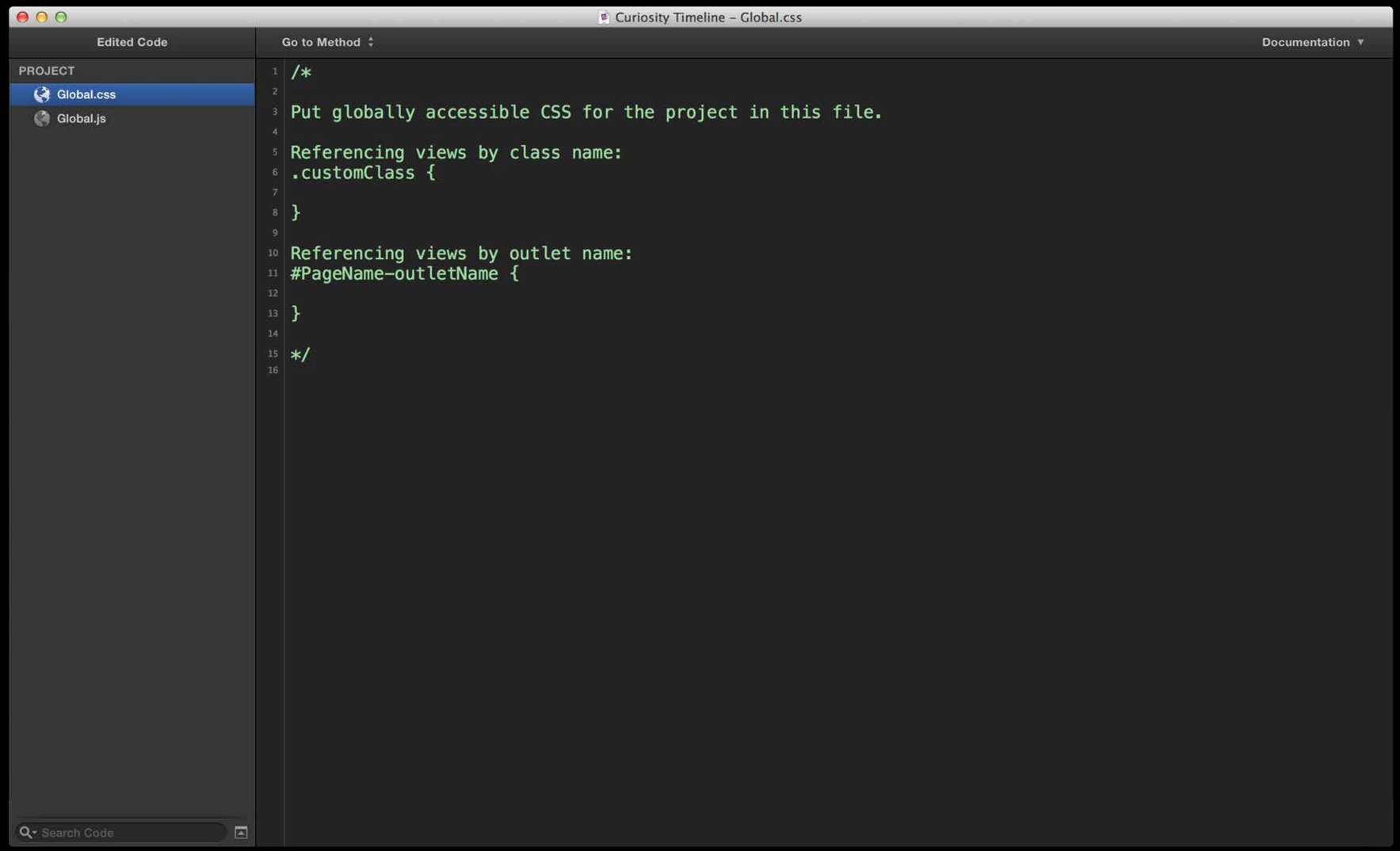
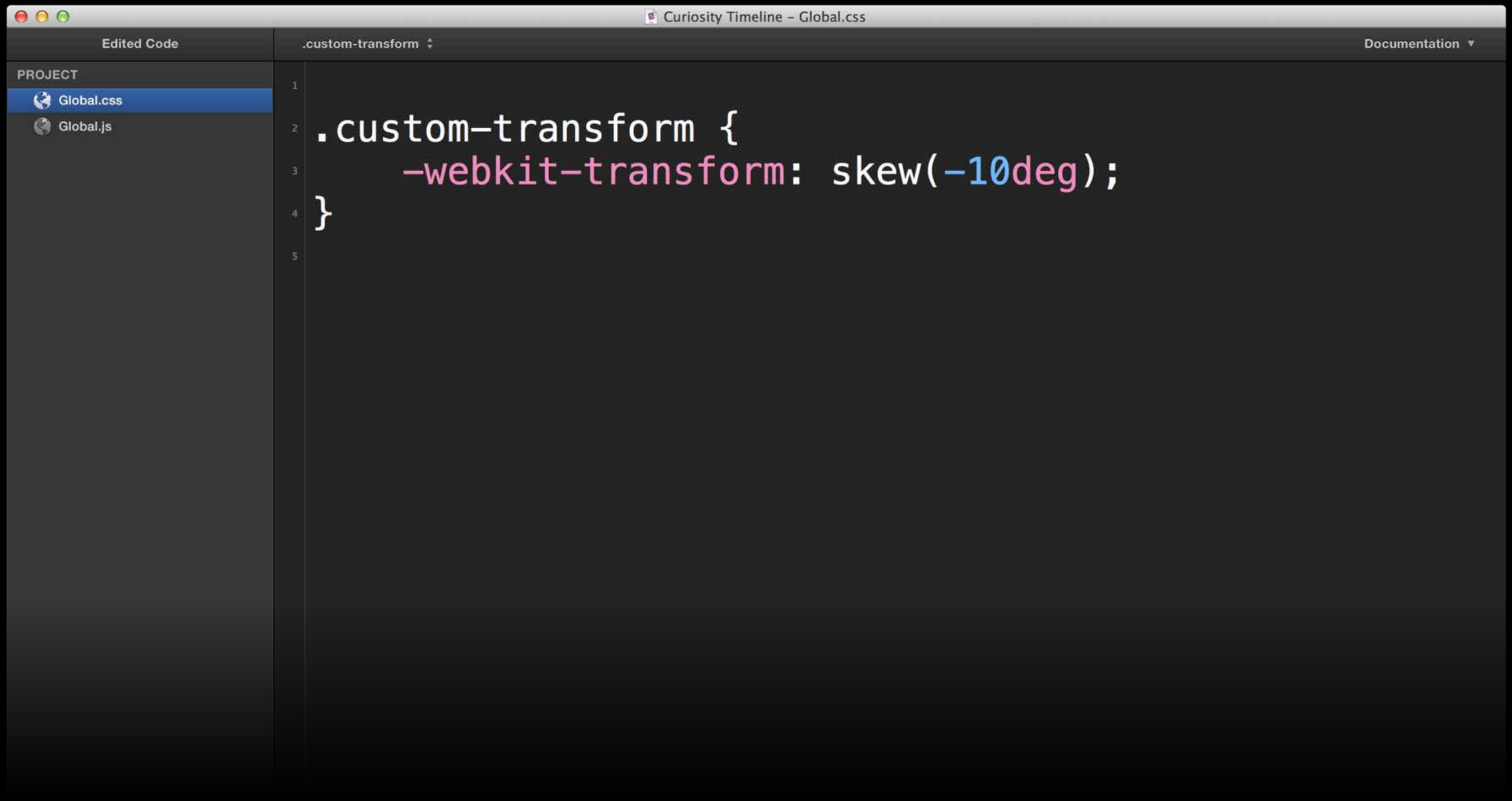


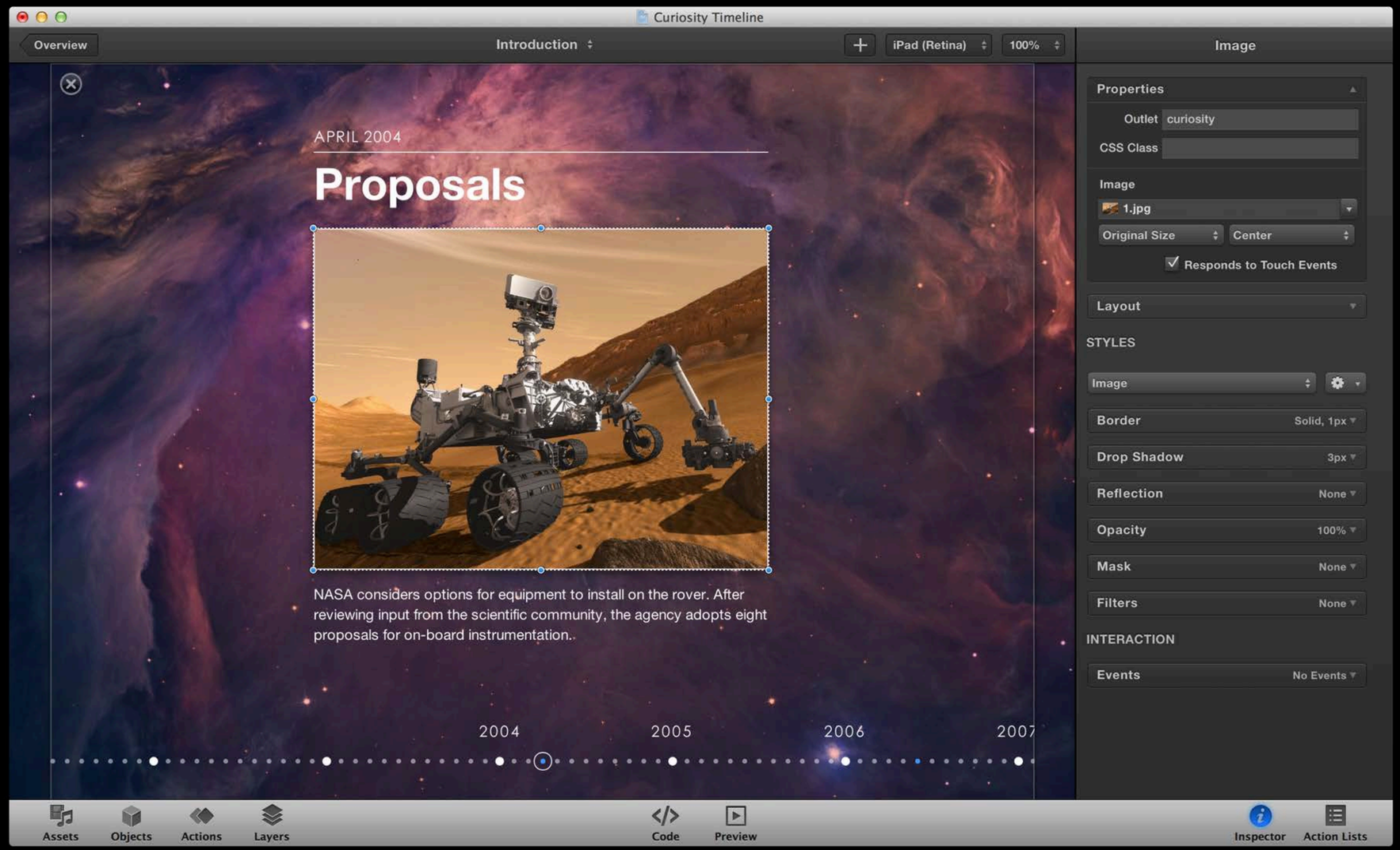
CSS Customization

Using code editor



CSS Customization

Using code editor



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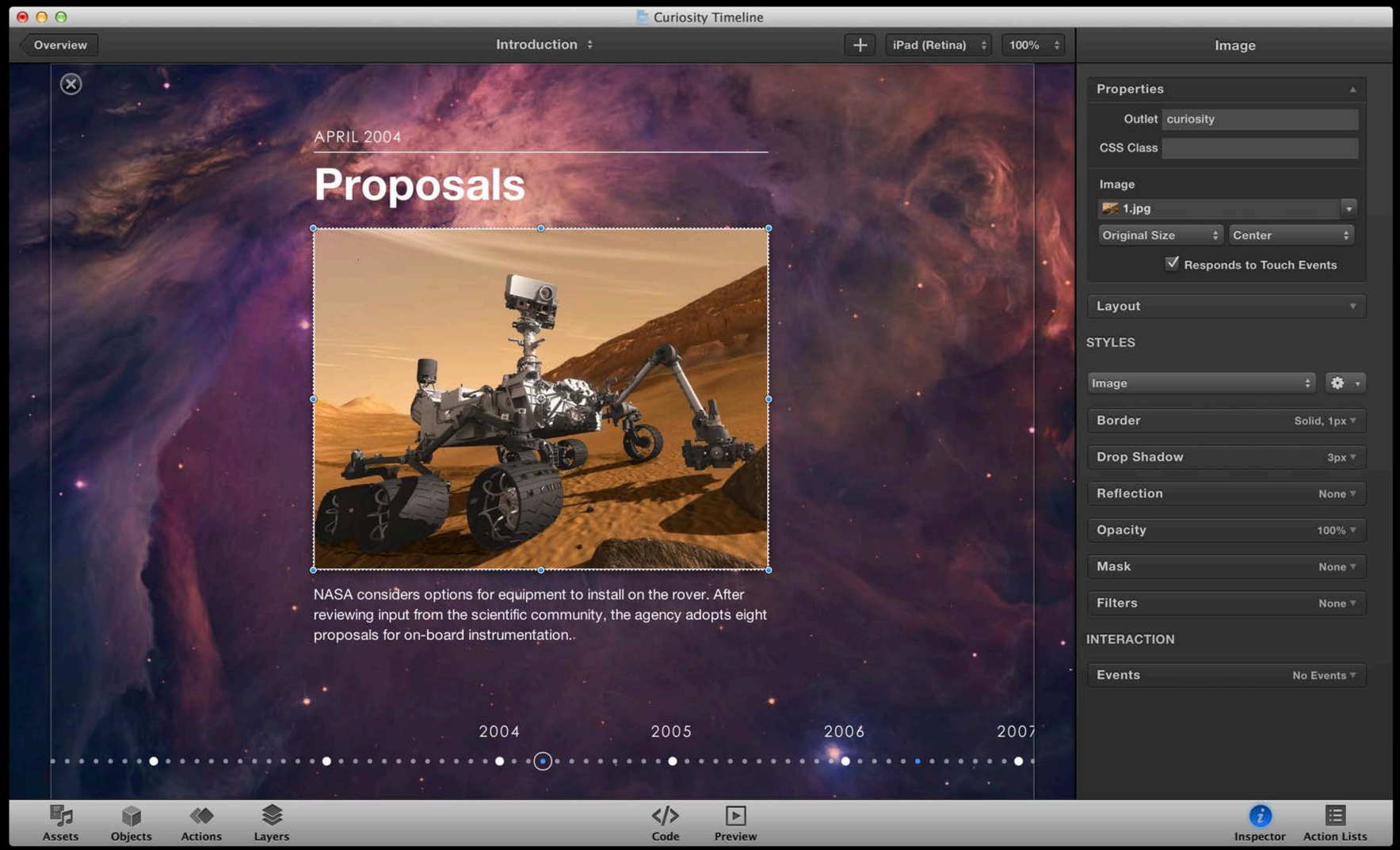

CSS Customization

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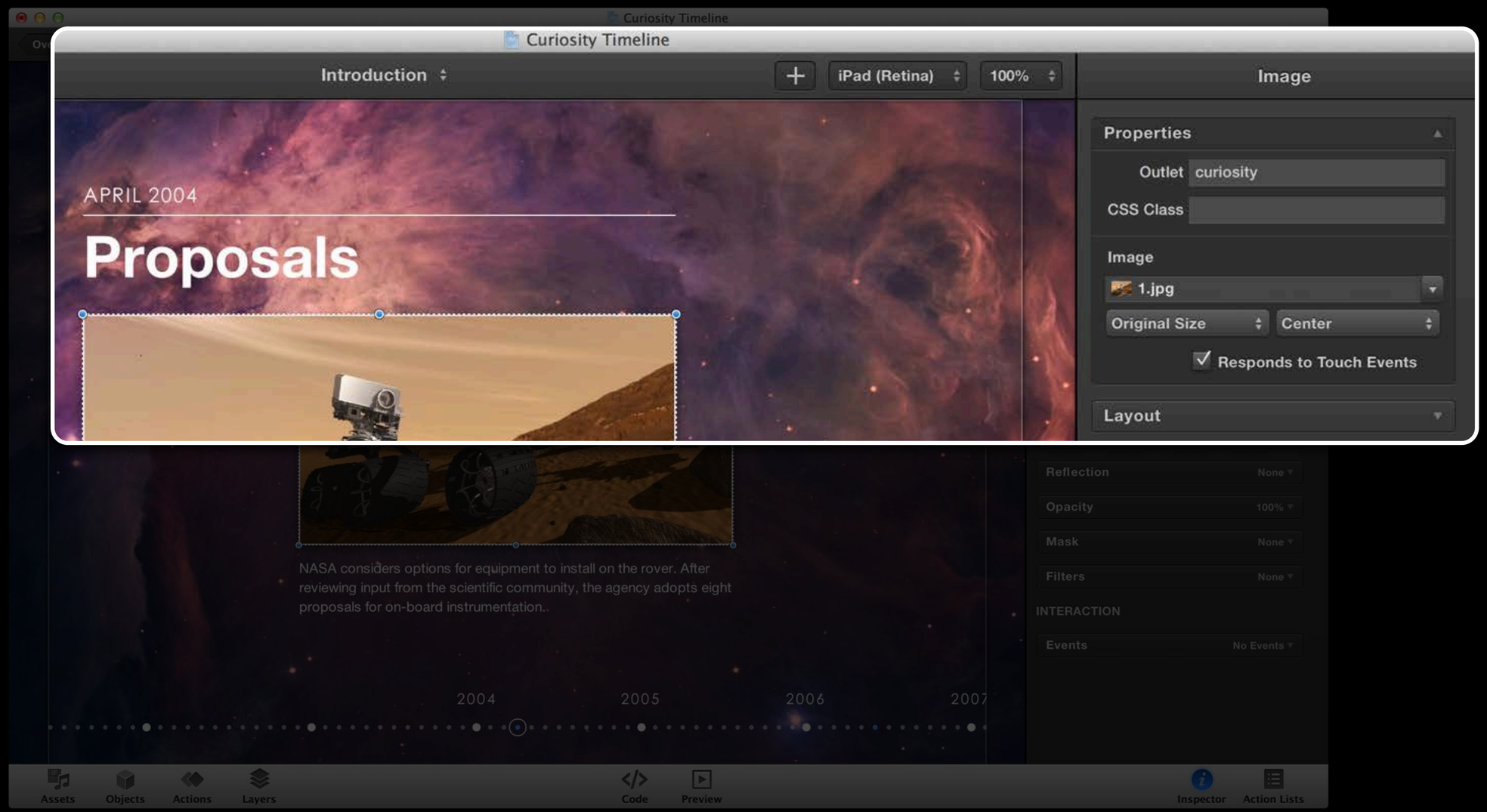
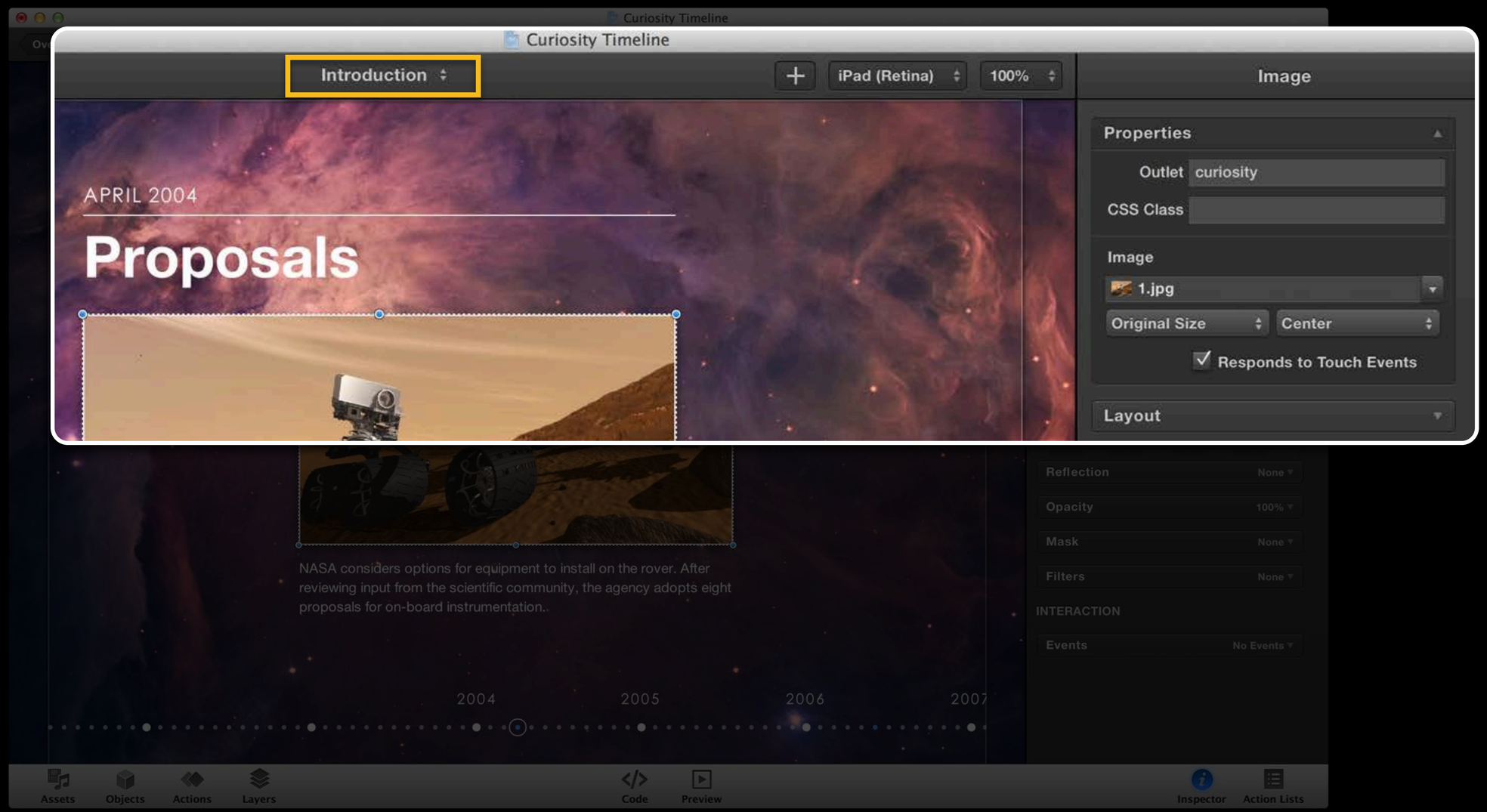


