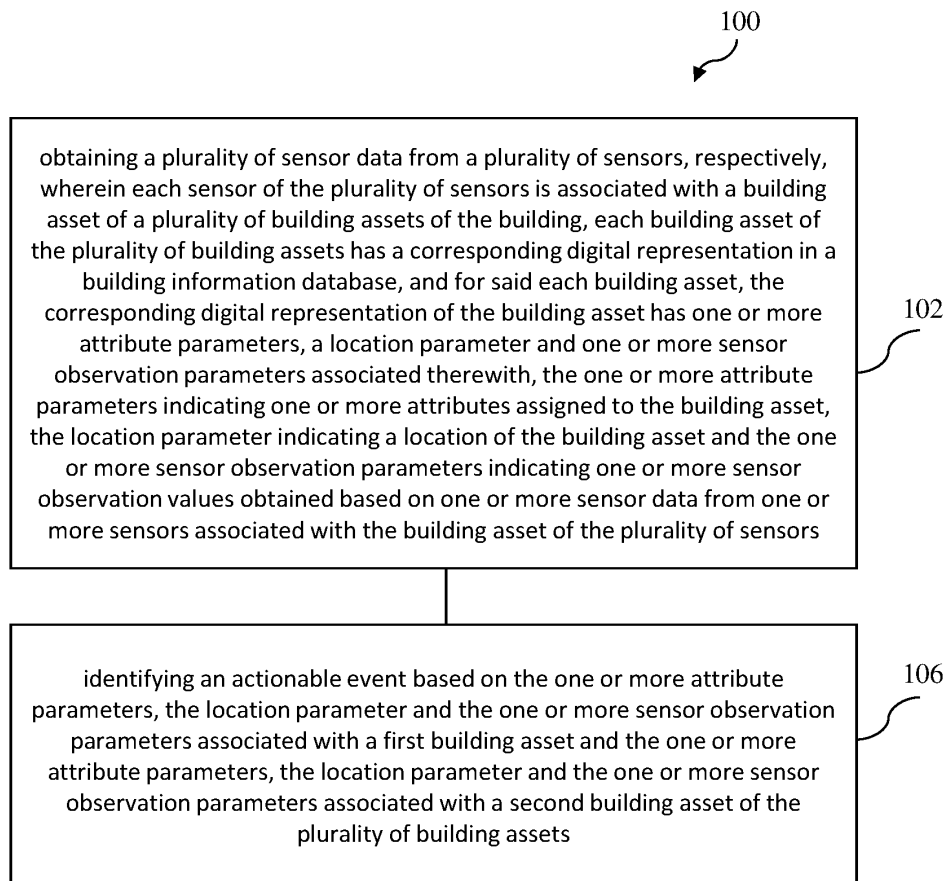


**FIG. 1**

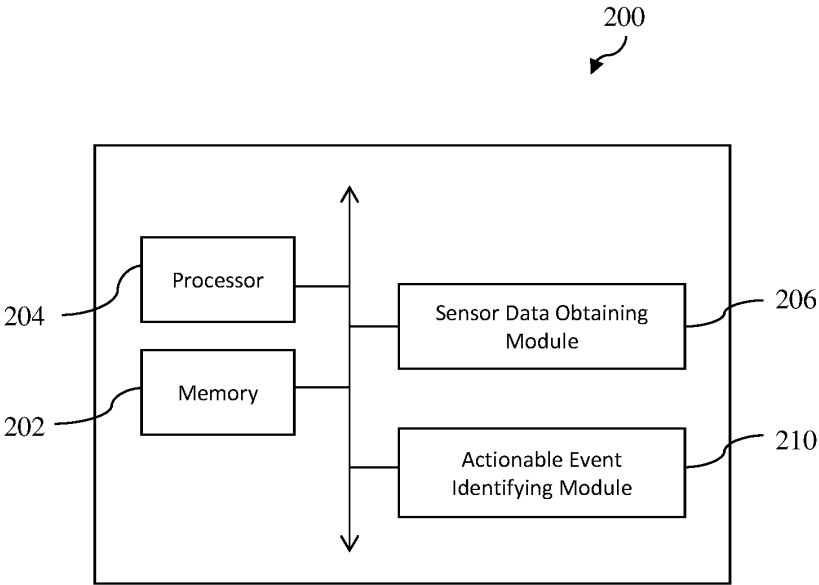


FIG. 2

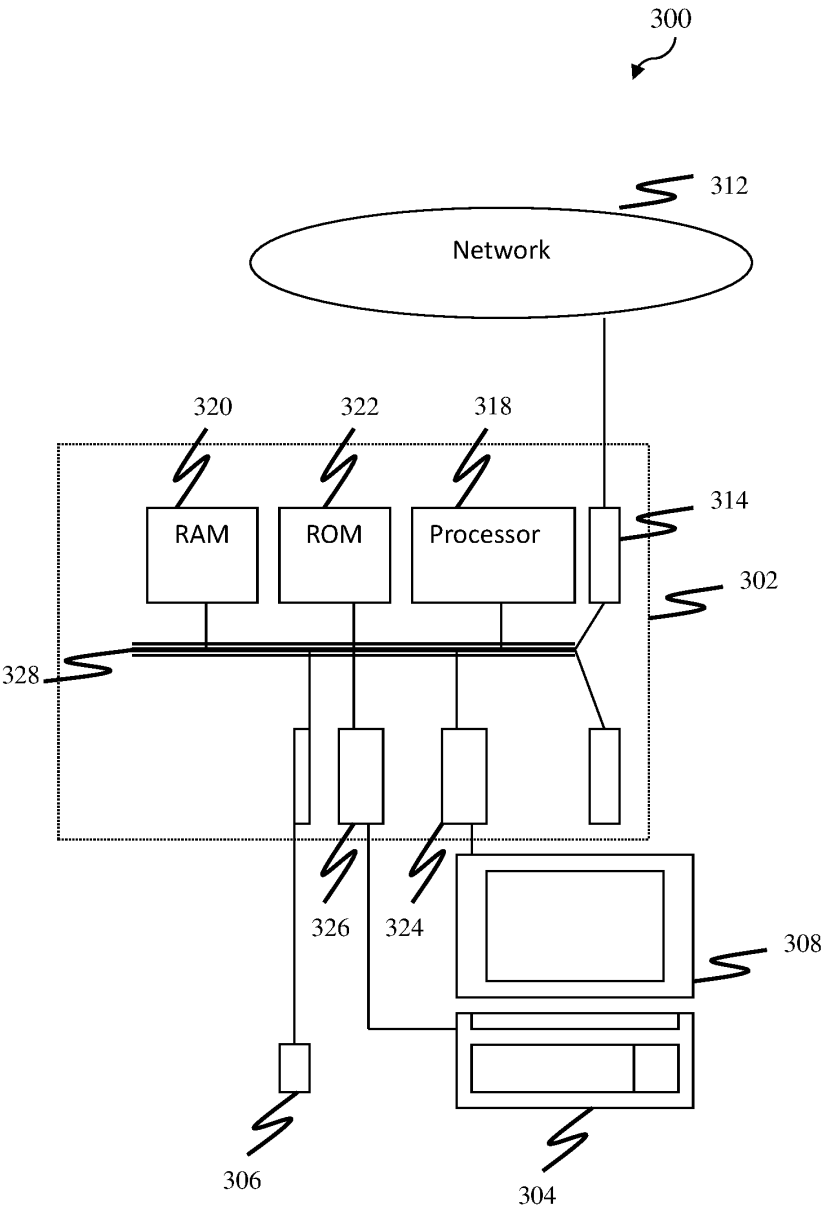


FIG. 3

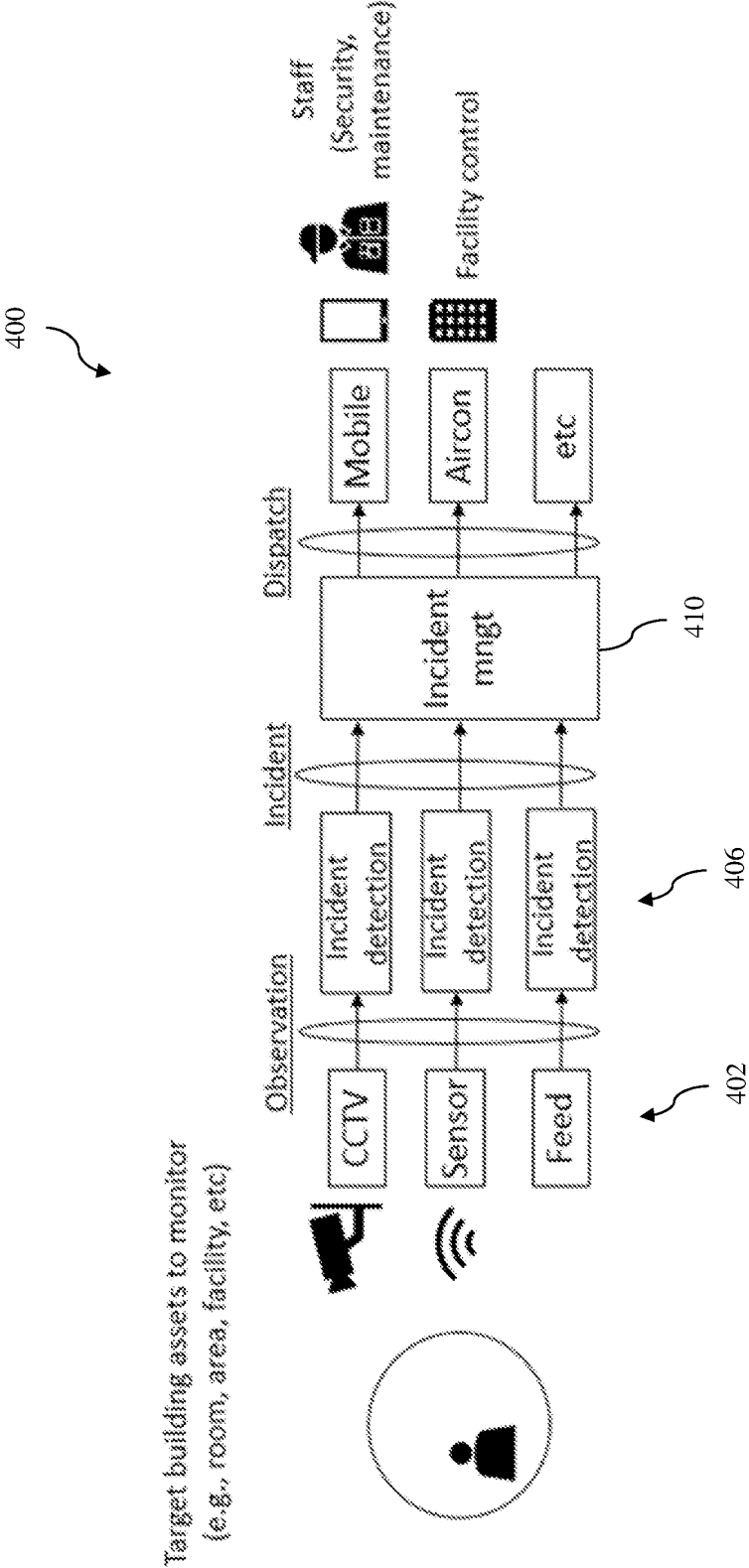


FIG. 4

