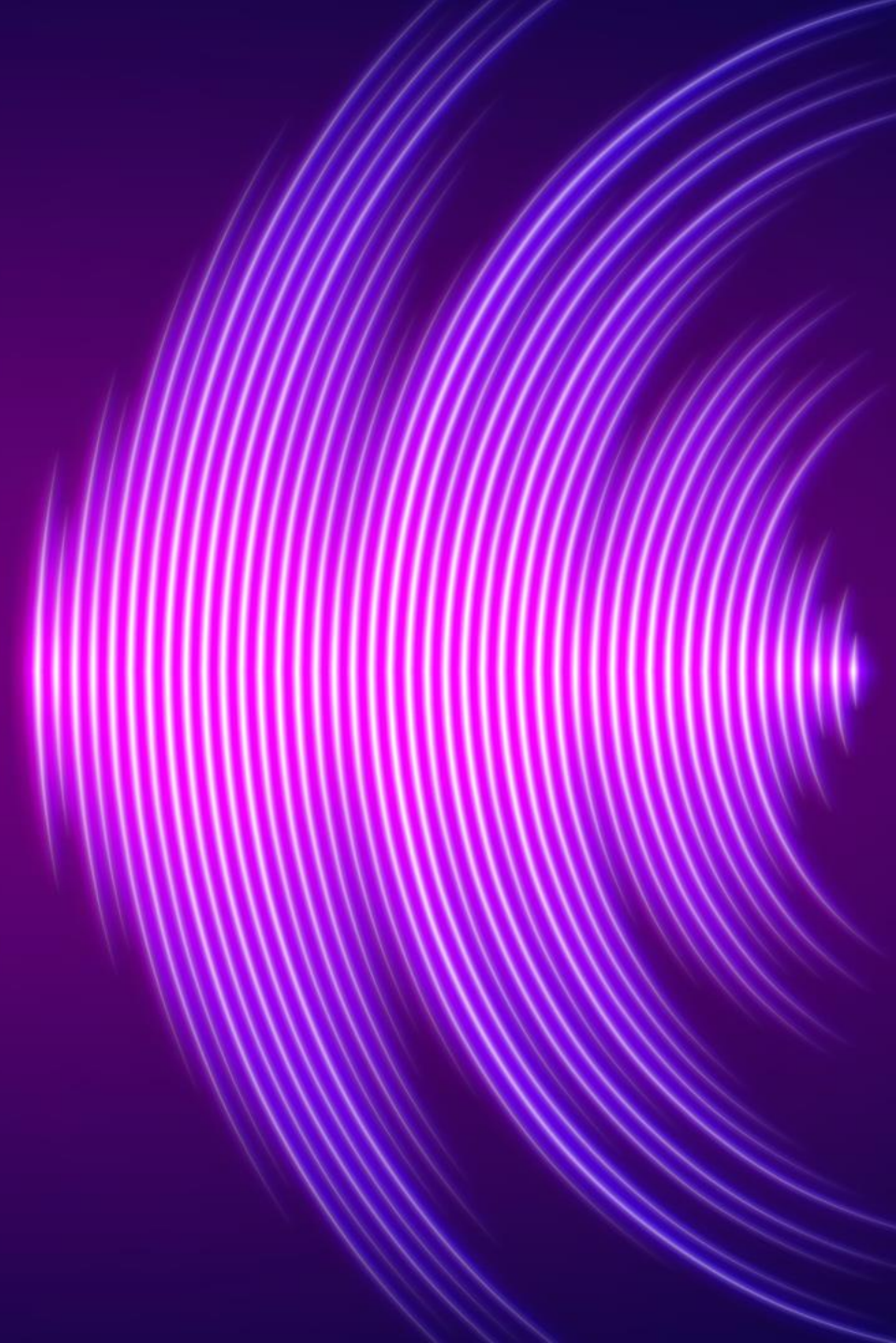Smart Noise

DB-linked Smartphone-Based Noise Smart Home Healthcare Service

Team 7

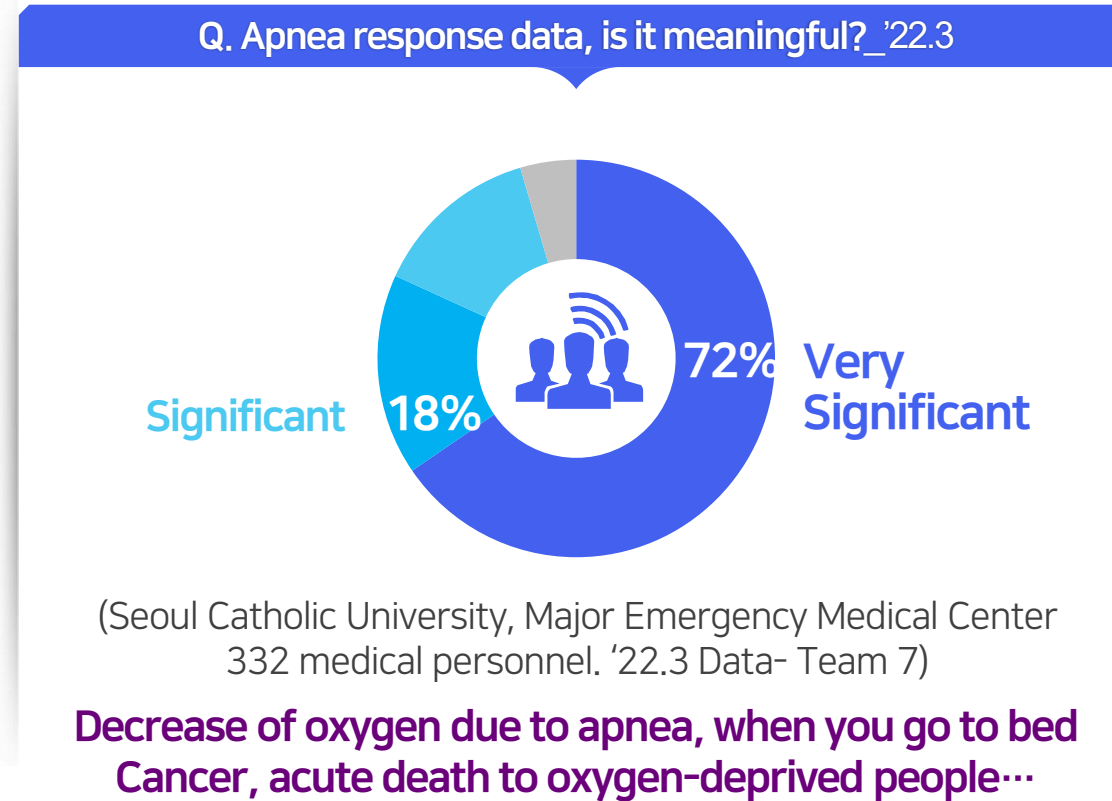2022. 3.

Market Needs / Problems

Apnea Golden Time Accidents can be handled with Smart Sensors
Needs of building a Screening DB for 10 seconds or more of respiratory arrest data

Q. Apnea response data, is it meaningful?_'22.3

72% **Very Significant**

Significant 18%

(Seoul Catholic University, Major Emergency Medical Center
332 medical personnel. '22.3 Data- Team 7)

