USER MANUAL
BT01/BT02/BT03/BT04

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The Distance Monitoring Bracelet (alias name such as distance Reminder, Protector, Smart Distance Alert, Social Distance Reminder, Smart Wristband, Distance Trace Bracelet, Smart Distance Keeper, Keyfob Distance Reminder, Necklet Distance Reminder) especially designed to avoid closing social contact from anyone to the others, future function of the device is for system Integrators to develop cloud application for the civilian in order to guarantee and movement traceability of civilian (most are workers, employees & students) staying at a safe social distance from any two of closing peoples and away from infector of disease.

Basing on LED light indicator and vibration notice, any of two closing peoples will be reminded to each other in real time.

Key point is to instruct people move away from potential disease and traceability in the future.

NOTE: This document is constantly updated and is therefore subject to change.

Product Feature

- RealTime Distance Monitor/track within a radius of 200cm and detection angle more than 100degree auto-detection of closing contact (depends on configurable)

- Operating Frequency: 2.41Ghz - Bluetooth Low Energy BLE5, 5dBm maximum Power

- Detection Accuracy: ± 30cm (depends on environment)

- Detection Interval: 1.5 second in default (configurable 1-30)

- Detection Threshold: 83 dBm in default (configurable 70-96)

- Dimension(BT01): 38(L)*30(W)*13mm(H) (body)/260(L)*36(W)*16.6mm(H) with strap

- Dimension(BT02-BT04): 47(L)*18(W)*11mm(H) without wristband

- Net Weight: 38.3g/BT01, 20g/BT02-BT03, 28g/BT04

- Color: Black in default (Blue/Orange/others is optional on above picture)

- Material: PC + Silicon TPE

- Power Consumption: Continue working 40days & replaceable CR2477 battery

    Continue working 5-7 days & rechargeable lithium battery 90mA

- Indicator: Closing Alarm, Power & Recharge with LED light & Vibrator (Beeper is optional)

- Temperature Measurement: 35^0C-42^0C (Model BT03 or above only)

- Display: 0.42 inch OLED (Model BT04 or above only)

- PNP device without apps or with special infrastructure and Apps

- Upto 10240 Records of closing contact can be saved and uploaded via APP/Gateway infrastructure.

Quick Operation

STEP 1:   Switch on Battery Supply (BT01 required only)

There is 2 options either to remove the protection film from battery or open housing and correct battery installation

- 1st option: Remove Transparent Protection/Isolation Film from the corner gap of device (nearby "⏻" button). The function of Isolation film is to not drain down battery life during logistics before use.

- 2nd option: Open device housing and correct the battery placement from up to down, refer to the "Battery Operation"
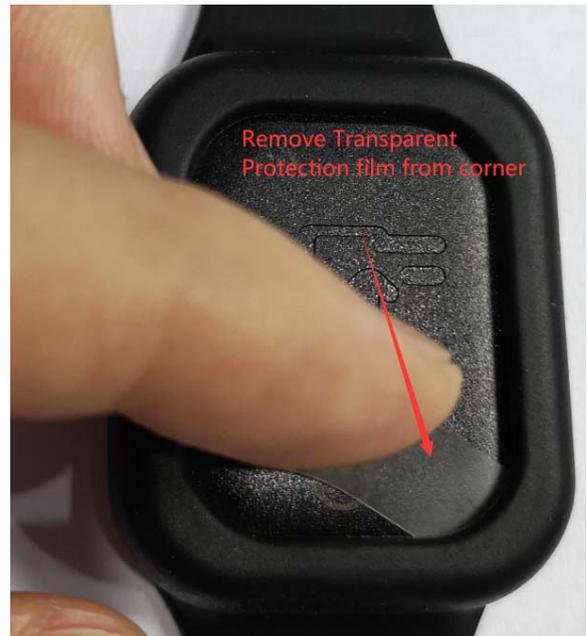
Note: While the battery is powered to the device, LED light from device will blink light for 5seconds immediately and run in closing detection automatically to track the potential closing device and record into its memory..

STEP 2: Power on Device

For a new device, keep touching "⏻" Button for 8 seconds to switch on bracelet and ensure it will blink LED light and vibrating for 2 or 3 times.

STEP 3: Device Registration

Each device will be bounded with a NickName, LoginID(Personal ID or MAC address) and password (Default is 123456) then assigned to the end customer. This process can be made by your administrator, or do it by yourself via our ClientAPP as below APP Instruction mentioned. Without registration of each bracelet, closing data will just record MAC address of the device.

STEP 4: Wearing Device & Follow Movement Instruction Away from Closing Contact

Every bracelet was with enough battery life and keep working properly for your employees, workers, or students,

instruct people to away from others during working / studying

STEP 5: Uploading Closing Contact Via Gateway

Since each bracelet will record no more than 10240 closing contacts, the suggestion is to upload data every time from Gateway entrance/exit as below GatewayAPP mentioned

Final STEP 6: Query Closing Contact

Any people allow to check their closing contact by ClientApp or Platform.

Movement Instruction & Distance Measurement

Distance measurement with closing alarms for any 2 closing devices is about

150cm, the closing alarm is LED blinking and vibrating

<150cm

Distance Closing
LED flashing
Vibrator shock

Closing Contact
Less than 150cm

LED+Vibrator

● **Prohibited Movement**

The above specific **scene with visual movement** (parallel, straight meet, facing

meet and line follow straightly) must be prohibited as the movements is with

known risky. The device has limited detection accuracy as below signal coverability graph

BT01   BT02/03/04   New BT04 with 15.9 transmission
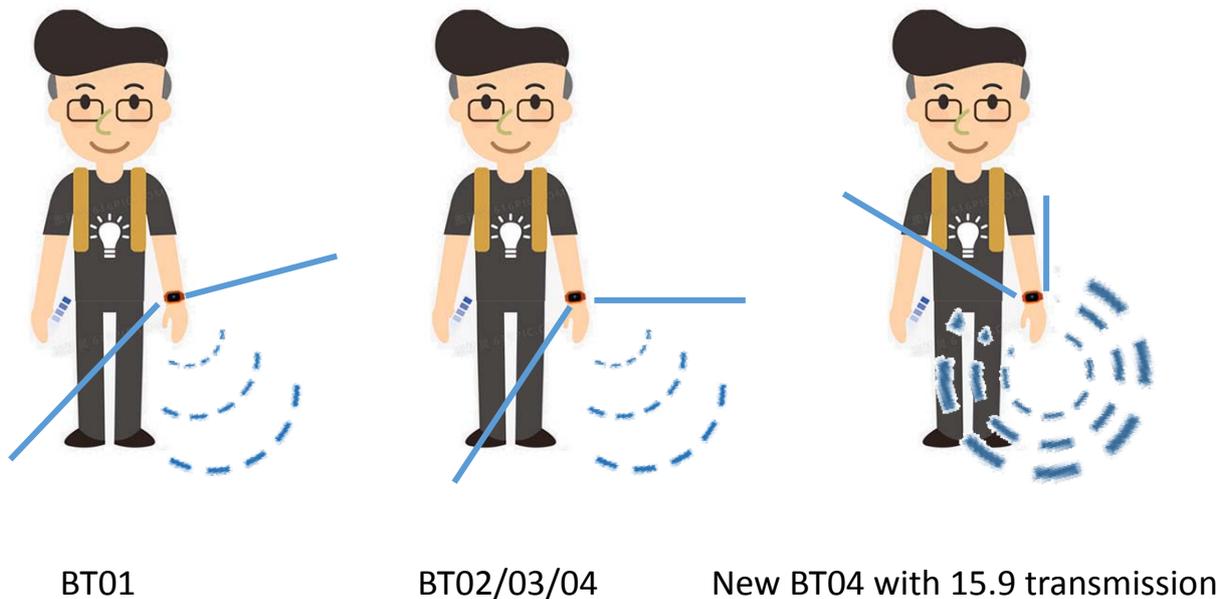
A reliable / conformable wearing style is most importance than the others since different wearing has different measurement & detection performance.

● **Distance Description**

1) Social distance must be kept above 1.5meter, otherwise device will alarm from one to the others

2) Safe distance at least 0.5meter as this is minimum requirement.

3) Direct distance should be diagonal distance with 2.0meters +
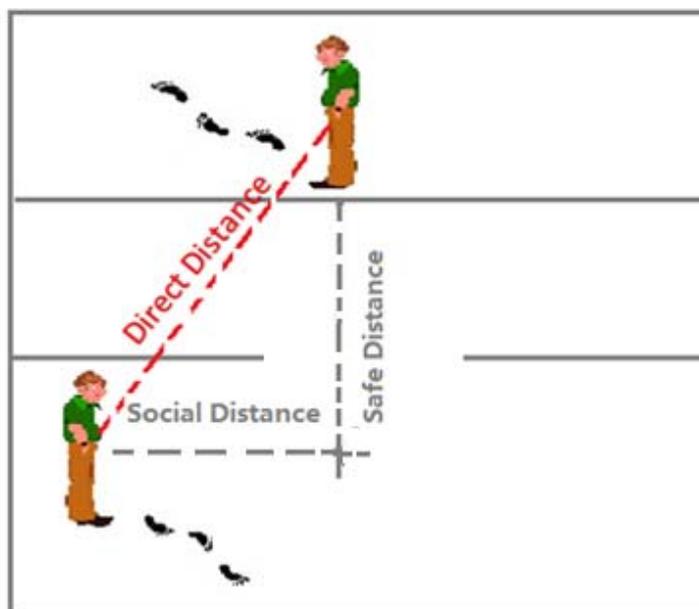
- **Standard Movement Measurement (Basing on "Echo Free" Test)**

Known variant measurement is due to RF noises such as reflection, shadow,

resistant and so on, so Standard movement test is recommended in an ECO-FREE

chamber, the alarm distance of measurement is around 1.8m-1.9meter.
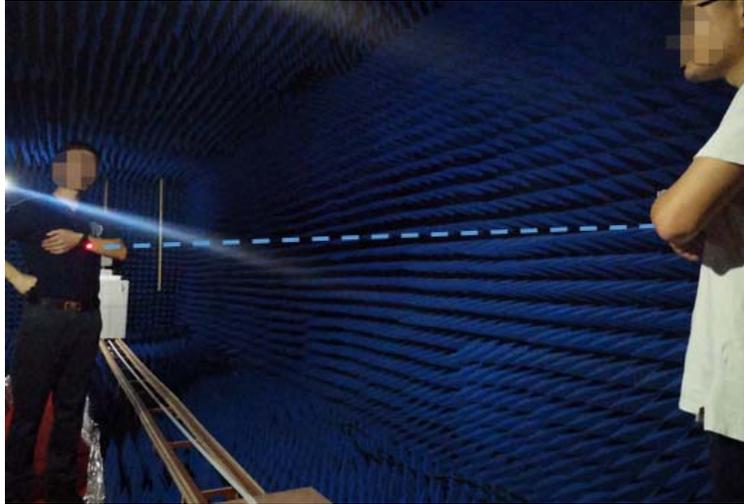
- **Movement Instruction, remind people away from closing contacts**

