Health Information Feedback by Push Type Digital Signage

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Outline

■ Background and purpose

■ Framework of health information system

■ Push type digital signage

■ Prototype system

■ Conclusions

Background

■ Aging Society

- Elderly population is increasing based on increase of life expectancy.

- Healthy life expectancy is not necessarily increasing.

- Prevention of lifestyle-related diseases (brain stroke, heart disease, high blood pressure, etc.) is necessary.

■ Problem

- Improvement of health consciousness in daily life is very important.

- It is difficult for us to continue healthy actions.

Purpose of This Study

■ Purpose

- Development of framework to maintain health consciousness by IT technology

- Push type digital signage that displays personalized health information

■ Push type digital signage

- Detects user who is walking in front of the digital signage, and displays personalized information.

- Even if user does not do anything of his own accord, personalized health information is displayed.
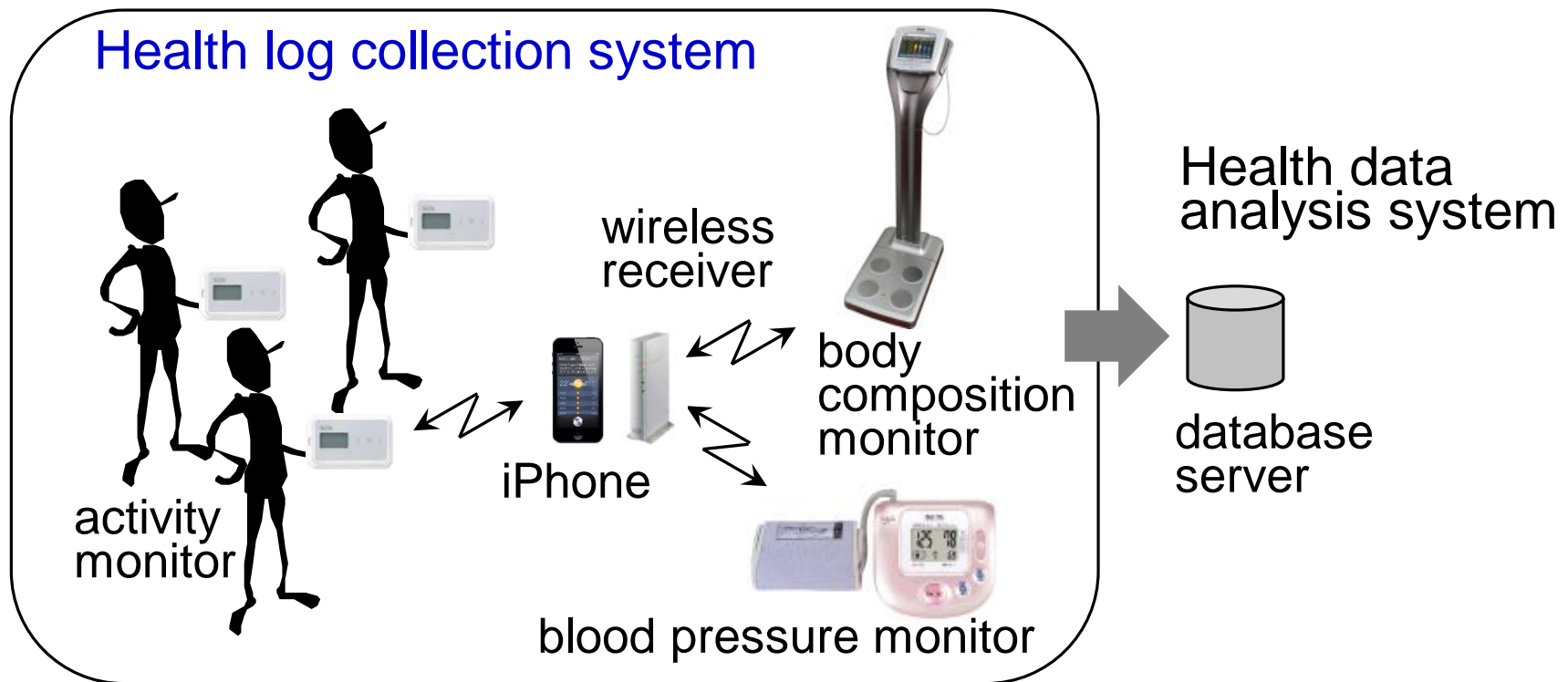
NICT Projrct

