CLAIMS

[Claim 1]

A shape identification device comprising:

an accommodation chamber for accommodating a measurement target object such that the measurement target object is allowed to be taken in and out;

a first imaging unit for imaging the measurement target object accommodated in the accommodation chamber; and

an image processing unit for performing image processing based on information of an image captured by the first imaging unit to recognize an external shape of the measurement target object, wherein the image processing unit includes a storage unit for storing, in advance, a plurality of types of sample external shapes corresponding to the measurement target object, and a shape recognition unit for comparing external shape information representing an external shape from the first imaging unit with external shape information representing an external shape stored in the storage unit to perform identification, and recognizing an external shape that matches or approximates to the external shape information from the first imaging unit,

the shape identification device further comprising a second imaging unit for imaging the measurement target object accommodated in the accommodation chamber in a direction different from a direction in which the first imaging unit performs imaging,

wherein the shape recognition unit compares the external shape information from the first imaging unit and external shape information representing an external shape from the second imaging unit with the external shape information stored in the storage unit to perform identification, and recognizes an external shape that matches or approximates to the external shape information from at least one imaging unit of the first imaging unit and the second imaging unit.

[Claim 2]

A shape identification device comprising:

an accommodation chamber provided in a delivery box for accommodating a measurement target object such that the measurement target object is allowed to be taken in and out, the measurement target object being a delivery parcel whose dimension is to be measured;

a first imaging device for imaging the measurement target object accommodated in the accommodation chamber; and

an image processing unit for performing image processing based on information of an image captured by the first imaging device to recognize an external shape of the measurement target object, wherein the image processing unit includes a storage unit for storing, in advance, a plurality of types of sample external shapes corresponding to the measurement target object, and a shape recognition unit for comparing external shape information representing an external shape from the first imaging device with external shape information representing an external shape stored in the storage unit to perform identification, and recognizing an external shape that matches or approximates to the external shape information from the first imaging device,

wherein the plurality of types of sample external shapes include a rectangular parallelepiped shape, a cylindrical shape, and a prescribed specific external shape other than the rectangular parallelepiped shape and the cylindrical shape, the prescribed specific external shape being an elongated shape having a predetermined length or more,

wherein the image processing unit further comprises a dimension measuring unit for measuring a dimension of the measurement target object based on the external shape recognized by the shape recognition unit, and

wherein when the external shape of the measurement target object identified by the shape recognition unit is recognized as the rectangular parallelepiped shape or the cylindrical shape, the external shape is used to calculate a volume of the measurement target object based on a measurement result obtained by the dimension measuring unit and

display, on a display unit, a sending fee in accordance with a calculation result of the volume, and when the external shape of the measurement target object identified by the shape recognition unit is recognized as the elongated shape having the predetermined length or more, the external shape is used to display, on the display unit, a sending fee corresponding to a predetermined specific service.

[Claim 3]

A delivery box comprising:

the shape identification device according to claim 1 or claim 2, and

a dimension measurement unit for measuring a dimension of the measurement target object based on an external shape recognized by the shape recognition unit.