According to a first aspect of the present invention, a point calculation device includes a point granting information acquisition unit configured to acquire a point granting start time and a point granting end time for use points relating to a vehicle; and a point calculation unit configured to calculate first use points for a user of the vehicle according to a time difference between the acquired point granting start time and the acquired point granting end time, wherein the point granting start time is a boarding time of the user on the vehicle, wherein the point granting end time is a deboarding time of the user from the vehicle, and wherein the point calculation unit further adds second use points calculated according to a time period obtained by adding a difference between the deboarding time of the user from the vehicle and an arrival time of the vehicle to a difference between the boarding time of the user on the vehicle and a departure time of the vehicle to the first use points.

[0007]

[0008]

According to a third aspect of the present invention, a point calculation device includes a point granting information acquisition unit configured to acquire a point granting start time and a point granting end time for use points relating to a vehicle; and a point calculation unit configured to calculate first use points for a user of the vehicle according to a time difference between the acquired point granting start time and the acquired point granting end time, wherein the point granting start time is a departure time of the vehicle, wherein the point granting end time is an arrival time of the vehicle, and wherein the point calculation unit further adds second use points calculated according to a time period obtained by adding a difference between a deboarding time of the user from the vehicle and an arrival time of the vehicle to a difference between a boarding time of the user on the vehicle and a departure time of the vehicle to the first use points.

[0009]

According to a fourth aspect of the present invention, a point calculation device includes a point granting information acquisition unit configured to acquire a point granting start time and a point granting end time for use points relating to a vehicle; and a point calculation unit configured to calculate first use points for a user of the vehicle according to a time difference between the acquired point granting start time and the acquired point granting end time, wherein the point granting start time is a scheduled departure time of the vehicle, wherein the point granting end time is a scheduled arrival time of the vehicle, and wherein the point calculation unit further adds second use points calculated according to a time period obtained by adding a difference between a deboarding time of the user from the vehicle and an arrival time of the vehicle to a difference between a boarding time of the user on the vehicle and a departure time of the vehicle to the first use points.

[0010]

[0011]

According to a sixth aspect of the present invention, the point calculation unit adds second use points calculated according to a time period obtained by further adding a difference between a ticket issuance time of a ticket necessary for boarding the vehicle and the boarding time of the user on the vehicle to the time period obtained by adding the difference between a deboarding time of the user from the vehicle and the arrival time of the vehicle to the difference between the boarding time on the vehicle and the departure time of the vehicle to the first use points.

[0012]

[0013]

[0014]

According to a ninth aspect of the present invention, the point calculation unit adds the calculated second use points to use points determined for a predetermined boarding section instead of the first use points calculated according to the time difference between the point granting start time and the point granting end time.

[0015]

According to a tenth aspect of the present invention, the point calculation unit calculates use points according to a sum of the time difference between the point granting start time and the point granting end time when the vehicle is used for a predetermined period.

[0016]

According to an eleventh seventh aspect of the present invention, the point calculation unit adds second use points calculated according to at least one of the number of times that the user boards the vehicle, the number of users pre-registered as users on board with the user when he/she boards the vehicle, a level of crowdedness of the vehicle in a section in which the user boards the vehicle, and a case in which the user has not deboarded the vehicle at a scheduled deboarding place to the first use points.

[0017]

According to a twelfth aspect of the present invention, the point calculation unit calculates points for a case in which the vehicle is not operated when the vehicle is not operated.

[0018]

According to a thirteenth aspect of the present invention, a point calculation device includes a point granting information acquisition unit configured to acquire a point granting start time and a point granting end time for use points relating to a vehicle; and a point calculation unit configured to calculate first use points for a user of the

vehicle according to a time difference between the acquired point granting start time and the acquired point granting end time, a shaking determination unit configured to acquire detection information of a vibration sensor mounted on the vehicle or weather information and determine a shaking of the vehicle according to the acquired information, wherein the point calculation unit further adds use points calculated according to a time period during which the shaking determination unit determines that the vehicle is in a shaken state.

