TEAM 8 – Project 1

Cast:

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Team Organization

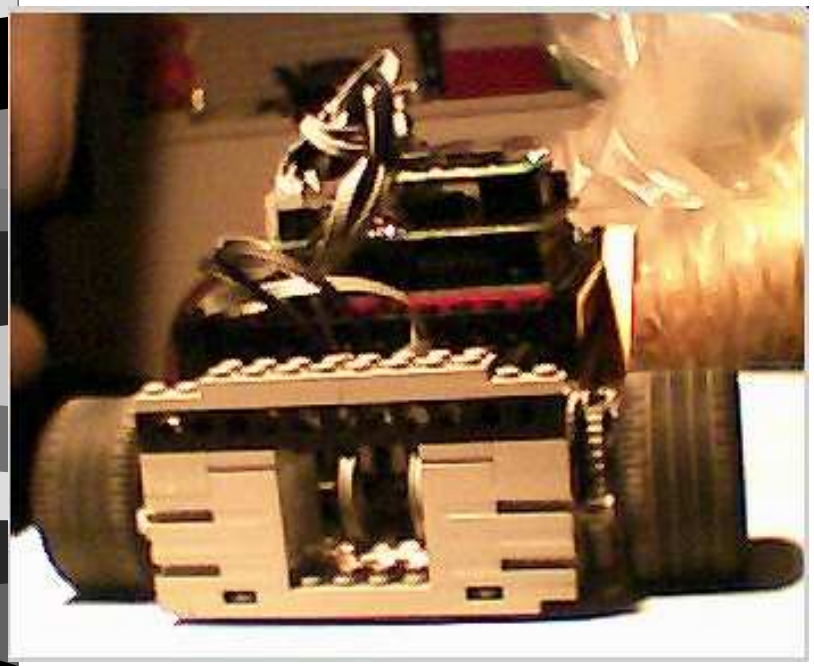
- **Four people, each person was dedicated to one sub-task**
  - **Hardware design** (person 1) **(were done in**
  - **Software design** (person 2) **at the same time)**
  - **Testing phase** (person 3)
  - **Documentation** (person 4)

- **For the next project will be split into two subtasks**
  - **Hardware design** (two people)
  - **Software design** (the other two people)

The Mechanical Design of the Robot

Wheels:

- **3 wheels total**
- **2 front wheels are independently powered by 2 Lego motors**
- **And 1 small wheel is on the back**

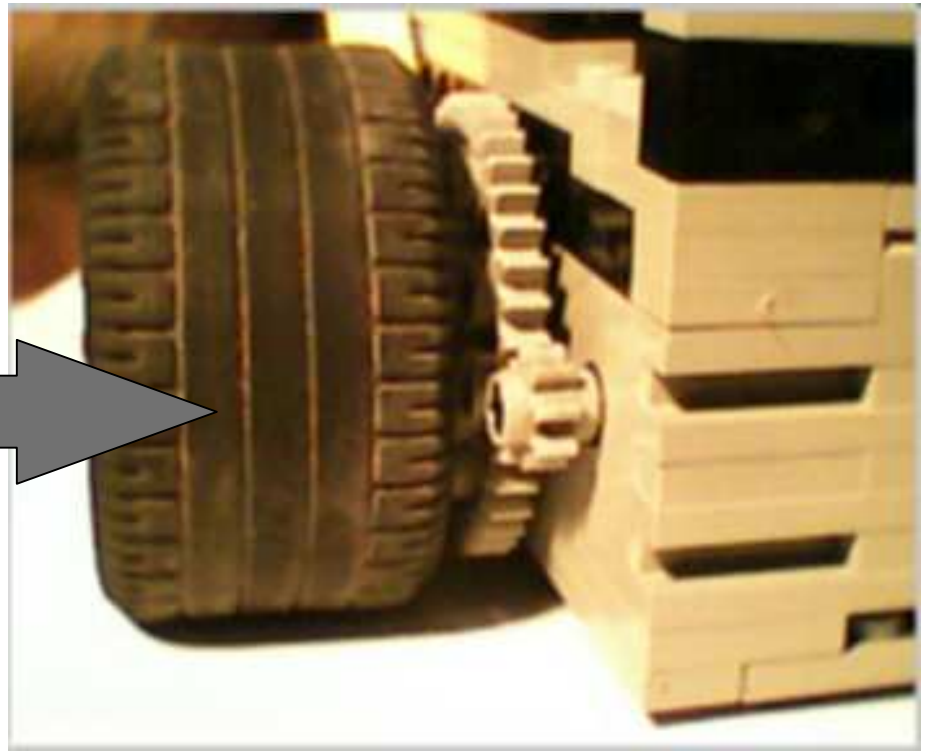


The Mechanical Design of the Robot

Gears:

- **Only 2 gears –spur gears (**front wheel driven)

Front wheel



Mechanical Design of the Robot cont

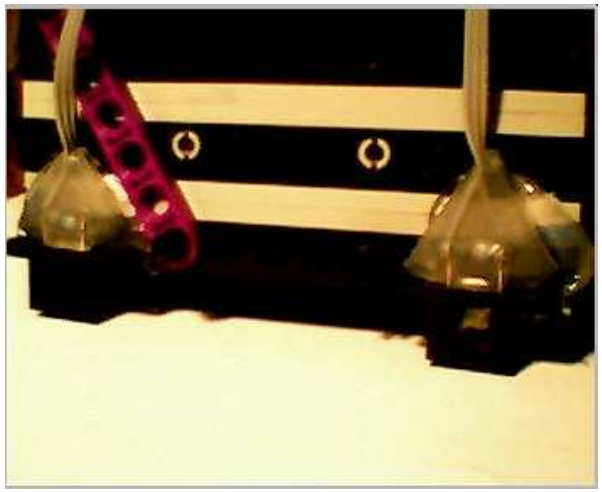
Sensors:

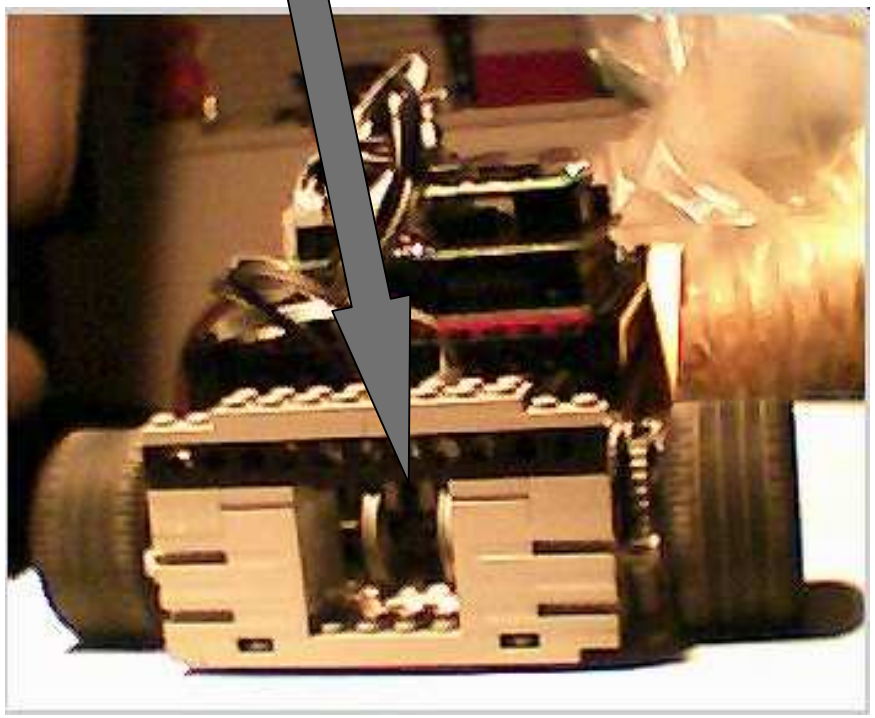
2 shaft encoders

-monitored the speeds of the motors

-positioned on the front wheels

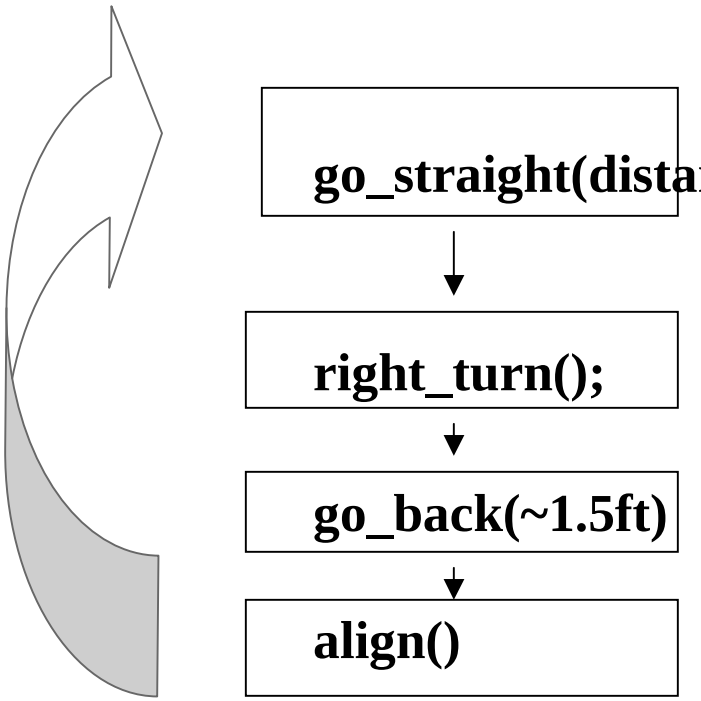
- **2 reflectivity sensors**
  - Positioned on the back





Software Design of the Robot

- **monitor_sensors()** process, reads all sensors and is running continuously.
- **Flowchart**



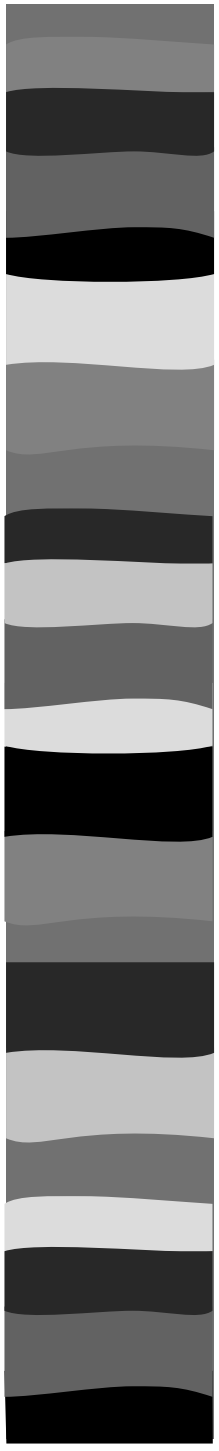
Success: the robot always aligns itself to the black tape if it crosses it.

Conclusions

1. **At least two informal meetings are a must**
2. **There should be “hardware freeze” date**
3. **Successfully demonstrated the robot alignment to the black tape.**
4. **After the Friday demonstration we did careful technical investigation. We found out that the major flaw of our robot was that it could not go in perfect straight line, due to hardware problems**

Acknowledgements

- **Dr. Hougen**



Commercial Break

Questions?