"Improvement of Health Literacy by Health Information Feedback based on Life Log Data Analysis"

Keio University & TANITA Health Link, Inc. (2014-2017)
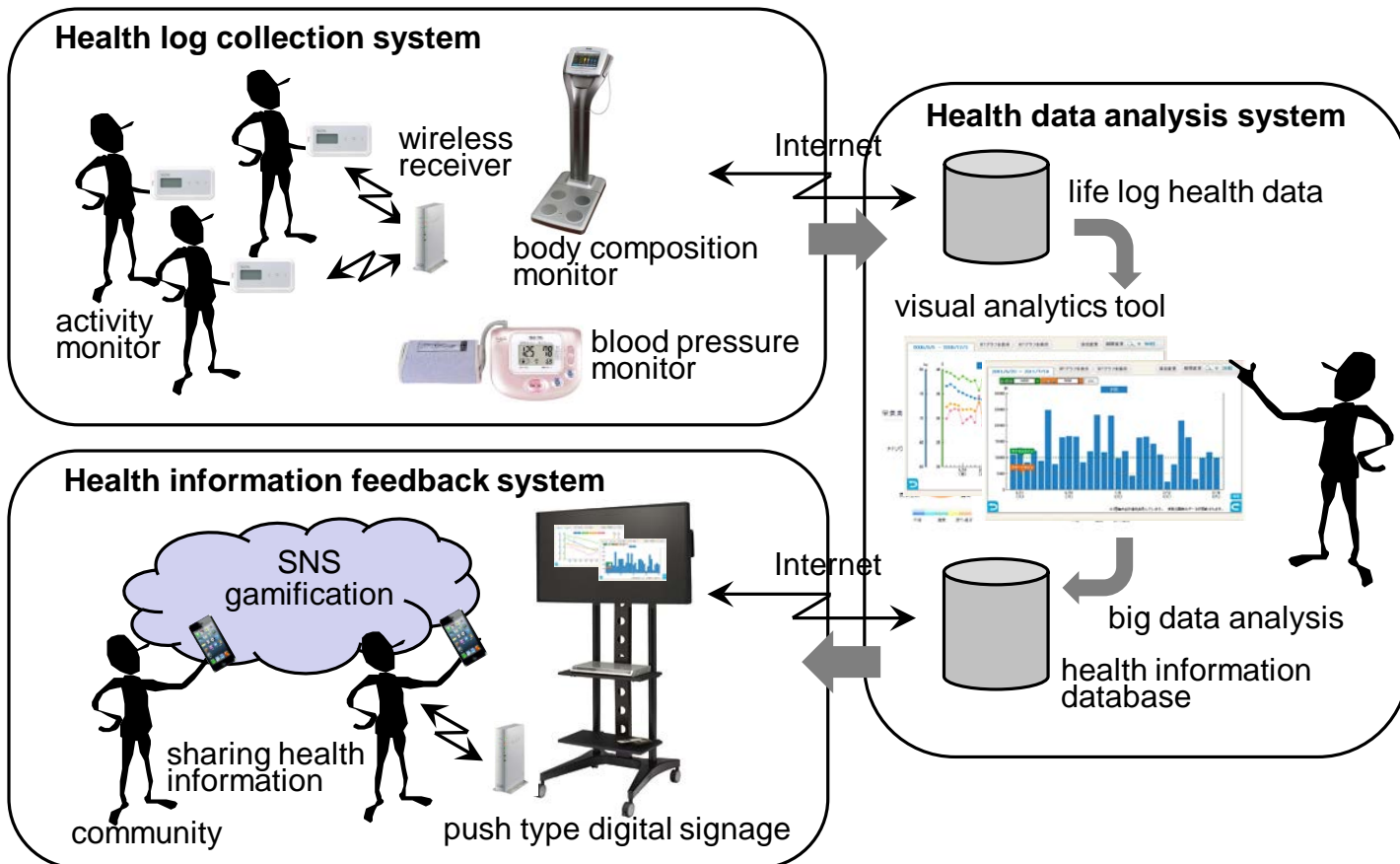
Health Log Collection System

- Activity monitor data, body composition monitor data, and blood pressure monitor data are collected automatically.