[0019]

According to a fourteenth aspect of the present invention, the point calculation device further includes an output unit configured to output the first use points calculated by the point calculation unit, wherein, when the point calculation unit has calculated the second use points, the output unit outputs the second use points in addition to the first use points by distinguishing the second use points from the first use points.

[0020]

[0021]

According to a sixteenth aspect of the present invention, a point calculation method includes: acquiring, by a point calculation device, a boarding time of a user of a vehicle on the vehicle as a point granting start time and a deboarding time of the user from the vehicle as a point granting end time for use points relating to a vehicle; calculating, by the point calculation device, first use points for a user of the vehicle according to a time difference between the acquired point granting start time and the acquired point granting end time; and further adding, by the point calculation device, second use points calculated according to a time period obtained by adding a difference between the deboarding time of the user from the vehicle and an arrival time of the vehicle to a difference between the boarding time of the user on the vehicle and a

departure time of the vehicle to the first use points.

[0022]

According to a seventeenth aspect of the present invention, a program causes a computer of a point calculation device to function as: an acquirer configured to acquire a boarding time of a user of a vehicle on the vehicle as a point granting start time and a deboarding time of the user from the vehicle as a point granting end time for use points relating to a vehicle; a calculator configured to calculate first use points for a user of the vehicle according to a time difference between the acquired point granting start time and the acquired point granting end time; and a means for adding second use points calculated according to a time period obtained by adding a difference between the deboarding time of the user from the vehicle and an arrival time of the vehicle to a difference between the boarding time of the user on the vehicle and a departure time of the vehicle to the first use points.

[Advantageous Effects of Invention]

[0023]

According to the above-described point calculation device, boat, point calculation method, and program, it is possible to grant points according to a time period during which a user is actually embarked on a boat. Also, it is possible to provide information such as advantageous information for each user based on embarkation records, contact information, and the like for each user.

[Brief Description of Drawings]

[0024]

Fig. 1 is a diagram showing an example of a point calculation system in a first embodiment according to the present invention.

Fig. 2 is a block diagram showing an example of a point calculation device in the first embodiment according to the present invention.

[CLAIMS]

What is claimed is:

[Claim 1]

A point calculation device comprising:

a point granting information acquisition unit configured to acquire a point granting start time and a point granting end time for use points relating to a vehicle; and

a point calculation unit configured to calculate first use points for a user of the vehicle according to a time difference between the acquired point granting start time and the acquired point granting end time,

wherein the point granting start time is a boarding time of the user on the vehicle,

wherein the point granting end time is a deboarding time of the user from the vehicle, and

wherein the point calculation unit further adds second use points calculated according to a time period obtained by adding a difference between the deboarding time of the user from the vehicle and an arrival time of the vehicle to a difference between the boarding time of the user on the vehicle and a departure time of the vehicle to the first use points.

[Claim 2]

A point calculation device comprising:

a point granting information acquisition unit configured to acquire a point granting start time and a point granting end time for use points relating to a vehicle; and

a point calculation unit configured to calculate first use points for a user of the vehicle according to a time difference between the acquired point granting start time and

the acquired point granting end time,

wherein the point granting start time is a departure time of the vehicle,

wherein the point granting end time is an arrival time of the vehicle, and

wherein the point calculation unit further adds second use points calculated according to a time period obtained by adding a difference between a deboarding time of the user from the vehicle and an arrival time of the vehicle to a difference between a boarding time of the user on the vehicle and a departure time of the vehicle to the first use points.

[Claim 3]

A point calculation device comprising:

a point granting information acquisition unit configured to acquire a point granting start time and a point granting end time for use points relating to a vehicle; and

a point calculation unit configured to calculate first use points for a user of the vehicle according to a time difference between the acquired point granting start time and the acquired point granting end time,

wherein the point granting start time is a scheduled departure time of the vehicle,

wherein the point granting end time is a scheduled arrival time of the vehicle, and

wherein the point calculation unit further adds second use points calculated according to a time period obtained by adding a difference between a deboarding time of the user from the vehicle and an arrival time of the vehicle to a difference between a boarding time of the user on the vehicle and a departure time of the vehicle to the first use points.

