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Intellectual Infant Care System

Superparenting

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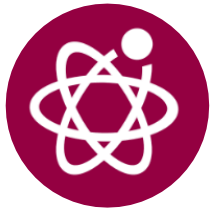
Content

1. Backgrounds

2. Functions

3. Techniques



4. Display

5. Teamwork

6. Achievements

01

Backgrounds

Overview

Surveys

Competitors

Background
Overview

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Policy Advantages Eugenics + Strong Consumer Spending Power → Prioritize Quality of Infant Care → Vast Consumer Market

High acceptance of smart home devices → willingness to invest in higher costs

Desire for good-quality and user-friendly products → Prefer mid to high-end smart products

Background
Surveys

Surveys of Target Consumer Group for Infant Smart Monitoring System

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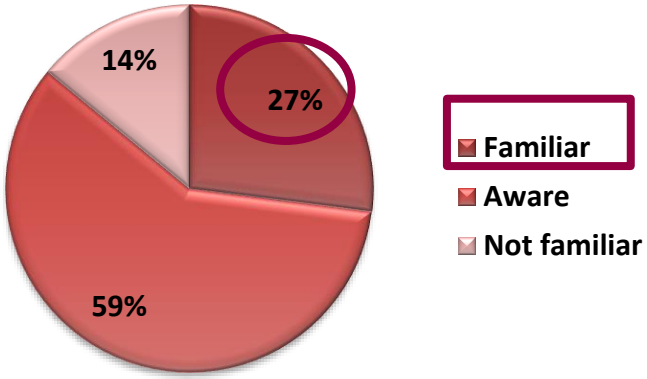
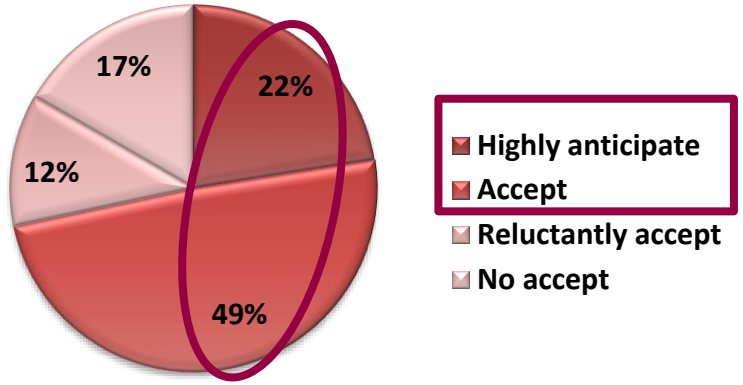
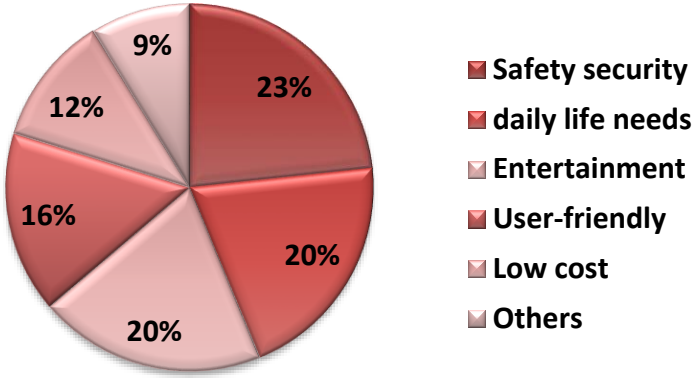
Familiarity with Smart Products for Infants and Toddlers



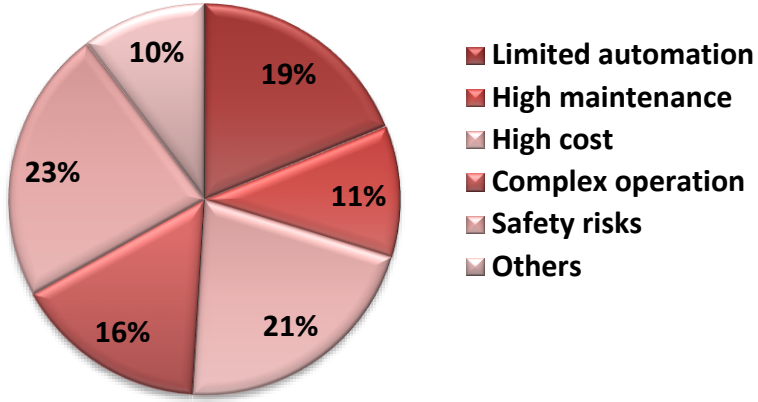
Acceptance of Smart Products for Infants and Toddlers



