



Firebase

Makes IoT Prototyping Fun



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How many of you...

- Are EEs?
- Know JavaScript better than C?
- Own a dusty Arduino or Raspberry Pi?

The Plan

- EE for Web Devs
- Recipe for IoT
- Live build & code
- Silly demos

Bits & Volts

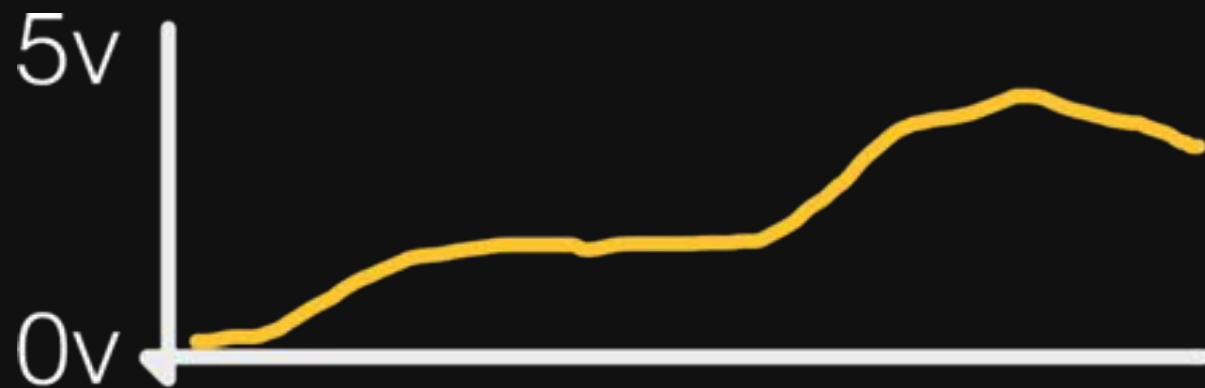
0 Bit



1 Bit



Analog



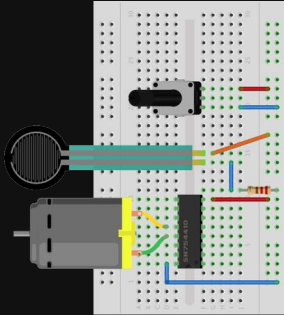
PWM



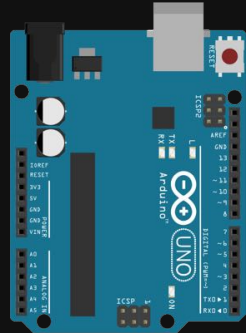
Components

Kind of like Legos... But, sometimes they dance,
sometimes they catch fire

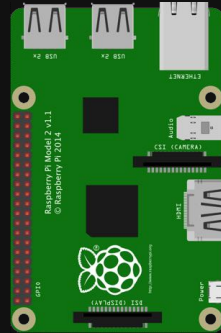
The Recipe



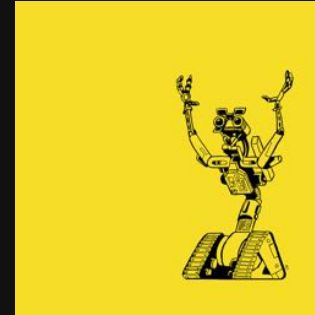
Components



Arduino Uno



Raspberry Pi



Johnny-Five



Firebase

Diagrams made in Fritzing

Johnny-Five



Firebase

Goodies to make app dev easier



Realtime Data



Authentication



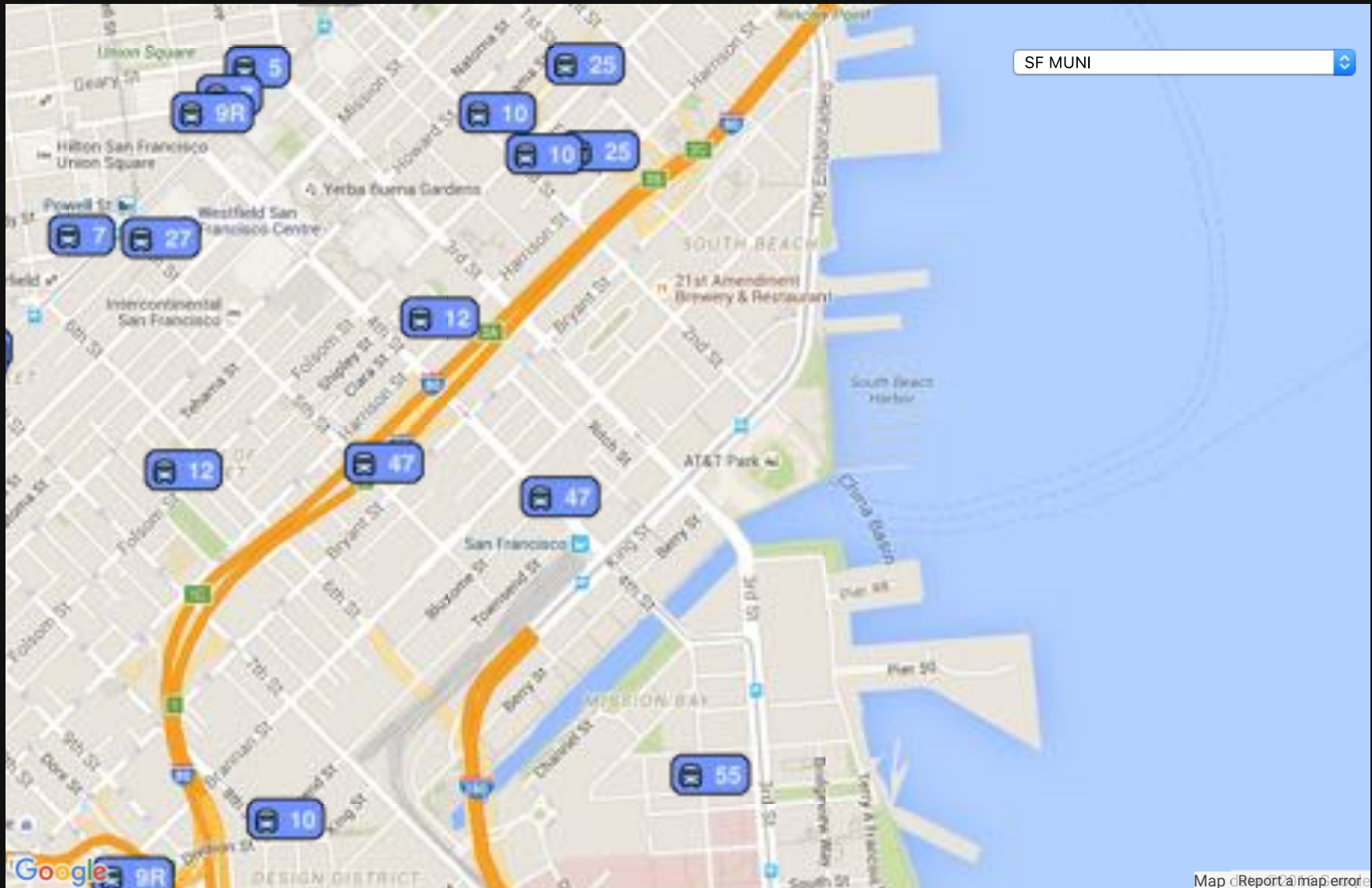
Hosting

Firestore Realtime Database



Realtime is where your bus is

<https://wherebus.firebaseio.com>



Realtime is collaborative drawing

<https://firesketch.firebaseio.com>

Some JavaScript code

Connect

```
firebase.initializeApp({  
  databaseURL: 'https://yay.firebaseio.com/',  
  serviceAccount: "yay-auth-stuff.json"  
});  
var ref = firebase.database().ref("/");
```

Write Data

```
ref.set("Hello, Developers!");
```

Read Data

```
ref.on("value", function (snapshot) {  
  console.log(snapshot.val());  
});
```

Time to build something

The "Hello, World" of electronics: an LED Button

Silly Demos

Another Silly Demo

<https://firesketch.firebaseio.com>

Parting Words

- Isn't that easy?
- Let projects guide your hacking
- Experiment!
- Celebrate the first thing you burn up

Now go build cool stuff

Slides: mimming.com/presos/internet-of-nodebots

The code: github.com/mimming/snippets

Me: [@MimmingCodes](https://twitter.com/MimmingCodes)