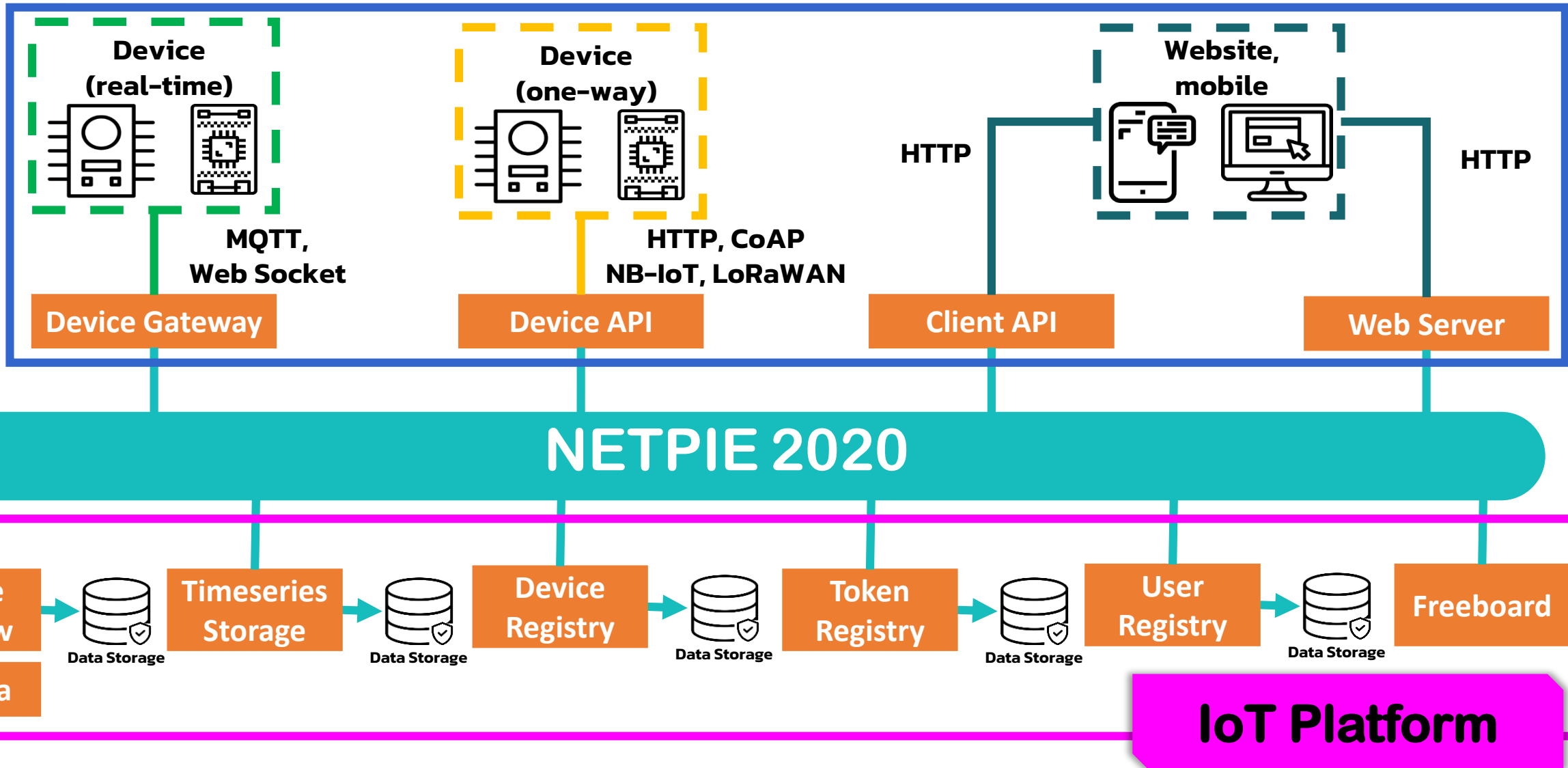




# Update on the NEW NETPIE 2020

Aimaschana Niruntasukrat  
NECTEC

# User



# We Support More

## Hardware



Kidbright



Raspberry pi



NodeMCU



Arduino UNO



Arduino MEGA



STM32



NB-IOTKit



M5Stack

Any **MQTT**  
compatible hardware

## Programing Language



ARDUINO



Java



JS



node



Android



C#



Python



C



C++



php



Go



Swift



