

ITP Javascript Week

data visualization

with D3.js

what are we doing here?

so we finished a whole week of javascript!
yay.

the object is to give you a good grasp of
the fundamentals of using d3 to make
data come to life!

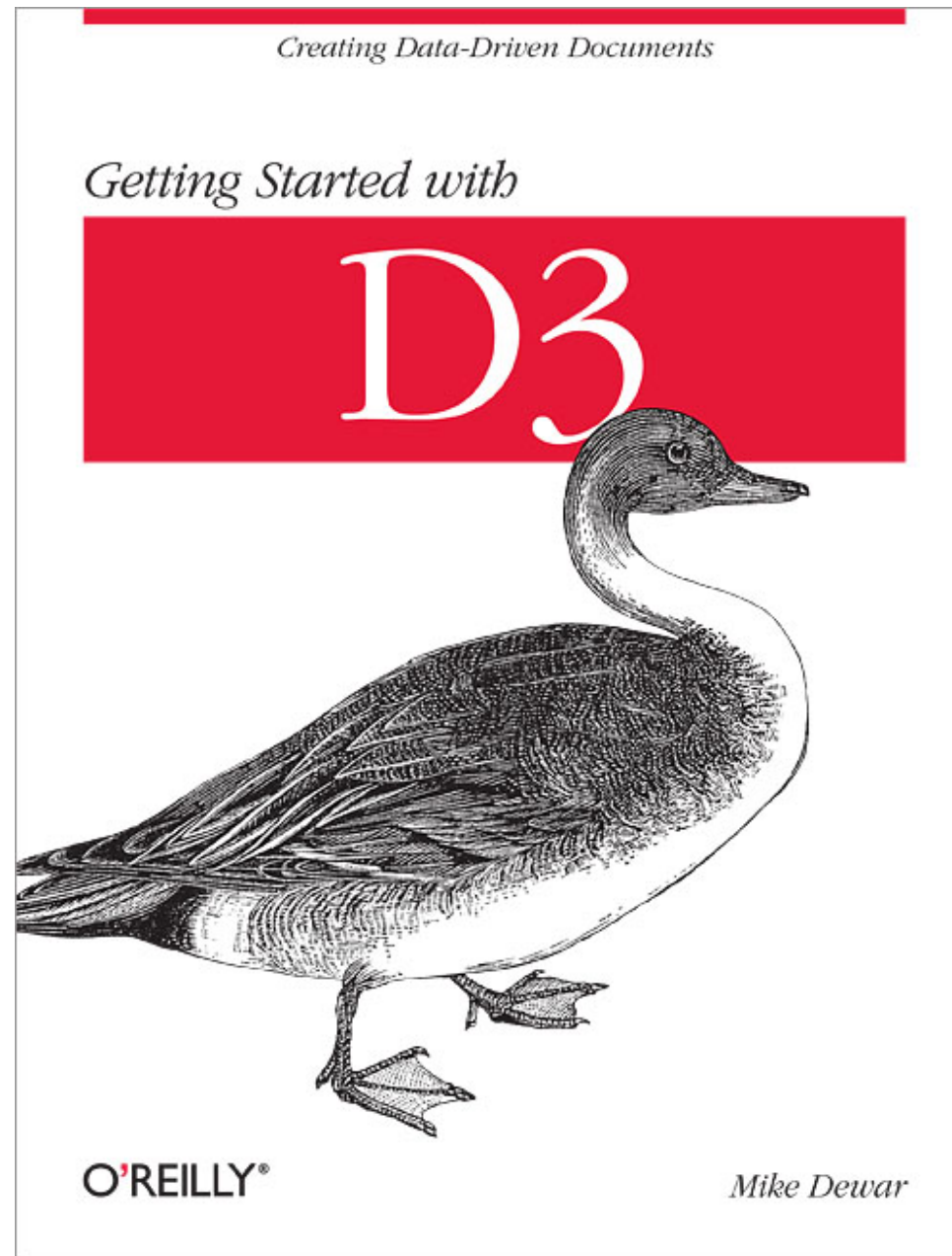
and then give you an idea of what could
happen ...

SO ...

nice and easy ...

and there is this thing to help you
along the way ...

[https://github.com/amikahmad/
ITP_JSWeek_DataVisWithD3](https://github.com/amikahmad/ITP_JSWeek_DataVisWithD3)



uses publicly available data!

what the heck is D3.js?

d3 is a javascript library that lets you do cool things to documents based on data.

it uses ... html, svg, and css

so it allows you to be really efficient when visualizing data in a document!

D3 is efficient? do tell ...

speaks the language of the web = fast

and you can use new browser features
right away! woah.

inspect for bugs! eww.

