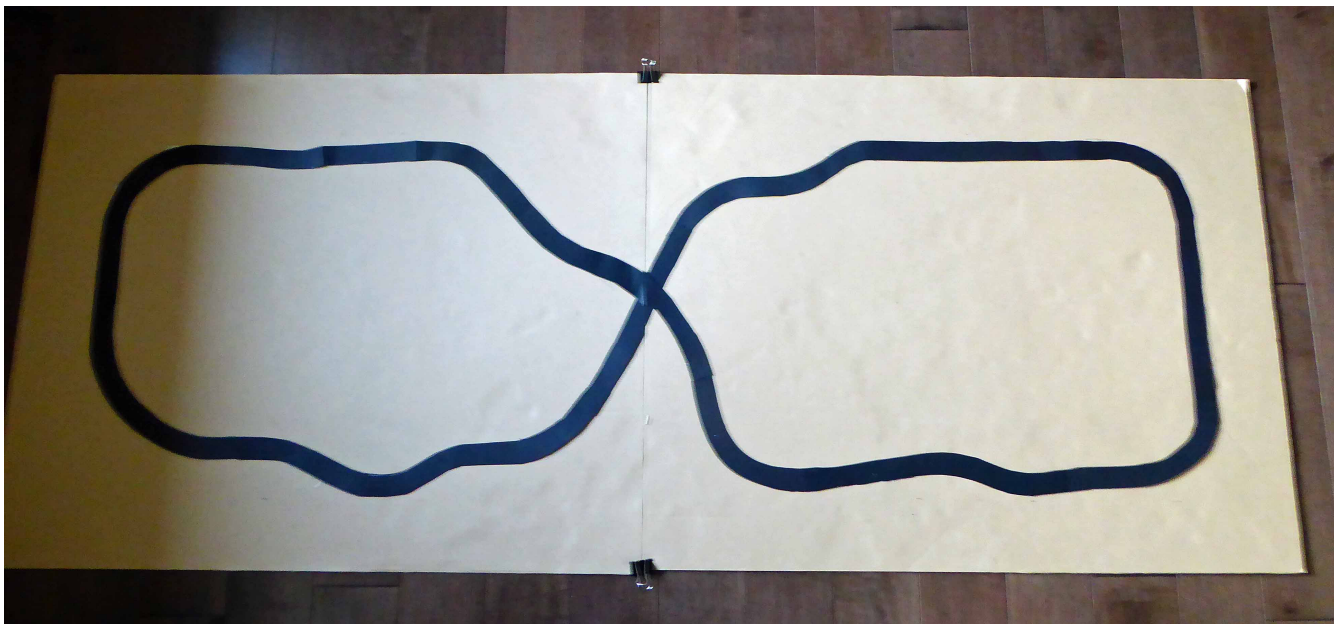


Dr Roboto reporting in:

Now I must be up to version X of the track but it is much more simpler in design. The 5cm wide track had a major flaw. Hobbie could not tell if the length or the width of the track was the roadway. Cutting down the track to 3cm fixed that problem and then I could also remove the white borders.

Programming the speed (RPM) of the motors had to handle two criteria. Fast enough to overcome initial drag and yet slow enough not to fishtail. Went thru two sets of batteries to solve that one. The rechargeable lipo batteries now on back order until 23 Mar. I have ordered another homegrown "solution". The brain can handle 5-12V and the motors want about 7-10V. Hobbie presently uses six AA batteries  $6 \times 1.5 = 9V$  stored in a six AA battery holder. Rechargeable AA batteries are 1.2V. So I have ordered and installed, from canada robotix, eight tenenergy rechargeable AA batteries, a charger and an eight AA battery holder having the required Arduino power plug, thus  $8 \times 1.2 = 9.6V$