Expectations for Smart Products for Infants and Toddlers



Drawbacks of Traditional Infant and Toddler Products



Background
Competitors

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Names	Functions	Drawbacks
BOSCH 科技成就生活之美 Bosch Smart Baby Crib	Multi-scene functionality, remote caregiving	Lacks smart monitoring, automated care features
LoveUBaby Monitor	Baby sleep state recognition, sleep analysis	Cannot streamline infant care
Xiaomi Baby Monitor	Cry detection, motion detection	Limited monitoring features
Seahorse Papa Monitor	Virtual fencing, cry detection, sleep recognition	Lacks intelligent device management

Background
Conclusions

Intelligent Infant Care System
Necessary, In Demand, Promising

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Target users have limited awareness of smart infant and toddler products
This calls for dedicated promotional efforts and presents promising market prospects

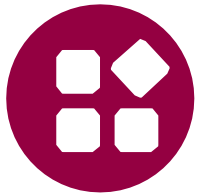
Target users show a strong acceptance of smart infant and toddler products
This inspires us to address this market demand with practical solutions

A holistic demand framework of “safety, life, education, entertainment”
we derived the target user group's demands as a starting point for product design

Traditional infant and toddler products have low competitiveness
We leverage strengths, mitigate weaknesses, and further enhance product design

02

Functions



Overview

Hardwares

Softwares

Functions
Overview

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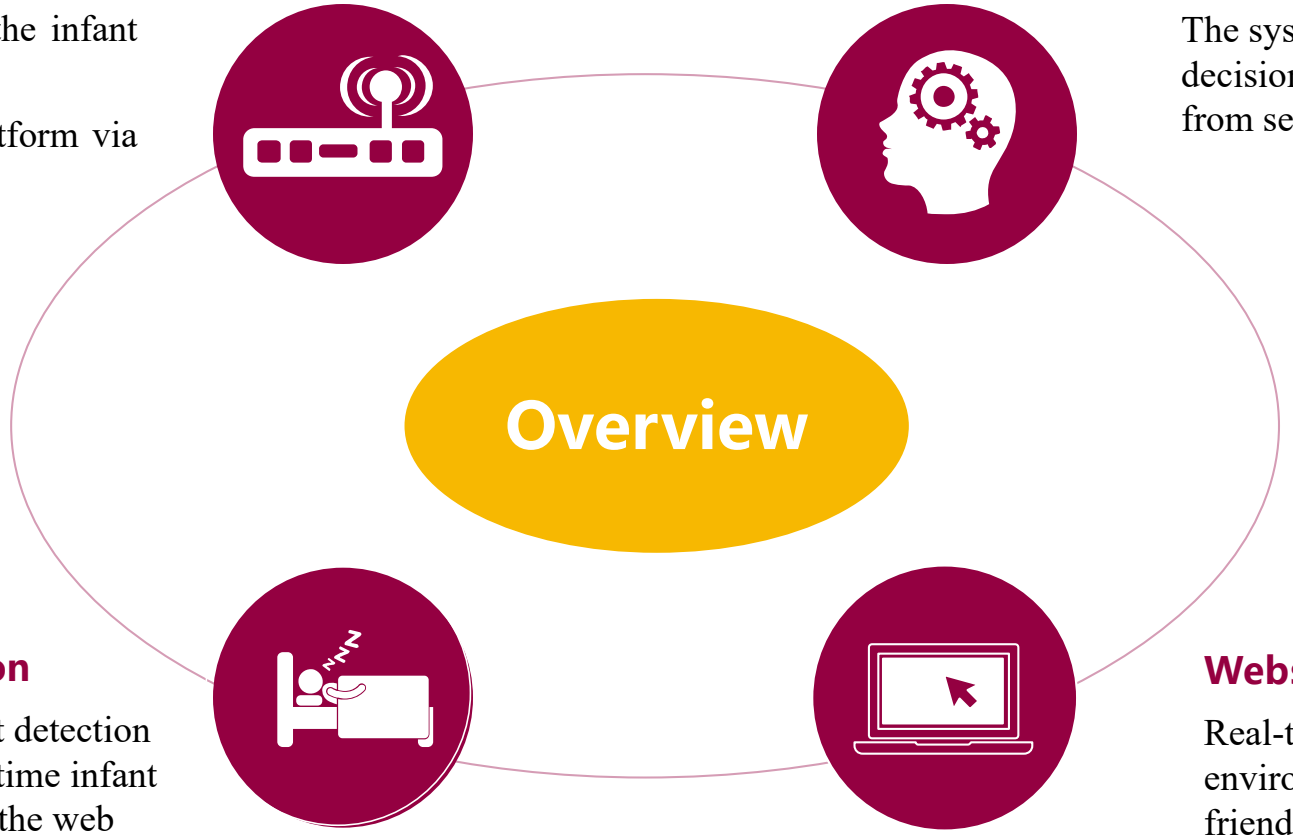
Data Collection & Reporting

Gather information on the infant using various sensors.