CSS Customization

Using code editor



CSS Customization

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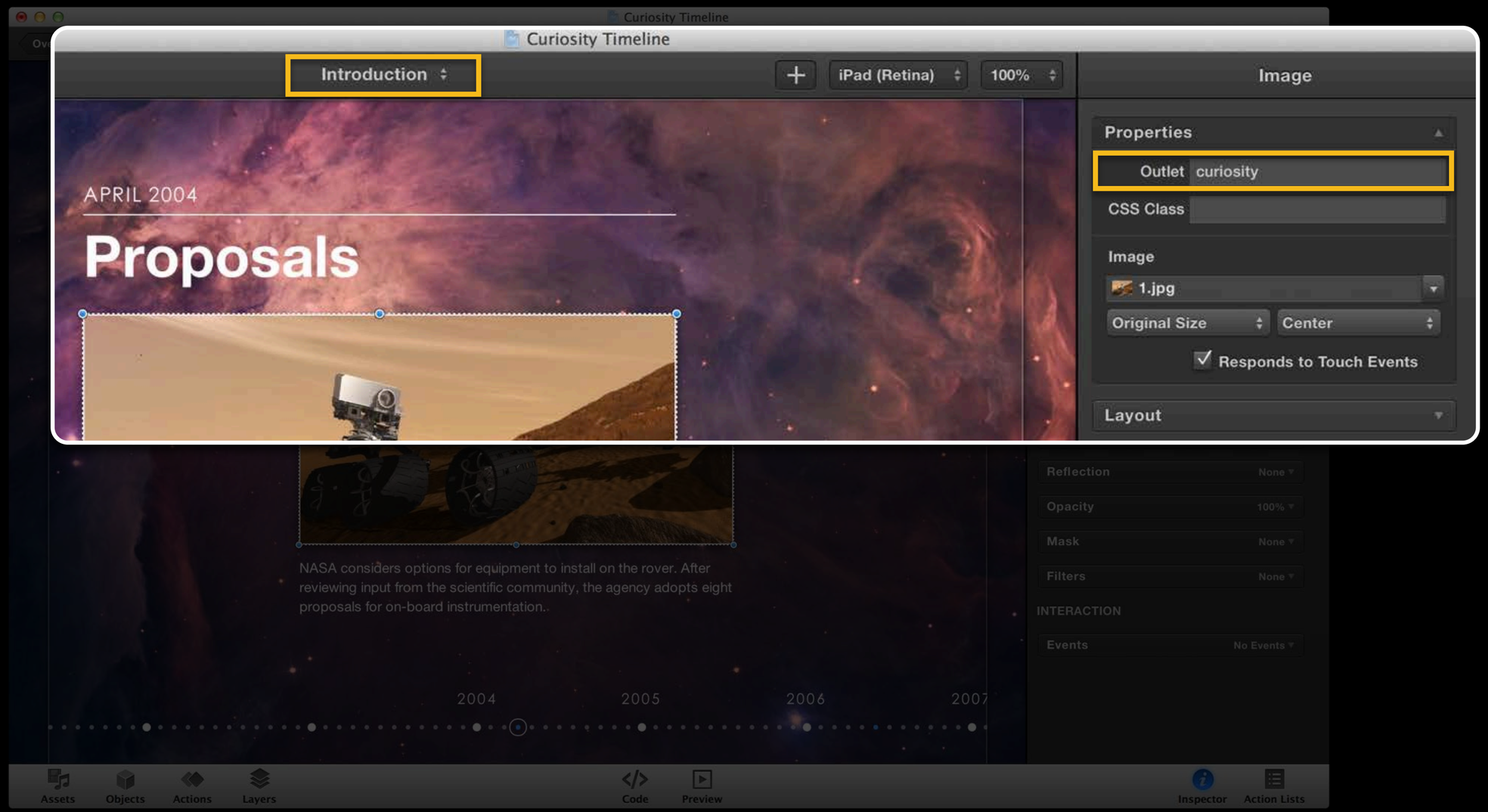
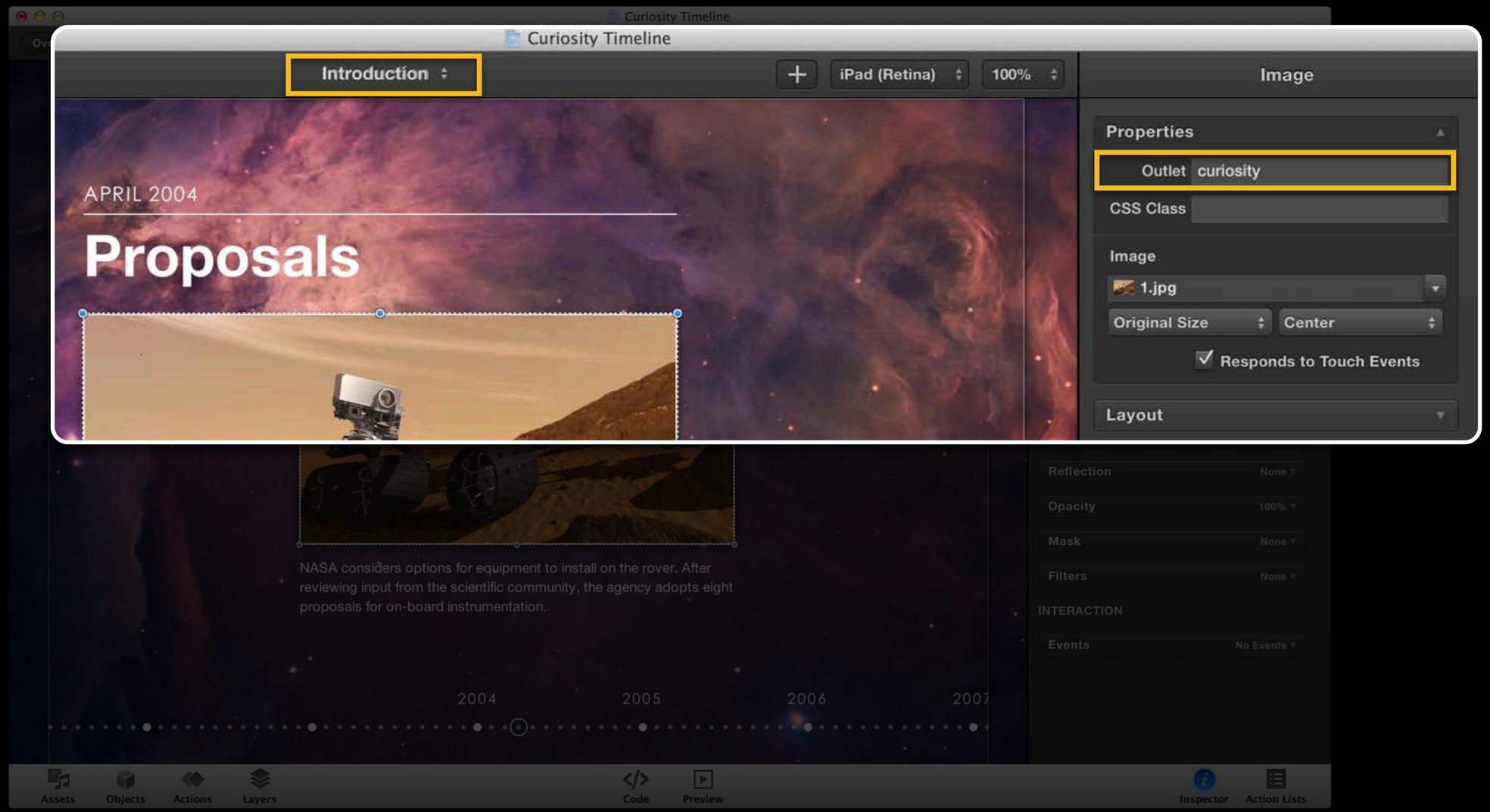


