CLAIMS

1. A position detecting system comprising:

an object shape extracting part configured to extract an object shape of an object from a three-dimensional shape obtained by a three-dimensional measuring device and acquire the object shape and a position of the object;

an identification information acquisition part configured to store target object identification information related to a target object, which is one of a plurality of the objects;

a position estimation unit configured to output position estimation information that estimates the position of the target object; and

an identification information associating part configured to associate the target object identification information with the object shape by using the position of the object acquired by the object shape extraction unit and the position estimation information.

2. The position detecting system according to claim 1, wherein the position estimation information is estimated from a reception strength of electromagnetic waves transmitted from each of a plurality of transmitter.

3. The position detecting system according to claim 1, wherein the position estimation information is estimated from a measured value of a geomagnetism measured by a magnetic sensor provided in the wireless device.

4. The position detecting system according to claim 1, wherein

a motion sensor mounted on the target object is provided, and

the position estimation information is estimated from each of a moving distance and a moving direction of the target object detected by the motion sensor.

5. The position detecting system according to any one of claims 1 to 4, wherein the identification information associating part associates the target object shape with the target object identification information, based on a correlation between a velocity vector of the target object obtained from the position estimation information and a velocity vector of the object obtained from output of the object shape extracting part.

6. The position detecting system according to any one of claims 1 to 5, wherein-the identification information associating part associates the target object shape with the target object identification information, based on a history of the target object identification information associated with the object.

7. A position detecting method comprising:

an object shape extracting process of extracting an object shape from a three-dimensional shape obtained by a three-dimensional measuring device, and acquiring the object shape and a position of the object;

an identification information acquisition process of stored target object identification information related to a target object, which is one of a plurality of the objects;

a position estimation process of outputting position estimation information that estimates the position of the target object; and

an identification information associating process of associating the target object identification information with the object shape by using the position of the object acquired by the object shape extraction unit and the position estimation information.

8. The position detecting method according to claim 7, wherein the position estimation information is estimated from a reception strength of electromagnetic waves transmitted from each of a plurality of transmitter.

9. The position detecting method according to claim 7, wherein the position estimation information is estimated from a measured value of a geomagnetism measured by a magnetic sensor provided in the wireless device.

10. The position detecting method according to claim 7, wherein the position estimation information is estimated from each of a moving distance and a moving direction of the target object detected by a motion sensor mounted on the target object.

11. The position detecting method according to any one of claims 7 to 10, wherein the identification information associating process includes a step of associating the target object shape with the target object identification information, based on a correlation between a velocity vector of the target object obtained from the position estimation information and a

velocity vector of the object obtained from output of the object shape extracting process.

12. The position detecting method according to any one of claims 7 to 11, wherein the identification information associating process includes a step of associating the target object shape with the target object identification information, based on a history of the target object identification information associated with the object.