Personal Pagination–System Information

The version information contains the following information:

- Display app version
- Display update date
- Display the firmware version of the wireless network card
- Display the Bluetooth firmware version
- Display the hardware version
- Display the firmware version of the motion detector

Measurement Pagination

It mainly provides two functions: general measurement and real-time measurement.

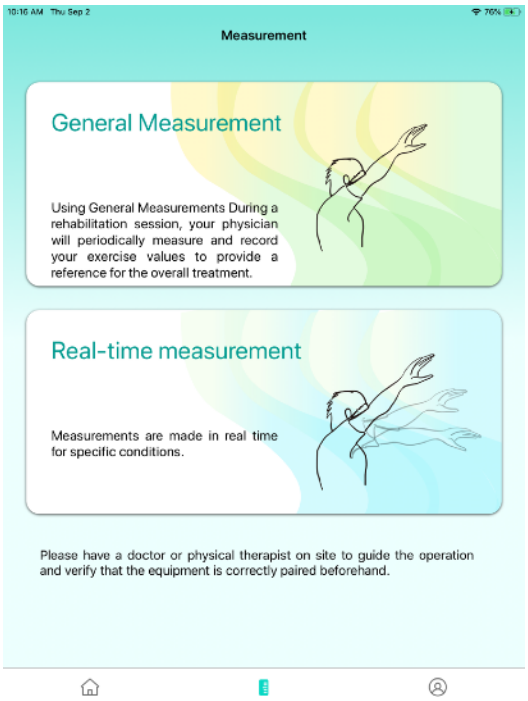
1. General measurement

   Currently, two types of measurements are provided: shoulder joint and knee joint.

   - Shoulder joint measurement items include shoulder flexion, shoulder extension, shoulder abduction, shoulder abduction and shoulder internal rotation, a total of five items.
   - Knee joint measurement items include five sitting and standing tests and knee range of motion, a total of two.

2. Real-time measurement

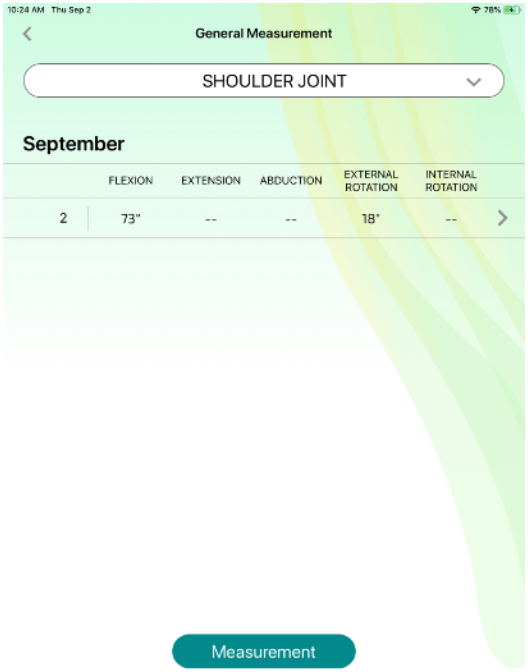
   The angle of the detector being worn is displayed directly on this screen in real time. In addition, it provides the function of recording motion track.



General measurement-measurement records

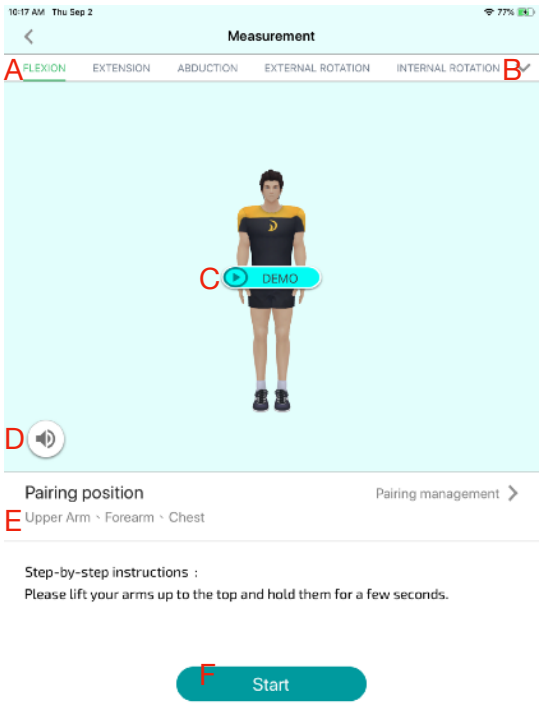
Click the general measurement to enter, the record browsing page, the function menu in the upper left corner, provides shoulder and knee joint options.

Record display rules, read the records of the past three months. When there are multiple measurement items per day, only the maximum angle or the best value of the day will be displayed and all measurement data will be uploaded to the cloud.



General Measurement-Shoulder Joint

The shoulder joint measurement provides five measurement items, namely shoulder flexion, shoulder extension, shoulder abduction, shoulder abduction and shoulder internal rotation. Among them, shoulder outward rotation requires two corrections. Follow the instructions in the order of the labels according to the following figure.



A.Measurement action menu

After clicking the measurement action, the Unity demonstration puppet and step instructions will be refreshed.

B.Expandable menu of measurement actions

After the menu is expanded, select a measurement item and return to the new measurement homepage to refresh the measurement action menu, Unity demo doll and step instructions.

