Leibniz Universität Hannover

LEGO MINDSTORMS EV3 GROUP 4

Goal

To create a robot based on the **EV3 MINDSTORM LEGO** set which is able to draw a caricature of a well known person/character on a DIN A3 paper in less than 5 minutes. The A3 field's limits are designated with black borders. In order to reach the above goal we will have to assemble the robot and write the corresponding code in the programming language C. This will then be run on the robot itself which hosts a Linux based operating system.

Planning

1. Planning the project in a comprehensive planning session. (Needs to be done together)
2. Assembling the robot in order for it to be able to move, rotate, hold a pen etc. Afterwards, flashing the ev3dev debian Linux operating system onto the device and installing gcc compiler, git etc. (Needs to be done together)
3. Information gathering about the robot itself and how its features can be used. (Needs to be done independently)
4. Create a programming structure for the designated goal. The project is divided in the following files/tasks:
    1. Data gathering from the sensors (Amin)
    2. Communicating with the motors (Bastian)
    3. Process the received data and functions regarding drawing (Semir)
    4. Main function to execute the task by sending the chosen picture to the robot. (Daniel)
5. Select a picture and prepare it for the project. (Amin)
6. Testing the results and debugging the code. (Needs to be done independently)
7. Creating a presentation and prepare the demonstration. (Needs to be done together)

Project Management

- Quality will be assured by Semir and Bastian.
- Amin and Daniel will coordinate the meetings through whatsapp etc.