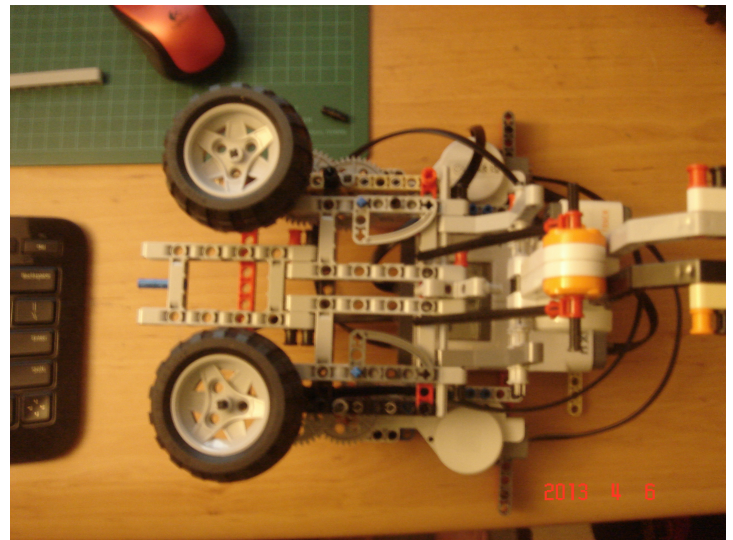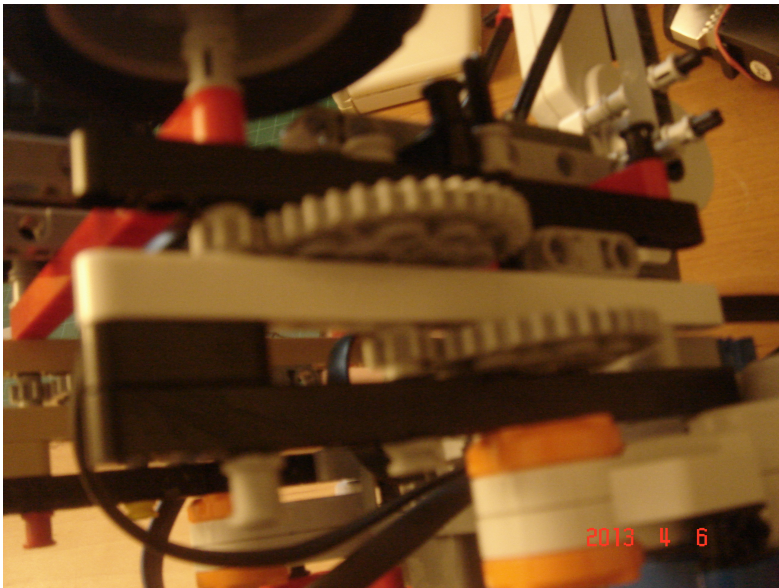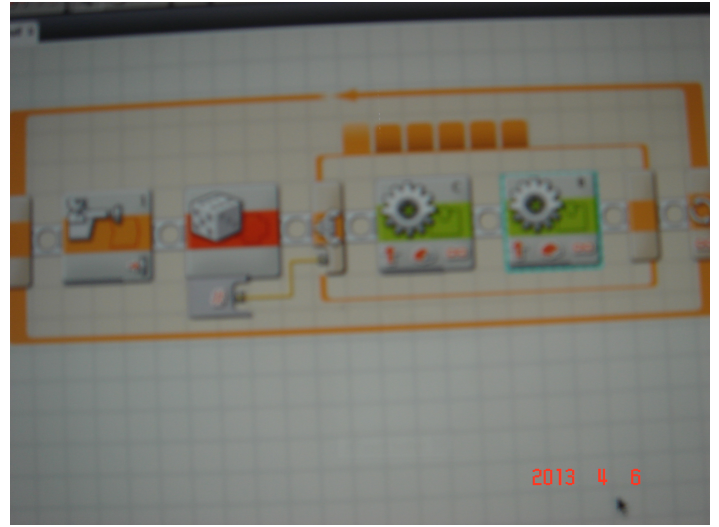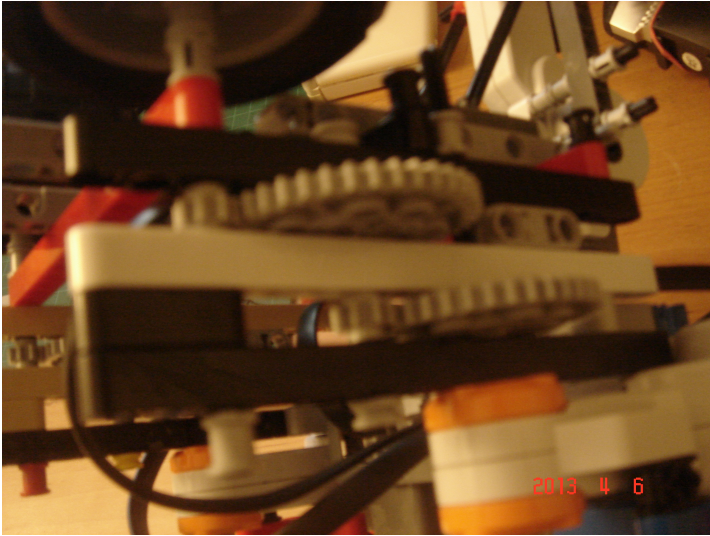# The NXT Ball Launcher

