

# THE SOCIAL NETWORK OF EVOLVING THINGS

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**Survival of the fittest  
in human selection**

**物竞人择**

# Products Evolutions

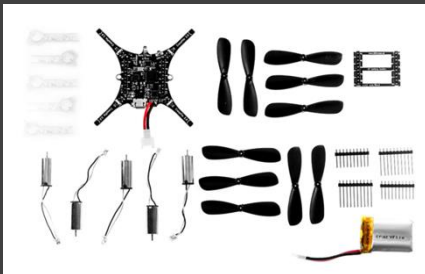
+ 大規模 Massive  
(基數 Base)

+ 開源科技 Open Source  
(基因 Gene)

+ 創客 Maker  
(變異 Mutation)



# Soul, Brain, Gut, Skeleton

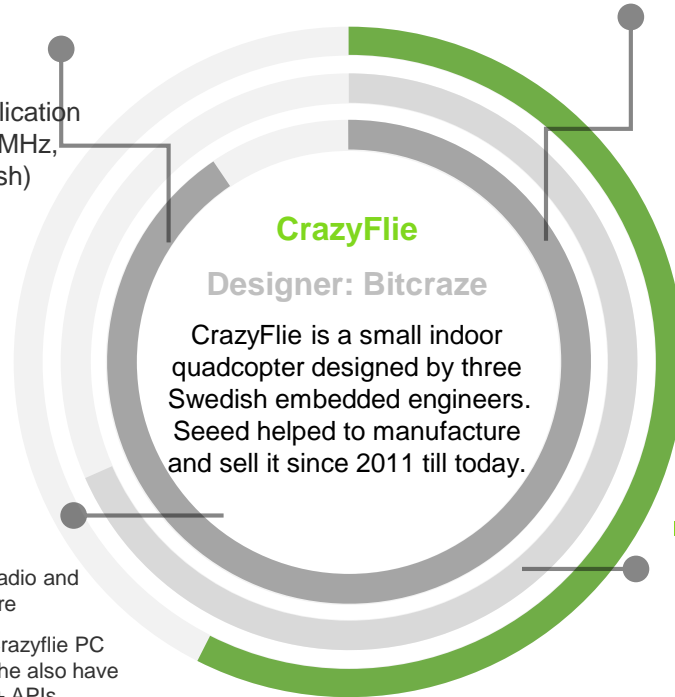


## BRAIN

- STM32F405 main application MCU (Cortex-M4, 168MHz, 192kb SRAM, 1Mb flash)
- nRF51822 radio

## SOUL

- C for the Crazyradio and Crazyflie firmware
- Python for the Crazyflie PC API and client (the also have Ruby and C/C++ APIs maintained by the community)
- Java for the Crazyflie Android Client



## GUT

- 3 axis gyro (MPU-9250)
- 3 axis accelerometer (MPU-9250)
- 3 axis magnetometer (MPU-9250)
- high precision pressure sensor (LPS25H)
- On-board LiPo charger with 100mA, 500mA and 980mA modes available