Health log collection system

wireless receiver

iPhone

body composition monitor

activity monitor

blood pressure monitor

Health data analysis system

database server

Health Data Analysis System

- Collected health data is analyzed using visual analytics tool and health information database is constructed.

ACDDE 2014, Jinan, China 2014/10/31-11/2 (7)
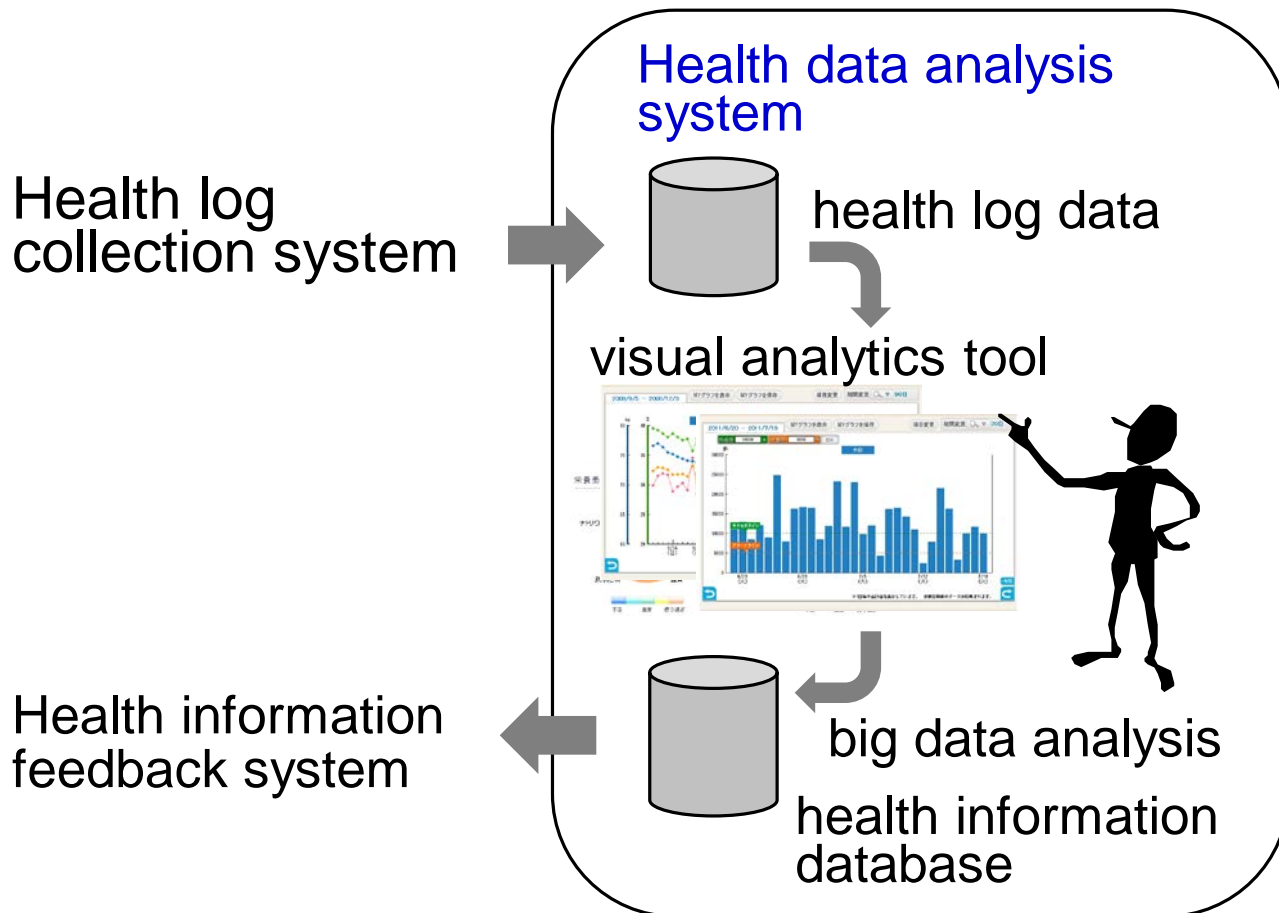
Health Information Feedback System

- Push type digital signage provides personalized health information.
- Health information can be shared among community.
- Information is provided using the gamification technology.

