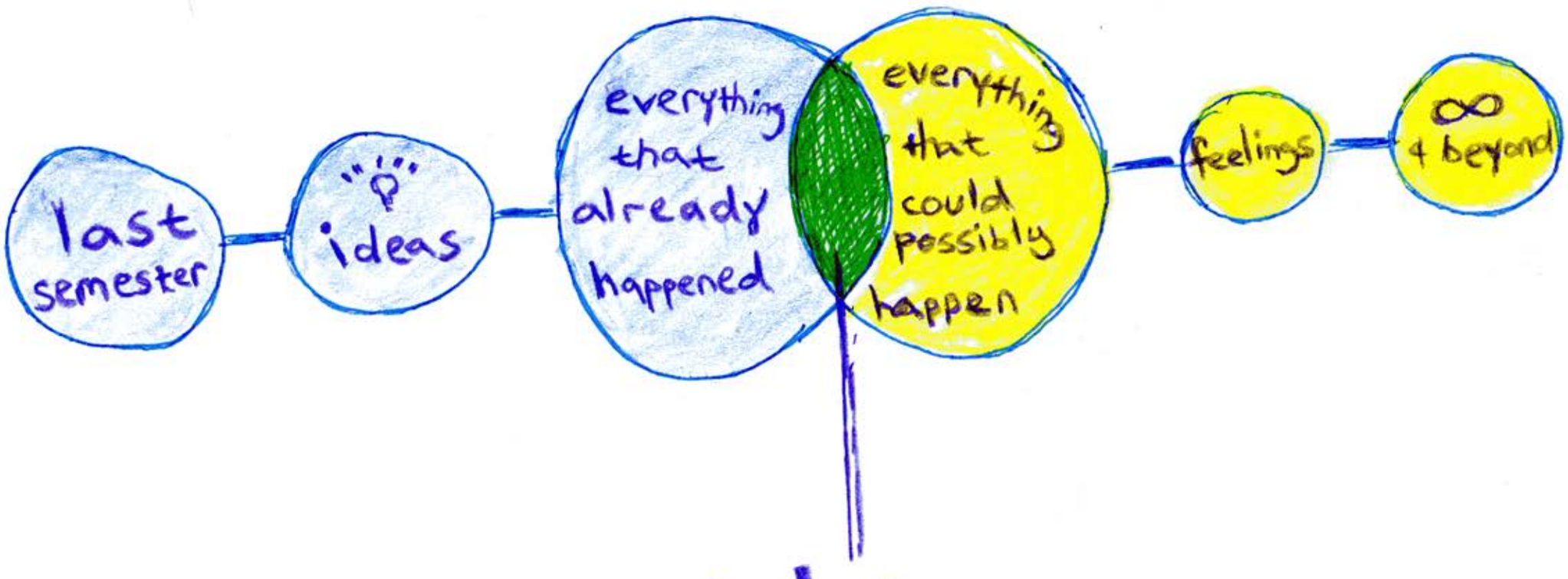


ITP Javascript Week

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!

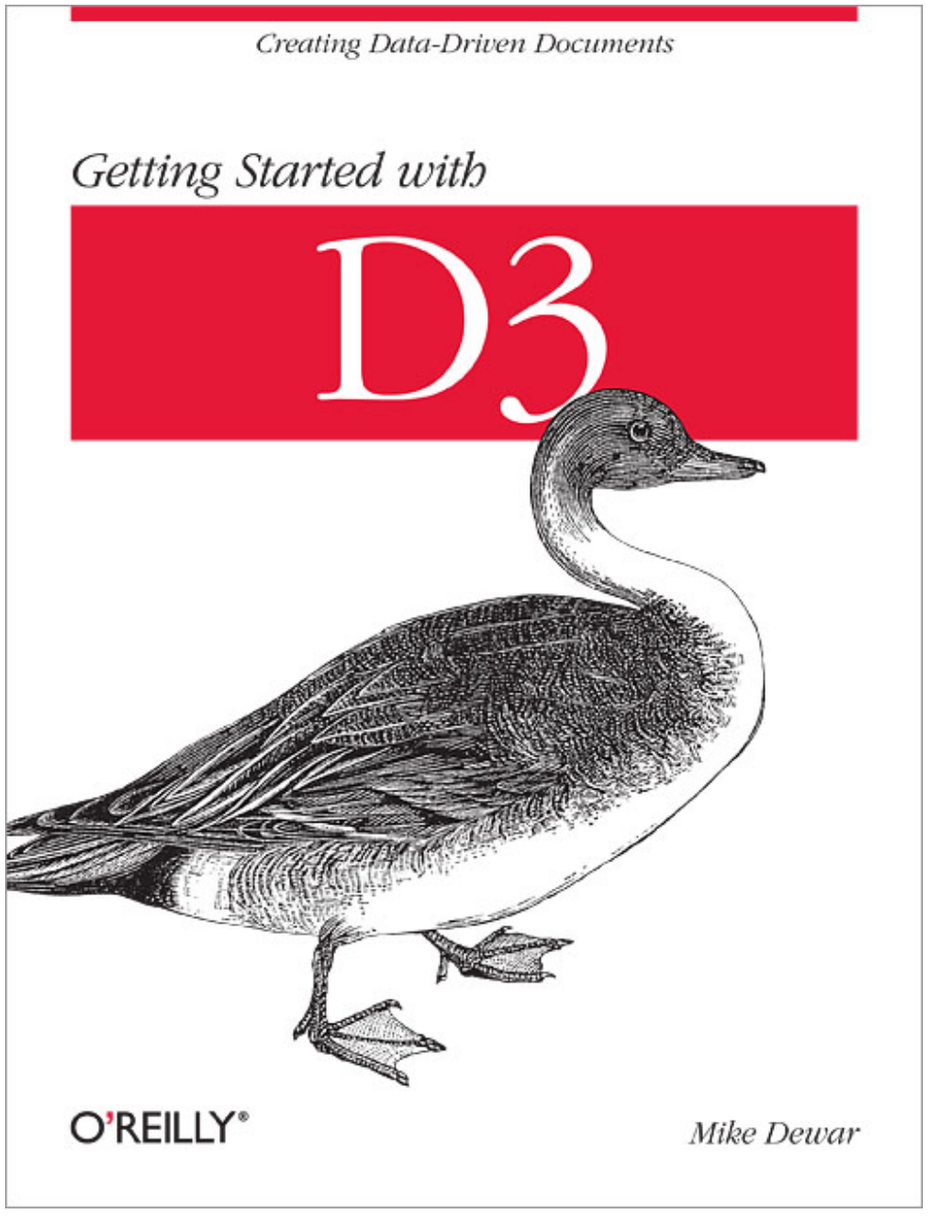
and then give you and idea of what could happen ...