Report it to the IoT platform via Raspberry Pi

Smart Decision-Making

The system makes intelligent decisions based on data collected from sensors.



Sleep Status Detection

Using a camera and object detection algorithm to identify real-time infant sleep status, displayed on the web interface

Website Control

Real-time web access to baby and environmental information. User-friendly features include a mom's forum, product recommendations, and voice interaction

Functions
Hardwares

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1 Remote Interaction

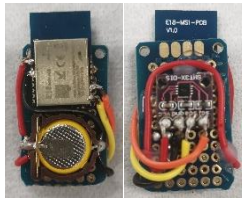
*Early education system. *Remote video and music playback. *Remote video interaction with the baby.

2 Automatic formula dispenser

Timed milk preparation, warming, sterilization.

3 Diaper Detection

Diapers equipped with temperature and humidity sensors to detect wetness, with reusable sensors.



4 Bed Curtain

Motor-driven curtain for opening and closing, automatically closes in high light intensity.

5 Data collection

Use sensors for temperature, humidity, body temperature, light intensity, and air quality to gather environmental data.

6 Multi-speed Baby Cradle

Upon detecting baby cries, the cradle motor activates, offering three adjustable levels.

Functions
Softwares

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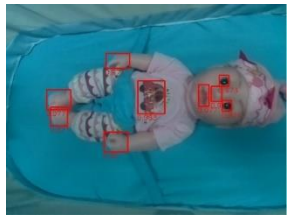
1 Sleep Status Detection

Use cameras and sensors to collect real-time data and intelligently analyze the baby's condition.



Infant Detection

2 Recommendation System

Search for specific product names. Show the best cost-effective product options.

Recommend Products

3 Voice Interaction System

One-click voice operation, unified status and control interface, low learning curve.

Voice Detection

4 Motherhood Community

Expert advice, parenting experiences, after-sales support.

Mothers' Forum

5 Automatic Care System

Environmental data sensing, intelligent decision-making, automatic care.

Automatic Care

6 Alarm and Timing System

Scheduled service activation, multiple alarms with customizable frequencies.