Health information feedback system

SNS gamification

sharing health information

community

push type digital signage

Health data analysis system
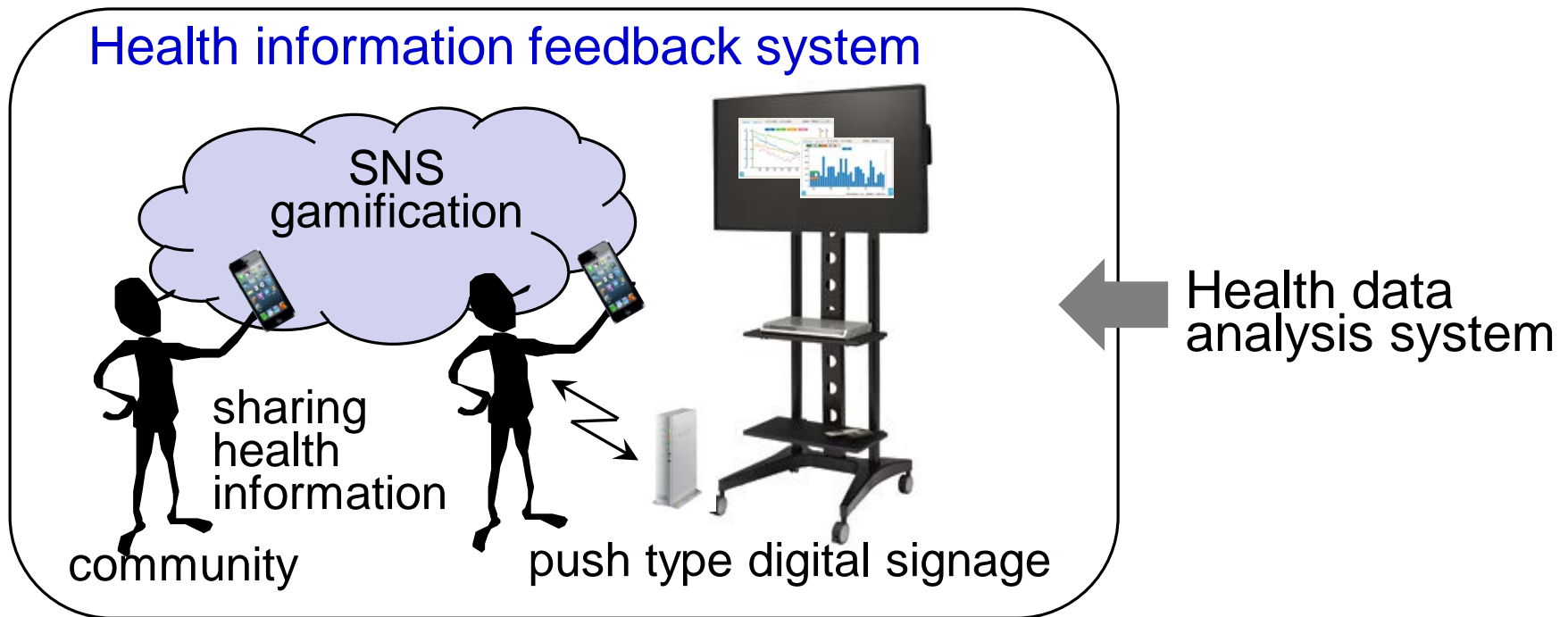
Identification of User