C.Interactive demonstration

After clicking the interactive demonstration, the quaternion animation and voice explanation of the action will be played.

D.Mute

Provide voice dial switch.

E.Pairing point

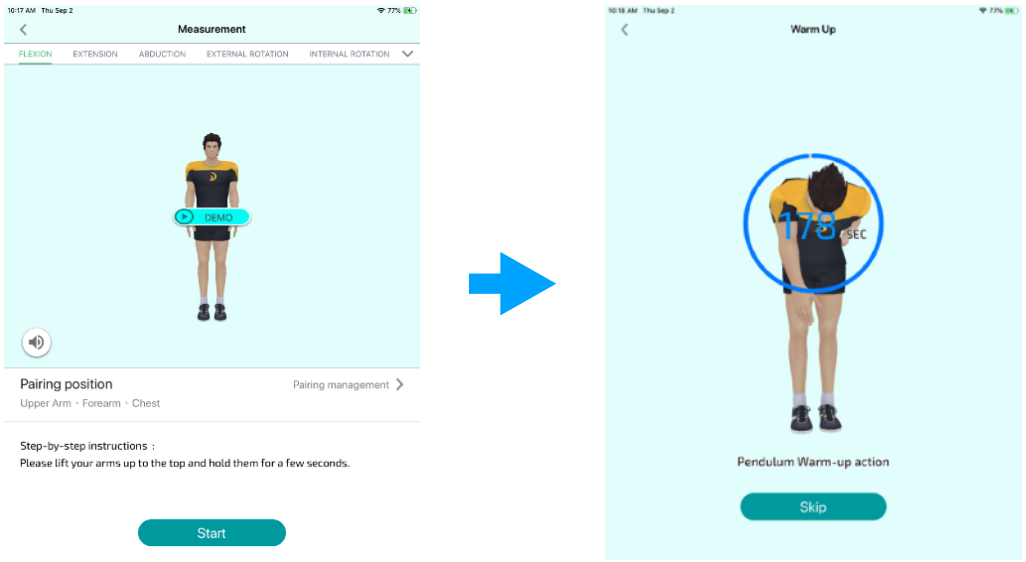
Show that this action can support pairing points, click on the item to act, as described in 2.4.1 G item.

F.Start

Start to enter the measurement process.

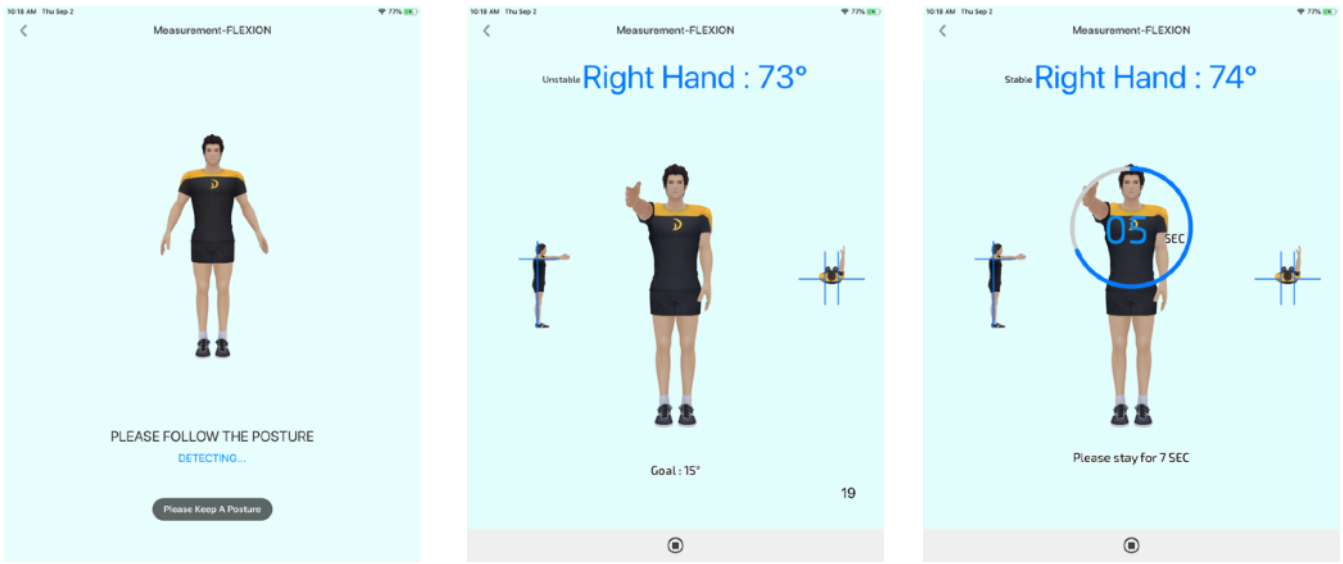
General measurement-shoulder joint measurement process

If you have not done any exercise within an hour, the system will ask you to do the pendulum heating exercise for 3 minutes, during which you can cancel and skip this step at any time.

