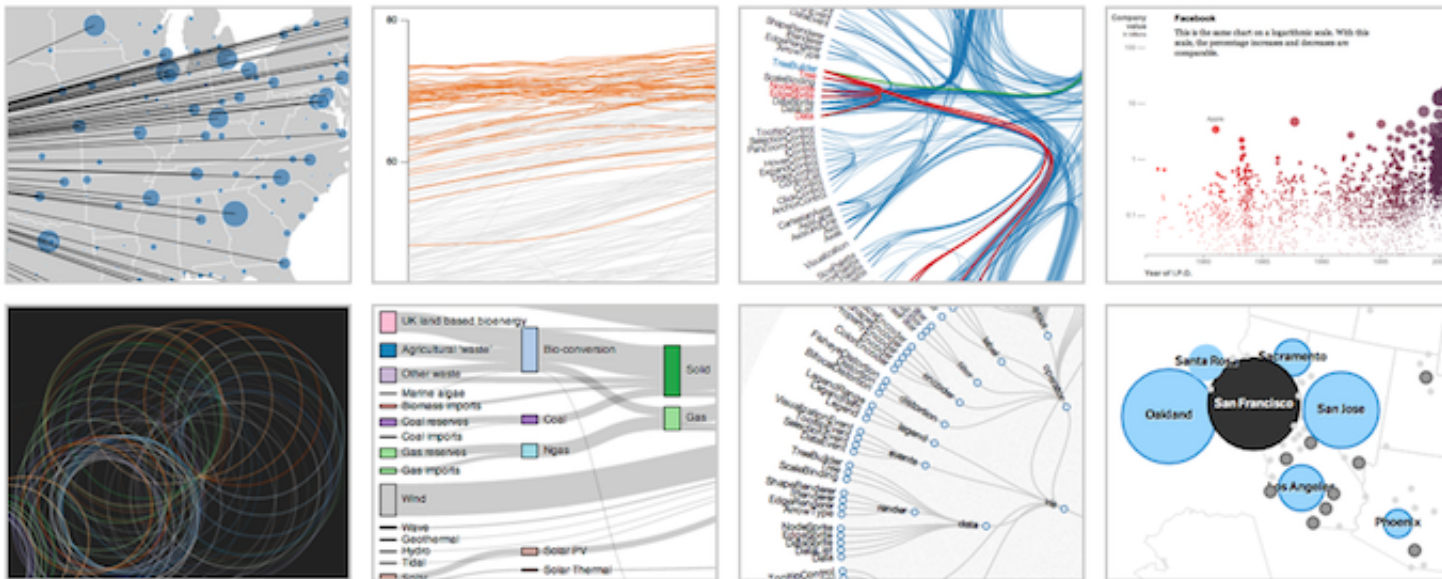


DATA-DRIVEN DOCUMENTS

VISUALIZING LIBRARY DATA WITH D3.JS

Bret Davidson | NCSU Libraries

Data-Driven Documents



D3.js is a JavaScript library for manipulating documents based on data. **D3** helps you bring data to life using HTML, SVG and CSS. D3's emphasis on web standards gives you the full capabilities of modern browsers without tying yourself to a proprietary framework, combining powerful visualization components and a data-driven approach to DOM manipulation.

[See more examples.](#)

D3.js

AGENDA

Example

Why D3?