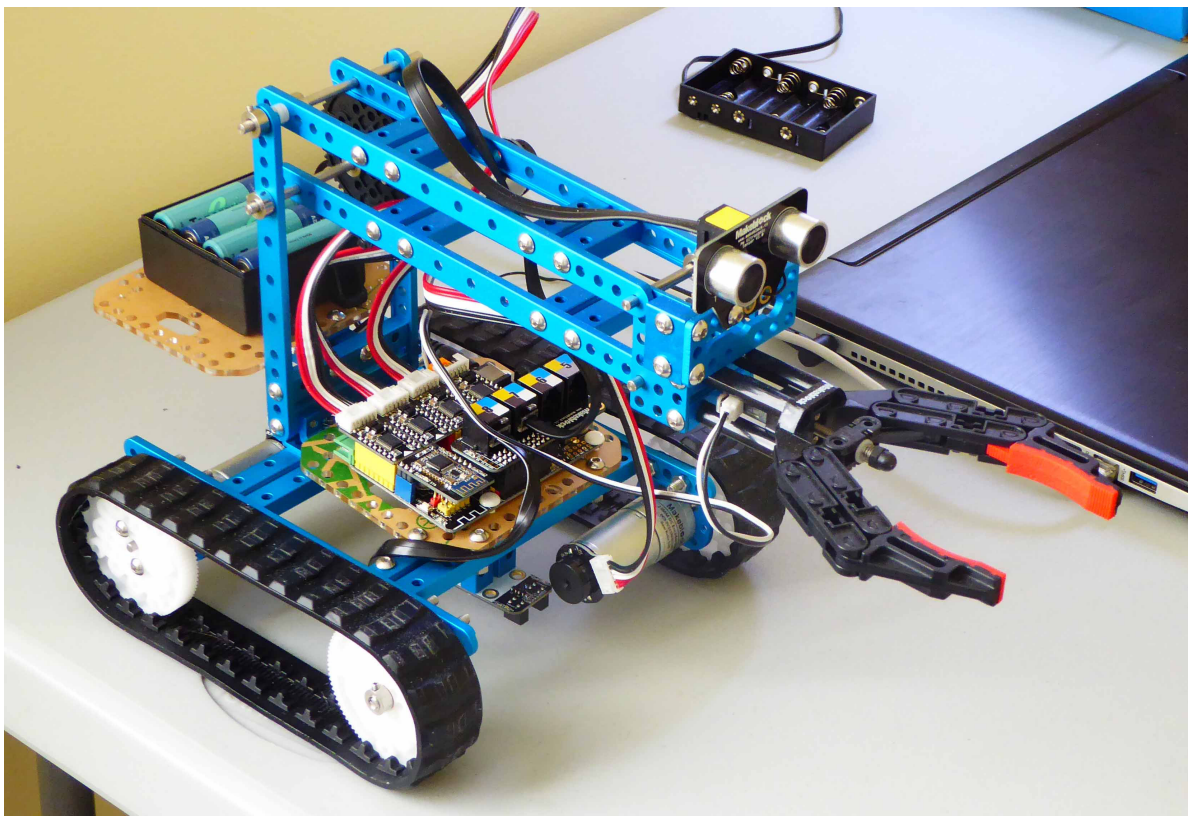
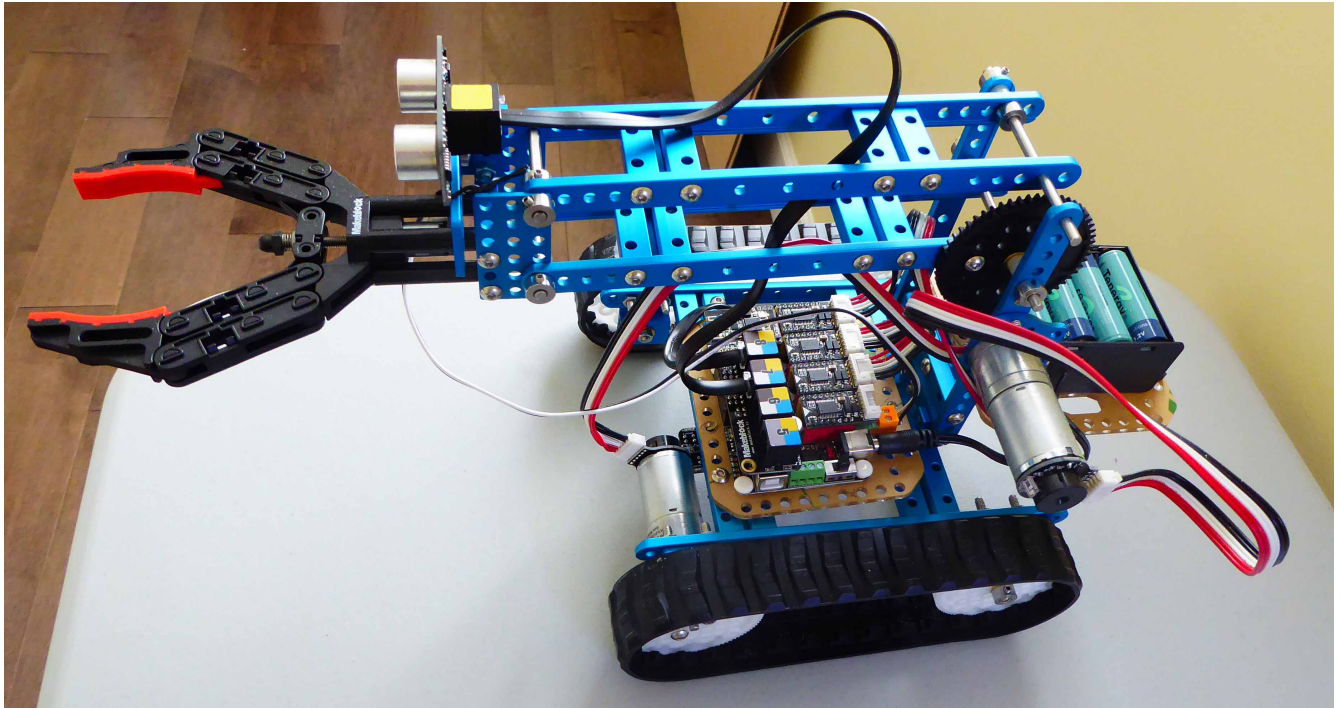
I programmed Hobbie to autonomously drive around an oval track and not get lost. I then designed a more complex course, 1m x 3m.



Hobbie would go around and around until the batteries died. I then built a portable 30cm high wall. I randomly place it on the track and Hobbie will now stop, using the ultrasonic sensor, about 10cm from the wall. Using this sensor is "fun". It is like bouncing a ball off a wall. Great if you hit the wall at 90 degrees (straight on), the ball returns to you. If you hit the wall at 45 degrees the ball will never return to you. Same with the signal the sensor sends out.

It gives me a better appreciation of the technical challenges for autonomously driving autos. You have to constantly add more sensors, which take more electrical power and require more computing power for analysis.

The last thing I did was to give Hobbie an arm with a gripper. Motor #3 swings the arm up and down. Motor #4 opens/closes the gripper.



The box of parts has arrived for the next robot. My mind has not yet conjured up what it will look like nor what sensors will be on it.