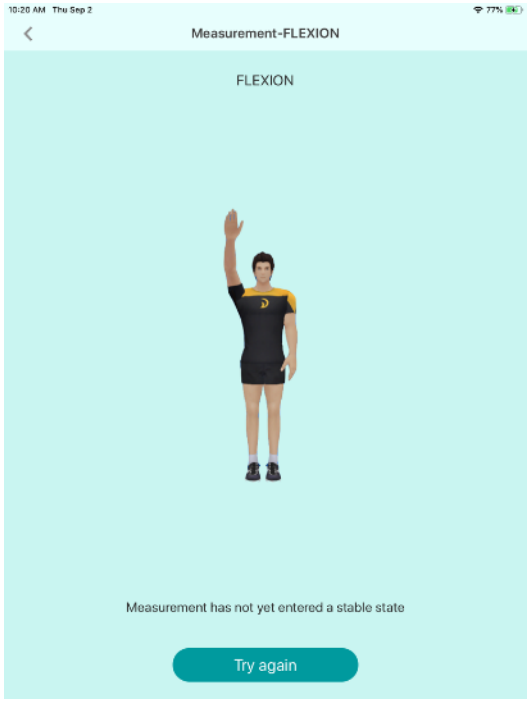


You will see changes in the angle during the measurement. Please keep the angle as high as possible in a comfortable state.

It will enter the 7-second countdown screen when it enters a stable state, as shown on the far right of the figure below.



After the completion, it will be displayed on the screen whether there is someone to assist you in completing this measurement. Please answer according to the current situation. The last angle record will be displayed on the screen. If you want to take the next action, just click Start to continue the measurement.

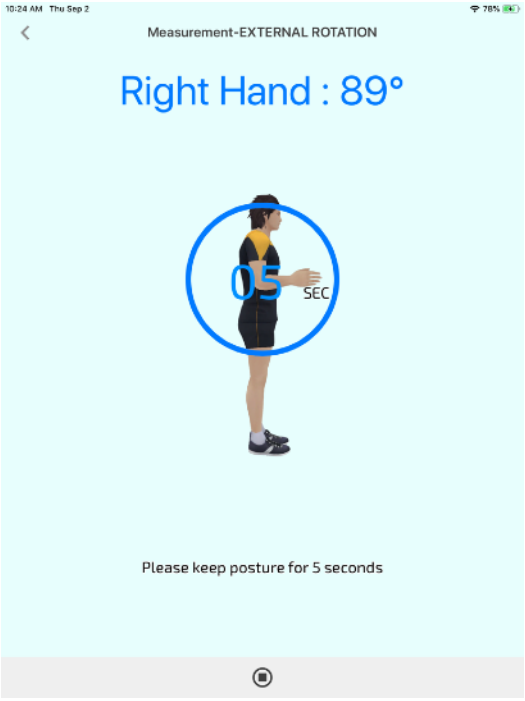


Process stop rule: (After failure, the failure screen will be displayed)

- The minimum angle is not exceeded within the first 30 seconds.
- It has been in an unstable state for more than 10 seconds and has not yet entered a stable state.

When entering a stable state, the hand angle is lower than the minimum angle.

General measurement-secondary calibration measurement process



In the process, special attention is paid to the calibration part. The calibration steps are divided into: single calibration and secondary calibration. Will be used currently

The second calibration is only the measurement item of external rotation, as shown in the left picture.

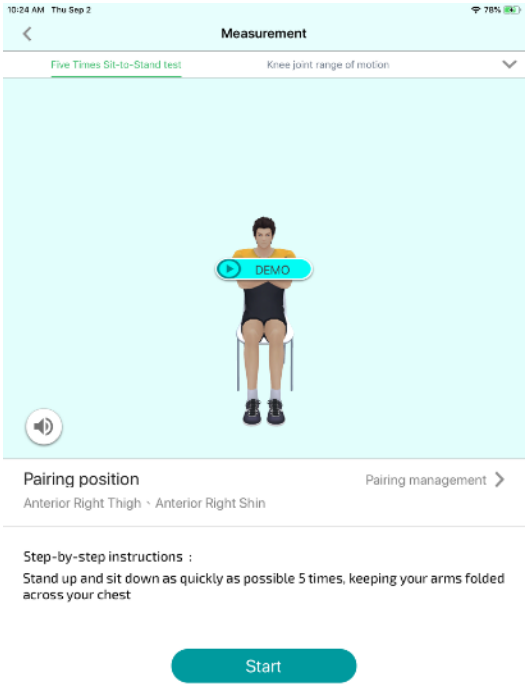
Mainly modify the YAW azimuth angle to zero, and improve the measurement accuracy of external rotation. The rest of the shoulder measurement movement is a single calibration.

General Measurement-Knee Joint

Knee joint measurement provides two measurement items, namely five sitting and standing tests and knee range of motion.

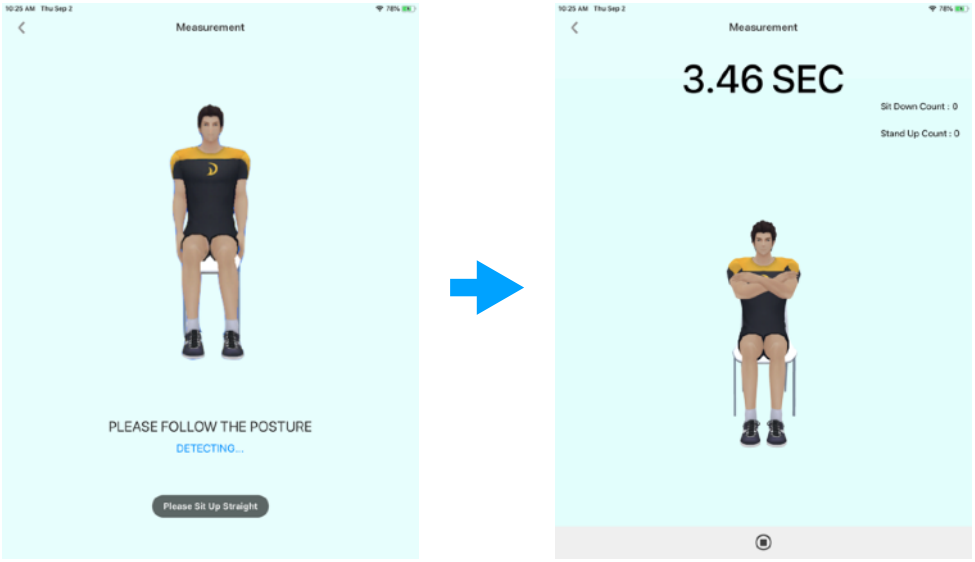
Precautions:

