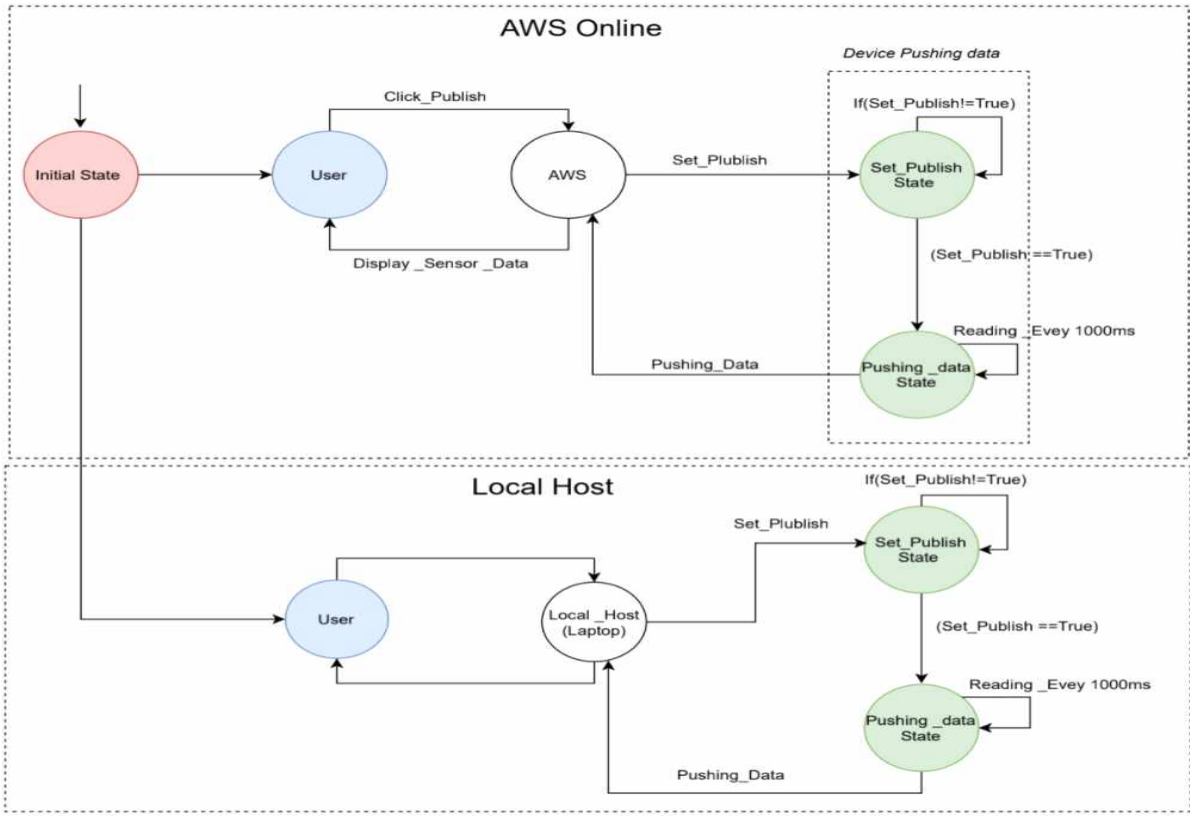
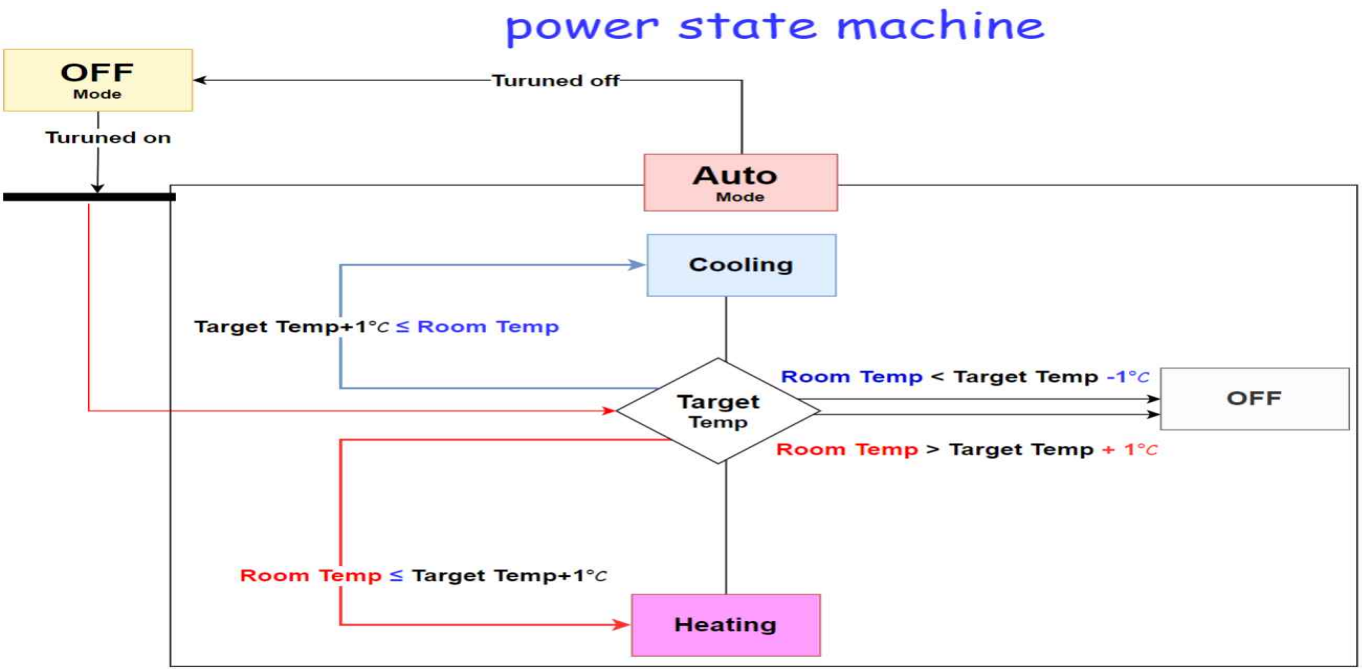
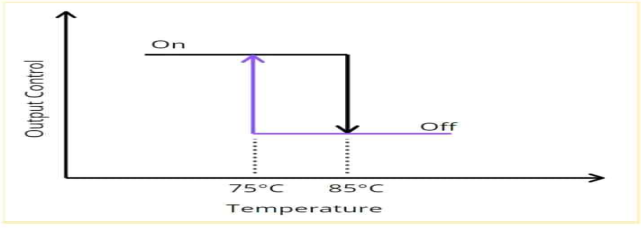
Finite State Machine of Smart-Home