Data Join

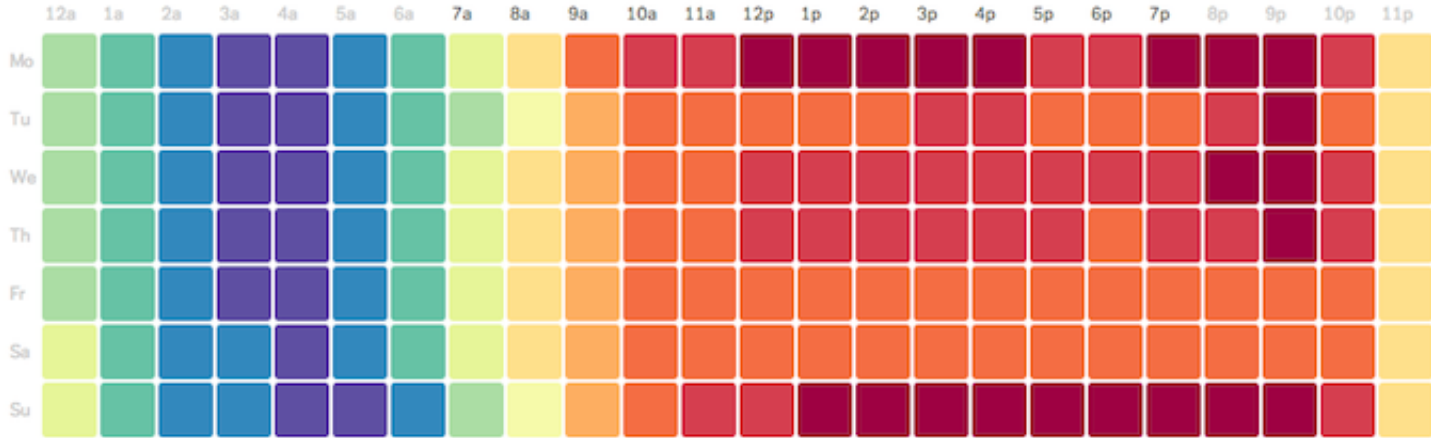
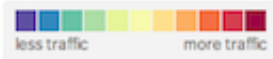
API Highlights

D3 @ NCSU

Resources

House Hunting All Day, Every Day

Most people search for homes on Mondays at 9:00 PM. When are you window shopping?