- Before knee joint measurement, the upper body detector must be turned off.
- Quantitatively measure the affected area based on the medical records.
- Voice guidance for users throughout the process.
- Knee joint measurement without warm-up exercise.



General measurement- five-times sitting and standing test measurements

In the five-time sitting-to-stand test process, when you press Start, you will enter the sitting posture calibration. After the calibration is completed, the tester will be prompted to sit and stand up at the fastest speed five times. The process will show how long it took and the current number of completions. After completion, return to the record display page.

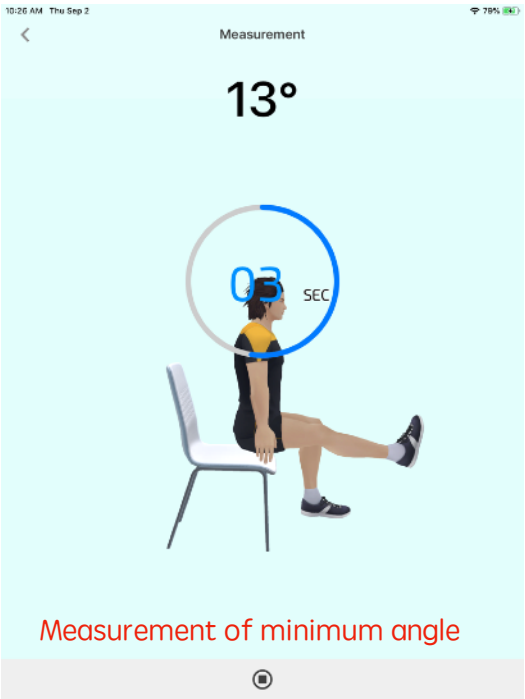


General Measurement-Knee range of motion measurement

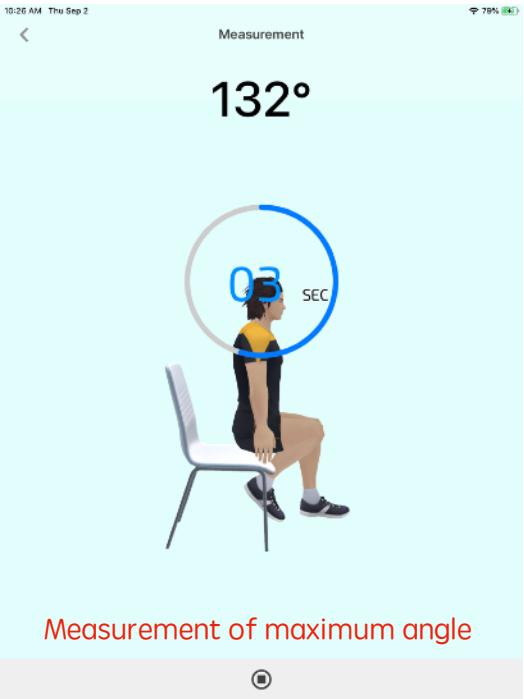
When you press START, you will enter the sitting posture calibration. After the calibration is completed, the tester will be prompted to measure in two stages, measuring the minimum angle and the maximum angle respectively. The user will be prompted by voice before implementation.

- Minimum angle measurement:

  First raise the knee to the minimum angle. At this time, it will hold for five seconds to detect whether the minimum stable angle is. The five-second countdown ends.
- Maximum angle measurement:
  Bend your knees back to the maximum angle, and the countdown screen