CSS Customization

Using code editor

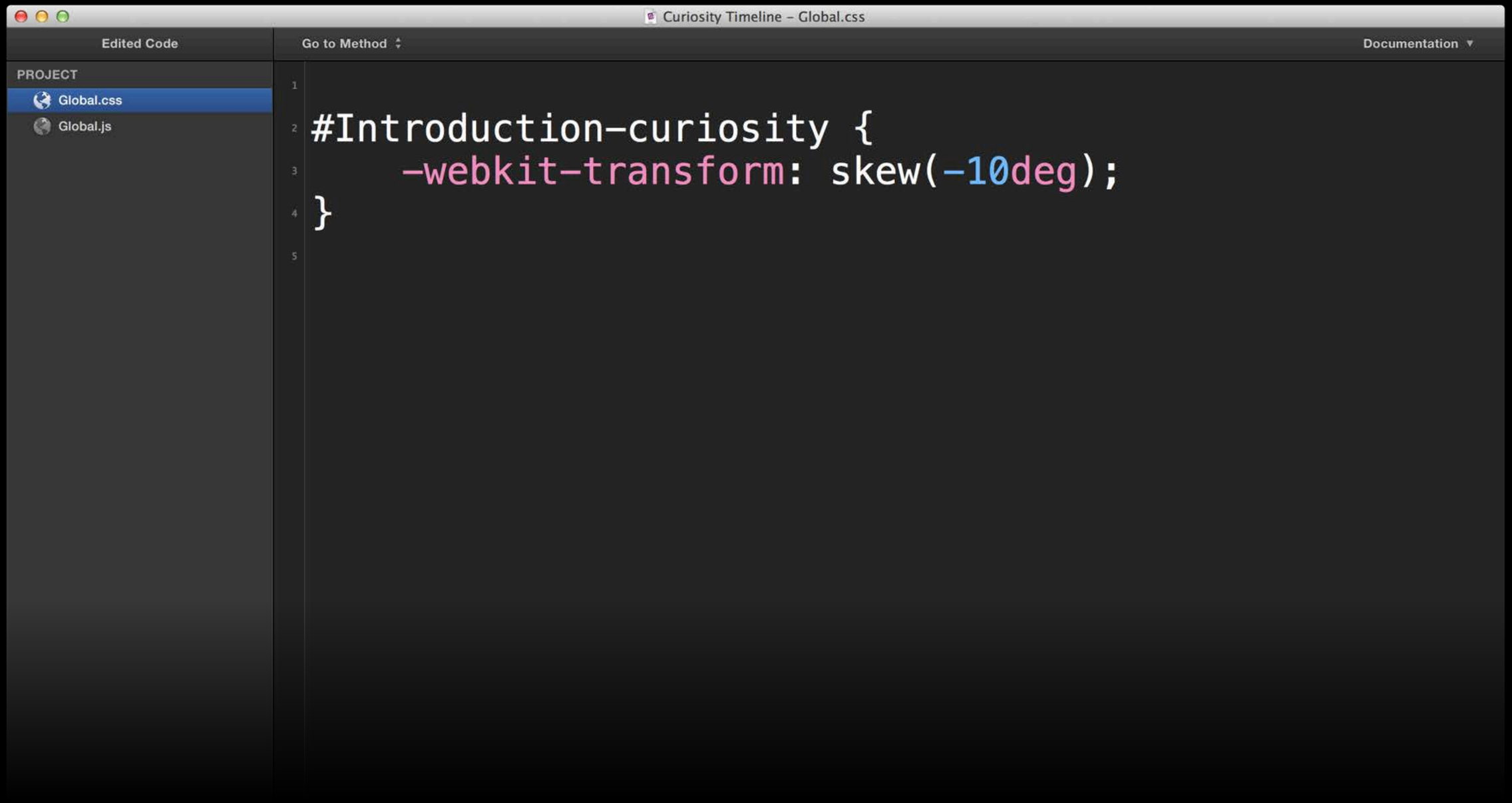


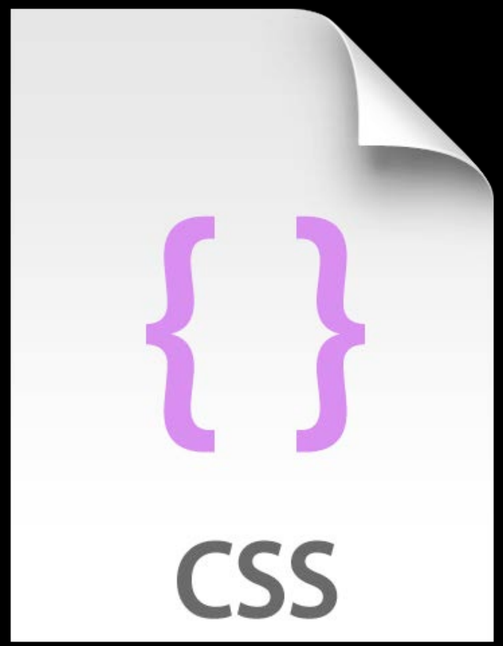
Introduction curiosity

Introduction - curiosity

CSS Customization

Using code editor




CSS


JS


HTML


CSS


JS

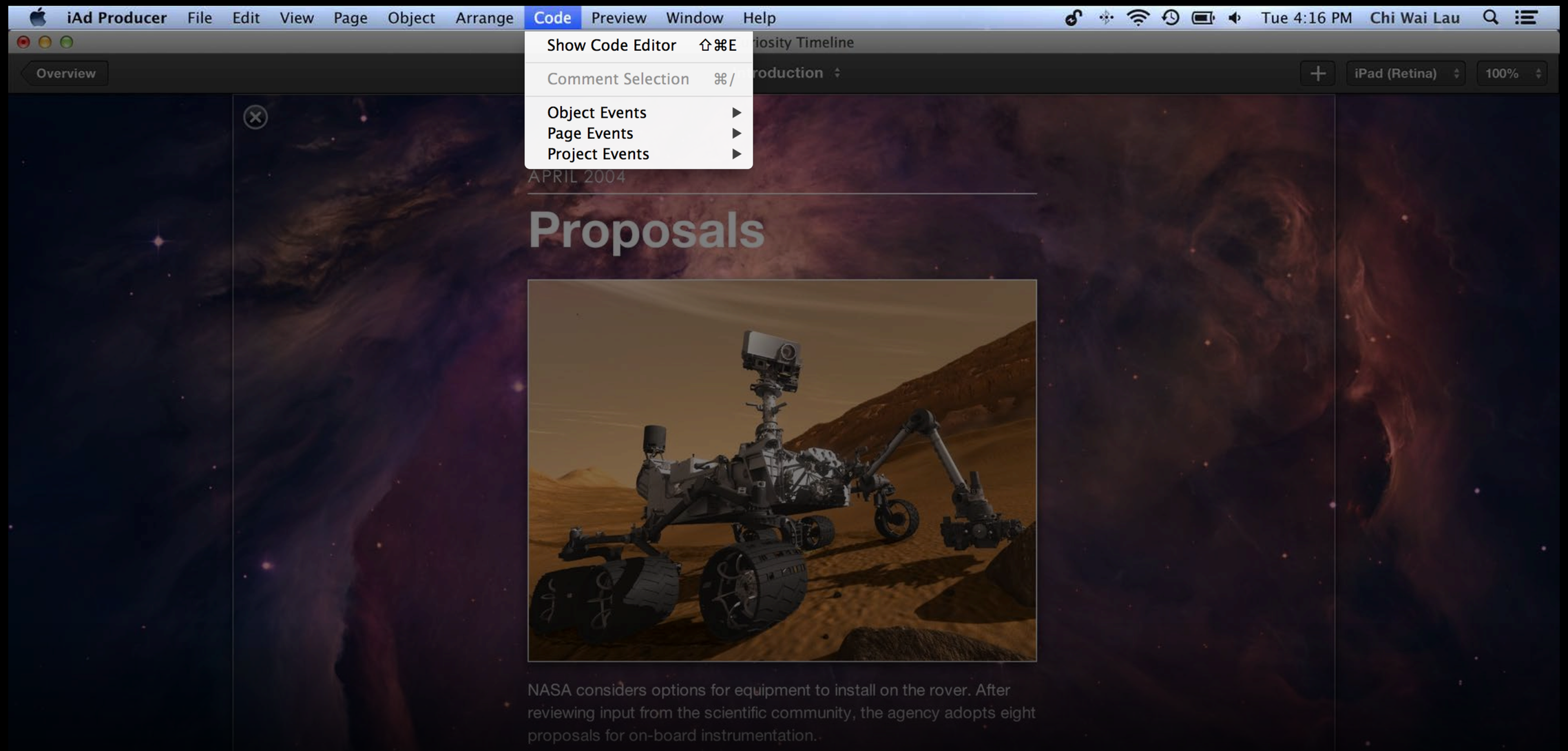

HTML

JS Customization

The next level

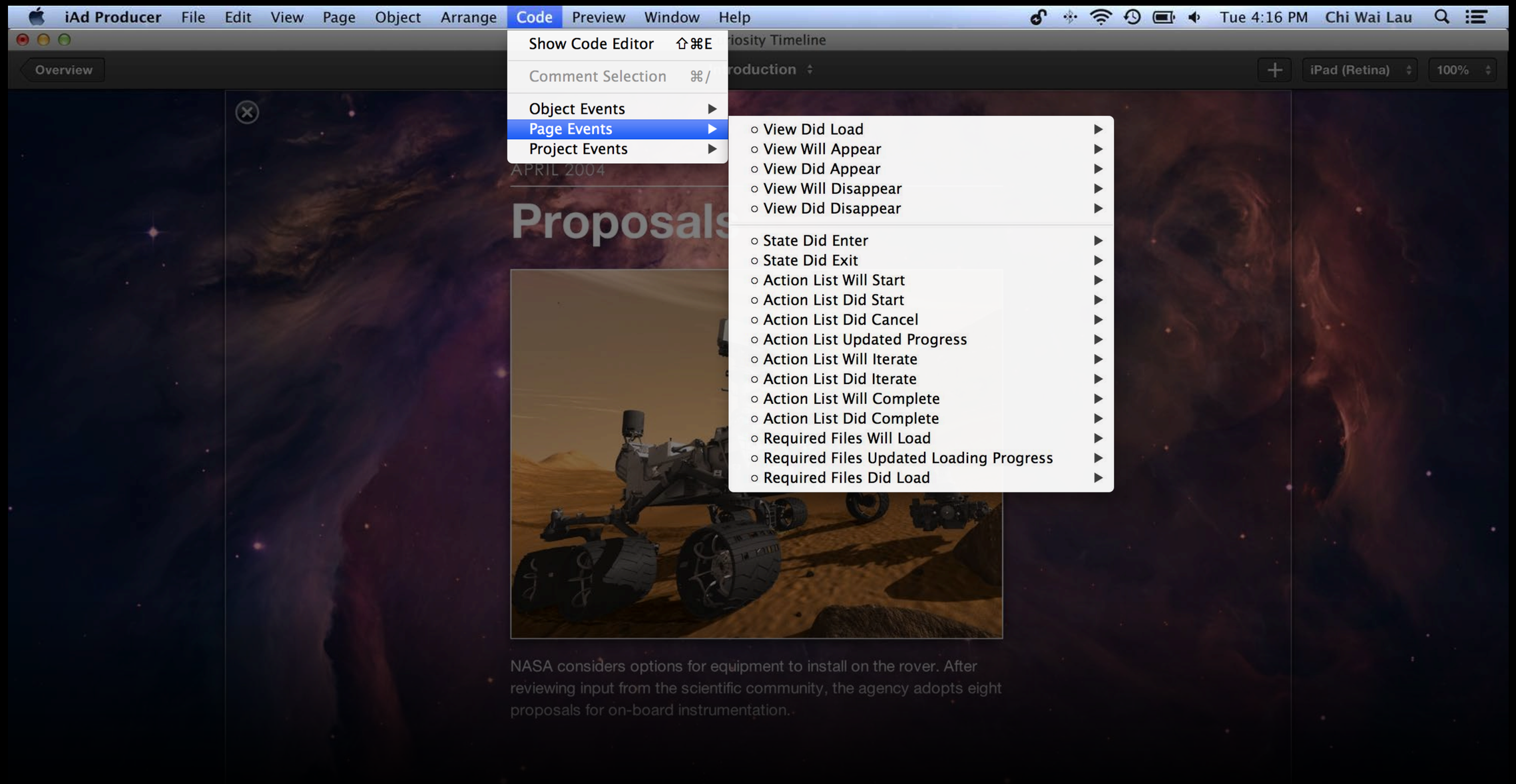
JS Customization

Events and callbacks



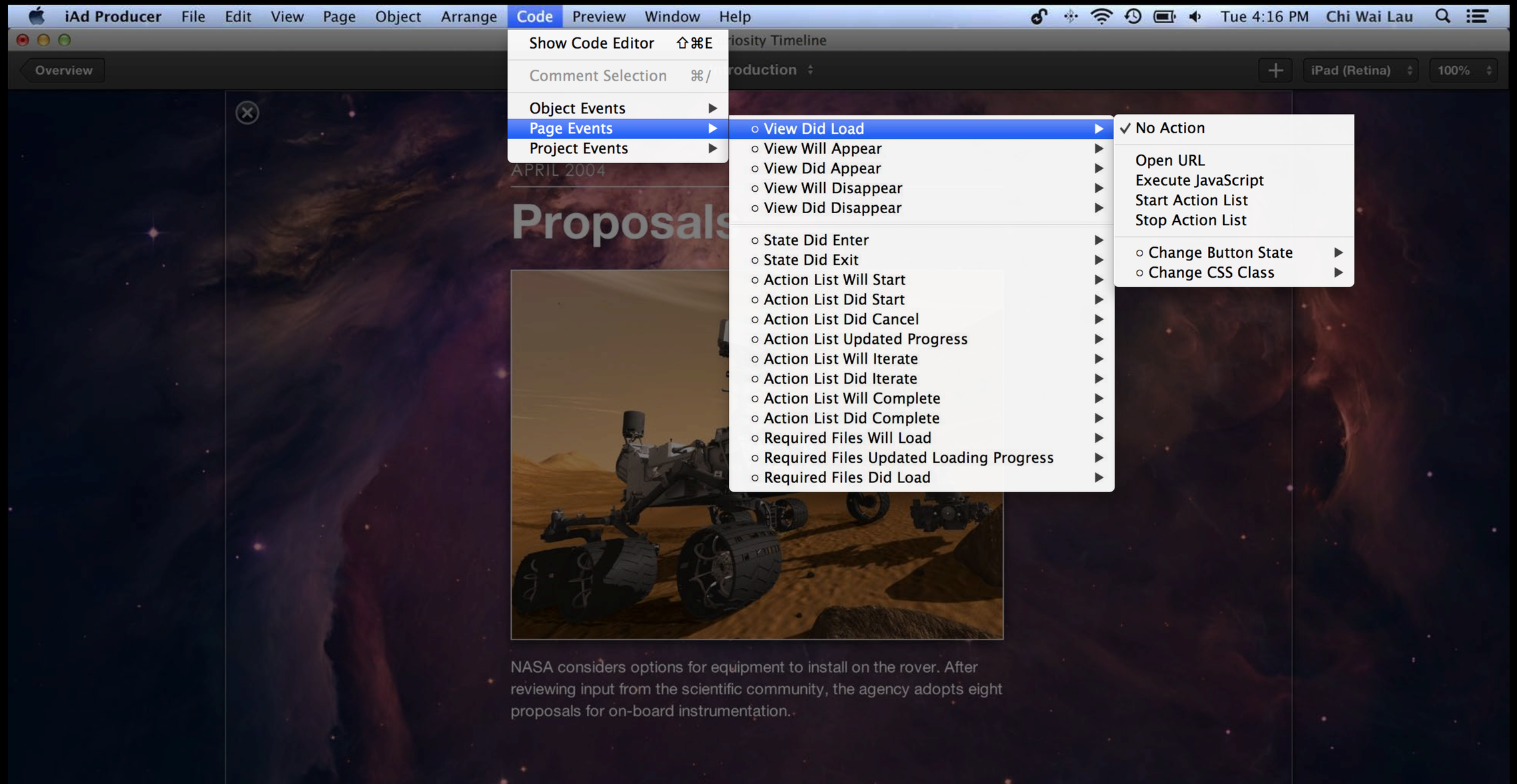
JS Customization

Events and callbacks



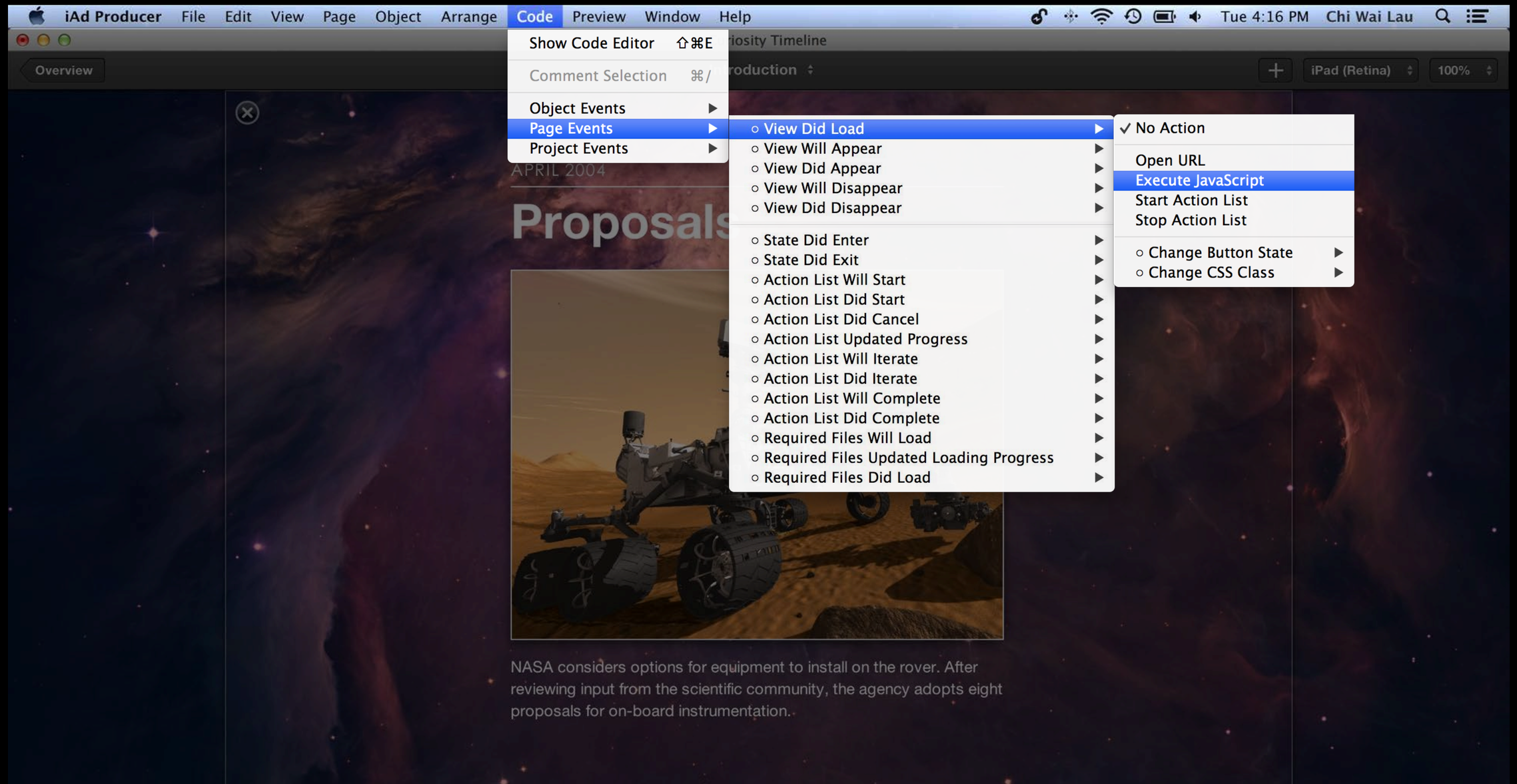
JS Customization

Events and callbacks



JS Customization

Events and callbacks



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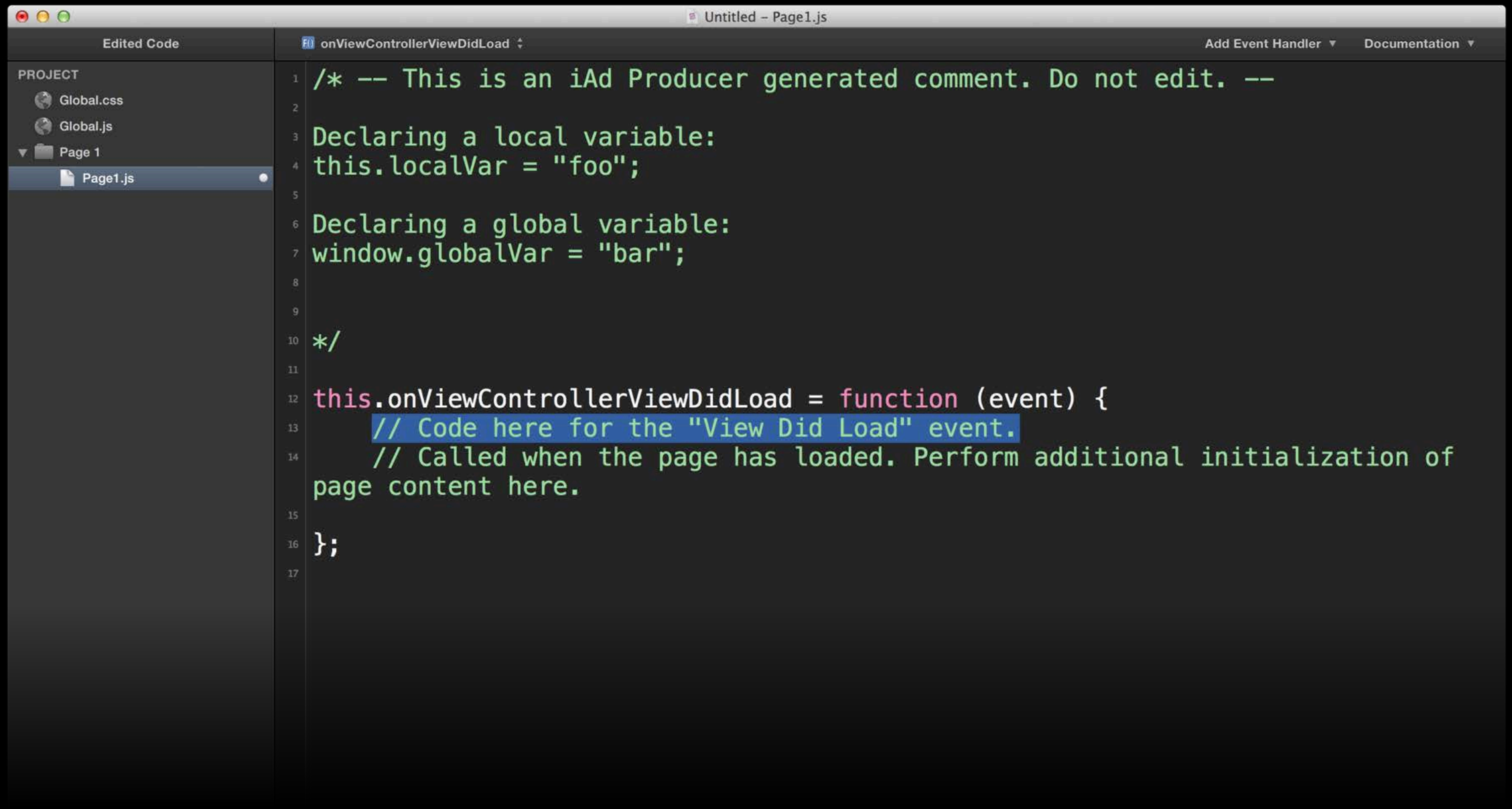
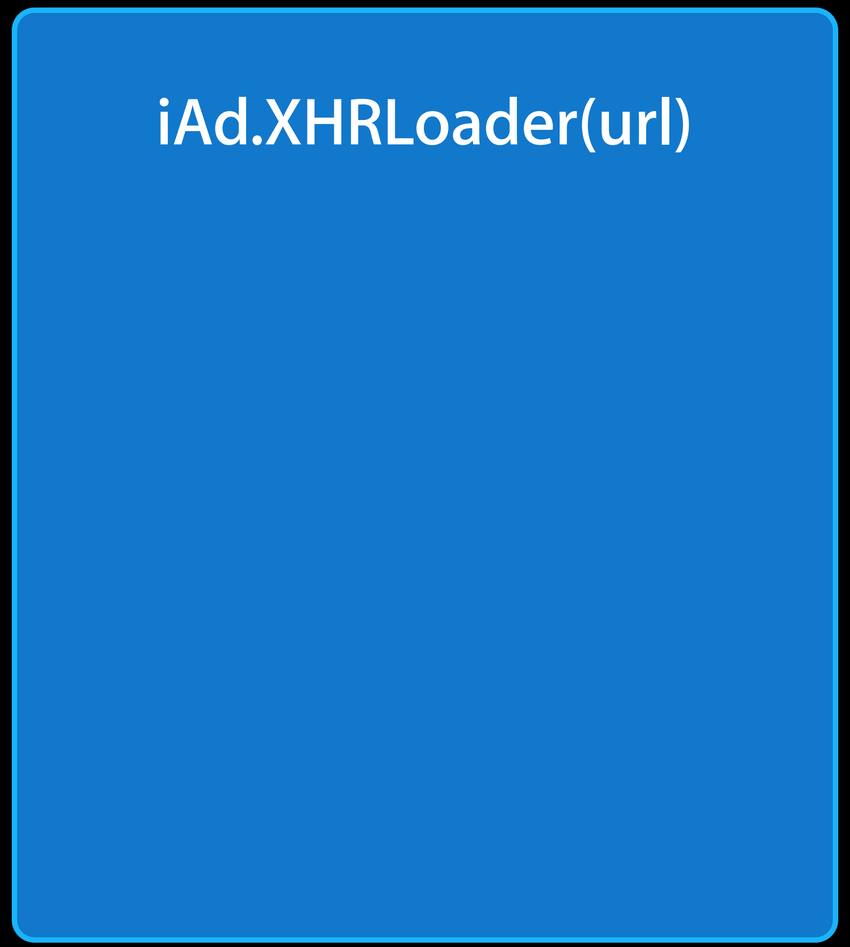


XMLHTTPRequest

iAd.XHRLoader

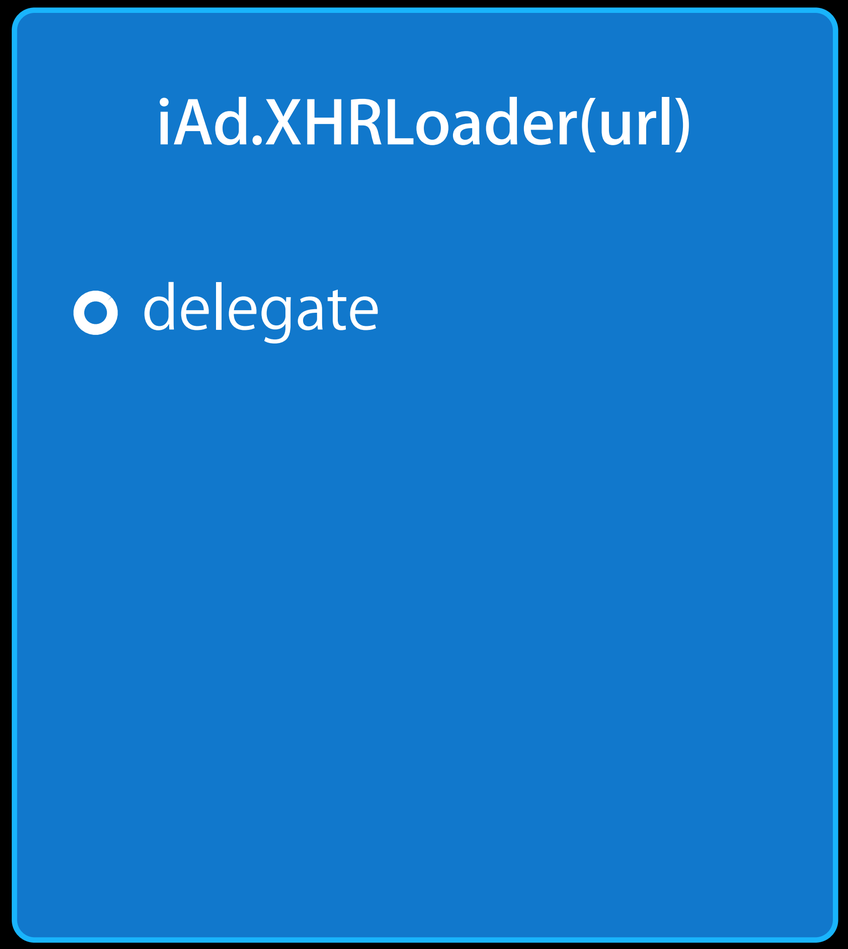
JS Customization

Loading remote content with iAd.XHRLoader



JS Customization

Loading remote content with iAd.XHRLoader



JS Customization

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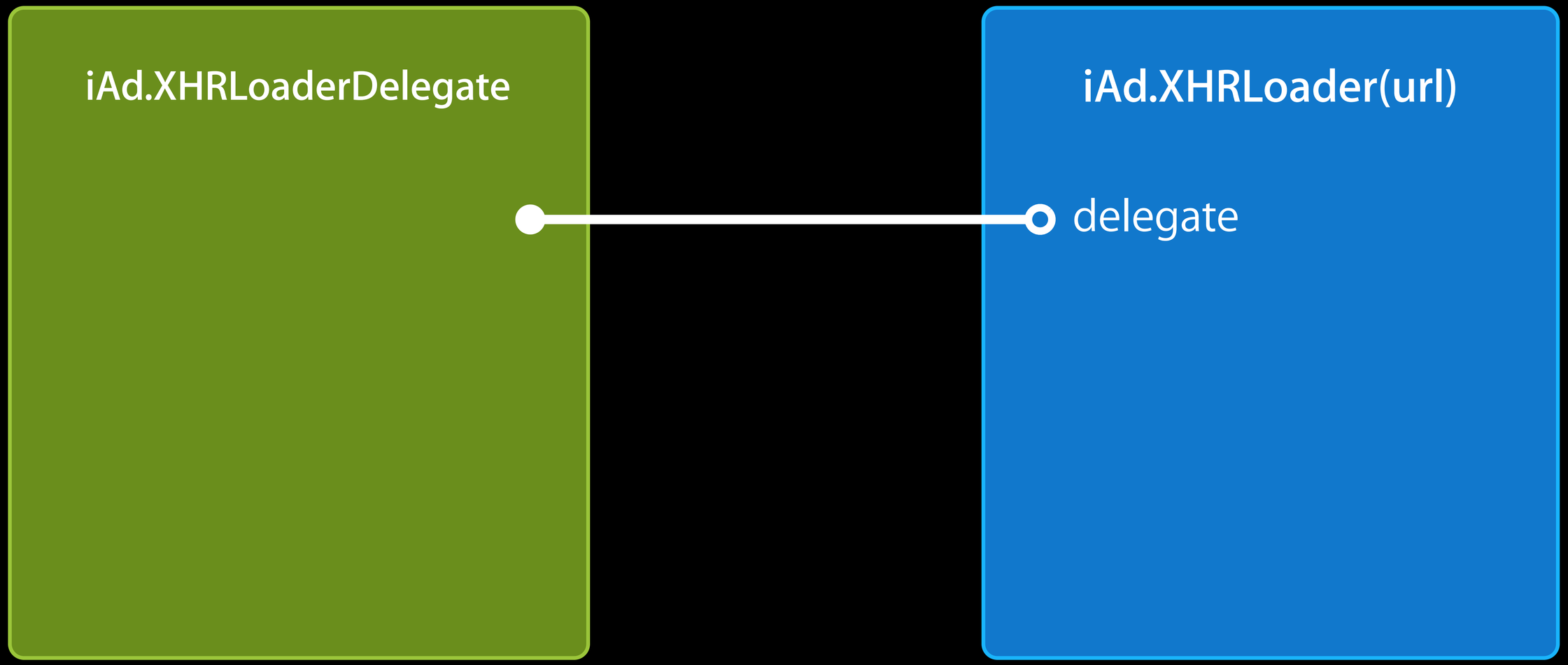

JS Customization

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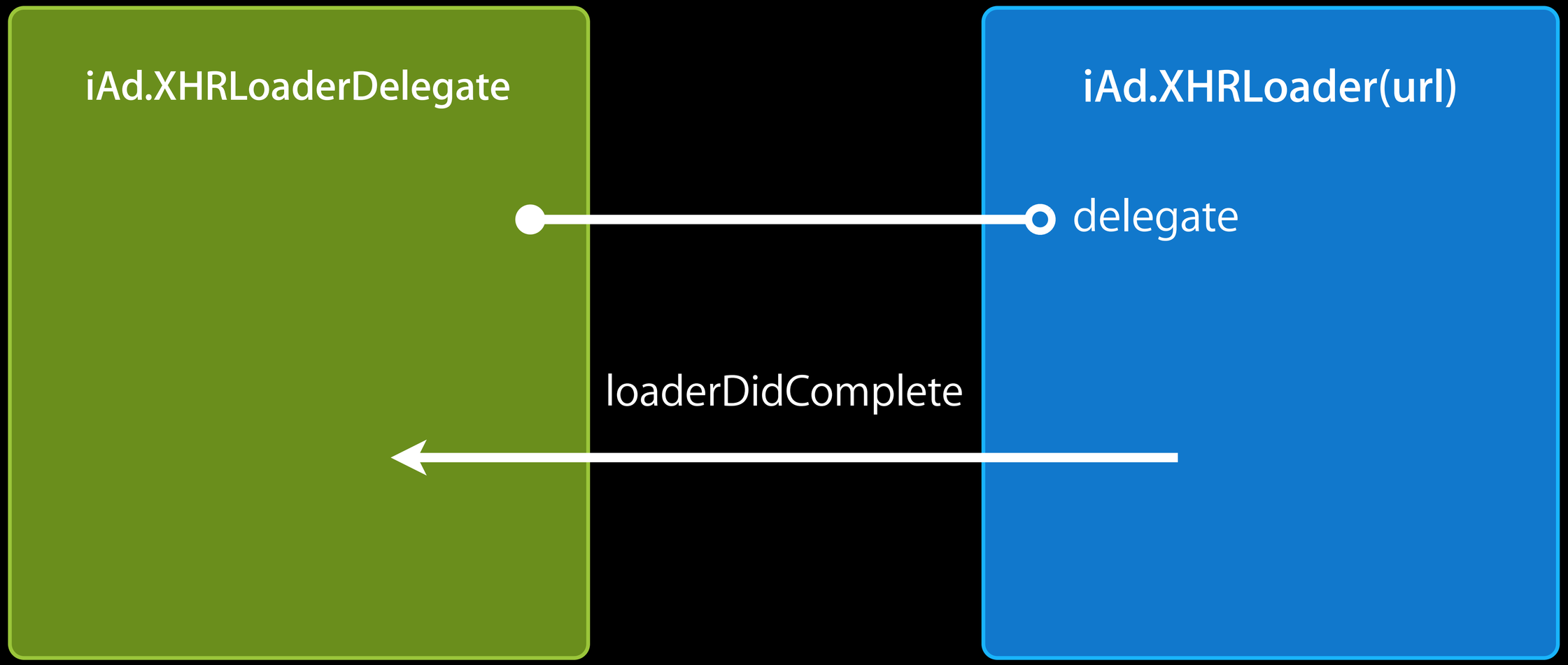

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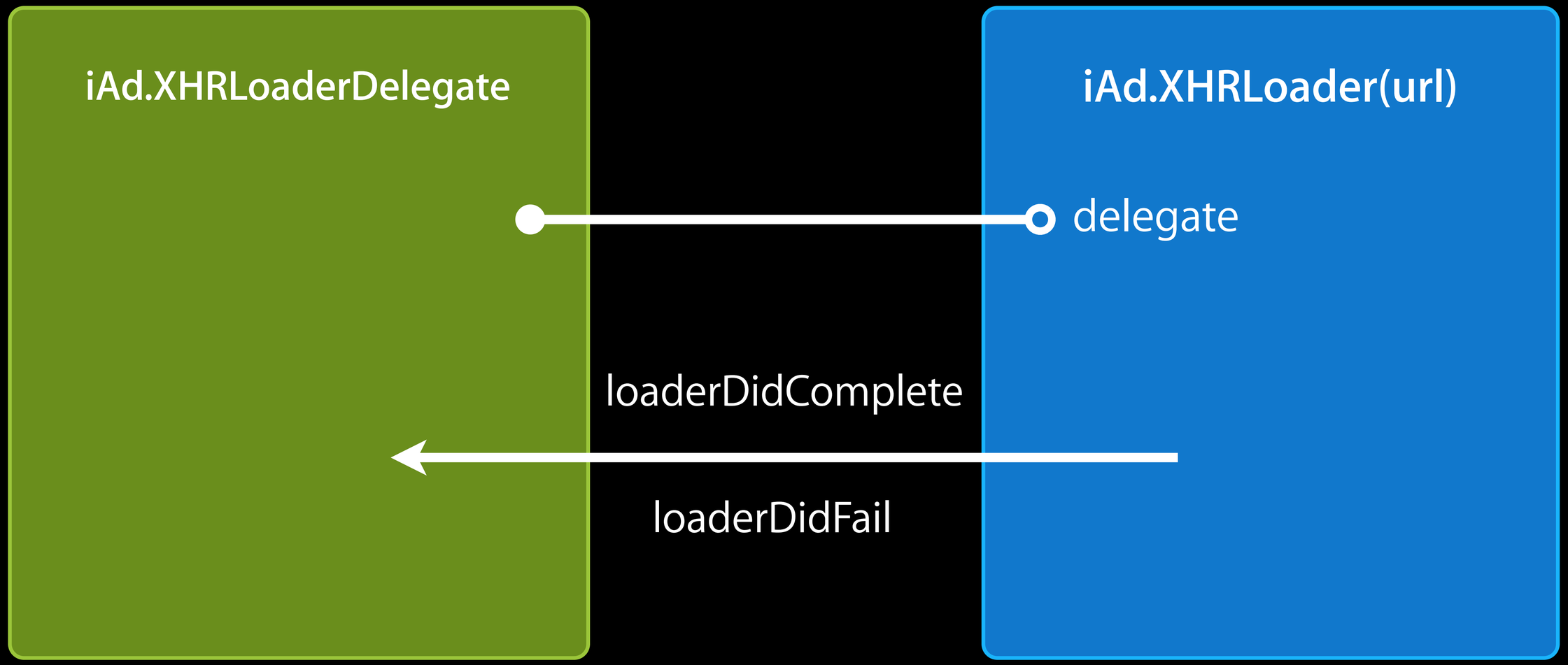


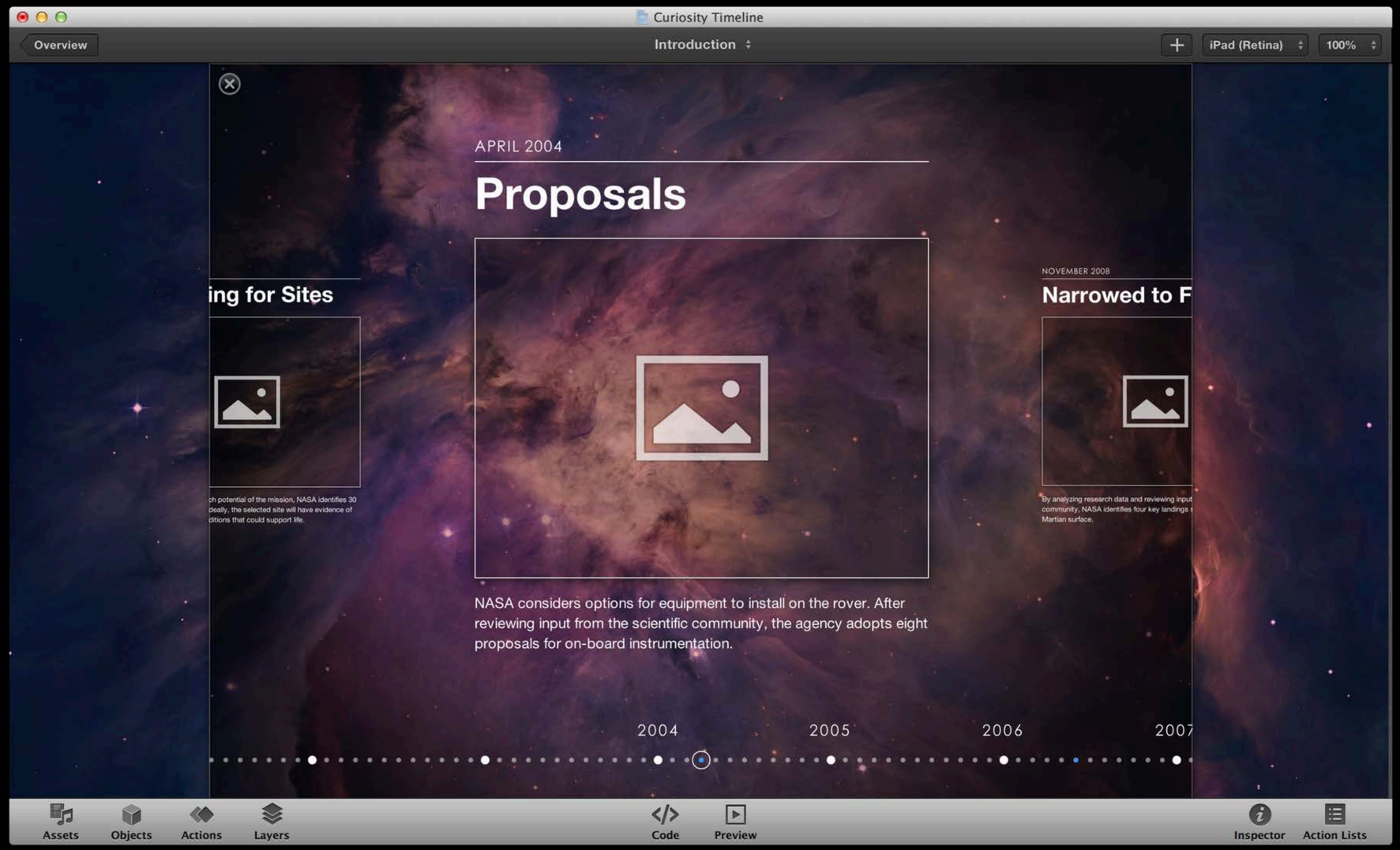
JS Customization

Loading remote content with iAd.XHRLoader

```
1
2  // Get data from remote server
3  this.onViewControllerViewDidLoad = function (event) {
4      var xmlLoader = new iAd.XHRLoader("http://.../images");
5      xmlLoader.delegate = this;
6      xmlLoader.load();
7  };
8
9  // Called when the XHR call failed
10 this.loaderDidFail = function (loader, error) {
11     alert("Load failed with error: " + error);
12 };
13
14 // Called when the XHR call succeeded
15 this.loaderDidComplete = function (loader) {
16     // An array of images downloaded from a remote server
17     this.imageArray = createImageViewsFromData(loader.content);
18 };
19
```

