Claims

1. A method for autonomously controlling a device, the method comprising the following steps:

- Initialising (100) by means of randomised actuation (101) of effectors and reading (102) a plurality of internal sensor units set up to measure internal device properties as internal states and a reading (103) of external environmental properties as external states by a plurality of external sensor units set up for measurement,

whereby an object is detected by means of the external sensor units and its detected parameters are compared with device properties and instructions for action of the devices and the detected parameters are used to predict the behaviour of the detected object,

whereby an action instruction as a mapping function transfers an initial triplet of actuation of the effectors, device properties and environmental properties into a target triplet that specifies a new internal state, a new external state and possible actions that are possible in the new states,

- storage (104) of interrelationships existing between the actuation (101) of the effectors and the readout device properties and environmental properties as instructions for action; and

- controlling (105) the device according to at least one predefined target device property and/or at least one predefined target environment property using at least one memorised (104) action instruction, which indicates how the at least one predefined target device property and/or the at least one predefined target environment property is set using the initial triplet and the target triplet, the method being iterated in a learning manner, in which new action instructions are constantly recognised, which in each case convert an initial triplet into a target triplet and these action instructions are stored for controlling the device.

2. The method according to claim 1, characterised in that the readout (102, 103) of internal and/or external sensor units is carried out in such a way that individual support values are stored and intermediate values are interpolated and/or extrapolated.

3. The method according to one of the preceding claims, characterised in that the target device property and/or the target environment property is at least temporarily influenced by a device property and/or an environment property.

4. The method according to one of the preceding claims, characterised in that a plurality of

action instructions are combined to form a choreography which converts an initial triplet into a target triplet.

5. The method according to one of the preceding claims, characterised in that interrelationships of the detected object between its parameters and its actions are used to generate instructions for action of the device.

6. The method according to one of the preceding claims, characterised in that an effector is present as a processor unit, a memory unit, a motor, a gripper arm, a motion unit, a drive, an extremity, a windscreen wiper, a flasher, a light, a steering and/or an executive unit.

7. The method according to one of the preceding claims, characterised in that internal sensor units detect an effector state as an internal state, an effector setting, an effector position, a size, a weight, a dimension, a speed, an acceleration, a deceleration, a battery level, a range, a position, a processor utilisation, a memory utilisation and/or a system parameter of the device.

8. The method according to one of the preceding claims, characterised in that external sensor units detect a distance, an object, a lidar signal, an image signal, a position, a size, a dimension, an acoustic signal and/or an external parameter.

9. An apparatus adapted to carry out a method according to any one of the preceding claims, comprising:

- an initialisation unit set up for initialising (100) by means of randomised actuation (101) of effectors and reading out (102) a plurality of internal sensor units set up for measuring internal device properties as internal states and reading out (103) external environmental properties as external states by a plurality of external sensor units set up for measurement,

whereby an object is detected by means of the external sensor units and its detected parameters are compared with device properties and instructions for action of the devices and the detected parameters are used to predict the behaviour of the detected object,

whereby an action instruction as a mapping function transfers an initial triplet of actuation of the effectors, device properties and environmental properties into a target triplet that specifies a new internal state, a new external state and possible actions that are possible in the new states,

- a memory unit arranged for storing (104) interrelationships which exist between the

actuation (101) of the effectors and the readout device properties and environmental properties as instructions for action; and

- a control unit arranged to control (105) the device according to at least one predefined target device property and/or at least one predefined target environment property using at least one memorised (104) action instruction, which indicates how the at least one predefined target device property and/or the at least one predefined target environment property is set using the initial triplet and the target triplet, wherein the method to be executed by the device is iterated in a learning manner, in which new action instructions are always recognised, which in each case convert an initial triplet into a target triplet and these action instructions are stored for controlling the device.

10. A system arrangement comprising several devices according to claim 9 which are coupled by means of communication technology and exchange instructions for action.

11. A computer program product comprising instructions which, when the program is executed by at least one computer, cause the computer to perform the steps of the method according to any one of claims 1 to 8.

12. A computer-readable storage medium comprising instructions which, when executed by at least one computer, cause the computer to perform the steps of the method according to any one of claims 1 to 8.