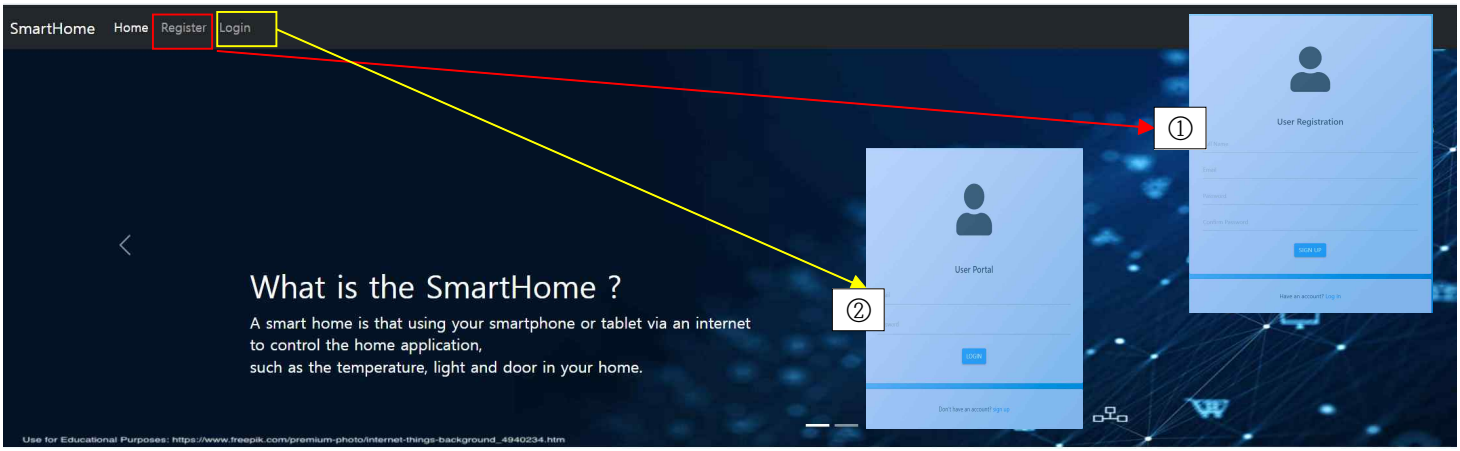
- Room temp : Sensing temperature, Target temp : Setting temperature.
- Hysteresis of 1°C