## SKELETON

- 5 x CW propellers
- 5 x CCW propellers
- 6 x Motor mounts

The  
wrong team, for now

Software team  
is Like a Band



While  
Hardware Team  
is like an Orchestra



# Open Hardware for bands

## Popular Development Platforms



Arduino



BeagleBone Green



Raspberry Pi



mbed



LinkIt One



Intel Edison

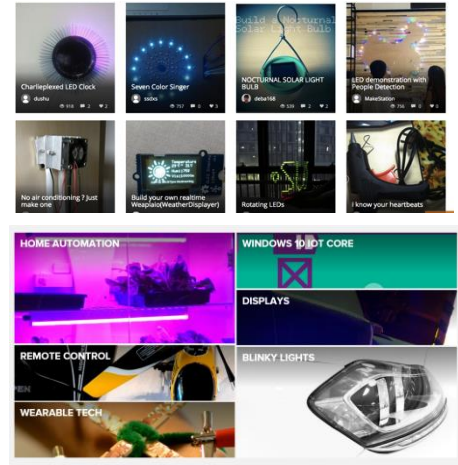


## Modular Sensors & Actuators



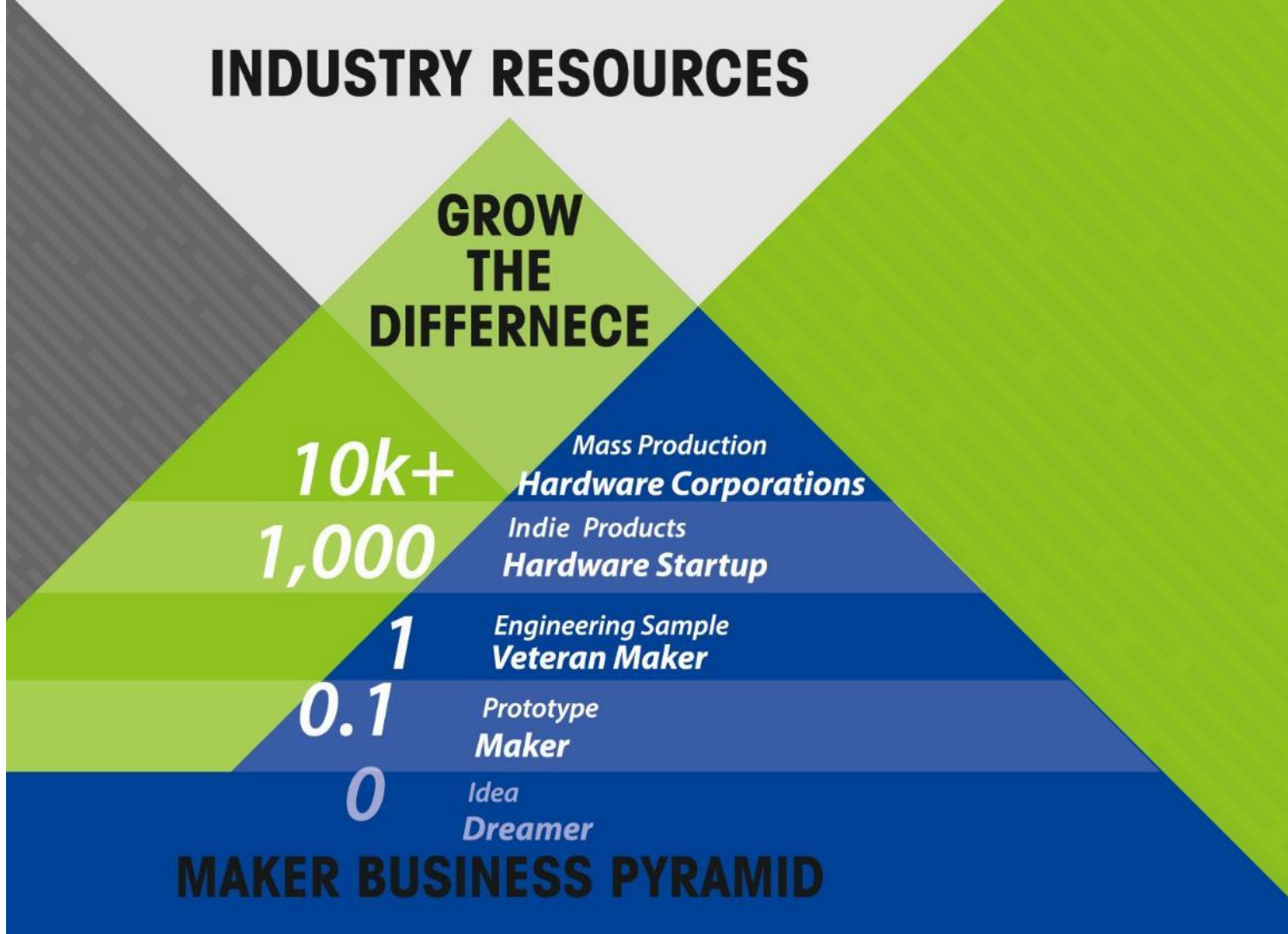
## Online Communities

### Awesome Projects





The pyramid of propagation



# INDUSTRY RESOURCES

**GROW  
THE  
DIFFERNECE**

**10k+**  
**1,000**

*Mass Production  