- Identifying the smartphone of the user to identify the user
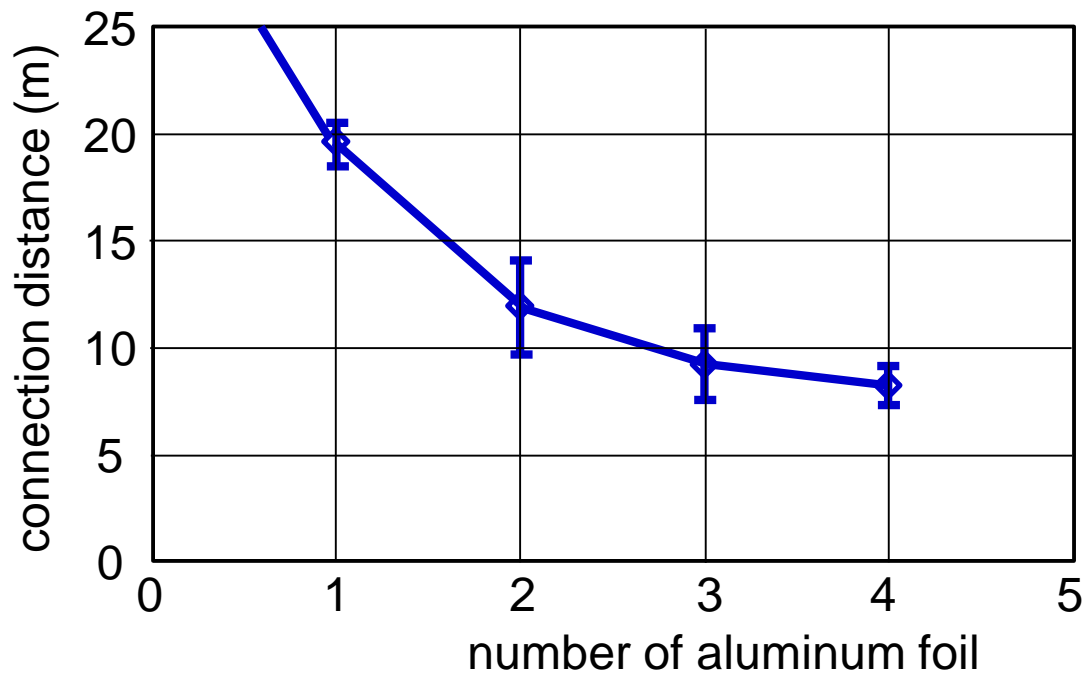- Detecting MAC address of the smartphone to identify the smartphone

■ Process
- Smartphone searches for access point
- Smartphone send MAC address to wireless router
- MAC address can be detected
- Owner of the smartphone can be identified