Timing

03

Techniques

- Overview
- Hardwares
- Softwares

Techniques
Overview

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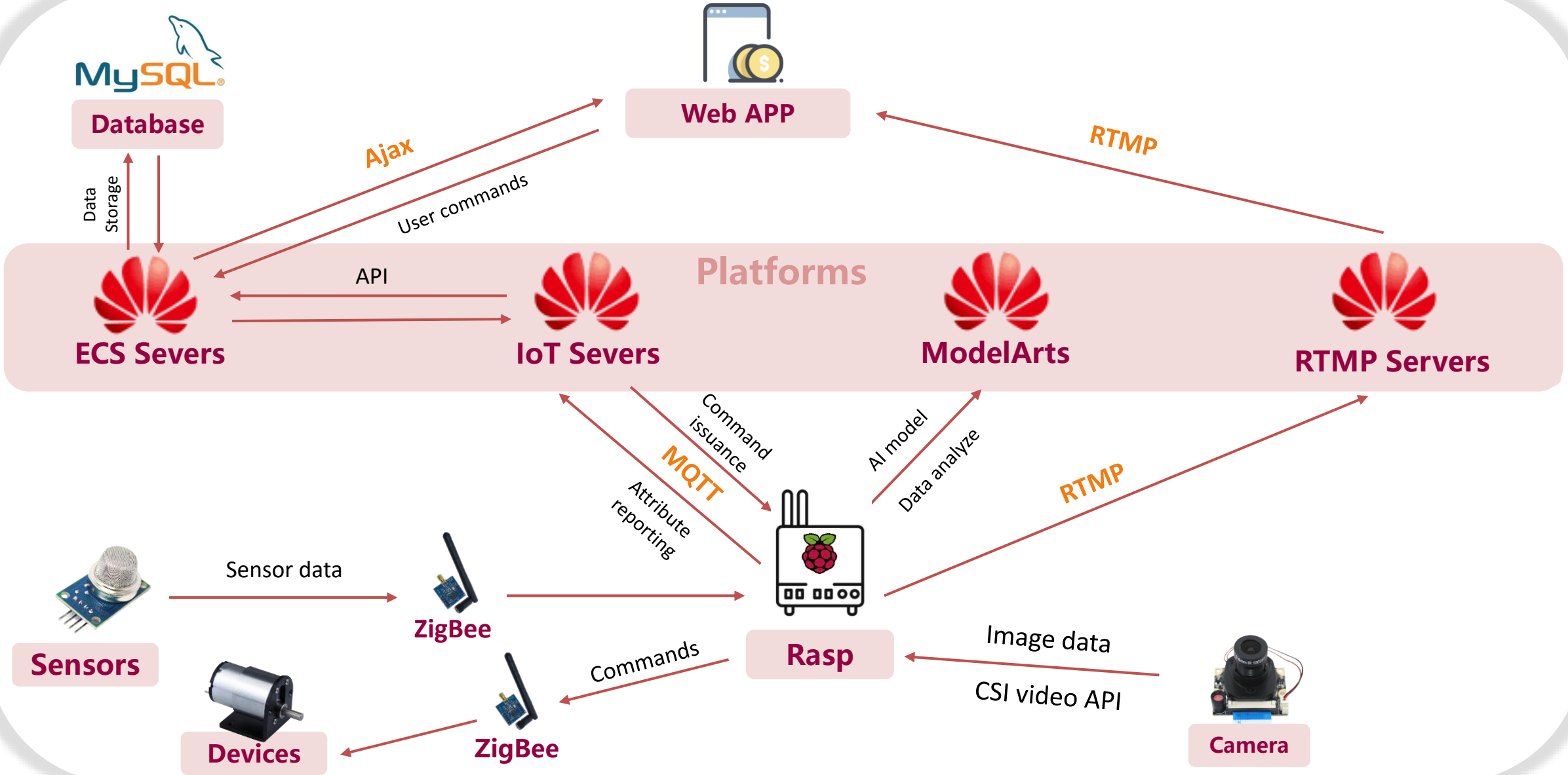
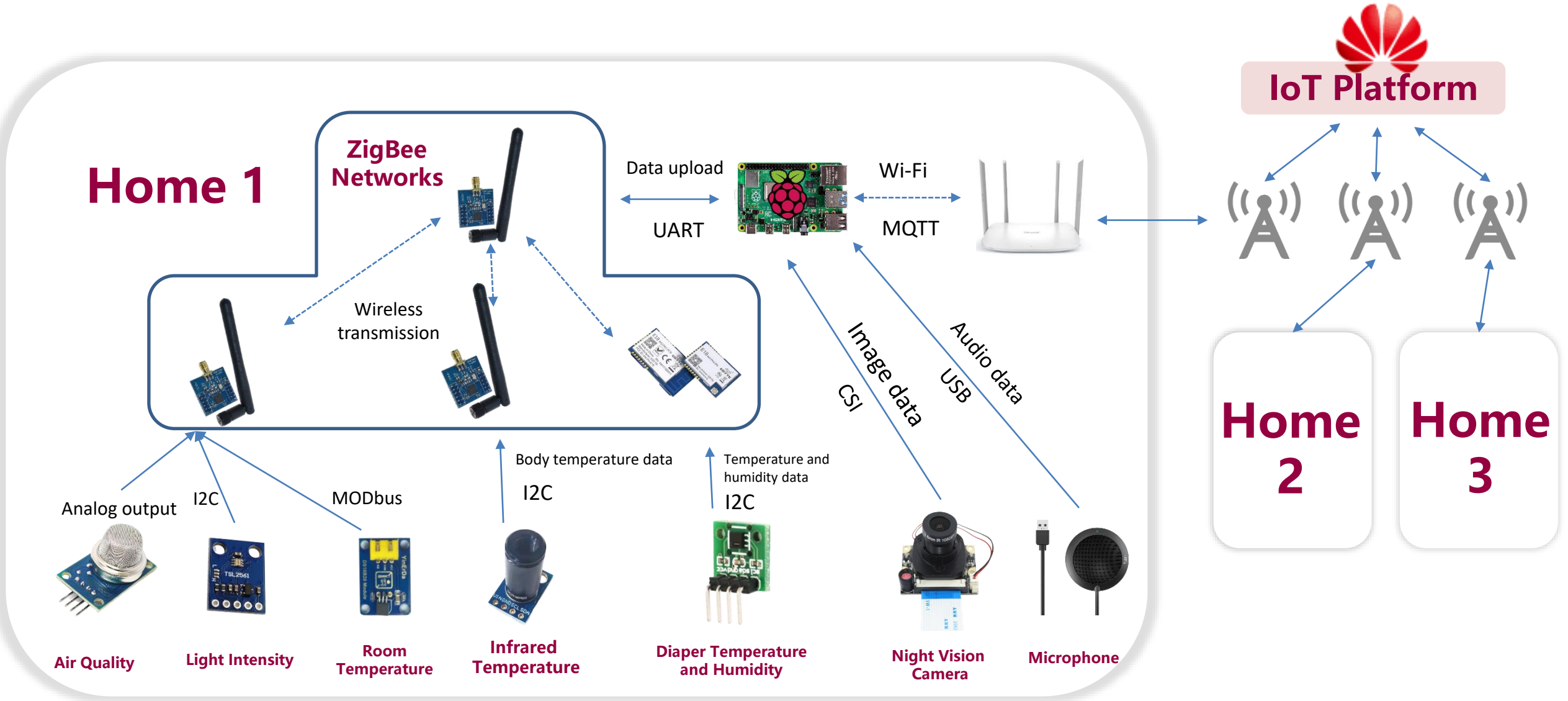