Hardware Corporations*  
*Indie Products  
Hardware Startup*

**1**

*Engineering Sample  
Veteran Maker*

**0.1**

*Prototype  
Maker*

**0**

*Idea  
Dreamer*

## MAKER BUSINESS PYRAMID

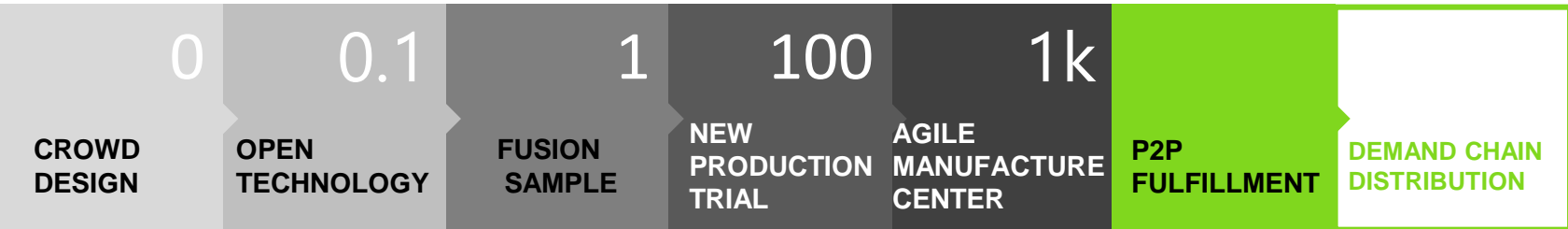
# Faster, and faster Evolutions

- Co-design via cloud based tools and crowd-sourcing

- One-click prototyping service, Open Parts Library

- Manufacture as a service, Approximate to users

- Supply according to demand



- Development basing on open hardware and software technologies

- Design for Manufacturing review (BOM, Gerber, Mechanical, Testing & Manufacturability)