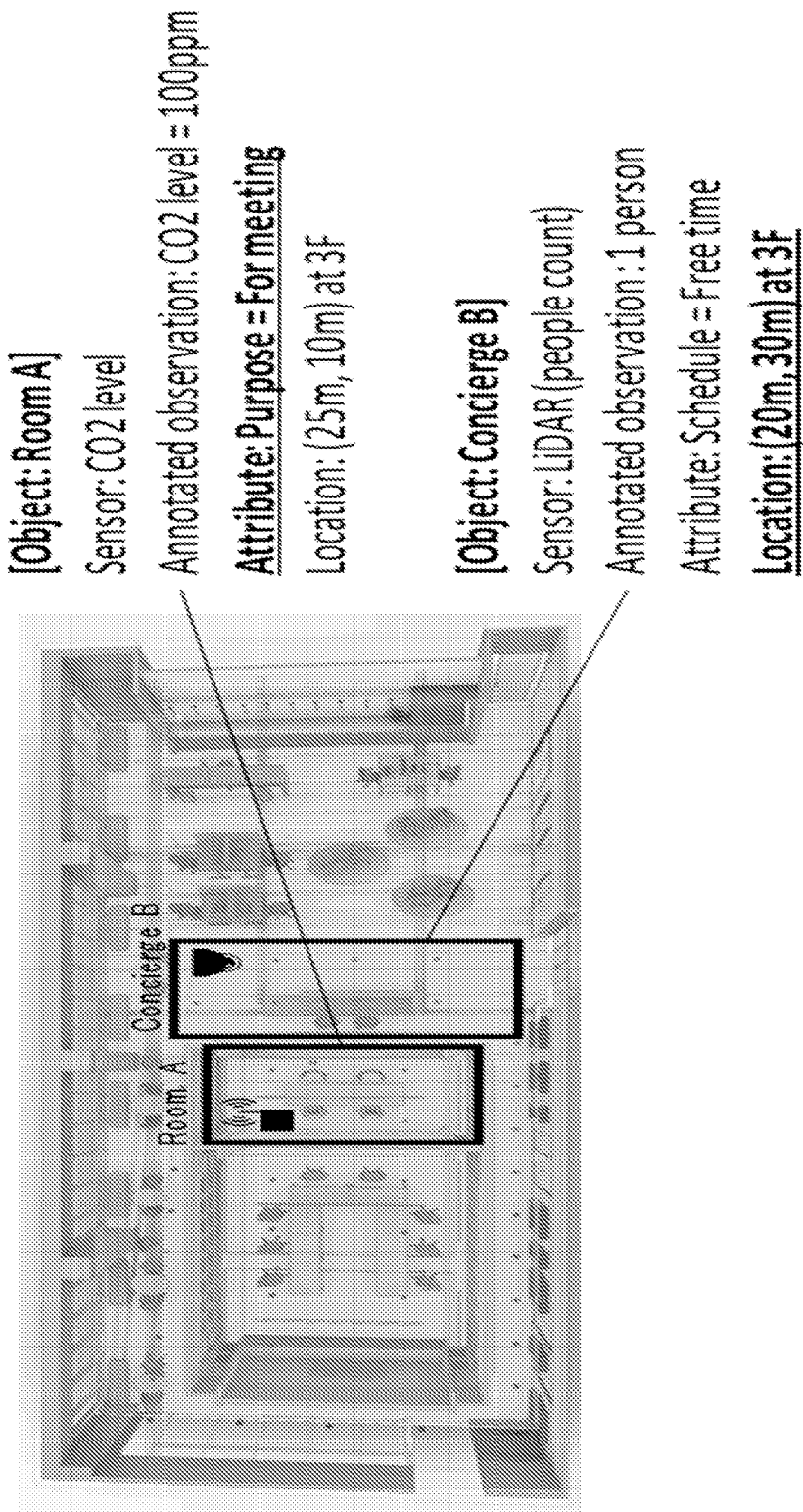


FIG. 5

Table 1

	Object	Sensor values	Attribute of DT object	Location of DT object	Dispatch to handle incident
Ex1	Room A	High CO ₂ level	Purpose = "Meeting"	Inside the building	Turn on aircon for ventilation
Ex2	Room A	High CO ₂ level	Purpose = "Meeting"	Inside the building	Dispatch staff to room A to open a window
	Concierge B	Staff is there	Schedule = "Free time"	Distance to room A < 20m	