All Traffic Computer Mobile

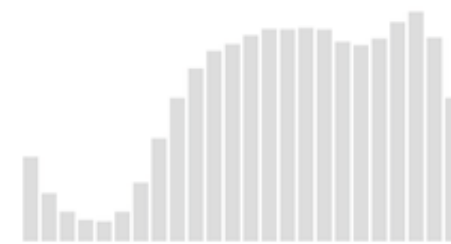
All States

All States

powered by trulia



82% Computer 18% Mobile



All traffic daily

Trulia Trends

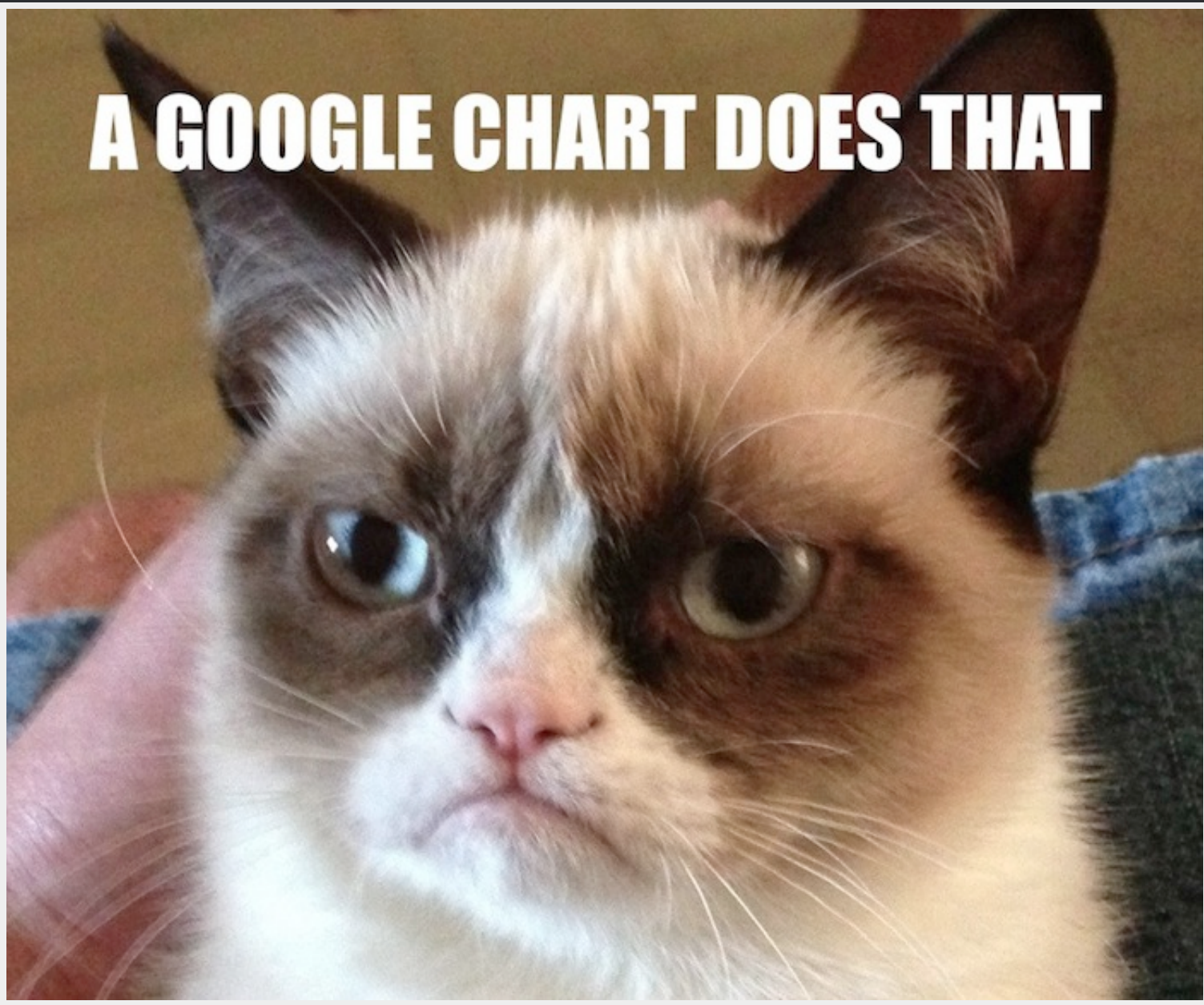
WHY D3?

Web Standards

Capability

Community

A GOOGLE CHART DOES THAT



WHY NOT D3?

Learning Curve

Lower Level

Simpler Needs

EXAMPLE

```
var dataset = [20, 5, 10, 0, 50];

d3.select('body')
  .selectAll('p') // selection
  .data(dataset) // data binding
  .enter()       // create enter selection
  .append('p')   // dom manipulation
  .style('font-size', '50px') // static property
  .text(function (d, i) { // dynamic property
    return i + ': my value is ' + d;
  });
```