- P2P delivery covers local demands and niche markets better

Your turnkey solution for taking a prototype to production

<http://www.seedstudio.com/service/>





# Game of Thrones

## Applications (Verticals)

Personal Devices	Lifestyle	Connected Home	Industries	Industrial Internet
<b>Wearable Computing</b> pebble cookoo cucon im zeneye GLASS RINGLY striv APX MOTA OpernLife M	<b>Sports</b> Brain Sentry BIKESPIRE SO biometrics ZEPP infoMotion swingbyte HAMMERHEAD	<b>Automation</b> Quirky Radiator Labs netatmo LEVITON SmartThings Ubi nest LIFX gecko chesstrom smarthome LUTRON	<b>Retail</b> do digital PROMOTIONS SIVILEE maifans GIMBAL booi Pasika PERCH P	<b>Robotics</b> Health Robotics ALBERARAN WIMMER KENEX ROBOTIX EMPIRE IRobot ABB LIQUID ROBOTICS JBO
<b>Fitness</b> GARMIN Garmin Connect amigo iFIT JAMBONE BASIS fitbit tomrorn URBEAM Wahoo	<b>Cooking</b> Smart Die Scale ANOVA drop blossom iDevices THE ORANGE CHEF CO. pariky	<b>Monitoring</b> lapka sense birdi BlueMaestro SUPERMECHANICAL leeo knot CUBESENSORS tado° ambient	<b>Payment/Loyalty</b> Square shopify PayPal ACS Verifone LevelUp BELL Truste playbion	<b>Drones/Aerospace</b> 3DR KPMI eVRYTH SKYCATCH Spire Parrot Skybotix
<b>Health</b> LUMO HAPfork SPIRE Withings QUANTUS Lively Measurify Hello AliveCar iHealth remee melo conventis TELER	<b>Pets</b> Whistle PetPace pinotreed PetHub tagg BISTRO hoytag Finnick PetChatz Petcube iactive Petnet gibi Pebble	<b>Security</b> HomeMonitor canary ring EUGUST SCHLAGE Locktron globesense genie UNKEY GOJI scout nSmartAlarm	<b>Healthcare</b> VITALITY Senoconic STANLEY MedMinder Kollonack AdhereTech WERSUS CENTRAK insigent Sotera	<b>Green-tech</b> BigBerry enighed Smart Genevo compology AMPY
<b>Family</b> greatcall OWLET Secur BELLBEAR mimo Glow pocketfinder	<b>Toys</b> KAROTZ UBODLY MAKIES seeeo	<b>Tracker</b> Chipolo linguet locca! TrackR	<b>Automotive</b> Zobe rise INRIX navdy DELPHI dash waze OpenXC	<b>3D Scary Print</b> MakerBot dp Formlabs M30 matterport Formlabs A10 NEXTENGINE RepRap occipital DAVID F3D Solidoodle
<b>Music/Art/Video</b> ROLI CACH GoPro	<b>Garden</b> plantlink BITPONICS radio EDYN Greenbox Koubachi	<b>Hub</b> Romye revolv NINJABLOCKS Control LOWE'S zonoff STAPLES NEXIA muzzley wink	<b>Infrastructure</b> waveLink Beam KISI Trimble Robin Schneider adapt-N	<b>Smart Grid</b> GRIDNET e-on Silver Spring SMART GRID CLUSTER Itron Trilliant

