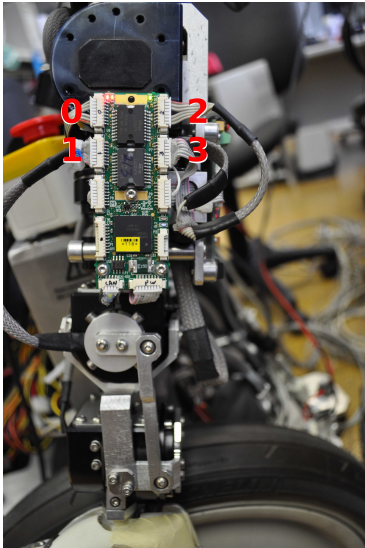


Vizzy important links

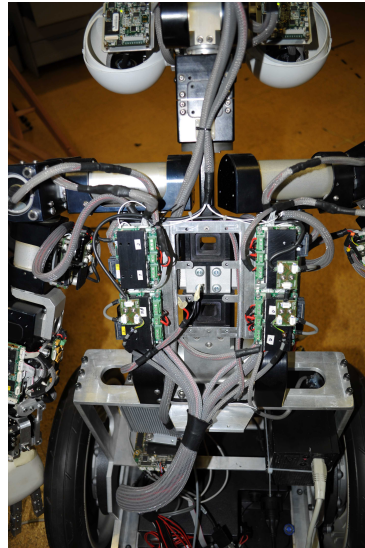
- Vizzy wiki:
<http://mediawiki.isr.ist.utl.pt/wiki/Vizzy>
- Software migrated from the iCub platform
<http://eris.liralab.it/iCub>
- Vizzy SVN:
<svn://svn.isr.ist.utl.pt/vislab/vizzy/>



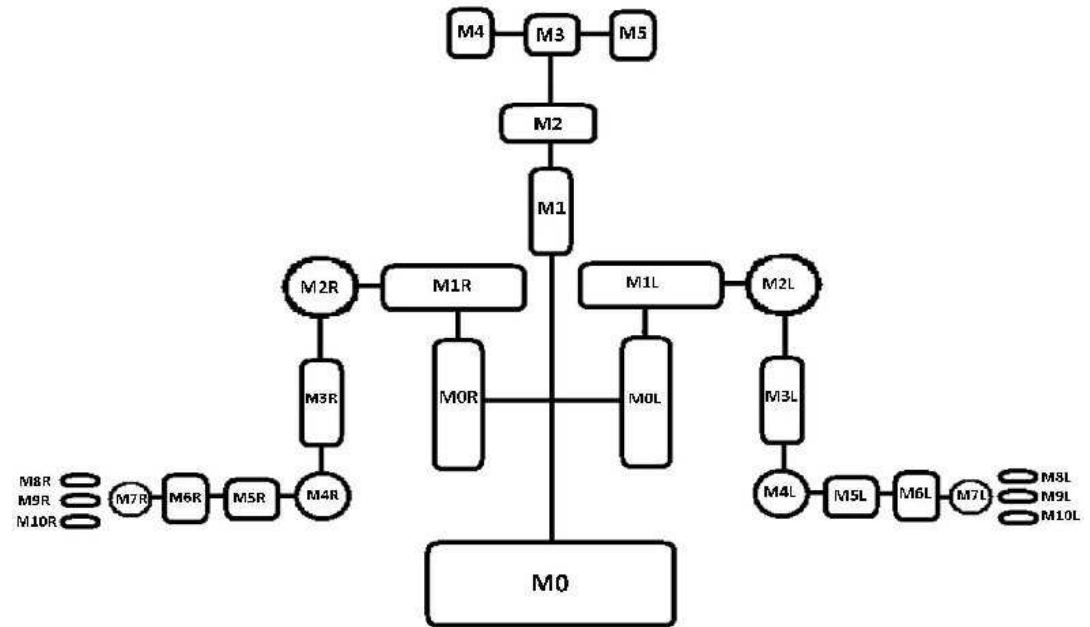
Vizzy hardware



4DC motor board
CAN addresses



BLL motor board



Vizzy kinematic structure

- Vizzy has 2 types of motor boards
- The CAN addresses are mapped in the Vizzy “.ini” files

- Vizzy is different from the iCub
 - Neck has 2 DOF
 - Arms and shoulders are separated
 - Only 4 fingers, controlled by 3 motors

Vizzy SVN

- KinematicDescriptionMatlab/
 - Matlab kinematic description of the Vizzy robot.
- VizzyStereoVision/
 - Vizzy stereo vision module software.
- CalibratorSrc/
 - Vizzy camera calibrator.
- ConfigFiles/
 - Vizzy interface configuration files.
- KinematicInterface/
 - Kinematic modules of the Vizzy robot.