An example of temperature hysteresis with a set point of 80°C.

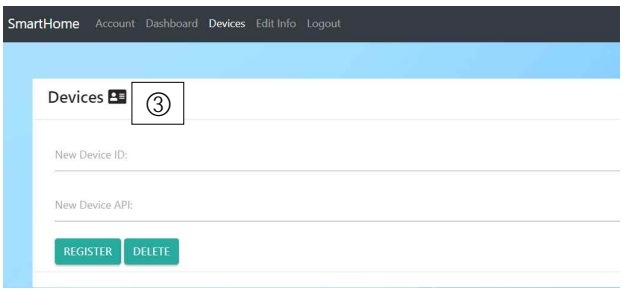
In a temperature controller, temperature hysteresis is defined by a minimum and maximum temperature value, where the heat will be turned on and off respectively.
For example, if the Room's temperature is to be maintained at 80°C with a hysteresis of 5°C, the cooling fan will activate when the temperature reaches 85°C and turn off when the temperature drops to 75°C.

Move to “https://ec2-54-151-67-43.us-west-1.compute.amazonaws.com/”



① First, sign up to control a smart-home

② Move to login



③ Register you device on AWS.

- Device ID, Device API(Token number)

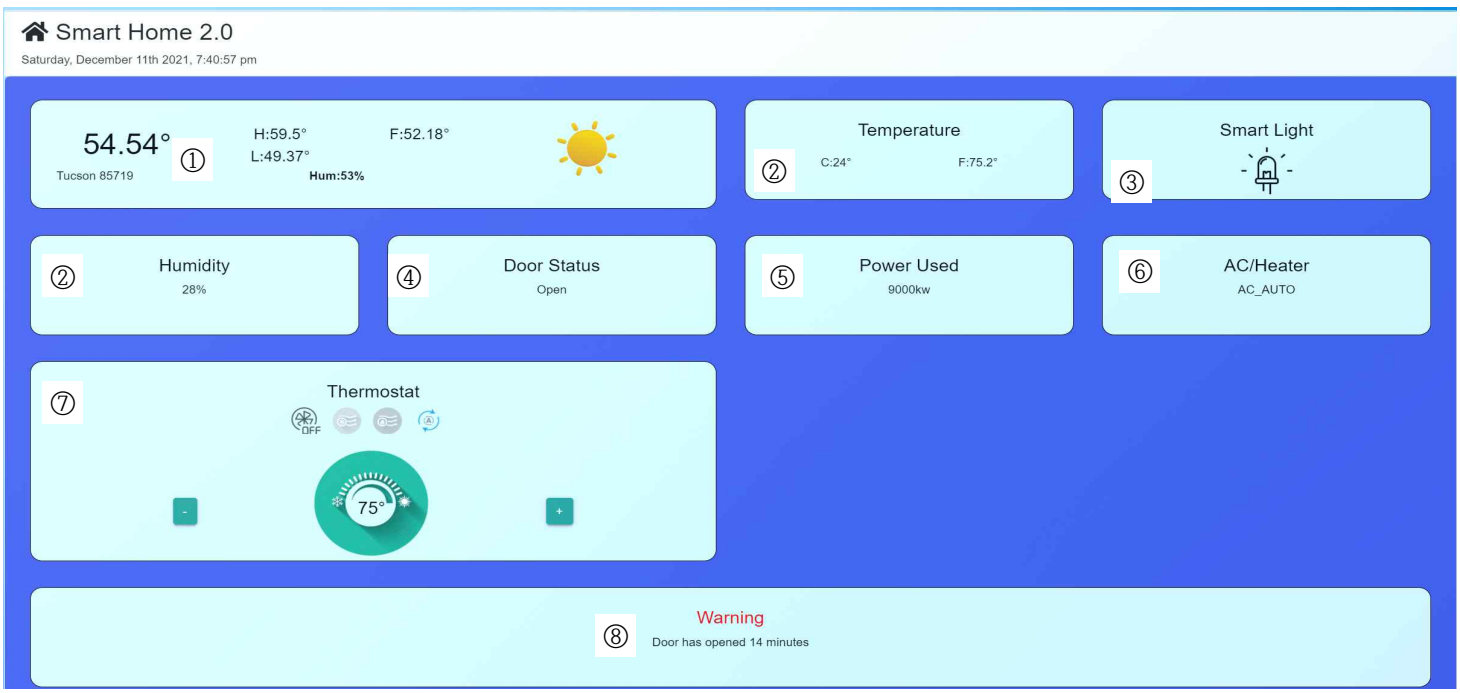
For example

– Device ID : 3f0020000d47303338353831

– Device API : 2dc7b02d63a975b548f1b3d506d3061b7ed5c9d0

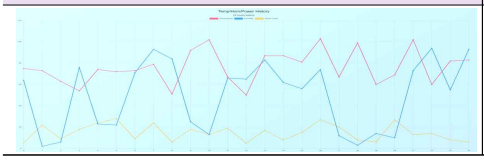