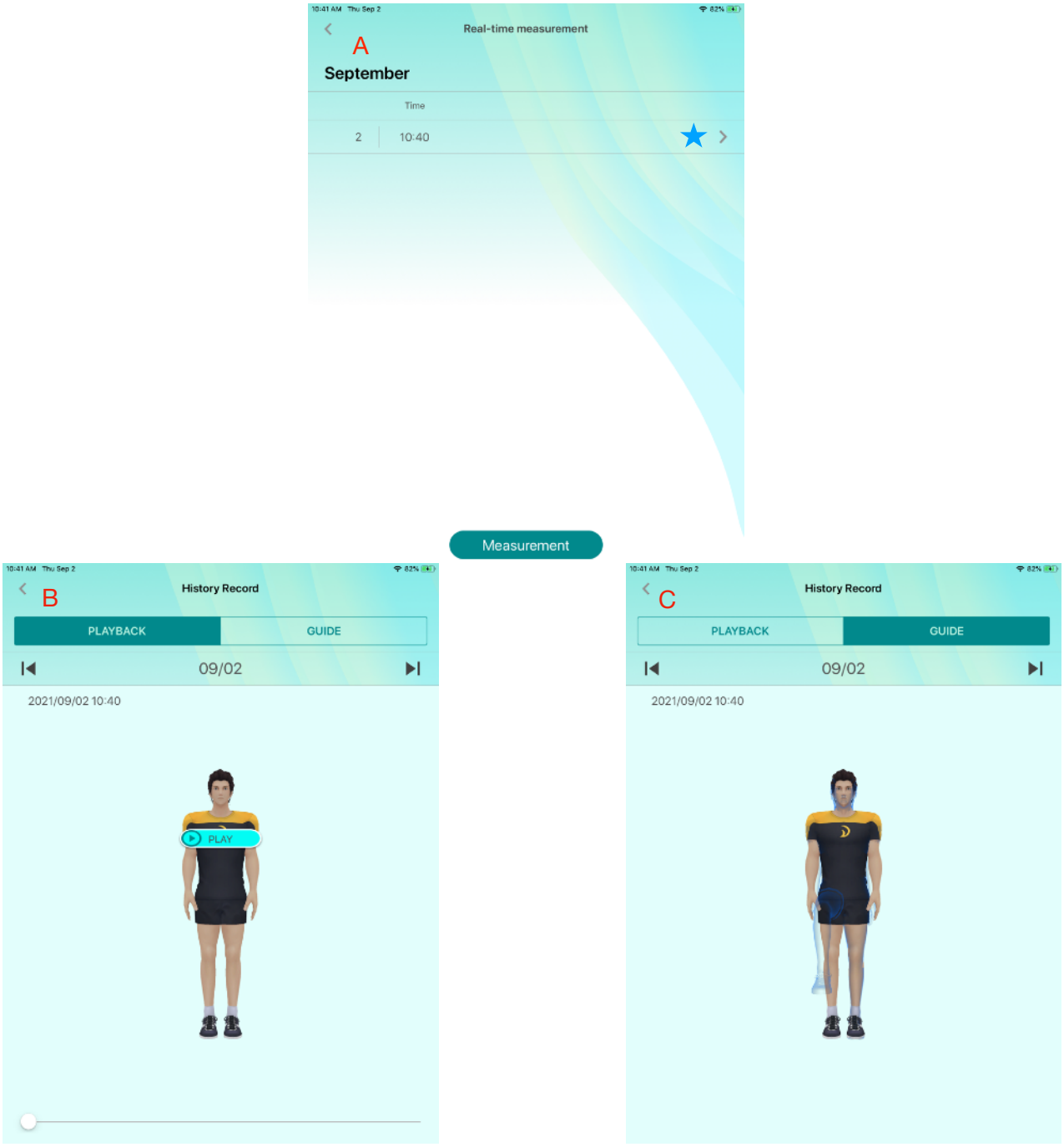
Measurement of minimum angle



Measurement of maximum angle

Real-time measurement-measurement record

Click the real-time measurement to enter the record browsing page, as shown in the label A in the figure below. After clicking any record, you will enter the dynamic history page, which provides two major tabs: action playback (label B in the figure below) and guide mode (label C in the figure below).



Introduction of real-time measurement screen

The figure below is the main screen of real-time measurement, which introduces the function items in a list.

A. Angle reference type

- Relative angle: Use the chest position of the detector as a reference for other detectors.
- Ground reference angle: Use the ground as the reference datum for other detectors.

B.Correction category: Five correction methods are provided: standing upright, A posture, T posture, lying down and sitting.

C.Difference display: Display the degree of change of the angle.

- On/Off: On: Start the difference display function. After it is turned on, the angle of the current posture movement is taken as the new starting measurement angle and the F information angle information is reset to zero. Off: Turn off the difference display function.

D.3D Model: Unity demonstration puppet switching.

E.Sensor information: Provides check to display information parameters, update screen angle information in several degrees, and display integers.

F.Screen angle information

G.Correction button

H.Recording

Device firmware update instructions (OTA)