[Claim 4]

The point calculation device according to any one of claims 1 to 3, wherein the point calculation unit adds second use points calculated according to a time period obtained by further adding a difference between a ticket issuance time of a ticket necessary for boarding the vehicle and the boarding time of the user on the vehicle to the time period obtained by adding the difference between the deboarding time of the user from the vehicle and the arrival time of the vehicle to the difference between the boarding time of the user on the vehicle and the departure time of the vehicle to the first use points.

[Claim 5]

The point calculation device according to any one of claims 1 to 4, wherein the point calculation unit adds the calculated second use points to use points determined for a predetermined boarding section instead of the first use points calculated according to the time difference between the point granting start time and the point granting end time.

[Claim 6]

The point calculation device according to any one of claims 1 to 5, wherein the point calculation unit calculates use points according to a sum of the time difference between the point granting start time and the point granting end time when the vehicle is used for a predetermined period.

[Claim 7]

The point calculation device according to any one of claims 1 to 6, wherein the point calculation unit adds second use points calculated according to at least one of a

grade of a card in which identification information of the user is recorded to be used by the user to record boarding on the vehicle, a grade of a passenger room used by the user in the vehicle, the number of times that the user boards the vehicle, the number of users pre-registered as users on board with the user when he/she boards the vehicle, a level of crowdedness of the vehicle in a section in which the user boards the vehicle, and a case in which the user has not deboarded the vehicle at a scheduled deboarding place to the first use points.

[Claim 8]

The point calculation device according to any one of claims 1 to 7, wherein the point calculation unit calculates points for a case in which the vehicle is not operated when the vehicle is not operated.

[Claim 9]

A point calculation device comprising:

a point granting information acquisition unit configured to acquire a point granting start time and a point granting end time for use points relating to a vehicle; and

a point calculation unit configured to calculate first use points for a user of the vehicle according to a time difference between the acquired point granting start time and the acquired point granting end time,

a shaking determination unit configured to acquire detection information of a vibration sensor mounted on the vehicle or weather information and determine a shaking of the vehicle according to the acquired information,

wherein the point calculation unit further adds use points calculated according to a time period during which the shaking determination unit determines that the vehicle is

in a shaken state.

[Claim 10]

The point calculation device according to any one of claims 1 to 9, further comprising:

an output unit configured to output the first use points calculated by the point calculation unit,

wherein, when the point calculation unit has calculated the second use points, the output unit outputs the second use points in addition to the first use points by distinguishing the second use points from the first use points.

[Claim 11]

A point calculation method comprising:

acquiring, by a point calculation device, a boarding time of a user of a vehicle on the vehicle as a point granting start time and a deboarding time of the user from the vehicle as a point granting end time for use points relating to the vehicle;

calculating, by the point calculation device, first use points for the user of the vehicle according to a time difference between the acquired point granting start time and the acquired point granting end time; and

further adding, by the point calculation device, second use points calculated according to a time period obtained by adding a difference between the deboarding time of the user from the vehicle and an arrival time of the vehicle to a difference between the boarding time of the user on the vehicle and a departure time of the vehicle to the first use points.

[Claim 12]

A program for causing a computer of a point calculation device to function as:

an acquirer configured to acquire a boarding time of a user of a vehicle on the vehicle as a point granting start time and a deboarding time of the user from the vehicle as a point granting end time for use points relating to the vehicle;

a calculator configured to calculate first use points for the user of the vehicle according to a time difference between the acquired point granting start time and the acquired point granting end time; and

a means for adding second use points calculated according to a time period obtained by adding a difference between the deboarding time of the user from the vehicle and an arrival time of the vehicle to a difference between the boarding time of the user on the vehicle and a departure time of the vehicle to the first use points.