

The background image shows a vast mountain range under a sky filled with scattered clouds. In the foreground, a rocky mountain peak rises, with a lone figure standing on its ridge. The lighting suggests either sunrise or sunset, casting a warm glow on the peaks.

# IoT, Littlebits, and IFTTT...oh My

**Dr. Hale**

University of Nebraska at Omaha  
Nebraska GenCyber 2017

Welcome to UNO

# What are we going to do today?

tl;dr – We are going to make and break stuff today

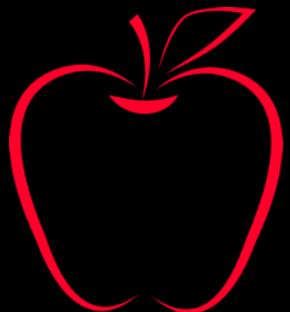
# More specifically

Now – Littlebits 101 Introduction

Later – REST (no you don't get to take a nap!) – Dig into how the internet works

Even Later – Penetrating Testing Apps

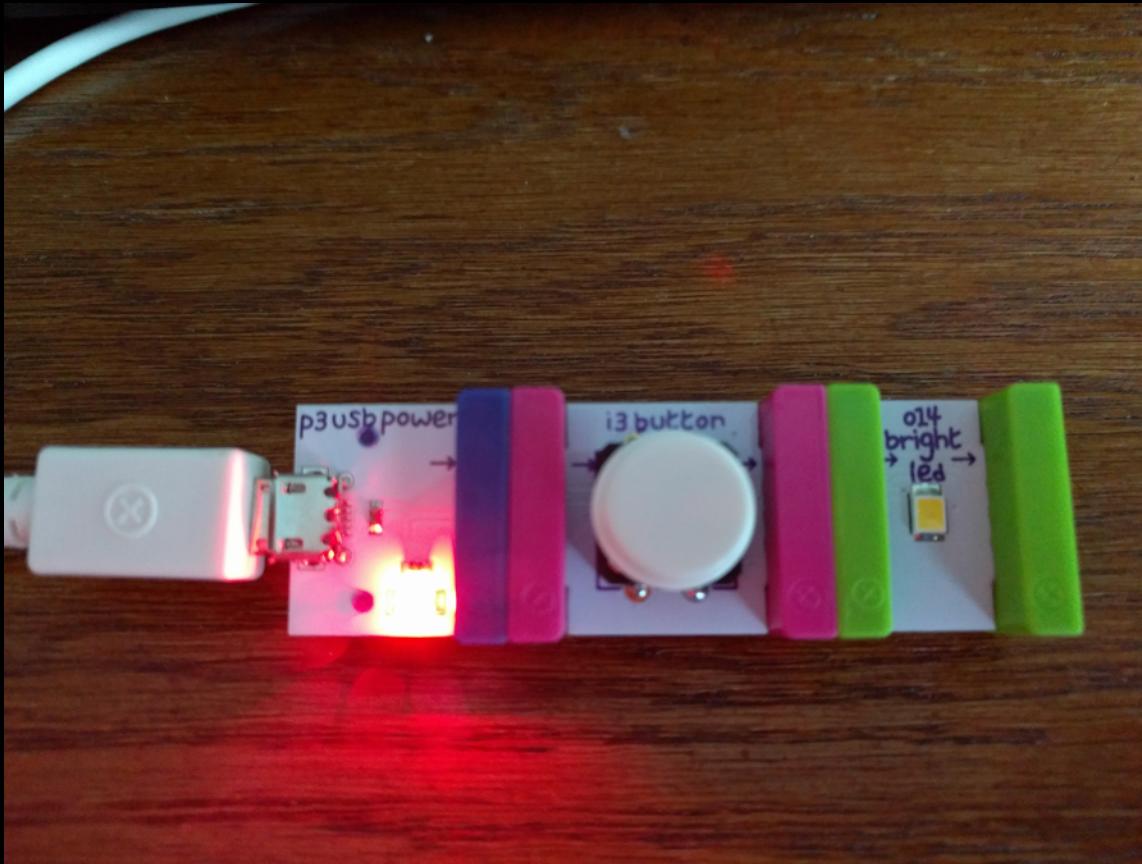
# Teams



# The Great Unboxing

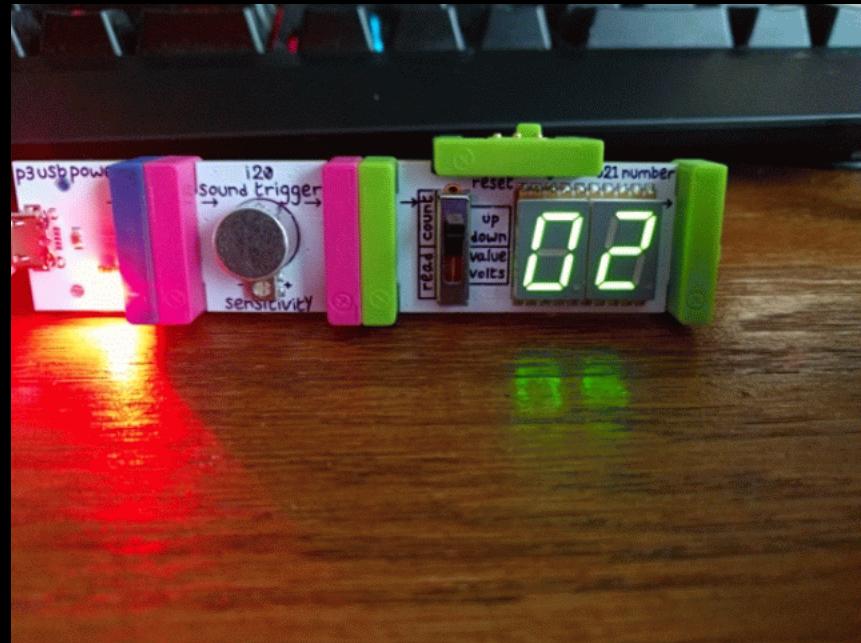
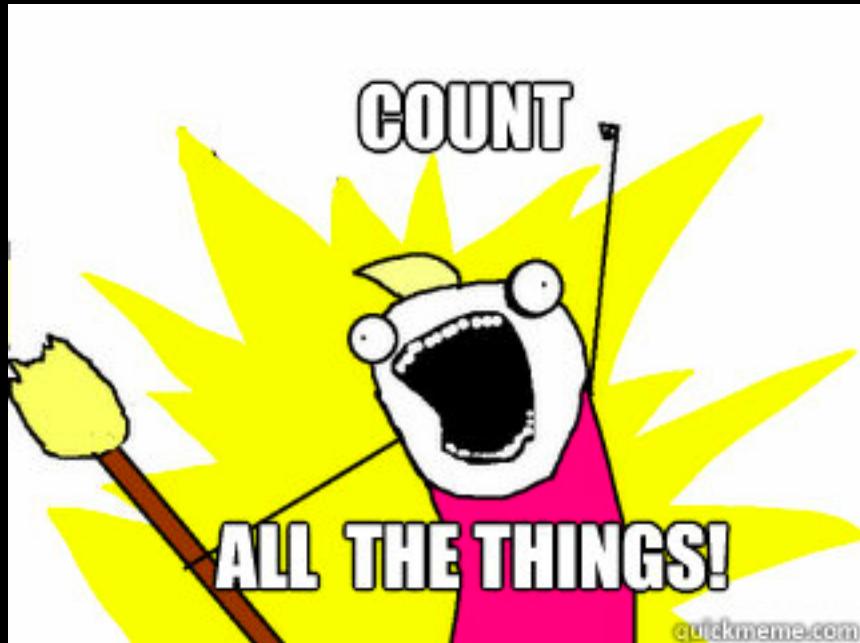


# Gotta Start Somewhere

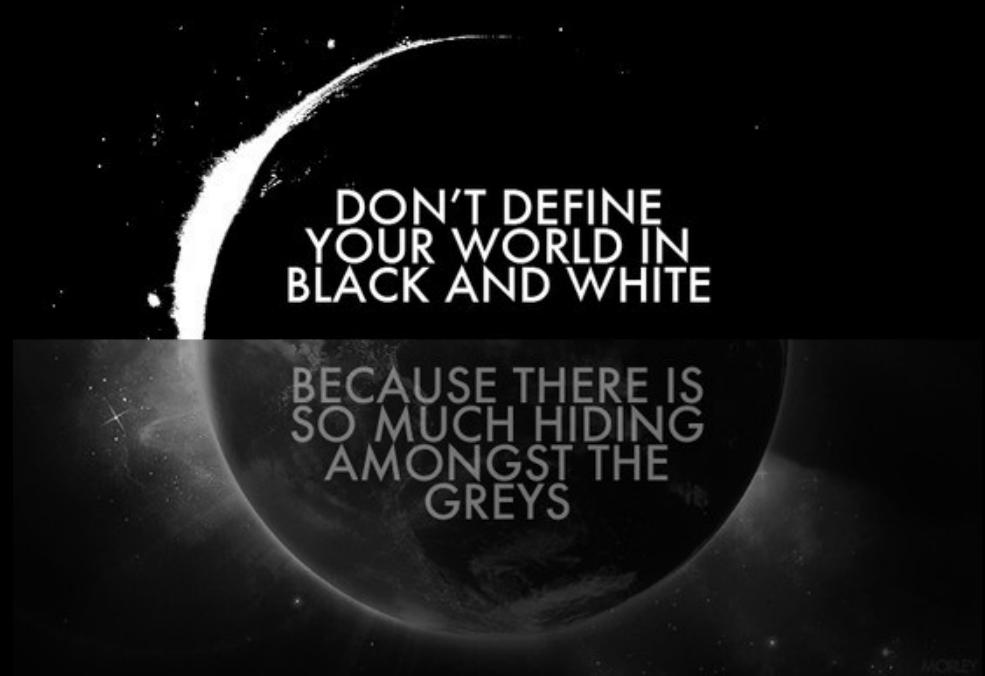
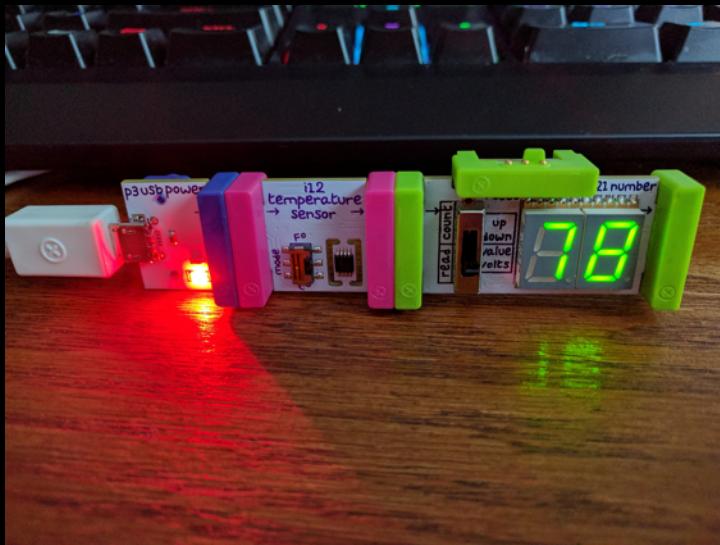


