

Universal IoT Gateway Middleware and Platform





Interoperability

11+: Bluetooth, ZigBee, Z-Wave, 6LoWPAN, Thread, WiFi, Cellular, NFC, SigFox, Neul, LoRa + (legacy and new)

Security

70% don't have proper encryption
Secrecy is not security ! Follow security standards

Complexity

Multiple skill sets: hardware, firmware, cloud, apps
No clear separation of concerns

Others and more...

data volume, dynamic env., solo, future proof

Digitization



Turn OT data into IT-friendly data

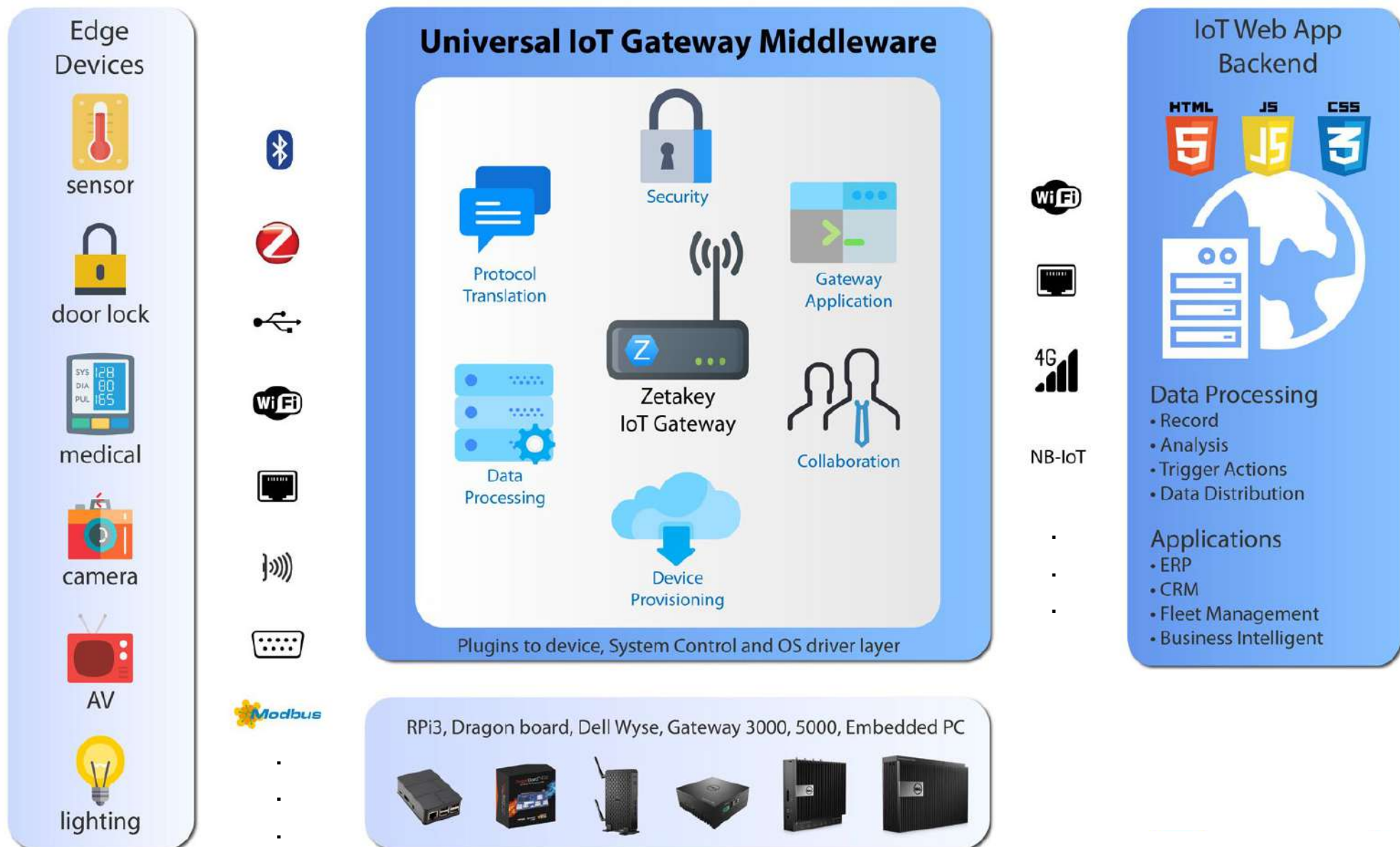
Goal

www.zetakey.com - contact@zetakey.com



- Zetakey provides embedded software solutions, with the focus on IoT and embedded browser for enterprise and industrial applications.
- Our flagship products include
 - “Universal IoT Gateway Middleware”, a run-time software that connect different IoT devices, protocols, run domain-specific applications, support standard security models to cloud or servers;
 - “Embedded HTML5 Browser”, a browser solution to enterprise and industrial handheld and connected device manufacturers.
- Zetakey was found in 2009 and is located in Hong Kong Science Park.

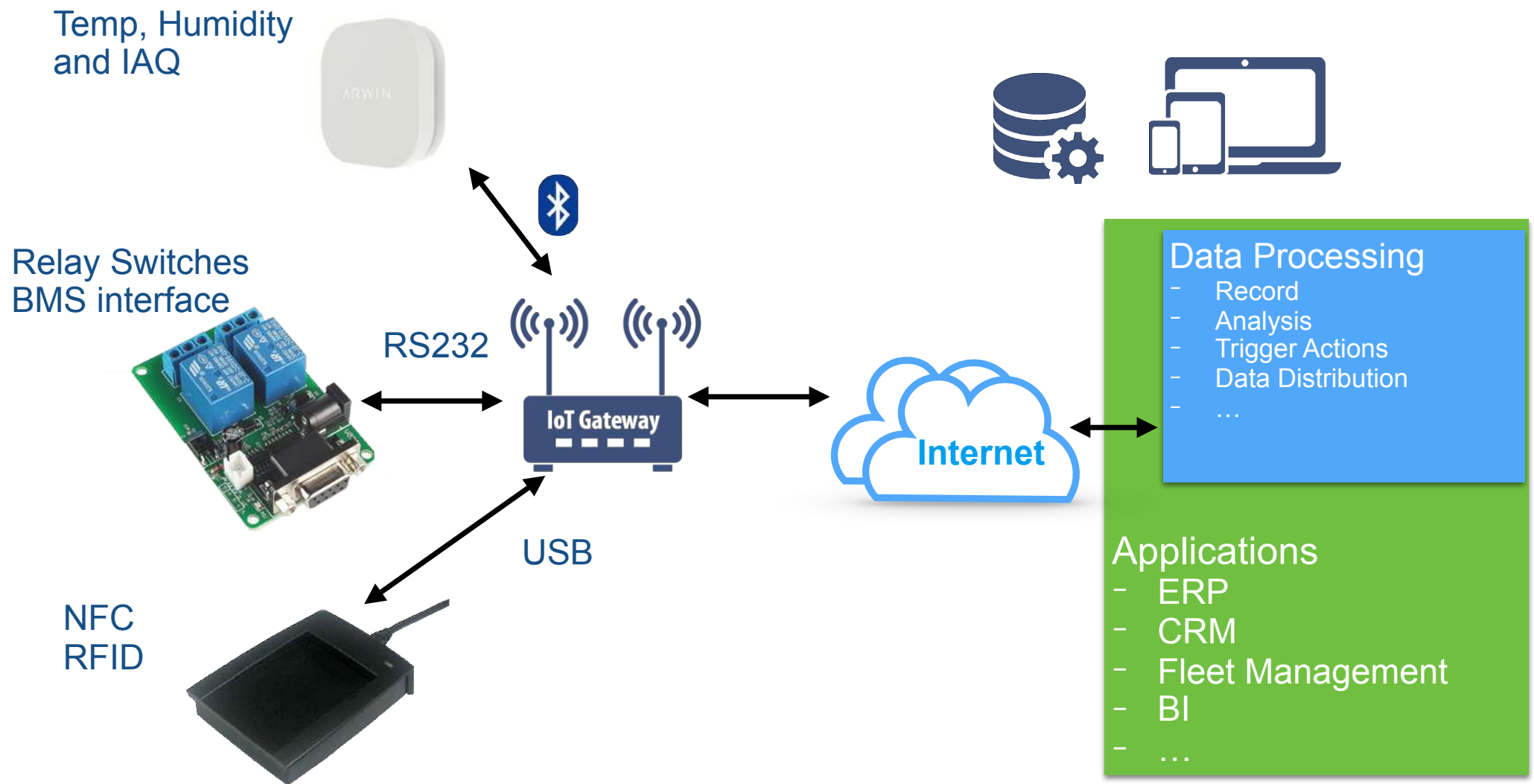




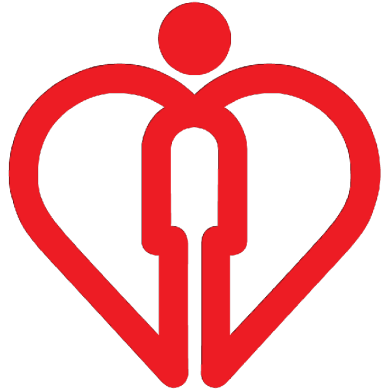
IoT Gateway Block Diagram

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Multiple Device, Multiple Protocol Solutions