ERLANG



Ruby



elixir

Any **MQTT**  
Compatible languages

## Network

LAN



WiFi



LoRaWAN

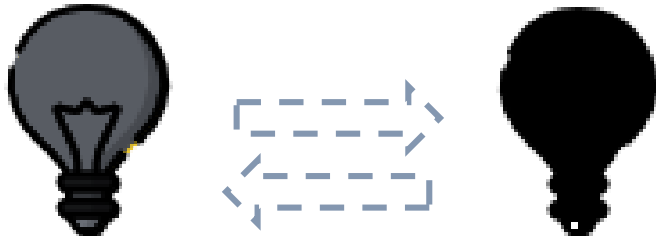
NB-IoT 3G/4G/5G

2015

“ 2020 ”

# Platform-Centric Features

## • Device Shadow



### Device Shadow

Status : On

Brightness : 3,200

## • Device Schema



### Device Schema

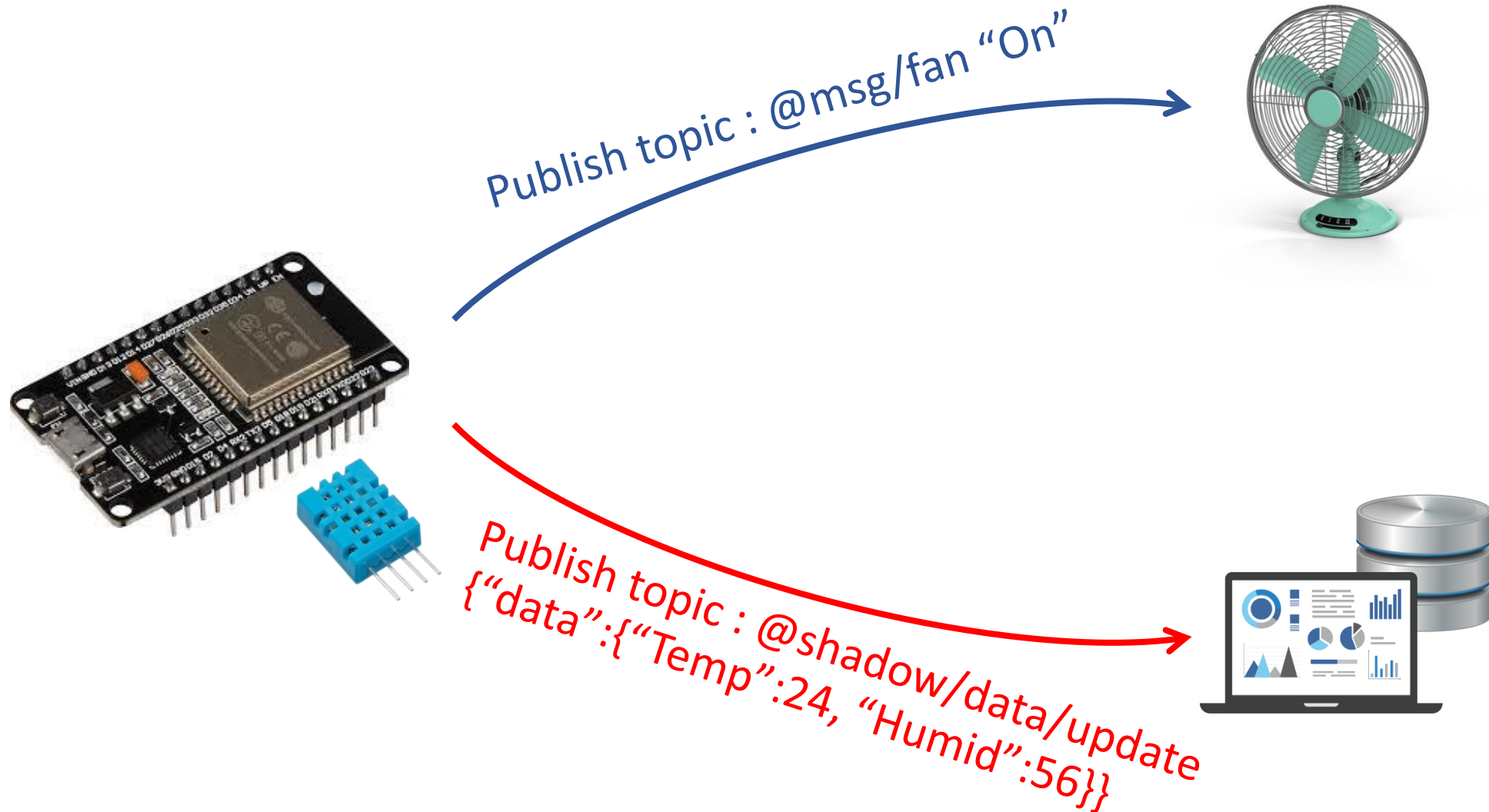
What : Brightness  
When : Every 10 min  
Where : Bedroom