FIG. 6

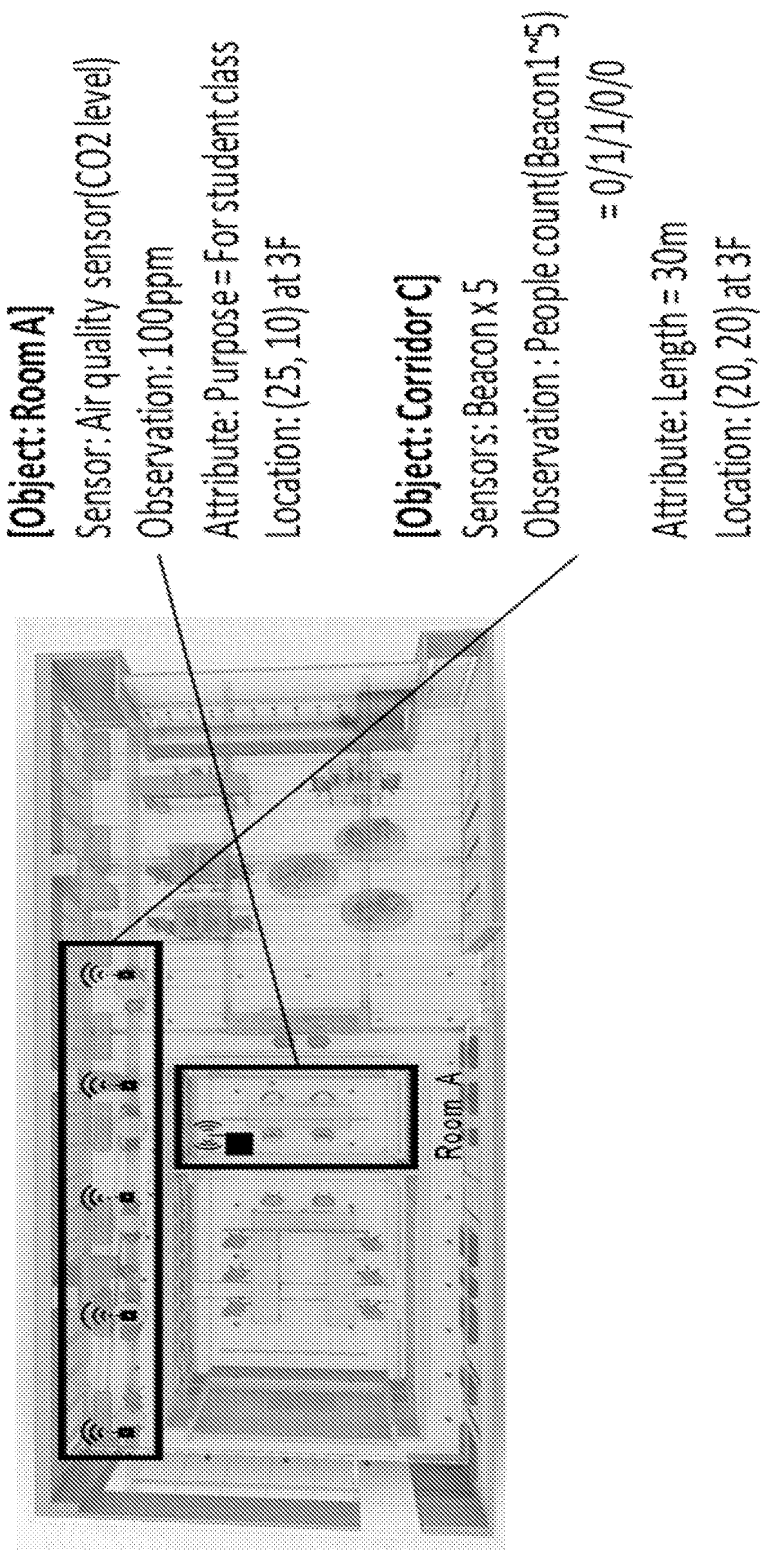


FIG. 7

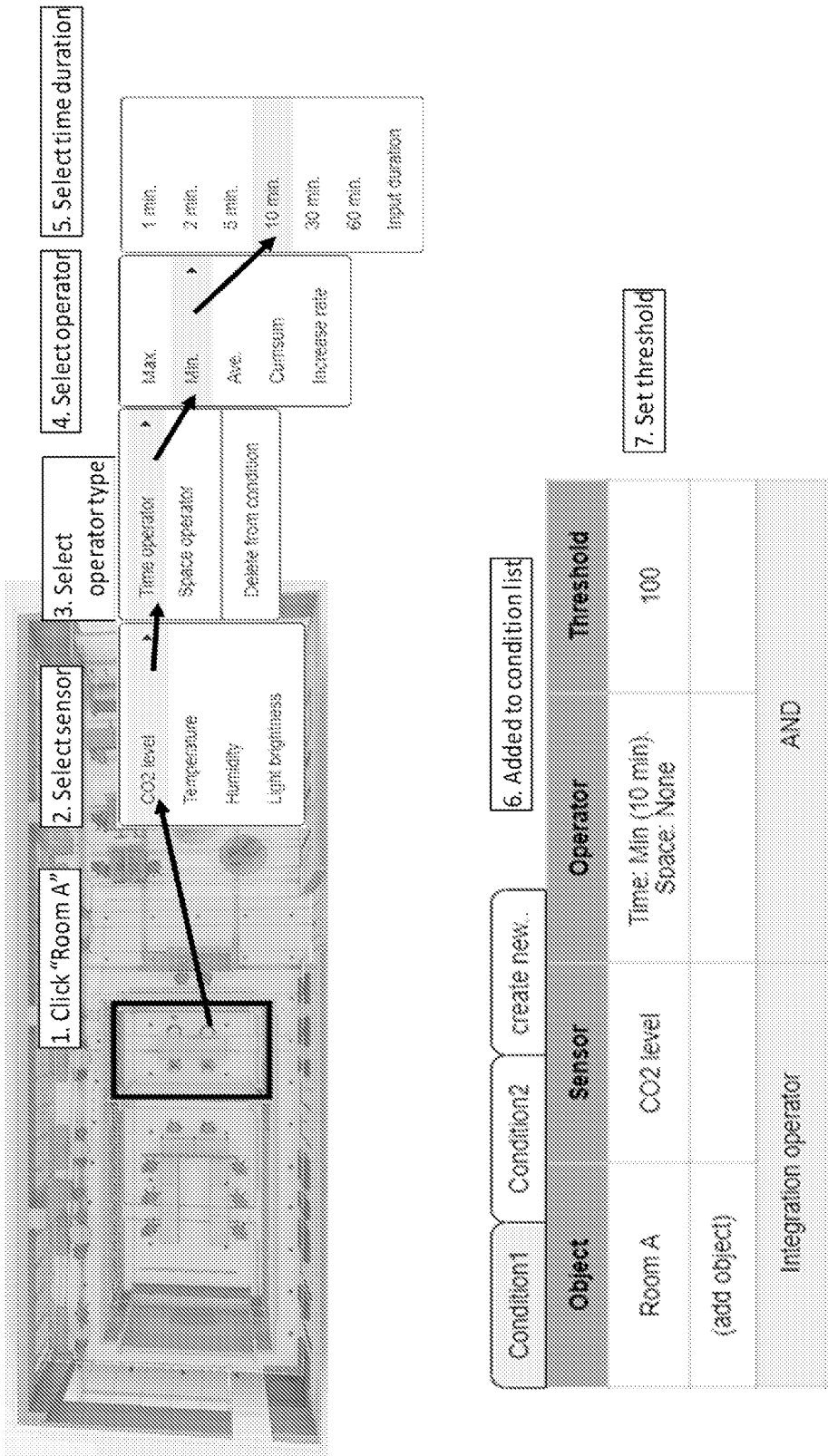


FIG. 8

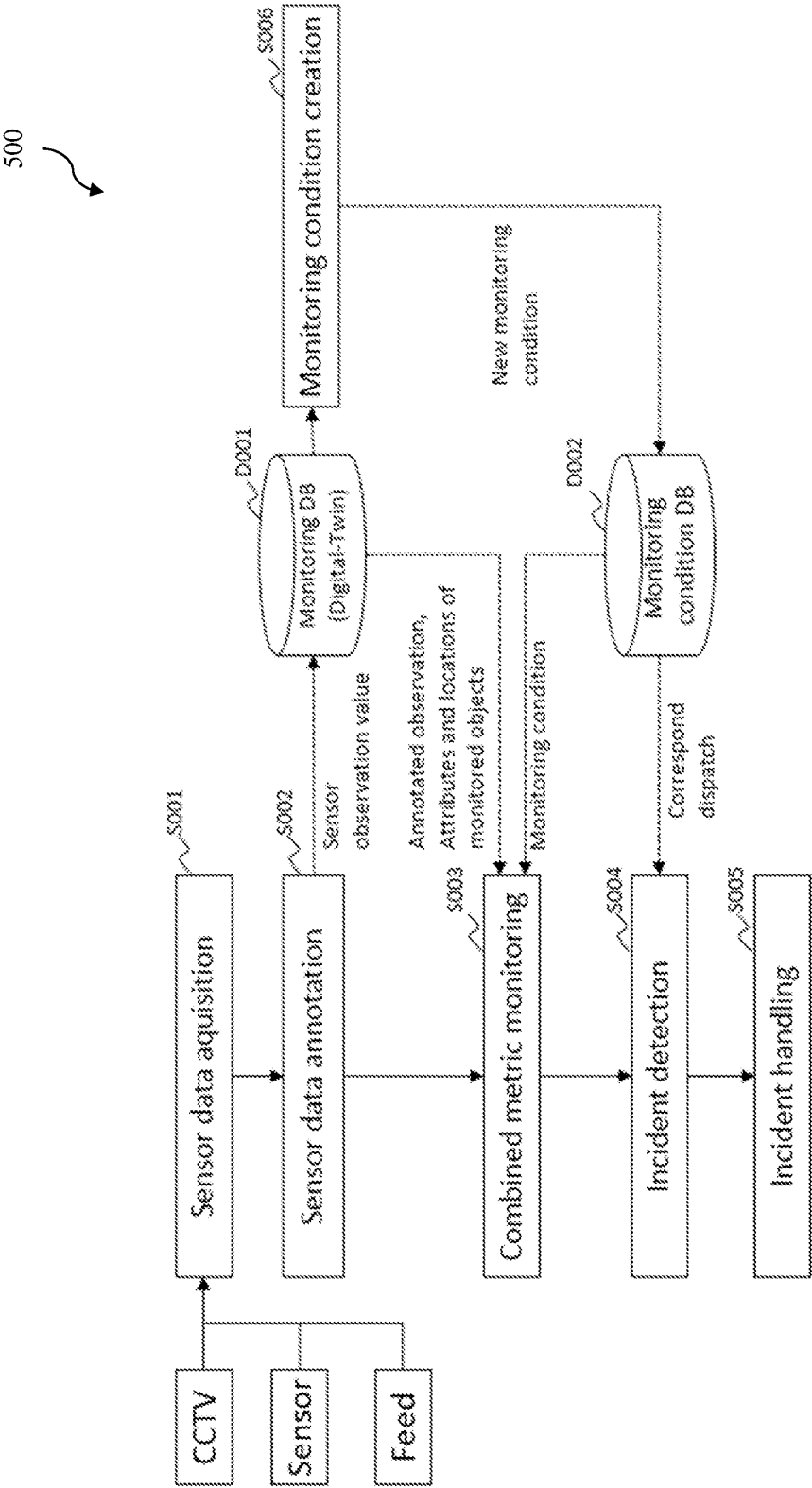


FIG. 9

Table 2

Monitored object	Sensor	Sensor value	Annotated observation	Attribute	Location
Room A	Air quality sensor	CO ₂ level	100 ppm	Purpose of usage = "Meeting"	(25m, 10m) on L3
	Air quality sensor	Temperature	24 degree		(25m, 10m) on L3
	Air quality sensor	Humidity	55 %		(25m, 10m) on L3
	Light sensor	Brightness	600 lux		(25m, 10m) on L3
Concierge B	LIDAR	People count	1 person	Schedule = "Free time"	(30m, 10m) on L3
Corridor C	Beacon1	People count1	0 person	Corridor length = "30m", Num of beacon = "5"	(5m, 5m) on L3
	Beacon2	People count2	1 person		(10m, 5m) on L3
	Beacon3	People count3	1 person		(15m, 5m) on L3
	Beacon4	People count4	0 person		(20m, 5m) on L3
	Beacon5	People count5	0 person		(25m, 5m) on L3

FIG. 10**Table 3**

Combined condition No	Integration condition	Monitored object	Sensor value	Condition of annotated observation	Condition of Attribute	Condition of location	Corresponding dispatch
1	N/A	Room A	CO ₂ level	> 90 ppm	Purpose of usage != "Meeting"	Any	Show alert on floor map
2	AND	Room A	CO ₂ level	> 90 ppm	Purpose of usage = "Meeting"	Any	Turn on aircon in room A
		Concierge B	People count	= 0 person	Any	Any	
3	AND	Room A	CO ₂ level	> 90 ppm	Purpose of usage = "Meeting"	Any	Dispatch staff to the object location
		Concierge B	People count	>= 1 person	Schedule = "Free time"	Any	
		Room A, Concierge B	N/A	Any	Any	Distance < 30m	