Alarm distance is about 0.5-2.0meter while

People line follow as right picture due to body

disturbance occurs for the RF signal
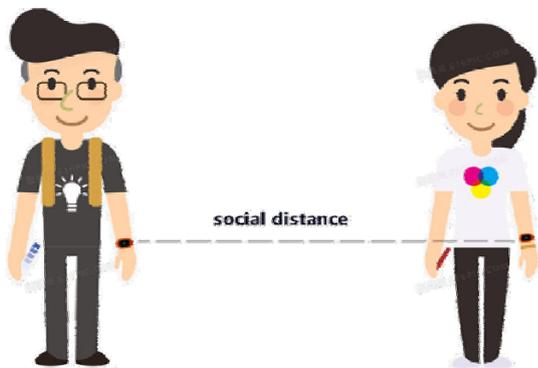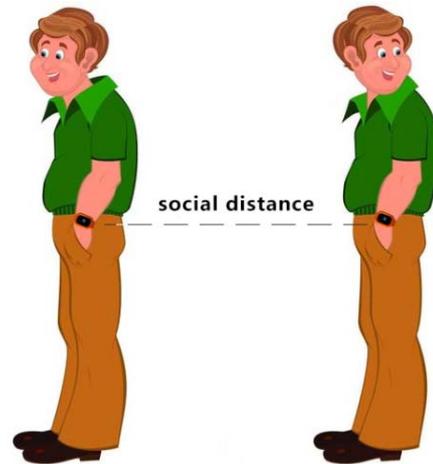
Alarm distance is about 0.5-1.5meter

While people stay/walking parallelly

Due to body and body size

As detection range & angle is influenced by infrastructure reflection, shadow and body disturbance occurs, the detected social distance will be more than 0.3meter variant due to huge man, slim girls and different size of human body.
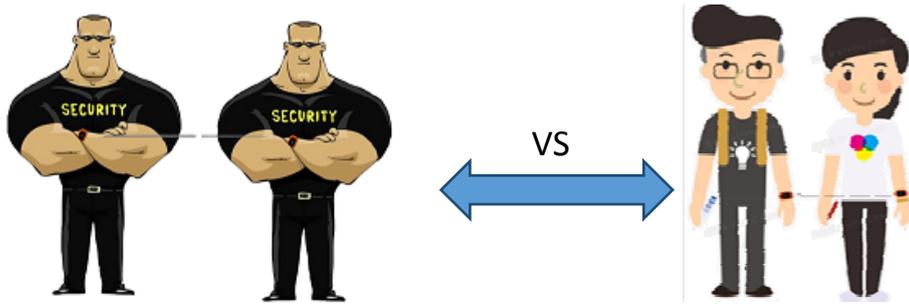
Any two movements are walking together closely as below, the alarm distance (social distance) is about 1.9meters
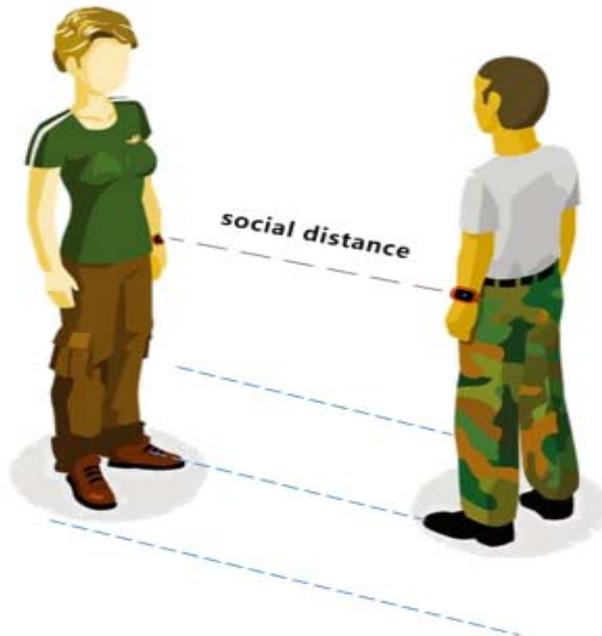
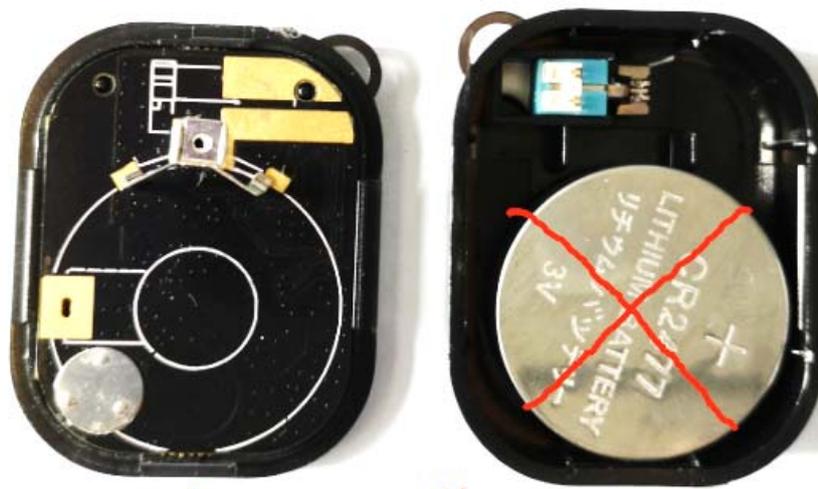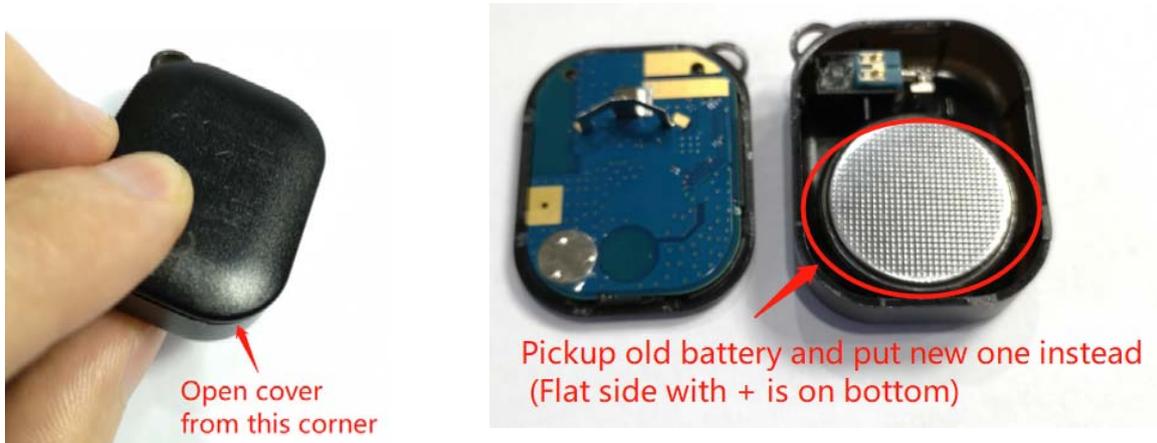Below case, static social distance will be more than 2.5meter.

Movement Guideline

Social Distance

Movement Guideline
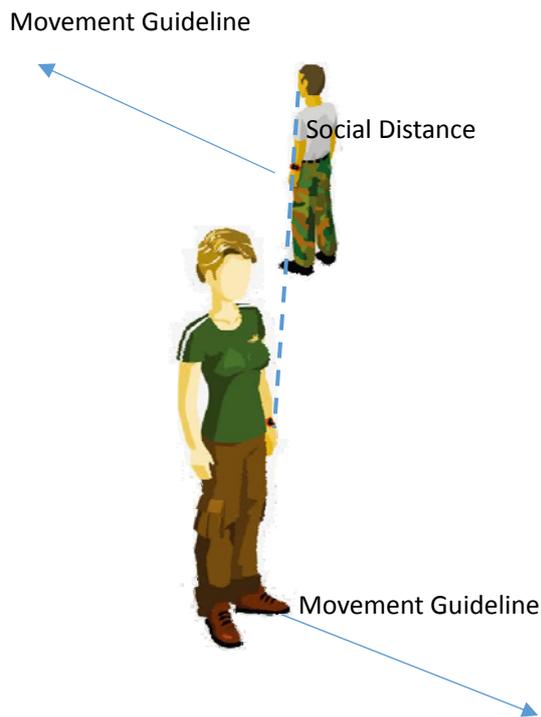
Below cases with a 90degree direction of two movements, the alarm of social

distance is around 1.8meters

Social Distance

Social Distance

Battery Operation

- **Replace Battery (BT01 only)**

Open cover from this corner

Pickup old battery and put new one instead (Flat side with + is on bottom)

Incorrect Placement

Place new battery into socket properly,and follow up the body ear to cover

back the housing of bracelet and perform to test function see above STEP 4

from QUICK OPERATION

- **Battery Recharge(BT02 or above models)**

Remove band & take out the device body from bracelet, then insert USB port into any power bank or an USB power supply socket as below for recharging battery, around 30minutes will fully recharge battery.
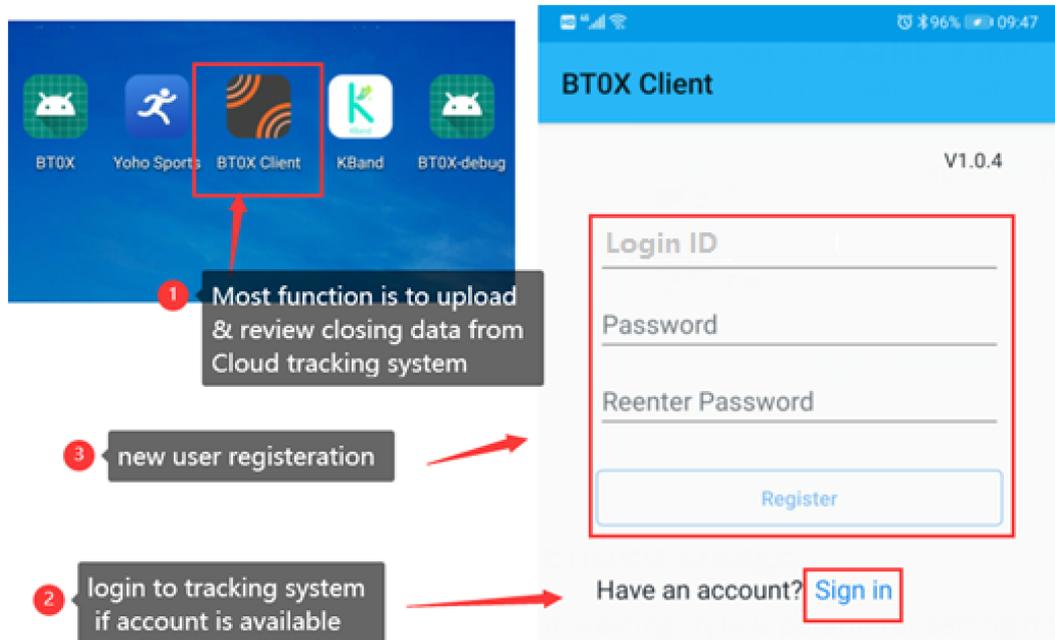

When battery fully charged, assembly back the device body to the band and ensure the bracelet are working properly, otherwise switching on again power suppy for bracelet as below.