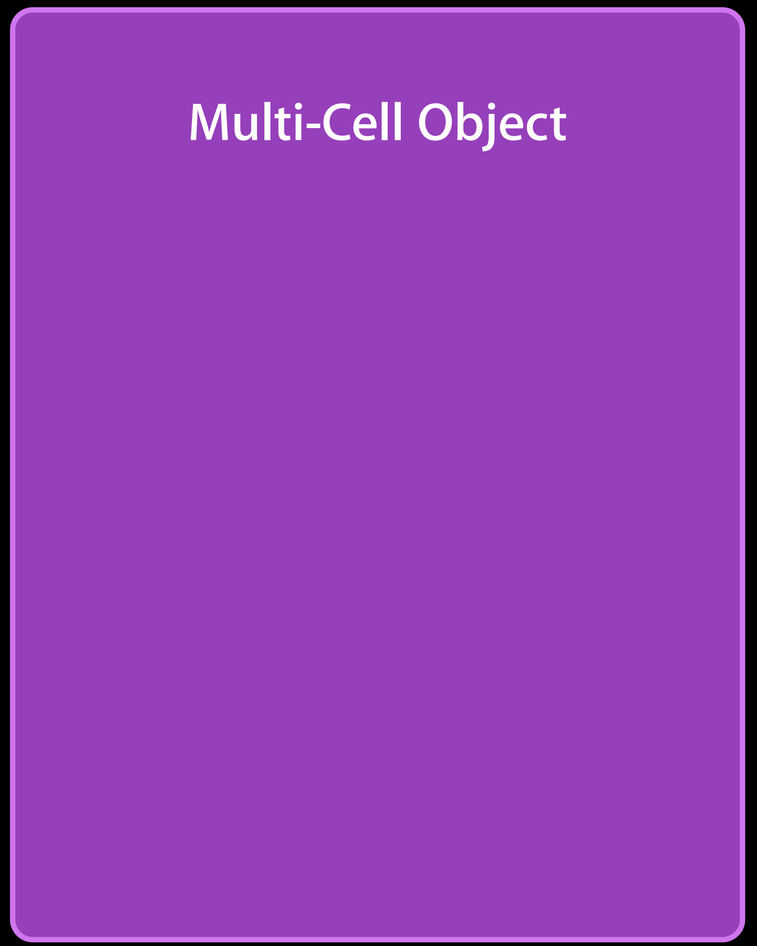
JS Customization

Loading dynamic content in multi-cell objects



JS Customization

Loading dynamic content in multi-cell objects



JS Customization

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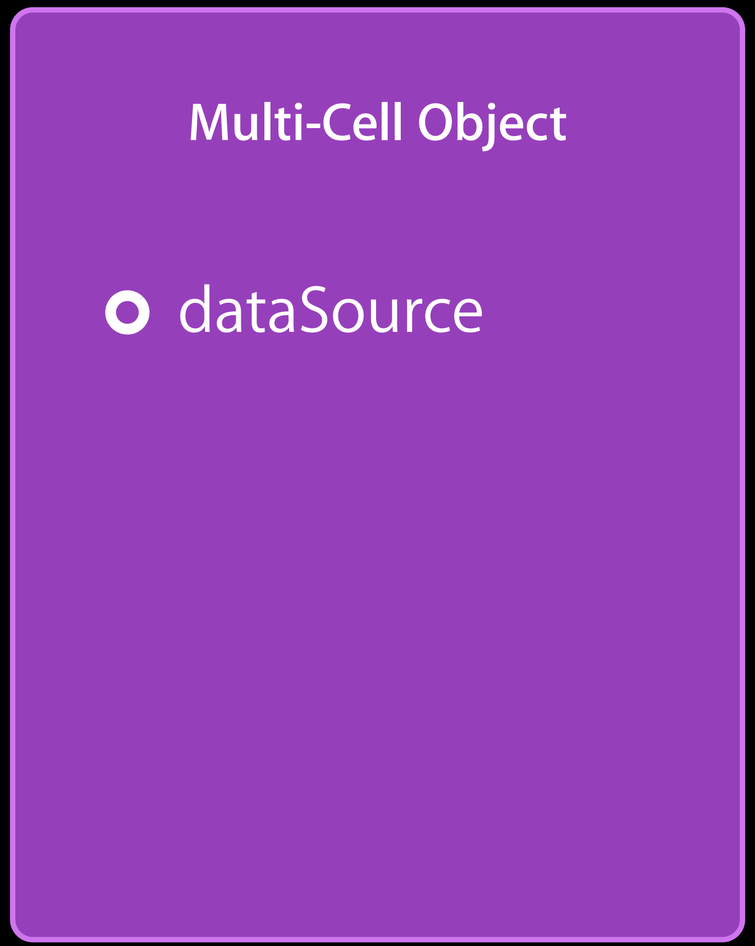

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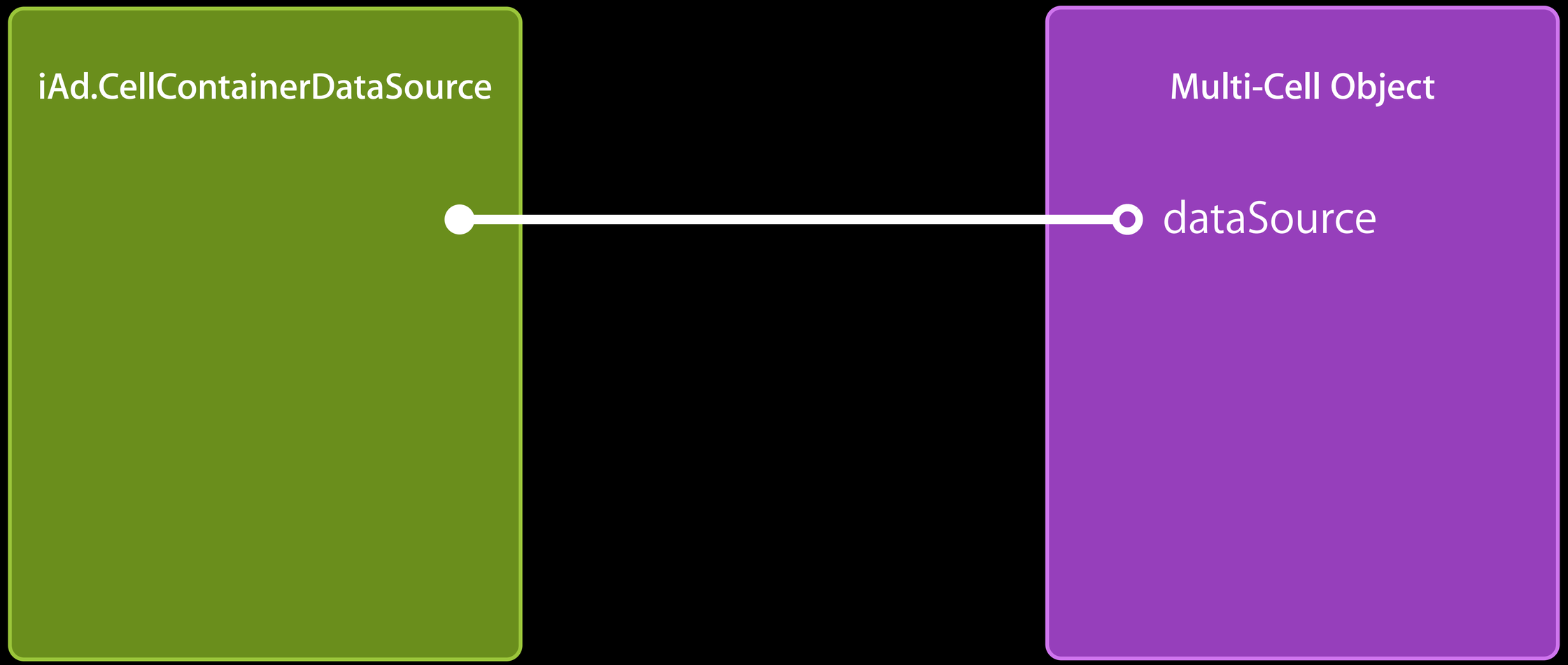

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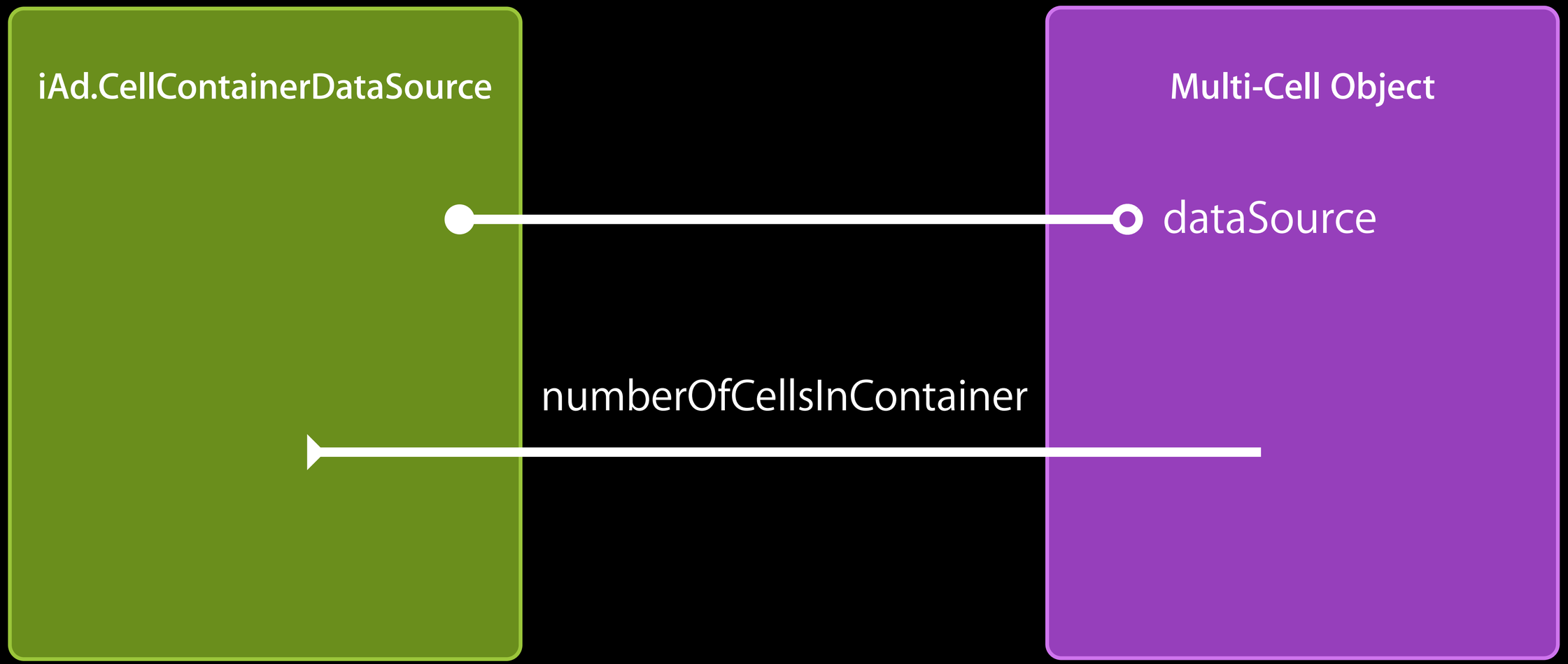

JS Customization

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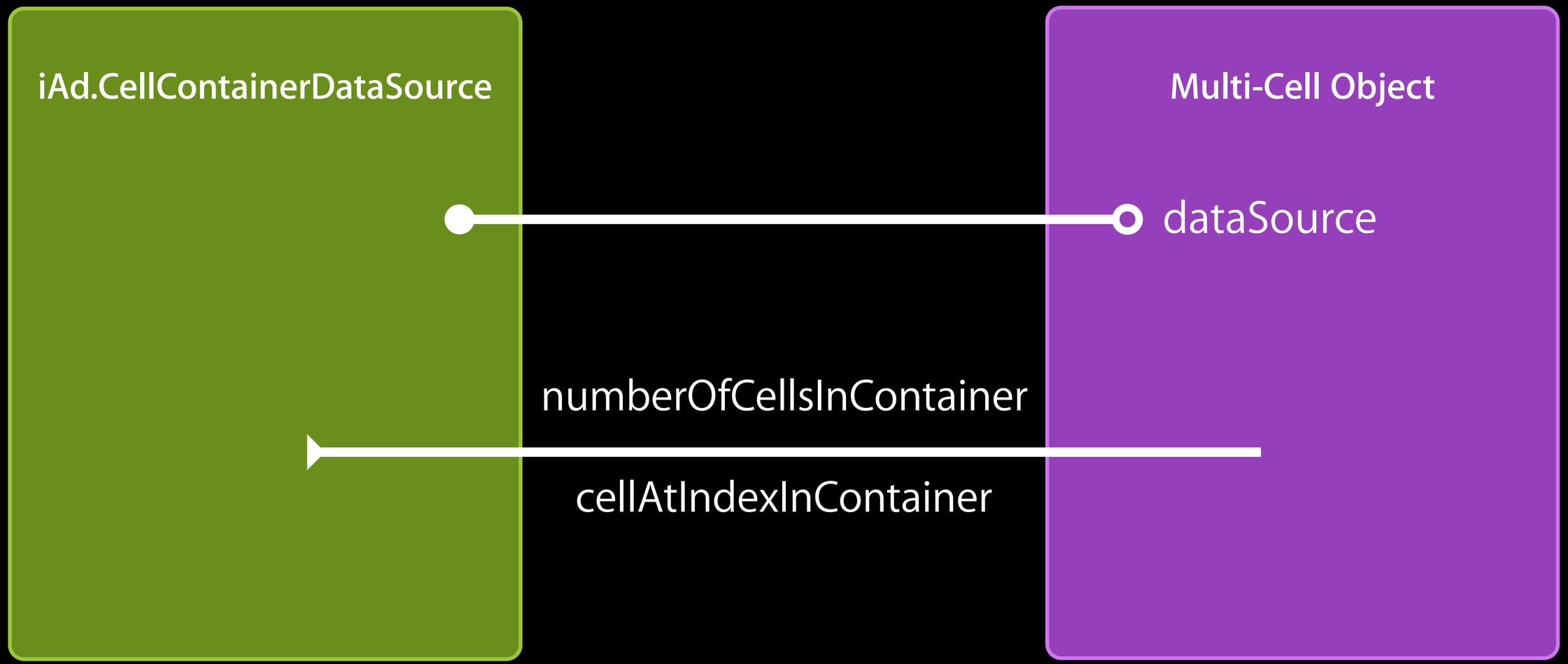


JS Customization

Loading dynamic content in multi-cell objects

```
13
14 // Called when the XHR call succeeded
15 this.loaderDidComplete = function (loader) {
16     // An array of images downloaded from a remote server
17     this.imageArray = createImageViewsFromData(loader.content);
18
19     // Set the data source of the gallery
20     var galleryView = this.outlets.galleryView;
21     galleryView.dataSource = this;
22     galleryView.reload();
23 };
24
25 // Return the number of cells
26 this.numberOfCellsInContainer = function (container) {
27     return this.imageArray.length;
28 };
29
30 // Return the cell at a given index
31 this.cellAtIndexInContainer = function(container, index) {
32     return this.imageArray[index];
33 };
34
```