**Decrease of oxygen due to apnea, when you go to bed
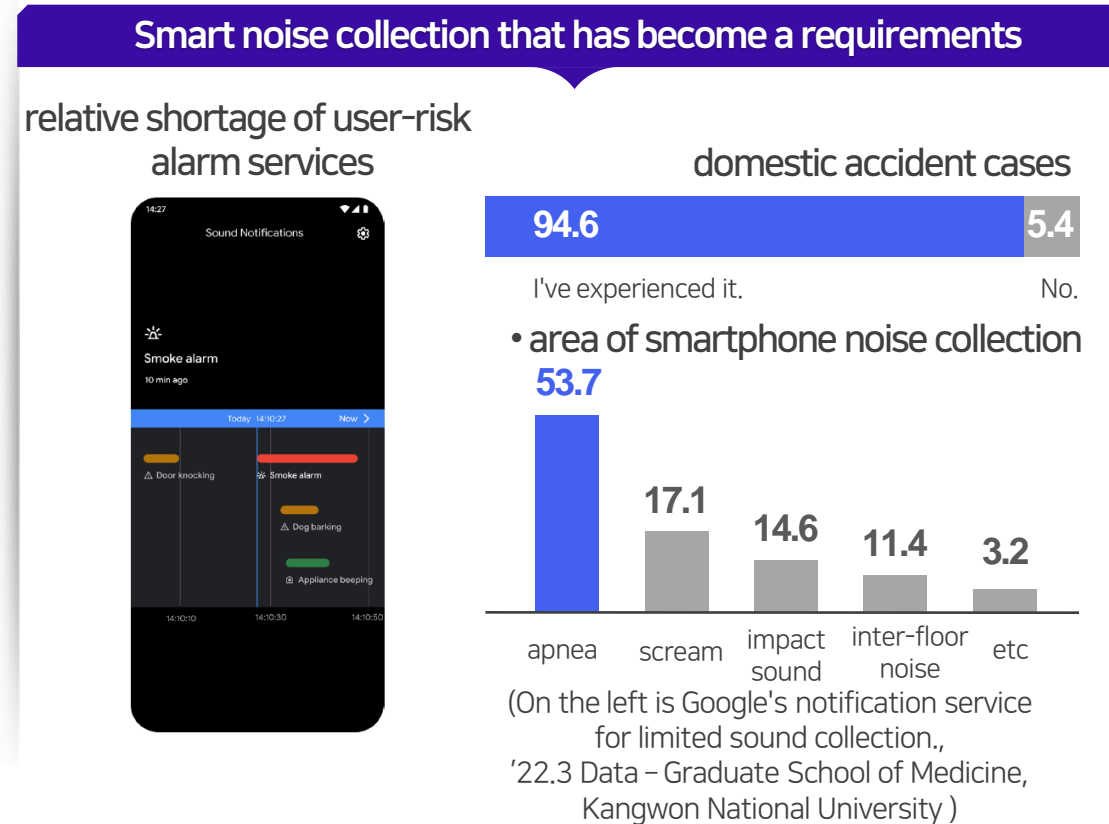Cancer, acute death to oxygen-deprived people⋯**

Activation of intra-family coral saturation and abnormal risk levels
Use of apnea snoring DB and link to emergency medical institutions

Item / Technical Overview

Use of smartphones and home smart home systems to collect noise
data interworking, user risk-related sound notification service

Smart noise collection that has become a requirements

relative shortage of user-risk
alarm services

domestic accident cases

94.6	5.4
I've experienced it.	No.

• area of smartphone noise collection

53.7

17.1

14.6

11.4

3.2

| apnea | scream | impact sound | inter-floor noise | etc |

(On the left is Google's notification service
for limited sound collection.,
'22.3 Data – Graduate School of Medicine,
Kangwon National University)

[Noise = Danger, measuring danger to notify guardians
Real-time response to dangerous signals such as
screams, shock sounds, and respiratory abnormalities **]**

