IPA robot and ipa-apartment manual

Manual for

working with

robots in the ipa-apartment

Autors: Florian Weisshardt
Nadia Hammoudeh Garcia

Fraunhofer IPA

Institute for Manufacturing Engineering and Automation
Stuttgart, Germany

Last modified on Friday 13th April, 2012

Contents

1 IPA apartment rules **2**

1.1 Working in the robot area 2

1.1.1 Using pool pcs 2

1.1.1.1 Don't change any cabling 2

1.1.1.2 Don't turn off the pcs 3

1.1.2 Using your own pc 3

1.1.2.1 Don't use the plugs under the tables 3

1.1.2.2 Use the plugs on the tables 3

1.1.2.3 Don't disconnect to the pool pc monitors, mouse and keyboard 3

1.1.3 Leaving the robot area 3

1.1.3.1 Move all furniture back 3

1.1.3.2 Tidy up working places 4

1.1.3.3 Unplug additional network and power cables . . . 4

1.1.3.4 Logout your user from pool pcs 4

1.1.3.5 Turn off the monitors 4

1.2 Working on the student side 4

1.2.1 Leaving your work place 4

1.2.1.1 Don't turn off the pc 4

1.2.1.2 Turn off your monitor 5

1.2.1.3 Tidy up working places 5

1.2.2 Leaving the room as the last person 5

1.2.2.1 Close the windows 5

1.2.2.2 Turn off the lights 5

1.3 Floor plan 5

2 IPA robot rules **6**

2.1 Robot cob3-3 and cob3-5 6

2.1.1 Working with the robots 6

2.1.1.1 Allocate a robot 6

2.1.1.2 Pay attention to the safety and usage information 6

2.1.2 Having a break 6

2.1.2.1 Press the emergency button 7

2.1.3 Leaving the robot 7

2.1.3.1 Mount all casings 7

2.1.3.2 Move components in home position 7

2.1.3.3 Move robot to charging station 7

2.1.3.4 Disconnect power 7

2.1.3.5 Charge the remote emergency stop 8

2.2 Robot raw3-1 8

2.2.1 Leaving the robot 8

About this manual

You can always get the latest version of this manual at [1].

If you have comments, suggestions or would like to add something to the manual, please contact fmw@ipa.fhg.de.

[1] https://github.com/ipa320/setup/blob/master/manual/IPA_manual.pdf

Chapter 1

IPA apartment rules

1.1 Working in the robot area

The robot area is considered the left side of the room after entering from the main door.

1.1.1 Using pool pcs

The pool pcs have a fixed configuration and the installed packages should all be the same on all machines. If you need an account, a new installation of packages or software in the pcs please contact nhg@ipa.fhg.de or fmw@ipa.fhg.de.

1.1.1.1 Don't change any cabling

You should not add, remove or change any cabling. Especially all cables below the tables should not be touched at all because they are ordered in a way that power distribution and network distribution is optimized. Cabling includes power, network, monitors, keyboards and mouse. If you feel the need for changing anything, please contact fmw@ipa.fhg.de or nhg@ipa.fhg.de.

1.1.1.2 Don't turn off the pcs

The pcs are used remotely during daytime, the night and the weekend, so please just log out and don't turn them off.

1.1.2 Using your own pc

You can use your own pc and connect to the network. Using the network plugs you should get an IP address over DHCP and connect to the internet.

1.1.2.1 Don't use the plugs under the tables

See section 1.1.1.1

1.1.2.2 Use the plugs on the tables

If you want to connect to power or network use the power and network plugs on the table. You can find additional power and network cables in cabinet III, see section 1.3. Please put them back when you leave the room.

1.1.2.3 Don't disconnect to the pool pc monitors, mouse and keyboard

If you need a monitor, mouse or keyboard for your laptop, please use the ones out of cabinet III, see section 1.3. Don't disconnect one of the pool pc monitors.

1.1.3 Leaving the robot area

1.1.3.1 Move all furniture back

Please move all tables, chairs and cupboards back to their default place. The default place for all objects can be found in the floor plan of section 1.3.

1.1.3.2 Tidy up working places

Please remove everything from the tables of cob-stud-6 to cob-stud-9. There should be nothing left on the tables except monitors, keyboard, mouse and telephone. Remove everything else, like coffee cups, bottles, paper, ...

1.1.3.3 Unplug additional network and power cables

Please unplug everything you plunged in on the tables and put the cables back to cabinet III, see section 1.3.

1.1.3.4 Logout your user from pool pcs

After finishing your work please log off so that other users can use the pc. You should not login in into two machines at the same time to avoid problems.

1.1.3.5 Turn off the monitors

To safe energy please turn off the monitor after using it but keep the pool pcs on, see section 1.1.1.2.

1.2 Working on the student side

The student side is considered the right side of the room behind the cupboards after entering from the main door.

1.2.1 Leaving your work place

1.2.1.1 Don't turn off the pc

See section 1.1.1.2.

1.2.1.2 Turn off your monitor

See section 1.1.3.5.

1.2.1.3 Tidy up working places

See section 1.1.3.2. Use your student storage shelf to store your personal belongings.

1.2.2 Leaving the room as the last person

If nobody else is in the room any more, which means robot and student side, please follow the following additional rules. You are probably the last one if you leave later than 6pm in the evening.

1.2.2.1 Close the windows

Please close all windows on both sides of the room.

1.2.2.2 Turn off the lights

Turn off all lights on both sides of the room.

1.3 Floor plan

TODO: add floor plan for robot area and student side

Chapter 2

IPA robot rules

2.1 Robot cob3-3 and cob3-5

2.1.1 Working with the robots

2.1.1.1 Allocate a robot

Allocate a robot for you, see [1].

2.1.1.2 Pay attention to the safety and usage information

For safety and usage information, see Care-O-bot manual[2].

2.1.2 Having a break

A break is considered a short interruption, e.g. for lunch time or toilet break, where the robot is still allocated for you and you will continue working with the robot afterwards.

[1] `http://care-o-bot.org/trac/wiki/WorkingWithIPARobots`
[2] `https://github.com/ipa320/setup/raw/master/manual/Care-O-bot_manual.pdf`

2.1.2.1 Press the emergency button

Whenever you are out of reach of the emergency stop, e.g. leaving the room, press one of the emergency buttons.

2.1.3 Leaving the robot

2.1.3.1 Mount all casings

Mount all casings of the robot which means green and grey parts from base and head casing.

2.1.3.2 Move components in home position

When finishing your work with the robot, leave the robot components in their default position. The default position is

- Arm in "folded" position
- Torso in "home" position
- Tray in "down" position
- Hand in "home" position

TODO: ADD IMAGE

2.1.3.3 Move robot to charging station

When finishing your work with the robot, leave it next to the charging station which is the "home" position for the navigation.

TODO: ADD IMAGE

2.1.3.4 Disconnect power

Unplug the power cable and shut down the power supply.

2.1.3.5 Charge the remote emergency stop

When finishing your work with the robot, put the remote emergency stop into its charging station.

2.2 Robot raw3-1

2.2.1 Leaving the robot

disconnect power