- find the blue power module.
- find the pink button input module
- find the green bright led output module

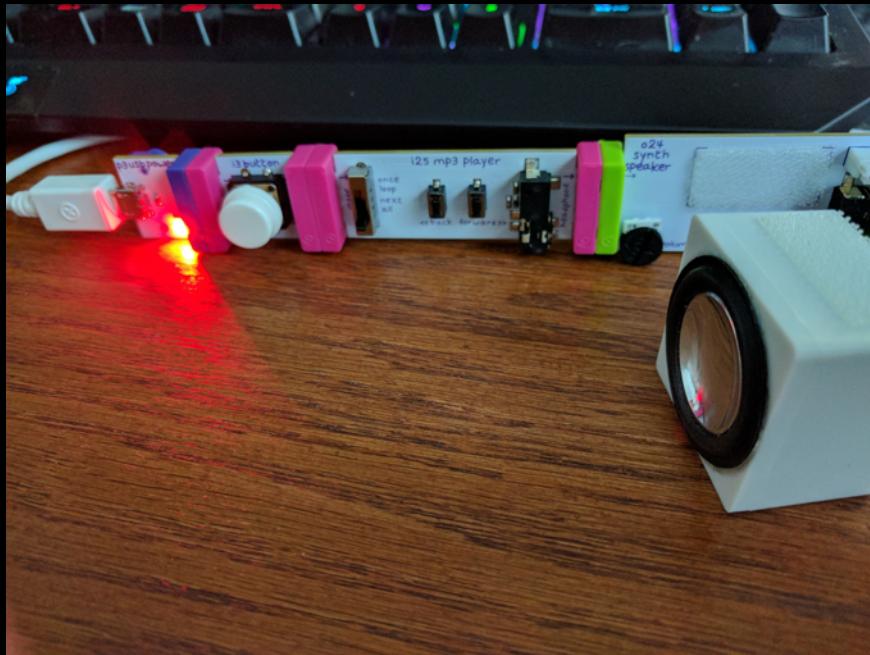
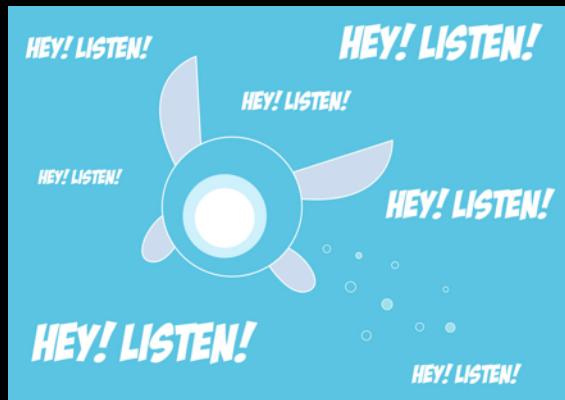
# Counter



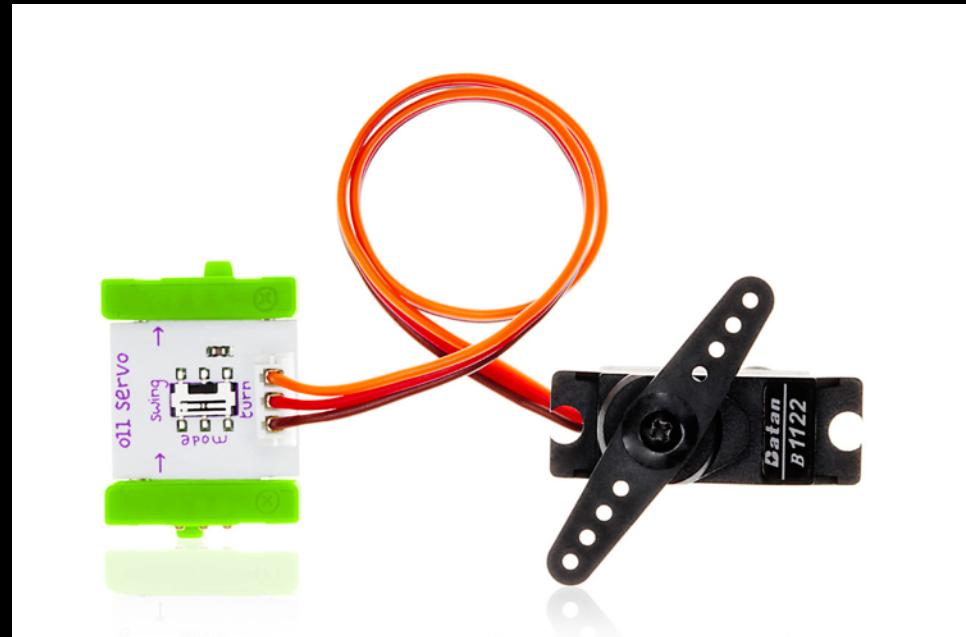
# There is more to the world than on/off



