We claim:

1. A building information visualization device that visualizes information for each floor of a building, comprising:

a storage device that stores building usage information, a floor identifier, and date and time information associated with one another, the building usage information being a numerical value indicating a usage situation of each floor, the floor identifier identifying the floor, and the date and time information indicating a collection date and time of the building usage information;

a matrix generating unit that generates matrix data, in a two-dimensional matrix that defines a first axis as a floor and a second axis perpendicular to the first axis as a time, by differentiating a display format of each cell positioned at an intersection point between the floor and the time depending on a magnitude of the building usage information associated with the floor identifier indicating the floor and the date and time information indicating the time; and

a visualization processing unit that visualizes the matrix data generated by the matrix generating unit,

wherein

the matrix generating unit

differentiates a pattern of each cell depending on the positive or negative value of the building usage information,

differentiates a kind of color or shading in color of each cell depending on the absolute value of the building usage information,

identifies the time with the largest count of staying persons of this building in the time of the second axis from the matrix data generated by the matrix generating unit, and

sums up only the positive values among the building usage information for each floor corresponding to the identified time,

the visualization processing unit visualizes the values summed by the matrix generating unit.

2. The building information visualization device as claimed in claim 1,

wherein the visualization processing unit defines the first axis as a vertical axis and the second axis as a horizontal axis to visualize the matrix data.

3. The building information visualization device as claimed in claim 1, further

comprising

an aggregate processing unit that aggregates a plurality of pieces of the building usage information associated with the identical floor identifier for each aggregate cycle specified by a user,

wherein the matrix generating unit differentiates the display format of each cell depending on a magnitude of the building usage information aggregated by the aggregate processing unit.

4. The building information visualization device as claimed in any one of claims 1 to 3,

wherein the storage device stores information collected by an elevator control device that controls an elevator installed in a building, the information including at least one of a count of staying persons on each floor at each collection date and time, and an elevator waiting time on each floor at each collection date and time as the building usage information.

5. The building information visualization device as claimed in claim 4,

wherein the storage device stores a bank identifier associated with the building usage information, the bank identifier identifying a bank of elevators having a common stopping floor range,

the building information visualization device further comprising

an aggregate processing unit that aggregates a plurality of pieces of the building usage information associated with the identical bank identifier, and

the matrix generating unit differentiates the display format of each cell depending on a magnitude of the building usage information aggregated by the aggregate processing unit.

6. The building information visualization device as claimed in claim 5,

wherein the matrix generating unit merges a stopping floor indicated by a first bank identifier and a stopping floor indicated by a second bank identifier different from the first bank identifier into the first axis to generate the matrix data.

7. The building information visualization device as claimed in claim 1,

wherein the matrix generating unit generates the matrix data for each range of a plurality of collection dates and times specified by a user or for each building as a collection source of the building usage information specified by a user, and

the visualization processing unit visualizes a plurality of pieces of the matrix data

generated by the matrix generating unit in parallel.

8. The building information visualization device as claimed in claim 1,

wherein, when a user who requests visualization of the matrix data is a building owner, the visualization processing unit visualizes only the matrix data of a building owned by the user, and

when a user who requests visualization of the matrix data is a building management company, the visualization processing unit visualizes only the matrix data of a building managed by the user.