so ...

nice and easy ...

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

https://github.com/amikahmad/ITP_JSWeek_DataVisWithD3



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.

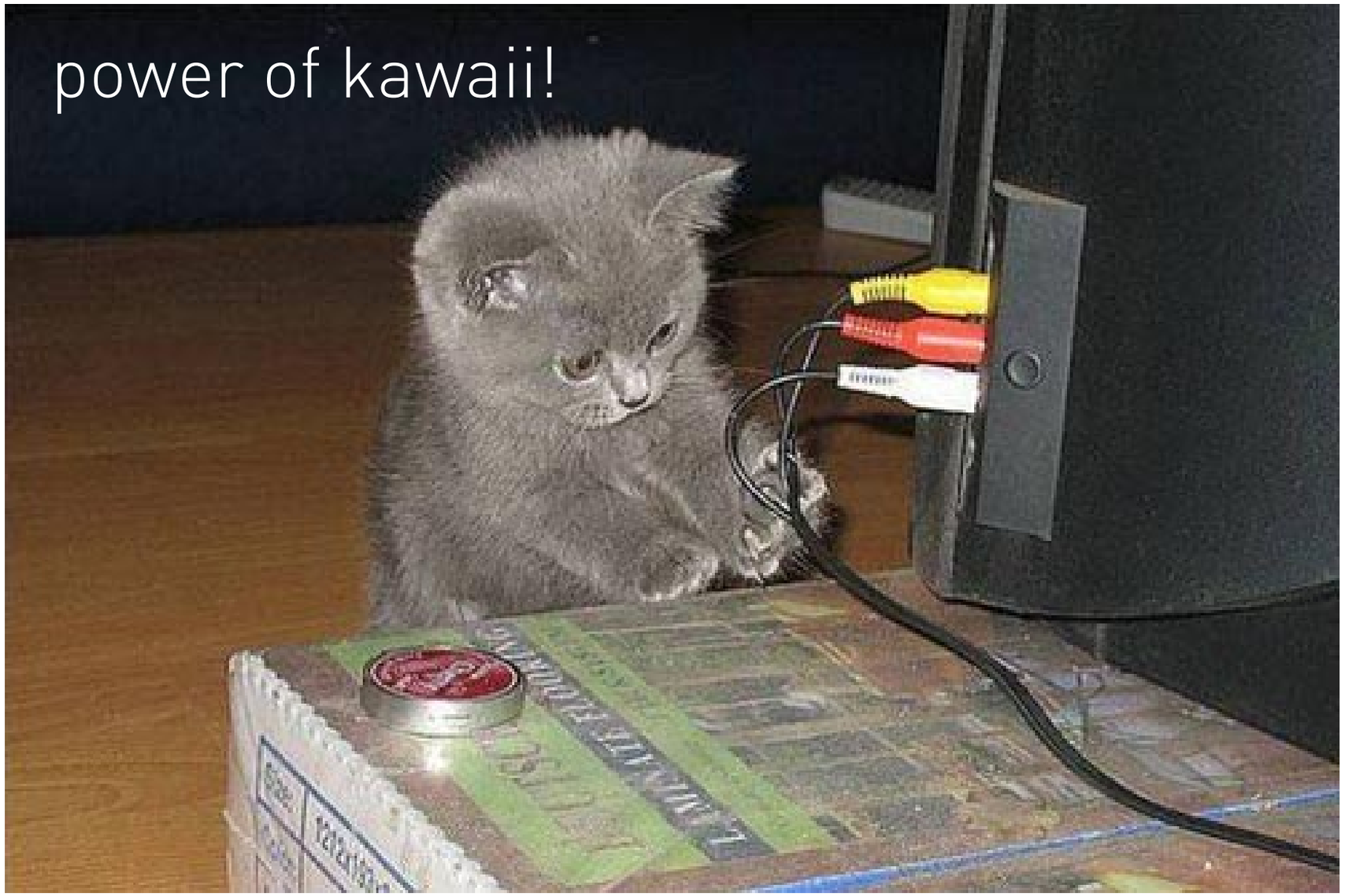
uses a functional style: so you can add functions like you love em. and reuse code

= 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

MTA DATA?

CLICK HERE!

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 ...

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.

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 techincal 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!


MTA
MetroCard®
Insert this way / This side facing you

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/