FIG. 11

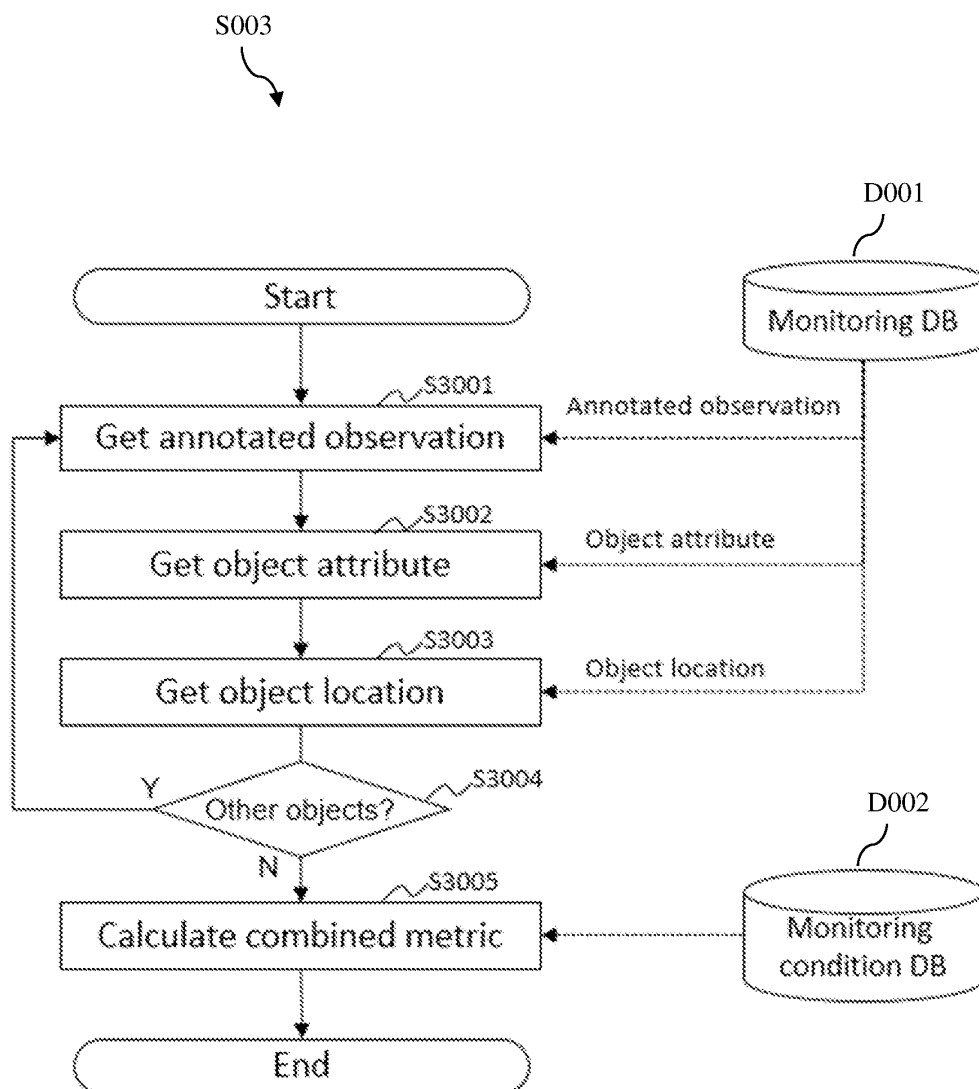


FIG. 12

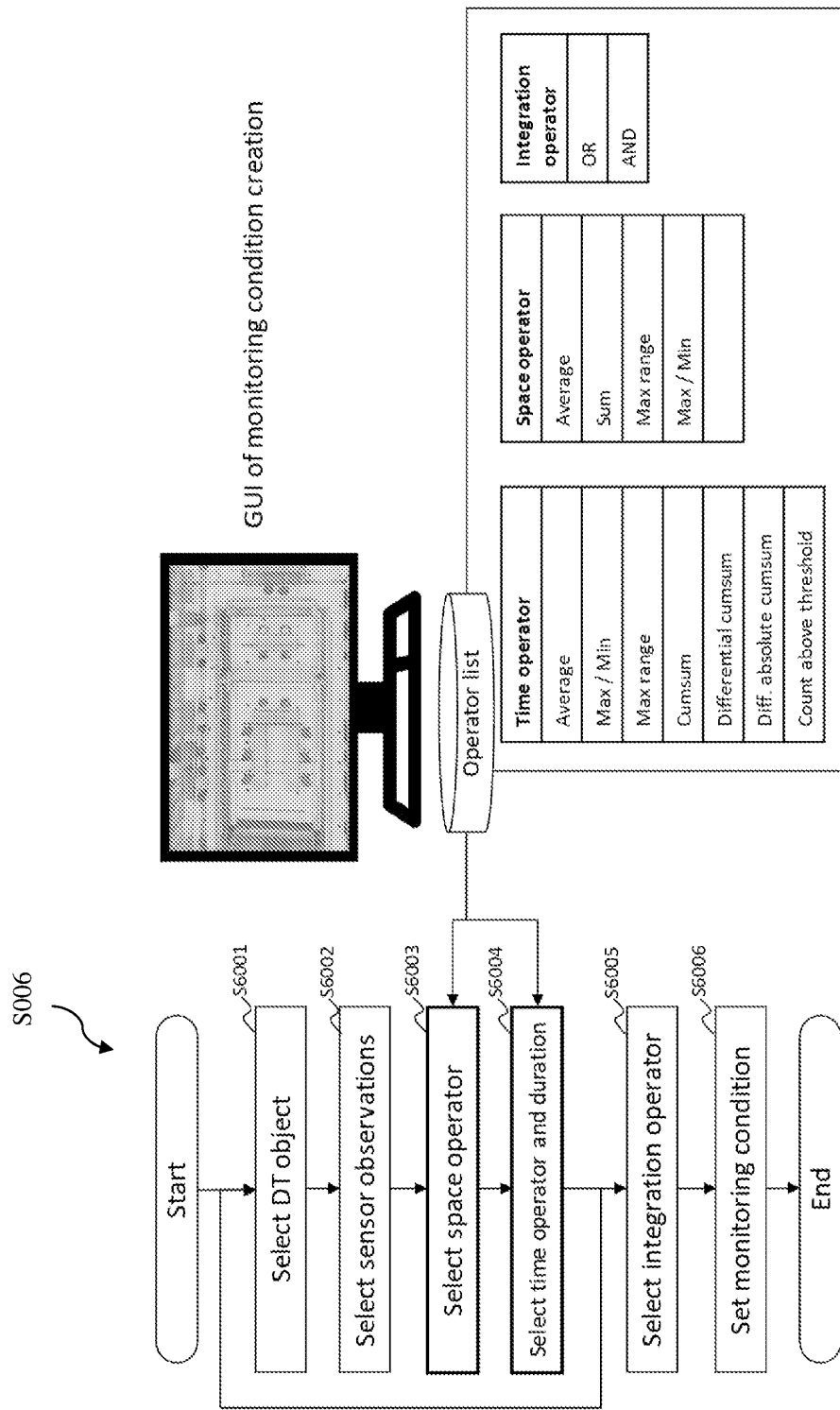


FIG. 13

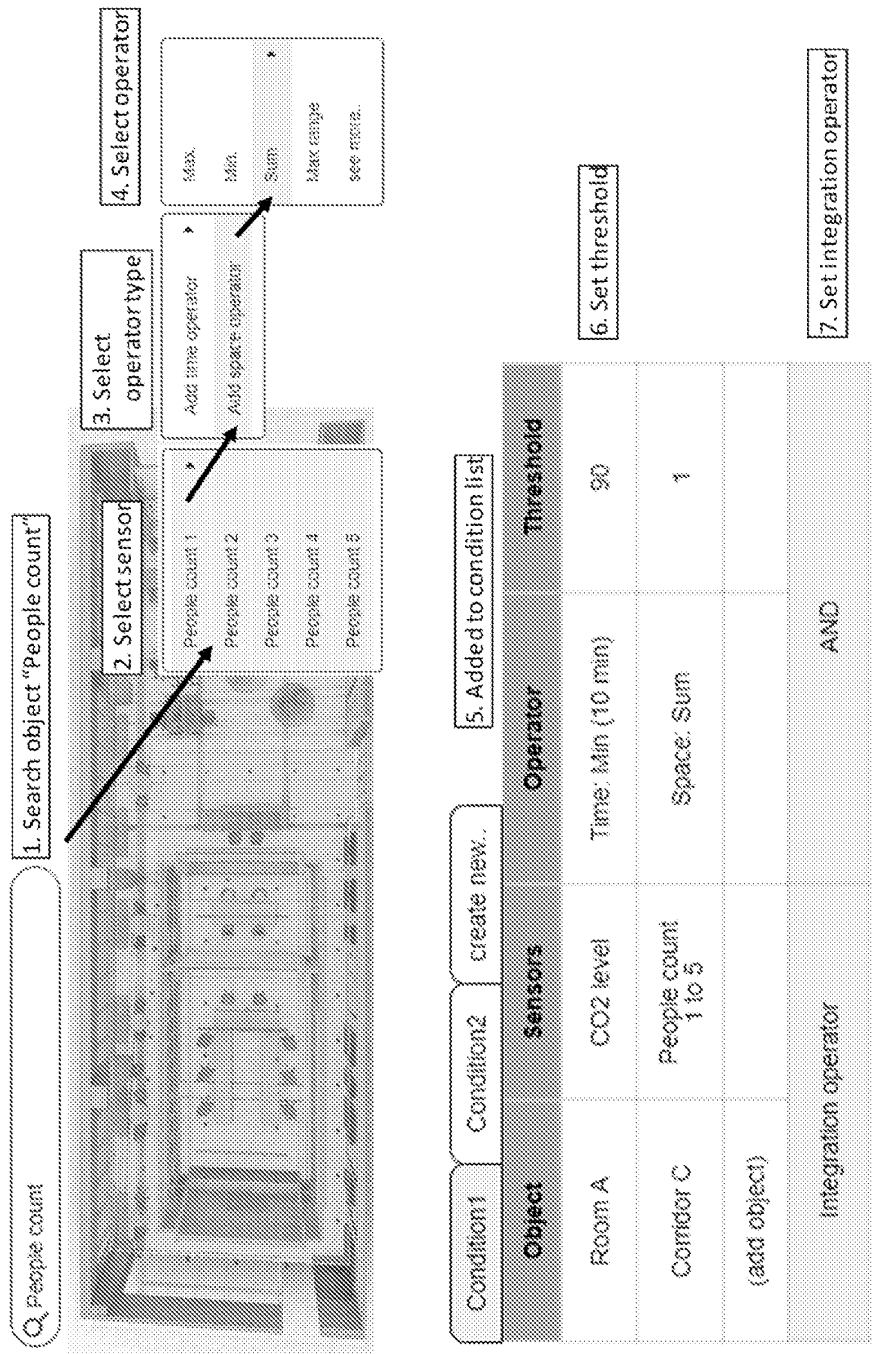


FIG. 14

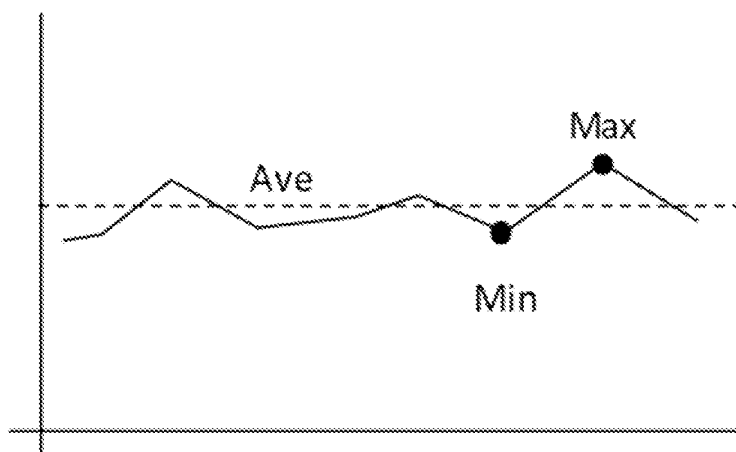