digital signage

search

user's ID

smartphone

wireless router

MAC address
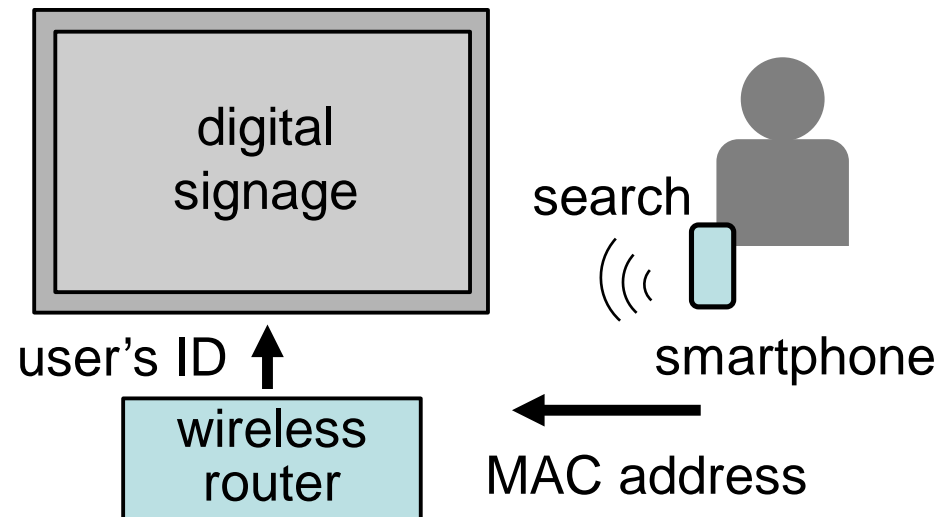
Wi-Fi Router

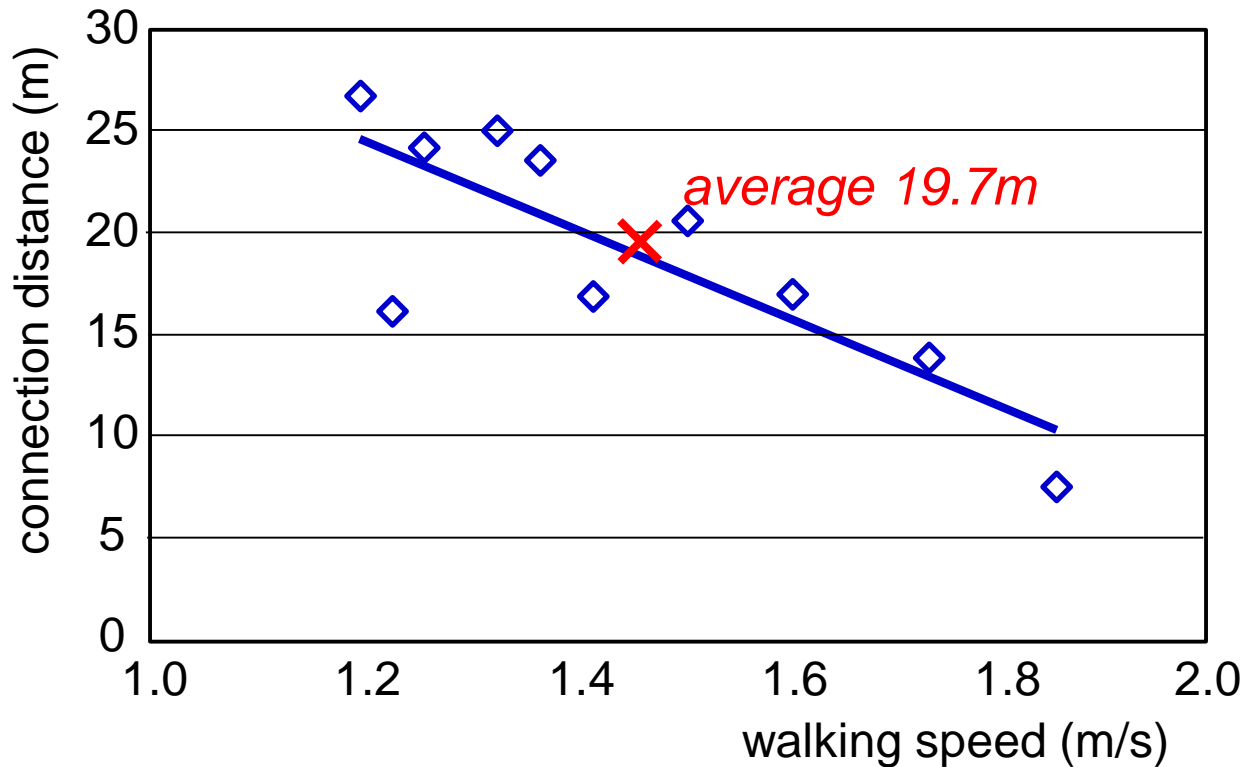■ Wi-Fi router and radio field strength

NEC Aterm Station router

iPhone

- Router was wrapped by one aluminum foil, so that the user does not pass through the digital signage during the polling interval.

Connection Position

- Connection distance became closer when user walked faster.
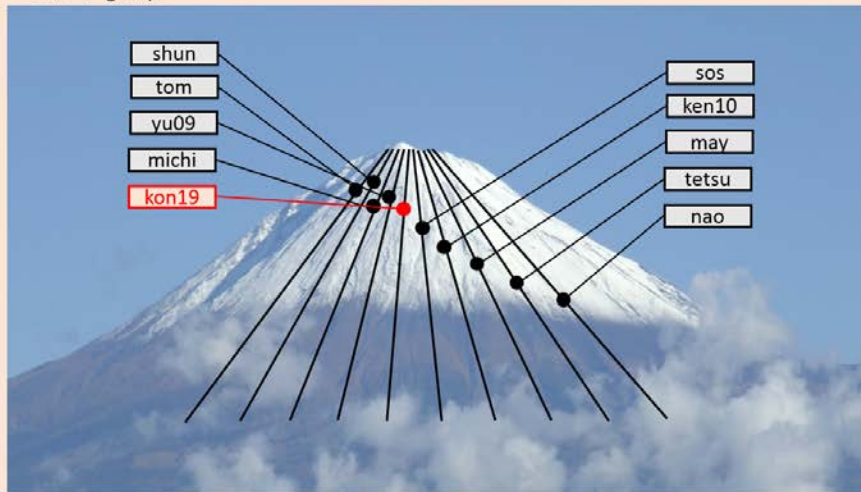- User can be identified at appropriate position.