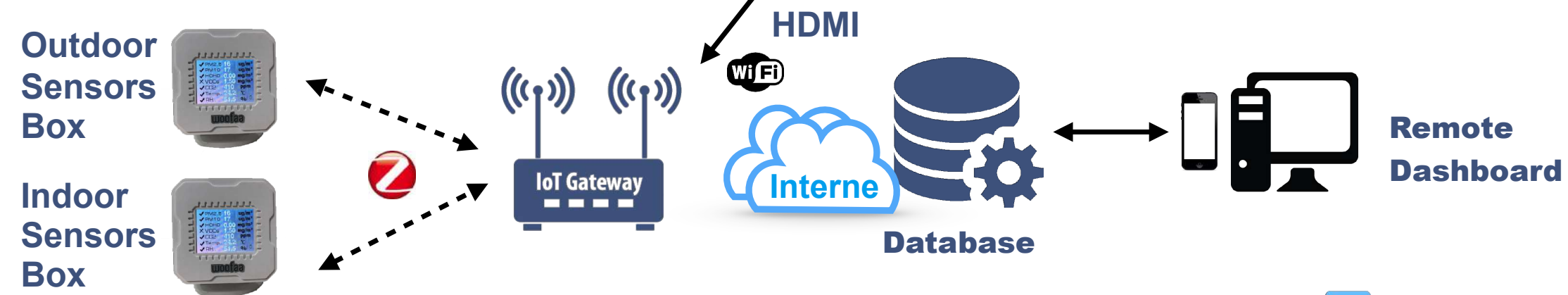


Zetakey IoT Customers and Deployment



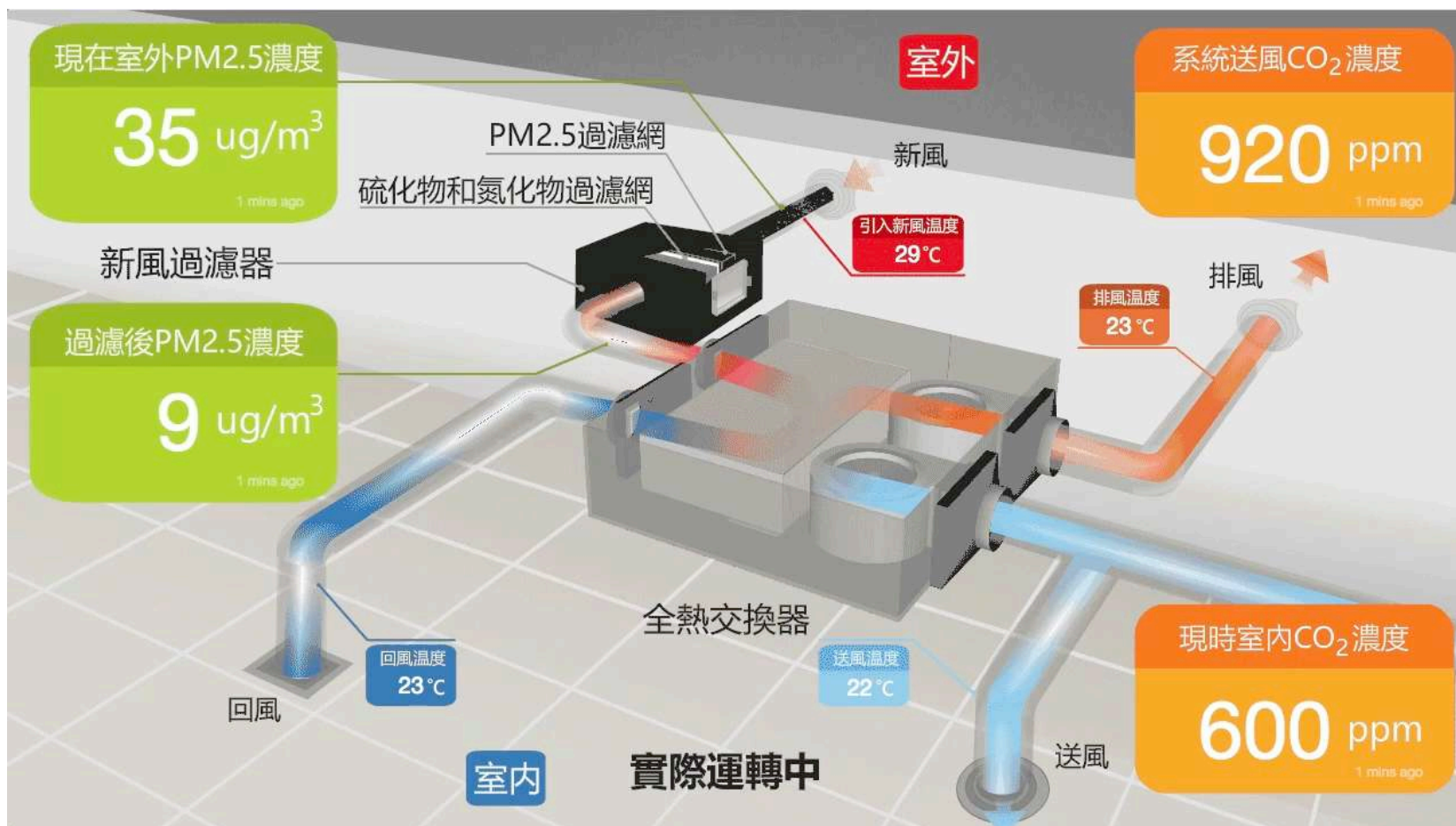


Reference Case: Air Quality Monitoring - Commercial Building



Reference Case: Air Quality Monitoring - Information Kiosk





Live data with animated graphic



Data Processing

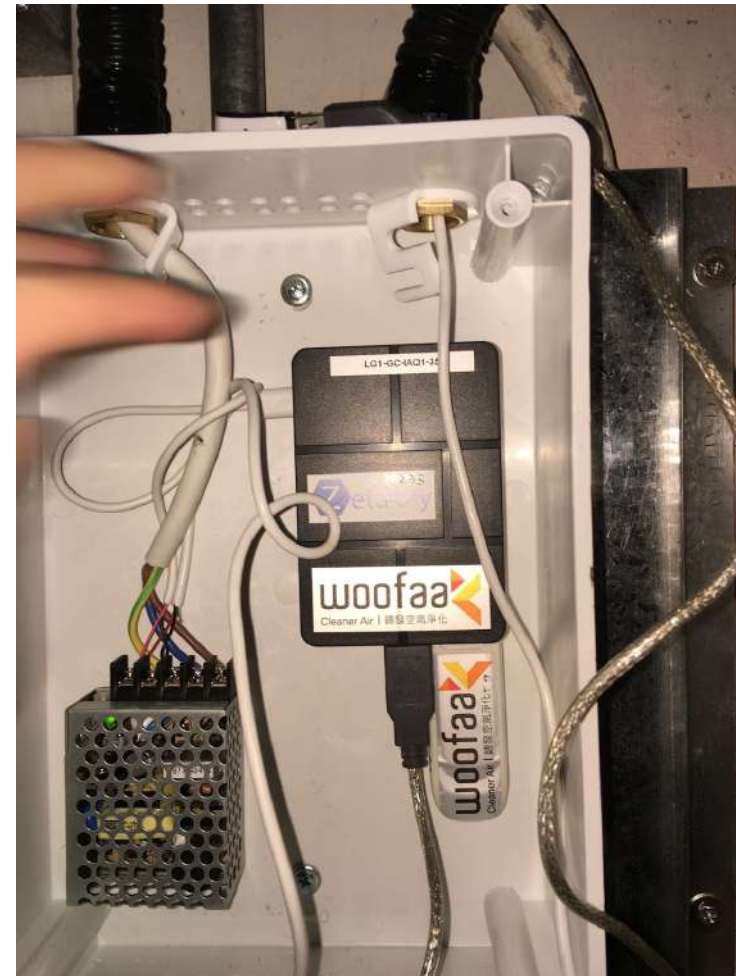
- Record
- Analysis
- Trigger Actions
- Data Distribution
- ...

IAQ Monitoring

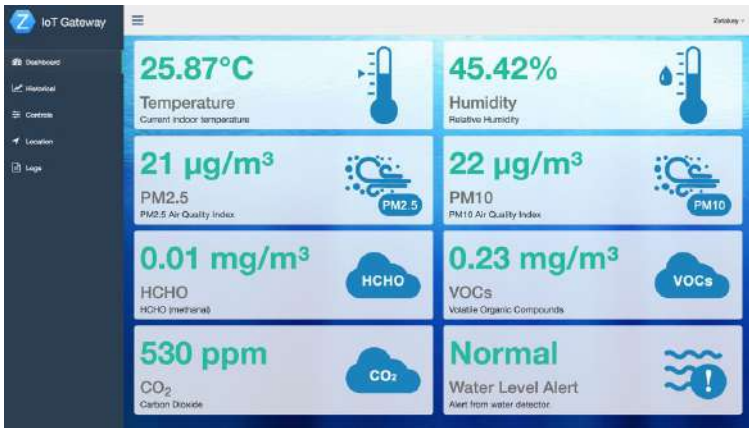
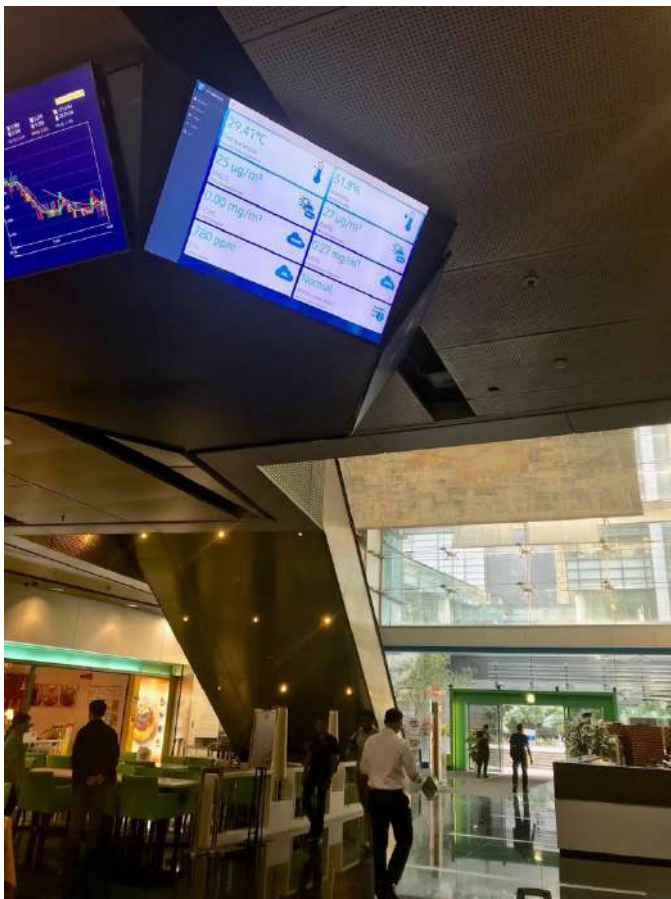
- Property Mgmt
- Job Assignment
- ...



