

Name	Action	Trigger	Condition	Active Time
SGP30 has error	Send notification to user’s smartphone with “SGP30 is malfunctioning! Go check it!” as the message	VOC value from Enviro+ is below 2 for 24 hours/ CO2 value from Enviro+ is below 405 for 24 hours/	/	All the time
Sleep Time	After waiting for 3 minutes, check if the motion sensors in the kitchen and desk areas are not detecting motions. If yes, the lights will decrease their brightness by 10% every 1 minute	Bed area motion sensor detects motion	Light strip is on	2100-0500
Twin Change Lamp Brightness	If the controller changes the light bulb brightness, the bulb will change according to that brightness	MQTT topic "student/CASA0022/ucfnsmc/twin/LampBrightness" is updated	/	All the time
Twin Change Light Strip Brightness	If the controller changes the light strip brightness, the light strip will change according to that brightness	MQTT topic "student/CASA0022/ucfnsmc/twin/StripBrightness" is updated	/	All the time
Twin change light strip to cold white	If the cold white button on the controller is pressed, turn on the light strip to maximum brightness with a mired of 260	MQTT topic "student/CASA0022/ucfnsmc/twin/ColdLight" is updated	Payload of "student/CASA0022/ucfnsmc/twin/ColdLight" is 1	All the time
Twin change light strip to red	If the red button on the controller is pressed, the light strip will flash in red 5 times at maximum brightness for 5 times and stay on after that	MQTT topic "student/CASA0022/ucfnsmc/twin/RedLight" is updated	Payload of "student/CASA0022/ucfnsmc/twin/RedLight" is 1	All the time
Twin change light strip to warm white	If the warm white button on the controller is pressed, turn on the light strip to maximum brightness with a mired of 390	MQTT topic "student/CASA0022/ucfnsmc/twin/WarmLight" is updated	Payload of "student/CASA0022/ucfnsmc/twin/WarmLight" is 1	All the time
Twin toggle lamp	If the desk lamp on/off button on the controller is pressed, toggle the light bulb	MQTT topic "student/CASA0022/ucfnsmc/twin/LampButton" payload toggles between 0 and 1	/	All the time
Twin toggle light strip	If the light strip on/off button on the controller is pressed, toggle the light strip	MQTT topic "student/CASA0022/ucfnsmc/twin/StripButton" payload toggles between 0 and 1	/	All the time
Update Light Bulb Status	Send the status of the light bulb to MQTT topics: student/CASA0022/ucfnsmc/DeskLamp/OnorOff or student/CASA0022/ucfnsmc/DeskLamp/Brightness	Light bulb turned on or off/ Light bulb’s brightness changed	/	All the time
Update Light Strip Status	Send the status of the light strip to MQTT topics: “student/CASA0022/ucfnsmc/LightStrip/OnorOff” or “student/CASA0022/ucfnsmc/LightStrip/Brightness” or “student/CASA0022/ucfnsmc/LightStrip/rgb_color” or “student/CASA0022/ucfnsmc/LightStrip/Brightness255”	Light strip turned on or off/ Light strip’s brightness changed/ Light strip’s colour changed/	/	All the time
Update Where The User Is	If a motion sensor is detecting motion, a message with the corresponding area will be sent to “student/CASA0022/ucfnsmc/Location”:  Desk: Area 1 Bed: Area 2 Kitchen: Area 3	One of the motion sensors’ statuses changed	/	All the time
VOC is high	Send notification to user’s smartphone with “VOC level is higher than normal Open the window!” as the message and light strip flash in blue for 2 times	Aqara air monitor’s TVOC level is changed or the window is opened then closed	TVOC level is higher than 100 and the window is closed	0600-2200
When it is late and user is still at the desk	Change the light strip colour into a warm white with a mired of 390 and change the light bulb to 80% brightness	Desk motion sensor is detecting a motion	Light bulb and light strip are on	2200-0600
When User Come Back	Turn on the light strip to maximum brightness with a mired of 343	Main door or bathroom door is closed then opened and stayed open for 4 seconds	Light strip is off	All the time
When user is in bathroom	Turn off the lights and send “Area 4” to MQTT topic “student/CASA0022/ucfnsmc/Location”	Bathroom door opened and then closed and stayed closed for 10 minutes	None of the motion sensors is detecting motion and the light strip is on	
When user is in desk area	Turn on the light bulb at maximum brightness and light strip at maximum brightness with a mired of 260	Desk area motion sensor changed from not detecting motion to detecting	Light bulb is off	0700-2200
When user is not in the desk area	Turn off the light bulb	Desk area motion sensor changed from detecting motion to not detecting	/	All the time
When User Left	Turn off both lights and send “Left” to MQTT topic “student/CASA0022/ucfnsmc/Location”	Main door is opened then closed and stayed closed for 3 minutes	All motion sensors cannot detect a motion and either the light bulb or light strip is on	All the time
When user wake up in the middle of the night	Turn on the light strip at 20% brightness with a mired of 390	Bed area motion sensor changed from not detecting motion to detecting	All lights are off	2200-0559
When user wake up in the morning	Turn on the light strip at 80% brightness with a mired of 390	Bed area motion sensor changed from not detecting motion to detecting	Both lights are off	0600-1100