Demo

Customization

Mark Malone
iAd Technology Evangelist


CSS


JS


HTML


CSS


JS


HTML

HTML Customization

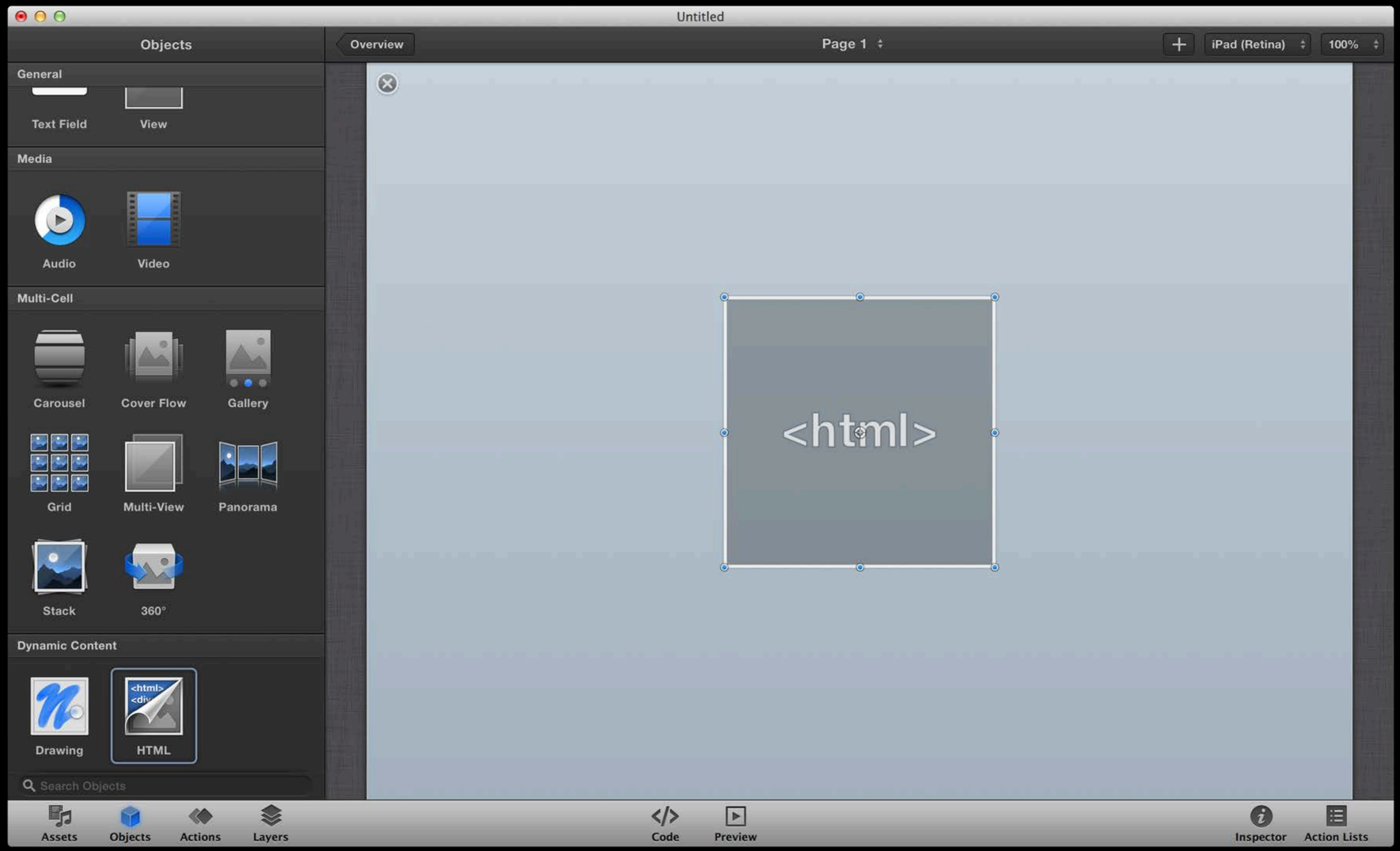
Embedded objects

HTML Customization

Embedded objects

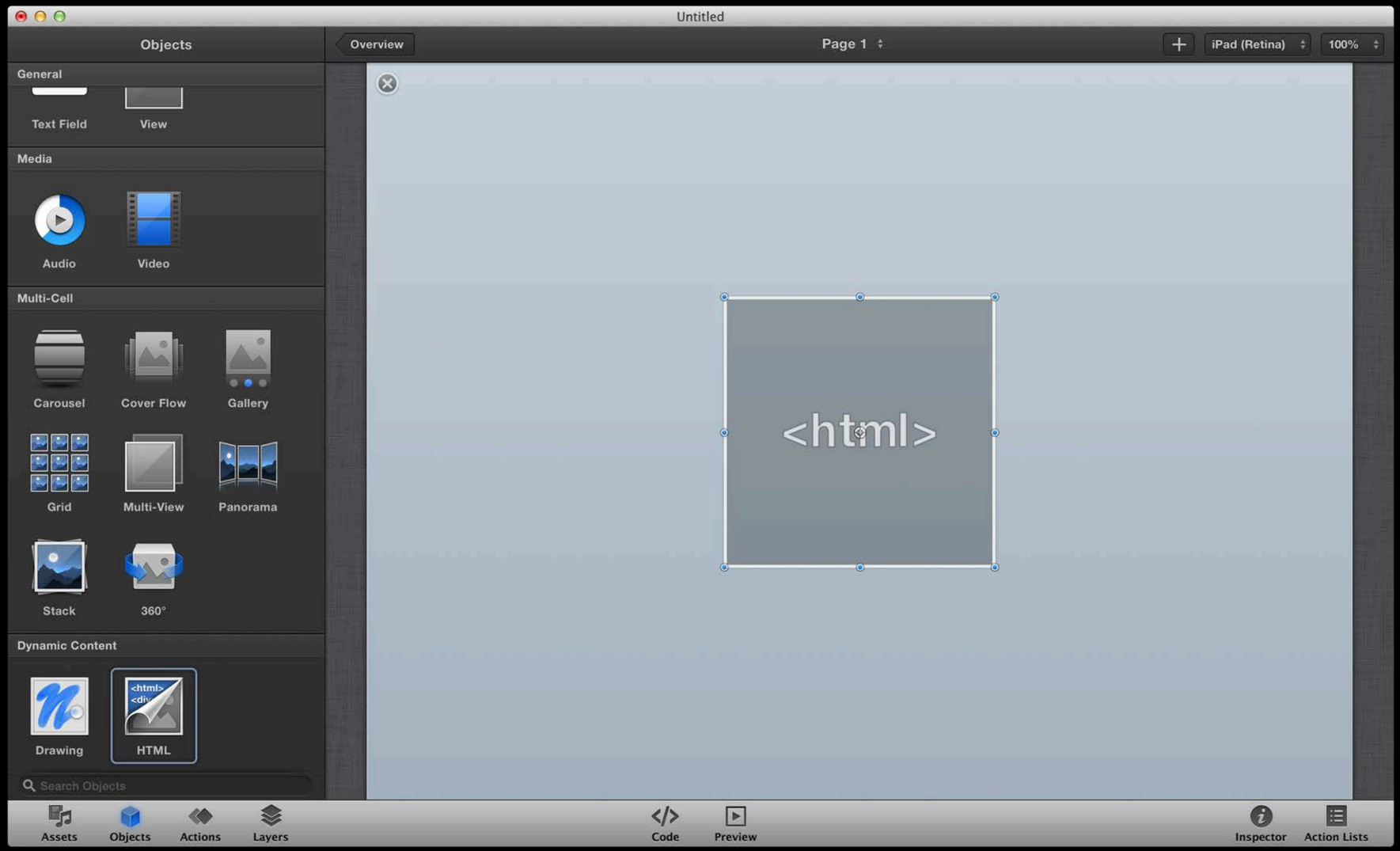
HTML Customization

Embedded objects



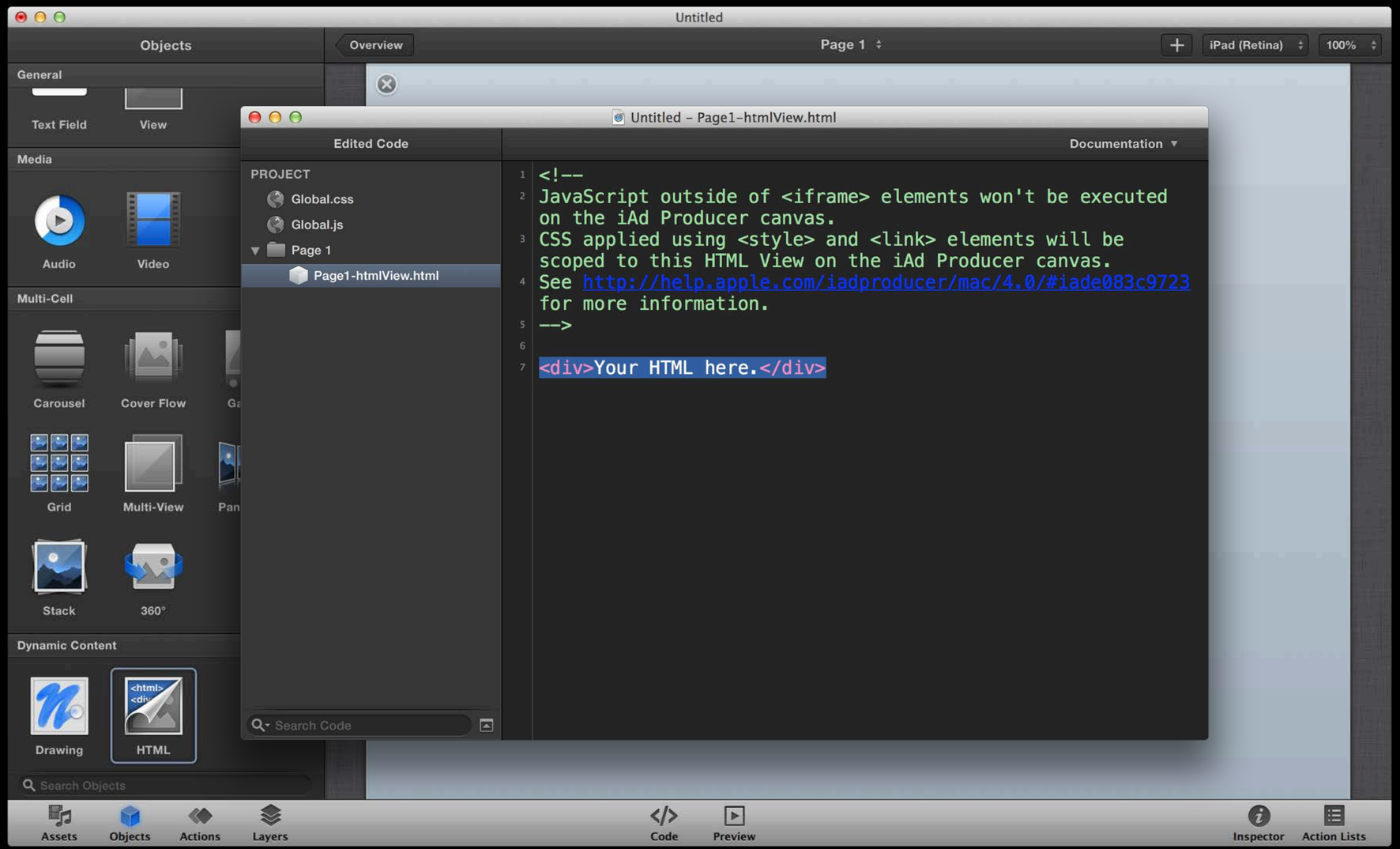
HTML Customization

Embedded objects



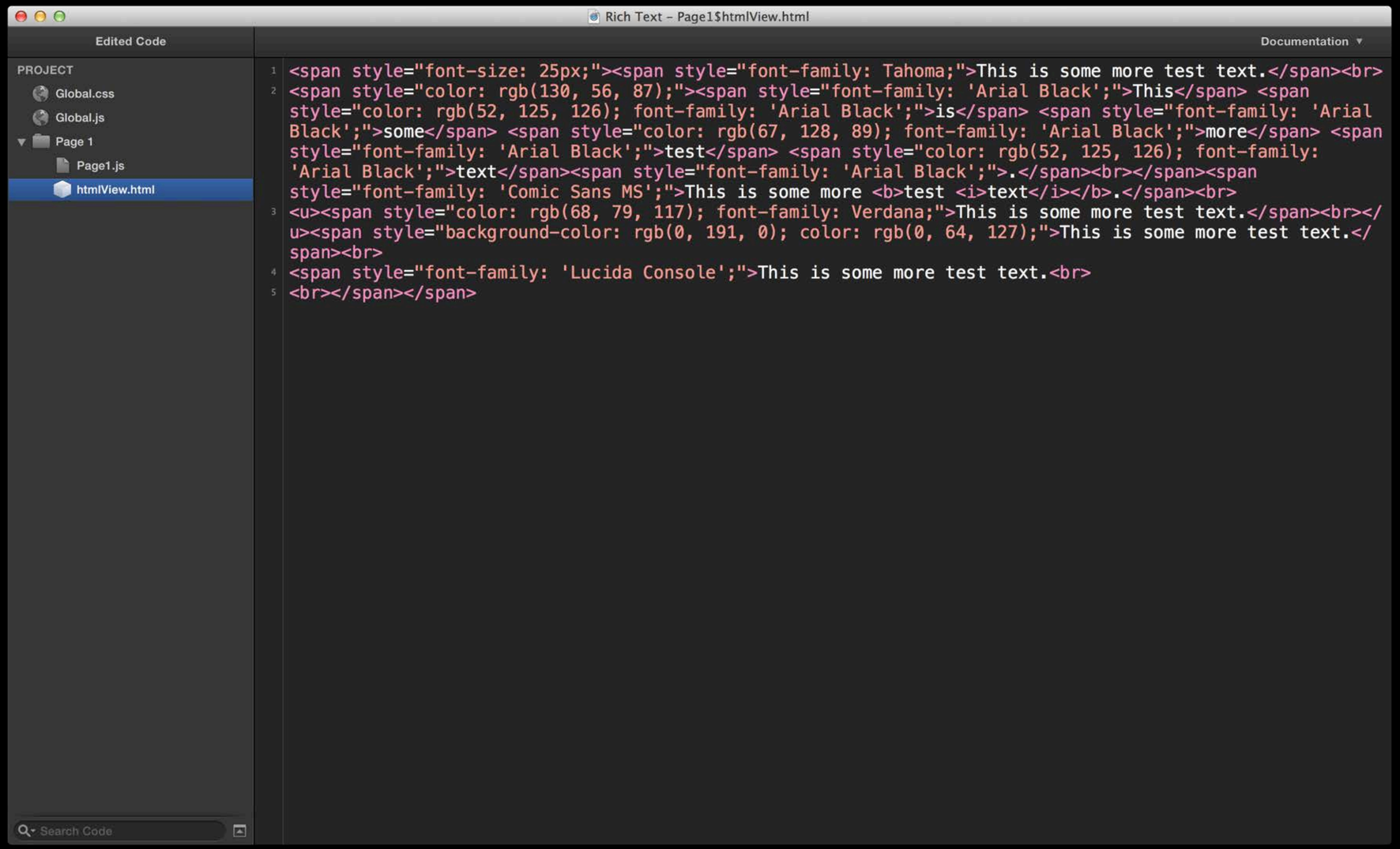
HTML Customization

Embedded objects



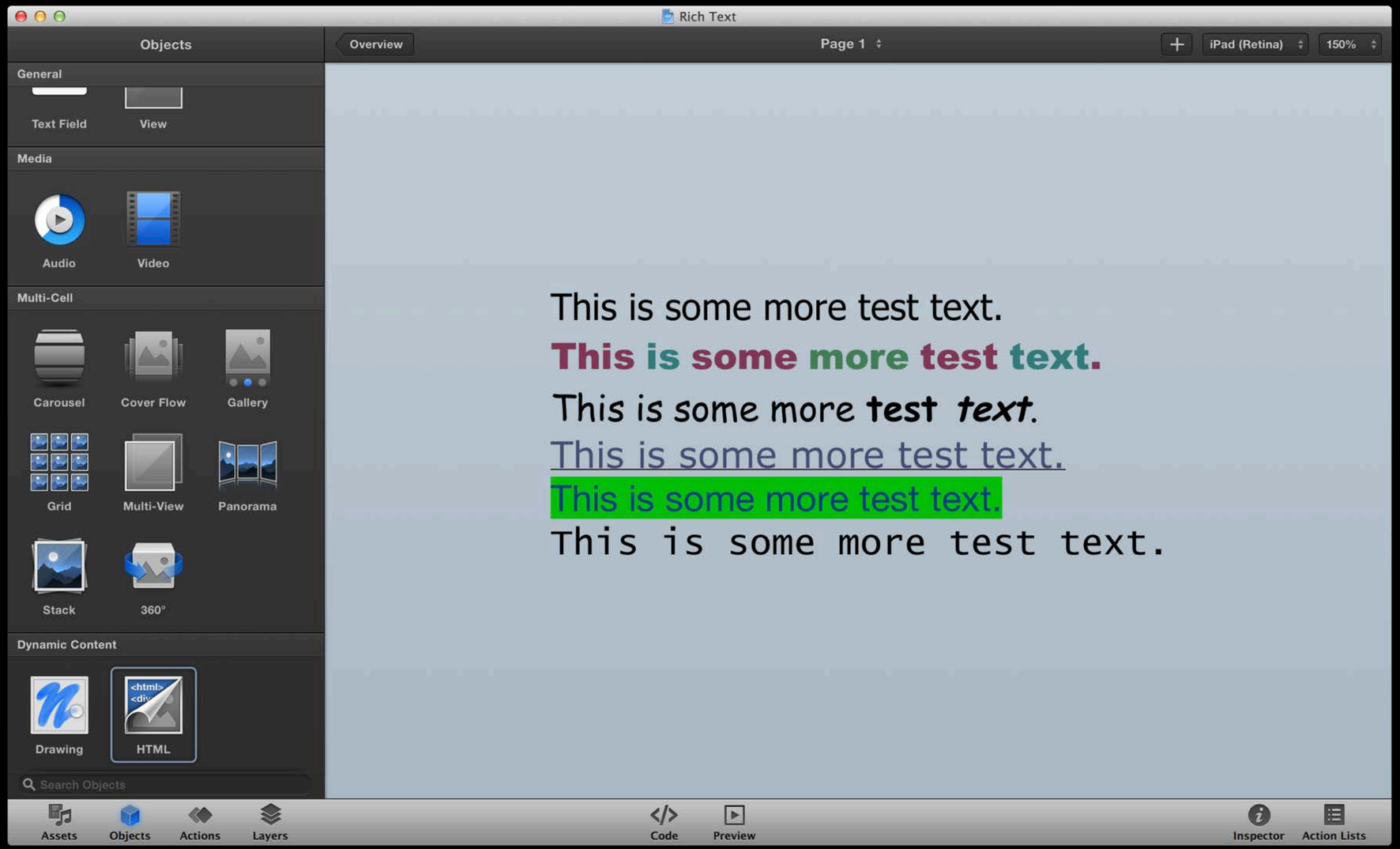
HTML Customization

Formatted text



HTML Customization

Formatted text



HTML Customization

MathML

MathML – Page1$htmlView.html

Edited Code

Documentation

PROJECT

Global.css

Global.js

Page 1

htmlView.html

```
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    <mrow>
      <mrow>
        <mspace depth="1ex" height="0.5ex" width="2.5ex"/>
        <mrow>
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        </mrow>
        <mo>=</mo>
        <mfrac>
          <mrow>
            <mo>&#xB1;</mo>
            <msqrt>
              <msup>
                <mi>b</mi>
                <mn>2</mn>
              </msup>
              <mo> - </mo>
              <mn>4</mn>
              <mi>a</mi>
              <mi>c</mi>
            </msqrt>
          </mrow>
          <mrow>
            <mn>2</mn>
            <mi>a</mi>
          </mrow>
        </mfrac>
      </mrow>
      <mspace depth="1ex" height="0.5ex" width="2ex"/>
      <mrow>
        <mtext mathcolor="red" mathsize="10pt"/>
      </mrow>
    </mrow>
  </mtd>
</math>
```
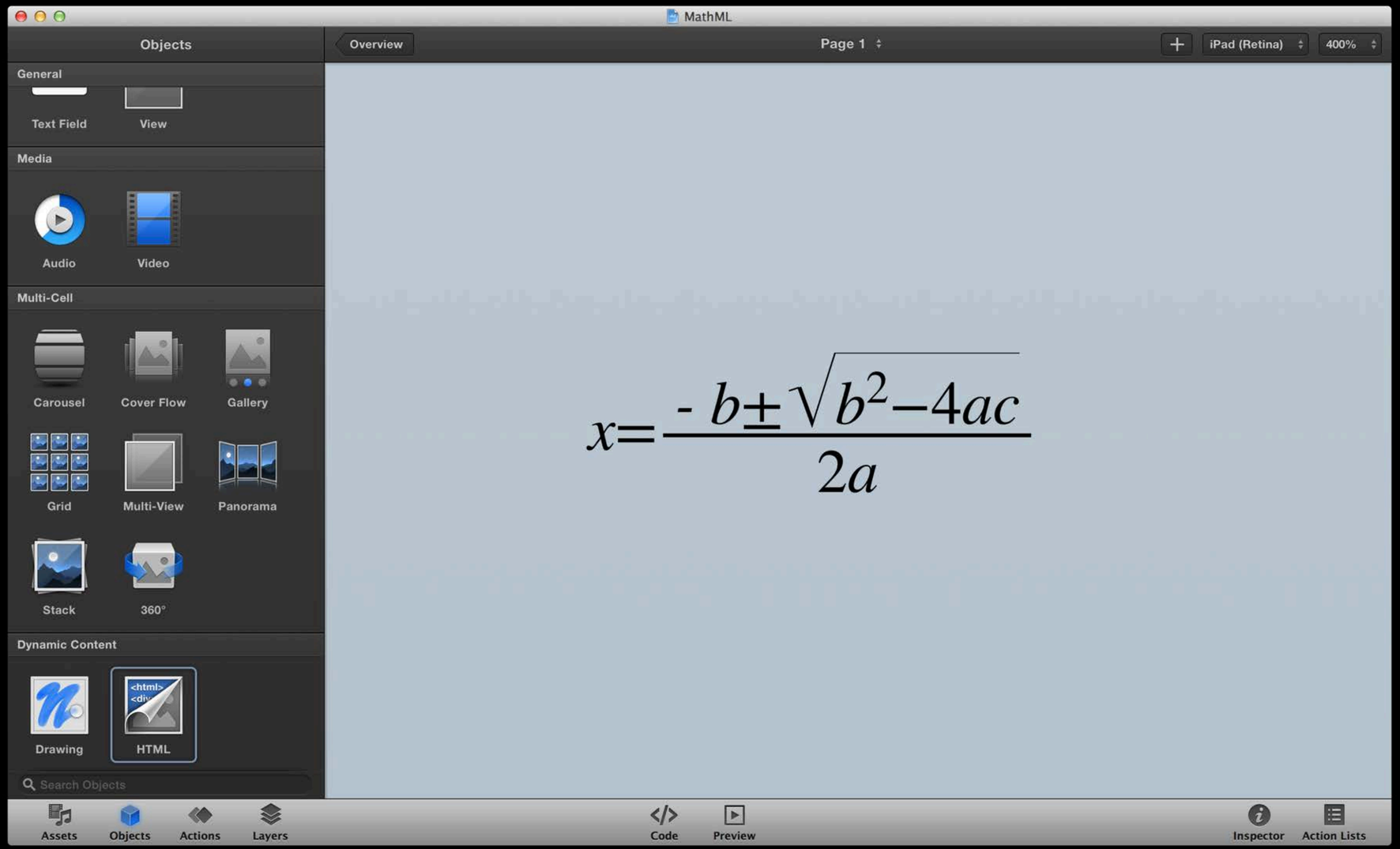