Reference Case: Air Quality Monitoring for Shopping Mall



Gateway Installation



IAQ Monitoring - Algae Wall





Internet



Web hosting
& DB Server



End user remote Access
Dashboard

HTTPS



Wiser
Protocol



Schneider
Electric

Lutron
Protocol



LUTRON

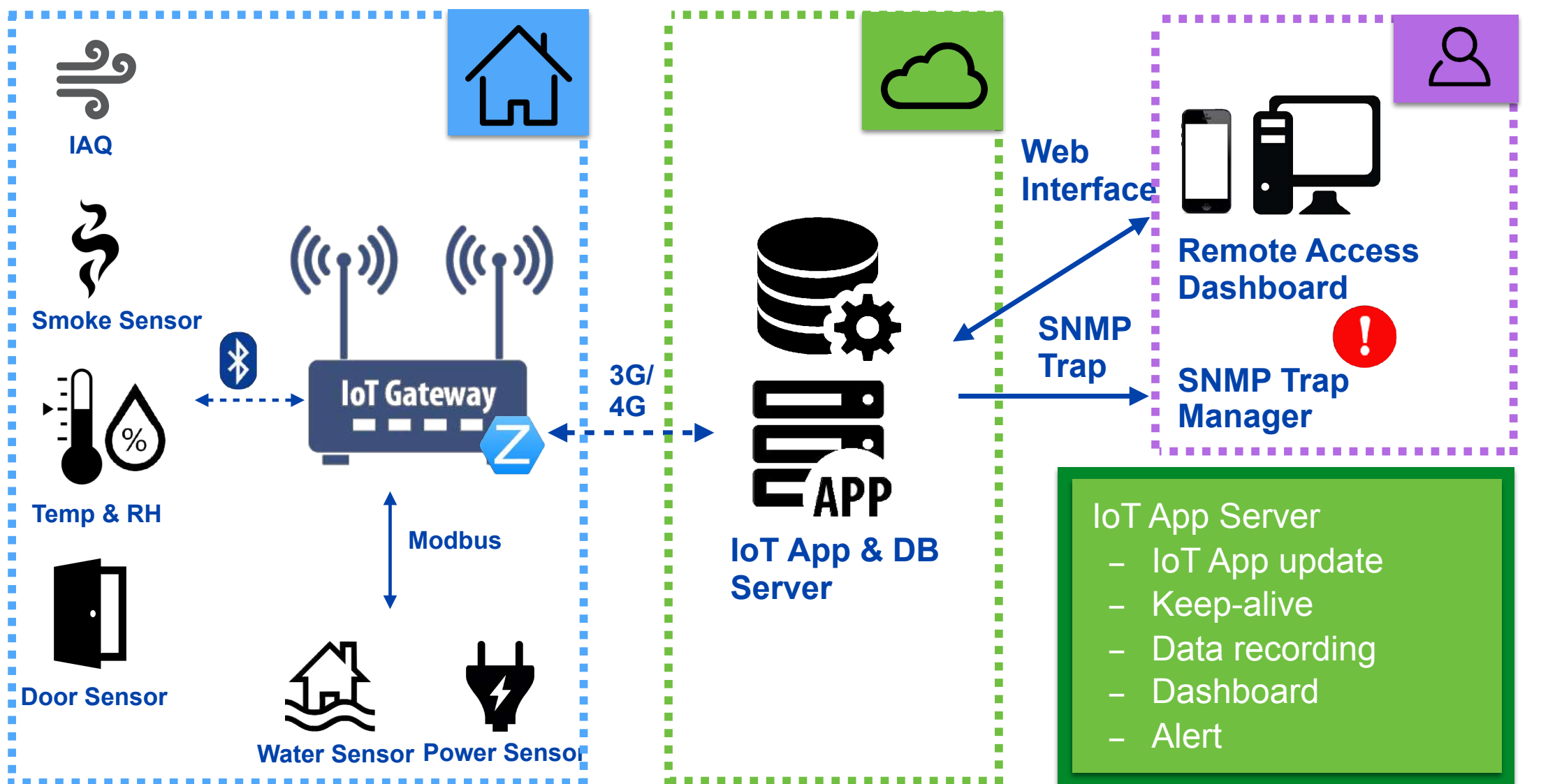


Gateway Middleware

- Lutron, Wiser and Woofaa plugins
- App logic and Rule engine

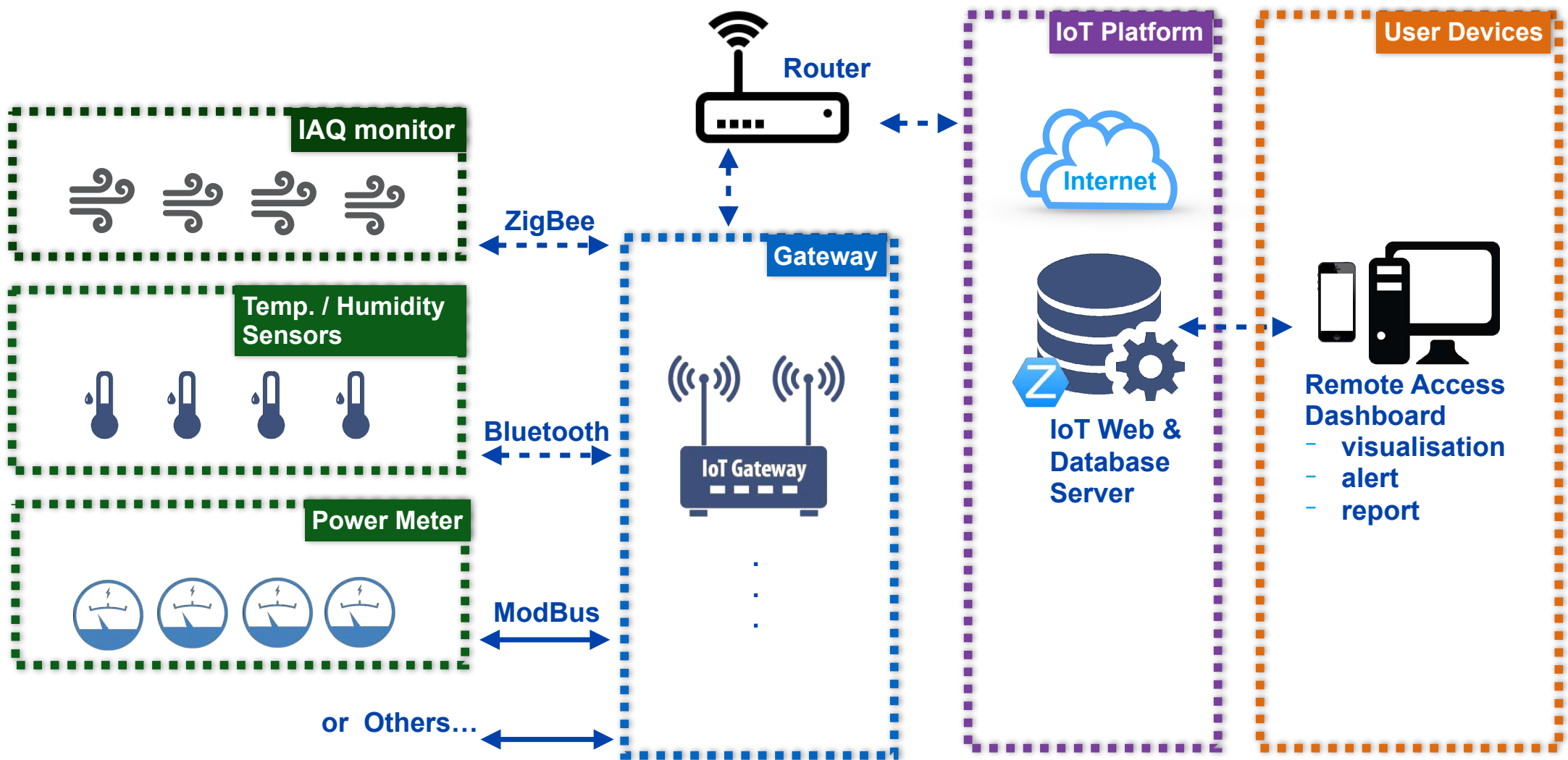
Integration with Existing system

Zetakey



Zetakey IoT: Remote Real-time Building





Environmental Monitoring



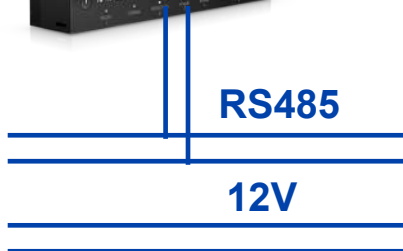
Door Sensor Door Sensor Temp & RH Temp & RH Smoke Sensor Smoke Sensor Water Sensor Water Sensor



3G/4G
Modem



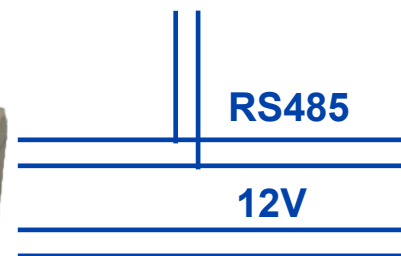
Water Sensor



Power Sensor



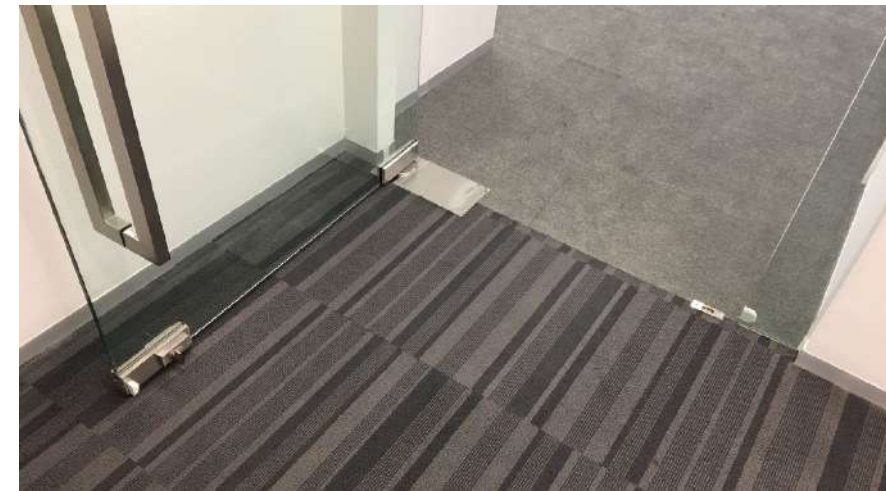
Water Sensor



Power Sensor

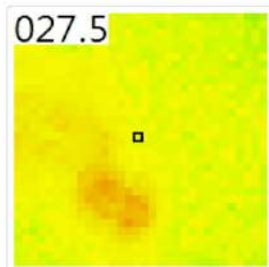
High Availability - Dual System



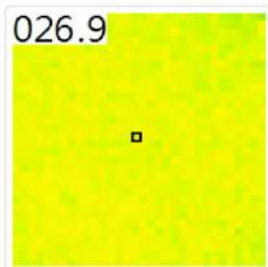


Environmental Monitoring

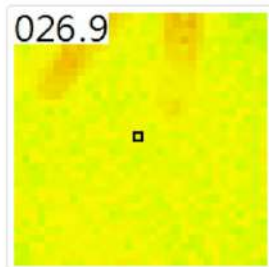




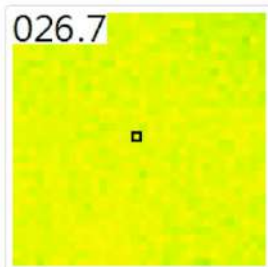
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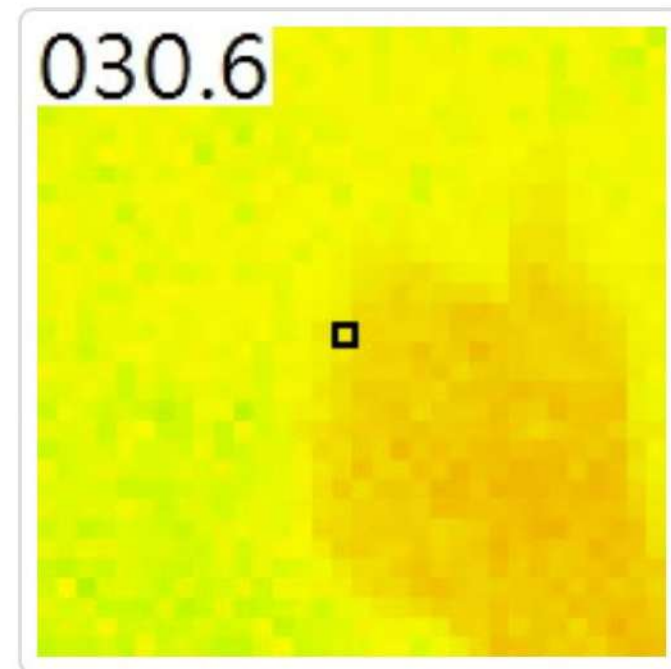
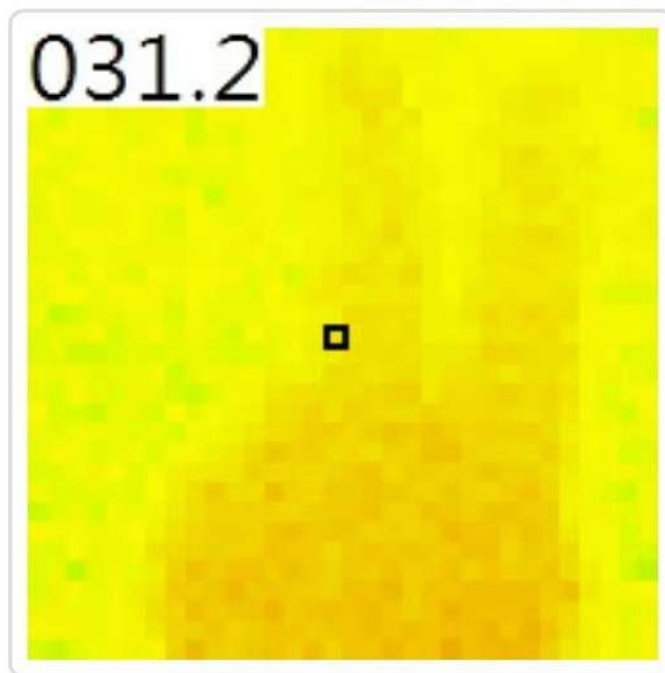
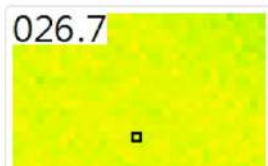
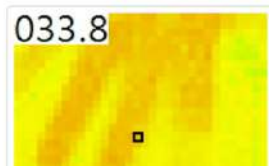
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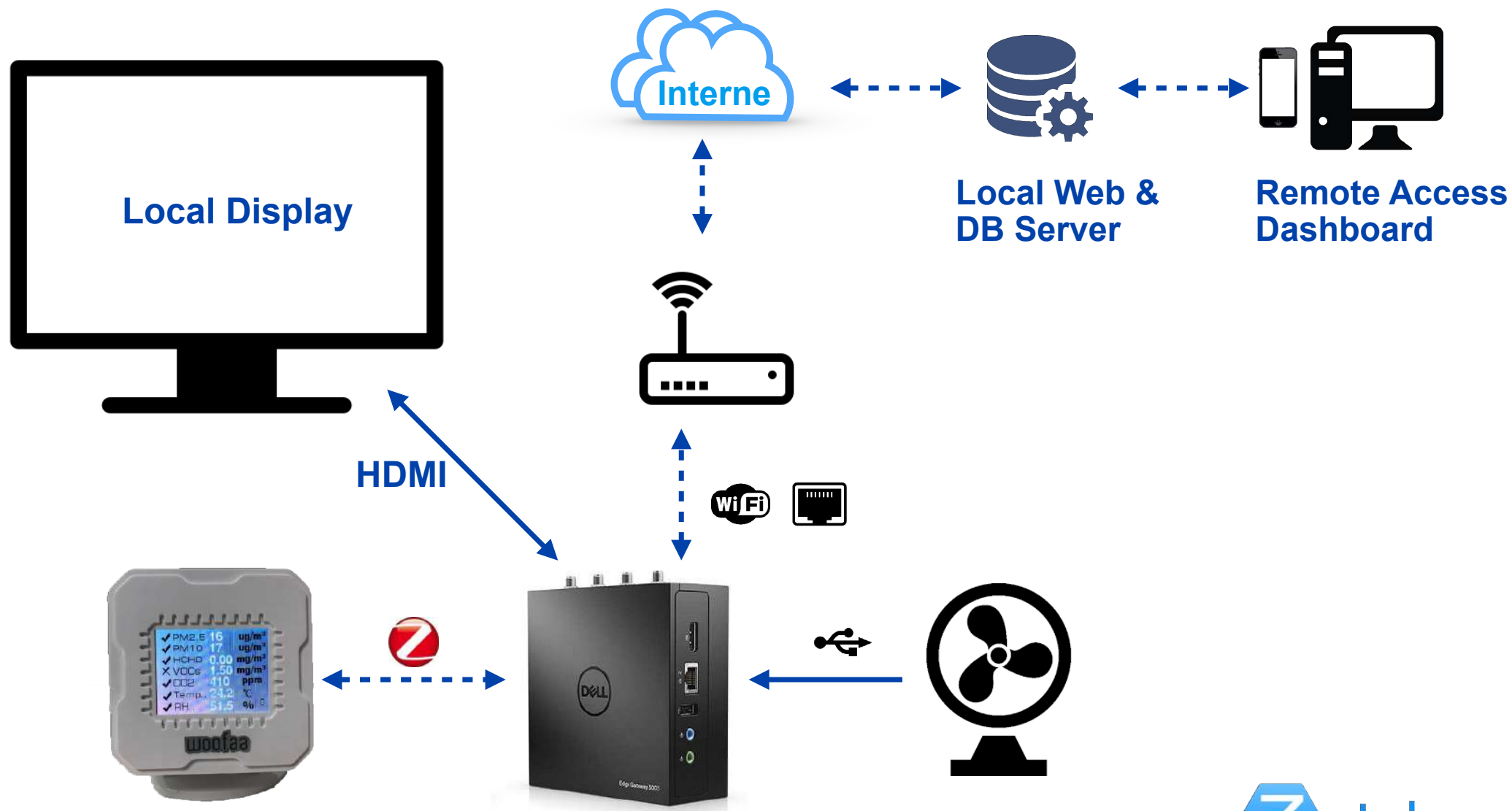
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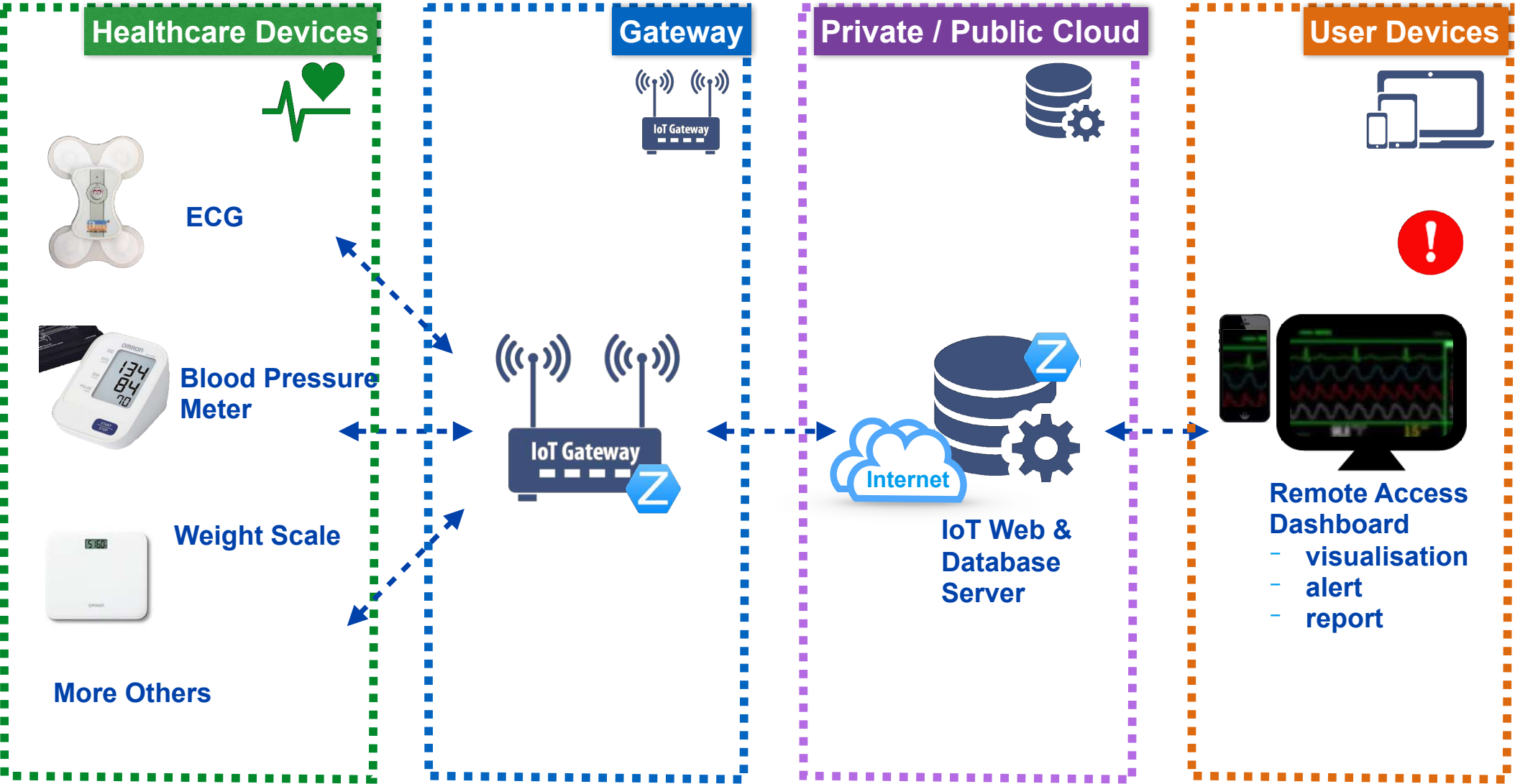
May 03 2018 08:27:42