OUTPUT

0: my value is 20

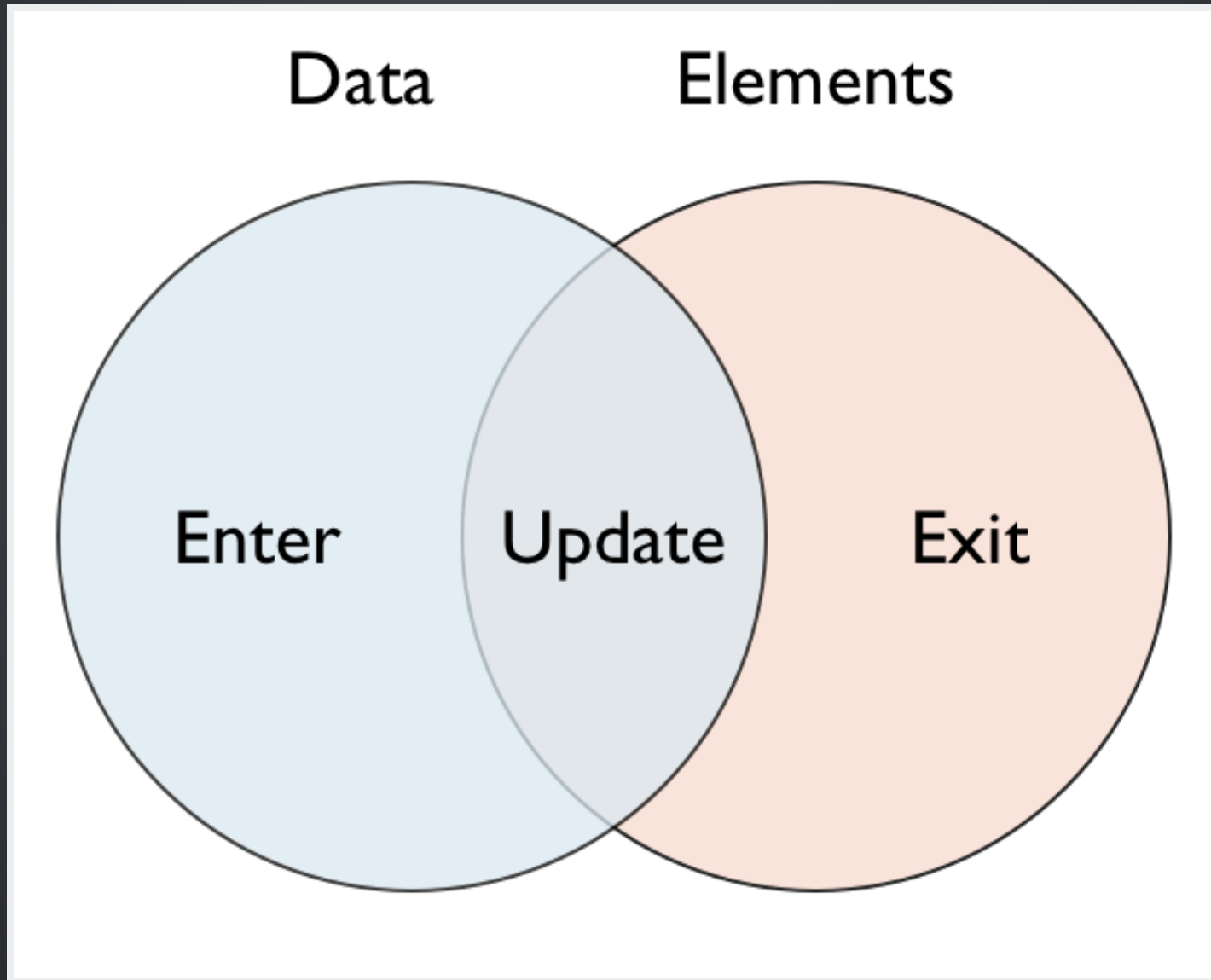
1: my value is 5

2: my value is 10

3: my value is 0

4: my value is 50

DATA JOIN



DATA JOIN DEMO

Demo

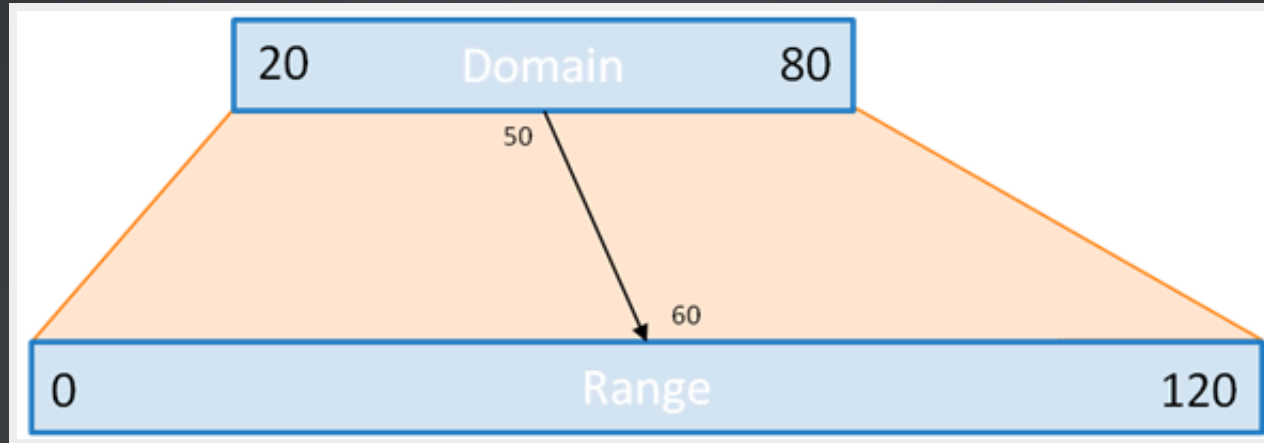
ENTER + UPDATE + EXIT

```
// Enter
rects.enter()
    .append('rect');

// Update
rects.attr('x', 20)
    .attr('y', function (d, i) {return 65 * i;})
    .attr('height', '60' )
    .attr('width', function(d, i) {return x(d);});

// Exit
rects.exit()
    .remove();
```