APP Instruction

● **User Registration "BT0X-ClientAPP " (Web based Platform)**

ClientApp was designed to support both of end customers and administrators.

The function include registeration, reporting closing data, measure body temperature, sync time, review closing data whom were contacting with in the past.

ClientApp support also many login methods which is either by device MAC address, your own account which is registered by yourself or the Login ID is provided by administrators, the default password of 123456 can be changed from web based Platform system. ClientApp is with different function depending on the login ID which is assigned by the manager of Cloud Platform.

Login via Login ID

LoginID and password of your registration, sign in to connect web based cloud platform
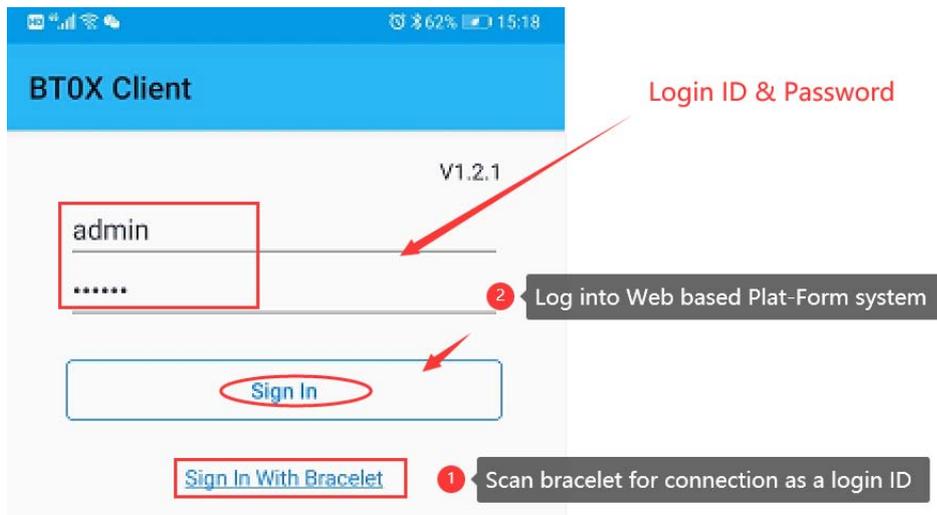

<mark>Login via Bracelet itself (MAC address + default password)</mark>

"Sign in with bracelet" to browse device for new connection, while sign-out, the default <mark>MAC address</mark> without sympol ":" of your bracelet will be restored onto login ID including <mark>default password</mark> as below point 4.
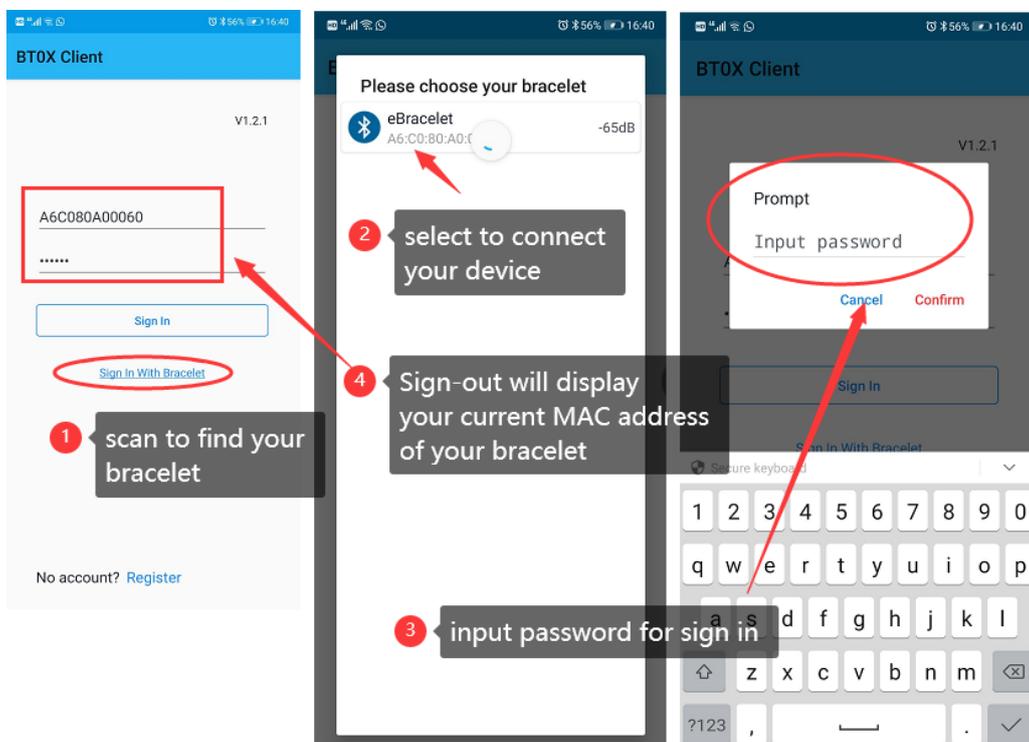

ClientApp provide also feature expantion management function to bind bracelet for each new end users whom are going to wear those devices, and

ignore end customers to register devices one by one by themselves, cancel bind/unbound function is also available for changing existing bracelet for other end customer.
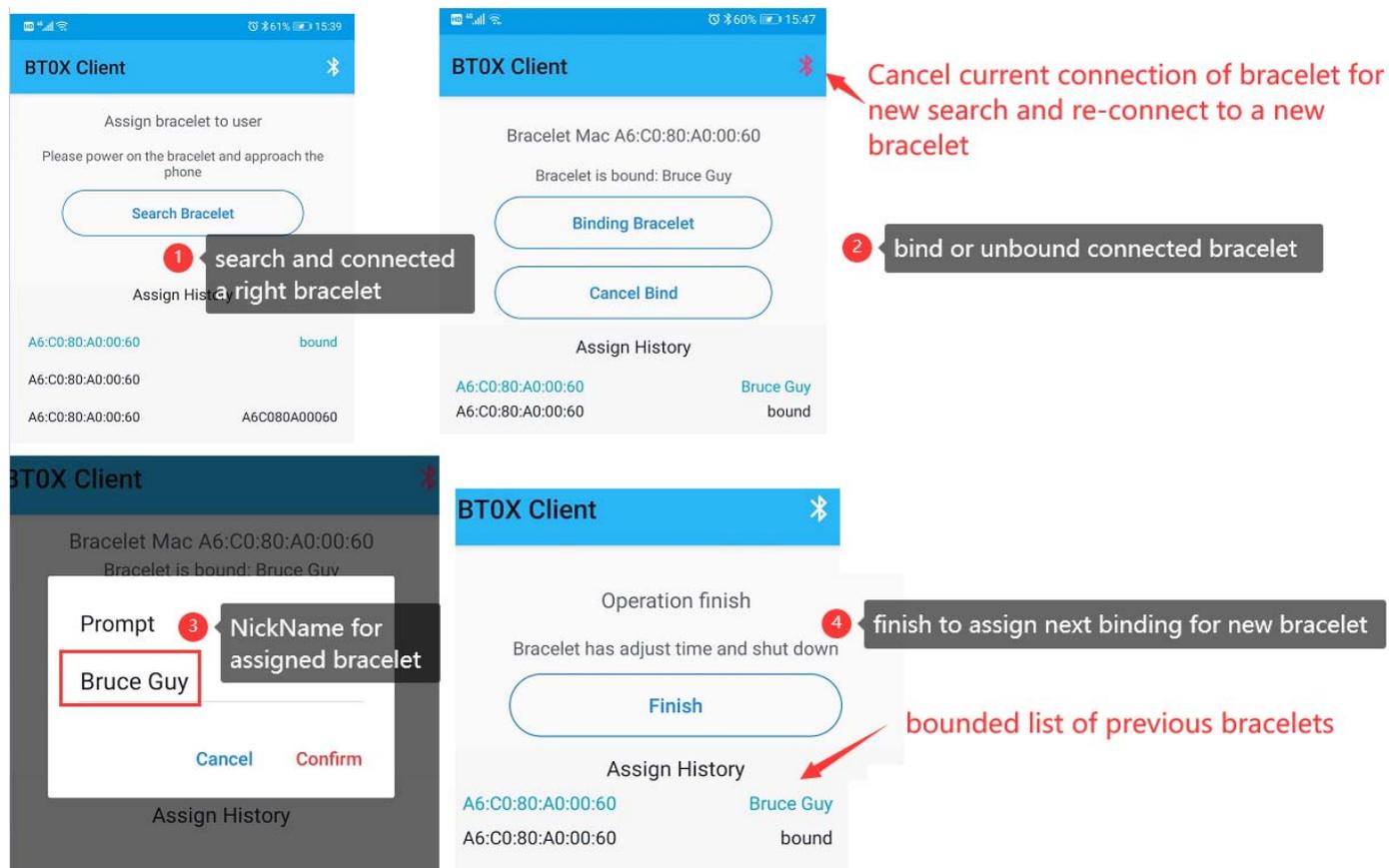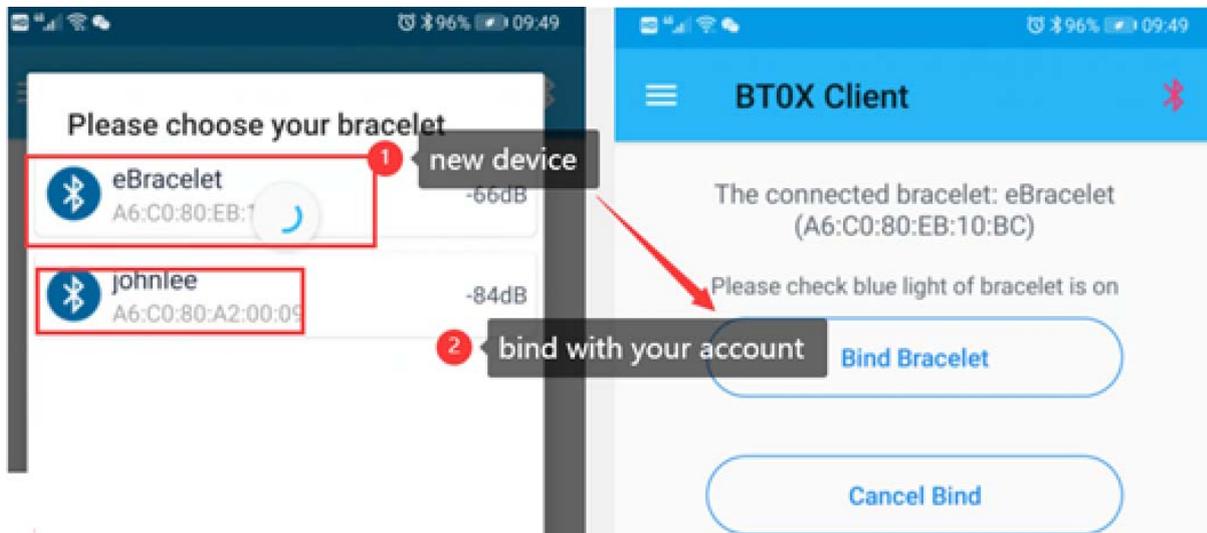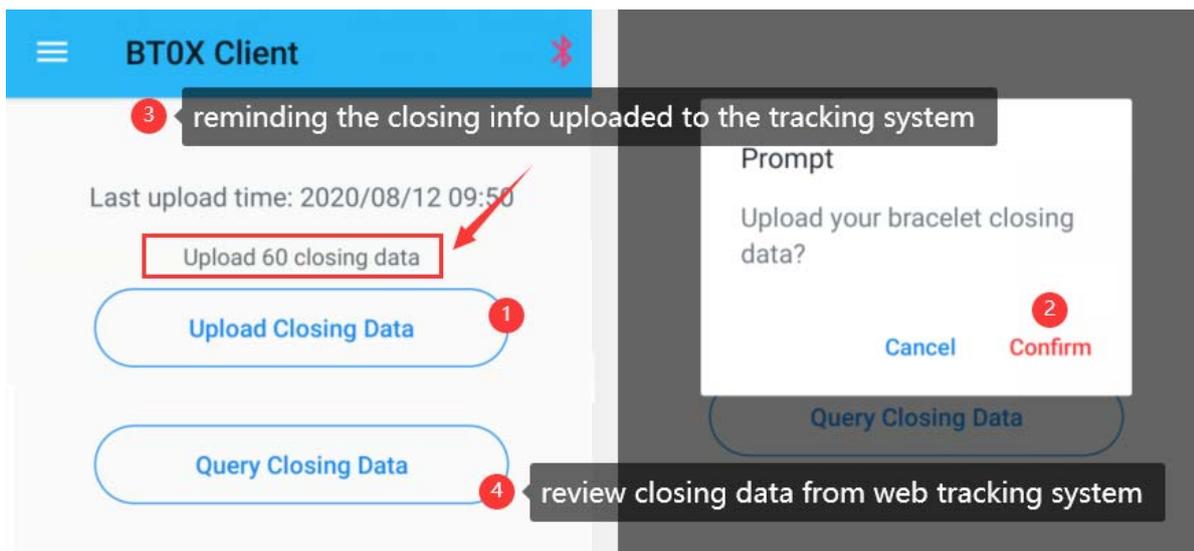