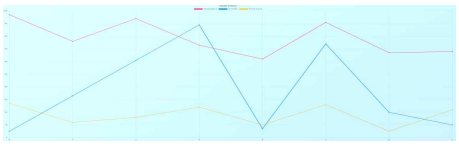
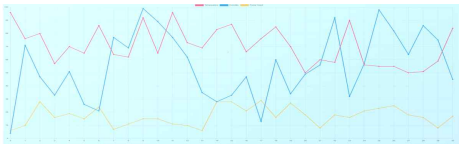
④ You can read sensor-data and control IoT sensor(Smart-light, Thermostat)

- Control & Monitoring

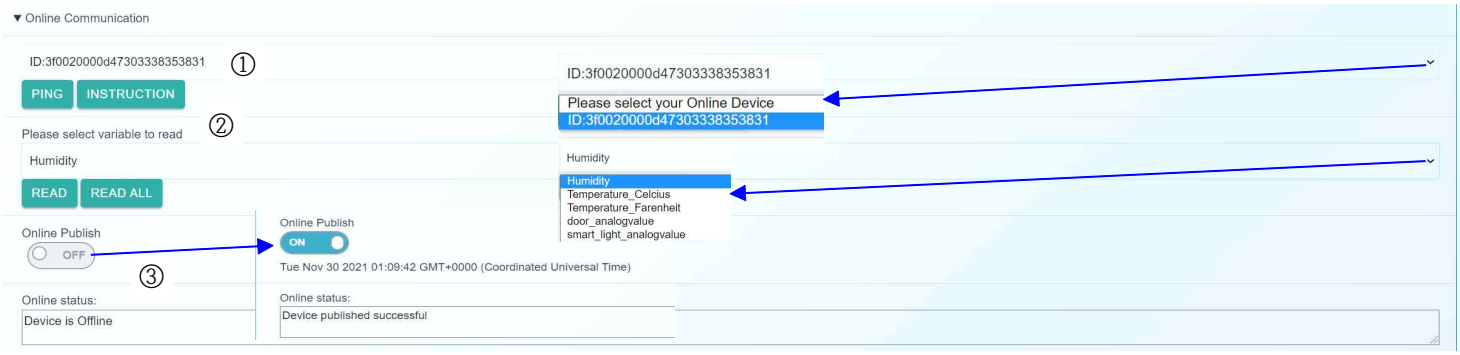


NO	Description
①	Get the weather by the third party API and display the information(based on zipcode)
②	Read the sensor data(temperature and humidity) and display the sensing data
③	Control smart light such as turn on/off
④	Monitor the door status(ON/OFF) that be estimated, based on the value sensing by photoresistor
⑤	Display the electric usage(such as air-conditioner and heater) in the smart-home.
⑥	Display the heatig & air-condtioning's working status(off/cool/heat)
⑦	Control the thermostat such as setting the target temperature and display the auto mode/off, off/cool/heat status.
⑧	Alerts door status warning message