# Sounds

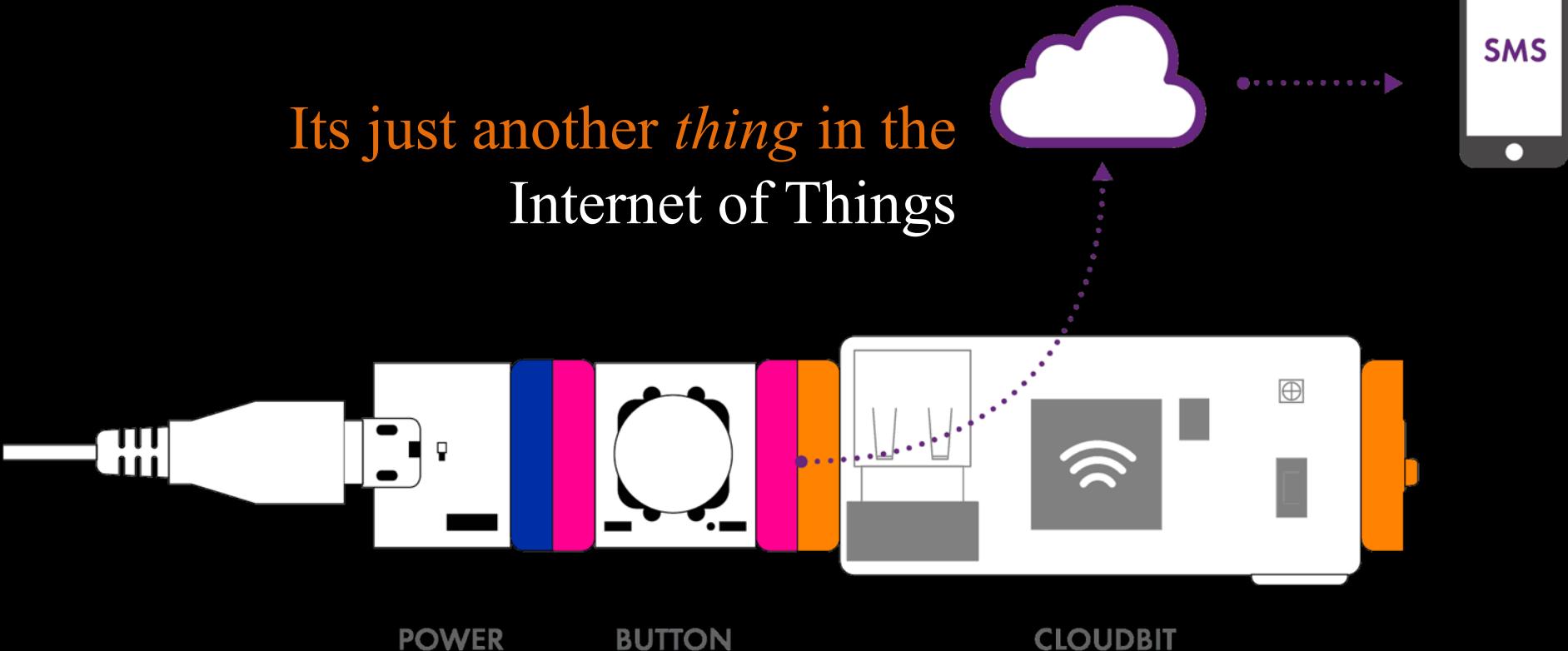


# Motoring onward

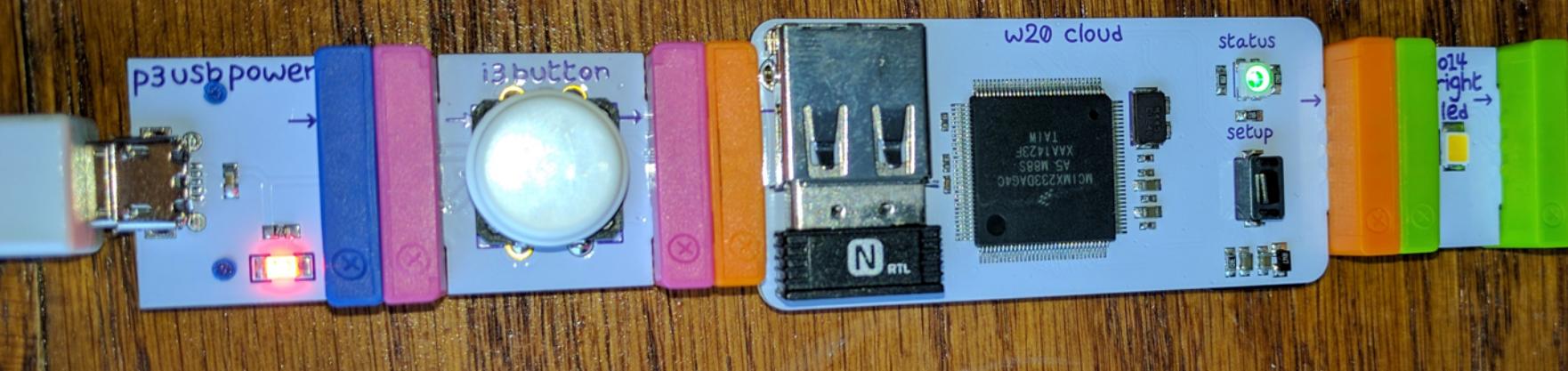


First principles