Personal registeration

A NickName will be required as below if the registeration is made by end customer himself/herself.
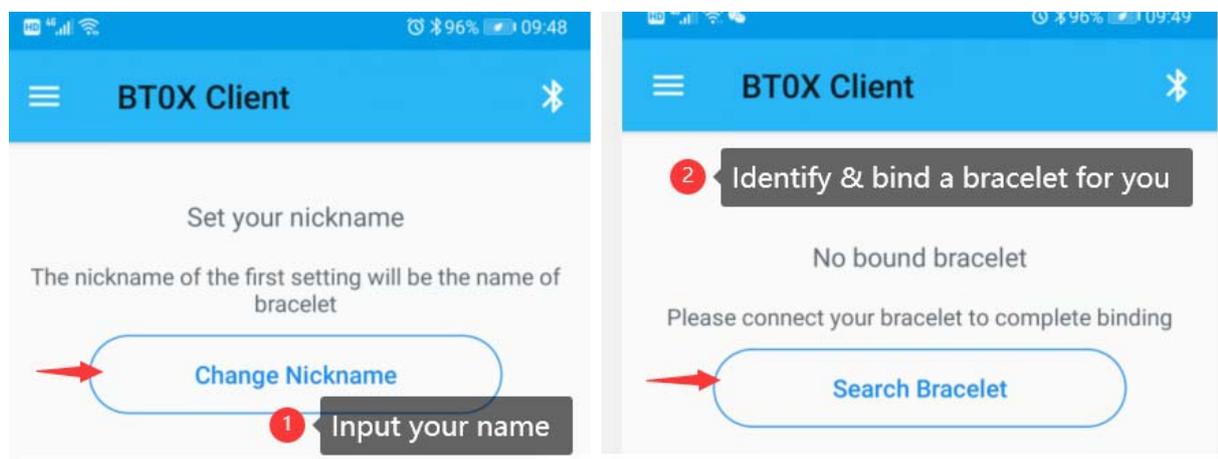
"Cancel Bind" is available also from personal account for end customer to unbound connected bracelet.

Inside sign-in account of ClientApp, it's accepted to upload closing data, measure current body temperature, config parameters for connected bracelet

such as enable /disable Vibrator and update bracelet's time, query closing

data and query temperature data and so on.
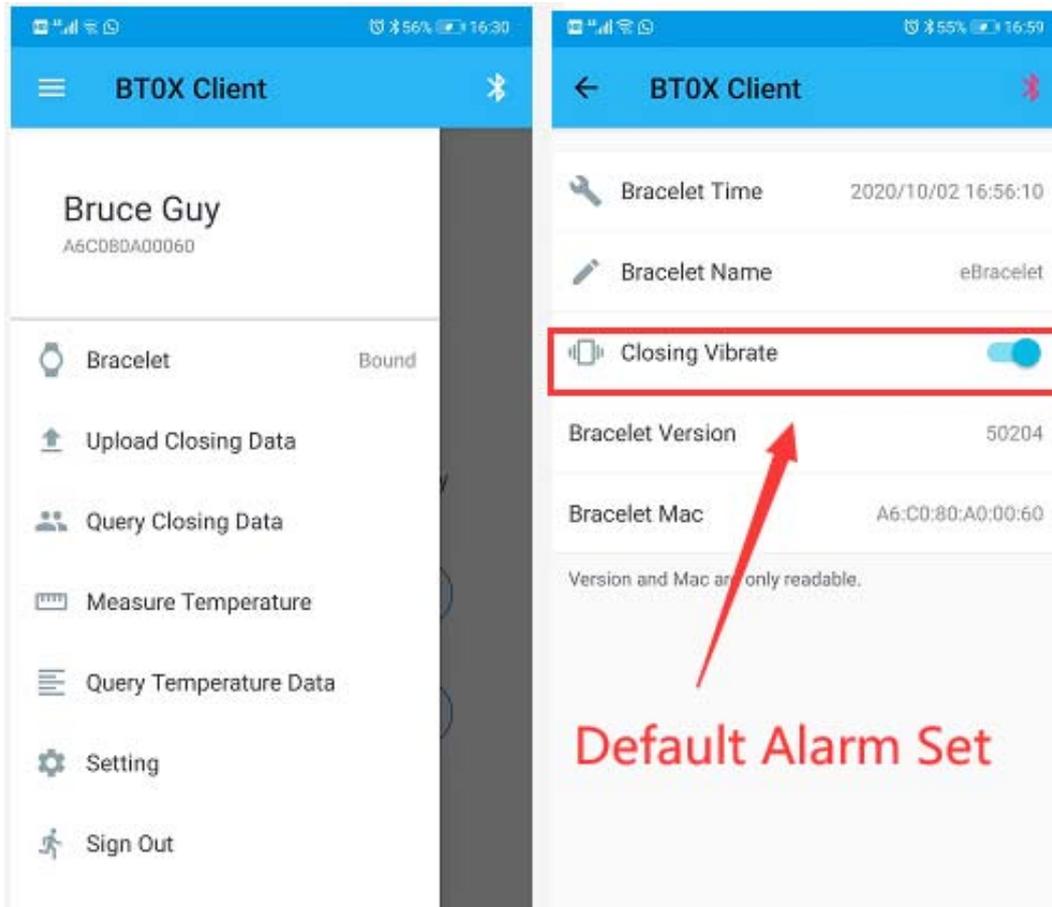
● **Gateway APP (Web Based Platform)**

Gateway app is designed especially for iPAD or Tablet in order to trace nearby peoples from Gateway and upload closing data automatically from each bracelet in real time, GatewayApp is working as an intelligent robot with friendly interactive interface, wireless and very less operation for the operators.

Each attendance transaction from gateway iPad/Tablet will include bracelet selection, data uploading, empty buffer memory of closing data, renew and sync bracelet's timer from iPad or Tablet online system.
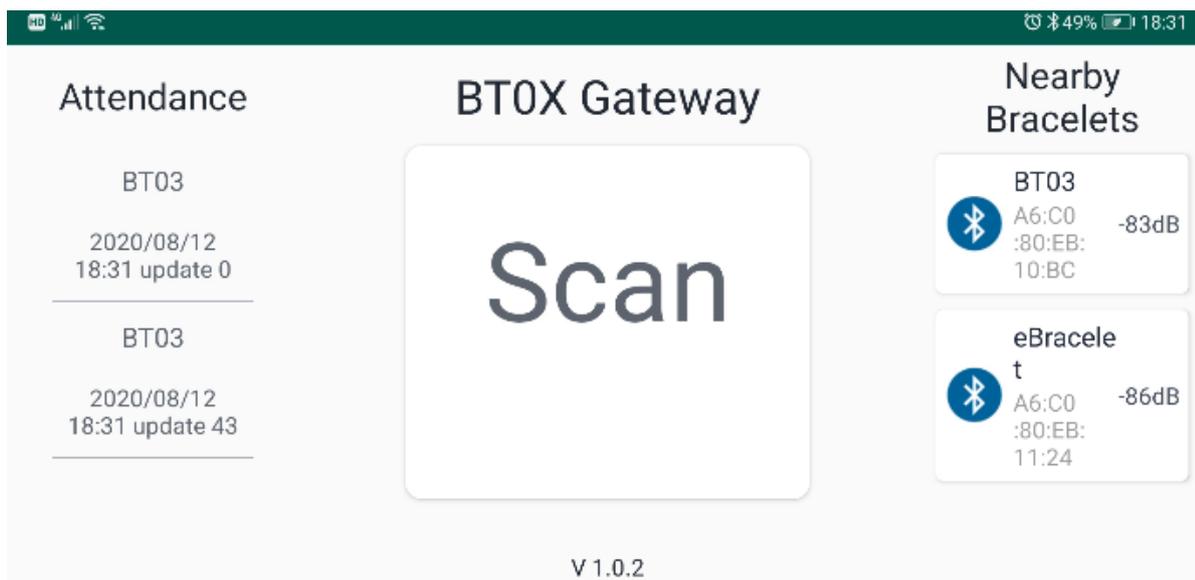
When the bounded bracelet nearby the iPad/Tablet with installed gatewayapp, the bracelet will be connected to iPad/Tablet automatically and the display of iPad/Tablet will inform person whom wearing bracelet how many closing data was uploaded and what body temperature was measured during that moment.

