Development of NXT-controled LEGO-vehicles with Java

Content

By the example of LEGO Mindstorms NXT, we want to realize a vehicle control system in this year's software-project lab. As a development platform, we will use the Java-based open-source operating system Lejos. The lab encompasses all aspects of software development, formalizing of requirements to the vehicle, drafting of basic software architectures and user interfaces, implementation as well as tests. A presentation of the results and concepts constitute the conlcusion of the lab. Further, a final contest between the developer-groups, focusing on performance and control, is taking place as a closing event.
The participants are divided into developer-groups. The groups work independently and at the same time compete with one another.

Requirements

- Contents of the first three semesters, programming, data structures & algorithms in particular
- a own Laptop
- Aquired knowledge from the system-programming lab are an additional advantage

Working Language

German / English

Organisation

Within the semester break, we will host a first meeting to present the subject of the lab and the

parameters, as well as a more detailed presentation of the tools which will be utilized. The exact date will be announced soon.

Within the semester, we will meet regularly once a week in a fixed, three-hour seminar, which will be announced soon. In the given timeframe you will have access to the hardware. In order to complete the course successfully, it will be necessary that your group is well organized and comes prepared to the mandatory meetings to make the best of the time you have access to the hardware. You do not have to equip yourself with your own hardware, it is more important to organize yourselves well.

Meetings

Will be announced soon.

L²P

Will be announced soon.

Links

- leJOS
- Eclipse IDE
- SVN / GIT
- Free Java Books
- Lego Users Group Network
- Essentials - A NXT Tutorial

Supervisor(s)

- Dr.-Ing. Martin Schweigler
- Dr. rer. nat. Igor Kalkov

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