Thermal Camera for overheat detection



Sense and Control



Patient Monitoring Solutions: Connecting multiple devices and real-time monitoring



Healthcare Devices

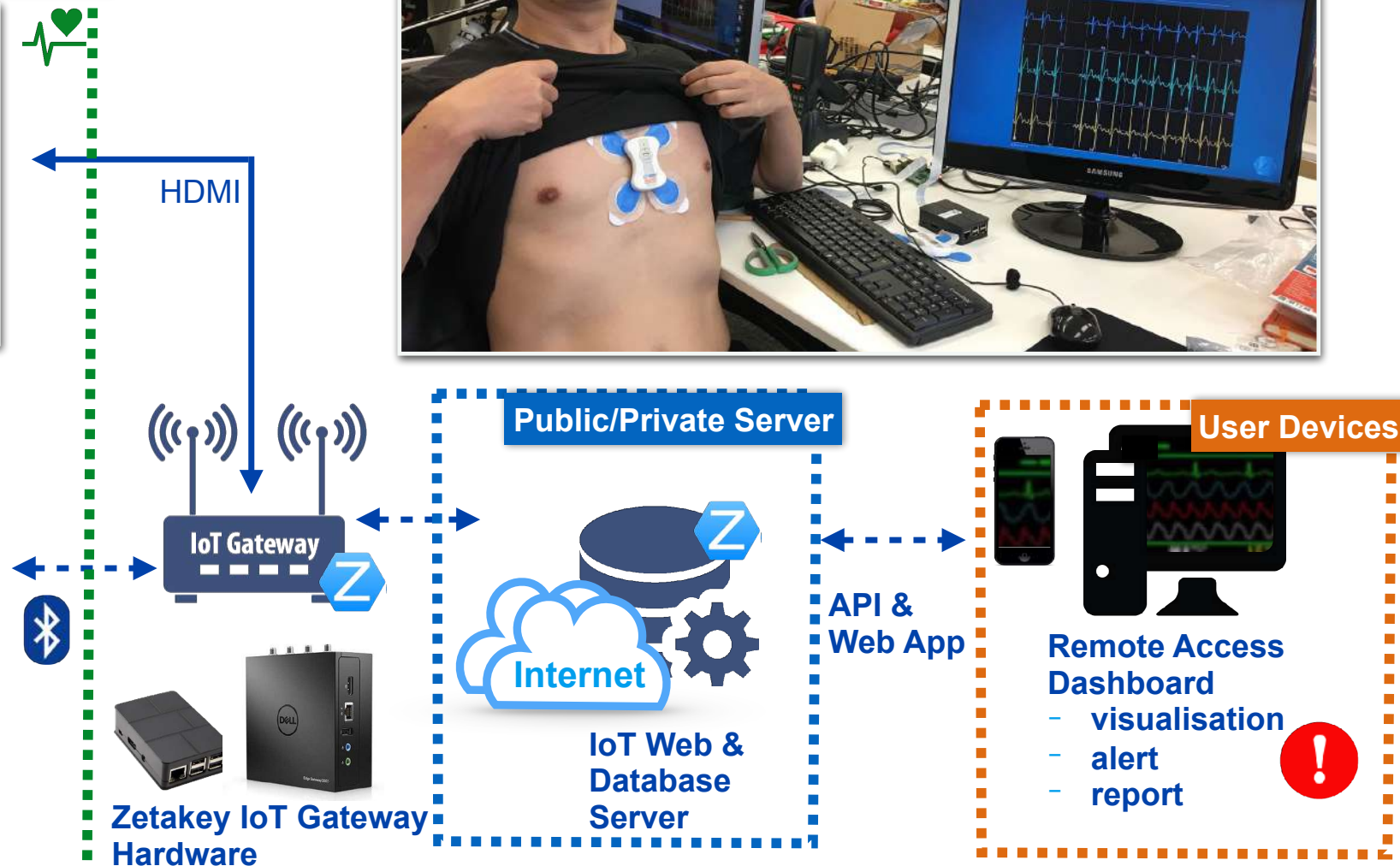
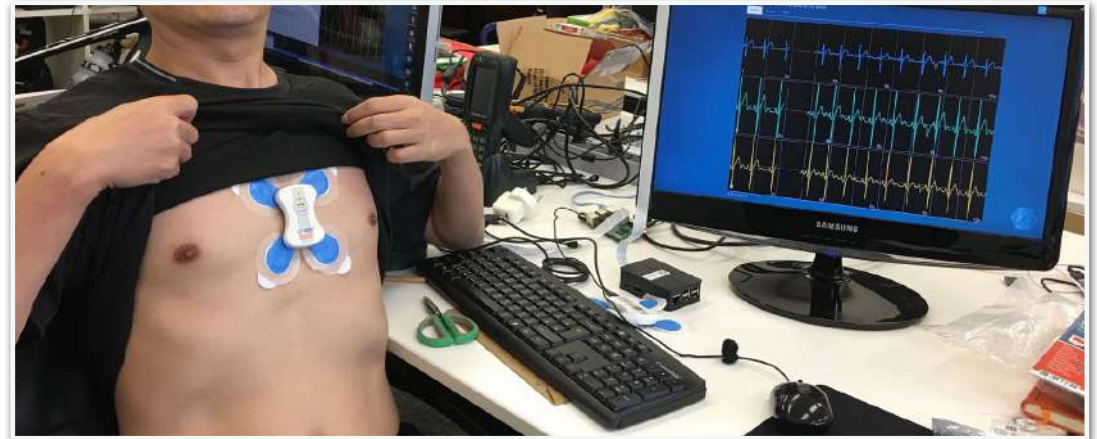


1080p HDMI Monitor



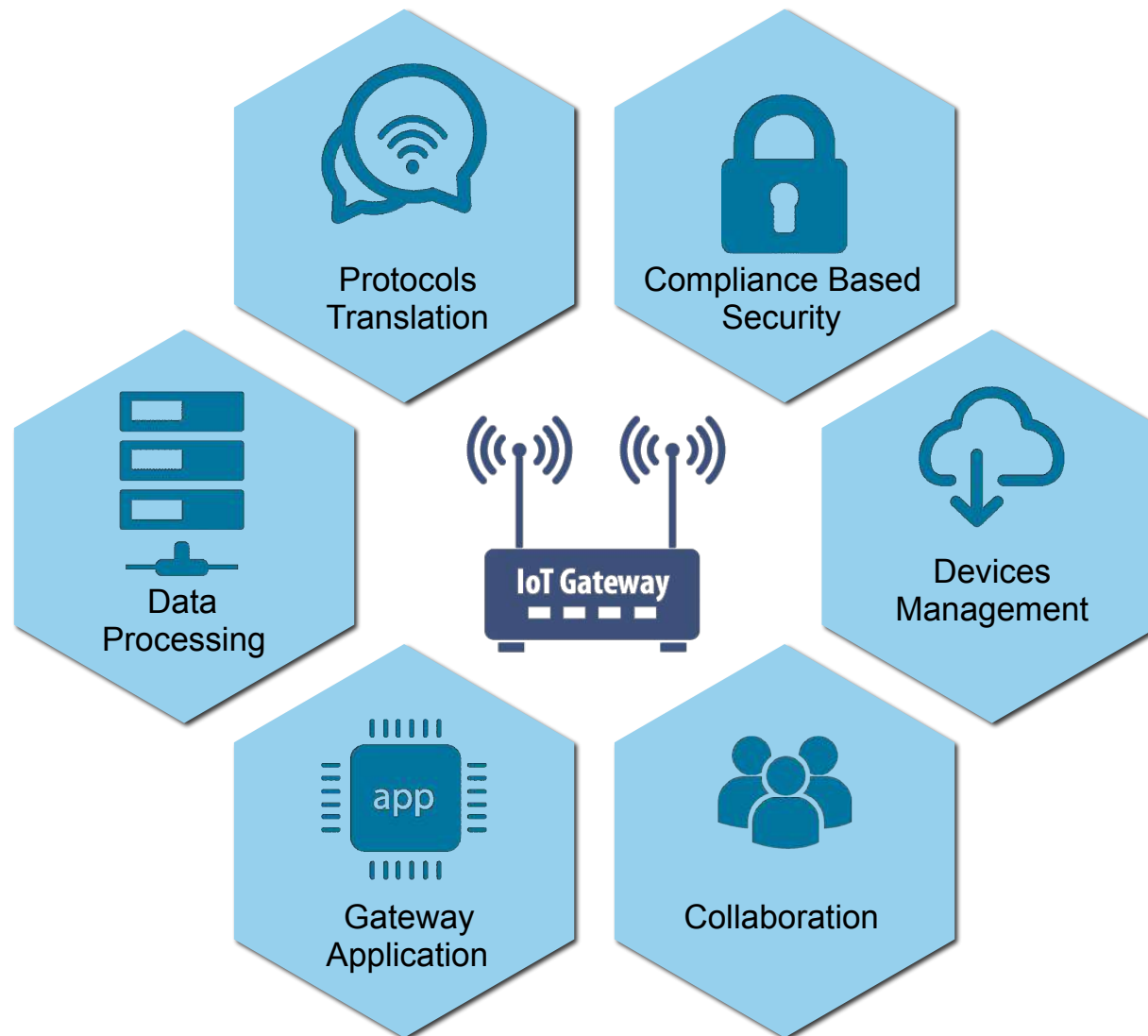
3 Ch ECG sensors

and/or Other devices...