LINEAR SCALE



LINEAR SCALE

```
var fontSize = d3.scale.linear()  
                .domain([0, d3.max(dataset)])  
                .range([25, 50]);
```

ARRAY METHODS

```
d3.max(array[, accessor]);  
d3.min(array[, accessor]);  
  
d3.extent(array[, accessor]);  
  
d3.sum(array[, accessor]);  
d3.mean(array[, accessor]);  
d3.median(array[, accessor]);  
  
d3.range([start, ]stop[, step]);  
  
d3.nest()  
  .key(function(d) { return d.school })  
  .entries(array);
```

OTHER SCALES

power()

log()

quantize()

quantile()

threshold()

ordinal()

time()

SVG GENERATORS

Area

Line

Chord

Diagonal

Symbol

LAYOUTS

Force

Hierarchy

Histogram

Pack

Treemap

AND MORE!

Axes

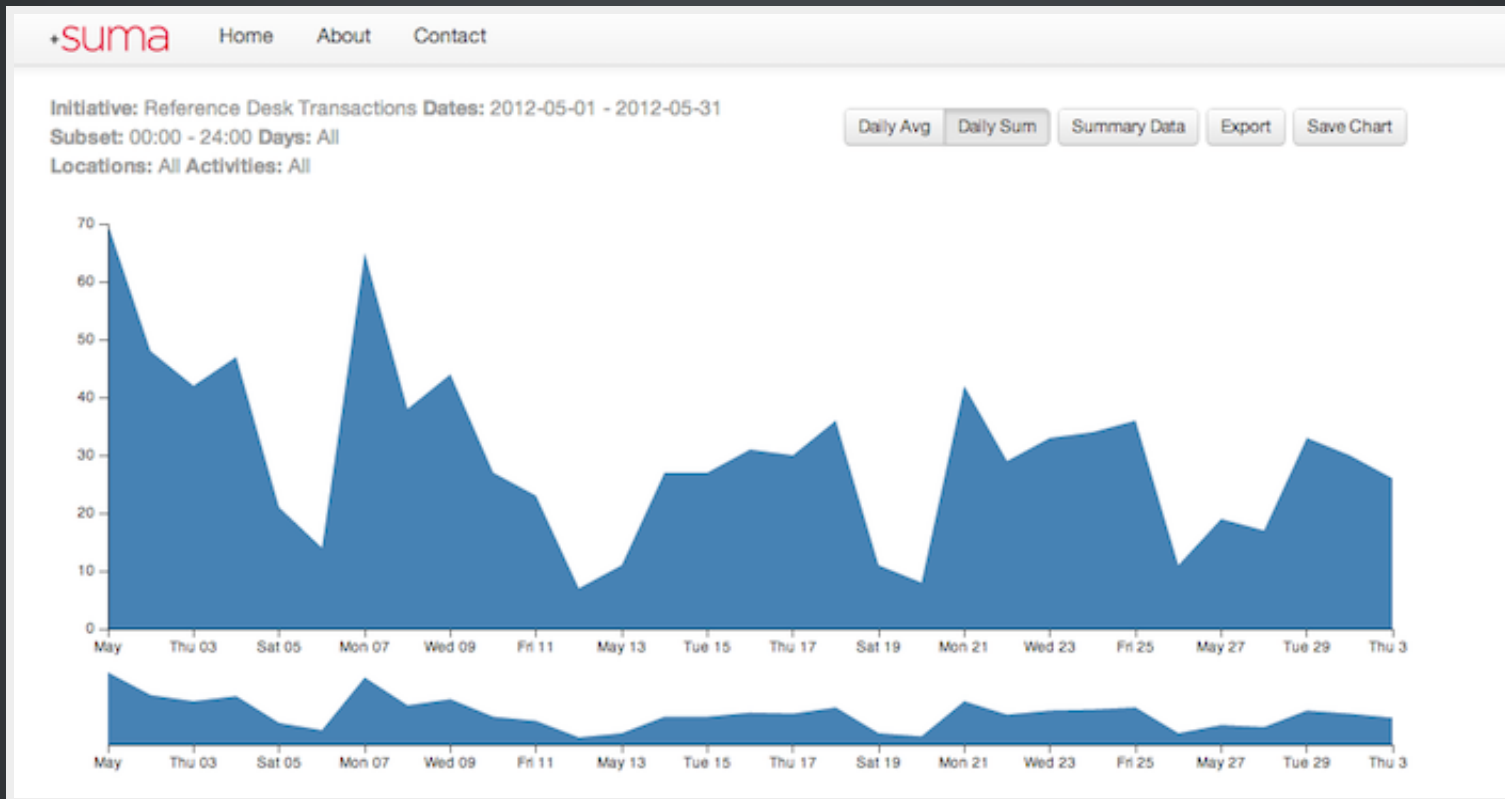
Transitions

