SIM ROBOTS - NOW IN SPACE
BEST SUMMER COURSE 2005

from left to right: HEIKO, LAURA, TORBJØRN

ABOUT THE CREATORS

Laura is from ROMANIA, currently studying "Automatic Control" in BUCHAREST. (laura_beje@yahoo.com).
Torbjørn is from NORWAY, currently studying "Material Technology" in TRONDHEIM. (engebret@stud.ntnu.no)
Heiko is from AUSTRIA, currently studying "Medical Computer Science" and "Sacred Music" in VIENNA. (heiko.reitner@gmx.at)

THE CREATION OF LAZYBOT

Troughout the weeks of lectures, building and programming we have created "LAZYBOT" for the competition. After trying several unsuccessful designs, we have used the driving base in the instruction leaflet and customized the front bumper by inserting a light sensor and some wheels to protect it. Some eyes and teeth have been added to the design because we hope this will effect the judgement of the jury. Our robot is not unbreakable. It should resist a drop from more than 20 cm, but will almost definitely fall apart if it's dropped from more than 50 m. During the programming phase we have taught the "lazybot" to follow the line, which was the most important part and took us most of the time. Therefore our algorithm is that powerful, that "LAZYBOT" wouldn't even think about going off the line.
We have also learned our robot to move an obstacle. Therefore we made the front part stronger and increased the speed. Walking around the printer is another task, we've implemented. Furthermore our robot is also able to find his way out of the box - once it get stuck in there. At the moment we are working on the fork recognition task which by now is working just fine. "LAZYBOT" detects black spots on the white line and decides on whether to go left or right, after he detected the spot.
As for the competition, we hope, that we will also be able to go to the plateau, to determine rocks by the track and maybe even investigate a unknown area.
The group started off with a hostile attitude, but this has changed and, we are now cooperating fairly well. All the members off the group have a good understanding on how the robot works. Also we have invented, programmed and tested "LAZYBOT" together all the time, and therefore we think, that we are dignified to take part in the competition and also to pass the lecture.

We have decided to use the algorithmic control approach. Although we know that this has some disadvantages, like if the robot detects one wrong black spot, the tasknumbering gets messed up, we think that it was the appropriate way to find a good solution to manage the competition. As we just have two bumpers and one light-sensor, we thought that it would be the best idea to use algorithmic control. According to our exhaustive testing, we can say, that the robot does his tasks quite well and that he hardly any time looses the path and mis-detects some black spots.