

such sound reflection, diffraction, and absorption on the basis of physics laws involves a large number of computations, making such an option unrealistic.

[0014]

Moreover, although a fixed viewpoint with a fixed user position allows for generation of an object signal that takes sound reflection, diffraction, and other factors into consideration by adjusting the level in advance, such a prior level adjustment is completely meaningless in a free viewpoint with a movable user position.

[0015]

Embodiments of the present invention seek to create a great sense of realism with a small number of computations.

[Solution to Problems]

[0016]

According to a first aspect of the present invention, there is provided a gain determination section that determines an attenuation level on the basis of a positional relationship between a given object and additional object and determines a gain of a signal of the given object on the basis of the attenuation level, wherein: the positional relationship includes a radius ratio of a first distance to a second distance, the first distance is from the additional object to a straight line, the second distance is from the additional object to an end of the additional object on a side of the straight line, and the straight line is connecting a user position and the given object.

[0017]

According to a second aspect of the present invention, there is provided an information processing method performed by an information processing apparatus, including: determining an attenuation level on a basis of a positional relationship between a given object and additional object and determining a gain of a signal of the given object on a basis of the attenuation level, wherein: the positional relationship includes a radius ratio of a first distance to a second distance, the first distance is from the additional object to

a straight line, the second distance is from the additional object to an end of the additional object on a side of the straight line, and the straight line is connecting a user position and the given object.

[0017a]

According to a third aspect of the present invention, there is provided a program causing a computer to perform a process including the step of: determining an attenuation level on a basis of a positional relationship between a given object and additional object and determining a gain of a signal of the given object on a basis of the attenuation level, wherein: the positional relationship includes a radius ratio of a first distance to a second distance, the first distance is from the additional object to a straight line, the second distance is from the additional object to an end of the additional object on a side of the straight line, and the straight line is connecting a user position and the given object.

[0018]

In embodiments of the present invention, an attenuation level is determined on the basis of a positional relationship between a given object and another object, and a gain of a signal of the given object is determined on the basis of the attenuation level.

[Advantageous Effect of Invention]

[0019]

According to embodiments of the present invention, a great sense of realism can be obtained with a small number of computations.

[0020]

It should be noted that the effect described herein is not necessarily limited and may be any one of the effects described in the present disclosure.

[Brief Description of Drawings]

[0021]

[Fig. 1]

CLAIMS

1. An information processing apparatus comprising:

a gain determination section adapted to determine an attenuation level on a basis of a positional relationship between a given object and an additional object and determine a gain of a signal of the given object on a basis of the attenuation level, wherein:

the positional relationship includes a radius ratio of a first distance to a second distance,

the first distance is from the additional object to a straight line,

the second distance is from the additional object to an end of the additional object on a side of the straight line, and

the straight line is connecting a user position and the given object.

2. The information processing apparatus of claim 1, wherein

the additional object is located closer to a side of a user position than the given object.

3. The information processing apparatus of claim 1, wherein

the additional object is located within a range of a

given distance from the straight line connecting the user position and the given object.

4. The information processing apparatus of claim 3,
wherein

the range is determined by a size of the additional object.

5. The information processing apparatus of claim 3,
wherein

the given distance includes a distance from a center of the additional object to an end of the additional object on a side of the straight line.

6. The information processing apparatus of claim 3,
wherein

the positional relationship depends upon a size of the additional object.

7. The information processing apparatus of claim 6,
wherein

the positional relationship includes an amount of deviation of a center of the additional object from the straight line.

8. The information processing apparatus of claim 6,
wherein

the first distance is from a center of the additional
object to the straight line, and

the second distance is from the center of the additional
object to end of the other additional object on the side of
the straight line.

9. The information processing apparatus of claim 1,
wherein

the gain determination section determines the
attenuation level on a basis of the positional relationship
and attenuation information of the additional object.

10. The information processing apparatus of claim 9,
wherein

the attenuation information includes information for
acquiring the attenuation level of the signal appropriate to
the positional relationship in the additional object.

11. The information processing apparatus of claim 1,
wherein

the positional relationship includes a distance between
the additional object and the given object.

12. The information processing apparatus of claim 1,
wherein

the gain determination section determines the
attenuation level on a basis of attenuation disabling
information indicating whether or not to attenuate the signal
of the given object and the positional relationship.

13. The information processing apparatus of claim 1,
wherein

the signal of the given object includes an audio signal.

14. An information processing method performed by an
information processing apparatus, comprising:

determining an attenuation level on a basis of a
positional relationship between a given object and additional
object and determining a gain of a signal of the given object
on a basis of the attenuation level, wherein:

the positional relationship includes a radius ratio of a
first distance to a second distance,

the first distance is from the additional object to a
straight line,

the second distance is from the additional object to an
end of the additional object on a side of the straight line,
and the straight line is connecting a user position and the
given object.

15. A program causing a computer to perform a process comprising the step of:

determining an attenuation level on a basis of a positional relationship between a given object and additional object and determining a gain of a signal of the given object on a basis of the attenuation level, wherein:

the positional relationship includes a radius ratio of a first distance to a second distance,

the first distance is from the additional object to a straight line,

the second distance is from the additional object to an end of the additional object on a side of the straight line, and

the straight line is connecting a user position and the given object.