Techniques

Hardwares — Data Acquisition



Techniques

Hardwares — Devices Activation

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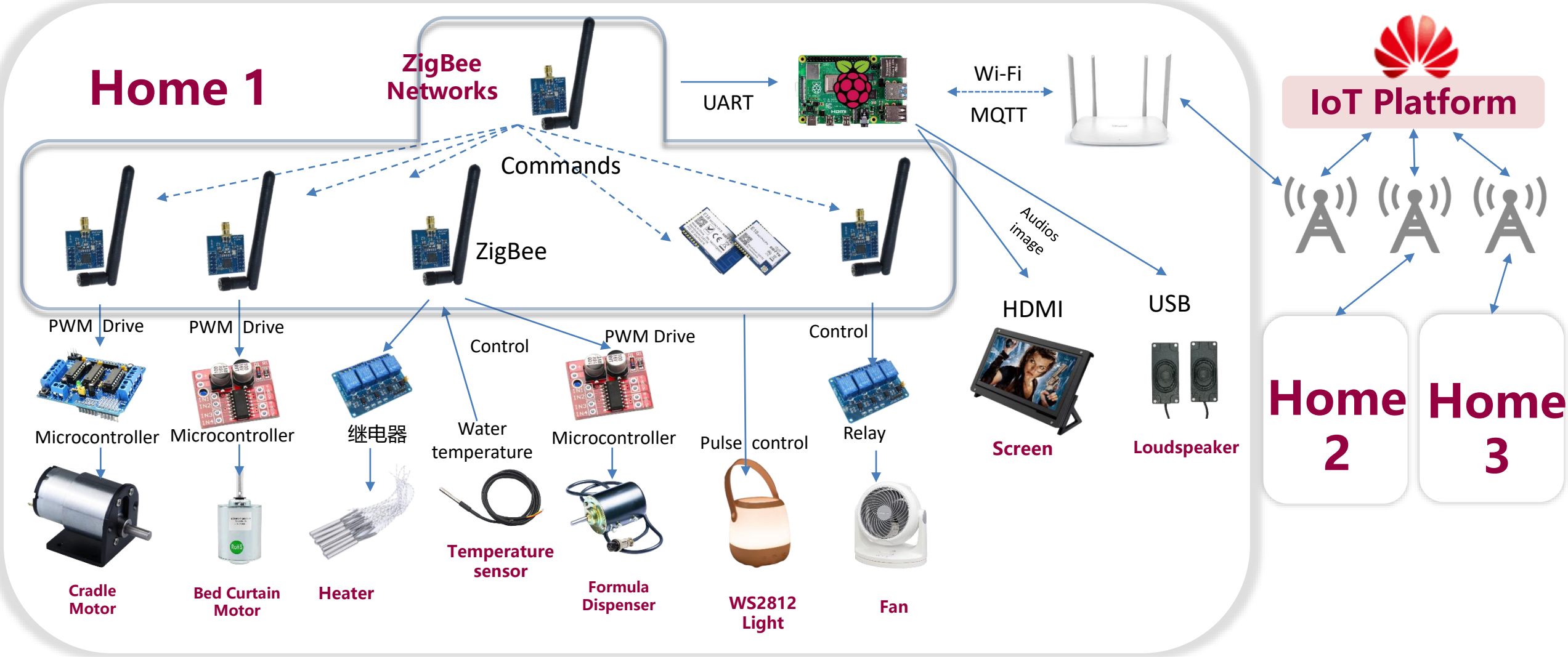
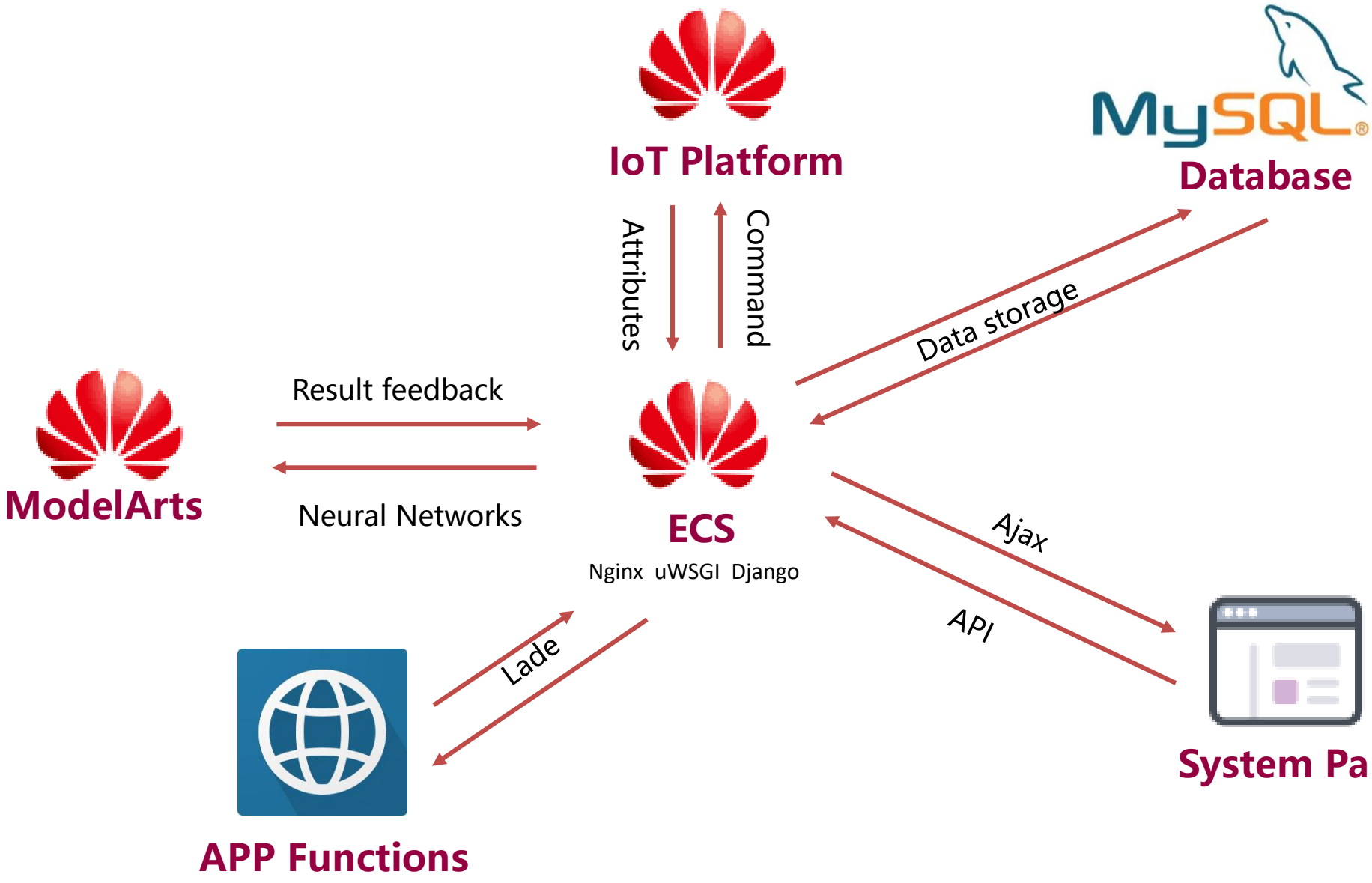
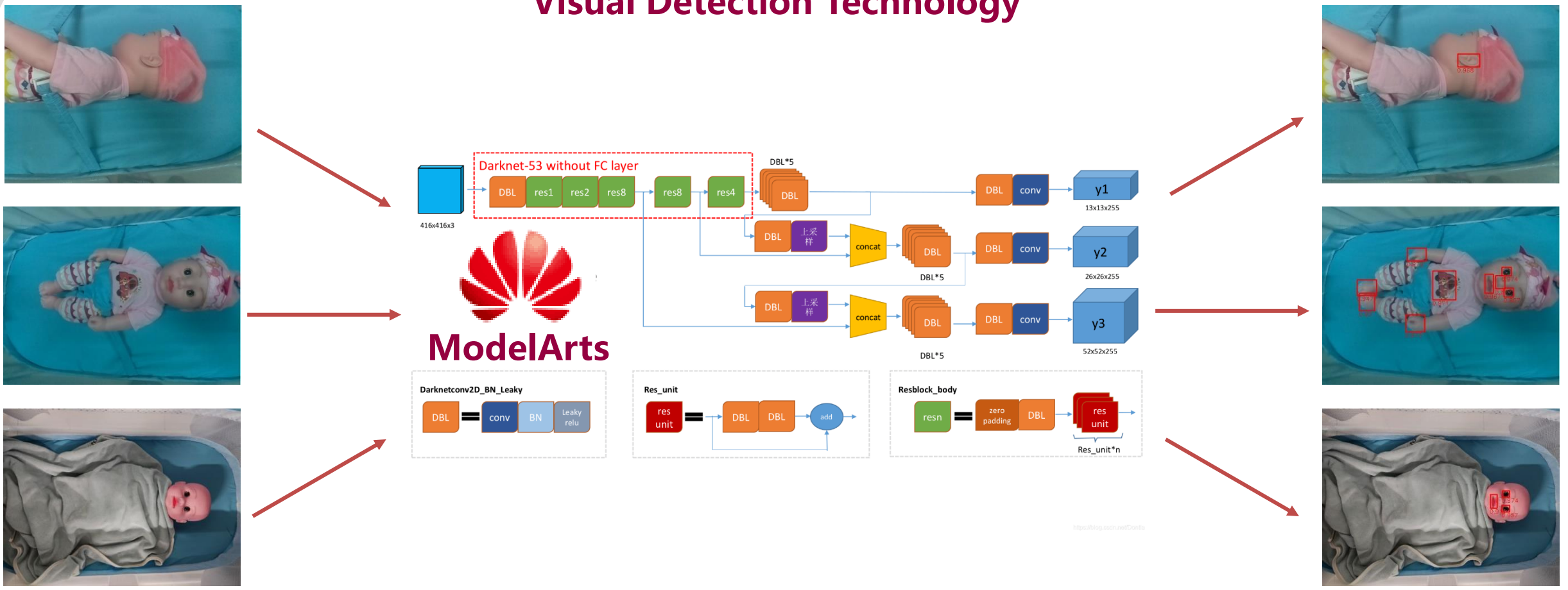


