

Going the Distance

The challenge

Daredevil Dan is preparing for a stunt that will be held on a 3-metre track.

As Daredevil Dan's stunt coordinator, your challenge is to build and program a robot car to drive as close to as possible to Dan, without knocking Dan over.



Photo Credit: JAK SIE MASZ via compfight.com

Equipment

Tape measure.

Constraints

This is a *dead reckoning* challenge. You are not allowed to use any sensors to detect Dan.

You will have a time to practise making your robot drive various distances. At the end of the practise time, you will be told exactly how far from the starting line Dan will be. You will then have time to program your car, but you may not test it.

Once all the cars are programmed, they will take turns driving from the starting line. The car that finished closest, without knocking over Dan, is the winner.

Robot design

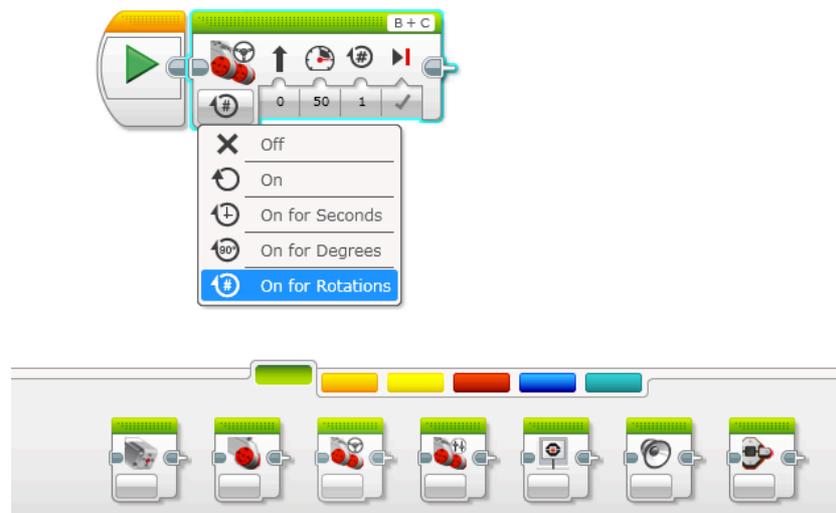
Keep it simple. Build a car that drives straight, using the fewest number of pieces.

Program

In the EV3 Software, create a new program (e.g. File > New Project > Program).

From the green Action palette, use either a Move Steering or Move Tank block to make your robot move forward (or the Large Motor block if you're using a single motor).

You can control how far your car drives using Seconds, Degrees, or Rotations.



Assessment

Your grade will be based on these two criteria.

Grade	Performance	Creativity & aesthetics
A+	Your car finishes the closest, without knocking over Dan. Evel Knievel would be proud.	Best in show.
A	Your car finishes within 100mm, without knocking over Dan.	Outstanding
B	Your car finishes within 400mm.	Good
C	Your car moves forward.	Okay
t	You have something resembling a vehicle.	Nothing special
Z	You run away!	Look away!