VISION

Robotics game server

We are going to develop a comprehensive system for people with little experience in programming and robotics (for example, for middle and high school students) to practice their skills and acquire knowledge. The student will be supposed to write a program for the robot, which determines its further actions in the virtual world based on the readings of the sensors of this robot. Using built-in tools, a teacher can create models and levels with certain tasks and limitations.

The robot is simulated at the level modeled on the server. Sensors are installed on the robot (for example, a rangefinder or thermometer), the readings of which are visible to the player and are transmitted to the robot program written by the player. Levels can have goals: for example, a robot vacuum cleaner can be controlled on the “room” level, and its task will be to clean all the dust in it. We plan to create several levels with different goals, as well as the ability to add custom levels. Also, players can program robots for multi-user levels, where their decisions will compete with each other.

Examples of models include:

- Robot vacuum cleaner

- Robot battles

- Automated assembly line

To program the robot, the player is provided with an environment where he can write scripts using the basic constructions of Python programming language. Additionally, the player can debug the program, observing its behavior at any given sensor readings. After writing the program and launching the robot, the player will have the opportunity in real-time to observe what is happening in the virtual world.

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