## Platforms & Enablement (Horizontals)

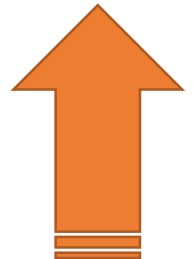
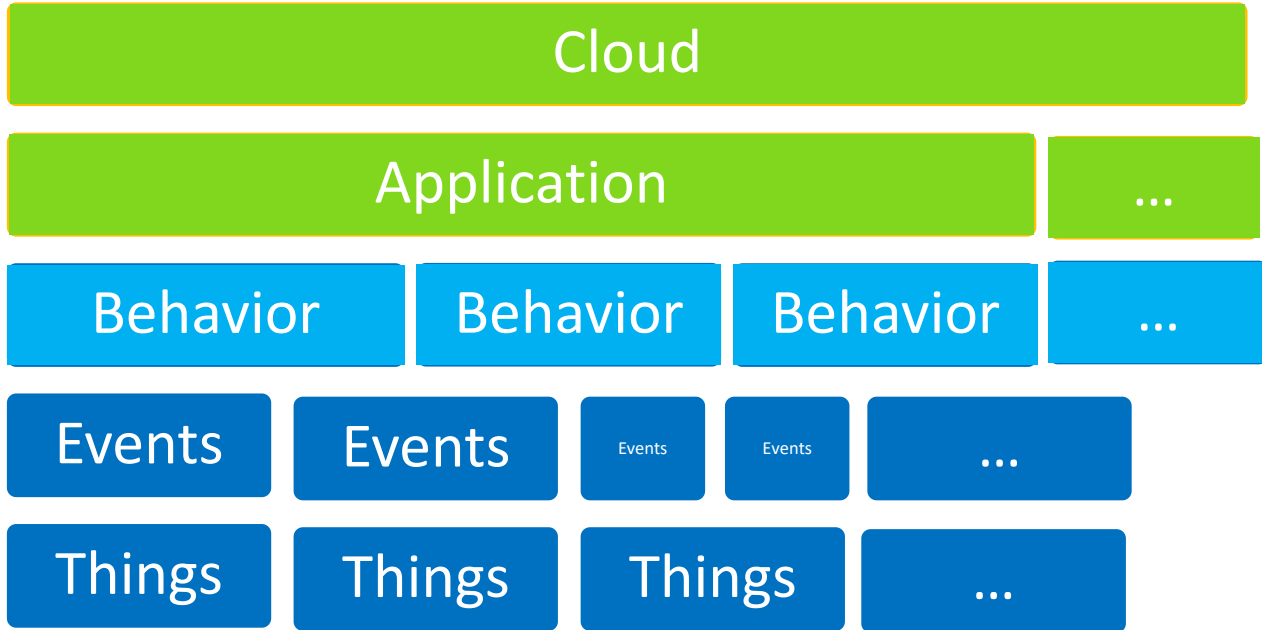
<b>Connectivity/Dev Platforms</b> spark kynetx pinoccio iobridge Ayla Networks EUROTECH resin.io Symply TESSEL bluecity	<b>Software/Data Platforms</b> EXOSITE icontrol thingsquare carriers Keen IO SeeControl Things ConnectHQ NewAer BERG Axedo Yaler.net RaceWireless wot.io DNZK Xpresspower IOTER bugaudorm Tempo evercam.io covisint Grawl EtherOS PubNub NFluka SensorCloud vivify	<b>Open Source Platforms</b> webinos AllJoyn openHAB nimbata.com OPEN INTERCONNECT ThingsSpeak GRIDPHONE	<b>Sensor Networks</b> SAFECAST placemeter MotionLoft	<b>Personal Interfaces</b> NeuroSky wit.ai LEAP gestigon speech THALAMICUS MENTIGONE aplai EMOTIV Maluba Reemo Oculus	<b>Security</b> inside SafeNet utimaco escrypt gemalto BASTILLE NETWORKS MOCANA	<b>Corporates</b> amazon hp LG intel HTC PHILIPS IBM SAMSUNG Google WIND RIVER MOTOROLA belkin DELL BOSCH NATIONAL INSTRUMENTS ARM Logitech Microsoft Honeywell SONY Atmel SIEMENS QUALCOMM CISCO TOSHIBA SHARP
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## Building Blocks

<b>Protocols</b> Bluetooth Weaved MQTT RFID NFC RuBee WI FI ZigBee omo e-wave anodus HART MIWI MBUS 2G 3G 4G LTE CoAP 6LoWPAN LWM2M BITXMI	<b>M2M Networks</b> Helium SIGFOX KORE stream aeris HACHSEN MEM	<b>Portable WiFi</b> Open Garden GOOSPEED BRCK	<b>Telecom</b> at&t boostmobile Verizon T-Mobile Sprint US Cellular Telenor Vodafone airtel	<b>M2M</b> iStock Quasar Wireless seed ecnois GainSpan Wavem Telit			
<b>Cloud</b> Google Cloud Platform amazon web services redhat rackspace ORACLE Microsoft Azure	<b>Mobile</b> iOS Android Windows Phone BlackBerry	<b>Processors/Sensors</b> raspberrypi.org XILINX Arduino Adafruit Seeed Studio	<b>Parts/Kits</b> Mandy Mandy SAM littleBits WunderBits	<b>Services</b> TIB CIB dragon makeyzy sculpteo CIRCUIT LAB	<b>Incu bators</b> Highway1 LEMONS LAB WEARABLE WORLD RGA Accelerator TechSip	<b>Funding</b> KICKSTARTER indiegogo MedStar	<b>Distribution</b> angelcam