Displayed Information
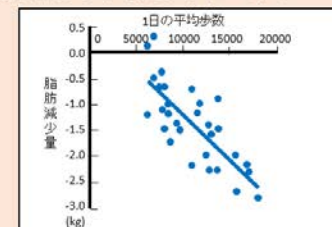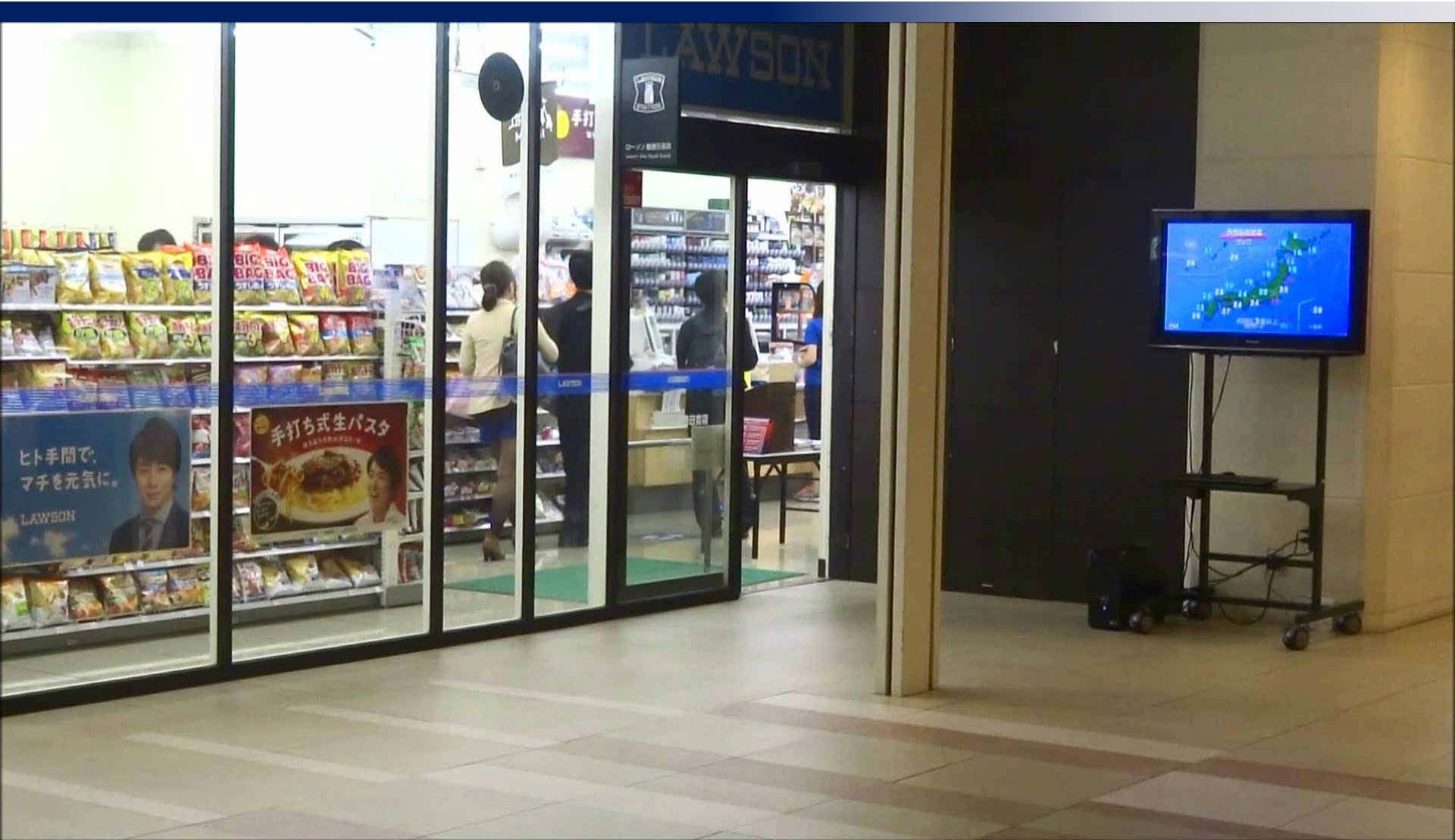

- Graphic visualization, ranking, message, bits of knowledge
- Motivation for healthy life would be improved based on the effect of gamification

