Augmented Workplace: Human-Sensor Interaction for Improving the Work Environment

Yutaka Arakawa, arakawa@ait.kyushu-u.ac.jp

Background : Work environment affect the productivity

Air quality and Noise are important in the workplace

- High CO2 level make workers sleepy
- A comfortable temperature is different by person.
- Loud conversation in the open space prevents the concentration.

Concept of “Augmented Workplace”

Activity reminder of Apple Watch

Monitoring owner‘s physiological state
by heart rate sensor, acceleration sensor

Sending reminders
by a message, vibration

Activity reminder of workplace

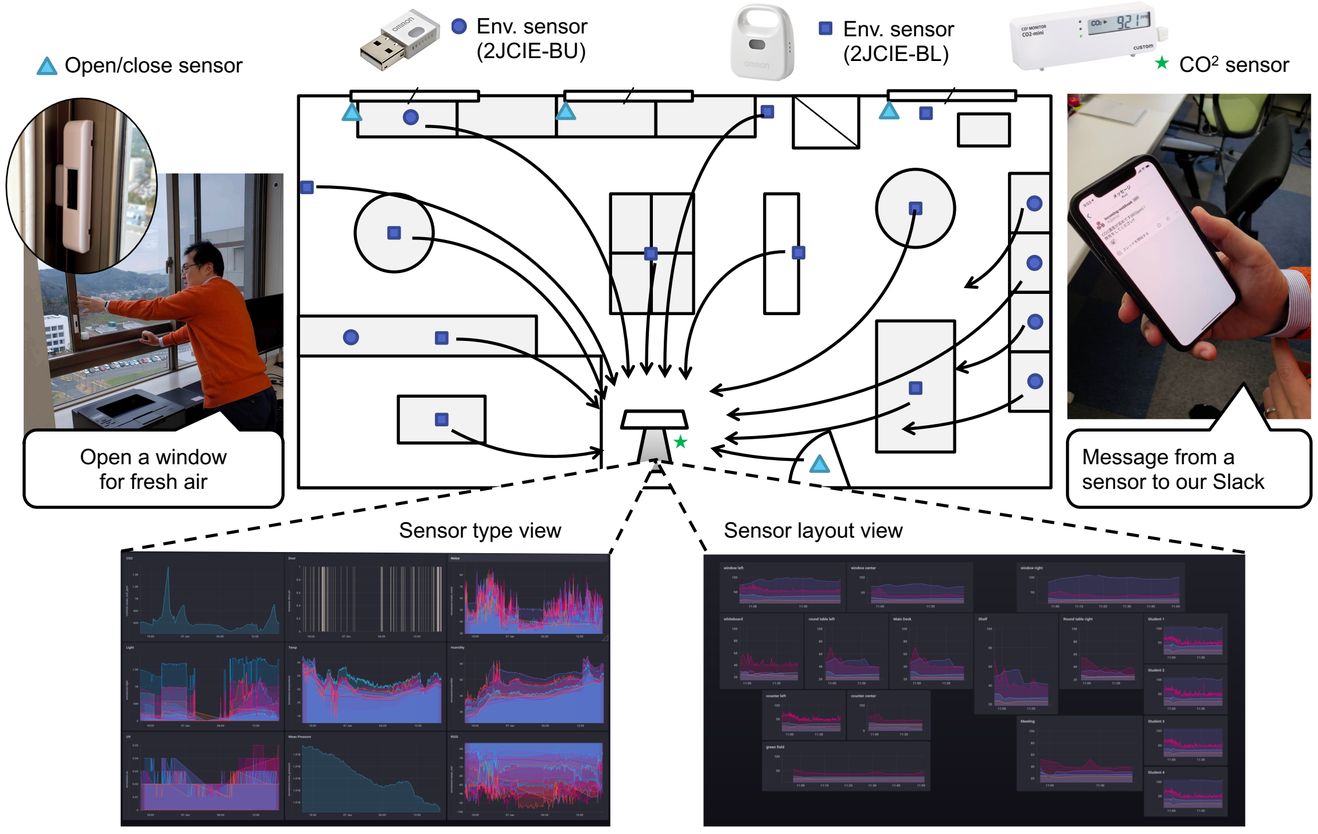
Monitoring environmental states,
Temp., Humidity, Noise, Light, CO^2

Sending reminders
by a message of Slack

Implementation

Integrating 20 sensors
with different network protocol

- Door Open/Close sensor: EnOcean
- Temp., Humidity, Noise, Light: BLE (Bluetooth Low Energy)
- CO^2: USB



Docker & InfluxDB are used for our platform

Assumed scenario: CO^2

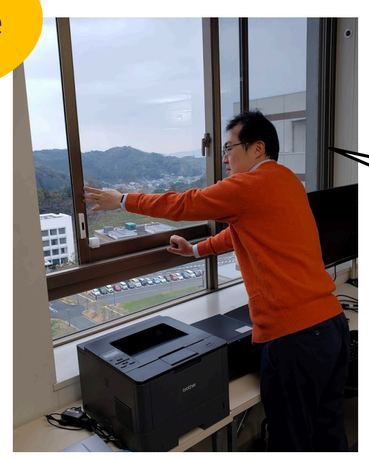
Sense

CO^2 > 800ppm

Remind

Slack

Change



Understood the importance of air quality, and its influence for the productivity

HumanoPhilic Systems Lab., Kyushu University
744 Motooka, Nishi, Fukuoka, Fukuoka, 819-0395 JAPAN

https://arakawa-lab.com