Search Code

HTML Customization

MathML

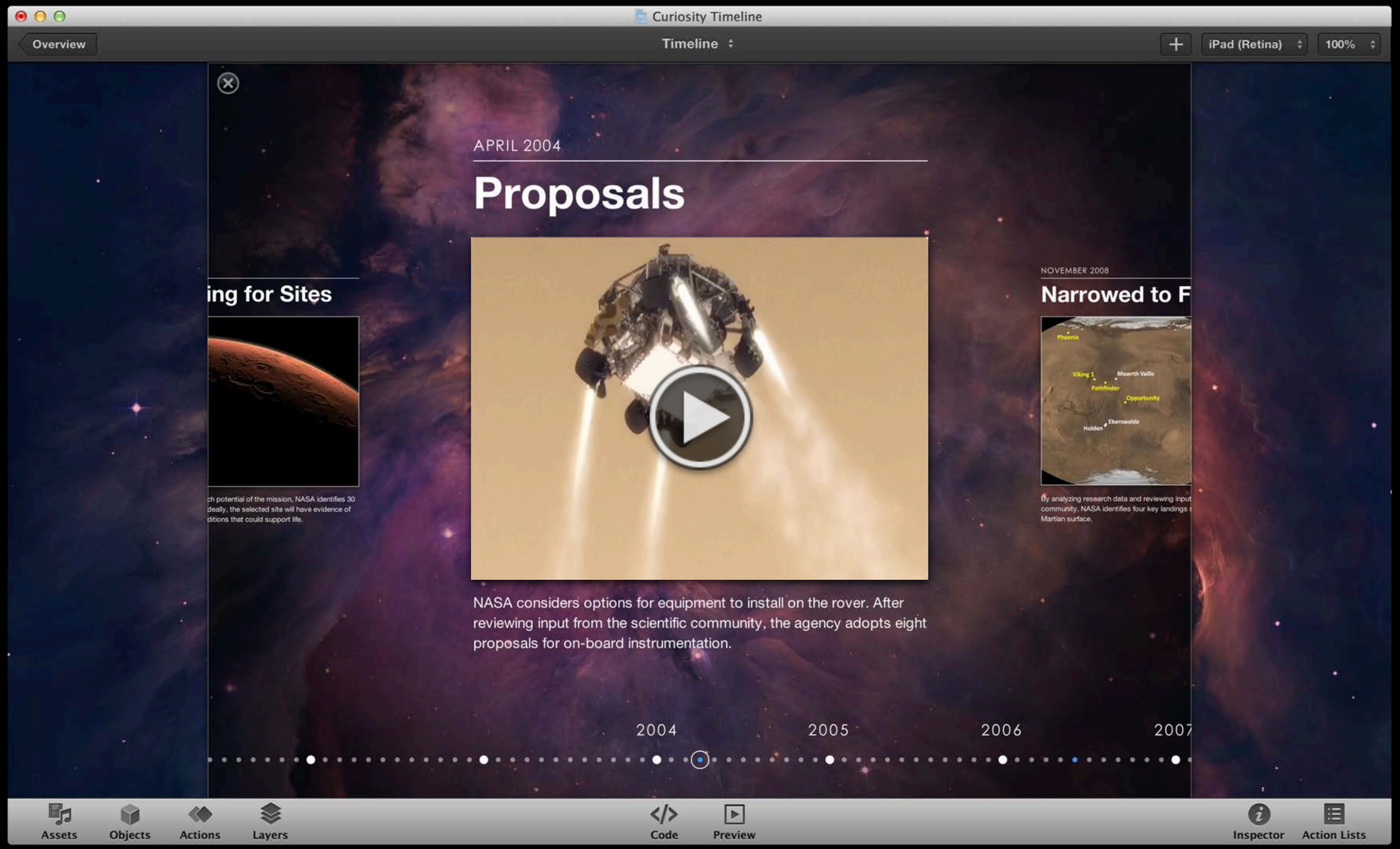


HTML Customization

Embedded objects

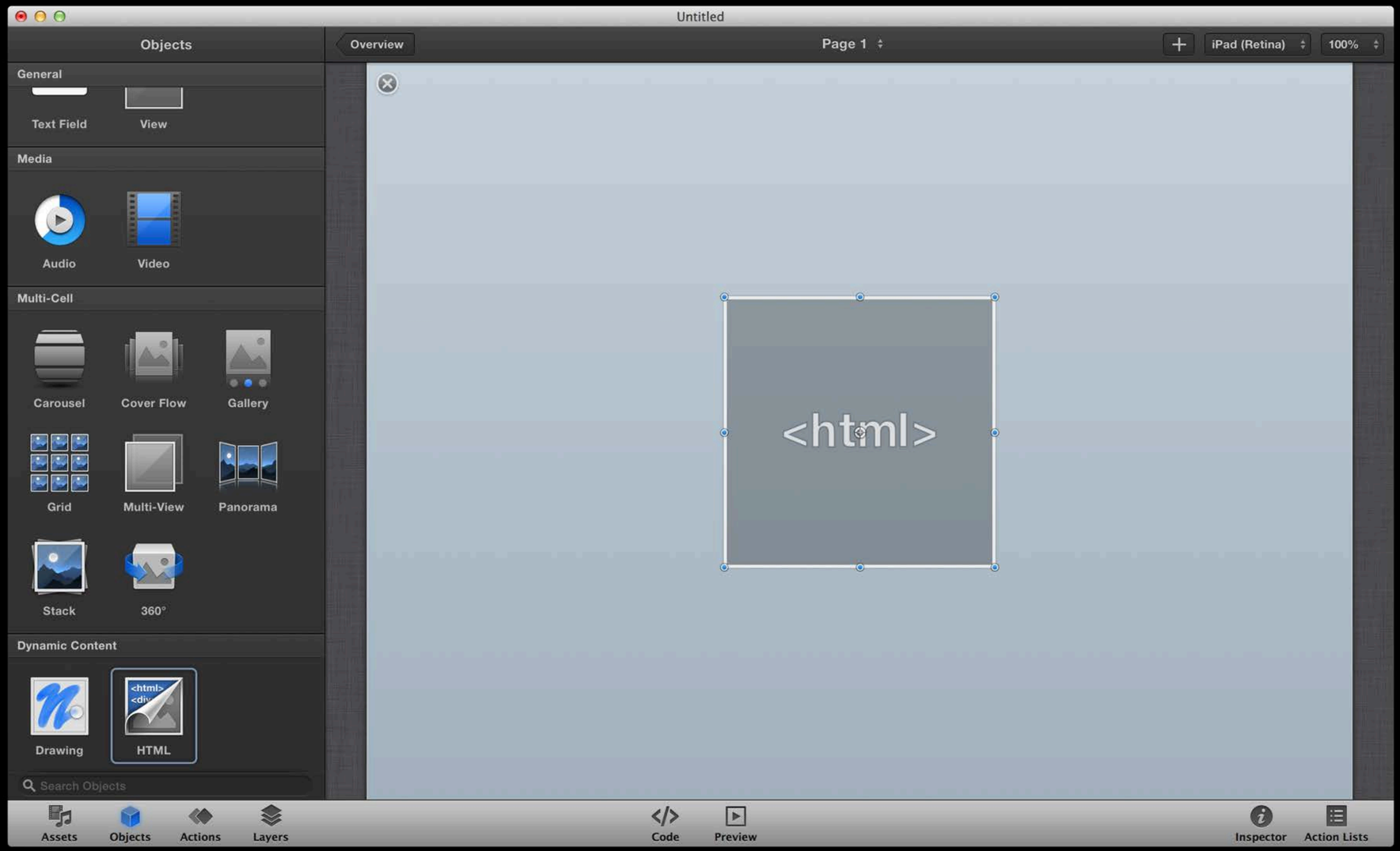
HTML Customization

Embedded objects



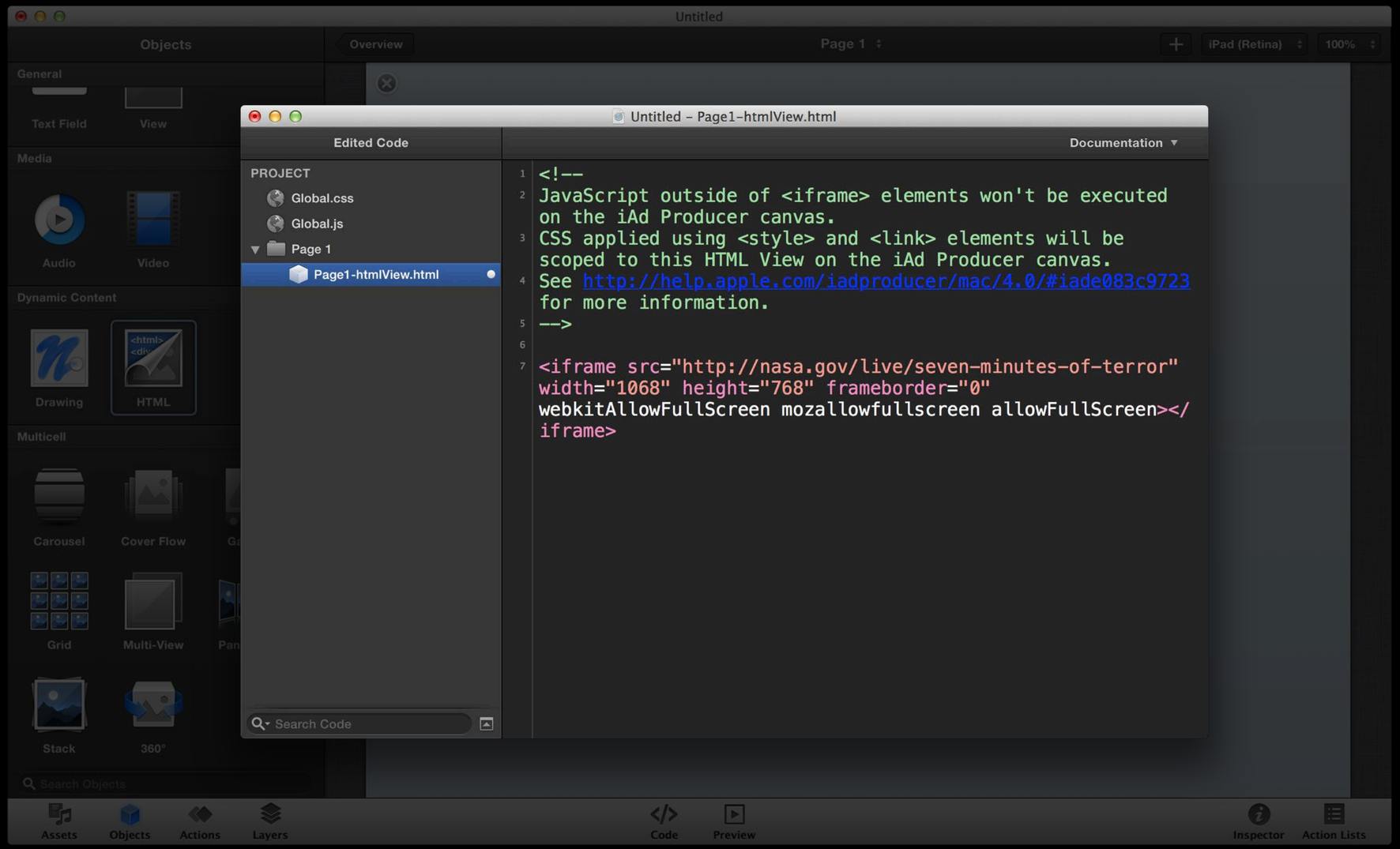
HTML Customization

Embedded objects



HTML Customization

Embedded objects



HTML Customization

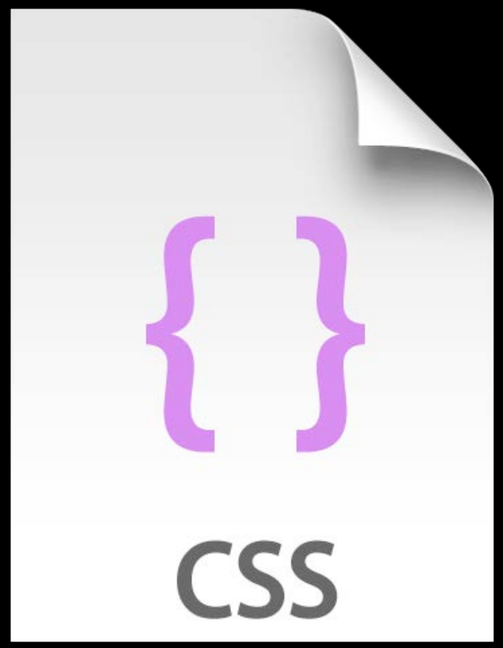
Embedded objects


CSS


JS

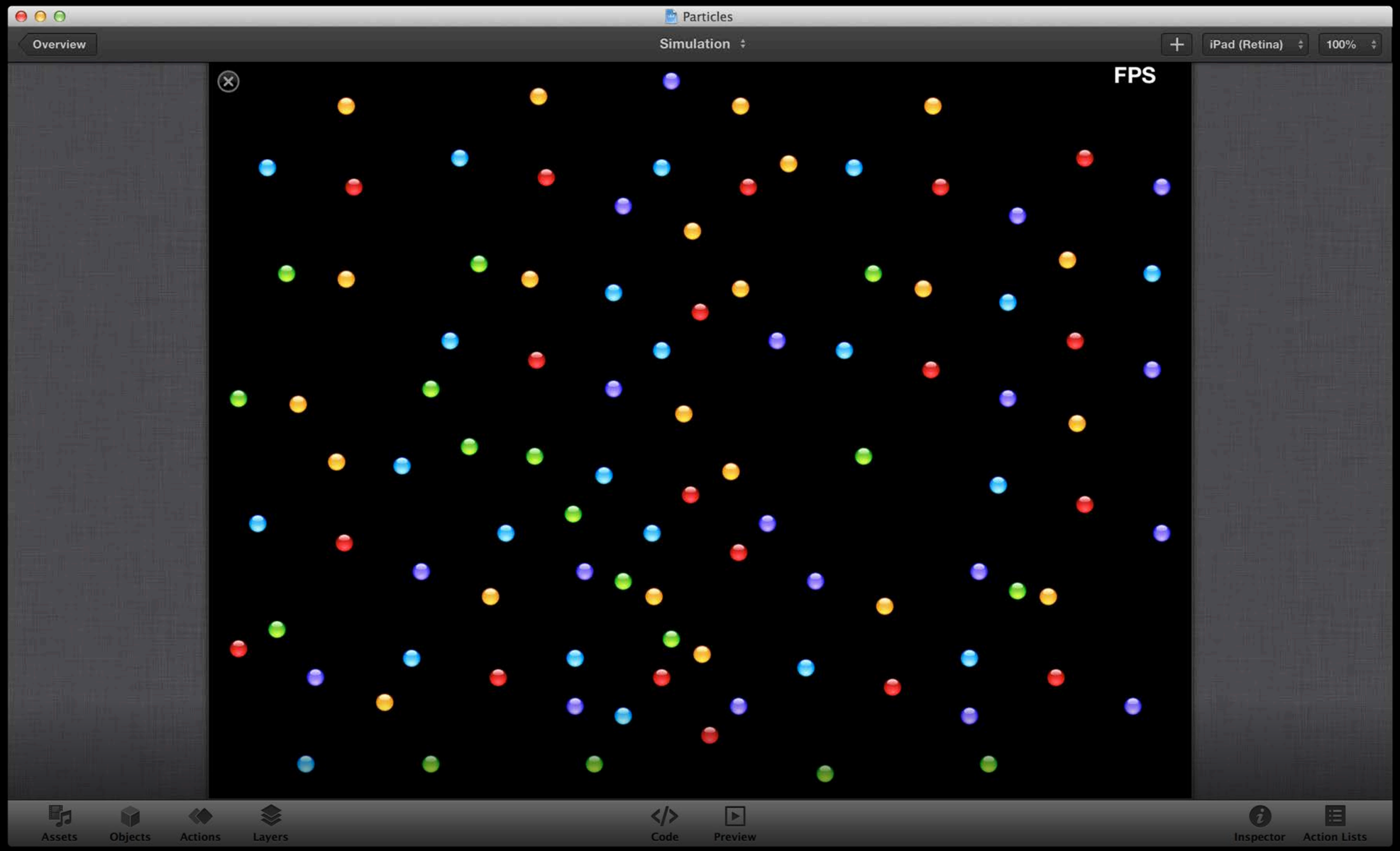

HTML

Content Customization

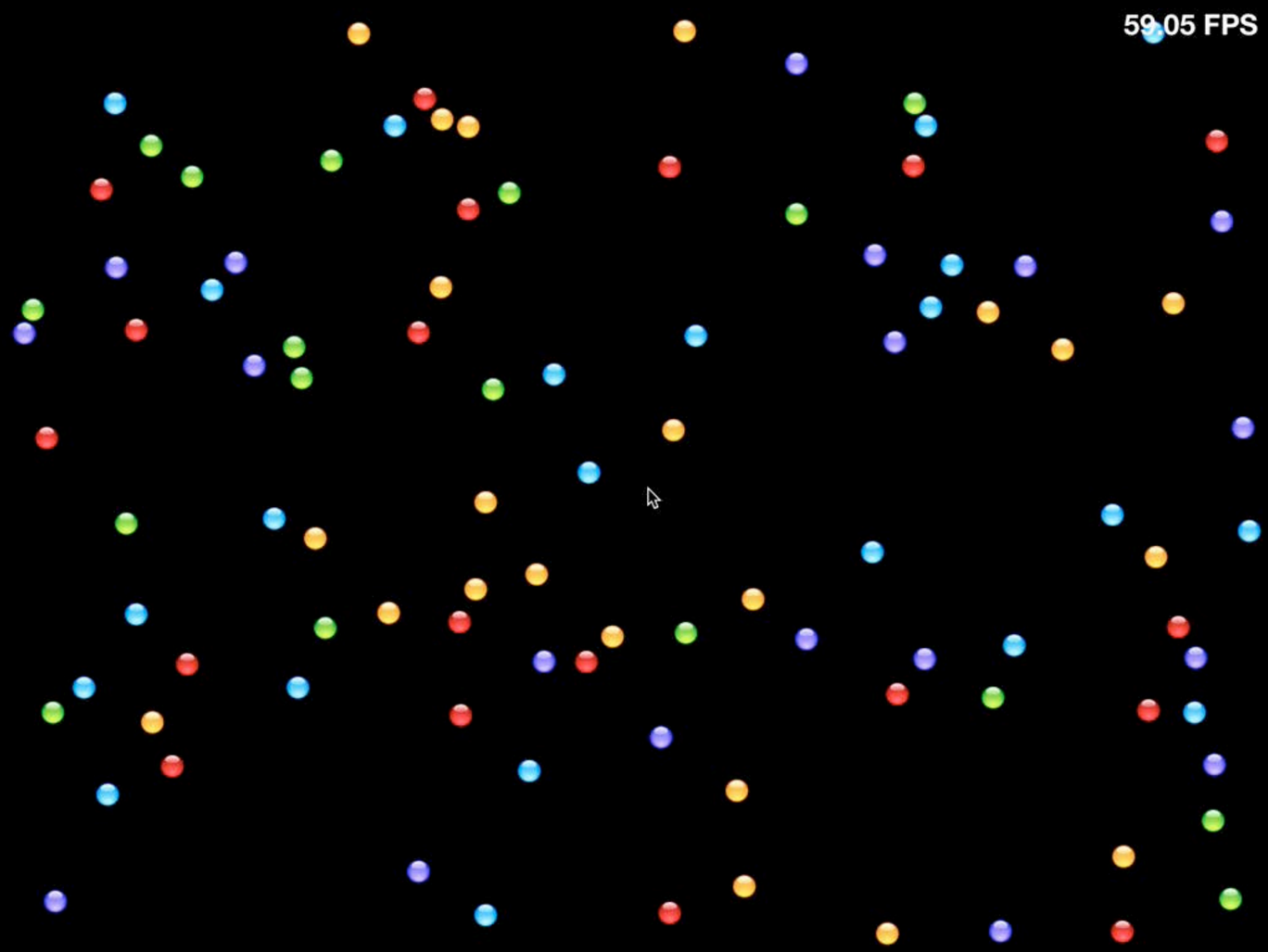


Performance

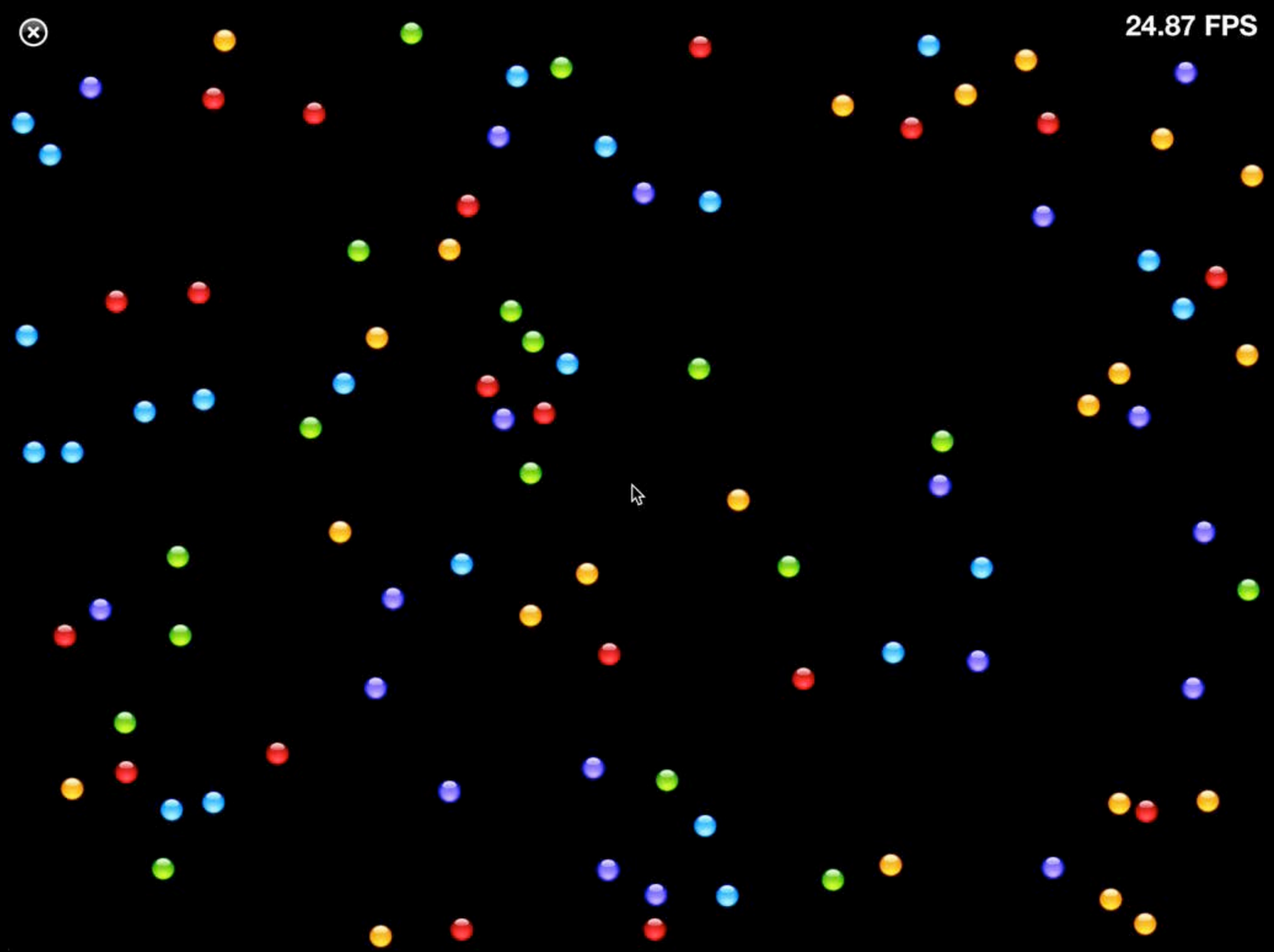
Great Widget Is Done



Mac



iOS Device



Performance

Testing and debugging

Performance

Testing and debugging

- Remote Web Inspector

Performance

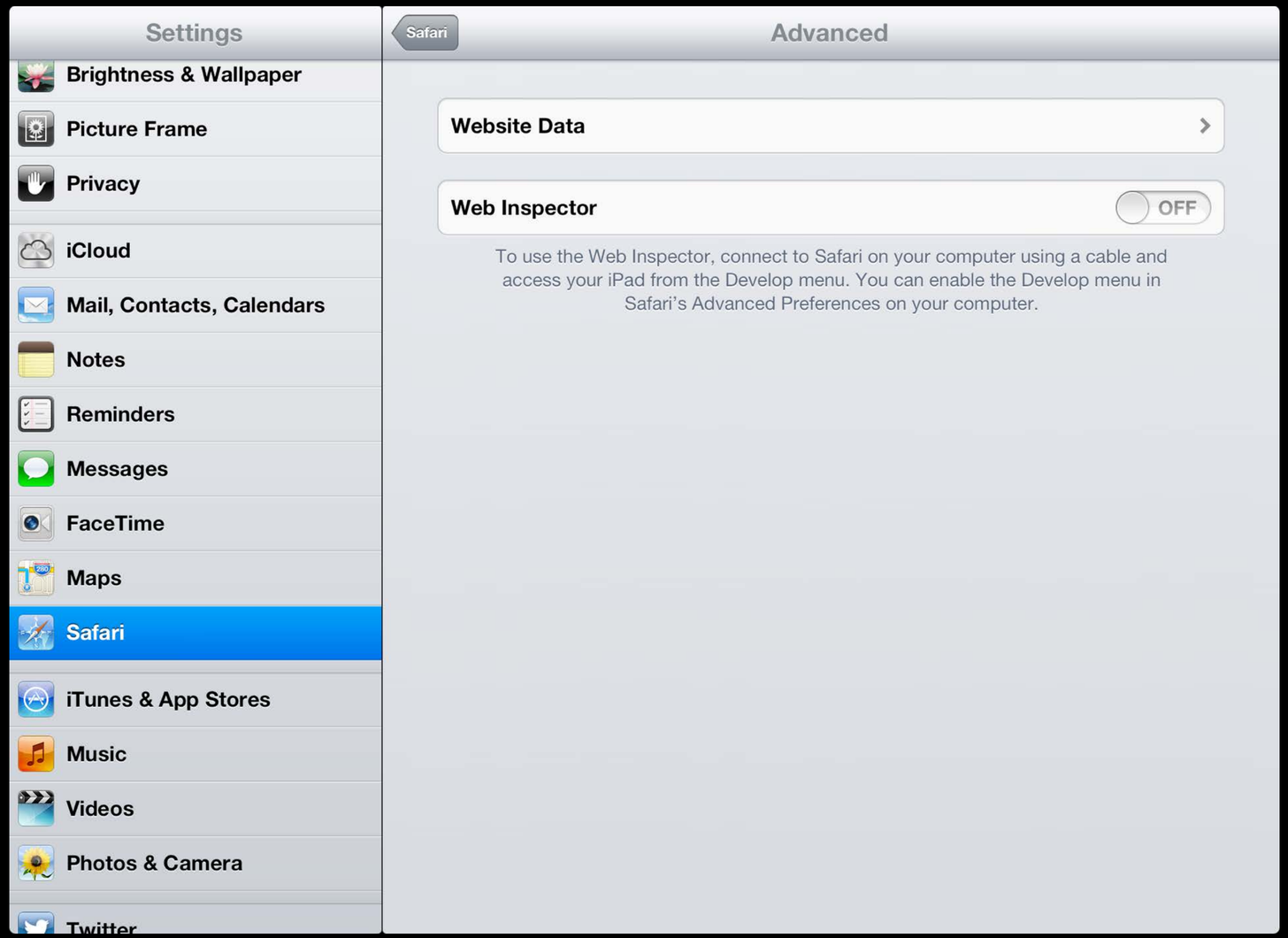
Testing and debugging

- Remote Web Inspector
- Instruments

Web Inspector

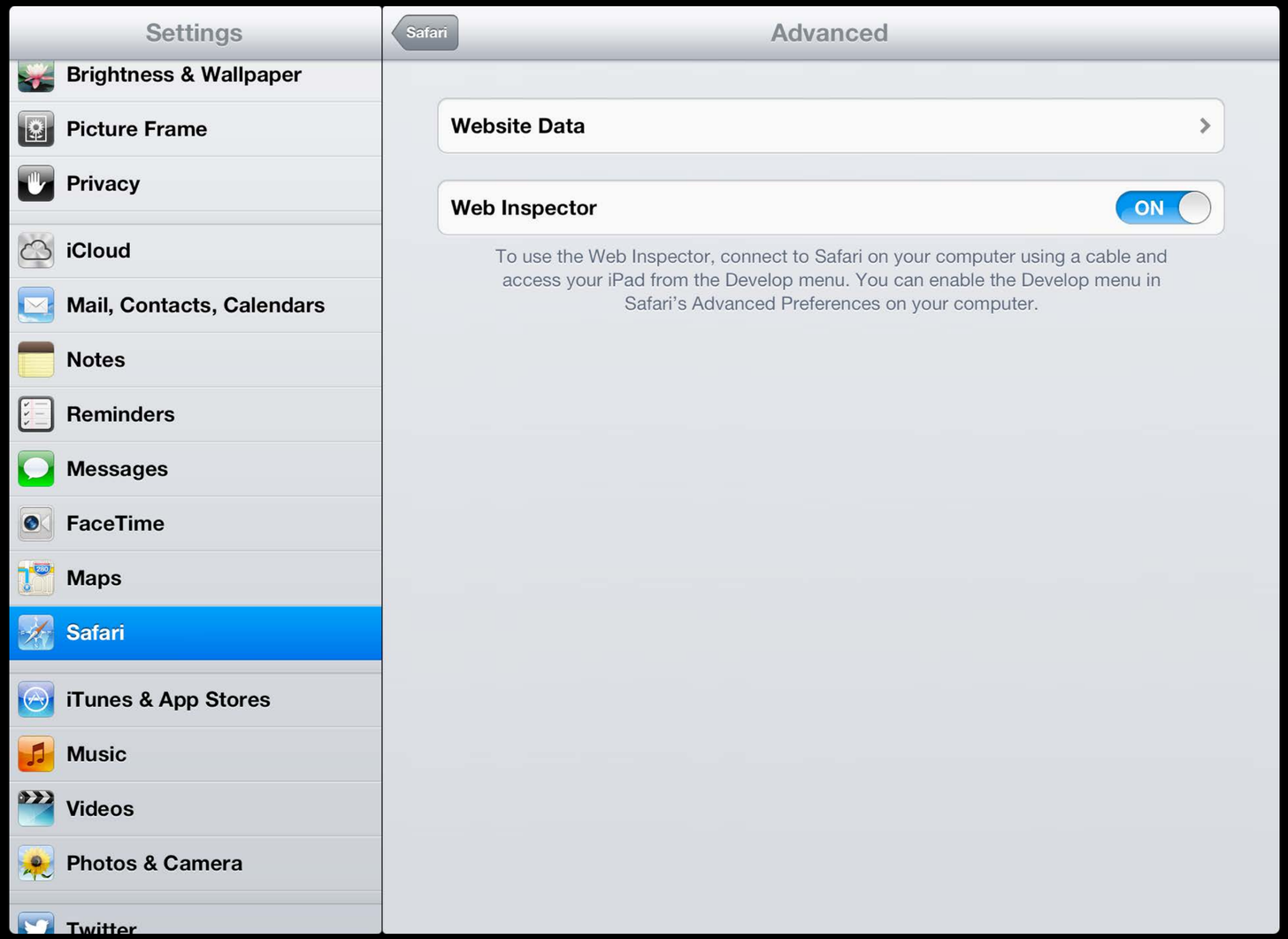
Web Inspector

Setup



Web Inspector

Setup

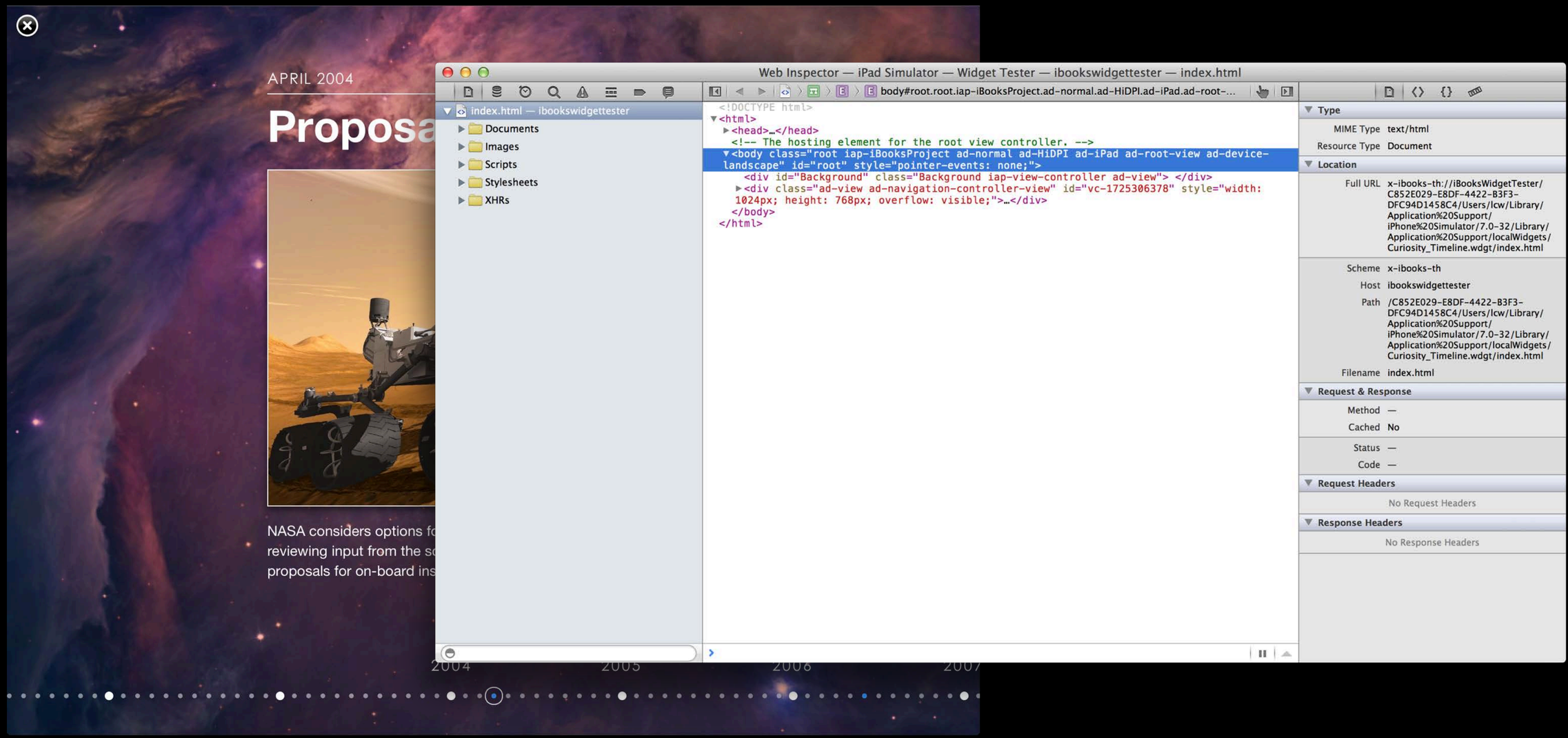


Web Inspector

Setup

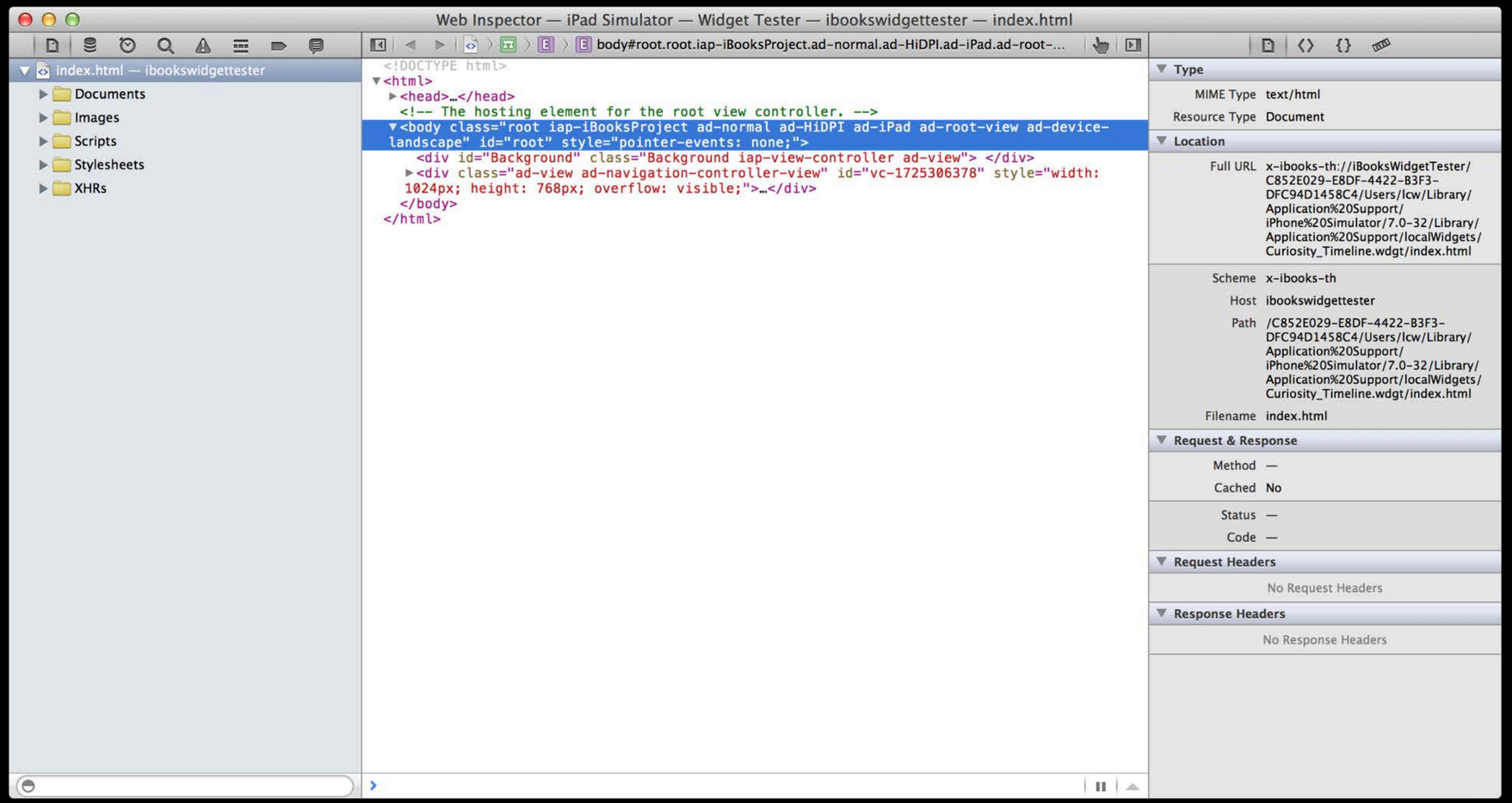
Web Inspector

Setup



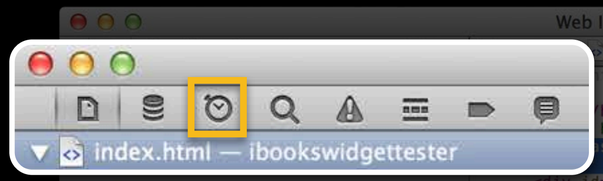
Web Inspector

CPU profiling



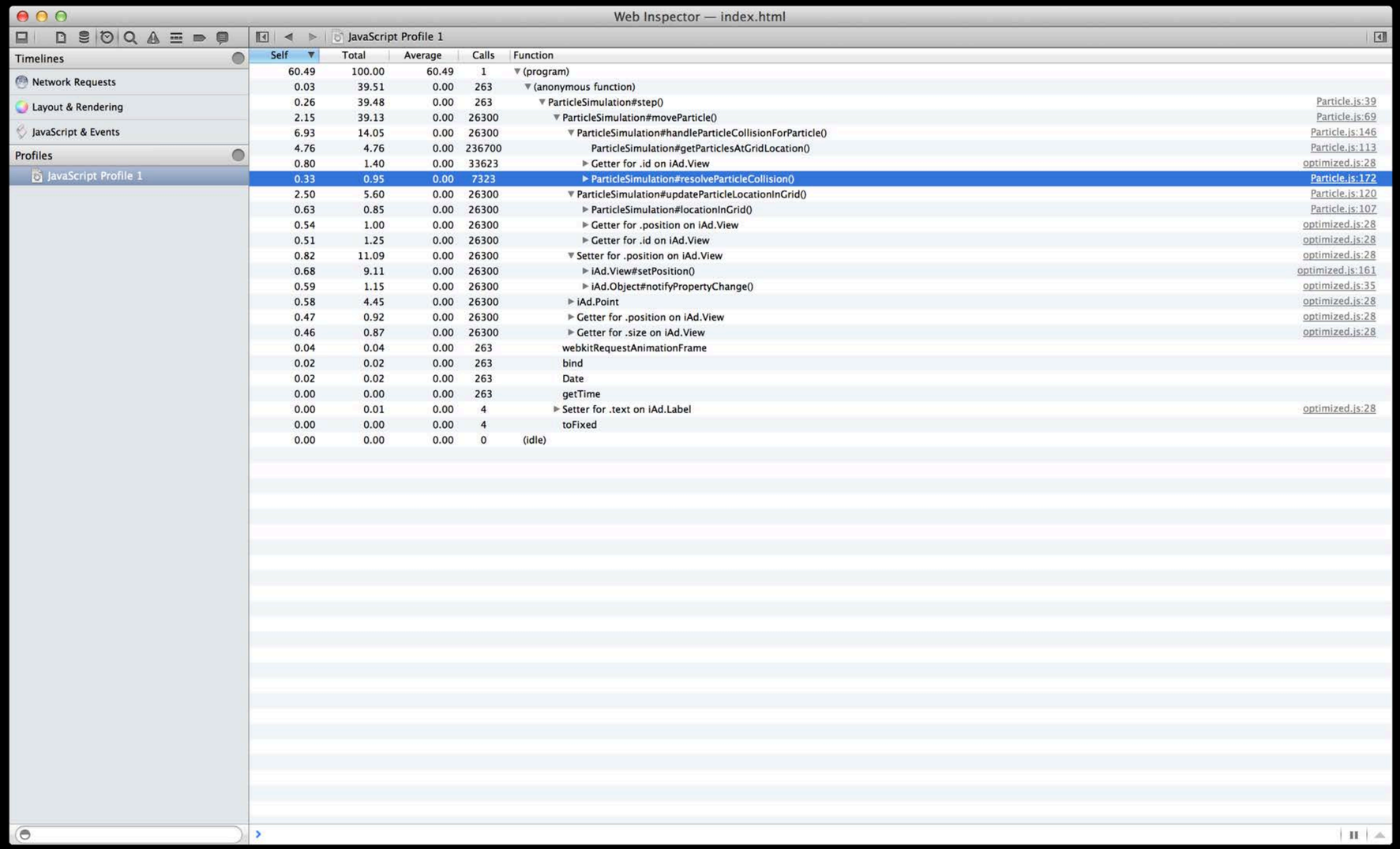
Web Inspector

CPU profiling



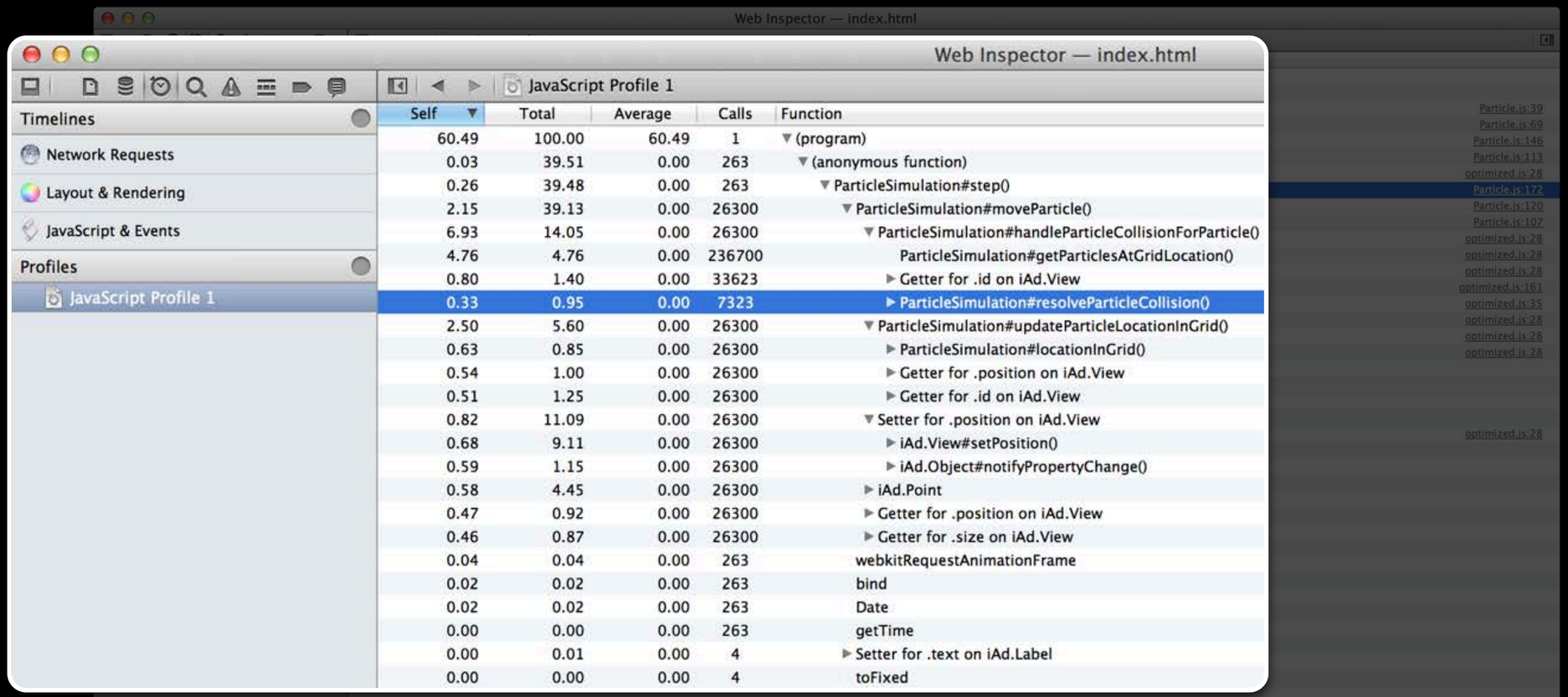
Web Inspector

CPU profiling



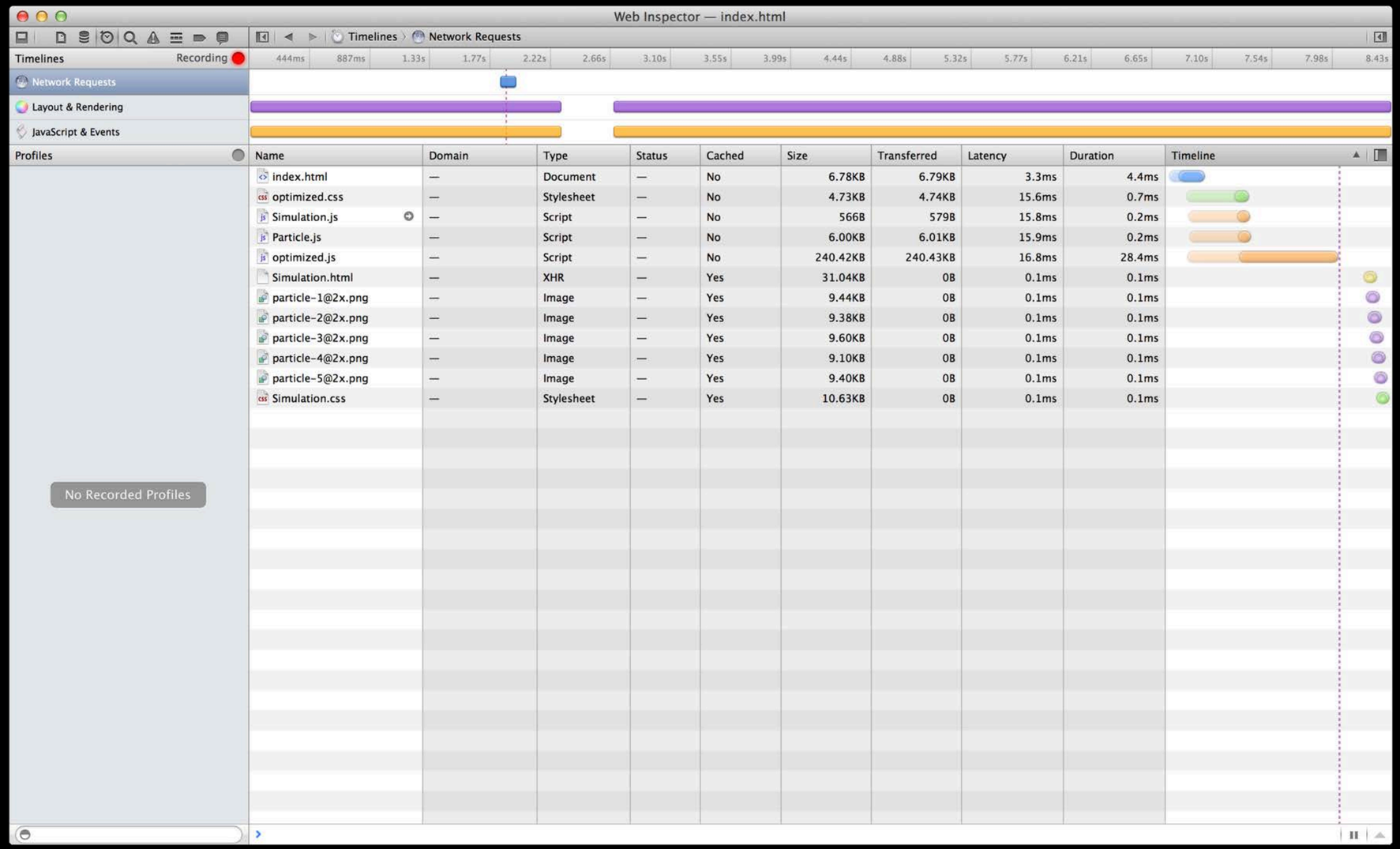
Web Inspector

CPU profiling



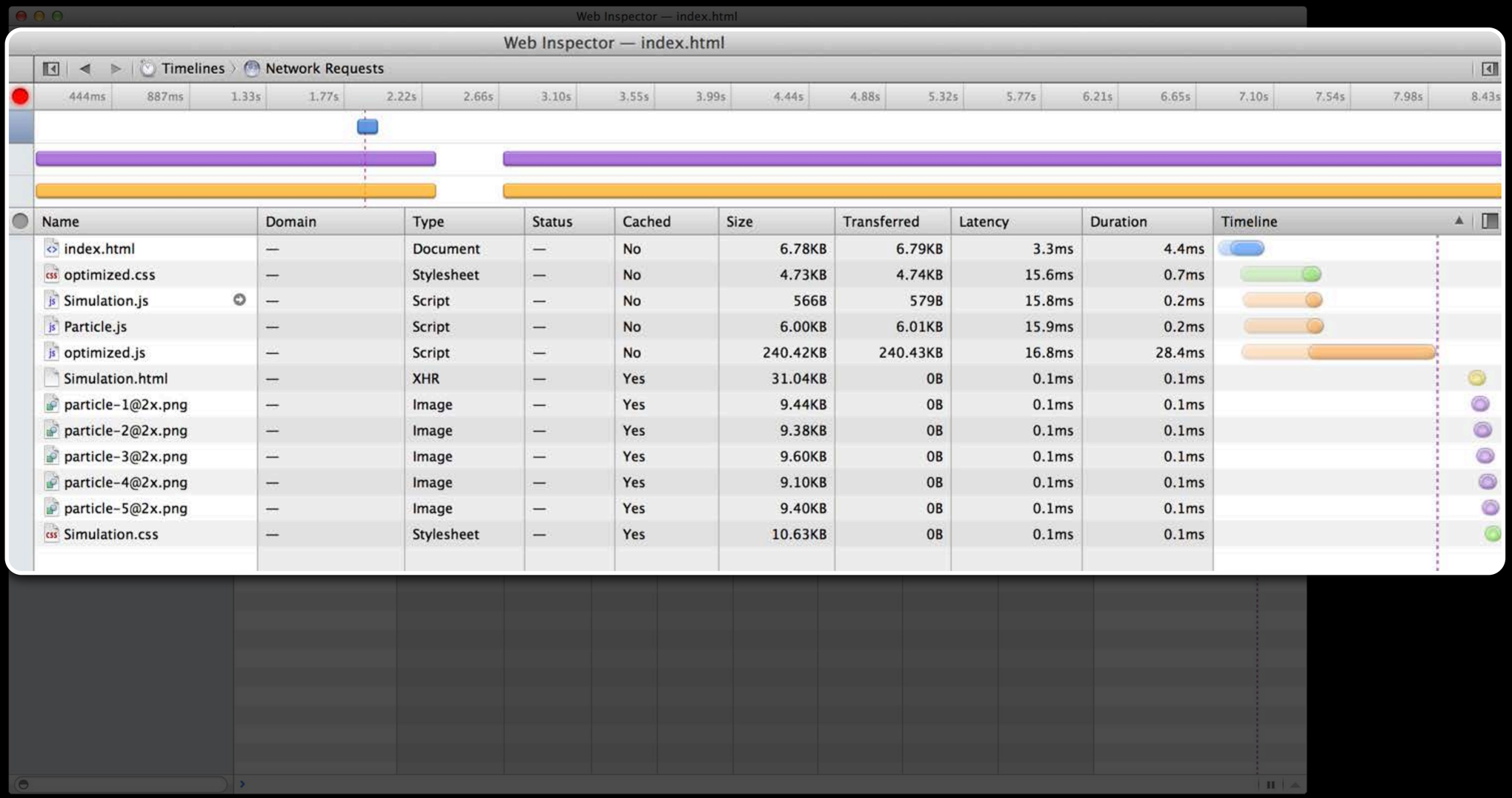
Web Inspector

Network traffic

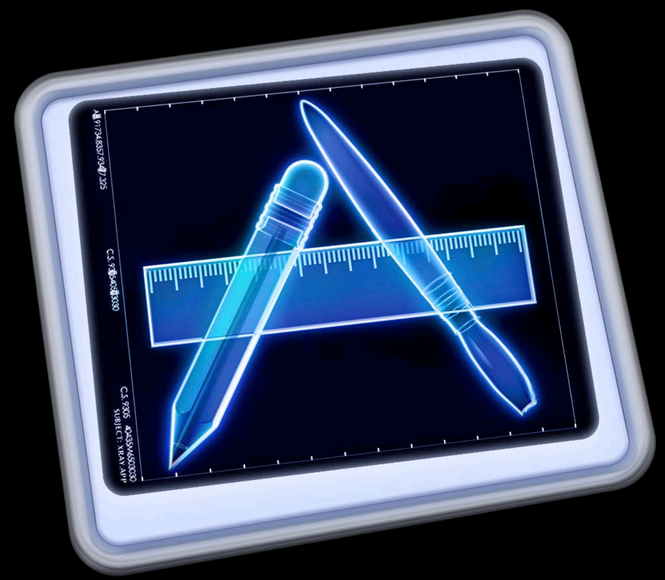


Web Inspector

Network traffic



Instruments

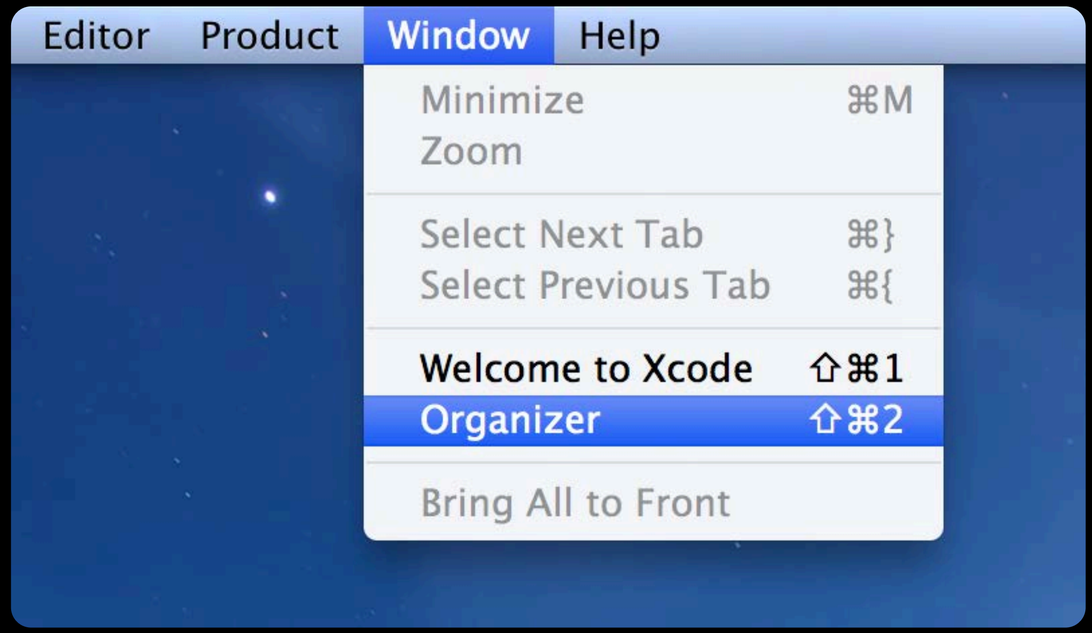


Instruments

Setup

Instruments

Setup



Instruments

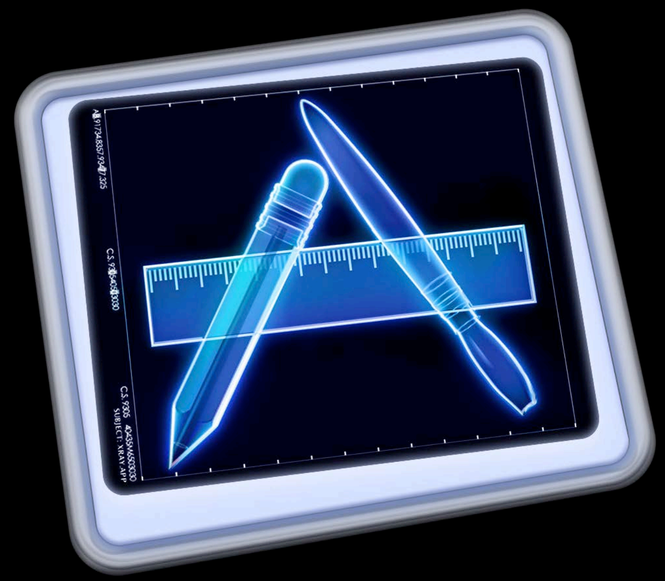
Setup

Instruments

Setup

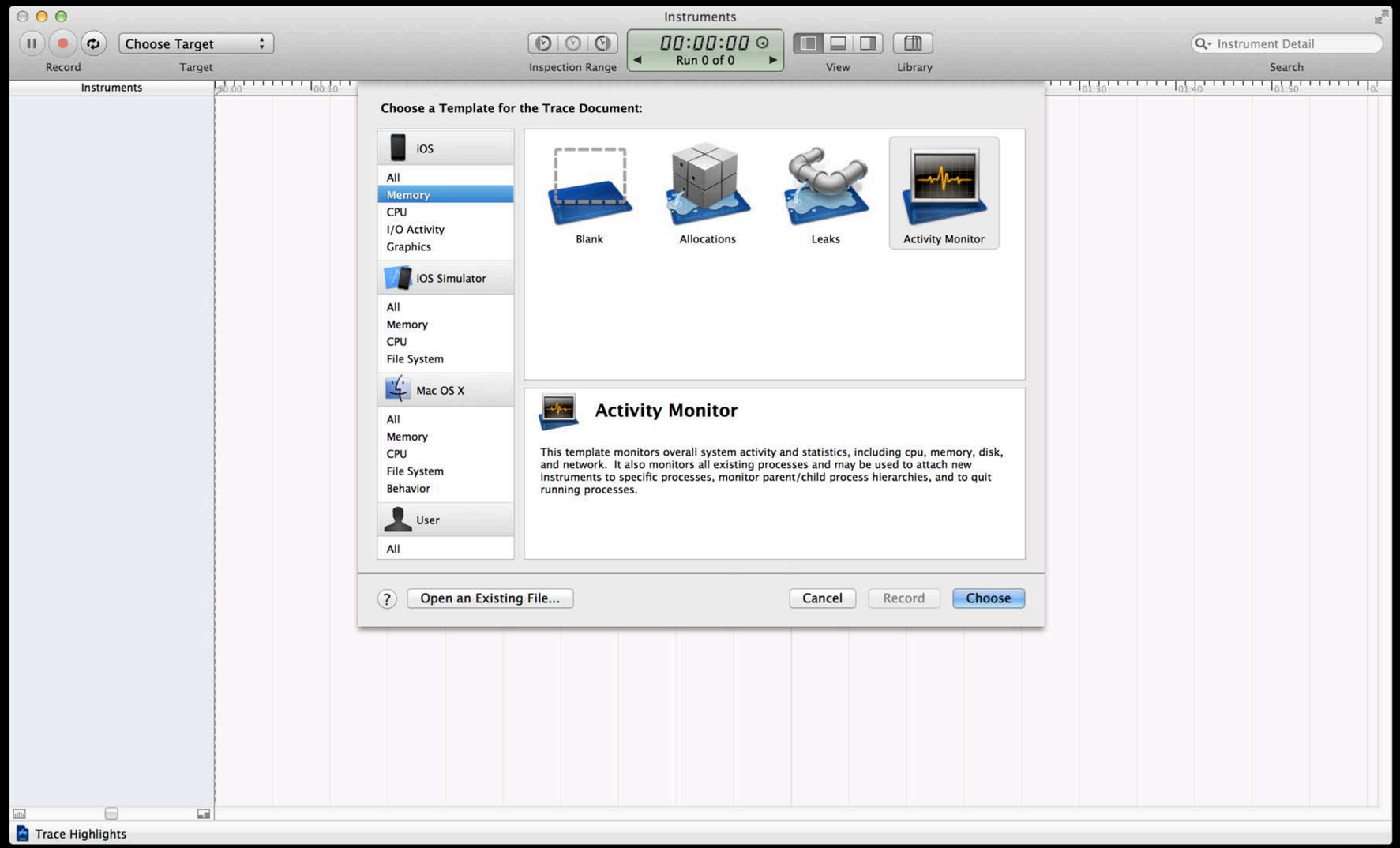
Instruments

Setup



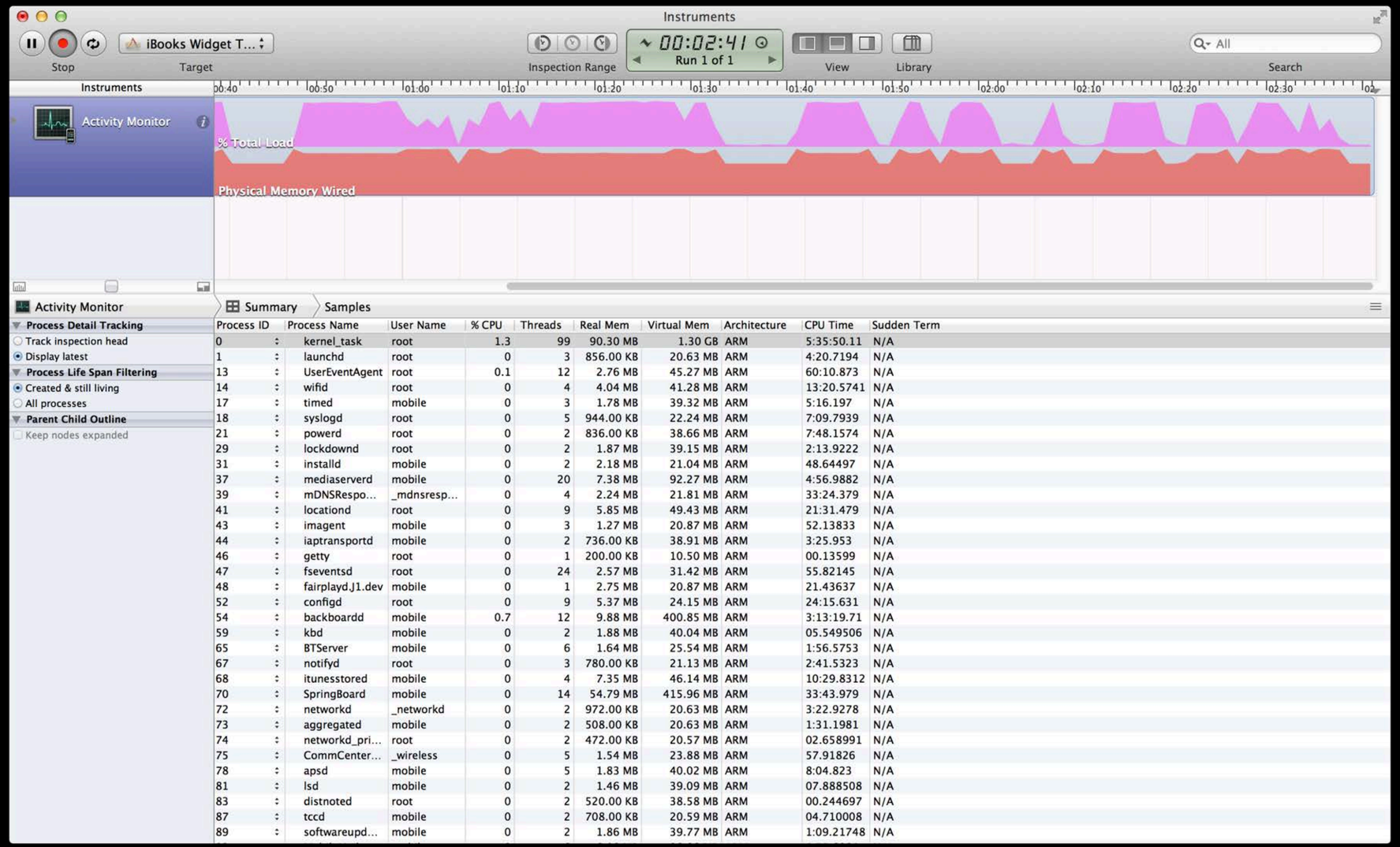
Instruments

Setup



Instruments

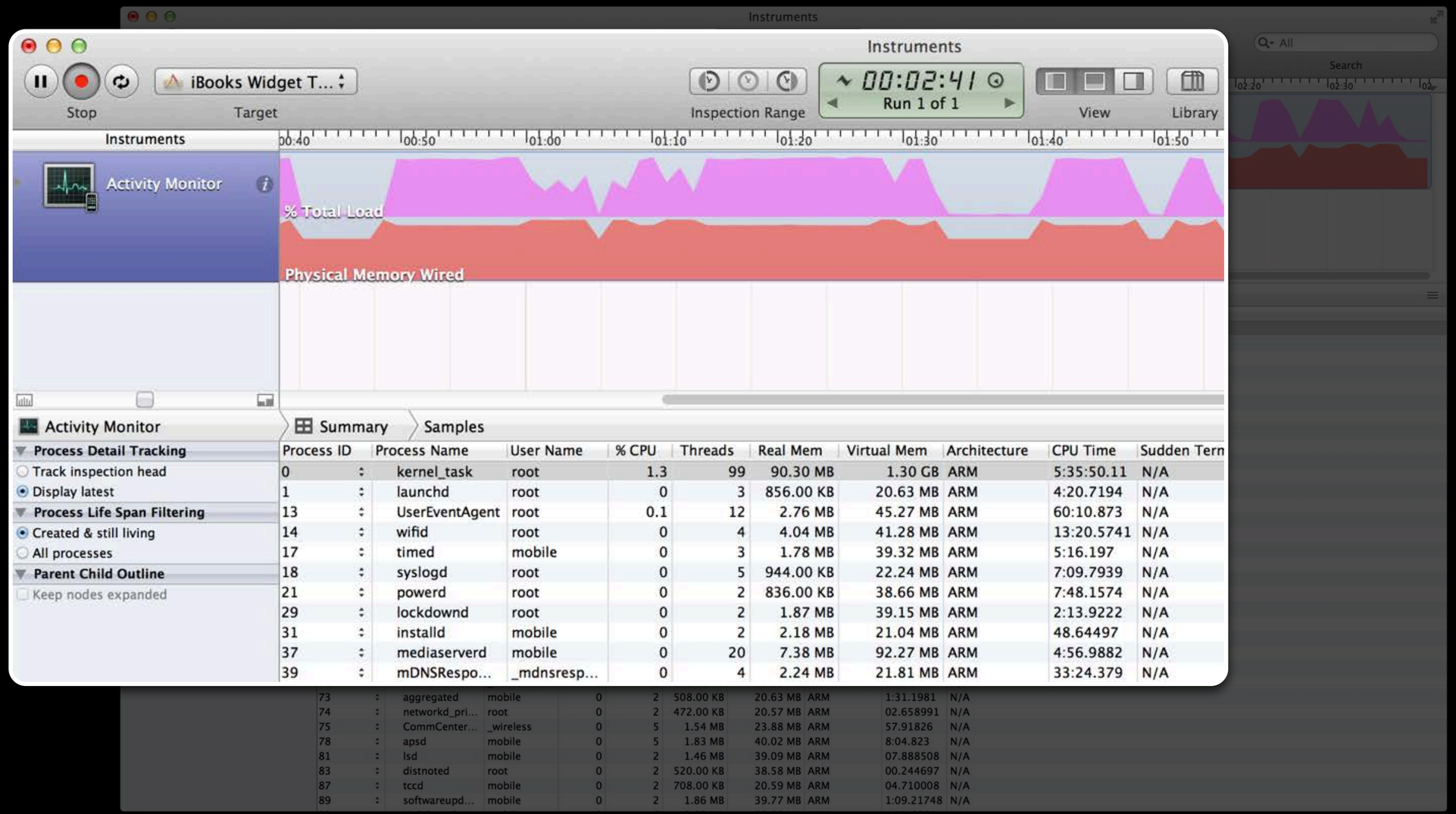
Setup



Process ID	Process Name	User Name	% CPU	Threads	Real Mem	Virtual Mem	Architecture	CPU Time	Sudden Term
0	kernel_task	root	1.3	99	90.30 MB	1.30 GB	ARM	5:35:50.11	N/A
1	launchd	root	0	3	856.00 KB	20.63 MB	ARM	4:20.7194	N/A
13	UserEventAgent	root	0.1	12	2.76 MB	45.27 MB	ARM	60:10.873	N/A
14	wifid	root	0	4	4.04 MB	41.28 MB	ARM	13:20.5741	N/A
