Intern Project

Product design
UX/UI design

4 month

02

Baby Hero

Children's personal health assistant

OVERVIEW

Project Background

At my second year in university, I joined a smart device stared-up as an intern. Our CTO's daughter experienced severe pneumonia for the overlooked a small fever at that time. So, he decided to build a smart thermometer for new parents.

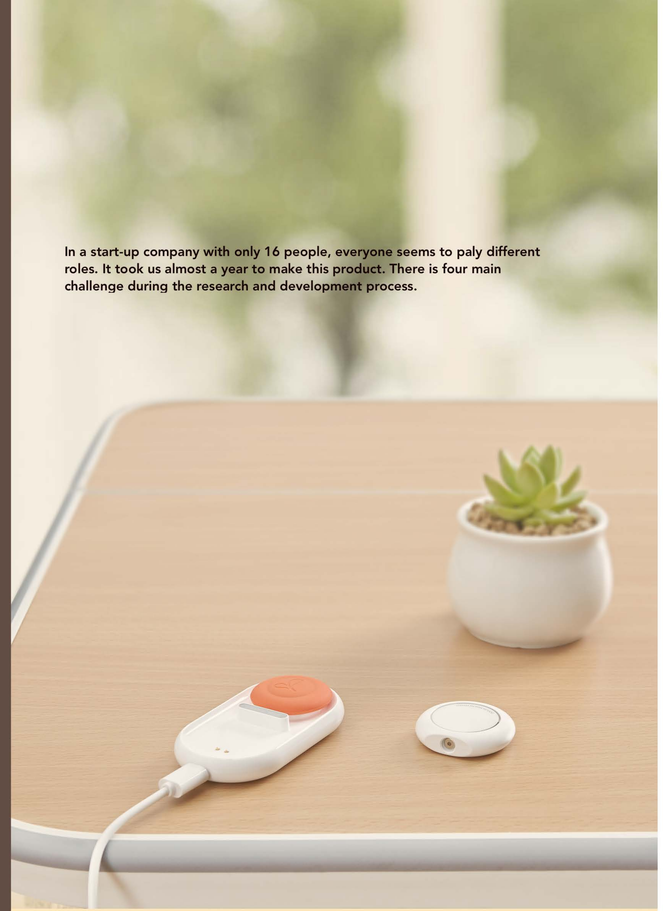
For most Chinese family, lots of them still use mercury thermometer which is slow, fragile and contain poison mercury. Our vision is to offer an easier and smarter thermometer.

Project Outcome: Baby Hero

Project Baby Hero delivers a smart thermometer and an app for providing service. Parents can use Baby Hero for children's temperature measurement and other six useful functions.

My Role

Primarily responsible for 1 ."Kick quilt" feature 2. silicon case design



In a start-up company with only 16 people, everyone seems to paly different roles. It took us almost a year to make this product. There is four main challenge during the research and development process.

Challenge 1

TEMPERATURES

Challenge 2

SENESORS & DISPALY

Challenge 3

MORE FEATURES

Challenge 4

SAFETY & USABILITY

PRODUCT

THEROMETER

MAGENET

CHARGING DOCK

CHALLENGE 1

TEMPERATURES

1. Mercury Thermometer

In China, nearly every family have mercury thermomether, the results is quite accurate if you put thermometer under your armpit and keep still at least 5 mintutes. But it can be hard for a child to keep that way, so the result is no really accurate. What's more, this not recommended for children younger than 5 years old.

2. Electronic Thermometer

The Electronic thermometer seems a good choice, but if we use electronic thermometer and keep it in a wearable device, the cost is too much.

3. Electronic Thermometer

Measurements can be taken from a distance for hot surfaces and objects; measurements can also be taken of moving parts, and small infrared sensor's price is reasonable.

So our choice is to use Infrared thermometer, it seems pretty good during the whole process. However, after we send our product to some of our first buyers. We got some complaints about the temperature reading is NOT STABLE. Sometimes it WENT TOO HIGH SOMETIMES WENT TOO LOW. We check the hardware and software of prodcut. Everything seems in good condition.