How :  $E = \frac{\text{Brightness}}{\text{area(m}^2\text{)}}$

## • Trigger



# Separation of **Messages** & **Data**



# Shadow – Schema - Feed

## Device Shadow

Store device's latest data

```
object {2}
  humidity : 56
  temperature : 25
```

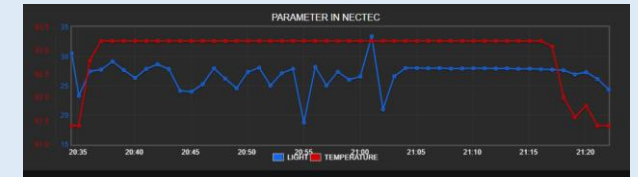
## Device Schema

Set up data fields to be stored

```
object {2}
  additionalProperties : false
  properties {2}
    humidity {2}
      operation {1}
        store {1}
          ttl : 7d
          type : number
    temperature {2}
      operation {2}
        store {1}
          ttl : 7d
        transform {1}
          expression : $.temperature + 32
          type : number
```

## Feed

Store time-series data



# Commercial Ready

✓ Easy for mass production

ID : 1  
Token :xxx

ID : 2  
Token :xxx

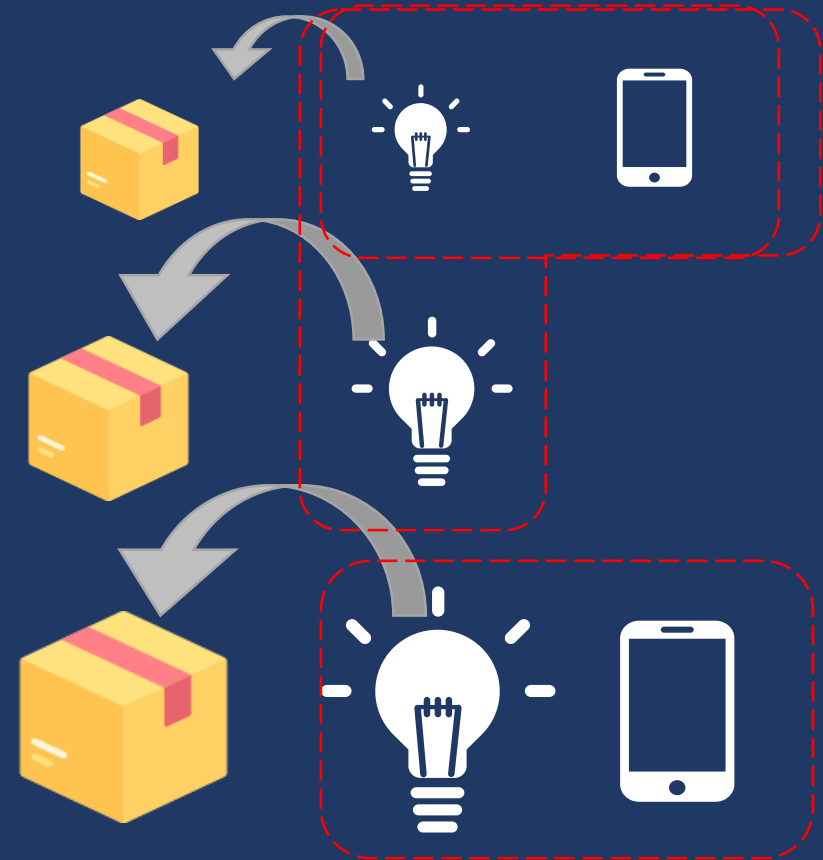
ID : 3  
Token :xxx

NETPIE  
2020

ID : 1  
Token :xxx  
ITEM No.: xxx-xxx-xxx-xx  
2112345678900

ID : 2  
Token :xxx  
ITEM No.: xxx-xxx-xxx-xx  
2112345678900

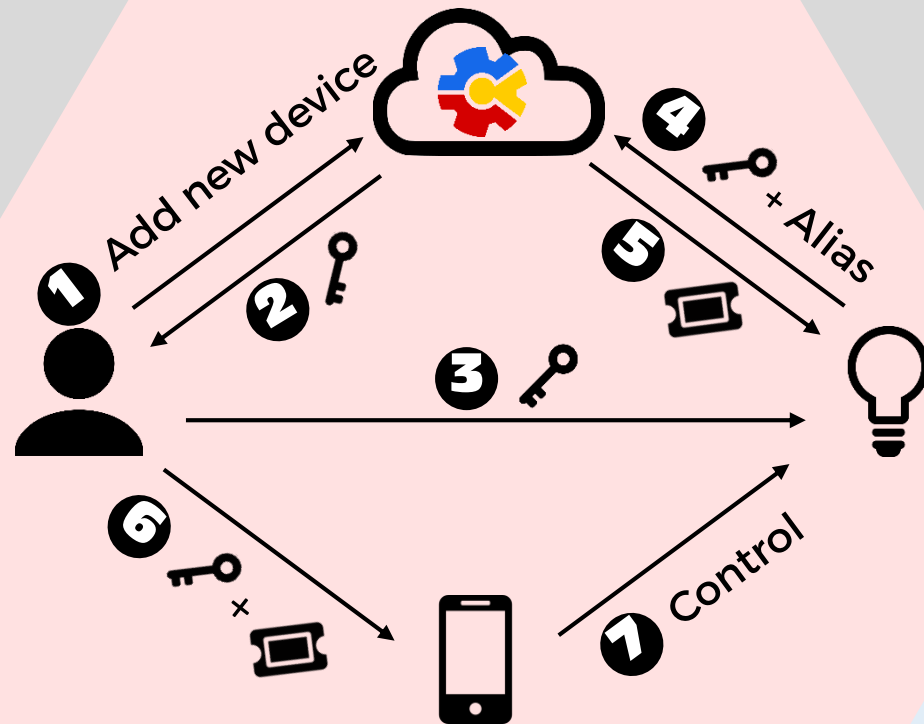
ID : 3  
Token :xxx  
ITEM No.: xxx-xxx-xxx-xx  
2112345678900