17	timed	mobile	0	3	1.78 MB	39.32 MB	ARM	5:16.197	N/A
18	syslogd	root	0	5	944.00 KB	22.24 MB	ARM	7:09.7939	N/A
21	powerd	root	0	2	836.00 KB	38.66 MB	ARM	7:48.1574	N/A
29	lockdownd	root	0	2	1.87 MB	39.15 MB	ARM	2:13.9222	N/A
31	installd	mobile	0	2	2.18 MB	21.04 MB	ARM	48.64497	N/A
37	mediaserverd	mobile	0	20	7.38 MB	92.27 MB	ARM	4:56.9882	N/A
39	mDNSRespo...	_mdnsresp...	0	4	2.24 MB	21.81 MB	ARM	33:24.379	N/A
41	locationd	root	0	9	5.85 MB	49.43 MB	ARM	21:31.479	N/A
43	imagent	mobile	0	3	1.27 MB	20.87 MB	ARM	52.13833	N/A
44	iaptransportd	mobile	0	2	736.00 KB	38.91 MB	ARM	3:25.953	N/A
46	getty	root	0	1	200.00 KB	10.50 MB	ARM	00.13599	N/A
47	fseventsd	root	0	24	2.57 MB	31.42 MB	ARM	55.82145	N/A
48	fairplayd.J1.dev	mobile	0	1	2.75 MB	20.87 MB	ARM	21.43637	N/A
52	configd	root	0	9	5.37 MB	24.15 MB	ARM	24:15.631	N/A
54	backboardd	mobile	0.7	12	9.88 MB	400.85 MB	ARM	3:13:19.71	N/A
59	kbd	mobile	0	2	1.88 MB	40.04 MB	ARM	05.549506	N/A
65	BTServer	mobile	0	6	1.64 MB	25.54 MB	ARM	1:56.5753	N/A
67	notifyd	root	0	3	780.00 KB	21.13 MB	ARM	2:41.5323	N/A
68	itunesstored	mobile	0	4	7.35 MB	46.14 MB	ARM	10:29.8312	N/A
70	SpringBoard	mobile	0	14	54.79 MB	415.96 MB	ARM	33:43.979	N/A
72	networkd	_networkd	0	2	972.00 KB	20.63 MB	ARM	3:22.9278	N/A
73	aggregated	mobile	0	2	508.00 KB	20.63 MB	ARM	1:31.1981	N/A
74	networkd_pri...	root	0	2	472.00 KB	20.57 MB	ARM	02.658991	N/A
75	CommCenter...	_wireless	0	5	1.54 MB	23.88 MB	ARM	57.91826	N/A
78	apsd	mobile	0	5	1.83 MB	40.02 MB	ARM	8:04.823	N/A
81	lsd	mobile	0	2	1.46 MB	39.09 MB	ARM	07.888508	N/A
83	distnoted	root	0	2	520.00 KB	38.58 MB	ARM	00.244697	N/A
87	tccd	mobile	0	2	708.00 KB	20.59 MB	ARM	04.710008	N/A
89	softwareupd...	mobile	0	2	1.86 MB	39.77 MB	ARM	1:09.21748	N/A

Instruments

Setup



Demo

Performance

Mark Malone
iAd Technology Evangelist

Performance

Best practices

Performance

Best practices

- Test on device

Performance

Best practices

- Test on device
- Always test on device!

Performance

Best practices

- Test on device
- Always test on device!
- Always test on device!!

Performance

Best practices

Performance

Best practices

- Look for hotspots with Web Inspector

Performance

Best practices