Techniques
Softwares



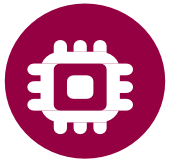
Visual Detection Technology



04

Display

Overview



Hardwares

Softwares

Display Overview

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Bed Curtain motor

Camera

Cradle

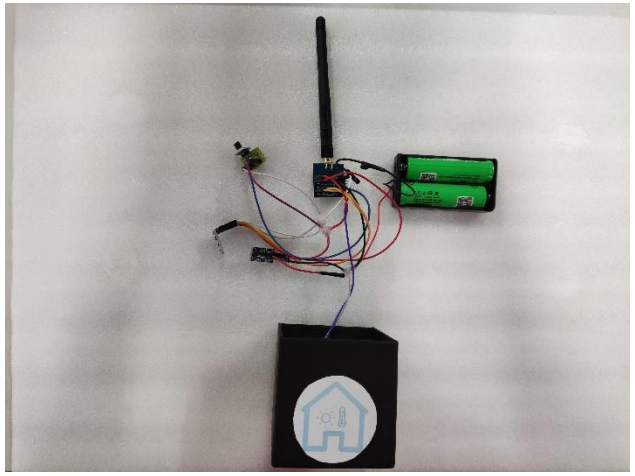
Video Player

Signal Transmitter

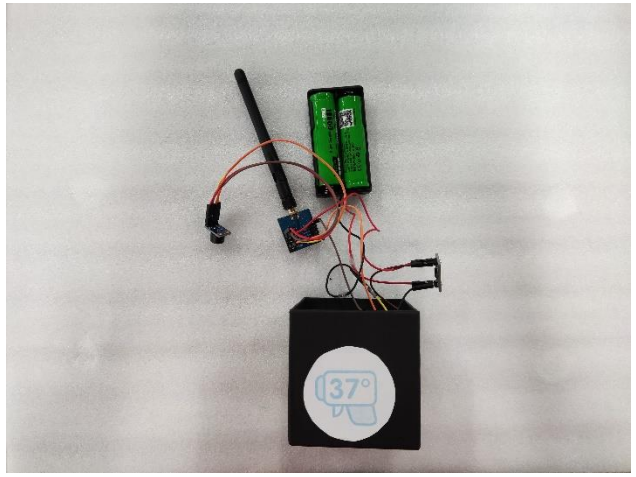
Milk Formula Dispenser

Raspberry Pi Smart Gateway

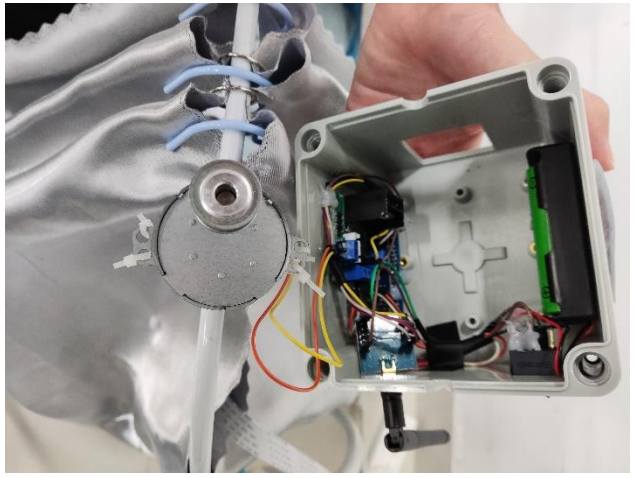
Display Hardwares



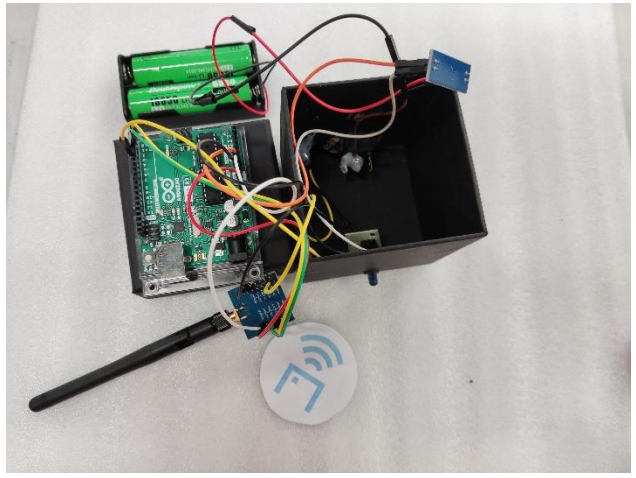
Light & Room Temperature Sensor



Body Temperature Sensor



Motor for Bed Curtain



Infrared signal Transmitter

Display Hardwares

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Closing of Bed Curtain

Automatic Rocking Cradle

Remotely Controlled Video Player

Automatic Milk Formula Dispenser

Display
Softwares — Sleeping Detection

Normal

Nasal Coverage

Prone Sleeping

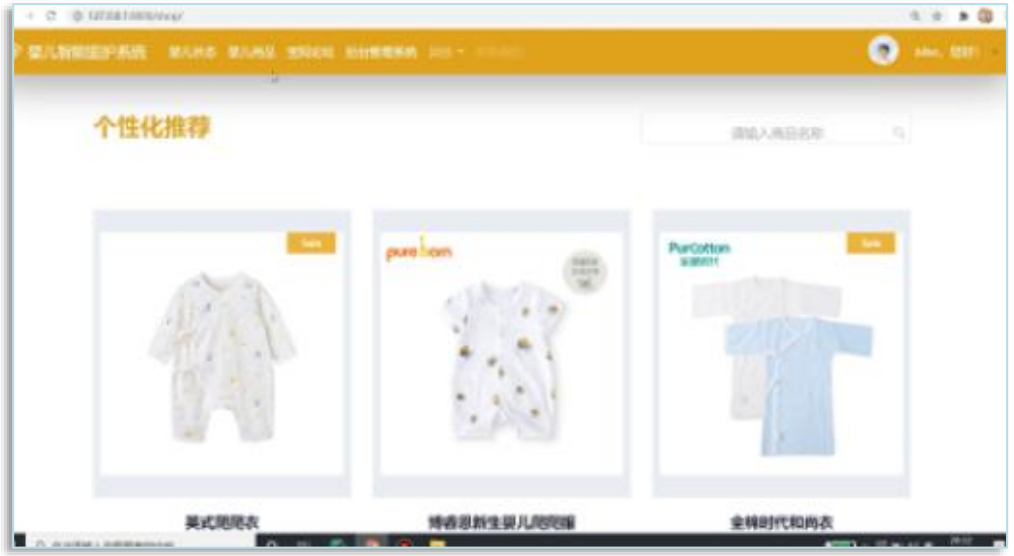