- History : Temperature & humidity, Power consumption

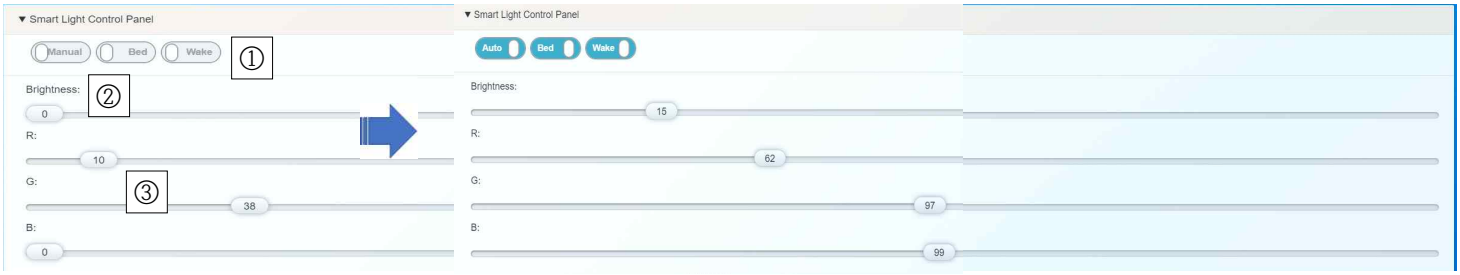
24 Hours History	1 Week History	1 Month History
		

- Online Communication

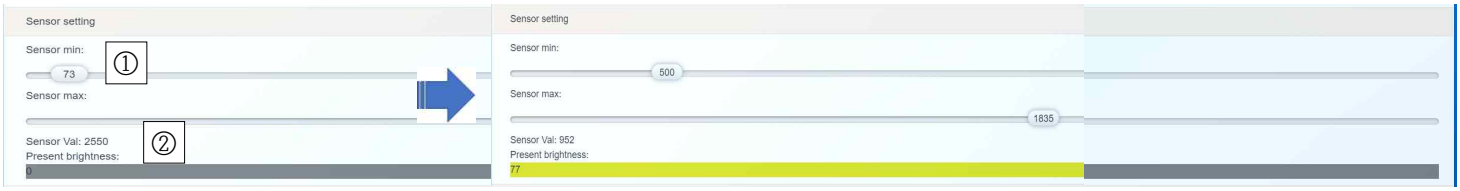


NO	Description
①	Ping test for the selected devices
②	Read selected variable to read sensor-data(such as temperature, door_analog_value..)
③	Publish function(for a registered device to be published from offline)

- Smart Light Control Panel



NO	Description
①	Set manual/auto, bedtime, wake-up
②	Adjust the smart-bulb's brightness(dimming control)
③	Adjust color(R, G, B)



