Outerspace

Reactive robotic creature

A project by Andre Stubbe and Markus Lerner

http://www.outerspace-robot.com

Setup guide

1. Contents of the transport box

- – 1x Robot (black arm on white box)
- – 1x Power adaptor
- – 1x allen wrench (for the feet)
- – lots of foam

2. Unpacking

Please remove the upper layers and the right peace of the foam carefully, until you can see the black arm and the white top of the robot. Place your hands under the white case and lift it gently out of the transport box.

3. Setup requirements

1. A white pedestal measuring 60 x 60 x 75 cm (LxWxH) is the perfect stand for the robot.

2. Ideally a hole is placed centrally under the robot. The small plug of the power cable has to fit through this hole. In this way the power supply of the robot is invisible and nobody can get their hands on it.

3. A light spot exactly above Outerspace is ideal, too. Outerspace needs light, it can't see well in the dark.

4. Installation

Depending on the preparation of the pedestal, the installation is likely to be finished within 30 mins.

1. Position the robot on the above mentioned pedestal.

2. Mark the positions of the black feet. You can also stick the feet with double-sided tape.

3. Loosen the locking screws of each one of the black feet and lift the robot carefully, so that only the black feet remain at their markings.

4. Now screw the feet to the pedestal.

5. Push the small plug of the power cable through the hole in the middle of the pedestal.

6. Put the robot on its black feet again. Make sure to put the small plug into the socket on the bottom of the robot.

7. As soon as the robot sits on its feet again, fix the locking screws back again. Done!

5. Exhibition

5.1 Switching on the robot

1. Make the black arm stand straight. You can move the black limbs with slight pressure.

2. On the bottom side of the robot there is a big round button. After the power supply got connected, push it.

3. Wait for 2–3 minutes.

4. As soon as the black arm starts moving, Outerspace is up and running.

5. The initial behaviour of the robot is sleeping. It wakes up after you touch the black arm.

6. If nothing happens even after 5 minutes, push the power button to turn it off and turn it on again after 20 seconds. After another 2–3 minutes it should run. If it doesn't, please refer to the section 5.4 Precautions.

5.2 Switching off the robot

1. Push the power button on the bottom of the robot.

2. After the power goes off, the arm sometimes falls over awkwardly. To avoid this, hold it gently immediately after pushing the power button and make it rest in any stable position after the motors turned off.

5. 3 Robot interaction

1. The robot reacts to slight touches of the black arm.

2. The topmost section of the arm carries five small photosensors that can sense motion.

5.4 Precautions

1. One should touch the robot only carefully. Gentle stroking is allowed. Grasping, pushing, pulling and applying force to the robot is not allowed. Some people will always try. This has to be wachted during the exhibition and prohibited.

2. If the limbs hangs very loosely, it is likely that one of the mechanical wires is torn. In this case you have to turn it off.

3. If the robot moves very hysterically, something must have gone wrong. In this case you have to turn it off.

4. If the robot continues to touch its own white case, something must have gone wrong. In this case you have to turn it off.

5. If the robot stops moving over many minutes, turn if off and turn it on again after 3 minutes.

6. If anything is generally strange or different, `turn it off`.

7. If you turn on the robot and the blue light is on, but the internal PC won't boot (that means the arm won't move even after 3 minutes), the round battery may be dead. In order to exchange the battery, the white case needs to be opened. To do so, loosen the four black screws on the bottom of the case. The arm must be brought to an upright position and the case lifted from the top. The battery is on the Mini-PC unit on the base plate.