Competitiveness and Differentiation

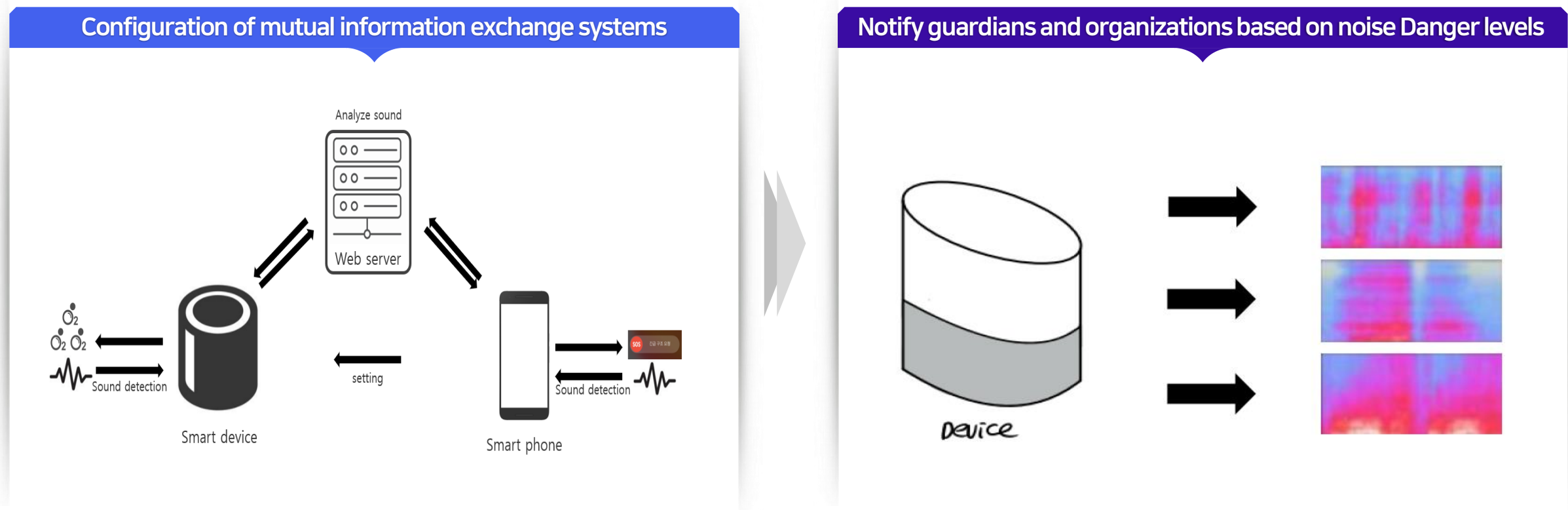**Smart Noise, supports single-person households and protect people in blind spots.**

	Smart noise	Google Alarm Service	Galaxy Watch
Main customer	3569 Residence in the metropolitan area single-person household-centered	2539 An office worker living in the metropolitan area	MZ generation women working in the metropolitan area
Unit price	**5,000 won per month basic subscription service. 30% commission for emergency vehicle-linked transportation**	For free.	Free. The device itself is free. (worth between 20 and 250,000 won)
PR	smart healthcare among single-person households distribution centered on households that require skills	Google's internal functions and collecting DBs in conjunction	Advertising for MZ generation celebrities. and public relations.
Primary subtarget	3569 Residence in the non-metropolitan area single-person household	2539 An office worker living in the metropolitan area	MZ generation office worker in the metropolitan area
Secondary subtarget	centered on 2035.single-person households living in the metropolitan area	2539 An office worker living in a non-metropolitan area.	1025 Women living in the metropolitan area
Tertiary subtarget	centered on 2035. single-person households living in the metropolitan area	2539 A female office worker living in a non-metropolitan area.	1025 A man living in the metropolitan area
Quaternary subtarget	**need smart home service provided to small and medium-sized construction companies and contractors**	A teenager living in the metropolitan area	women in their 40s or older living in the metropolitan area
Characteristics	**Not only smart home, but also smart home. Even if not, it can be used in conjunction.**	Google Assistant and its affiliates Looking for its own smart interlocking device	when attached to the wrist availability of practical health check