How Vizzy works

- Vizzy works in the same way as the iCub
 - iCubInterface installed in the PC104
 - Cartesian interface, stereo vision available in the SVN
- ssh to Vizzy:
 - “ssh -X **vizzy@pc104**” (pc104 is 10.10.1.80)
 - login/password: vizzy/vizzy
- Bash script files in PC104:
 - /home/vizzy/Desktop/Vizzy_bash
 - “./vizzyInterface.sh” to run the iCubInterface.

Install PC104

- Follow iCub installation instructions
 - http://wiki.icub.org/wiki/Compilation_on_the_pc104
- Download from the SVN
 - CalibratorSrc/
 - Follow the README file.
 - ConfigFiles/
 - .ini describing the ports to be created and the calibrators to be used.
- Run the iCubInterface
 - iCubInterface –from [ConfigFiles/vizzy_start.ini]

Cartesian interface

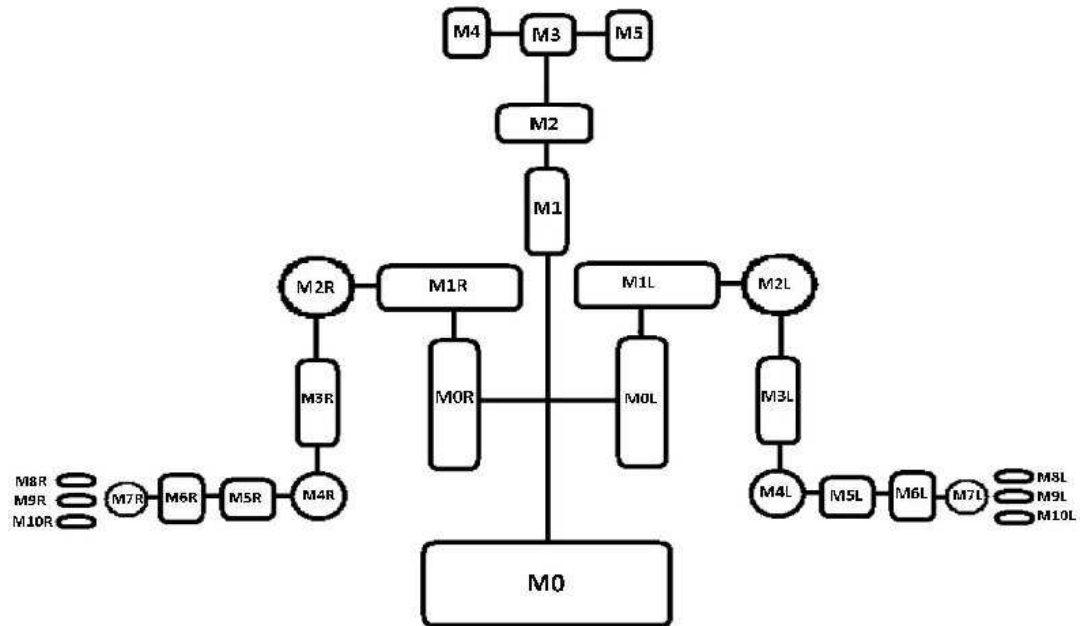
- Download the Cartesian Interface from the SVN
 - `svn://svn.isr.ist.utl.pt/vislab/vizzy/kinematicInterface/Vizzy_iKin2`
- Icube modules that use the Cartesian interface work for Vizzy
 - e.g. ball tracker
- Scripts files for starting the Cartesian Interface
 - `server*_arm.sh`
 - `solver*_arm.sh`
 - `client*_arm.sh`
- Server and solver scripts start the Cartesian Interface
- Client script can be used to send the arms to specific positions
 - e.g. “0.2 0.1 0.3”

Cartesian gaze interface

- Download the Cartesian gaze interface from the SVN
 - `svn://svn.isr.ist.utl.pt/vislab/vizzy/kinematicInterface/vizzy_iKinGazeCtrl`
 - `svn://svn.isr.ist.utl.pt/vislab/vizzy/kinematicInterface/matlabViewers`
- Icube modules that use the Cartesian interface work for Vizzy
 - e.g. ball tracker
- `vizzy_iKinGazeCtrl.sh` starts the gaze control module
- The `matlabViewers` are used to test the gaze interface kinematics
 - `IkinGazeView.sh` starts the matlab module
 - `connect_iKinGazeView.sh` connects matlab with the gaze interface

Main issues to be resolved

- PIDs configuration
- Motors not working properly
 - M9R (only works once)
 - M7L/M7R (does not work)
 - M5L/M5R (works but always at the same speed)
 - M0 (gets a large amount of backlash easily)
- Improvements to the ball tracker
 - The robot oscillates a lot when the ball moves



Thank you!

