



Technische Universität München
Faculty of Informatics



Robotics and Embedded Systems

<http://www6.in.tum.de>

June 16, 2010

Lab Course: Human Robot Interaction

Sheet 7

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Presentation Deadline: June 24, 2010

Exercise 10

Since now you know all interfaces to the robot that you will need, we are beginning with the final part of our lab course. In this part you have to design and implement an interaction between a human and the JAST robot all by yourself. We do not want to restrict you in this part too much, the only thing that we want to see is that you use all of the parts of the robot we have been using in the course so far: the robot should move its arms, it should be able to recognize and handle the objects on the table, it should react to what the human is saying, and it should talk to the user with appropriate sentences that fit to the current situation.

In the first week of this final part, you should first think about the project you want to implement:

- Come up with a nice idea for the interaction.
- Think about the structure of your code (UML diagrams can certainly help here).
- Write down which of the JAST Ice interfaces you will need at which point of the interaction.
- Decide which techniques you want to use for implementation of the cognitive skills of the robot and what software libraries you might want to use for that. For example for your interaction the robot might need a planning component that stores plans in a tree structure and has some sort of reasoning mechanism to follow the plan.
- Do not forget that your time is limited (the final presentation of your project will be on 22. July 2010); therefore, you should also assess if your project is doable in the time you have and decide what you are going to do if time runs out.

If you need any help with this or hints which techniques and software libraries you could use, do not hesitate to ask us for help, we can give you some pointers.

We will discuss the ideas of all groups in the next course meeting on Thursday 24. June 2010. For this, you have to prepare a short presentation of 10 to 15 minutes in which you present your project idea and tell the course how you want to realise your project. Please also add a section to the presentation in which you asses the possible problems that might arise during your implementation.

For example you may have to consider that the recognition modules of the JAST robot do not work correctly, you will need to come up with strategies how to deal with this. We will bring a projector to the next meeting, so you can use presentation slides if you want to.

After each presentation, we will discuss your project idea with the whole group. This will help you to clarify your plans and the discussion with the group will give you the opportunity to get more ideas and circumvent pit holes at an early stage of the project.