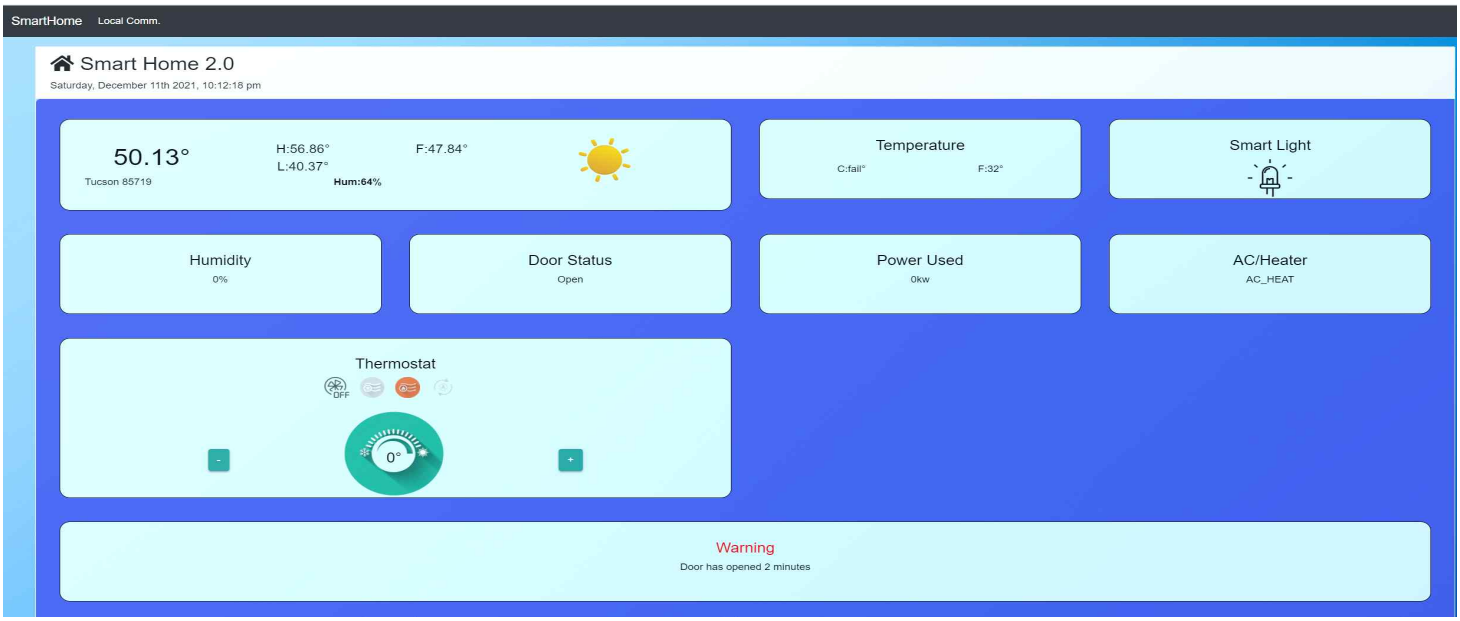
NO	Description
①	Adjust sensor min & max
②	Display current value and current brightness

- Adjust the speed of LED blinking(D3)

- Display cmd status and received data.

● Localhost & mobile version have the same functions(such as controling smart-bulb, reading data ..)

■ Localhost version



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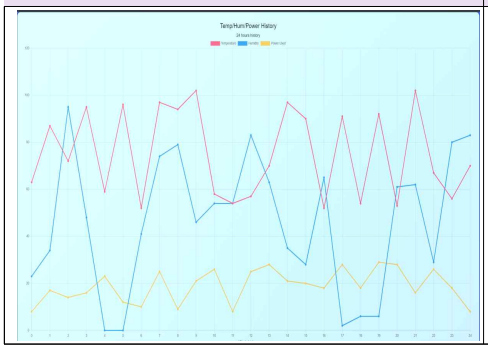	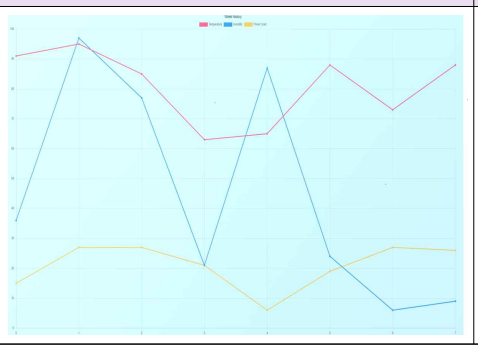	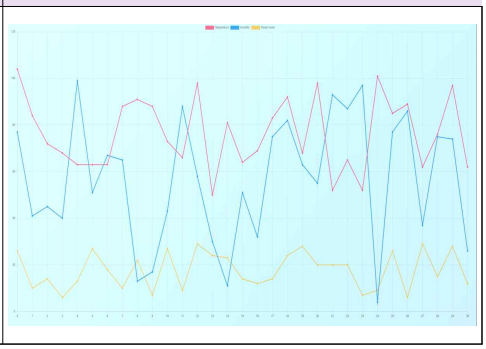