What goes wrong?

we ask our users for a video when they using the products and found ...
It's the DISTANCE between infrared sensor and the child's forehead!

- Although infrared thermometer is able to measure moving objects temperature, the distance from the heat source can eaily influnce the results. We know we can just put the correct distance number in the instruction and call it a day.

- Put a ruler in the box can't really solve the problem at all, it just push back this problem to the cusotmer.

Solution (MY DESIGN!)

I analyze the process of temperature measuring, the heroes of this process can simplify as two objects, child's head and parenst's hand.

I can't rely on the child's head and parent's hand keep still, my stupid early idea reminds me, why put a ruler in the wrapping box? For the exact number of distance! So I just "ATTACH" the ruler on the thermometer!

I designed a silicon case for the Baby Hero:

BEFORE

AFTER

- The cute rabbit ears make sure the distance between the thermometer and forehead is exact 20 mm which is the perfect distance for measuring.

- The reason our team chose bright yellow and rabbit ear shape is this outlook won't terrified kids and will help them relax.

Sensors

As a wearable device that made for the kid, so one of out design principles is:
NO PHYSICAL BUTTONS AND SWITCHES

By sticking to this principle, we can make sure that kids won't accidently touch button and was able to reach IPX55 water & dust resistant.

We use embedded motion sensor to activate the device; parents only need to shake it twice to activate it, and measure the temperature quickly.

CHALLENGE 2

SENSORS AND DISPALY

Dispaly

In order to prolong the standby time (90 DAYS !), we made a very bold move.

NO SCREEN

We have LED lights at the back, but if we only use LED light our panel won't look bright evenly and beautiful. We silkscreen our front panel 14 times.

We use this panel as the "filter" of LED lights so visually the front panel is as good as an OLED screen.

CHALLENGE 3

MORE FEATURES

Sensors limitation

We designed our products really tiny; there are only two sensors in our product: embedded motion sensor and infrared heat sensor.

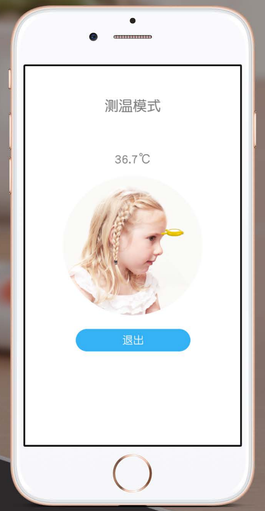
Features

We still able to brought up 6 important features by using only 2 sensors

- BODY TEMPERTURE
- MILK TEMPERTURE
- SLEEP MONITOR
- EXERCISE
- GET LOST PROTECHTION
- KICKING QUILT

Home page

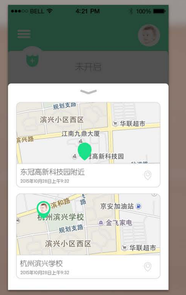
- The ballons in the child's hand represents different main features
- Baby Hero at the lower left corner indicate connection status



Temperature measuring mode

- Users can use app to acivate decvice.
- If users want to check temperature quickly, shake the device twice to activate. But the real-time temperature won't be documented in the app.

Get lost protection



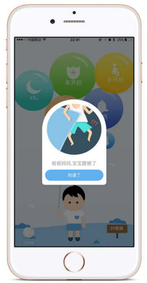
- We use Bluetooth as our connection, and there is a disadvantage of Bluetooth connection, Bluetooth connection is not very strong if the distance between the device and phone beyond 8 meters, the connection will break. We turned this disadvantage into an advantage by using the connection break as an alert. If the child gets too far from their parents, they will receive an alert and approximately location.

CHALLENGE 3

MORE FEATURES

Kicking Quilt (My design)

temperature inside quilt



child kick the quilt the temperature drops quickly, and parents get an alert

I gained inspiration of this features by answering following questions:

Why parents need buy a thermometer for their children ?

COLD & FEVER

What is the main reason that children(0-5) easily get cold or fever ?