If the device was not yet bounded with a person by his/her "Nick Name", the "Update failed / The bracelet is unbound" reporting info will inform to the operator on its screen as below.
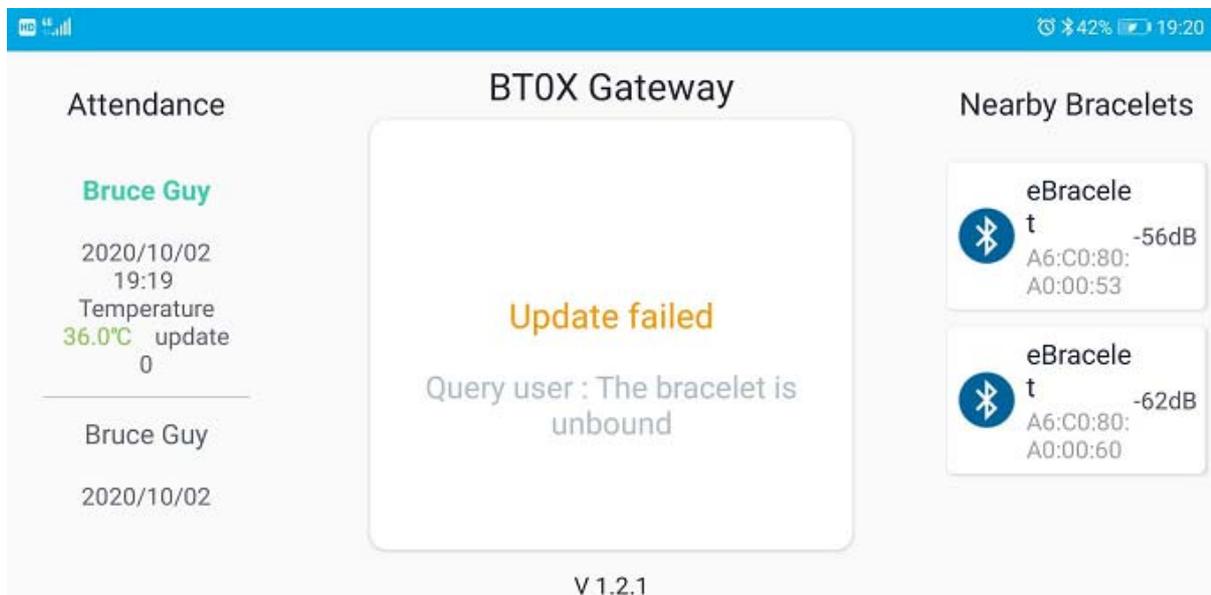
NOTE: Any login ID can be used for GatewayApp as Gateway is just a function to collect data from each bracelet, any associated bracelet with assigned loginID will show account NickName, those info can be found also from web-based platform or be queried via ClientApp by operators.

- **Central Management Tracking System (Web Based Platform)**
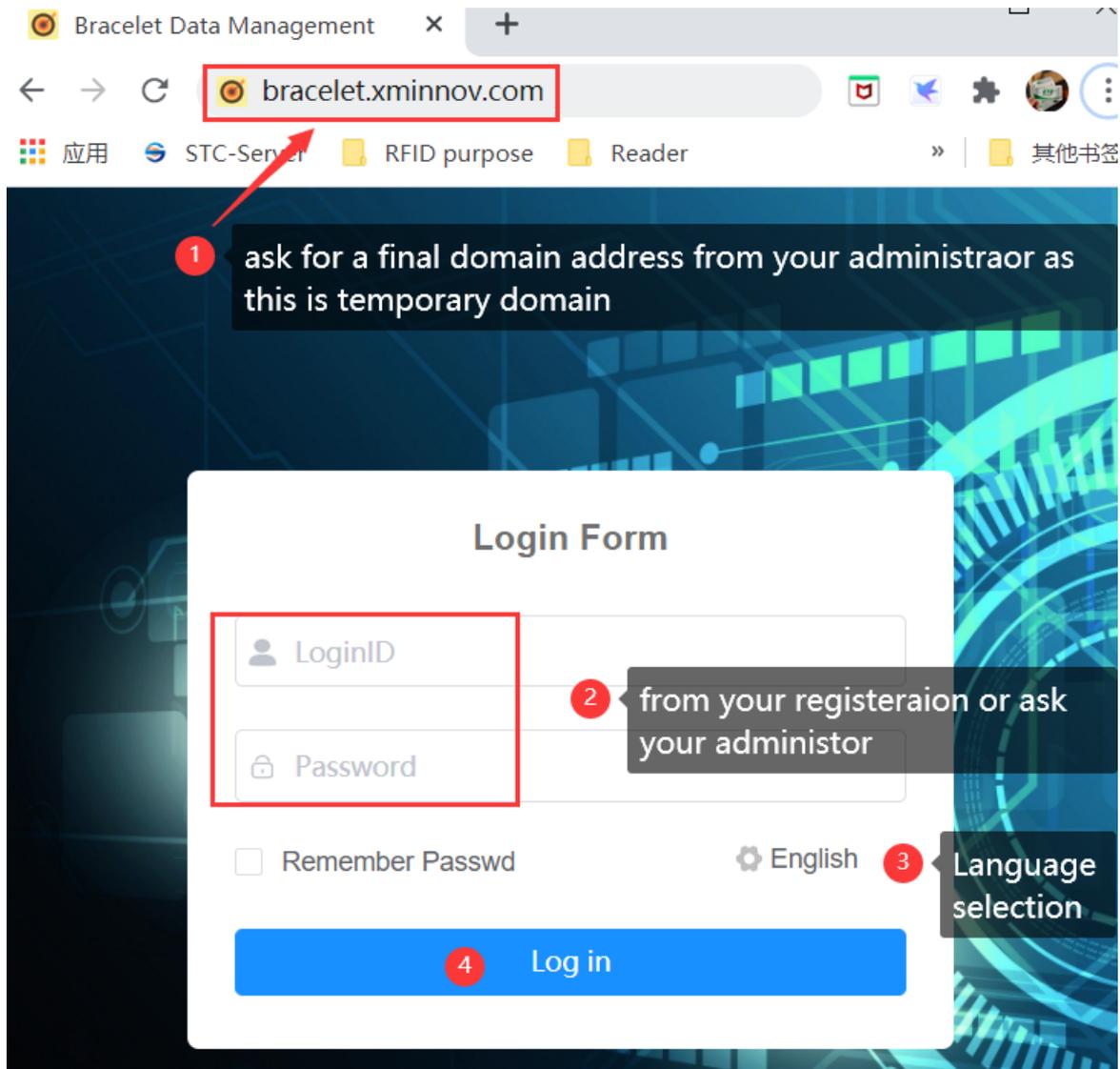
NOTE:

1) Temporary management tracking system at http://bracelet.xminnov.com

2) Make sure the corrected input which is generated from your regsiteration or was given from your distributor, the LoginID & Password with upper / lower letters is accepted from our Platform. LoginID and password for temporary administrator is "Admin" and "123456" for test purpose.