Technology Differentiation Plan

Build a DB focusing on difficulty breathing, shock, and scream using a device.
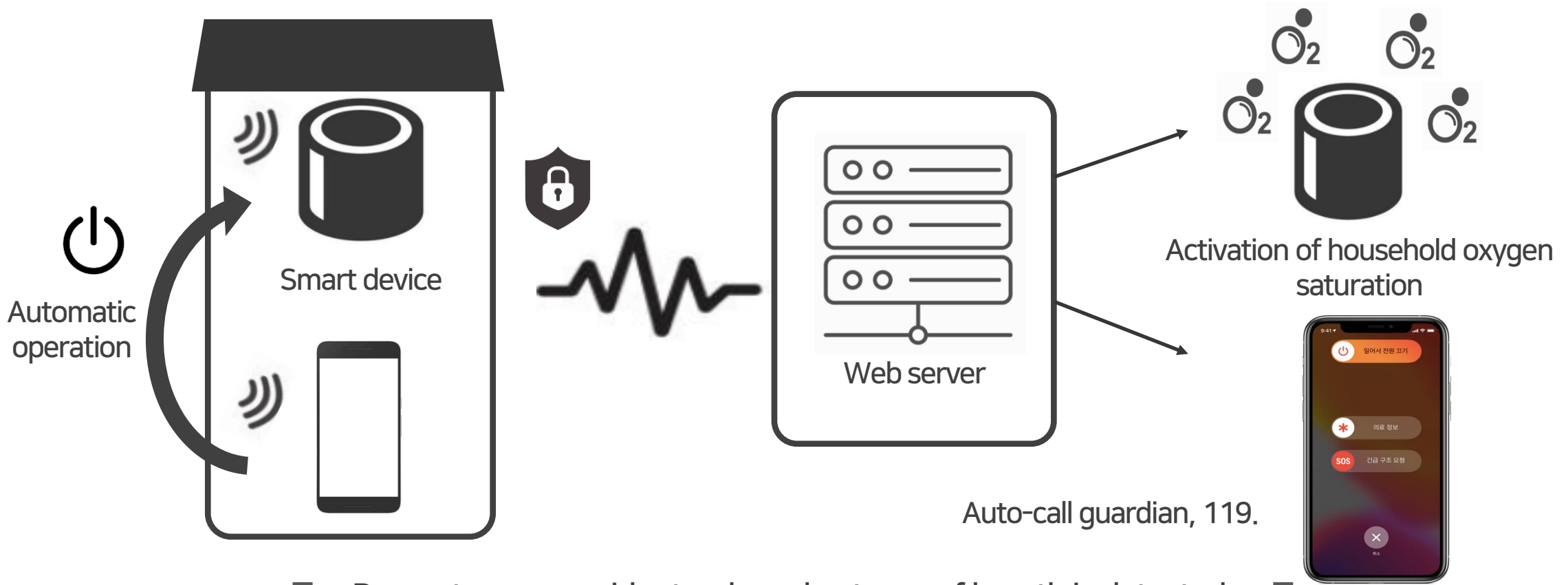**Server and mobile integration focusing on future technology advancement**

Configuration of mutual information exchange systems

Analyze sound

Web server

setting

Smart device

Sound detection

O_2 O_2 O_2

Sound detection

Smart phone

Notify guardians and organizations based on noise Danger levels

Device

[Real-world system that drives risk to real-time response
numerical emergency alarm = link to emergency medical center]

Technology Differentiation Plan

Home sound = High performance collection and transmission to the server
Voice server external transmission with a strong security technology

Automatic operation

Smart device

Web server

Activation of household oxygen saturation

Auto-call guardian, 119.

