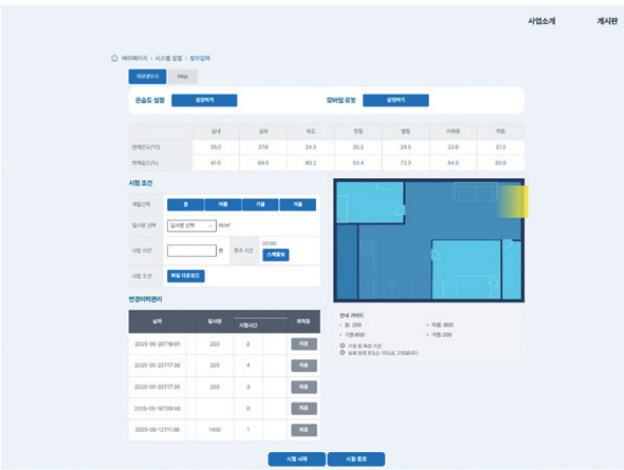


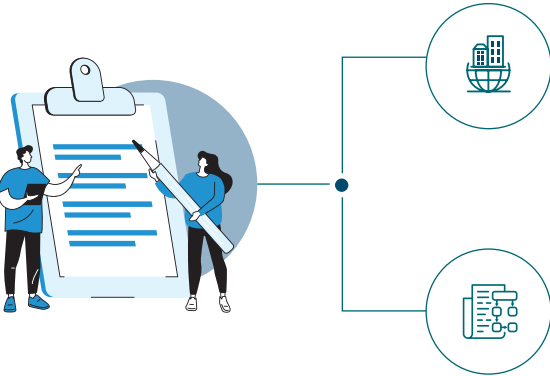
AI Home Appliance Performance Demonstration & Evaluation System



Features

- Collection of feedback on ease of configuration, intuitiveness of control, AI system responsiveness, and overall satisfaction with the functions of lifestyle appliances
- Verification of user data protection, including encryption methods, access control, and compliance with personal data protection regulations
- Evaluation of integration and compatibility between AI lifestyle appliances and other devices/platforms
- Provision of insights on user safety, usability, and convenience beyond direct hardware performance, supporting product improvement
- Implementation of artificial obstacle and interference environments to support performance testing and training of AI appliances and modules in obstacle avoidance and mitigation
- Use of standard housing models with walls separating rooms, living rooms, and bathrooms, creating temperature/humidity conditions similar to real environments
- Evaluation of integration and compatibility between AI lifestyle appliances and other devices/platforms
- Provision of insights on user safety, usability, and convenience beyond direct hardware performance, supporting product improvement
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Evaluation Items



Impact assessment of obstacles and interference in indoor and outdoor residential environments

- External environmental factors (temperature, humidity, fine dust, sunlight)
- Indoor residential factors (human body heat, illuminance, odor, noise)

Accuracy and efficiency evaluation of AI algorithms in predictive maintenance tasks for smart home appliances

AI Home Appliance Performance Demonstration & Evaluation System Control System



Control & Monitoring System

- Control & Monitoring Program
 - Real-time monitoring
 - Real-time transmission of location data to the server
 - AI appliance route analysis and route data management
 - Detection of unauthorized departures through designated restricted zones
 - Prevention of log data leakage via Time Bomb and DRM modules
- Location Tracking System [UWB Tag, UWB Anchor, operating server]



Integrated Operation / Remote Automation System [optional]

- Remote control platform for indoor/outdoor residential environment simulation system
- API module for indoor/outdoor residential environment simulation system
 - Monitoring of biometric recognition factors (temperature/humidity, illuminance, fine dust)
 - Real-time transmission of location data to the server
 - Remote control of solar irradiance, angle, and control schedule
 - Voice and noise evaluation
 - Measurement and remote control of sick-house-syndrome-inducing substances and greenhouse gas concentrations



Data Measurement & Collection Platform

- Data server, firewall, network switch module, and data measurement /collection software



Remote Position Control System for AI Home Appliances

- Mobile robot (travel speed 0.3~1.2 m/s, on/offline mapping capability of at least 1 × 1 km)