Any account /LoginID either registered from ClientApp (both of Mac ID and Specific ID) or any assigned LoginID which is given by your adminstrator will have access to below web-based cloud platform
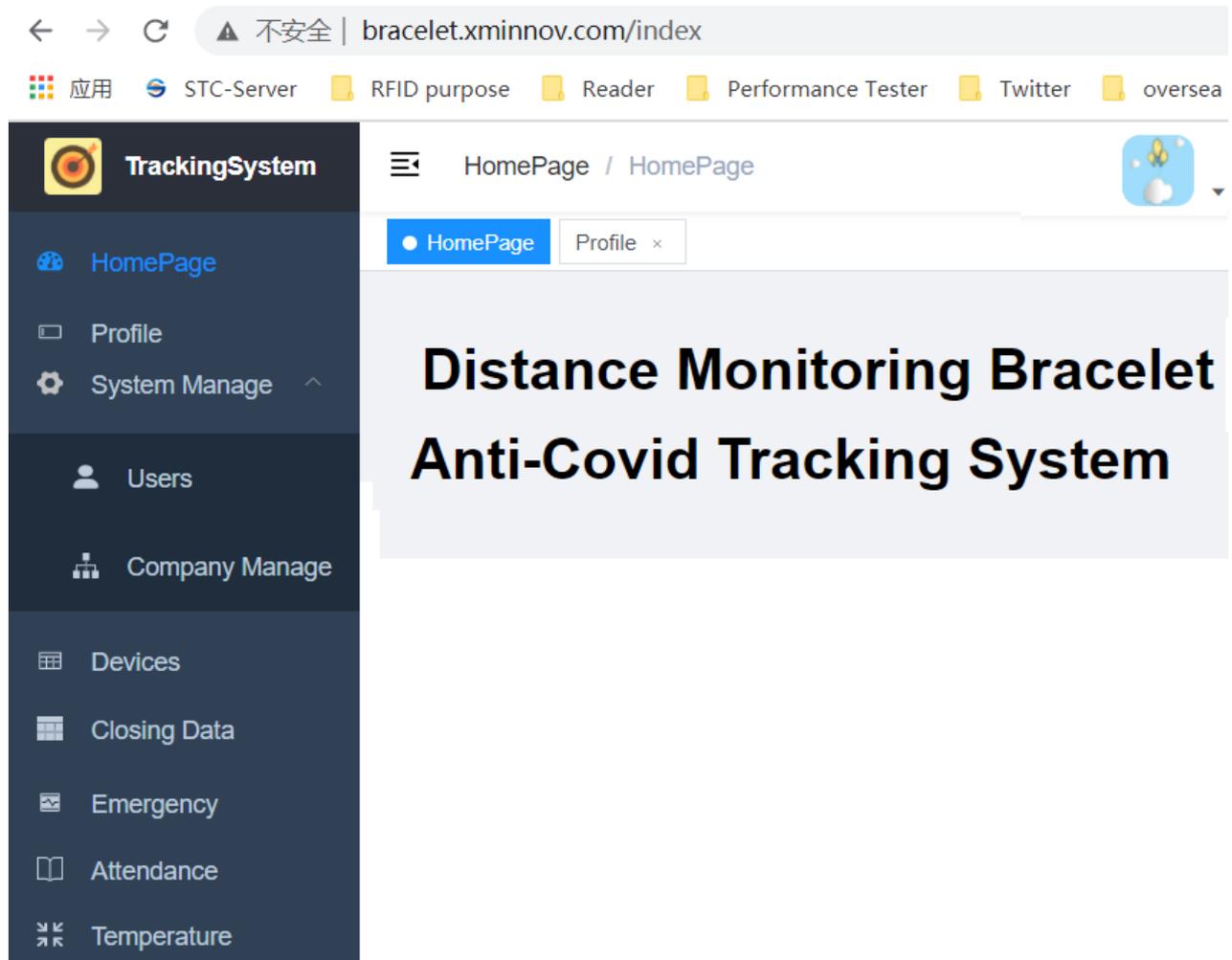
Some function will be hidden depending on the different LoginID, admin account loginID from each company will allow to edit/delete existing login accounts and devices, to load new bracelet's MAC address in order to create new loginID for their end customers, either one by one or a batch of Mac address.
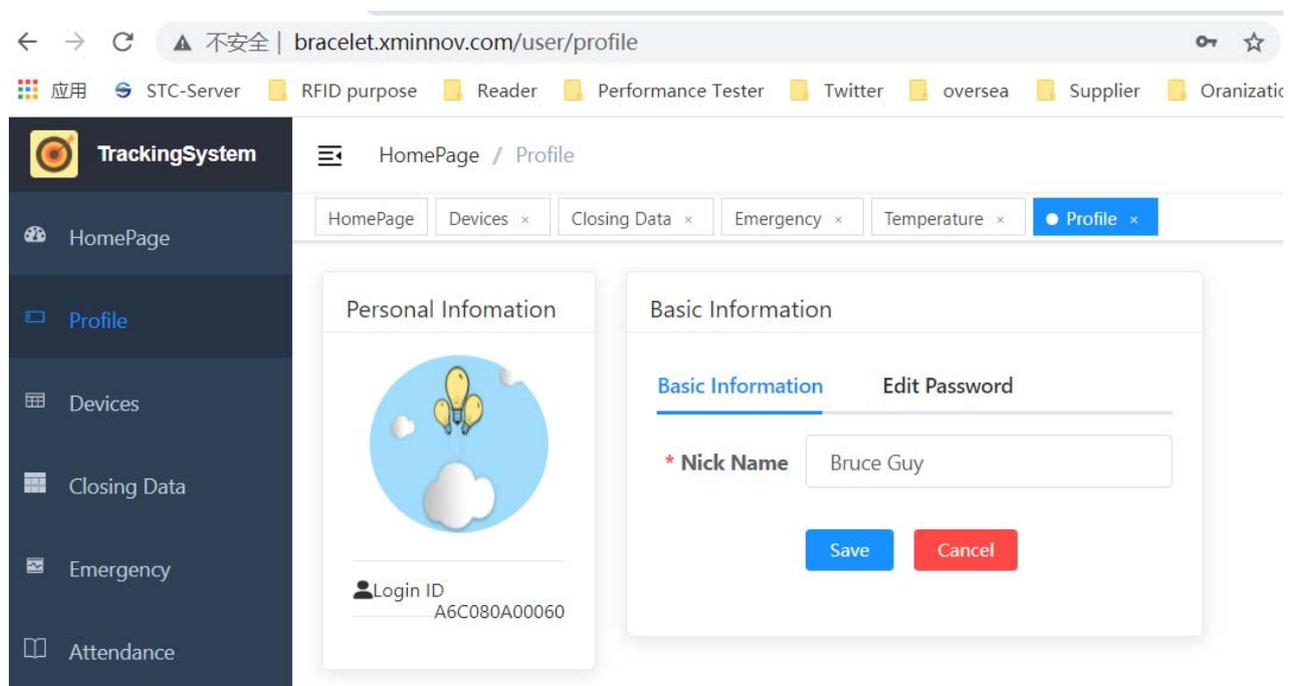
Basic Function For each end customers

Inside its account, his/her device/bracelet only can be "cancel bind",

"un-bound", no more other devices/bracelets available.
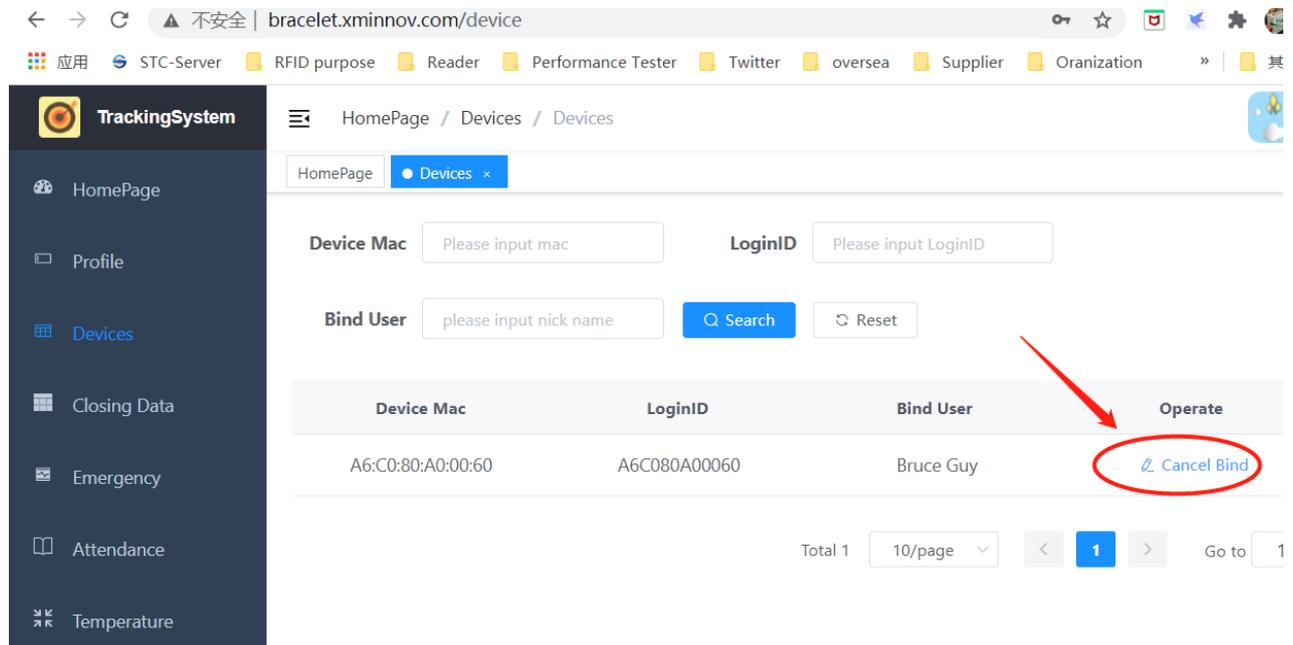
Profile

End customer can change his/her Nick Name and edit login password by

himself/herself.

Closing Data

Will show those NickName of whom closely contact with associated bracelet

Emergency

If a people is in quarantine process/Isolated or is infected by disease, Those

closing peoples with their NickName will appear in this Emergency list.

Attendance

Count each daily check list, each line contains the day, the time, first check-in

and last check-out for each bracelet, which the info is taken from the time

when the bracelet connect to the gateway.

Temperature

Every transaction of gateway, will record and measure one time of body

temperature for associated bracelet

Advance Function For Administrators

Users Management

Edit nick name and health status, reset login password for end customer

Company Manage

Add/delete/edit new company/sub-category & assign a manager LoginID for

new company/sub-category basing on default password

Devices Management

Import process

Follow the provided template XLS and import known MAC list as right picture for all brand new bracelet which is provided by manufacturer

After import, any unbounded bracelet can be assigned with a new NickName for each end customer belong to the associated company/sub-category.

Delete function is available only for single piece of bracelet.
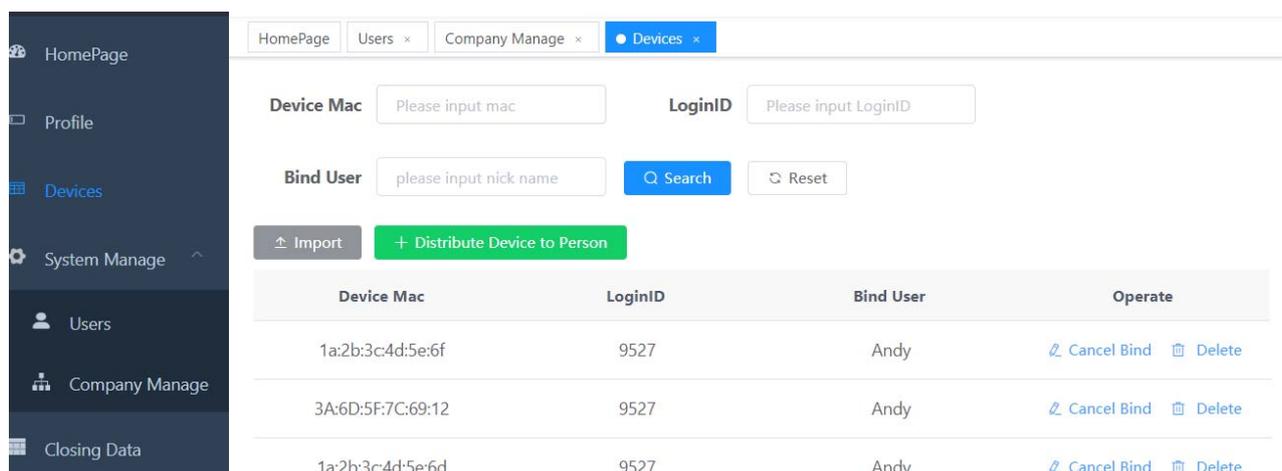
Cancel Bind Operation

Existing device can be unbound from device management, in order to bind existing device for new end customer with new Nick Name

Cancel Bind   ✕

Device M   │ 3A:6D:5F:7C:69:12 │ ②

ac   **Operate**

                                                    ①   ✎ Cancel Bind   🗑 Delete
                        ③
                  ✎ Submit   Cancel   ✎ Cancel Bind   🗑 Delete

:2b:3c:4d:5e:6d   9527   Andy   ✎ Cancel Bind   🗑 Delete

:C0:80:A1:00:12   lym3   李音明   ✎ Cancel Bind   🗑 Delete

● DemoAPP (Developer Debug/Administration Purpose only)