Use Case: Real-time 3 Channels ECG monitoring system and cloud platform





Zetakey Universal IoT Gateway - Edge Computing





Entry-Level



Industrial-graded

Gateway Hardware - Meet different Needs



[illegible]

Edge devices

Blood Pressure Monitor



Weight Scale



and MORE...

ECG



Blood Glucose & Cholesterol



Thermometer



Healthcare devices



Temperature



Indoor Air
Quality



Smoke
Detector

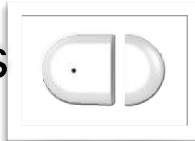


and MORE...

Water Leakage



Door Sensors



PIR



Environment Monitoring

Zetakey

Power
Outage



Water
Leakage



Relay



Fan Coil



Power
Meter



and MORE...

Wired Devices - ModBus RS485, USB



Beacon



Thermal Camera
Module



NFC
Card Reader



Barcode
reader



and MORE...

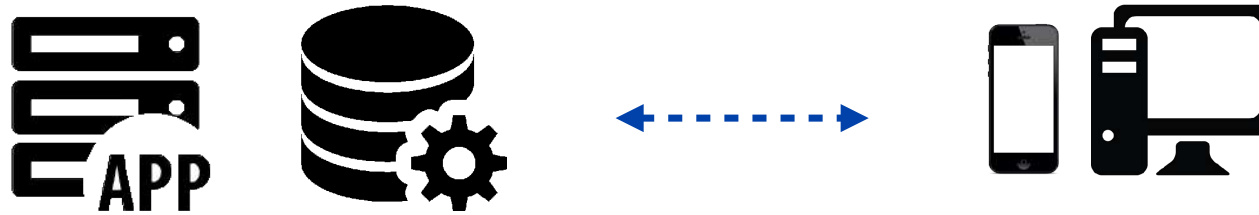
Label : Beacon, RFID, NFC, Thermal Cam, Barcode reader





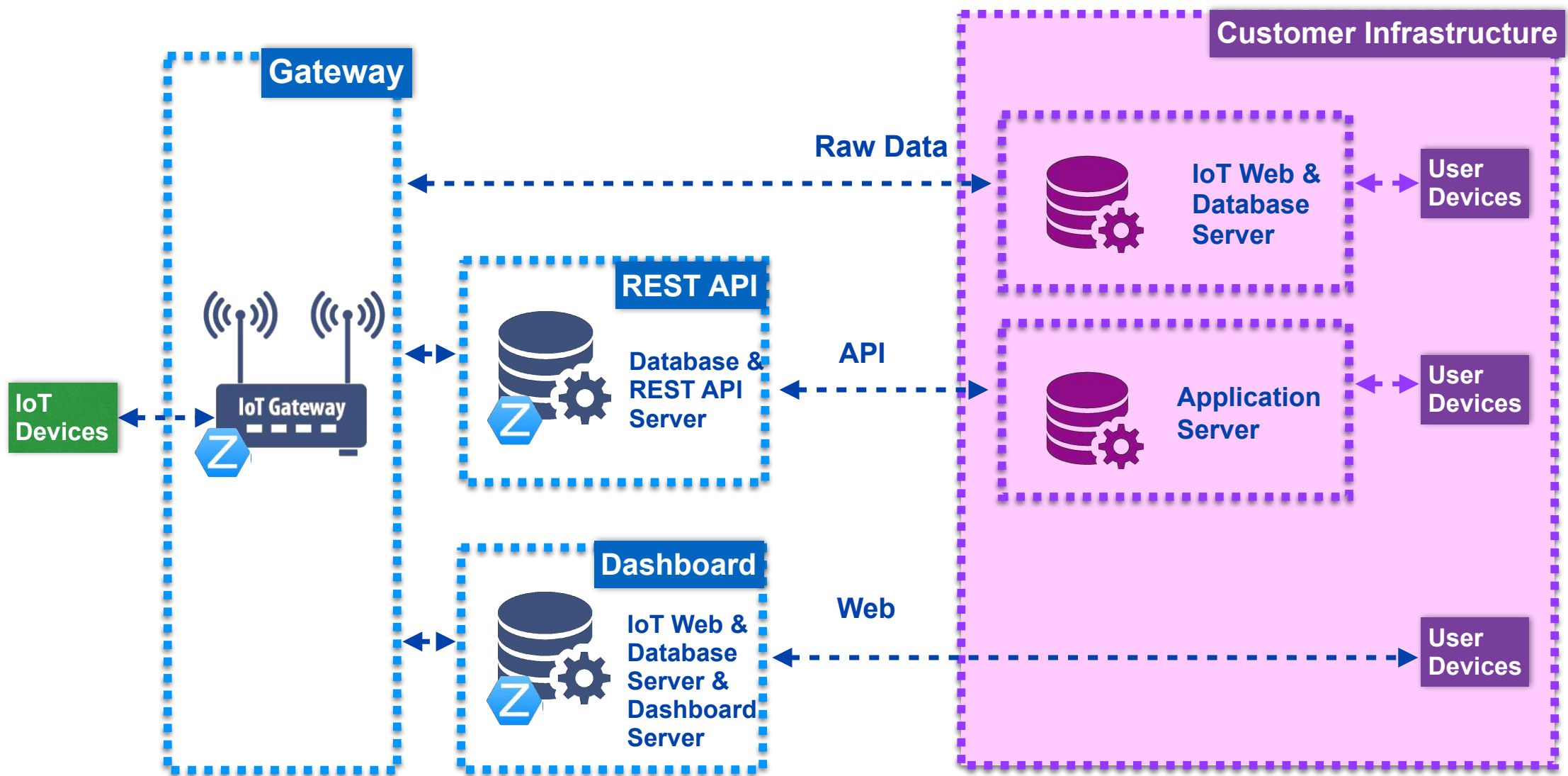
NB-IoT Integration



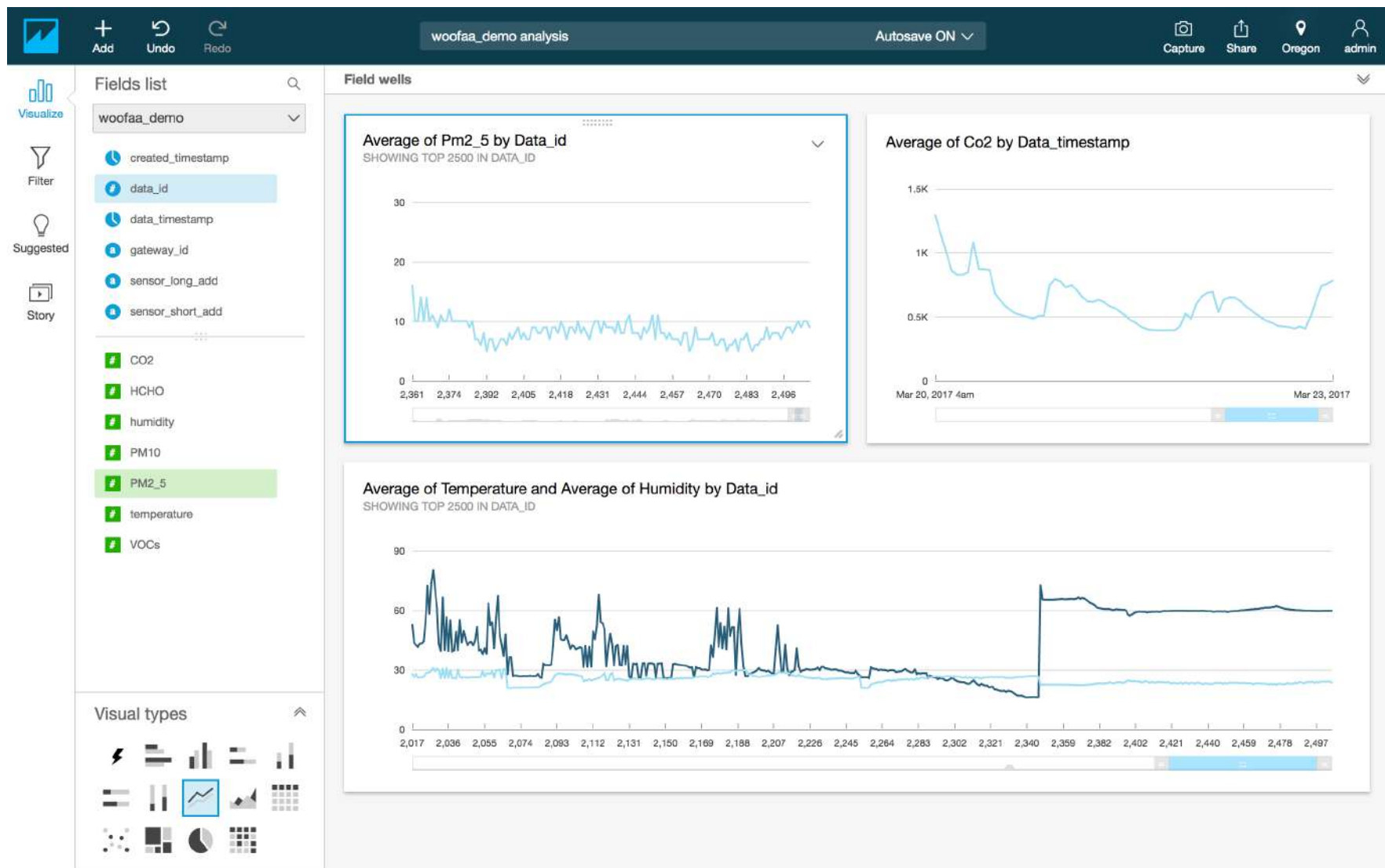


IoT Cloud Platform

- Support Public Cloud (AWS RDS + Quicksight)
- Real-time Streaming data
- Dashboard
- Google Map integration
- Report / Alert
- Gateway / Sensor Management

