Khepera Simulator

The Khepera Simulator

- Developed to simulate the behavior of a real-life Khepera robot
- Simulates a robot moving around on a map, picking up balls and returning the balls to a light source
- Do not modify the simulator, but interface with it through a RobotController

The RobotController

- A custom robot controller extends the RobotController from the library
- Interfacing with the robot is done in the *doWork()*-method
- Three types of information from surroundings are provided
  - Wheel counter
  - Distance Sensors
  - Light Sensors

The Wheel Counter

- Each wheel is controlled individually
- Forward and reverse driving is accomplished by rotating the wheels equally
- Turning is accomplished by rotating the wheels in opposite directions
- Rotating the robot *three* ticks in opposite directions equals turning the robot *one* degree

The Sensors

- 8 Distance sensors
  - Values (0…1023)
- 8 Light sensors
  - Values (0…500)
- Sensors values are simulated with noise
- *Ntnumod.jar* simulates less sensory noise