what the machine was and what is it now

Before the launcher was a paper airplane launcher for my science fair project it had many imperfect parts like it wasn't stable enough so it didn't have enough power to launch it really far. Now I have turned it into a ball launcher . It is now very stable now and it has enough power to launch the ball at a great distance. It also have a place so you can hold the ball its programing is now better since it can shoot in random directions to make it unpredictable. My original one was not good. It had to many weak points like the angle changer wasn't very sturdy it might fall some time, the launcher sometime goes wrong just when I needed it the most like when it made my wheel grind together to much which could have ruined the wheels. Or when the wheels wasn't balanced (since the motors weren't very sturdy)

Improvements

Since the airplane launcher a lot has been improved like it can shoot much farer and faster. All of the things that are improved are listed: it is far more stabler, it has much more speed (the gears are big gear to small gear times 2 (which is big gear to small gear to big gear to small gear), a ball rack has been added and with the new upgrades it can now be easily transformed into a marble launcher just my changing the width of the wheel. The programing has been really updated it can now do different speeds and turns too instead of just a one speed launch.
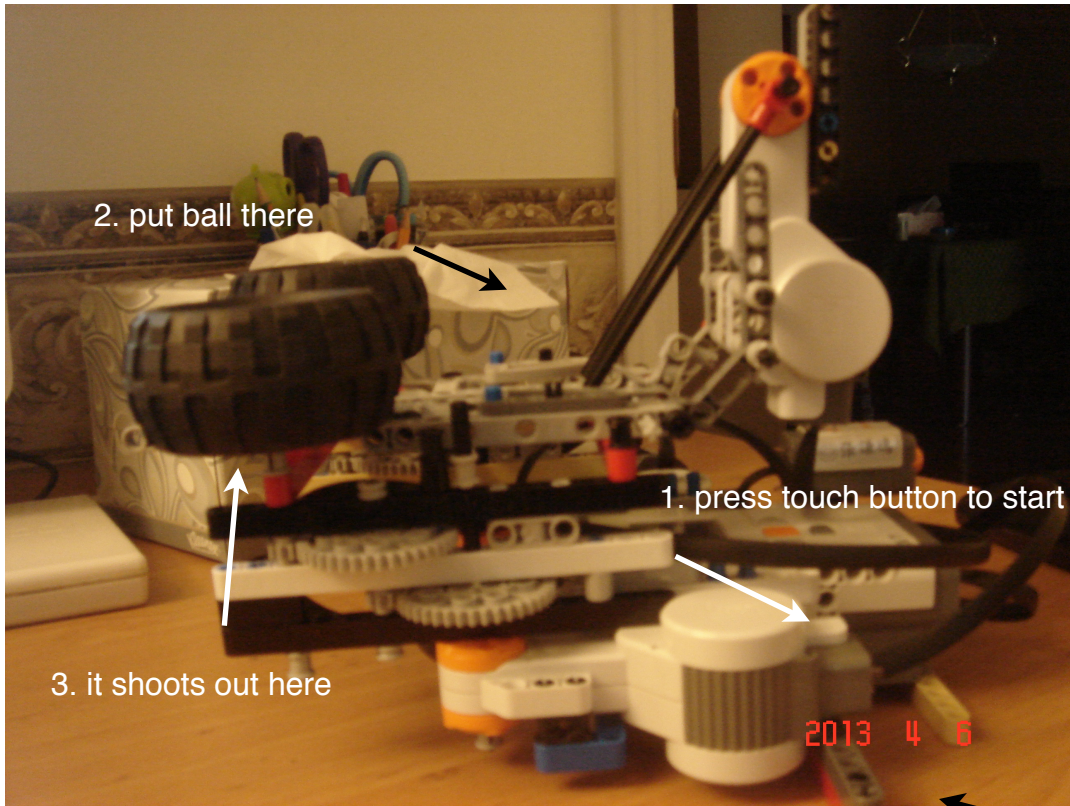
Needed Improvement