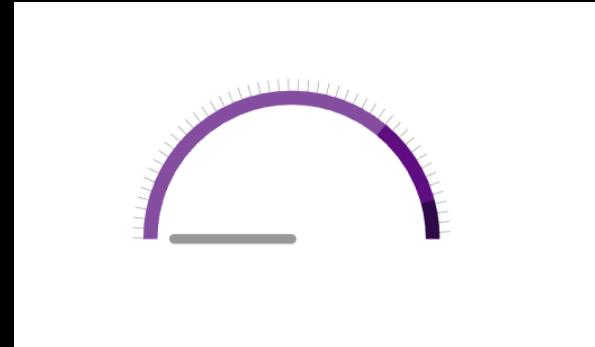
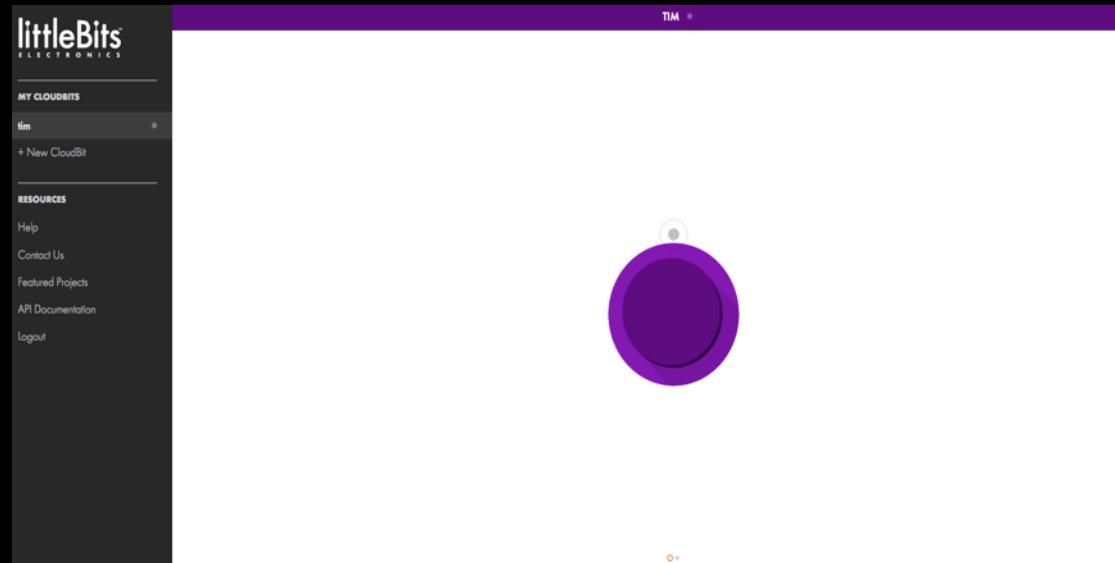
Its just another *thing* in the  
Internet of Things