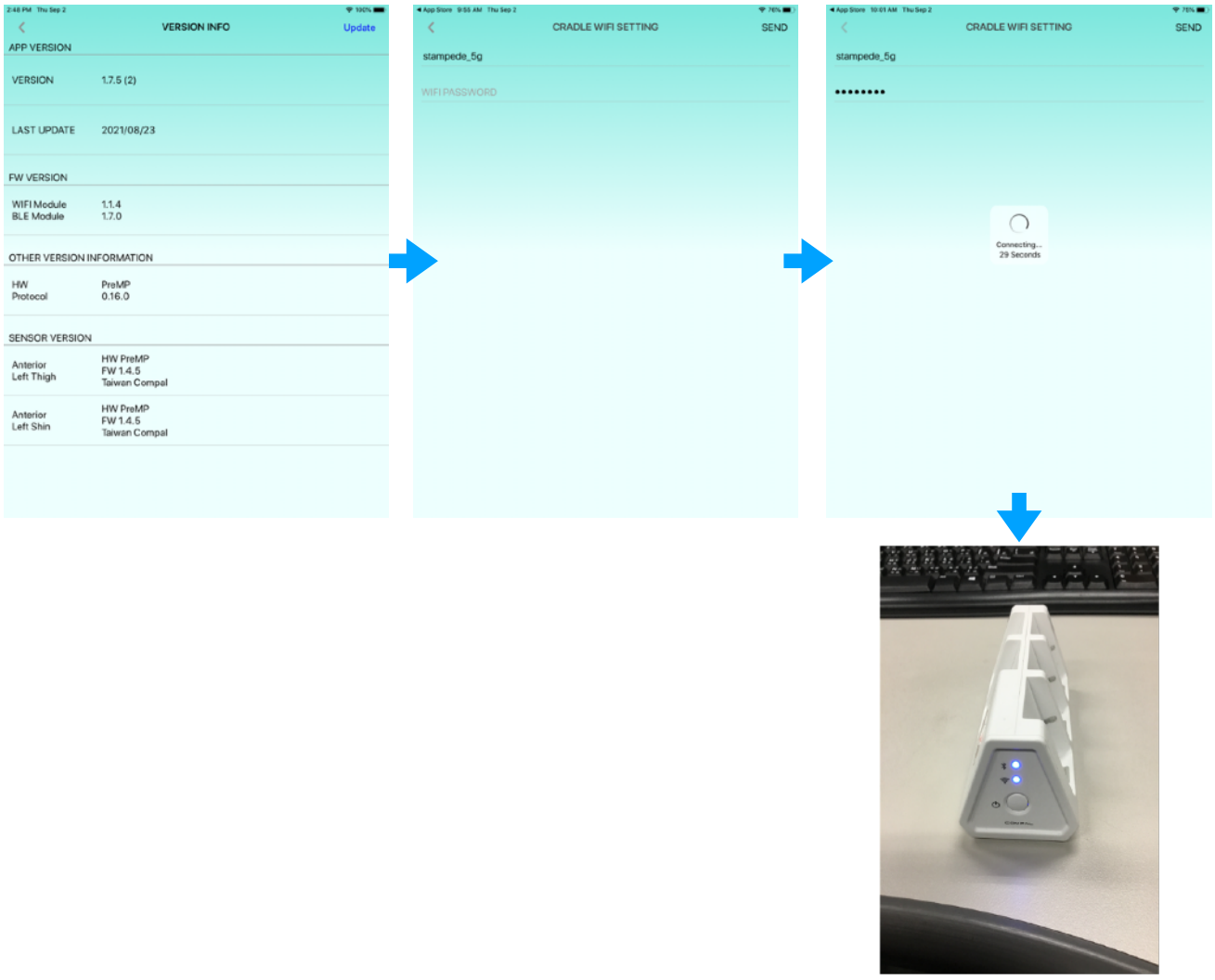
After the system releases the firmware update message, the device firmware must be updated to the latest before it can be used.

First, make sure that the Wi-Fi function must be turned on on the mobile phone or tablet system and connected to the wireless network device.

The network is recognized as a valid network.

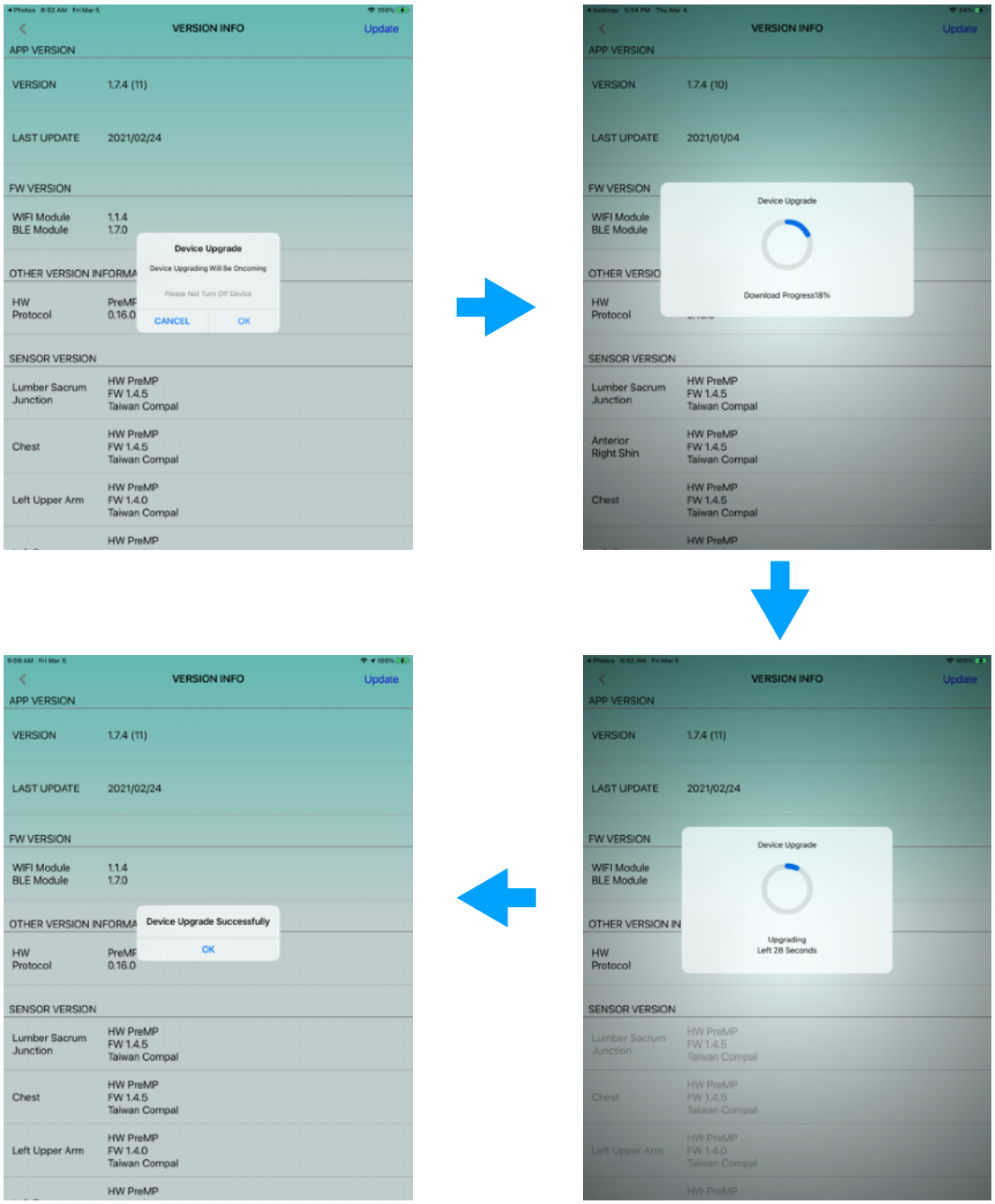
In the second step, open the BOOSTFIX APP and select through the menu button in the upper left corner of the main page ➤ Settings ➤ Actions