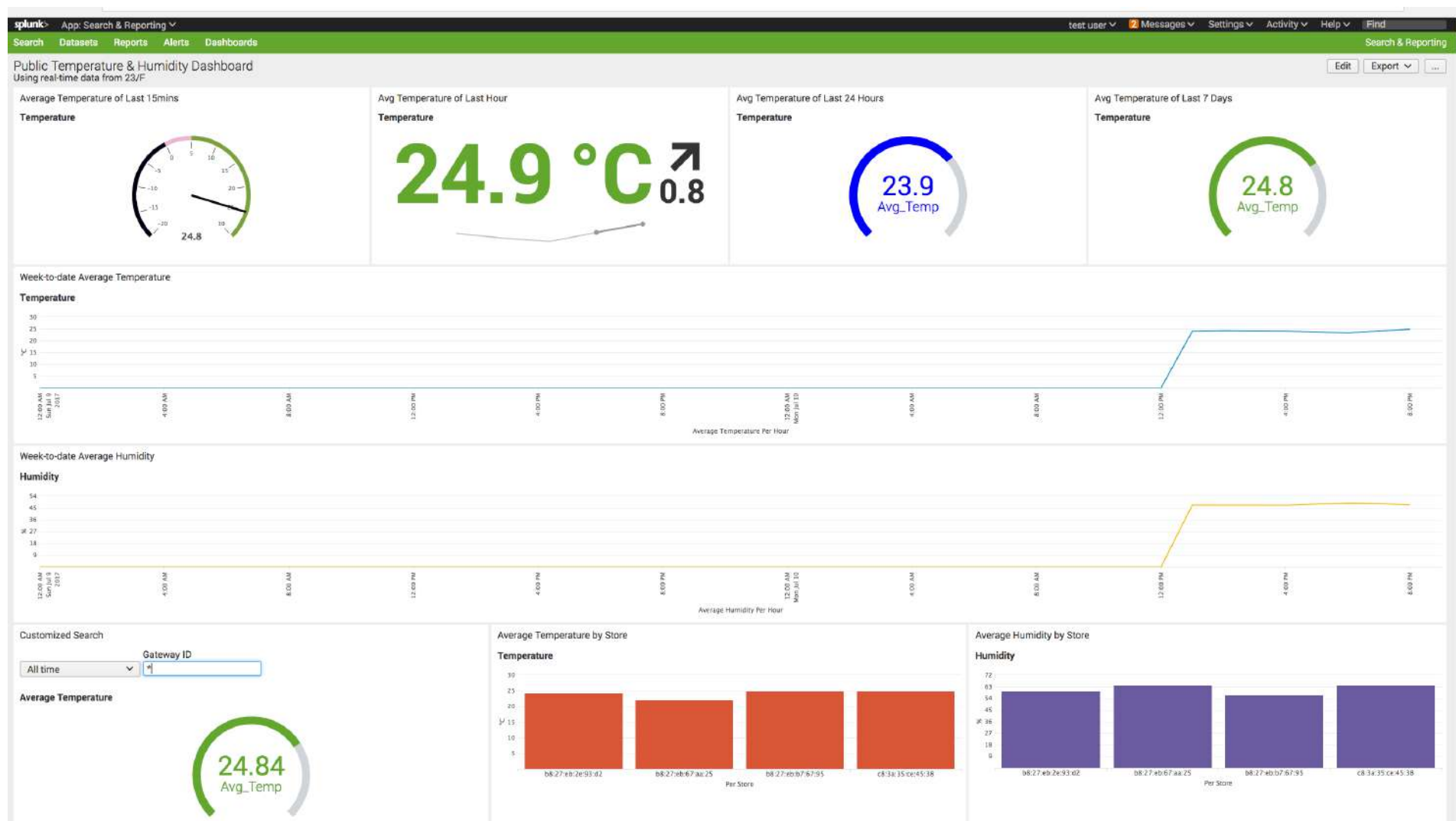


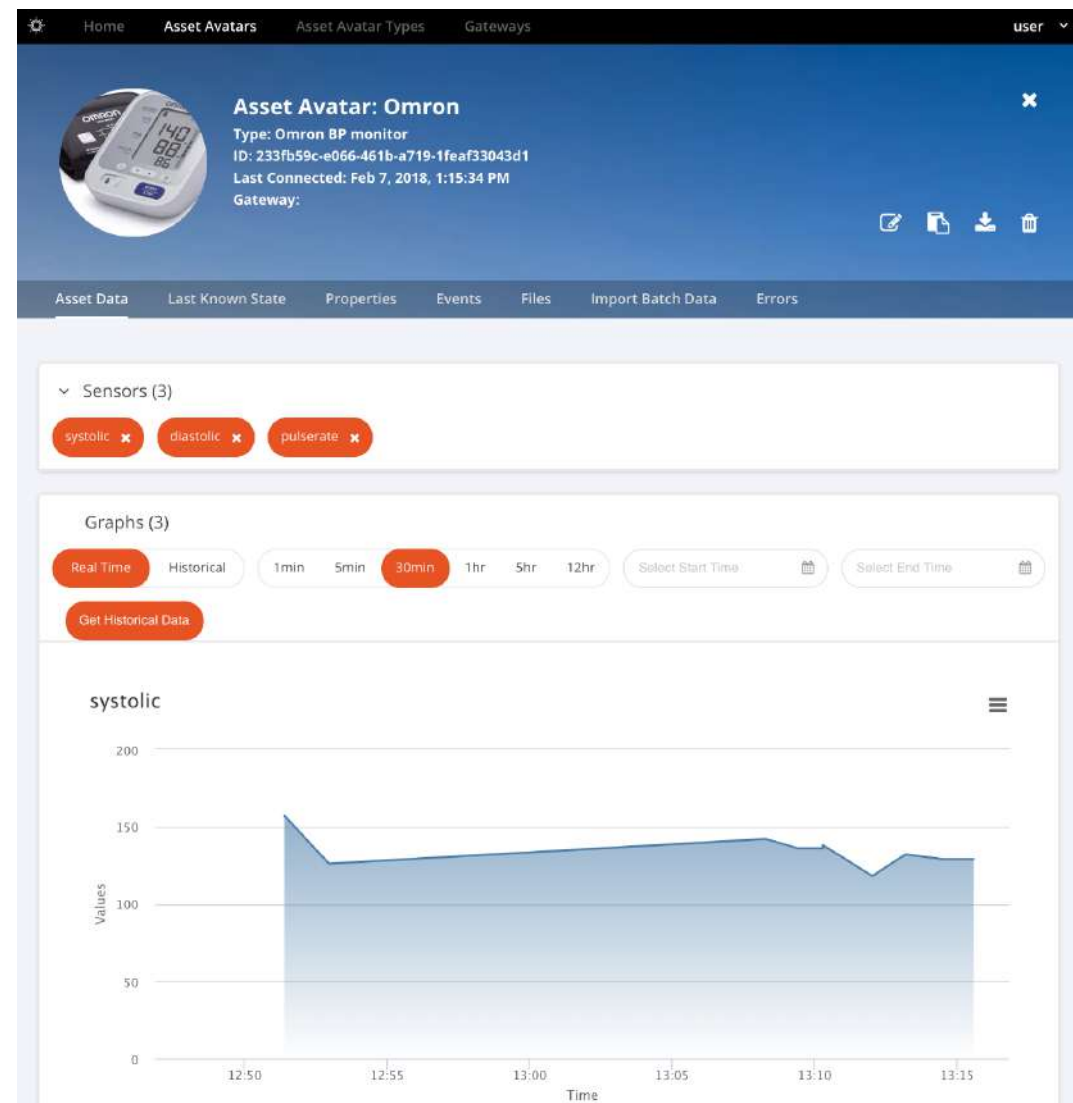
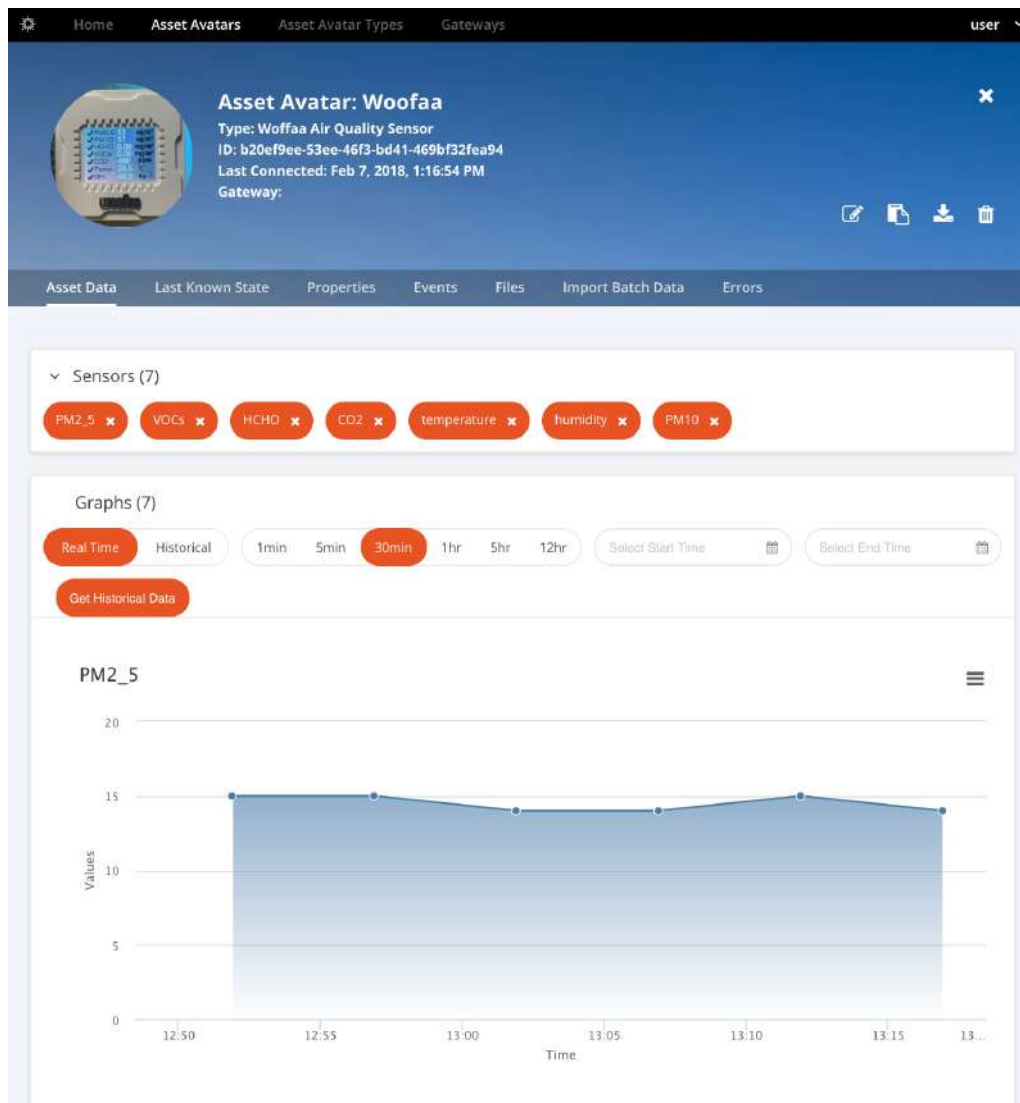
Flexible Integration with customer's infrastructure



AWS Integration: RDS + Quicksight Analysis







Hitachi - Lumada



Real-time Indoor Air Quality

Woofaa Air by Zetakey IoT



8b65e007004b120f



Real-time Dashboard



Design Reference



Ceiling Mounted
Cassette Corner (KITCHEN-USE) - FJEKP

Slim Ceiling Mounted Duct
(With PM2.5 Filter and
Fresh Air Processing) - FJJFP



Outdoor

Temp.