# IoT Setup



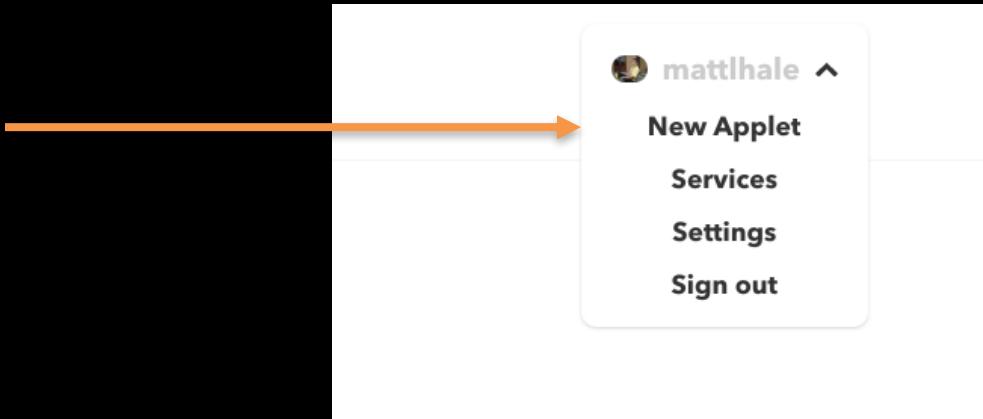
# Cloud Controller



It really is just another *thing*

if  this then that

Make another new applet



It really is just another *thing*

**if**  **then**  **that**



Try inserting a service here

It really is just another *thing*

**if**  **then**  **that**



Try inserting twitter here

# It really is just another *thing*

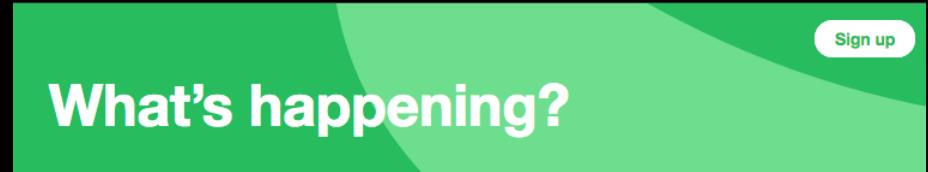
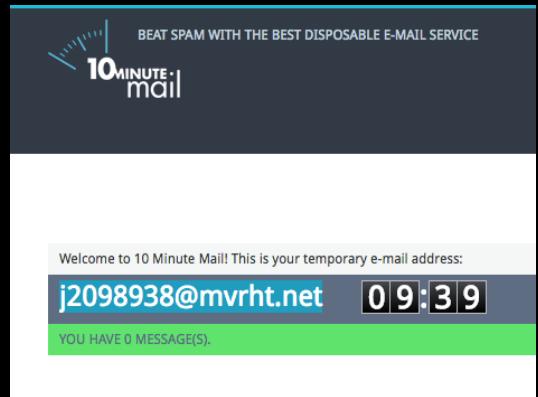
You can make a twitter account for testing by:

Get an Email:

<https://10minutemail.com/>

Signup at twitter:

<https://twitter.com>



# It really is just another *thing*

You can make a twitter account for testing by:

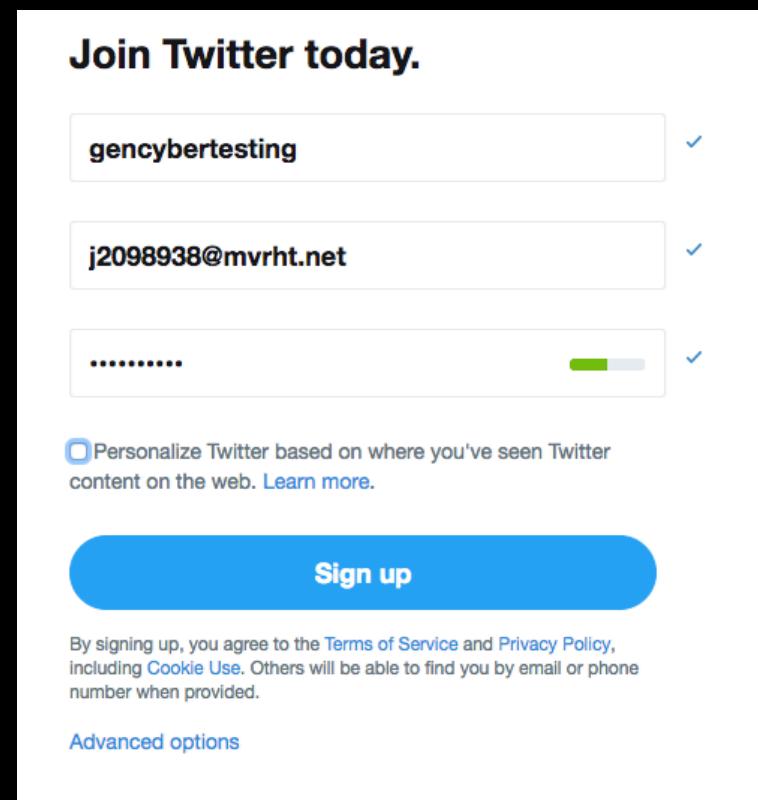
Get an Email (leave tab open):

<https://10minutemail.com/>

Signup at twitter:

<https://twitter.com>

Verify email in open 10minutemail tab



It really is just another *thing*

**if**  **then**  **that**



Now add twitter here (bind it to your test twitter account)

# It really is just another *thing*



## Choose action

Step 4 of 6

### Post a tweet

This Action will post a new tweet to your Twitter account. NOTE: Please adhere to Twitter's Rules and Terms of Service.

### Post a tweet with image

This Action will post a new tweet to your Twitter account with a linked pic.twitter.com image. NOTE: Please adhere to Twitter's Rules and Terms of Service.