Color Scales

Formatting

Geography

D3 @ NCSU



lib.ncsu.edu/dli/projects/spaceassesstool

An Introduction to Designing With D3

Early Release

Interactive Data Visualization

for the Web

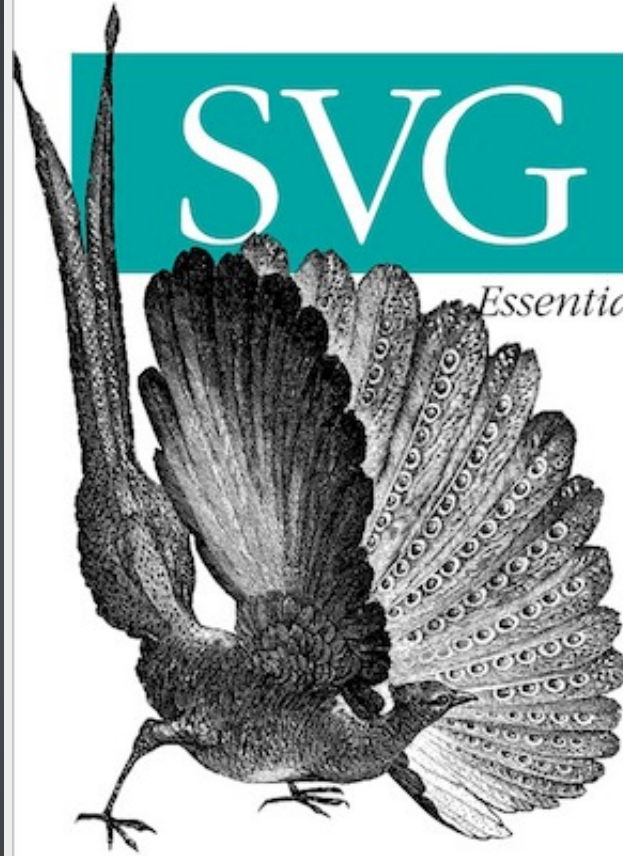
O'REILLY®

Scott Murray

Producing Scalable Vector Graphics with XML

SVG

Essentials



O'REILLY

J. David Eisenberg

Activate Your Web Pages

6th Edition
Covers ECMAScript 5



JavaScript

The Definitive Guide

O'REILLY®

David Flanagan

Unearthing the excellence in JavaScript



JavaScript: The Good Parts

O'REILLY®

| YAHOO! PRESS

Douglas Crockford

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lib.ncsu.edu/dli/projects/spaceassesstool

THANK YOU!

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