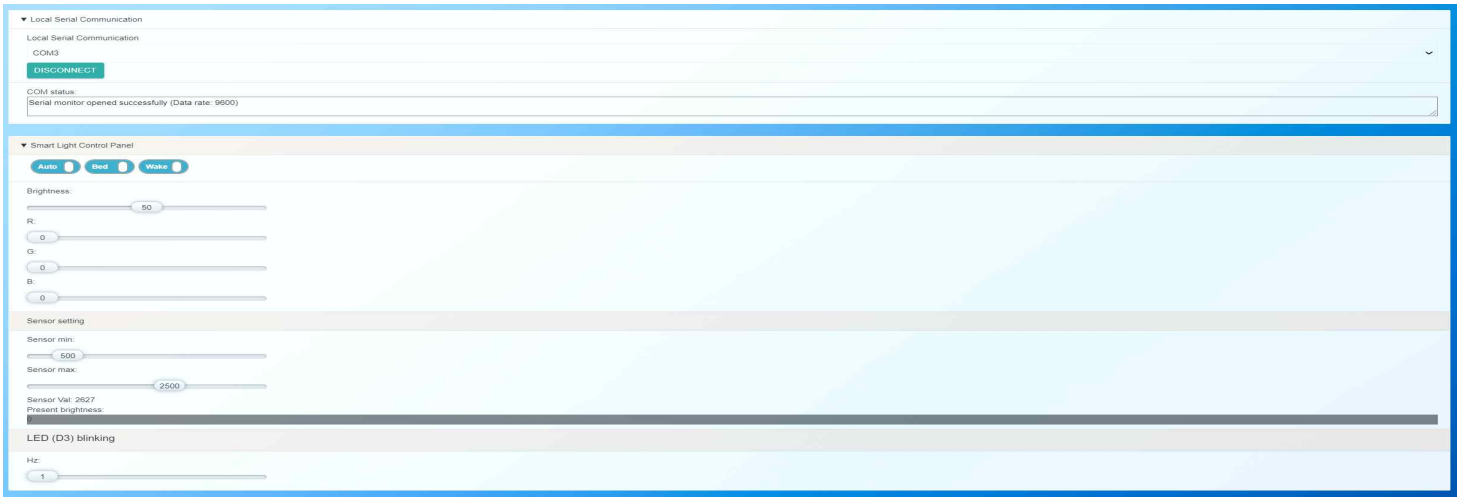

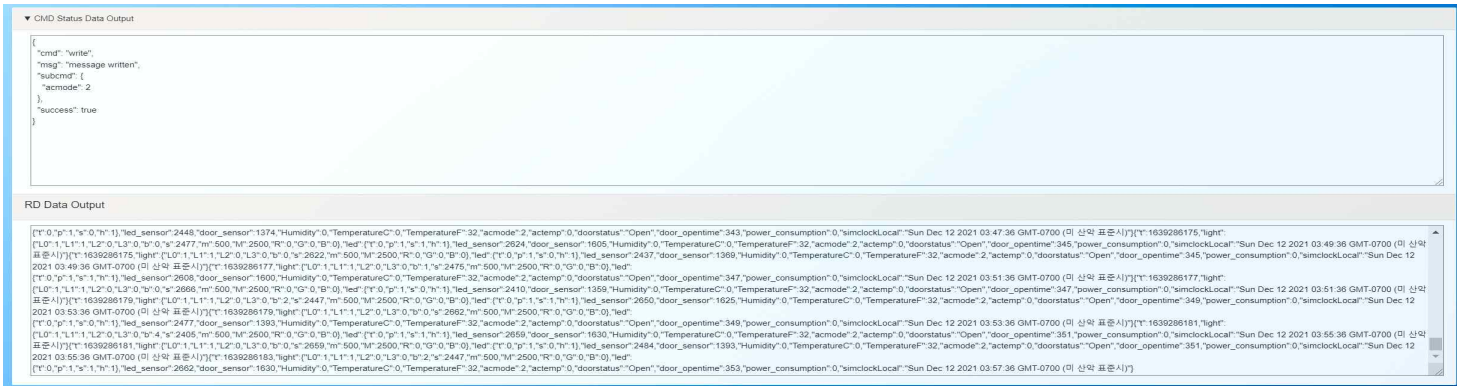

■ Mobile version