# Conlink Smart Campus



# What is Smart Campus ?

• Smart Campus Overview

# Intelligent Terminals Consist of IoT Smart Campus



# Intelligent campus management & More efficient teaching



## Smart Campus Application Classification

Student Health Inspection			Smart Teaching	Class Management	
Self service detection and reminder		Motion monitoring	Class Interaction	Attendance	
Heart rate health data	Sleep quality	Step statistics	Marking System	Intelligent class card	
		Distance statistics	Assignment		
Water clock	Sedentary reminder	Calorie statistics	System		

#### **Campus Management**

Security Management			One-card	Smart Portal	
No perceptual attendance at school gate	Positioning	Hazardous area monitoring	Consumption	Entrance check	School-family App
Bracelet message receiving	Leave management	Health data collection	Door lock	Library pass	Wechat, Whatsapp

• Smart Campus Network



#### • Smart Campus Scenario



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# Smart Campus Equipment

#### • Network Diagram



## 2.4G RFID Tag



- Dust-proof and waterproof grade IP66;
- 3 button battery, 450mAh, available for more than 3 years;
- Supports 13.56MHz and 2.4GHz dual bands. The 2.4 GHz band is mainly used for long-distance identification, and the 13.56 MHz band is used for close-range payment functions or other identification functions;
- The two-in-one identification card has 13.56MHz and 2.4GHz dual modules. The three-in-one card adds a detachable built-in 4FF card slot on the basis of the two-in-one card. The gold finger on the card is led out through the adapter board to reduce SIM/UIM. Card loss and wear;
- 13.56M module is used to implement the M1 application. The space is 1 KB and the built-in 16 sectors are compatible with the M1 consumer terminal.

#### 2.4GHz Smart Bracelet



- Waterproof and dustproof grade IP67.
- Core chip Nordic 51822;
- 80mAh polymer rechargeable battery;.
- Adopt 0.66-inch OLED screen to support touch operation.
- Built-in 2.4GHz module to realize 2.4GHz long-distance attendance and positioning.
- The message information can be delivered through the 2.4GHz module.
- Built-in vibration motor, heart rate sensor, three-axis acceleration sensor.
- Built-in 13.56MHz module, which can be smoothly compatible with campus card application.

#### Student Response Keypad



- 1.65 inch LCD display.
- Full digital keyboard, supporting complete digital input, can support quiz, vote, performance score and etc.
- It is slightly longer than ordinary IC cards.
- Adopt 2.4 GHz module enclosed secure wireless network.
- The maximum output power is 1mw, which is harmless to students.
- Communication distance is 30m, which meets the needs of K12 classroom students.
- Built-in 13.56MHz module, can smoothly compatible with campus card applications.

#### Attendance Long-distance Reader



The communication module has the functions of strong electric shock resistance and lightning protection, and the communication process is safe and reliable;

 The shell has waterproof function, with waterproof and dustproof grade of IP65

2.4G long-distance identification technology can identify more than 500 identification cards at the same time, with recognition distance up to 100m.

RS-485 interface, power and data integration wire design

#### Ceiling Position Reader



- Used for indoor positioning application of meter level demand
- Small design, easy installation
- The standard RS485 interface is used to connect with the switch
- It adopts circular polarization mode with built-in communication module to resist strong electric shock and ensure fast, reliable and complete data acquisition
- Maximum output power 1MW ;
- More than 200 positioning objects can be positioned at the same time

#### Switch Board



- Designed with aluminum alloy casing.
- 128x32 monochrome LCD display.
- ARM CorTexTM-M4 Core CPU, clocked at 180MHz.
- Linux operating system.
- Built-in SRAM, 256KB+8G storage space.
- 4 RS-485 interface.
- Ethernet interface, wifi module, 3G/4G communication module.

 Built-in 1100mA polymer lithium-ion battery (expandable battery capacity).

Power supply, system status indicator.

## Public Family Telephone



- Metal shell, explosion-proof.
- 3.5-inch LCD color screen, resolution 320 \* 240.
- Long life button, corrosion-resistant, rain proof, high service life.
- IP54 of water-proof and splash proof.
- Special engineering plastics with strong impact resistance and tensile strength over 200kg.
- Strong anti-interference and clear sound quality.
- GPRS / CDMA 1xlte 4G industrial module design is adopted, which conforms to relevant technical specifications issued by MIIT and operators

 After the identification card is inserted in the matching phone and removed from the phone, it can realize the function of family communication on campus

 Built in 13.56M card reading module, which can realize close attendance and swiping campus family phone



# **Smart Campus Solutions**

1. Campus Attendance Solution



#### Campus Gate Attendance Record





# **Gate Attendance**

When students wear smart terminals in and out of the school, the attendance information can be monitored and automatically entered, and the parents of students can receive the information of entering and leaving school pushed by mobile phones.

#### Campus Gate Attendance Solution

#### Message/App to inform the parents for attendance at school.

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Sir/Madam, Your kid has arrived school at 8:25am on 26/7/2018. 2. Campus Positioning Solution



## Campus Positioning Solution



#### **Campus Positioning**

In the corridor of the teaching building and the teaching building, the ceiling type recognizer is arranged to cover the teaching building. Then students wearing the 2.4GHz smart terminals in the recognition range can upload and distribute information, and view the position of students in the background system.

#### Campus Positioning Interface



#### **Student position & track**

When a 2.4GHz smart terminal are under two recognizers, the two recognizers will receive the data packets sent by the terminal at the same time. The platform judges the position information of the terminal through the RSSI value. 3. Campus Family Call Solution



## 4. Message solution (only for bracelet)

The school management sends messages to students through the platform system and those students who wearing bracelet can receive and view messages as long as they are within the scope of recognizer.



Students' parents can send messages to them through the link App. As long as students are within the scope of recognizer, they can receive message and view it.



## 5. Health Data Solution



#### Student Leave Management Solution



## 6. Classroom Management Solution



# In (Out) Classroom Attendance Monitoring



#### **Classroom Attendance Supervising**

Support to supervise the attendance status of students in the class as a teacher. The head teacher can supervise the attendance status of all the students in the class at any time. According to the attendance information of all the students, we can quickly know the situation that the students are late and leave early to help teachers manage the class. 7. Class Interaction Solution



#### Student Response System

Break the one-way cramming teaching mode, help teachers to accurately and timely grasp the learning situation of each student in the class, timely adjust the teaching progress and direction, so as to improve the efficiency and quality of classroom teaching. The solution provides a variety of interactive activities between teachers and students, such as race to answer, changes the single teaching method in the classroom, stimulates students' interest in learning and participation in fun.

## 8. One-card Solution



## Campus Consumption Record





#### **Consumption Overview**

Parents are able to view the student's consumption records and recharge records on the App.