



SCHWEIZER JUGEND FORSCHT
LA SCIENCE APPELLE LES JEUNES
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Robot moves first steps

Project Nr. 17::

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Work methods:

The project uses a Lego Mindstorms robot to explore an area and find a can of coke. After it brings it back to the start point. The program is written in JAVA using the LeJOS API and a behavioral design pattern. The development environment consists of Eclipse and Subversioning system (SVN)



```
private int checkDistance(UltrasonicSensor uss){  
    try { Thread.sleep (200); } catch (InterruptedException e) {}  
    int result = uss.getDistance();  
    try { Thread.sleep (200); } catch (InterruptedException e) {}  
    return result;  
}  
  
private void TurnRobot(int speed){  
    Motor.A.setSpeed(speed);  
    Motor.C.setSpeed(speed);  
    Motor.A.forward();  
    Motor.C.backward();  
    try { Thread.sleep (500); } catch (InterruptedException e) {}  
    Motor.A.stop();  
    Motor.C.stop();  
}  
  
private void MoveForward (int speed) {  
    Motor.A.setSpeed(speed);  
    Motor.C.setSpeed(speed);  
    Motor.C.forward();  
    Motor.A.forward();  
    try { Thread.sleep (1000); } catch (InterruptedException e) {}  
    Motor.A.stop();  
    Motor.C.stop();  
}
```

Robot starts the whole process: first it Explores, rotates and checks the area for a close object. If there is one, it drives towards the object. Otherwise it searches around. The process GotoCap starts and checks the color of the object. If it is black, it grabs the can and bring it back. If it is not a black can, it will turn around and Explore again.

