

v6 support group

Problems, fixes and ideas about v6:

No stiffness in joints.

- All pitches in legs are affected.
- Bhuman tried to reproduce this in choreograohe but was not successful.
- HTWK has a problem with standing up where the robot powered off completely.
 - Proposed fix: Stop naoqi + Extras

unable to open camera device

- There is a magic script: "Usr/libexec/reset_cameras.sh toggle" that resets the camera (the script will be added to the spl website).
- In most of the cases (according to NaoDevils) the script can be ran at startup (boot) and have a sleep after the script execution.
 - Bhuman stated you may need to execute this script everytime you start the naoqi

Flipped top/bottom camera

- Bhuman somehow managed to have the cameras flipped. Only occured once however.
 - Proposed fix (not clear if this helps): Use the symbolic links for camera-top, camera-bottom
 - Nao Devils reports that does not work
 - The reset script helps, it removes the device and adds it again, works.

lock files seems to be broken for v6

- Lock file sometimes is not removed when the software crashes (bhuman).
- Might be a problem with the operating system.

camera stuff:

- first timestamp of camera is 0
- timestamp of camera is at the beginning of recording the pixels - on v5 it was at the end.
- have a look at the focus when falling down a lot
 - Might break the focus mechanism - htwk is worried
- camera value read seems to return 0 at the start (also true for registers)
 - program to check values: v4lctl or similar.
- auto exposure is not a bool! It does not what doh expect.
- setting registers - the second byte is never used when reading or writing a reg value - You need to wait some time (Bhuman: 100ms, HULKS: 500ms, Softbank : 1000ms) after a read instruction before you execute the get method. - Manual white balance can only be done via registers at the moment.
- cameras are supposed to be synchronized.
 - At least softbank said that. Might be the case that you have to set the registers correctly to have a master and a slave.
- camera angle and position seems to differ from the docs and v5

- Have a look at the binning options for the new camera. Reduces noise and some artifacts resulting from the Bayer pattern. Ask HULks if you want to see test images.

real time broken on Lola.

- Lola seems to wait for some action to happen from our side.
- Try to return a package. The service seems to break when the "send/return" cycle is broken.
- We might get two packets at once as that is a stream. Larger buffer helps?

MISC

- if you want to connect to the Lola socket after you disconnected, you need to wait some time.
- you can use pip on the robot.
- leds can be set all at once costing you nearly no resources.
- stiffness changes seem to be instant (took some time in v5).
 - Should enable us to use dynamic stiffness during walking.
- stiffness may be higher on the v6? Check for fall motions and stand.

let the robot stand up after flashing it

- It calibrates itself (at least the gyro). Delete media internal ko/ok if it does not calibrate correctly. You also find interesting information there.

hardware failures:

- "connection torso-hip is loose", "joint is moving in the housing, gear is fine". Use these phrases when sending in to SBR. They also seem to have short term solution: got glue.
- Arms breaking: "elbow mount broken". To reinforce: put tape around the arms.
- The bios battery can be exchanged by only removing the plastic cover of the head. Otherwise the joints won't cool down. You can also fake the hardware clock. (Script: Fake-hwclock)