# The gap

industry



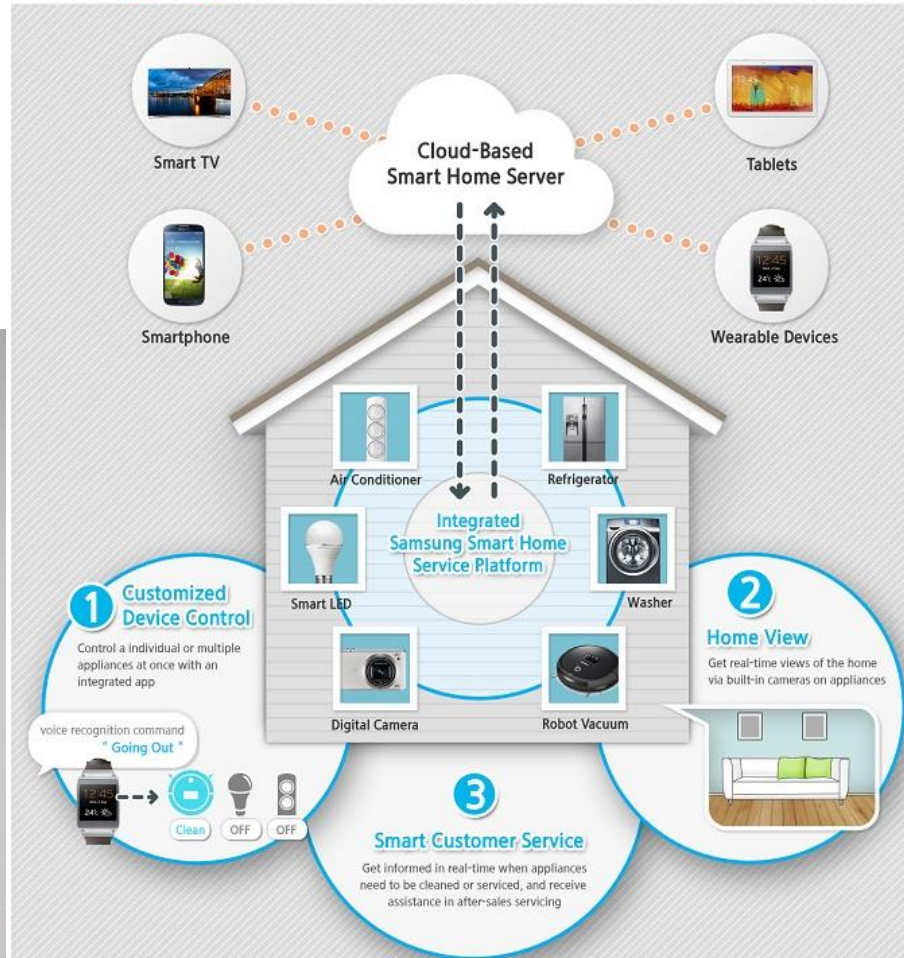
users



Now,  
You can rule them all!



Samsung Smart Home | 'Smart Living & Beyond'



**Social needs  
Of things**

**物际关系**

# Accumulated Happiness

Smart



Intelligent



social





# Open Humble world



- Door

```
{
  "@events": {
    "bell": null,
    "key": {
      "valid": "boolean"
    }
  },
  "@properties": {
    "is_open": "boolean"
  },
  "@actions": {
    "unlock": null
  }
}
```



- Light switch

```
{
  "@properties": {
    "on": {
      "type": "boolean",
      "writable": true
    }
  },
}
```