No Blanket

Display

Softwares — Website System

Motherhood Community

Timing System



Recommendation System

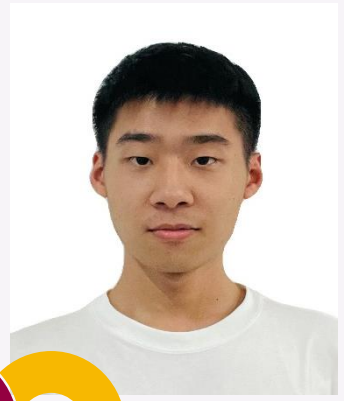
05 Teamwork

Teamwork

Guohao Dai

Websites

Algorithms



Guihong Ma

Hardwares

Xuexun Liu

Algorithms

Shuting Chen

Paperwork

Team Portrait

06 Achievements

Achievements

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HUAWEI Cup National Undergraduate Internet of Things Design Contest

First-Class Award in Final Contest

First-Class Award in East China Division

ICAN Innovation Contest

Third-Class Award in Final Contest

First-Class Award in South China Division

TCL University Innovation Competition

Top 30 in the Nation

Guangdong Provincial Undergraduate Training Programs for Innovation and Entrepreneurship

Certificate of Outstanding Accomplishment

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Safeguard the Future of Every Family

THANKS FOR YOUR ATTENTION