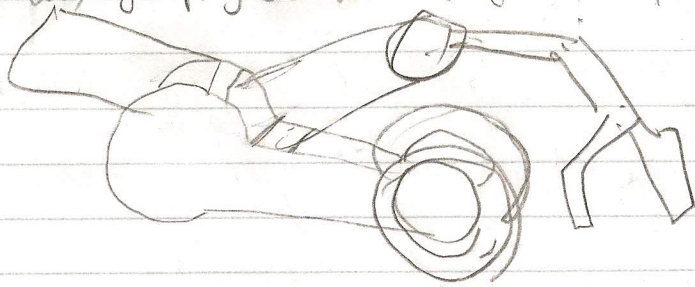


Preliminary Brainstorming
 Robot - Wheeled robot

Task: Move forward, sense ball (red or blue), grasp ball, turn 180°, move forward, release ball

Design: 2 motors for wheels, 1 grasping ball in front (guided by sensor)



Reevaluation:

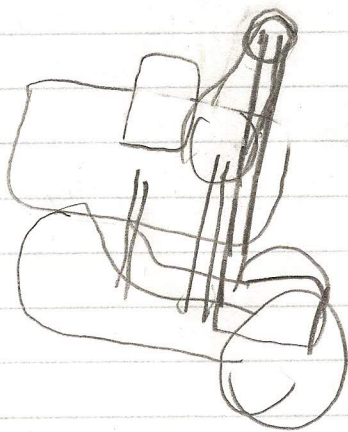
Task: Move forward until dual touch sensor encounters object, move arm, throw ball

Test: Replaced 2 back wheels w/ 1, vehicle runs straight

Reevaluation 2

Task: Move forward until light sensor senses green^{or another color} line; "golf club" appendage rotates backward 1/2 rotation, comes forward to strike red ball

Design:

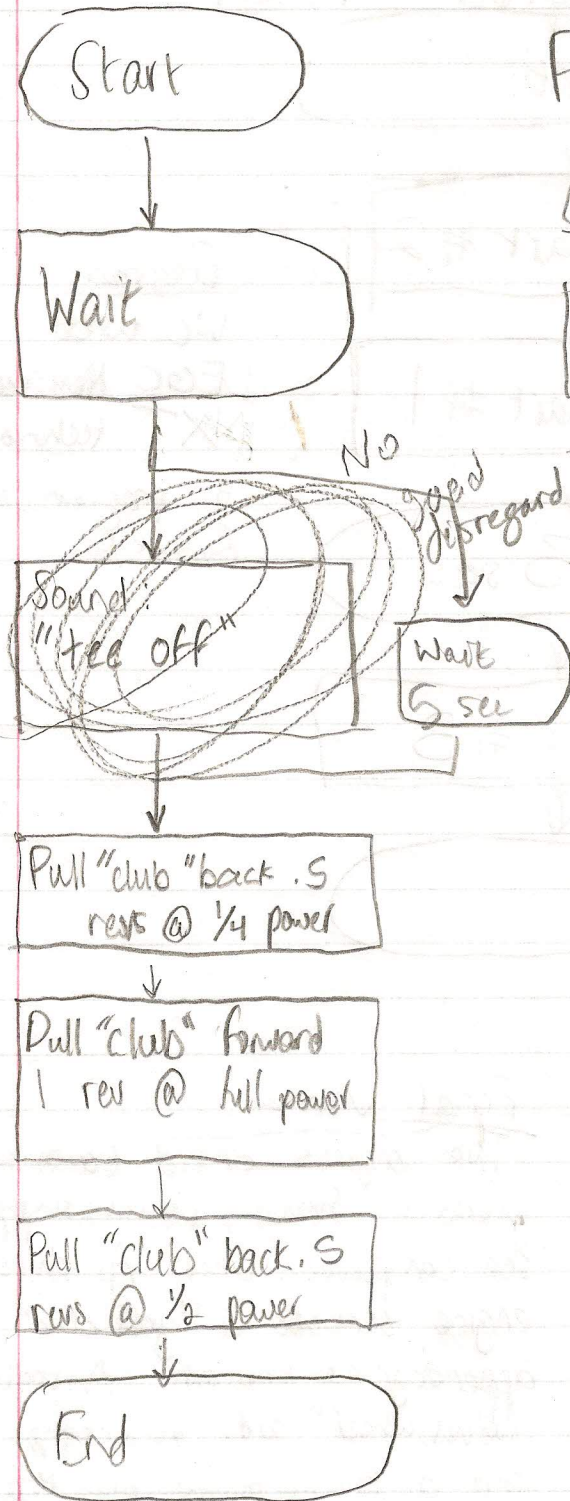


Test: Added back wheel, reevaluated objective

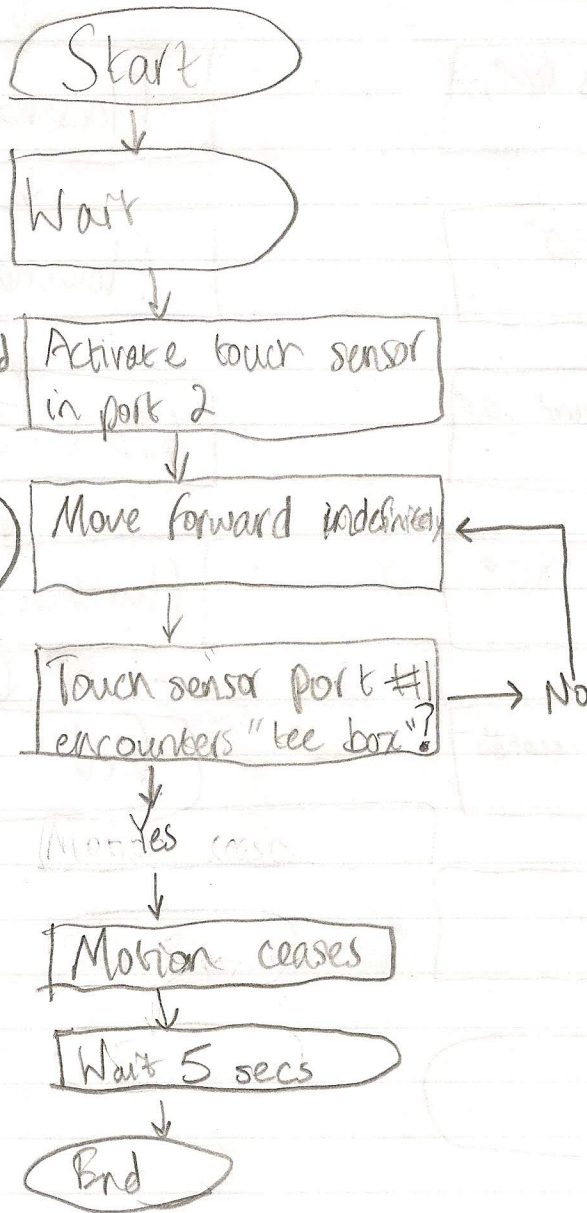
Final Objective: Roll forward, sense tee box, strike "golf ball",
celebrate, return to start point

Success! GO bot is born!

Flowchart #1 - Golf Swing



Flowchart #2 - Initial Movements



Flowchart #3

Start

"Club" rotates 180°, in the air

Motion of 360°

"Club" is lowered 180°

Motion of 180°

Move for 3 seconds

180° motion

End

Flowchart Final

Start

Flowchart #2

Flowchart #1

Wait 3 secs

Flowchart #3

End

Program
We used
LEGO Mindstorms'
NXT technology
to program in
Robot C

Final Version

Two engines control two massive wheels in front, which support the computer unit. A third engine controls a "golf club" appendage on the side. A trailing "swivel wheel" aids in steering and a touch sensor on top starts motion. A touch sensor in front also operates motion.

Improvements?

- Make it voice-controlled
- Perfect wheel orientation
- Sleeker design