Therefore, embodiments of the present invention provide an air quality information processing system and an air quality information processing method that are capable of generating a fine particle distribution in a narrower range than before.

[Solution to Problem]
[0007]
An air quality information processing system according to one aspect of the present invention includes: an obtainer that obtains a first detection result of detecting fine particles from each of a plurality of first fine particle sensors provided along a road for detecting fine particles in air, at least one of the plurality of fine particle sensors being provided between intersections or between traffic lights; a generator that generates a first fine particle distribution indicating a distribution of the fine particles based on the first detection result; and an outputter that outputs first information based on the first fine particle distribution, wherein the obtainer obtains position information indicating a current position of a user present in a vicinity of the road, and traffic information of the road, and the generator further generates, based on the position information and the traffic information, the first information on a movement route of the user from the current position to a destination.
[0008]
In addition, an air quality information processing method according to one aspect of the present invention includes: obtaining a detection result of detecting fine particles from each of a plurality of fine particle sensors provided along a road for detecting fine particles in air, at least one of the plurality of fine particle sensors being provided between intersections or between traffic lights; generating a fine particle distribution indicating a distribution of the fine particles based on the detection result; and outputting information based on the fine particle distribution, wherein the obtaining step obtains position information indicating a current position of a user present in a vicinity of the road, and traffic information of the road, and the generating step generates, based on the position information and the traffic information, the information on a movement route of the user from the current position to a destination.

[Advantageous Effects of Invention]
[0009]
According to embodiments of the present invention, it is possible to generate a fine particle distribution in a narrower range than before.

[Brief Description of Drawings]
[0010]
[FIG. 1]
FIG. 1 is a schematic diagram showing a configuration of an air quality information processing system according to Embodiment 1.
[FIG. 2]
FIG. 2 is a block diagram showing a functional configuration of

omitted.

[0150]

As shown in FIG. 13, communicator 61 obtains the position information of residence 400 (S41). Communicator 61 may obtain the position information of residence 400 via communicator 410. ~~Controller 62~~Communicator 61 outputs the position information of residence 400 to controller 62.

[0151]

Next, controller 62 estimates the outdoor PM concentration, which is the outdoor PM concentration of residence 400, based on the PM concentration distribution and the position information of residence 400 (S42). For example, controller 62 may estimate the outdoor PM concentration of residence 400 from the tendency of the PM concentration distribution, or may regard the PM concentration obtained from PM sensor 10 or the like provided at the position closest to residence 400 as the outdoor PM concentration of residence 400. Controller 62 generates concentration information indicating the outdoor PM concentration. The concentration information is an example of information based on the fine particle distribution. The outdoor PM concentration of residence 400 may be the current outdoor PM concentration of residence 400 or the future outdoor PM concentration of residence 400. The future may be, for example, minutes after the present, hours after the present, or days after the present.

[0152]

Next, communicator 61 outputs the concentration information generated by controller 62 to an external device (S43). Communicator 61 transmits the concentration information to, for example, communicator 410 of residence 400. Accordingly, controller 420 in residence 400 can obtain the outdoor PM concentration of residence 400.

[0153]

Subsequently, the operation of controller 420 will be described with reference to FIG. 14. FIG. 14 is a flowchart showing the operation of controller 420 provided indoors according to the present

~~[CLAIMS]~~CLAIMS

~~[Claim 1]~~

1. An air quality information processing system comprising:

an obtainer that obtains a first detection result of detecting fine particles in air from each of a plurality of first fine particle sensors provided along a road for detecting the fine particles, at least one of the plurality of fine particle sensors being provided between intersections or between traffic lights;

a generator that generates a first fine particle distribution indicating a distribution of the fine particles, based on the first detection result; and

an outputter that outputs first information based on the first fine particle distribution, wherein

the obtainer obtains position information indicating a current position of a user present in a vicinity of the road, and traffic information of the road, and

the generator further generates, based on the position information and the traffic information, the first information on a movement route of the user from the current position to a destination.

~~[Claim 2]~~

~~The air quality information processing system according to claim 1,~~

~~wherein the obtainer obtains position information indicating a current position of a user present in a vicinity of the road, and~~

~~the generator generates the first information on the user based on the first fine particle distribution and the position information.~~

~~[Claim 3]~~

2. The air quality information processing system according to claim ~~2~~1,

wherein the generator generates the first information indicating an exposure amount of the fine particles to the user based

on time series data of the first fine particle distribution and time series data of the position information.

~~[Claim 4]~~

~~The air quality information processing system according to claim 2,~~

~~wherein the generator generates the first information on a movement route of the user from the current position to a destination.~~

~~[Claim 5]~~

3. The air quality information processing system according to claim ~~4~~1 or2,

wherein the obtainer obtains ~~at least one of traffic information of the road or~~ weather information in the vicinity of the road, and

the generator generates the first information based on ~~at least one of the traffic information or~~ the weather information.

~~[Claim 6]~~

4. The air quality information processing system according to any one of claims 1 to ~~5~~3, further comprising:

ventilation equipment provided in a building located in a vicinity of the road; and

a display that displays second information indicating an effect of an operation of the ventilation equipment.

~~[Claim 7]~~

5. The air quality information processing system according to claim ~~6~~4, further comprising:

an indoor fine particle sensor provided inside the building,

wherein the display displays the second information including a first concentration of the fine particles outside the building based on the first fine particle distribution and a second concentration of the fine particles detected by the indoor fine particle sensor.

~~[Claim 8]~~

6. The air quality information processing system according to any one of claims 1 to ~~7~~5,

wherein the obtainer obtains a second detection result of detecting the fine particles from each of one or more second fine particle sensors provided on a moving body for detecting the fine particles in the air, and

the generator generates the first fine particle distribution based on the second detection result.

~~[Claim 9]~~

7. The air quality information processing system according to any one of claims 1 to ~~8~~6,

wherein at least one of the plurality of first fine particle sensors is provided in a second height range different from a first height range in which an other of the plurality of first fine particle sensors is provided, and

the generator generates the first fine particle distribution for each of height ranges.

~~[Claim 10]~~

8. The air quality information processing system according to any one of claims 1 to ~~9~~7,

wherein the first fine particle distribution is a distribution in a first region in which each of the plurality of first fine particle sensors detects the fine particles,

the obtainer obtains a second fine particle distribution indicating a distribution of the fine particles in a second region different from the first region, and

the generator generates a third fine particle distribution indicating a distribution of the fine particles in the first region and the second region.

~~[Claim 11]~~

9. The air quality information processing system according to any

one of claims 1 to ~~10~~8, further comprising:

the plurality of first fine particle sensors.

~~[Claim 12]~~

10. An air quality information processing method comprising:

obtaining a detection result of detecting fine particles from each of a plurality of fine particle sensors provided along a road for detecting fine particles in air, at least one of the plurality of fine particle sensors being provided between intersections or between traffic lights;

generating a fine particle distribution indicating a distribution of the fine particles based on the detection result; and

outputting information based on the fine particle distribution~~,~~ wherein

the obtaining step obtains position information indicating a current position of a user present in a vicinity of the road, and traffic information of the road, and

the generating step generates, based on the position information and the traffic information, the information on a movement route of the user from the current position to a destination.