FIG. 15A

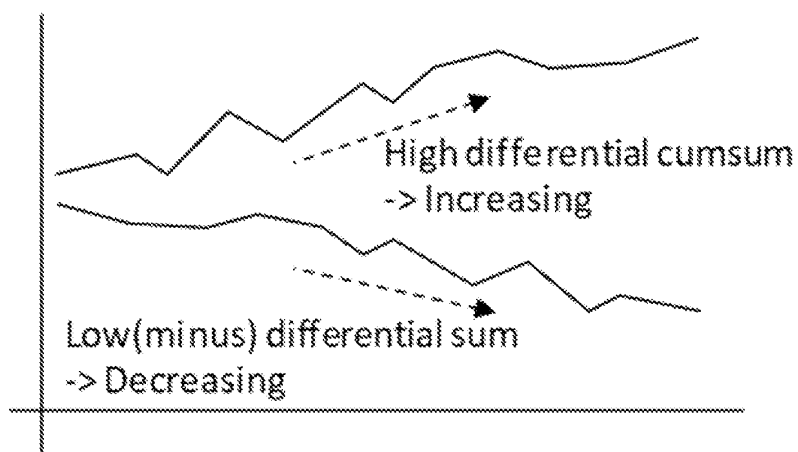


FIG. 15B

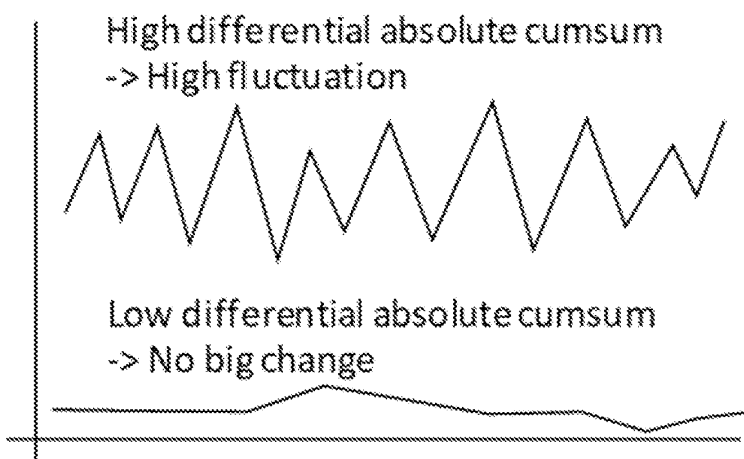


FIG. 15C

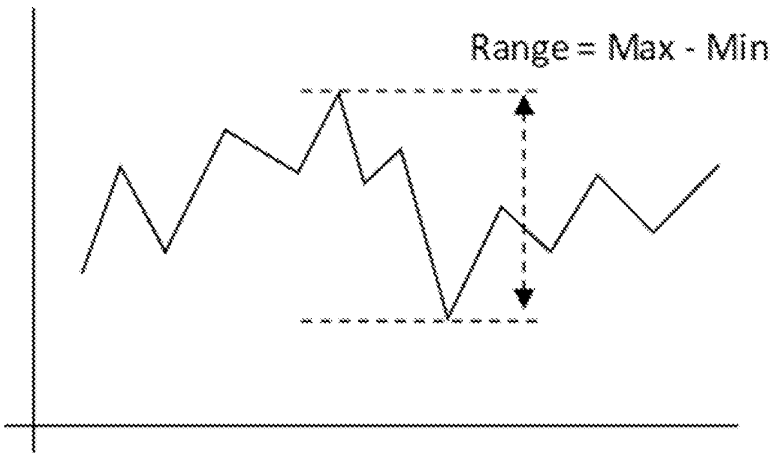


FIG. 15D