Detection processor Wi-Fi settings Enter the wireless network password of your phone or tablet and press the send button in the upper right corner, wait for the motion detection processor to connect to the wireless network, the page will automatically return to the setting function page, and the action The wireless network light of the detection processor will be steady on.



The wireless network light of the motion detection processor will be in a steady state.

The third step is to switch to the personal page and click ➤ System Information. After entering the version information page, you will see an update button in the upper right corner. Please make sure that the detectors are connected to the motion detection processor and powered on, and then click Click the update button, please wait for 10-15 minutes to update.



Usage issues and troubleshooting

1.Bluetooth connection problem of motion detection processor

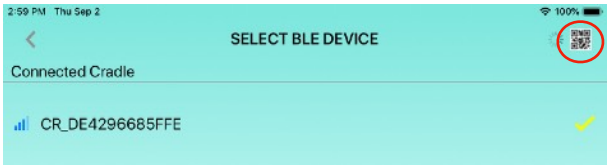
2.Step 1: Please make sure that the Bluetooth setting of the tablet is turned on, and then confirm whether the Bluetooth connection between the tablet and the motion detection processor is normal.

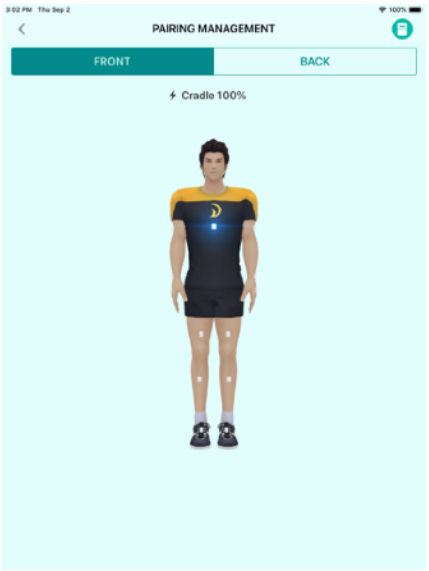
3.Step 2: If the Bluetooth connection between the tablet and the motion detection processor is normal, the Bluetooth LED on the side of the motion detection processor will show a steady blue light. If the LED flashes in blue, it means that the connection has not been established with the tablet. There are two ways to establish a connection:

a. Scan the QR Code behind the motion detection processor, as shown in the left red circle as shown in the figure below.

b. Personal page/Settings/Motion detection processor Bluetooth settings/Select Bluetooth device;

Click on the beginning of the CR_ text (you can click on the connection with the strongest signal). After the Bluetooth connection is successful, it will automatically enter the pairing management page. If there is a paired detector, the doll will emit a corresponding bright color according to the battery status of the detector, as shown on the right of the figure below. If you enter again to select the Bluetooth device, if the connection is successful, there will be a yellow tick on the list, which means that there is currently a motion detection processor connected to the APP.