29.17 °C

RH %

58.84 %

Indoor

26.41 °C

66.9 %

Outdoor

PM2.5

185
 $\mu\text{g}/\text{m}^3$

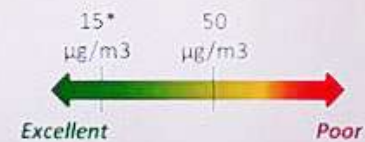
Poor

Indoor

PM2.5

33
 $\mu\text{g}/\text{m}^3$

Good

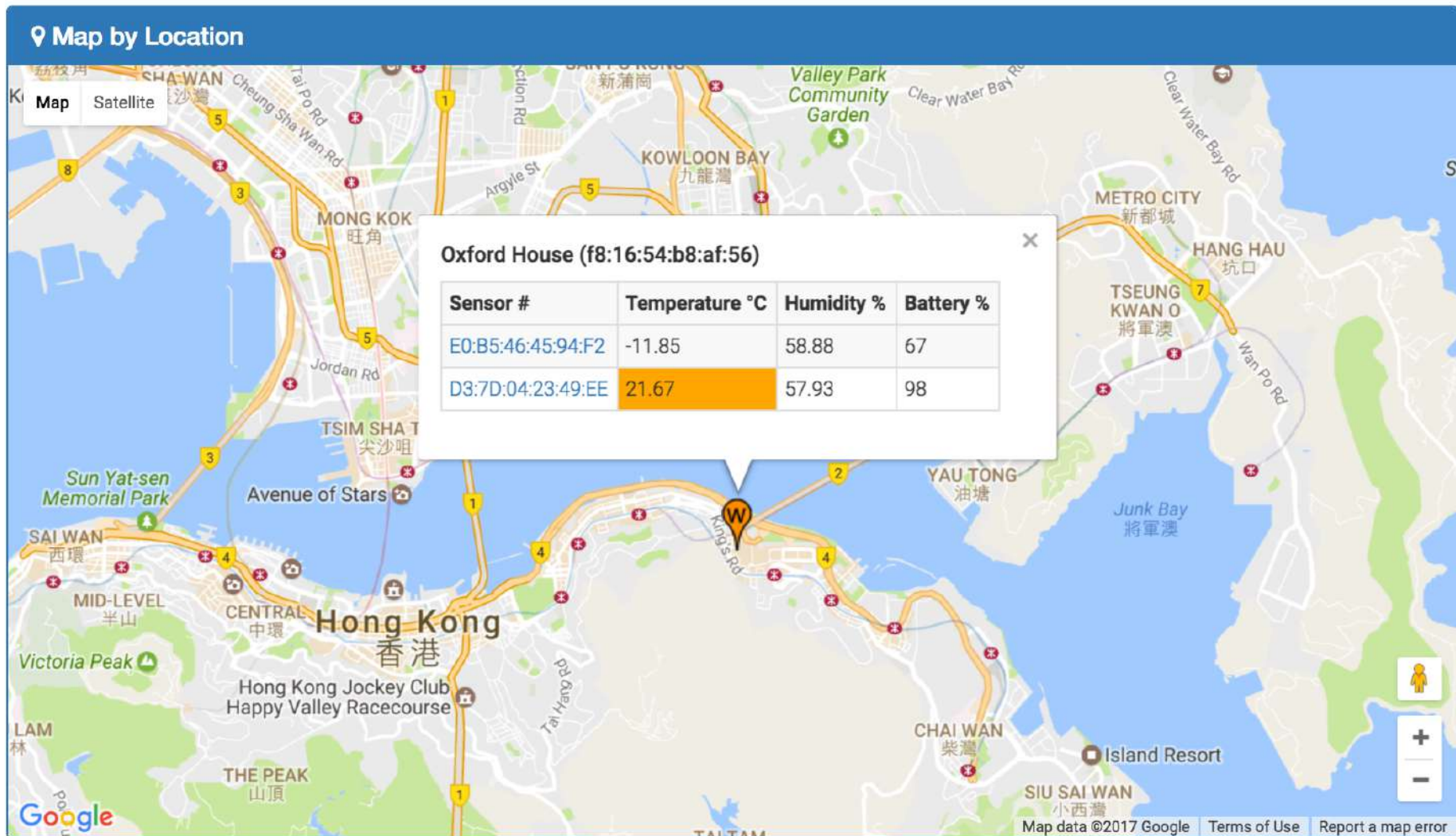


*According to ASHRAE Standard,
which is the strictest in the world.

Woolair Air by Zetakey IoT

Real-time Kiosk

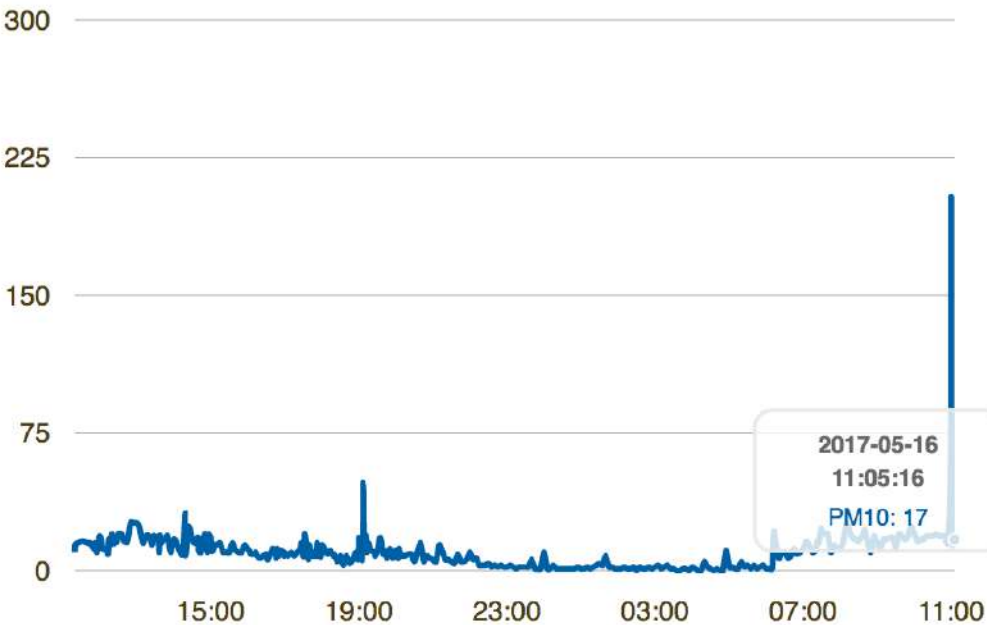




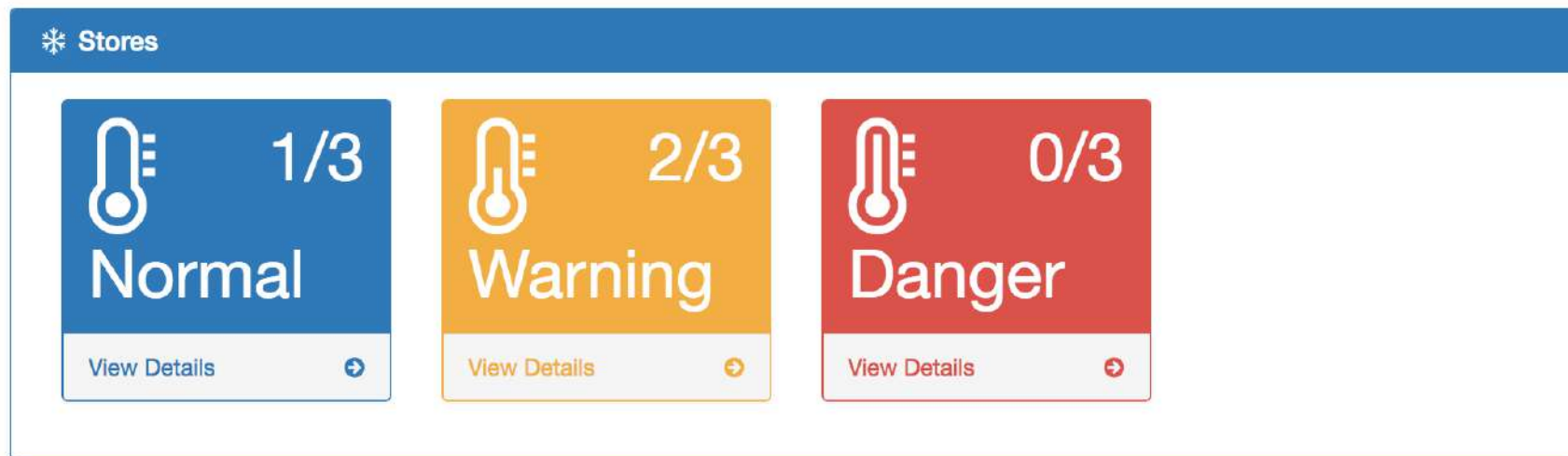
Google Map Integration



Floor Plan by Location (Box 1)

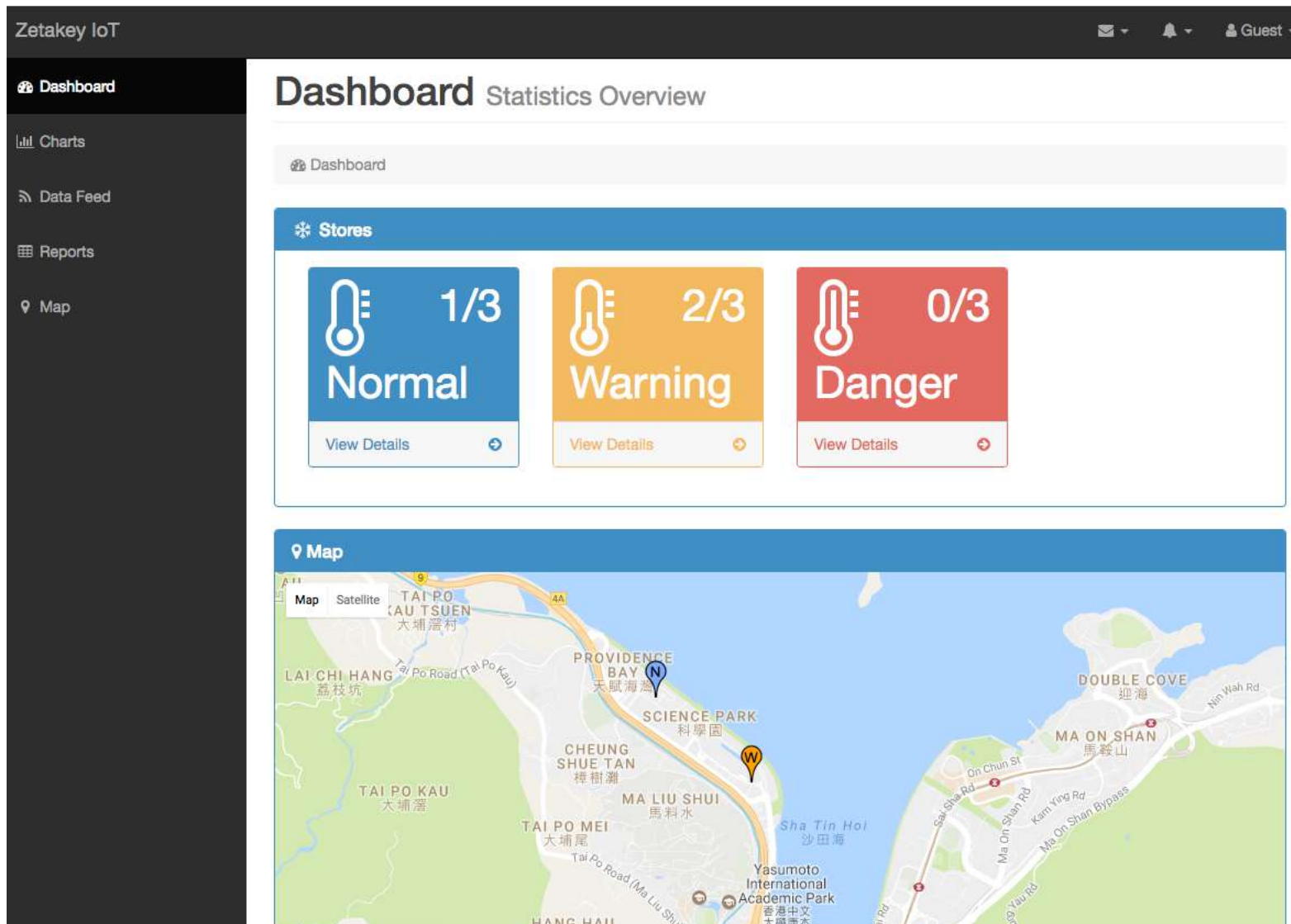


PM10	PM2_5	CO2	Temp	HCHO	VOCs	RH
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Interactive UI





Dashboard



eanliness

38

4 minutes ago

GOOD

INDOOR PM2.5 (µg/m3)

CO2

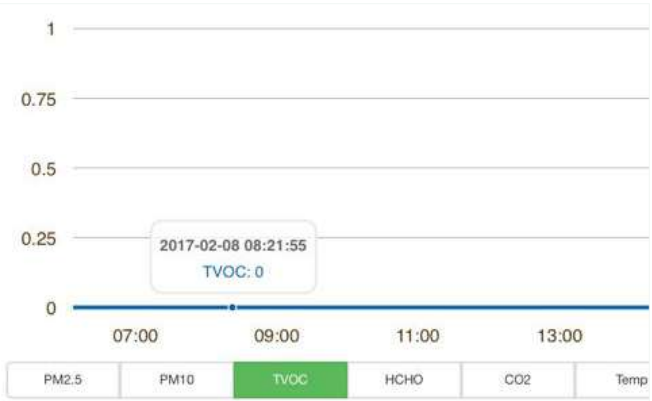
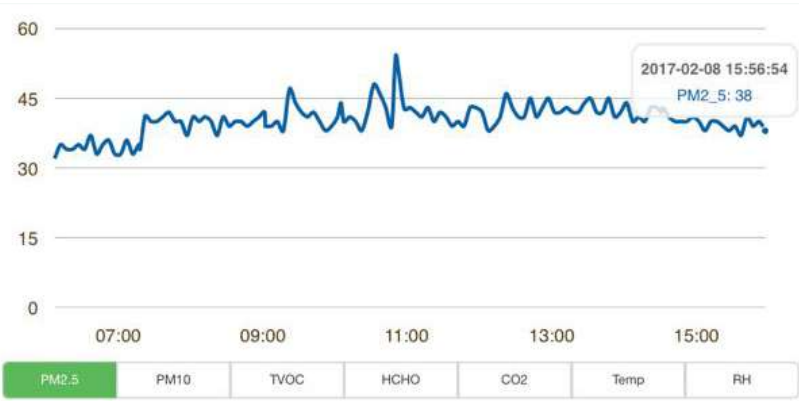
480