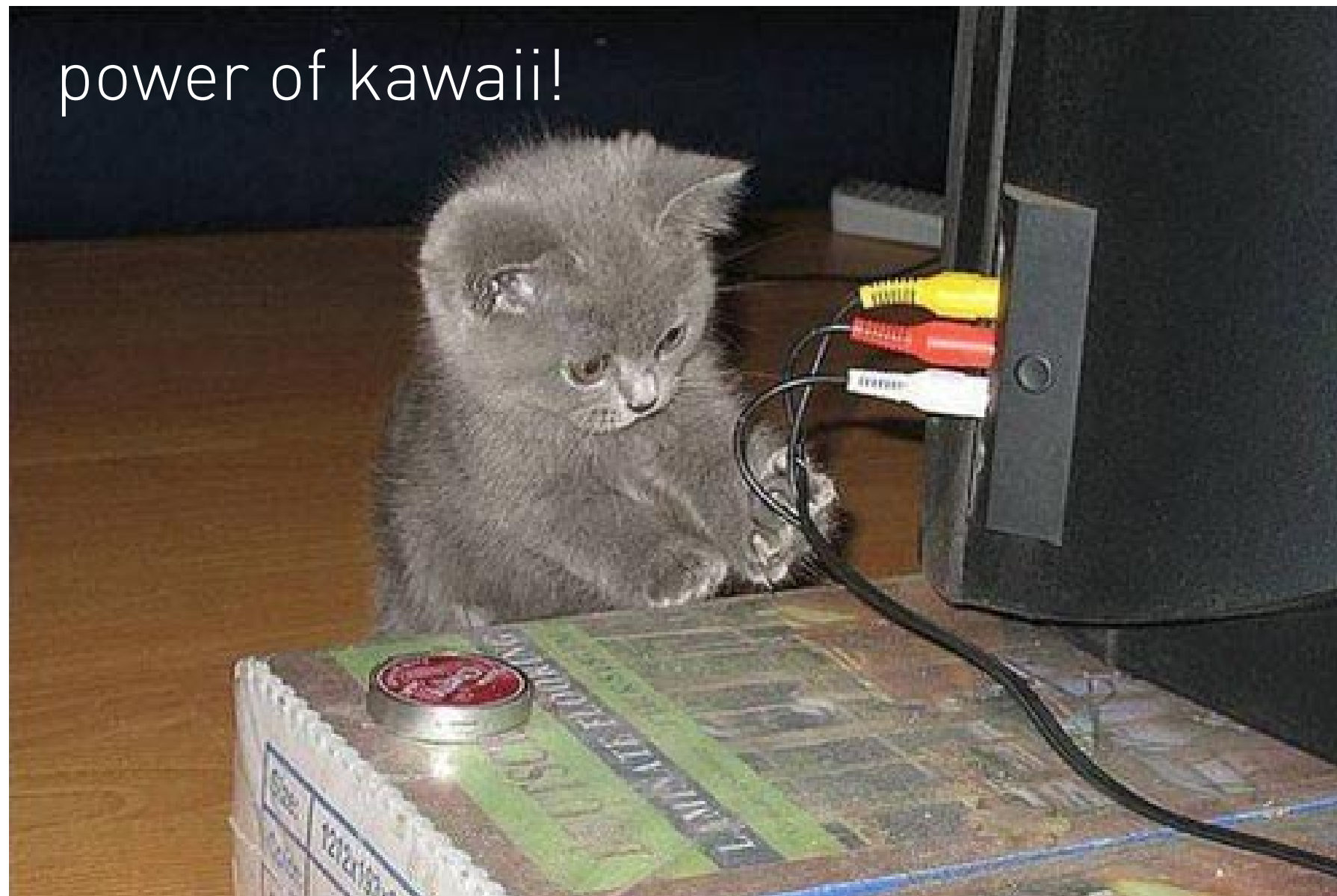
uses a functional style: so you can add functions
like you love em. and reuse code

= power

the style, the interactivity of the data ...
it's all up to you!

so let's do this!

ALERT: RANDOM MOMENT OF DATA



a recent study published in the U.S. journal Plos One, showed that after seeing something cute, you can concentrate better and learn faster! [LINK](#)

YAY! now we know ...

```
.selectAll('element')  
.data(data)  
.enter()  
.append('element')
```

now you know the biggest part
of the learning curve. just get
used to these methods. easy.

but that was uh ... kinda ... boring!

so let's make something a
little more interesting ...

but we need to get a bit more
knowledge before we proceed
on this adventure!

SVG power!

Adobe Illustrator makes em!

it's an XML based specification
for drawing stuff.

but there are some key things to
know since SVG is at the core of
d3.js ...

the SVG tag

it takes 2 attributes:

width and **height**

your data vis has to live inside
this world you make ...



wait there is more ...

an SVG's coordinates start at 0,0 (the top left corner of the closing element)

unlike HTML an SVG gets:
shape, location, etc, as
attributes in the tags as
opposed to using **CSS**
so you specify all aspects
before the browser can
render them.

even more ...

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processing ... ?

but but but ...

know that SVG ... like other things on your page, can be styled with CSS. it's just that CSS doesn't control the geometric properties, but can change the **color**, the **stroke**, and the **fonts**!

SO ...

this is awesome! you can focus on the
technical layout ... the accuracy of the
visualization!

leave style for later ... make friends

G = group

we use the "g" element to group other elements together.

so we can move all those elements around together! as one thing!



GTFS

General Transit Feed Specification for each mode of transport.

Google uses these to make cool stuff.

<https://developers.google.com/transit/gtfs/>

combine powers!

stop.txt + stop_times.txt = record of the
all the stations that are connected.

the data is stored in our data folder as:

stations_graph.json

nodes and links

let's do this!

ALERT: RANDOM MOMENT OF DATA



70% of international students come from just 10 countries. 64% of them are from asia! [LINK](#)

other useful links!

<http://d3js.org/>