### Send a direct message to yourself

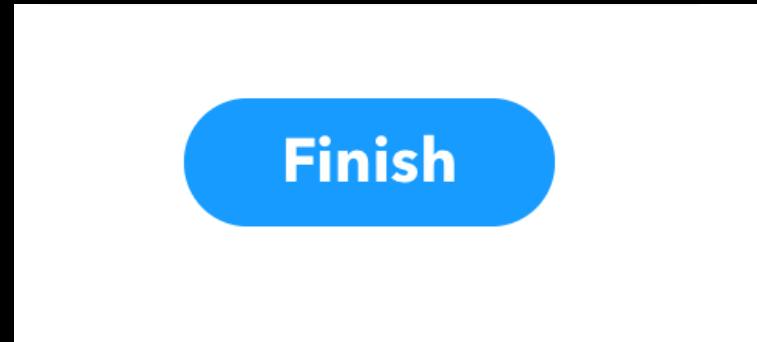
This Action will send a direct message to your Twitter account. NOTE: Please adhere to Twitter's Rules and Terms of Service.

### Update profile picture

This Action will update your profile picture from the image URL you specify and optionally tweet about it. NOTE: Please adhere to Twitter's Rules and Terms of Service.

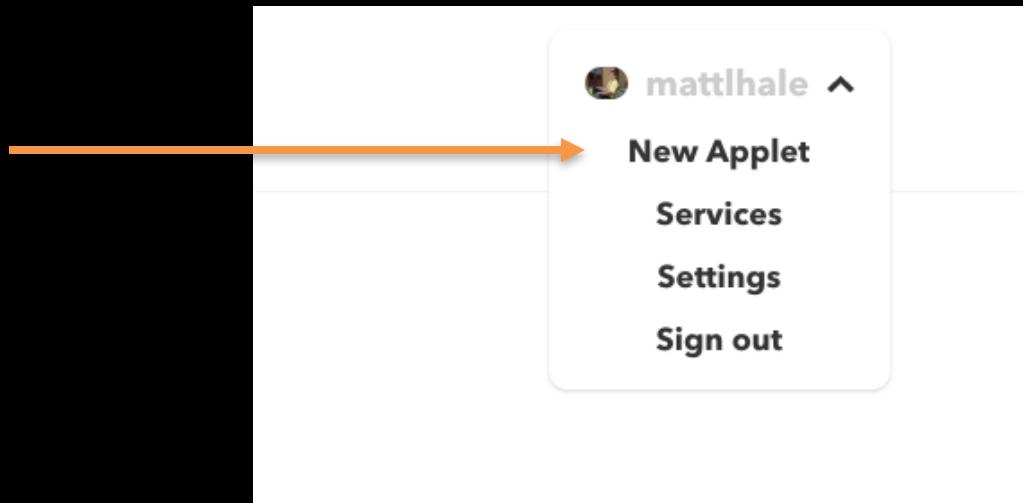
# It really is just another *thing*

The image shows a mobile application interface for creating a new action. At the top left is the Twitter logo, followed by the title "Complete action fields". Below that is a sub-header "Step 5 of 6". The main content area has a blue background and contains the following text:  
**Post a tweet**  
This Action will post a new tweet to your Twitter account. NOTE: Please adhere to Twitter's Rules and Terms of Service.  
Below this is a "Tweet text" input field containing the text: "I'm a student that created a tweet for #nebraskagencyber using Littlebits at {{TurnedOnAt}}".  
At the bottom of the screen are two buttons: "Add ingredient" and "Create action".



# Raspberry Pis work with it!

Make another new applet

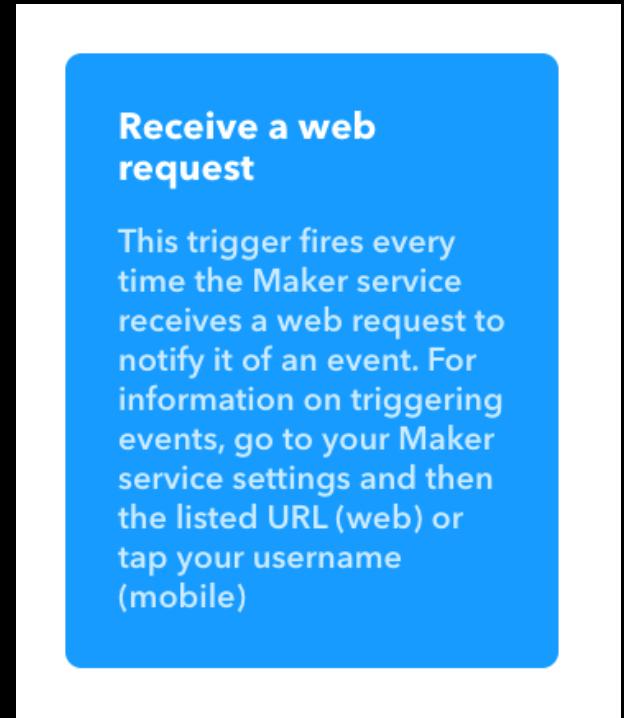
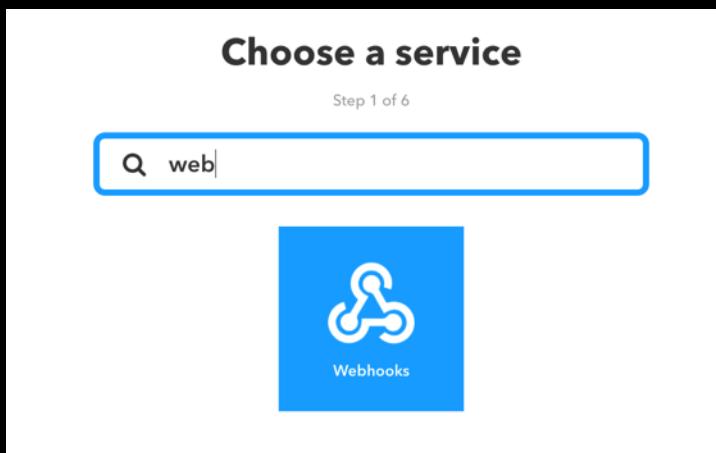