VIRUSES

* For most people, they believe they have a common cold for the cold environment. No matter common cold or flu are both caused by viruses. The cold environment weakens your immune system so you would have a cold easily.

CHALLENGE 3

MORE FEATURES

Sleep monitor

Instructions

Day Week Month

doccument

shake to power on

instant measurement

magnetic charging

magnetic wear

CHALLENGE 4

SAFETY & USABILITY

Designed for ~~Parents~~ Children

Although this device is designed for help patents take their childern easily. But it's the children(0-5)that wear this device.

Size

The size of this device is one of the selling points. Traditional thermometers portability is poor. We want this device can help parents no matter where.

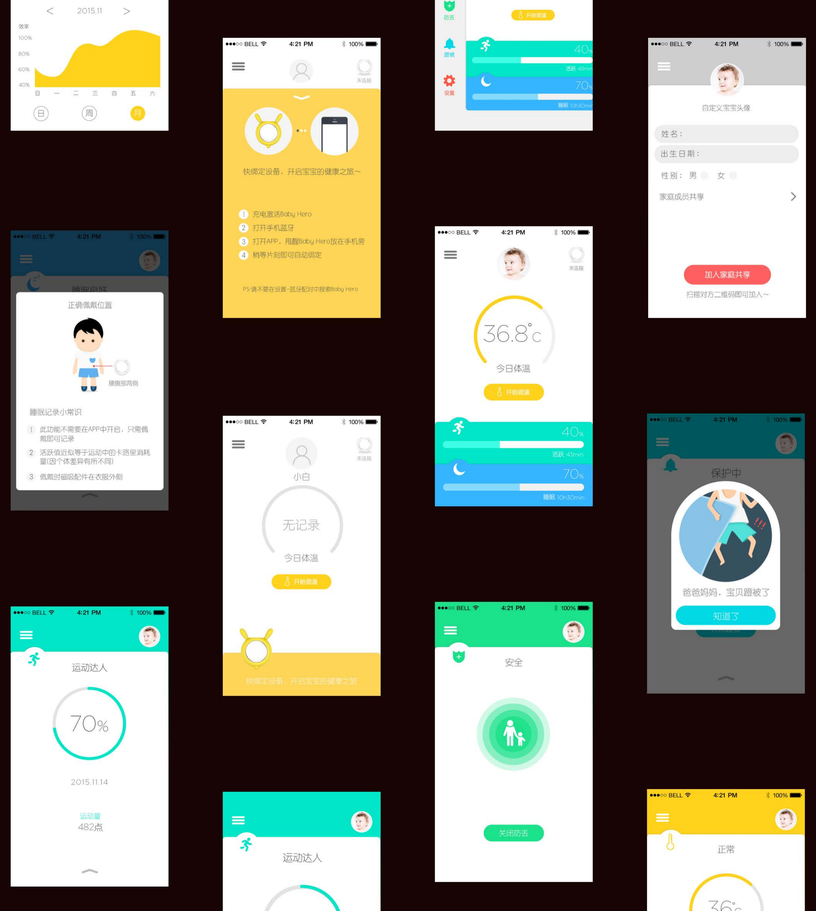
But safety first，we could build this device smaller to increase its portability, but to avoid children swallowing, we build it in the right size.

38.5mm > 31.5mm (small part srandard)

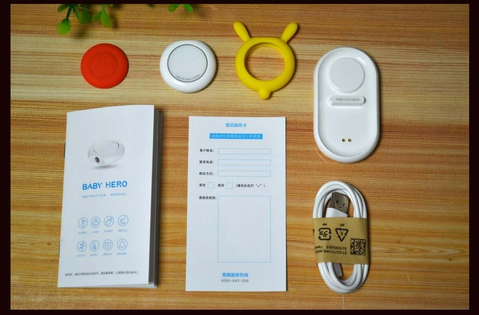
Wearable

This device is made for small children, so we decide to use magnetic to make our product wearable. And for the children, because this device is clink to the cloth, the children won't have foreign body sensation.

UI Design




38.2


BABY HERO


37.3


180ml
150
120
90
42.2