Temp

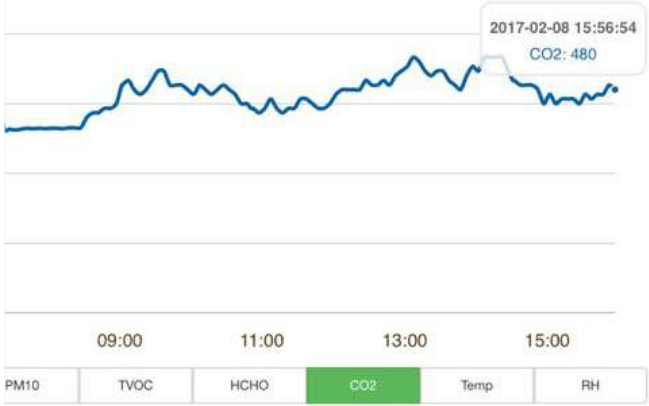
18.63°C

RH

66.36%

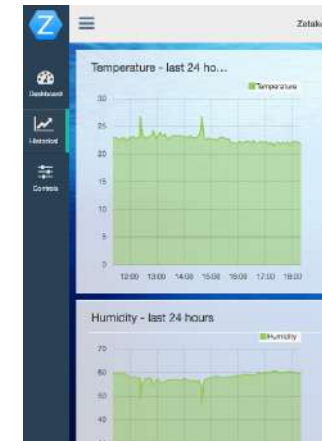
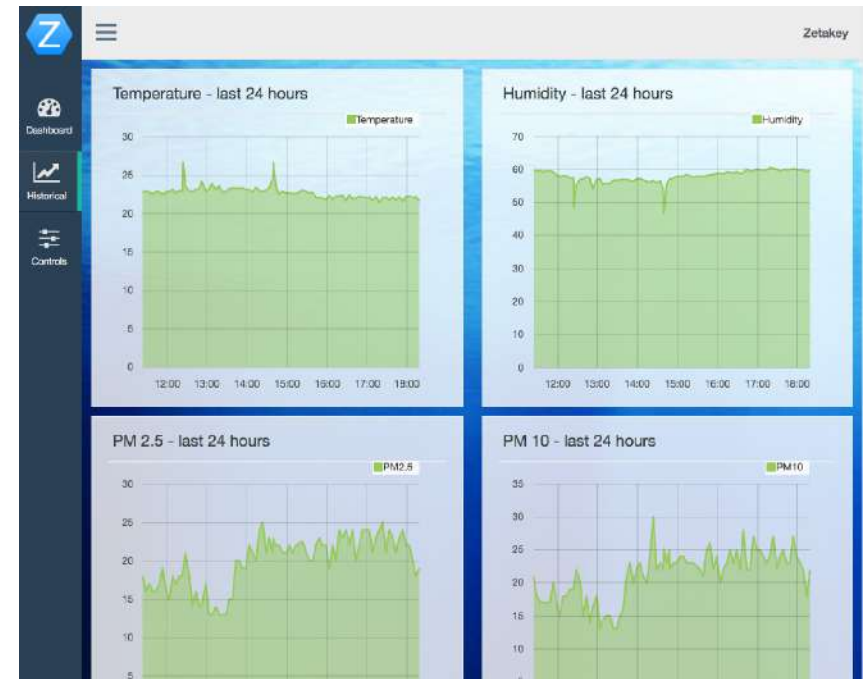
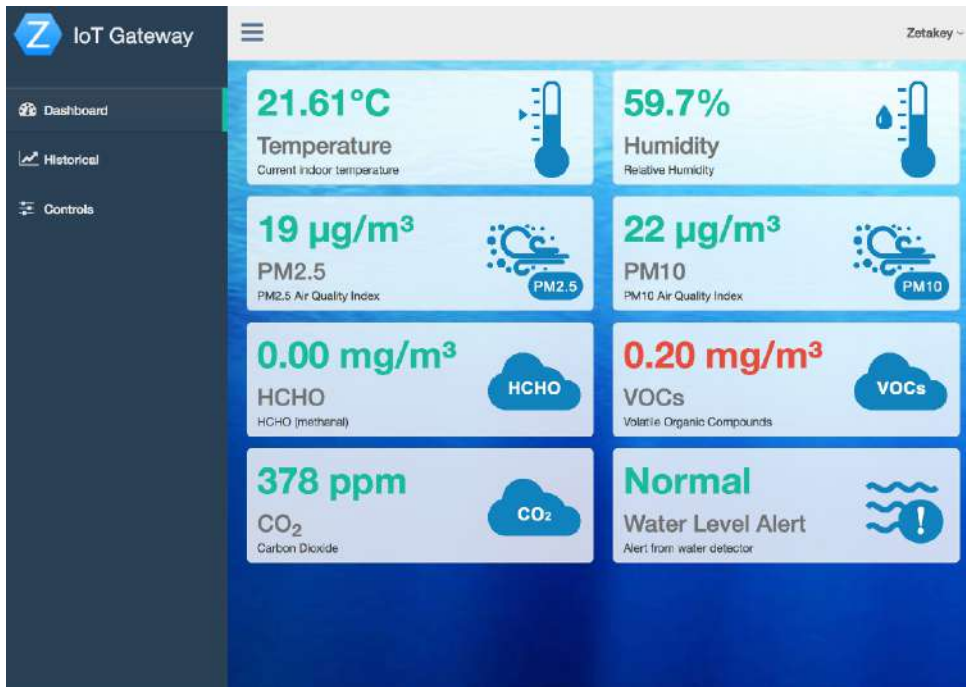


WOOFAA Air - Empowers Your Knowing



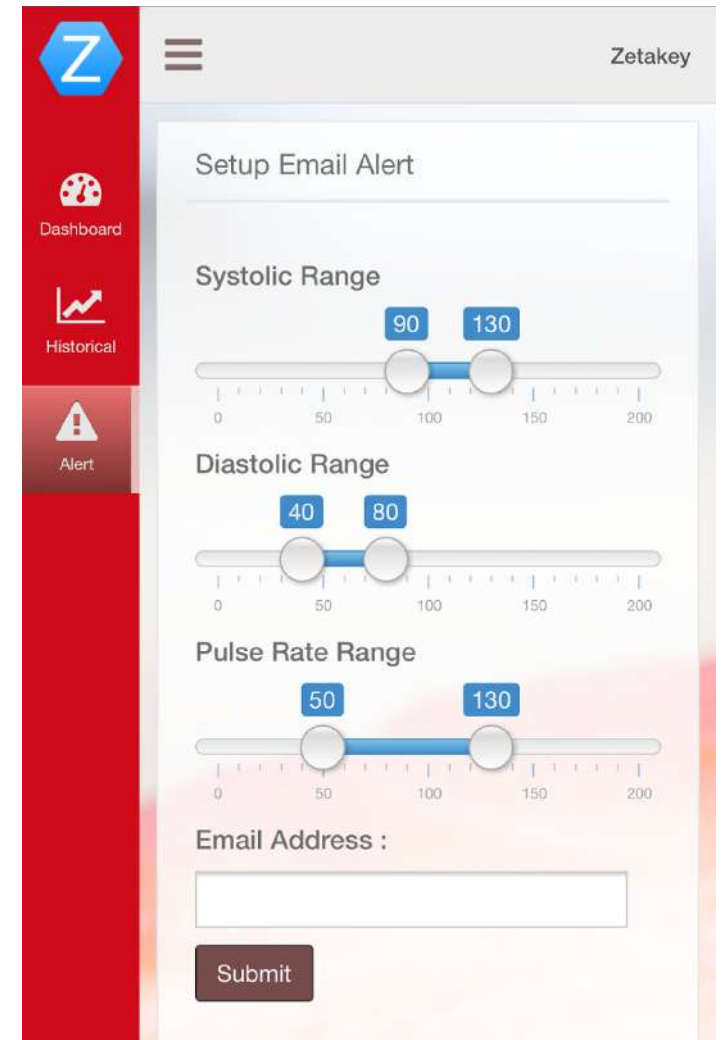
Real-time data





Responsive User Interface





Email and SMS Alert



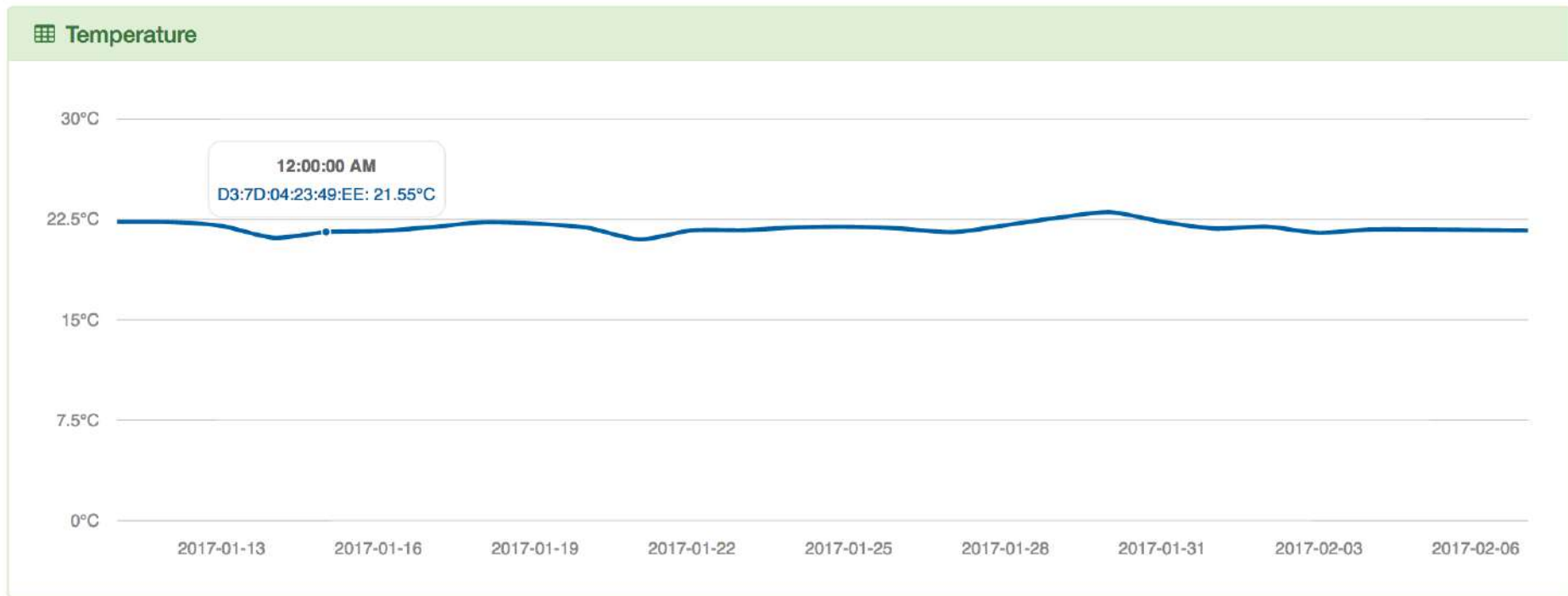
Gateway Service					
Show 10 entries					
Search:					
Gateway ID	Gateway Flag	Location	lat	Ing	Edit
f8:16:54:b8:af:56	1	Oxford House	22.2871175	114.2114357	edit remove view
b8:27:eb:e2:32:c0	1	Zetakey Office 1	22.43094886530105	114.2052055884162	edit remove view
c8:3a:35:ce:45:38	1	Zetakey Office 2	22.42486380662911	114.2126695750298	edit

Sensor Service					
Show 10 entries					
Search:					
Sesnor ID	Sensor Flag	Temperature Flag	Humidity Flag	Battery Flag	Edit
E0:B5:46:45:94:F2	1	N	N	N	edit remove
D3:7D:04:23:49:EE	1	W	N	N	edit remove
D3:52:23:50:5B:A1	1	N	N	N	edit remove

Oxford House January 11, 2017 - February 9, 2017

× D3:7D:04:23:49:EE ×

Sensor #	Temp °C (Min)	Temp °C (Max)	Temp °C (Avg)	Humidity % (Min)	Humidity % (Max)	Humidity % (Avg)
D3:7D:04:23:49:EE	19.79	29.19	21.93	50.76	66.87	58.17



Historial Data



Thank you!

jack.wong@zetakey.com