Layer 4  
**COMPOSE**

Systems Integration  
WoT-a-Mashup  
Physical Mashups

IFTTT  
Node-RED

Automated UI Generation  
Web Applications

Layer 3  
**SHARE**

Social Networks  
Delegated Authentication  
Social WoT

API Tokens  
JWT  
OAuth

TLS  
DTLS  
PKI  
Encryption

Layer 2  
**FIND**

REST  
HATEOAS  
Link Header

Crawler  
Search engines  
Schema.org  
Semantic Web

Web Thing Model  
JSON-LD  
mDNS

RDFa  
Linked Data

Layer 1  
**ACCESS**

HTML  
URI / URL

JSON  
Web Hooks  
Gateway

WebSockets  
Proxy

REST API  
HTTP  
CoAP

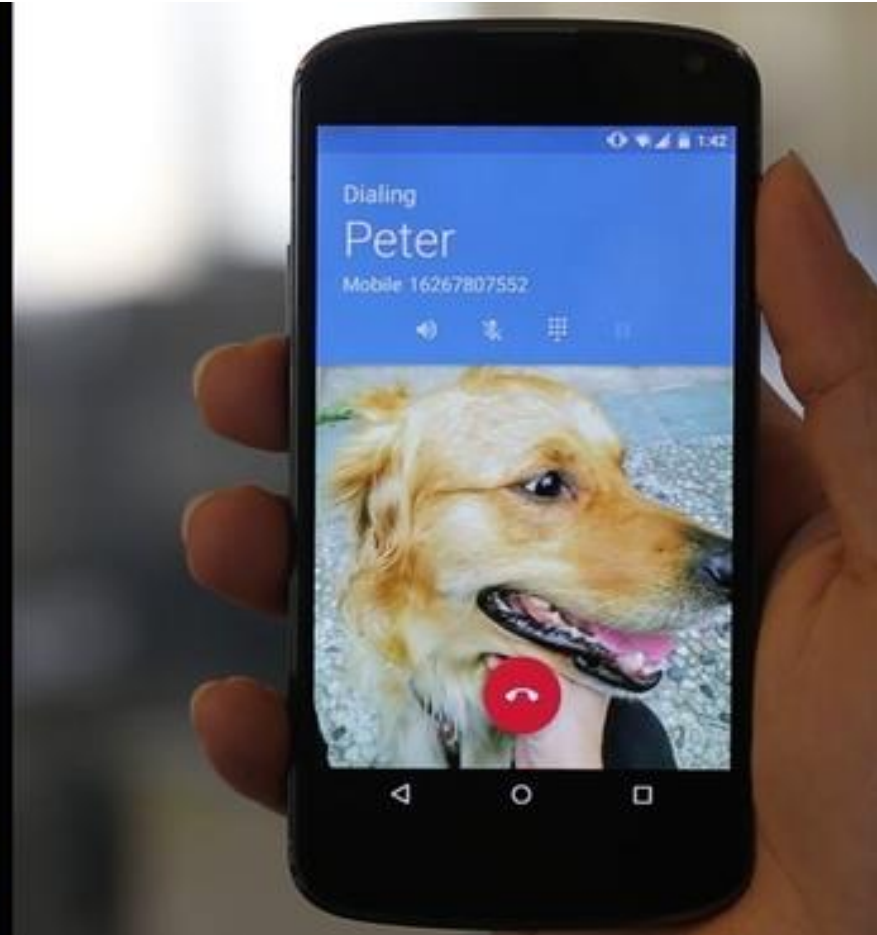
MQTT

**Networked Things**



Call your  
Things/pets

[www.seeed.cc/rephone/](http://www.seeed.cc/rephone/)



Hello  
Human.



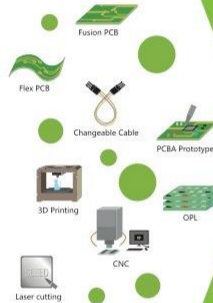




### With diverging community platforms

- Chaihuo Maker Space
- Maker Faire Shenzhen
- Ecommerce
- Global Distribution

# PROMOTE



### With agile manufacturing services

- Fusion Prototyping Service
- Open Parts Library
- Hardware Development Kit
- Agile and Open Manufacturing Service
- Distributed Portal

# PRODUCE



### With open source hardware

- Maker Education Kits
- Open Source Hardware Modules
- Theme Based Kits
- Technical Solutions

# PROTOTYPE