[Prevent apnea accidents when shortness of breath is detected.
**Activation of oxygen saturation, 7 times better healing
effect than conventional treatment**]
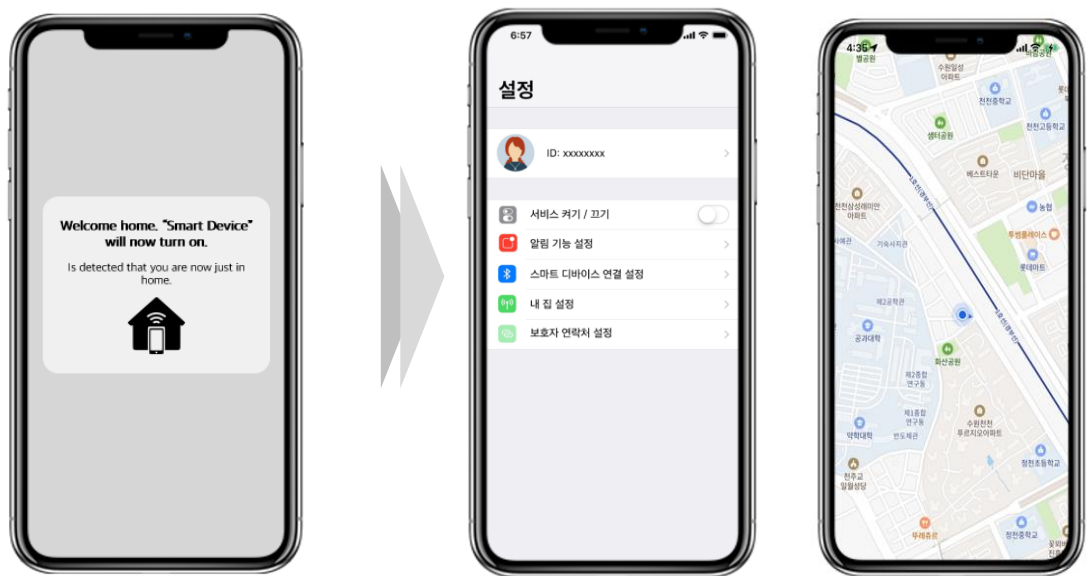
Technology Differentiation Plan

What if there is not enough response from users during the Golden Time?
Recognized as unconscious, call 119 immediately.

After collecting smartphone microphones, to the server…

Utilization of location-based automatic operation capabilities

Save guardian contact information to share
when exposed to dangerous situations

Save your personal location on your way home.
Smart Device Recognition Notification

[Provides location-based services in smartphones

for automatic sound detection in dangerous situations.]
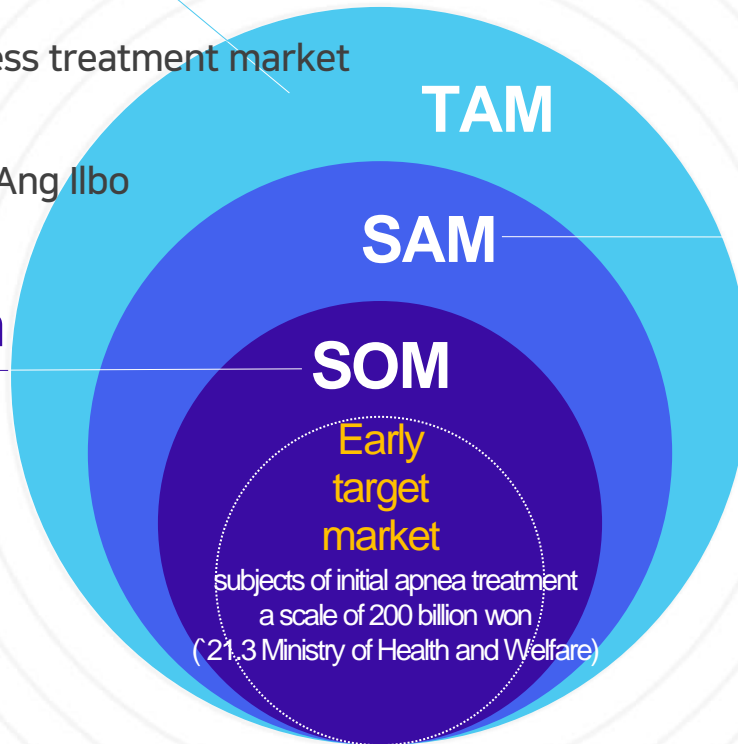
Idea Entry Market

Service-wide expansion market

- Domestic noise and interlayer noise stress treatment market
- Mental and behavioral disability costs
   approximately 7.2 trillion - 21.7 JoongAng Ilbo