Even though the launcher has been improved a lot there are still improvement needed, here they are: It is not able to change angles anymore, although its balanced it's front isn't very heavy so if it tilts on its front it does a faceplant. When a ball slides down and it bounces it won't shoot properly

How it became this

1.first the ball launcher was a paper airplane launcher for my science fair project
2.Then I was not satisfied with the results of it
3.   I made the ball launcher
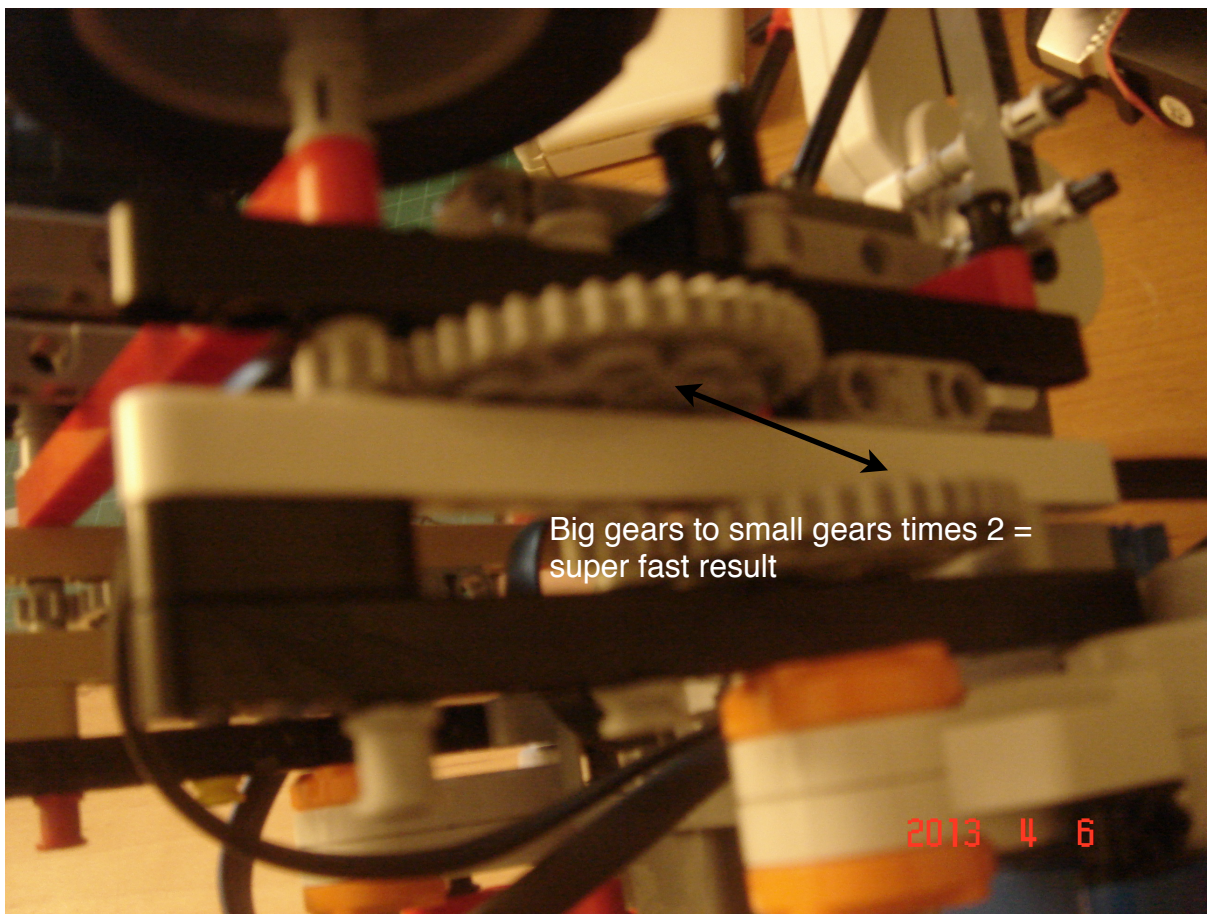4.   I upgraded it to make it stronger and its programing better

Pictures

2. put ball there

1. press touch button to start

3. it shoots out here

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How it works

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My Program

Big gears to small gears times 2 =
super fast result

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