Prototype System

■ System configuration of push type digital signage

health information database

| activity log DB | device DB | message DB |

42-inch monitor

iPhone

| user group DB | bits of knowledge DB | DB server |

PC

WiFi router

Internet
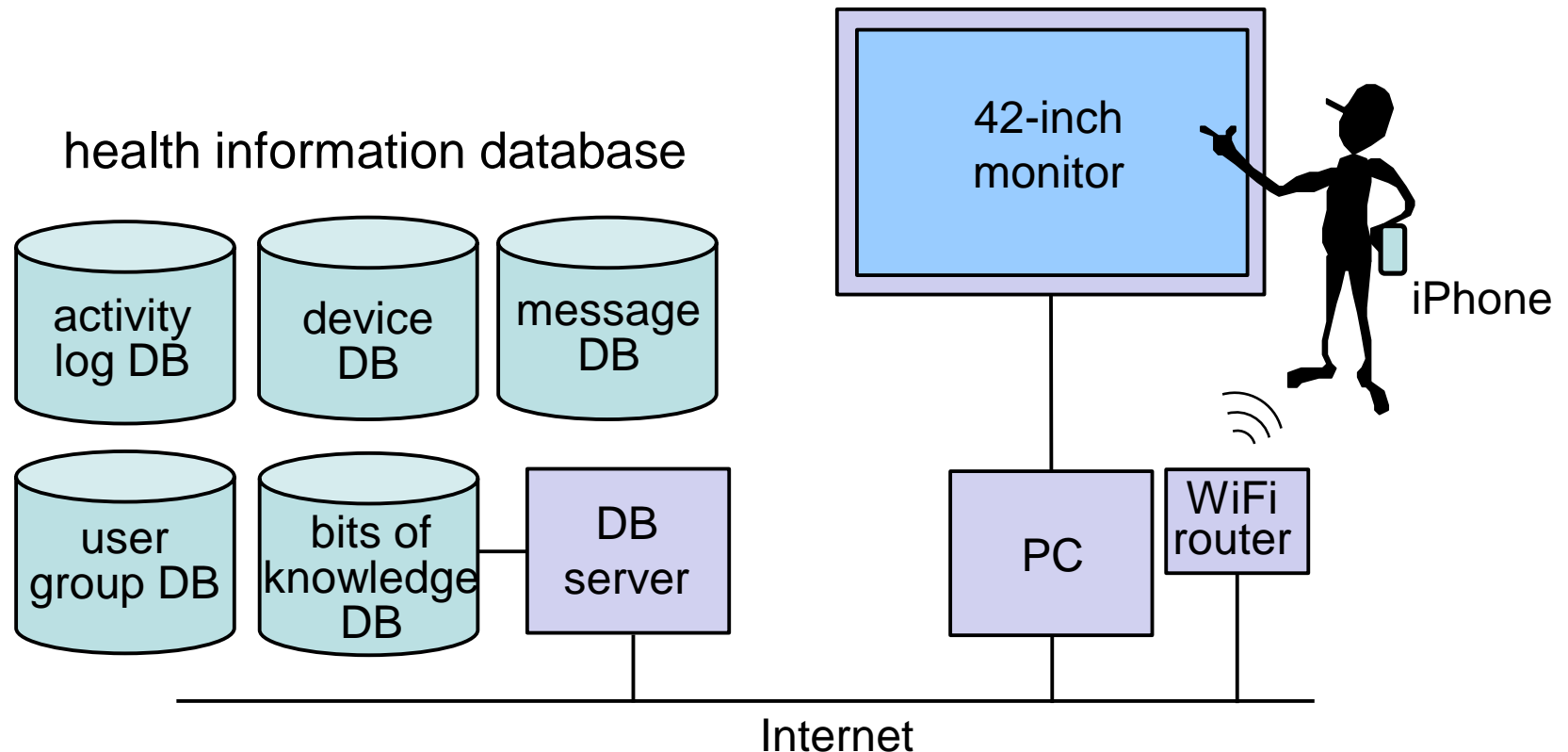
Demonstration

Conclusions

■ Framework of health information system that improves health consciousness was proposed.

■ Health information feedback system using push type digital signage was developed.

■ In future work, health log collection system, health data analysis system, and health information feedback system will be integrated.