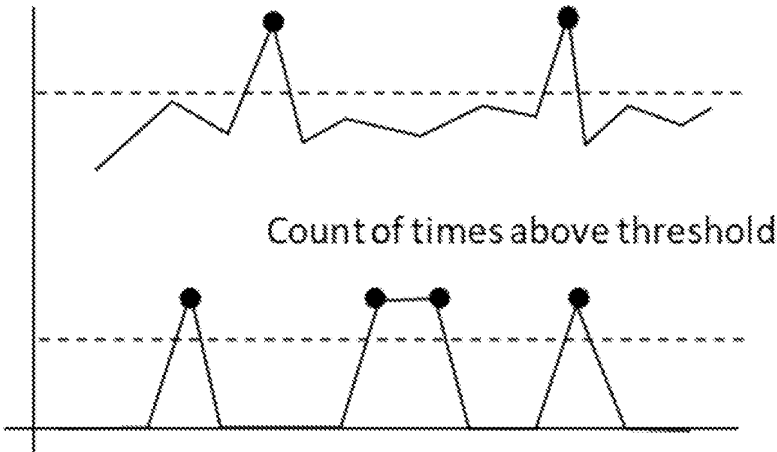


FIG. 15E

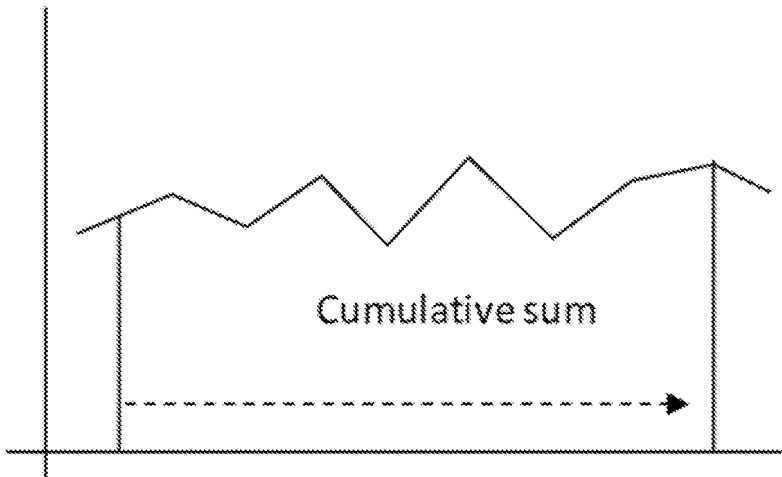


FIG. 15F

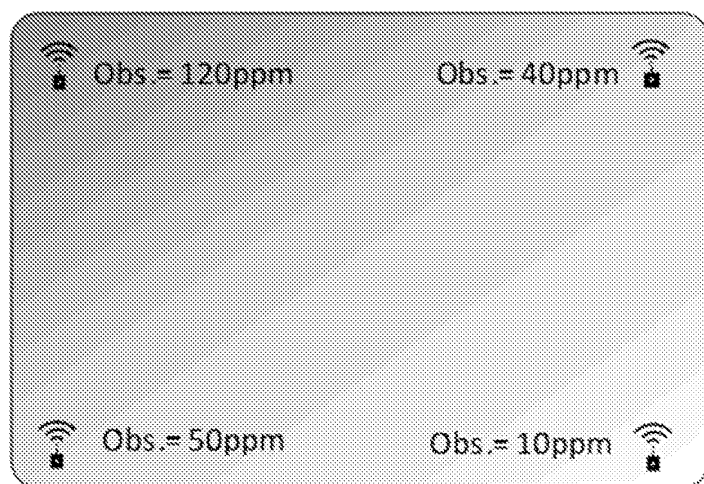


FIG. 16A

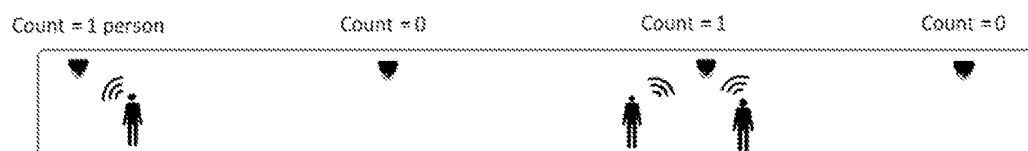


FIG. 16B