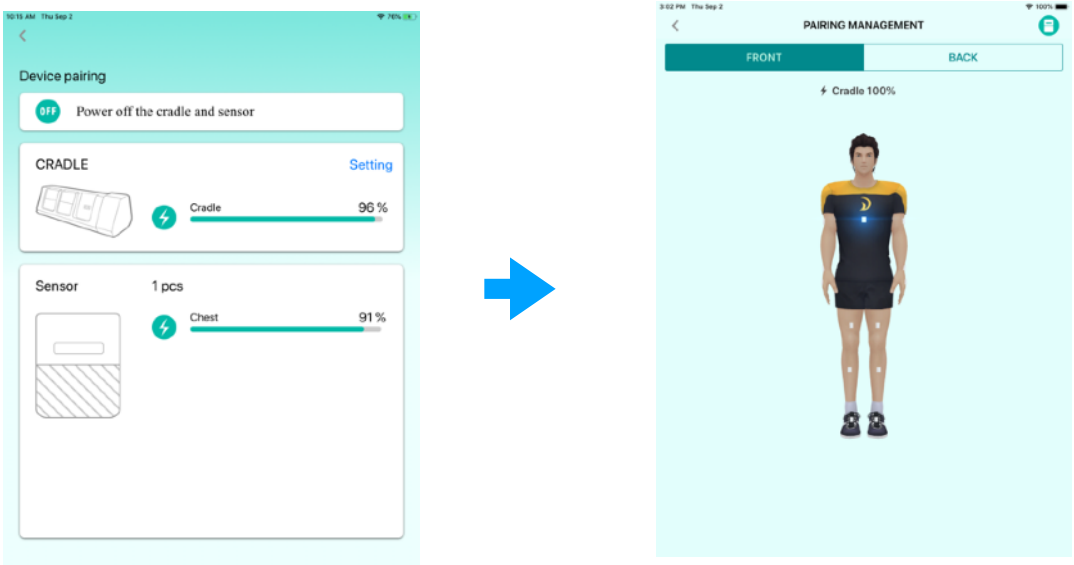
Remarks: When the LED light on the Bluetooth of the motion detection processor is always on, the yellow tick is not found when entering the Bluetooth device selection. At this time, the motion detection processor may be connected by the tablet Bluetooth system or connected by other tablet devices. Solution: Find out the devices and unpair them one by one.

4.Detector Bluetooth connection problem

Question 1: Check whether the LED on the processor is constantly on. If it is not on, it means that it is not paired with the motion detection processor. If the detector is not paired, please repeat the pairing steps again.
Problem 2: The app cannot run normally due to the low battery of the detector. Before using the detector, ensure that the battery level is higher than 10%.

5. How to determine the power of each device, please go to the personal page/pairing management/equipment pairing page, you can understand the current device power.

6.How to know where the detector is paired, enter the device pairing page/ settings/pairing management page, click on the detector currently paired with the doll, and the detector will vibrate to remind the user.



Quick start guide

Product operation procedures (1/2)

P.1

Checking the following steps will quickly guide you to use this product

- ☐ 1. Professionals will help you create an account
- ☐ 2. According to your tablet, download the BoostFix® application from Apple Store or Google Play
- ☐ 3. Download the user manual of BoostFix® from the official website for detailed operation methods
- ☐ 4. Run the BoostFix® application and log in to the system with your account

Product operation procedures (2/2)

P.2

- ☐ 5. Pair your tablet and the motion detection processor with Bluetooth, and use the BoostFix ® application to confirm the wearing position of each motion detection device
- ☐ 6. Fix the motion detection device with a band to the body part designated by the doctor
- ☐ 7. Start the measurement according to the instructions of the BoostFix ® app

Product descriptions

P.3

Please be sure to visit the official website
https://iomt.compal.com/BoostFix/Document/EN/user_manual.pdf
Download the instruction manual, read it in detail and follow the instructions.

Intended use: This medical equipment is an electronic protractor, which can measure, record and display the user's degree of freedom of joints.

Effectiveness: This product can measure, record and display the user's joint freedom.

Warning :

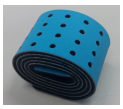
- The user must perform the relevant course of treatment according to the rehabilitation mode specified by the physician.
- This product is used for measurement and recording, not a diagnostic product; users are not allowed to change any treatment course based on the data produced by this product.

Packing contents and descriptions

P.4

1. Sensor device x 5

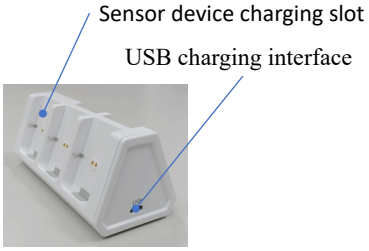
3. Strap **XL x 1, L x 2, M x 2, S x 2**



2.Sensor holder x 5

Hold the sensor devices

4. Charging Cradle x 1



Note: The motion detection processor is also the charging base for the motion detection device. When charging, the side with the diagonal pattern of the motion detection device should face down. The charger use condition is 5V2A.

Product Specifications

P.5

Product Model: **CEX01-MD1801**

Angular Accuracy	Maximum angular error < ± 2°	
BLE Version	BLE 4.2	
Wireless Communication	Wi-Fi 802.11 a/b/g/n	
Strap Size	XL size (mm)	26(W) x1080(L)
	L size (mm)	26(W) x 712(L)
	M size (mm)	26(W) x 400(L)
	S size (mm)	26(W) x 240 (L)

Motion detection device	Model	BoostFix
	Size (mm)	34.6Lx26Wx6.7H
	Weight (g)	6
	Rated power	5V ⎓ 60mA
	Battery life	75mAh / 10 **hours**
	Inertial measurement unit	6-axis sensor
	Processor	32-bit ARM M4
Motion detection processor (Cradle / Charging base)	Model	EcoFix
	Size (mm)	108Lx47.8Wx46.6H
	Weight (g)	118
	Rated power	5V ⎓ 1.9A
	Battery life	2400mAh / 15 **hours**
	Processor	32-bit ARM M4

BoostFix® application menu

P.6

Items	**Functions**
User Account	Login/logout
	Edit personal information
User Settings	Pairing management
	Cradle Wi-Fi Setting
	Cradle BLE Setting
	Action Guide
	Break time
	System information
OTA	Notify users to update
	Display progress

Items	**Functions**
Measurement	Flexion
	Extension
	Abduction
	External rotation
	Internal rotation
	Five Times Sit-to-Stand test
	Knee joint range of motion
History	History Record