- Look for hotspots with Web Inspector
- Monitor network traffic with Web Inspector

Performance

Best practices

- Look for hotspots with Web Inspector
- Monitor network traffic with Web Inspector
  - Reduce network fetches by image spriting

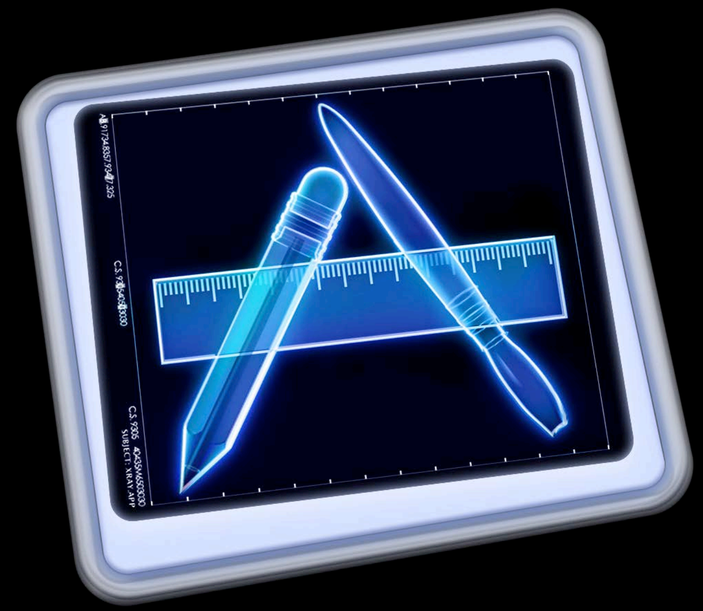
Performance

Best practices

- Look for hotspots with Web Inspector
- Monitor network traffic with Web Inspector
  - Reduce network fetches by image spriting
  - Identify unused assets

Performance

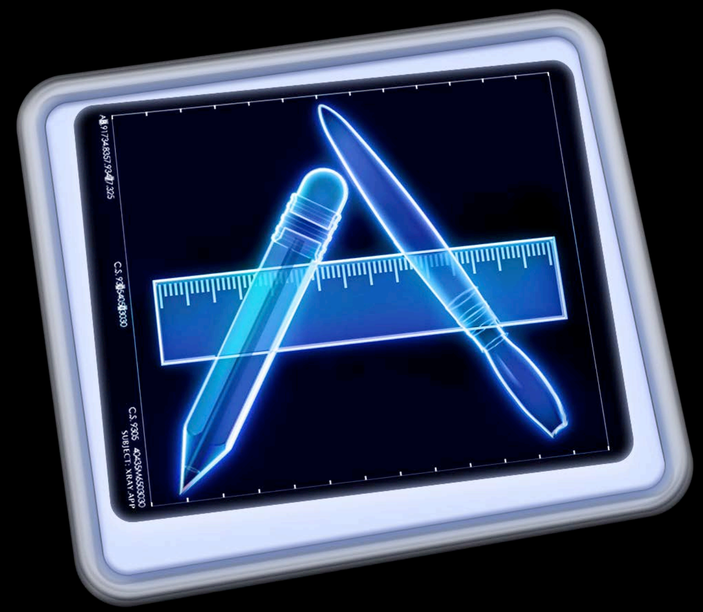
Best practices



Performance

Best practices

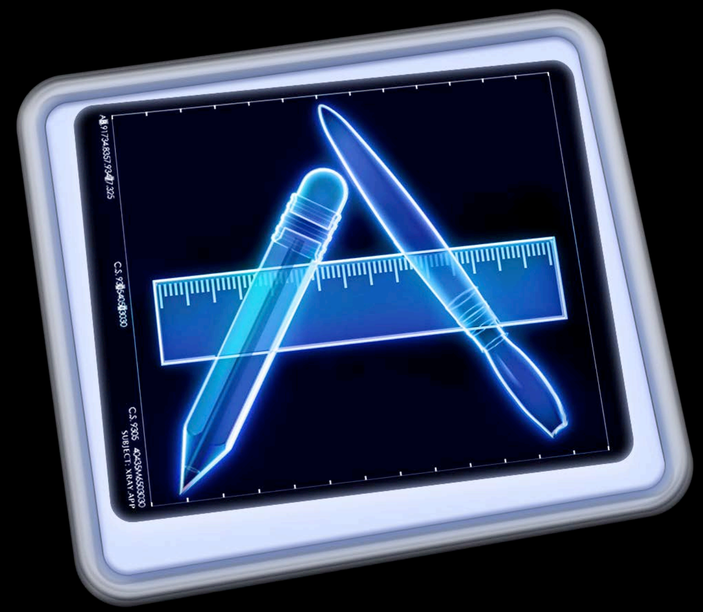
- Measure memory footprint with Instruments



Performance

Best practices

- Measure memory footprint with Instruments
- Save memory by removing hidden elements using display: none



What You've Learned

iBook HTML 5 widgets and iAd rich media ads

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- Built with familiar web technologies

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- Built with familiar web technologies
- Support customization via HTML/CSS/JS

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- Can pull in remote content

What You've Learned

iBook HTML 5 widgets and iAd rich media ads

- Built with familiar web technologies
- Support customization via HTML/CSS/JS
- Can pull in remote content
- Backed by a powerful toolset

http://developer.apple.com/iad/iadproducer

More Information

Mark Malone
iAd Technology Evangelist
mgm@apple.com

Documentation
iAd Producer Help
http://help.apple.com/iadproducer

iAd JS Developer Library
http://developer.apple.com/library/iad

Apple Developer Forums
http://devforums.apple.com/community/safari/iad

Related Sessions

Introduction to iBooks Author Widget and iAd Rich Media Ad Development with iAd Producer 4	Russian Hill Wednesday 11:30AM	
iAd Integration and Best Practices	Russian Hill Thursday 2:00PM	
Getting to Know Web Inspector	Russian Hill Tuesday 10:15AM	
Getting the Most Out of Web Inspector	Russian Hill Tuesday 11:30AM	
Improving Performance and Energy Usage with Instruments	Nob Hill Thursday 11:30PM	

Lab

iAd Technologies Lab	Media Lab A Thursday 3:15PM

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