This App is belong to Bracelet SDK, either installation of DemoApp "BT0X" or "BT0X-debug" both are available to connect to the device BT0X.
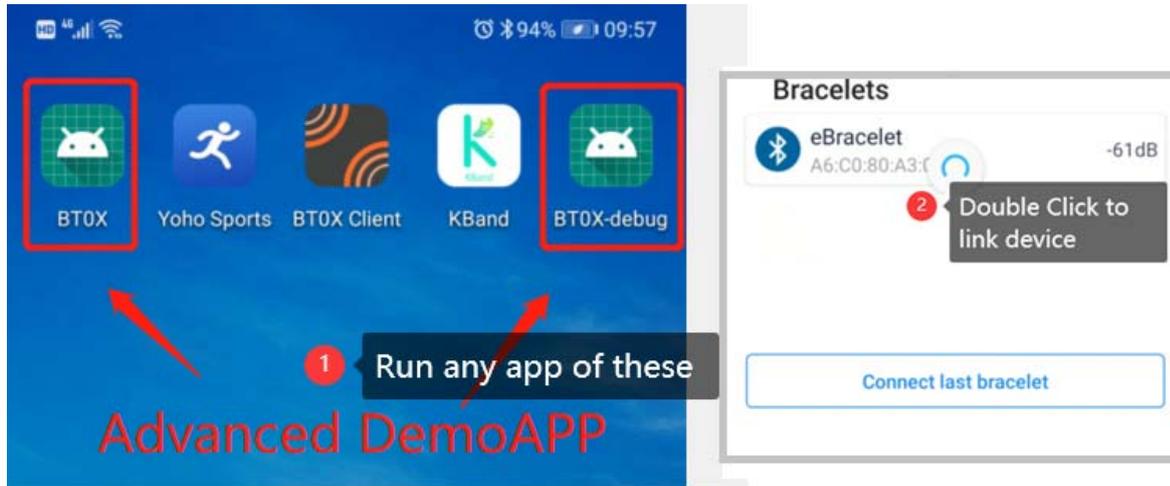
NOTICE: while device connected with cellphone, the detection measurement is no longer available.

Click each line for specific basic information

How to update/adjust time from cellphone to device
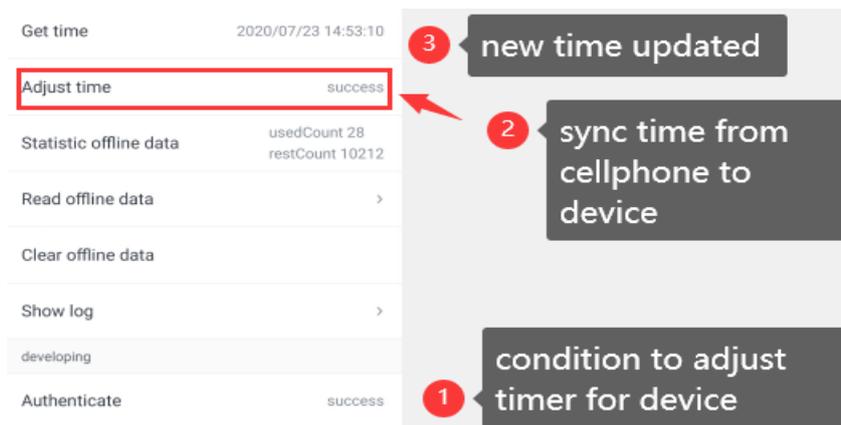
How to check memory storage, in order to reduce quantities of close data which is saving to the memory, 5seconds of "Departure Time" meaning device will record just one closing data within 5seconds.
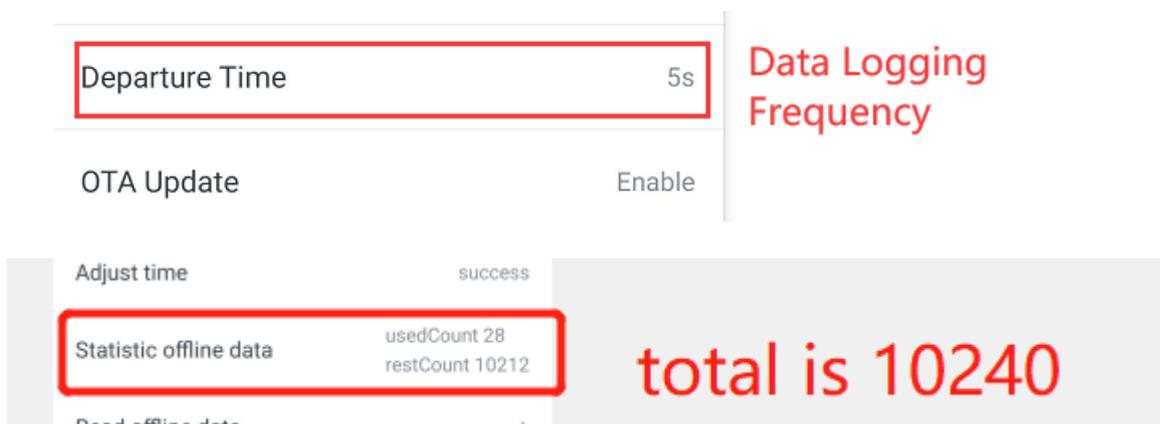
How to Read out the data of closing contact for future tracking and clean these datas
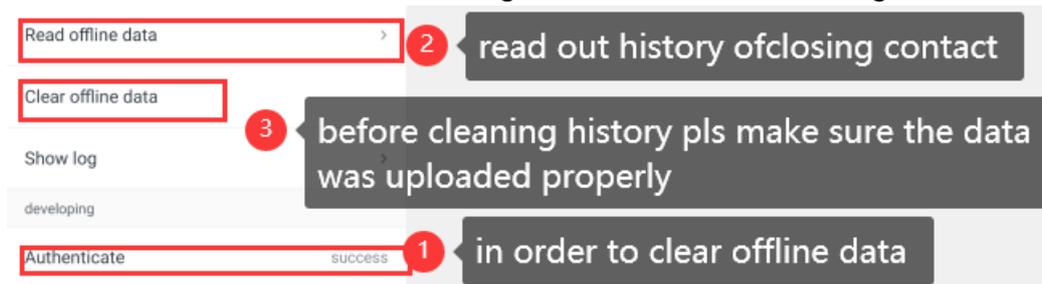
How to setup your device name make it unique from your place (default is eBracelt)
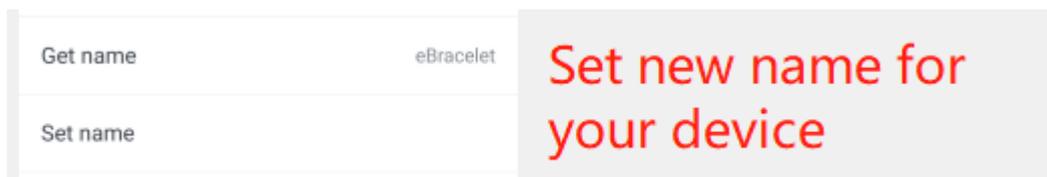
Sample closing data between devices will be shown as below from DemoApp when connected device was with closing contact with the other devices in the past, MAC address is defining the people whom were wearing the device.

Total: 12

Range Of Offline Data   11 - 0

Page Size   20

No.[11] Time[2020/09/30 16:29:34]
TargetMac[A6:C0:80:A0:00:49]

No.[10] Time[2020/09/30 15:35:10]
TargetMac[A6:C0:80:A0:00:83]

No.[9] Time[2020/09/30 15:34:55]
TargetMac[A6:C0:80:A0:00:83]

No.[8] Time[2020/09/30 15:34:14]
TargetMac[A6:C0:80:A0:00:83]

No.[7] Time[2020/09/30 15:33:57]
TargetMac[A6:C0:80:A0:00:83]

No.[6] Time[2020/09/30 15:33:39]
TargetMac[A6:C0:80:A0:00:83]

No.[5] Time[2020/09/30 15:19:54]
TargetMac[A6:C0:80:A0:00:83]

No.[4] Time[2020/09/30 15:19:42]
TargetMac[A6:C0:80:A0:00:83]

No.[3] Time[2020/09/30 15:19:34]
TargetMac[A6:C0:80:A0:00:83]

No.[2] Time[2020/09/30 15:19:24]

Later Data   Earlier Data

Current closing shows in MAC address if the target device is unbound with People's NickName

Page Up / Page Down

How to read temperature from device, click to start measurement from below menu
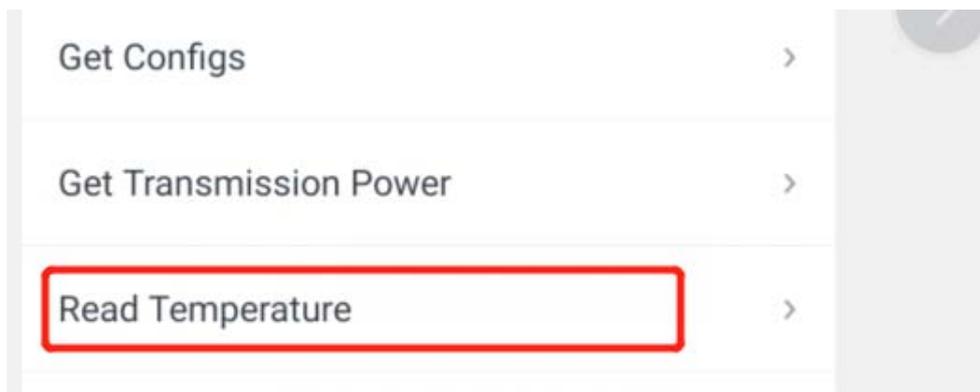
How to config device with new parameters
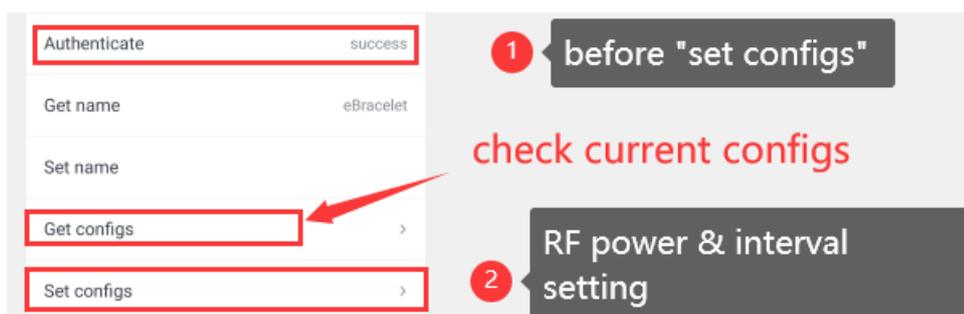
Key paramters for those devices such as Vibrator, LED flash or beeper can be enable and disable, beeper is optional only.
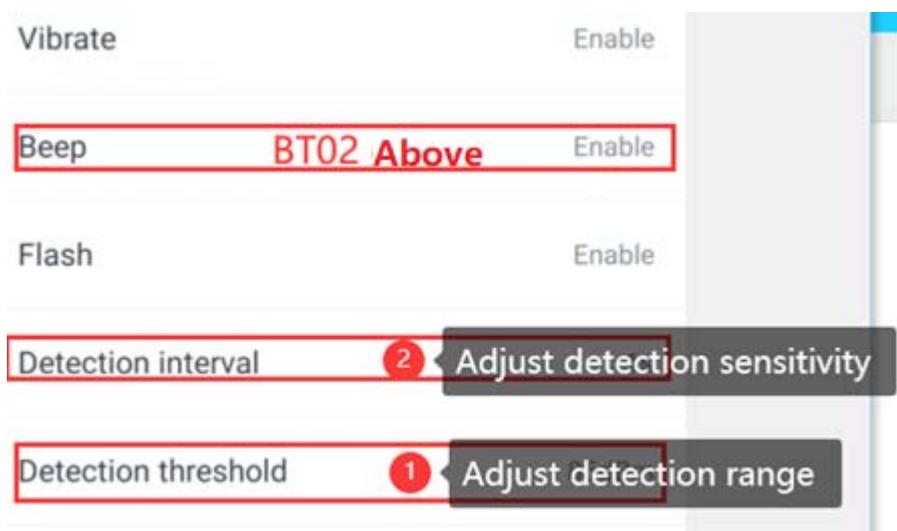
In order to have a suitable detection range, you can adjust Figure 1 from default 91dBm to any others, more value is more detection range, less value is with less detection range

Default setting of Interval is 1 second with more power consumption and greatest sensitivity for fastest detection, suggestion is 2 second for balance.

