#### Cameras 1:

SENSORS

ACTUATORS

#### Microphones 2:

- 3: Ultrasonic ranger
- 4: Light sensors
- 5: Cliff sensors
- 6: Capacitive touch
- Accelerometers 7:

# 8: P1 - Spinal cord

- 9: P2 Brainstem
- 10: P3 Forebrain
- 11: WiFi
- 12: Bluetooth
- PROCESSING/COMMS 13: SD Card reader
  - 14: Wheel motors
  - 15: Neck lift
  - 16: Head yaw
  - 17: Head pitch
  - 18: Ear actuators
  - 19: Eyelids
  - 20: Tail actuator
  - 21: LED light displays
  - 22: Speaker



# **BIO-MIMETIC FEATURES**

#### **1. STEREO EYESIGHT**

Cats have the edge when it comes to eyesight. MiRo's eyes are colour sensors, similar to those used in mobile phone cameras.

#### **2. TOUCH SENSITIVE**

Just as a dog responds to stroking, so stroking MiRo's back is one way you can engage with and alter MiRo's emotional state, which is reflected in MiRo's expressive behaviour.

### 3. LIGHT SENSITIVE

A mouse might scurry for cover when a light is switched on: MiRo can sense the difference between light and dark thanks to light sensors.



#### **4. STEREO HEARING**

MiRo's ears can rotate, like those of a rabbit, whilst stereo microphones can be used to localise the source of sounds.

#### **5. ECHOLOCATION**

Bats and dolphins use biological sonar for navigation to help them pinpoint their position. MiRo's nose houses an effective sonar sensor.

## 6. CLIFF SENSOR

Most creatures stop when they encounter a steep drop. MiRo's cliff sensors help to ensure that he will not topple off a table or down a flight of stairs.





