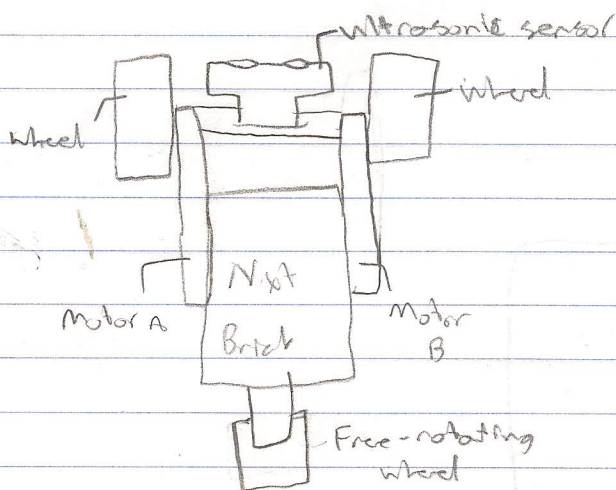


Robotics

Robot - Driving, wheeled

Task - Obstacle avoidance

Design Ideas - Rover-style:



Unusable design factors:

- Third motor-controlled wheel
- Fixed-axle third wheel
- Smaller wheels on motors
- Larger third wheel

Testing

- Third wheel needed for stability

Test 1 - Repetition of "start"

Test 2 - Structure - leg collapsed; additional support needed

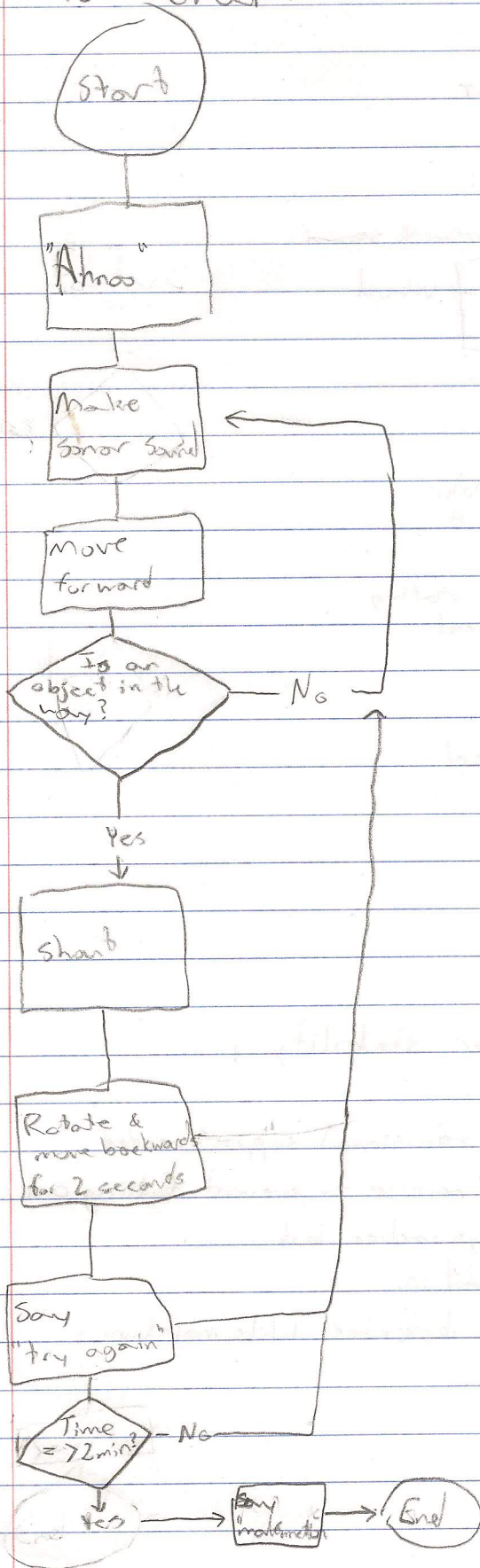
- Program lowered power of reverse to prevent falling over

Test 3 - Added "stop" once object approaches bot

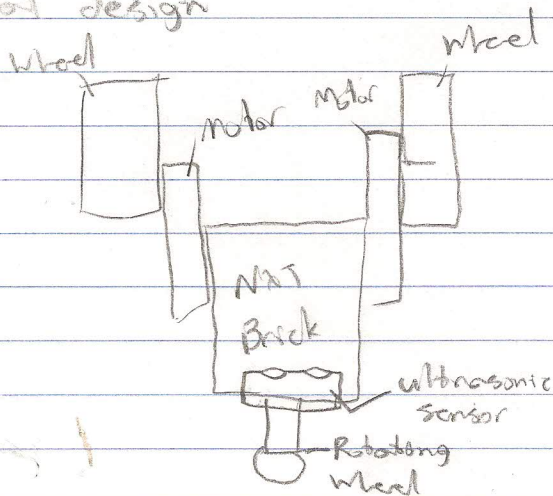
- Increased distance to 24 in.

Final tests: avoids nearly all obstacles while maintaining stability

Flow chart



Final design



Future improvements:

- More stable axis for rotating wheel
- Construction to allow a flat viewing angle
- flatter angle to enhance stability