RF power transmission adjustment

Get Transmission Power   ③ < check RF power setting

Read Temperature
Unlock Functions After Authentication   >

Authenticate   ① < without authenticate, transmission power can't be adjusted

Adjust Time   please auth
Set Name   please auth
Set Configs   please auth   >

Set Transmission Power   ② < Default 25dBm for BT01/BT02/BT03, 15.9dBm for BT04
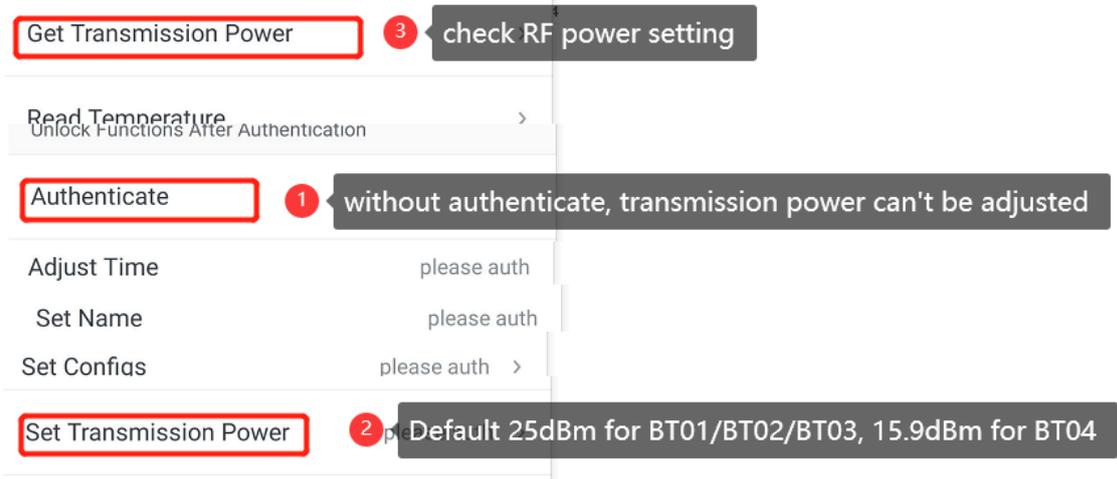
Within the setting of RF transmission power
Reload RF transmission set is available

BT0X   ✳

Transmission Setting

Transmission Power   -15.9dBm

Only the Rechargeable bracelet supports setting feature.

Get Transmission Po...   Set Transmission Po...

Factory Transmission Power

How to update firmware to get latest function, ask our sales for an OTA-tool or download directly from official homepage.

Unknown device   ◯ CONNECTING   ① < scan device for connection

OTA

/storage/emulated/0/Download/WeiXin/ 8258_e_charge_bracelet.bin   ② < load new BIN file of device Firmware

start   ③ < start to burn firmware and wait for success
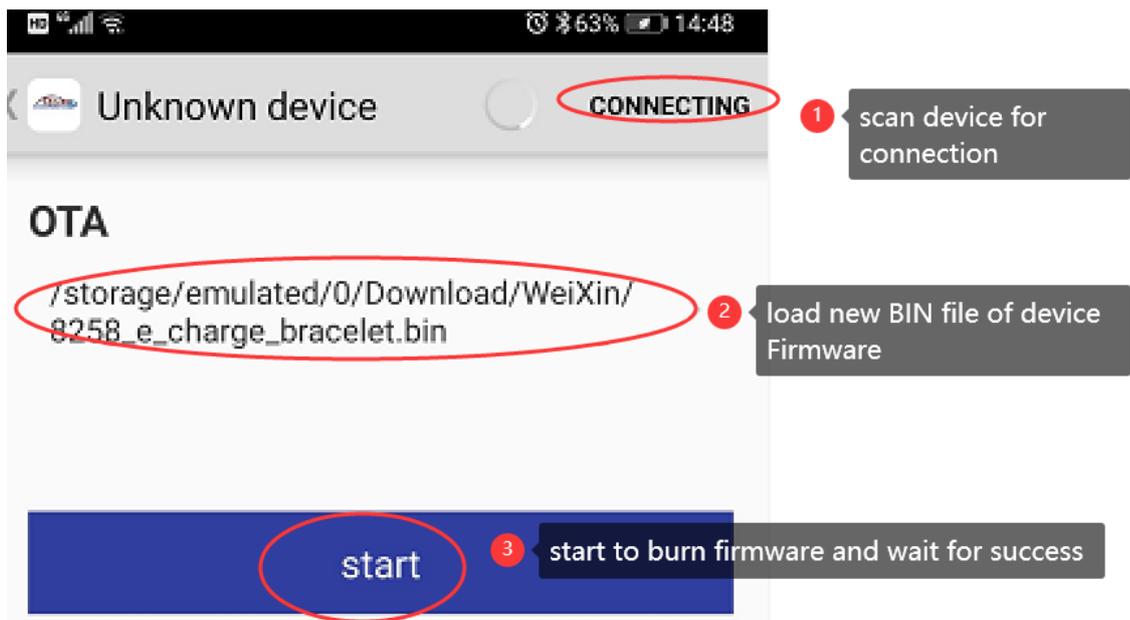
Recommended Usage

Notice: Variant wearing style & parameter setting from device will result different detection distance and accuracy

- **Hand Bracelet Style (Default)**

- **KeyFob Style**

- **Badge Style**

- **Finger Carrying Style**

- **Necklace Style**

Necklace wearing style with most function is to guide people away from others

- **On Foot/Shoe wearing Style**

on foot

Frequency Asked Question

Q1- How to ensure the device are working?

Any time any one of press/touch " ⏻ "button will flash on LED for just a while second and sleep LED right now, or the LED display will show other message.

Q2- Why I can't turn off the device by " ⏻ "button?

Device was designed to avoid unexpected operation due to children or mental problems to turn off device, so the device can be shut off by APP only.

Q3- How to know battery is with problem or need to recharge?

Message "Low battery" will display on LED screen, Or the LED light quick flashing for 3 times when you touched power button, depending on different device models

Q4- Which time the device has no function to detect closing contact?

When the device working in low battery, the device was manually shut down by APP or the device is not yet activated by your provider.

Q5- Can they provide source code of the Android and IoS application. With this, we can customize very easy the integration with Device and Then to Cloud?

We have SDK including Source code & demoApp for the Android, provided also our existing Cloud Platform for customer registration. Regarding iOS, we provide communication protocol only for software developer..

Q6- What is the life time of the battery for Keyfob, considering 2 seconds of contact interval?

Each new coin battery life will last around 40days, new battery will give another 40days life time.

Q7- How much time the gateway needs to connect and recover the contact list, considering 5000 contacts in it?

each uploading with 5000 logger from bracelet to gateway properly will take 10seconds, no more than 15seconds, but it also depending on the gateway performance.

Q8- If the end users need to install any APPs by themselves?

It's not necessary. Device will work in solo very well if the closing data can be uploaded to cloud.

Q9- How many gateway is required for each company, consider 2000 workers?

The suggestion is to setup 10 gateway in each entrance and each exit and ask worker to check in/check out from those gateway every day, in order to upload closing data and sync timer of bracelet.

Q10- Is it possible to have in a Badge ID card?
Every bracelet has an unique badge ID /MAC address which can be used for Badge ID or member ID card, or an option to consider a embedded NFC tag.

Q11- How precise is the body temperature?
Temperature measurement is just for reference depending on many factor, inside room temperature 28degree, the precise is about ±0.1degree

Q12- Does the Temperature drain the battery life?
Low temperature will drain a little bit battery life, the battery is replaceable, New type of battery can be selected according to customer's request.

Q13- How many closing contact records each bracelet will store?
Each bracelet with maximum logger of 10,400 and memory will be overwrote from early to the later if the memory is out of design

Q14- How to switch off device?
Power button "⏻" is no longer available to switching off the device, but turn on device only, Shut down device can be done via DemoApp or ClientApp, or ask support service from your administrator.

Q15- How do I know the battery is in charging?
LED light will blink on or the "Charging" message will show from LED display when you touch Power button.

Appendix: Order Information for Distance Monitoring Bracelet

Models	Battery	Continue Working	APP/Platfrom Supported	Function	Reference Picture
BT01	Lithium Metal Cell CR2477 950mAh replaceable	30-45days	YES Emergency notice	Closing Contact Attendance optional Without LED display	
BT02	Rechargeable Lithium 90mAh	5-7days	YES Emergency notice	Closing Contact Attendance optional w/o LED display	
BT03	Rechargeable Lithium 90mAh	5-7days	YES Emergency notice	Closing Contact Body Temperature Attendance optional w/o LED display	
BT04	Rechargeable Lithium 90mAh	5-7days	YES Emergency notice	Time/Date Closing Contact Body Temperature Attendance optional With 0.42"OLED display	

NOTE:
1) all models are working belong to a same SDK Source Code, same APP and same Platform Cloud service
2) Please ask your provider for customized app and specific cloud services.

FCC Caution

§ 15.19 Labeling requirements.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

§ 15.105 Information to the user.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.

-Increase the separation between the equipment and receiver.

-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-Consult the dealer or an experienced radio/TV technician for help.

§ 15.21 Information to user.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment without restriction.

EU DECLARATION OF CONFORMITY

Hereby, Xiamen Innov Information Technology Co.,LTD declares that the radio equipment type IVF-BT04 is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following Internet address:
hhttp://www.xminnov.com/
or please refer to the full DOC letter

C E