Raspberri Pis work with it!

if  this then that



# Raspberry Pis work with it!



# Raspberry Pis work with it!

## Receive a web request

This trigger fires every time the Maker service receives a web request to notify it of an event. For information on triggering events, go to your Maker service settings and then the listed URL (web) or tap your username (mobile)

Event Name

cloudbit\_on

The name of the event, like "button\_pressed" or "front\_door\_opened"

Create trigger



## Choose action service

Step 3 of 6

Q littlebits



# Raspberry Pis work with it!

## Set Output Level

This Action will set the output of your cloudBit to the specified level for the specified length of time.



## Set Output Level

This Action will set the output of your cloudBit to the specified level for the specified length of time.

Which cloudBit?

tim



Level (0-100%)

100

A percent amount that you want to set the output level to.

Add ingredient

Duration

10 seconds



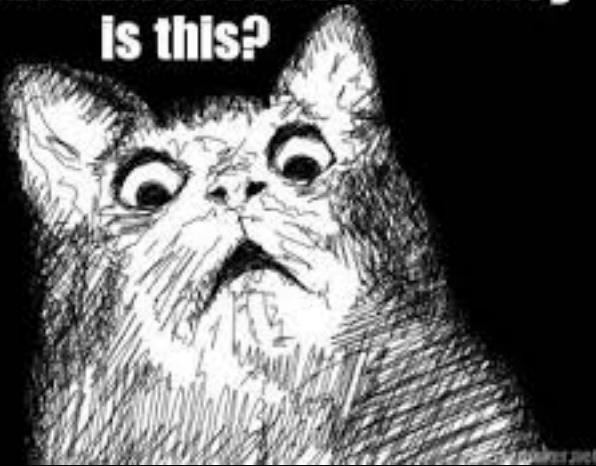
How long to hold for?

Create action

# Raspberry Pis work with it!

Setup a new Raspberry Pi Flow that targets the event `cloudbit_on`

**What kind of voodoo sorcery  
is this?**



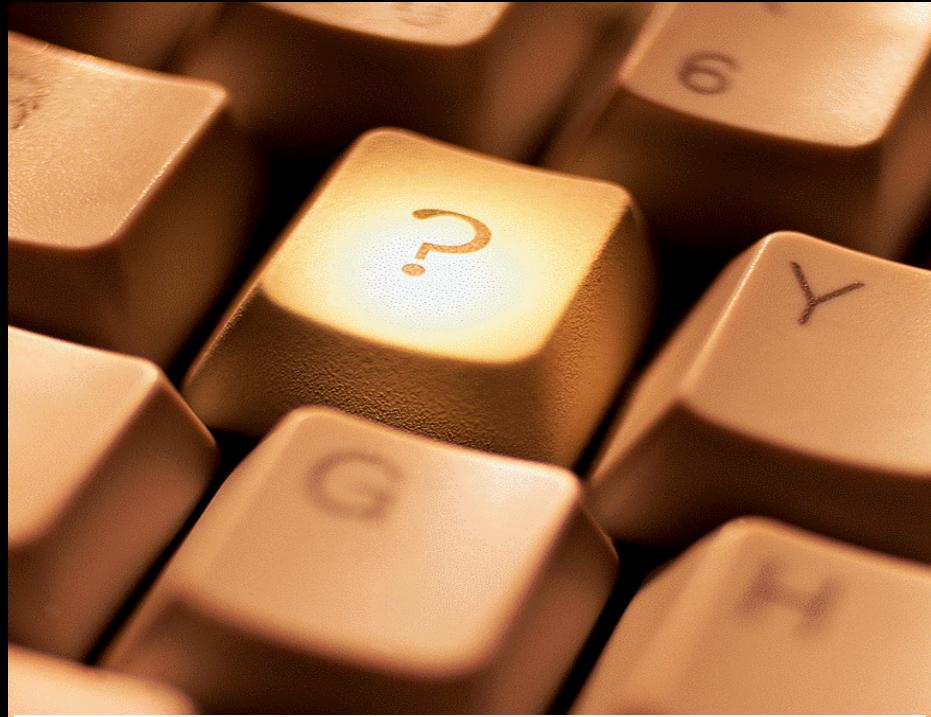
Find out next in the [Lesson about REST](#)



# Questions?

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