Primary service expansion

- arteriosclerosis, stroke, heart disease,
   kidney disease, over 300 billion
   - 21.3 Ministry of Health and Welfare

TAM

SAM

SOM

Early
target
market

subjects of initial apnea treatment
a scale of 200 billion won
(`21.3 Ministry of Health and Welfare)

Secondary service expansion

Korea's 3 trillion-scale loss of foot
in the disease market
caused by personal damage in the house, etc.
- 21.7 Ministry of Health and Welfare

Traction / Sales Strategy and Vision

The 10% of the 50,000 won per year * initial target customers (110,000) will be the primary target (550 million won)

[Business model]

[to single-person households and military units]

[Domestic households with more than one person, 7.3 million as of 22 years.]

• 5,000 won per month, 50,000 won per year
 - net profit of around 35%
• Healthcare speaker sales linkage in the future
- self-optimizing speaker development plan

• Smart Home Services Other than vulnerable single-person households
• collaboration with military units and national facilities : beating and accident prevention

• Those in their 20s are the most common, but those in their mid-30s and older are vulnerable.
• Expand to young people after influx of users in their mid-30s or older

시장진입

1. "I Live Alone" is a collaboration centered on celebrities from single-person households

• Promoting single-person households in
• their 30s or older centered on influencer
• 50+ to promote to users in their 20s and older
  Establishment of a system to encourage family members to join

2. collaboration with small and medium-sized construction companies and military units of the second-tier group
  - collaboration and joint promotion of cost-effective smart home services

3. Discussing with local hospitals such as Catholic University, Kangwon National University, and Hallym University Hospital.

조직 개편

• KINGO EPT business and SIS laboratory business group will be supported

 - Preparation for 23 years of preliminary start-up package and TIPS preparation

 : Expand the item by hiring one doctor majoring in artificial intelligence and machine learning,

and one doctor who has been planning IT business for more than three years.

Initial Planning & Agile Development

Primary use of Patent KST2015211118, Domestic and Overseas Open Source Services

Focusing on the Algorithm Development prior service development

Contents		Time Line										
		3/30 -4/6	4/7 -4/13	4/14 - 4/20	4/21 -4/27	4/28 -5/3	5/4 -5/10	5/11 -5/17	5/18 -5/24	5/25 -5/31	6/1 -6/7	6/8~
Specification	Scenarios: Interviewing	■										
	Requirements specification		■	■								
Development	System modeling			■	■							
	Architecture design				■	■						
	UI/UX Design					■	■					
	Implementation						■	■	■			
Validation	Test							■	■	■	■	
Evolution	Evolution											■

A User-Centered Service based on **engineering that require repetitive development within the project life cycle**.

The Team

Completion of projects linked to KAIST laboratories, startups, and local emergency medical centers

Ko Namwook (Team leader)

- Artificial Intelligence, Server/BackEnd & Development
- Sound detection Technology and Classification Tech
- Representative of Sungkyunkwan University's outstanding preliminary start-up package ('21) : Artificial Intelligence & Smart Home-Based Speech Recognition

Advisory, voice-based artificial intelligence and medical institutions

- Professor Lee Soo-young of KAIST Electronics and Electrical Engineering (negative therapy)
- Kim Tae-soo, CEO of Neosapiens (voice detection and discrimination)
- Dr. Kim Ji-hoon, Graduate School of Medicine, Kangwon National University (Emergency Medical Center))

Lee Seungmin

- HW modeling, FrontEnd Development
- Smart device development and application development
- 22-year preliminary start-up package (IT-based)

Ko Eunseo

- AI and FrontEnd Development
- application of artificial intelligence
- Models and application development
- Artificial Intelligence Deep Learning Development Part

Huh Hanwool

- HW modeling, security
- Smart device development and server interworking
- Certificate of 3D printer operator

Son Seokgyu

- Arduino, Server/BackEnd Development
- Device Server Integration and DB Management
- Smart Watch and IT-linked device specialist

Sound of Music, no, Sound of Breath
A team that makes Innovation with Smart Noise