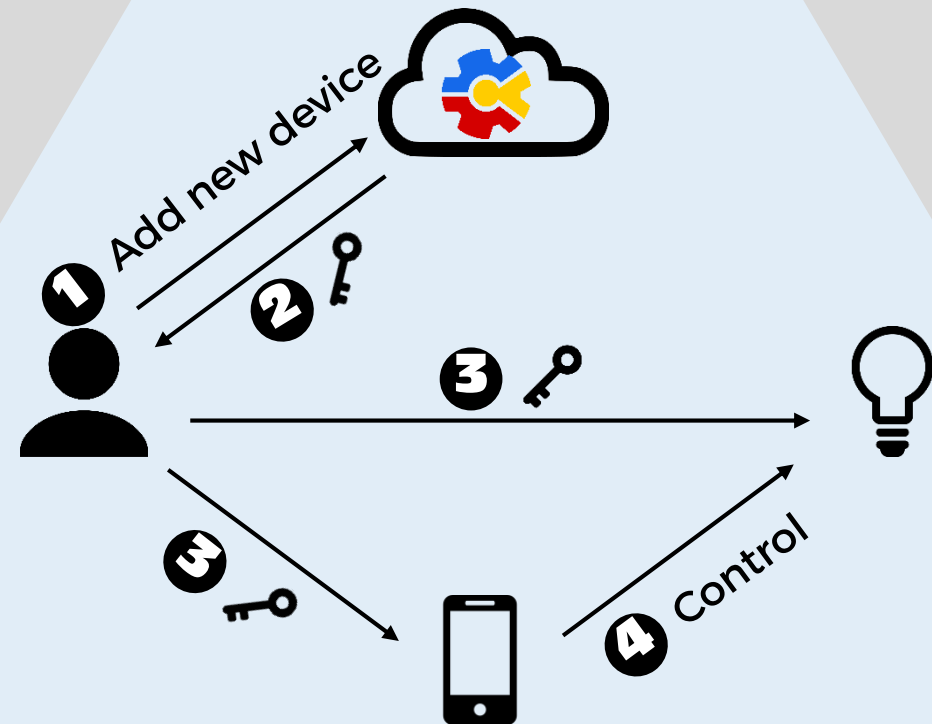


# No more sharing keys

## NETPIE 2015



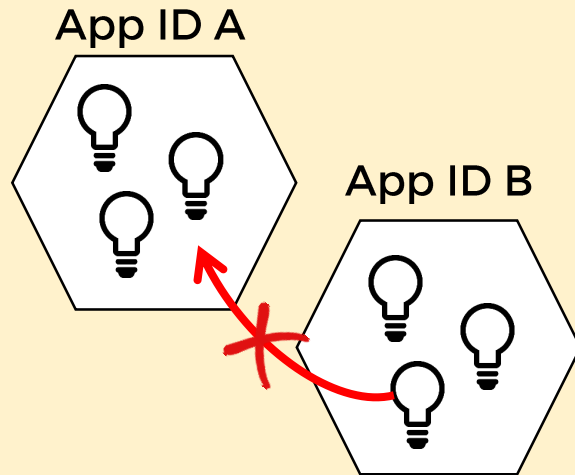
## NETPIE 2020





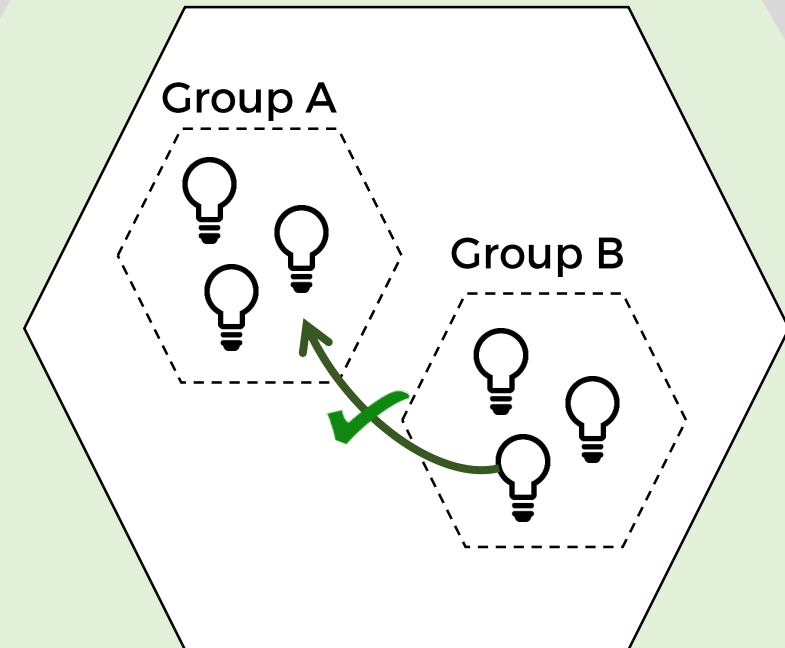
# Flexible device grouping

## NETPIE 2015



## NETPIE 2020

Project 1



# Comparison Summary

	NETPIE 2020	NETPIE 2015
Design Philosophy	Platform - Centric	Device – Centric
Commercial Ability	Commercial – Ready	Need to re-program Hardware migrate to commercial platform
Suitable Usage <b>1</b>	Mass production, Project-based	Project-based
Target User	IoT consumer product makers, Hobbyists, Students	Makers, hobbyists, students
Communication Protocol	MQTT, HTTP	Microgear
Programming Language	Any languages with MQTT library support	Limited to Microgear library
Hardware Support <b>2</b>	Unlimited as long as it supports MQTT	Limited to those with Microgear support
Device Identity and Group	No APPID Device identity and group can be adjusted after product is sold/installed	Use APPID Device identity and group must be programmed into firmware
Rate Limit	Allow burst	Everyone is subject to the same rate limit
Trigger <b>3</b>	Can set trigger action in cloud platform	Set trigger action inside IoT devices