



Prize Winner

Programming, Apps & Robotics Year R-2

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Report

My robot's name is Ballpicker I built it
if () ~~Mindstorm~~ LEGO I made
the program on the APP Mindstorm
I made this robot because at tennis
time its a waste of time picking
up balls so this robot picks up
balls and separates the balls because
I have green balls and my
brother have red balls,
when the robot is close
to the wall the robot
will go diagonal back to change
the direction and pick up other
balls. How I made the program
so first I used a start to make
the robot start then I need
two wires one connected to
the program that controls the
infrared sensor and the large

motors so first I need a repeat
then put a switch in it
so the actions will repeat
I set the switch into infrared
sensor, compare, and proximity,
so the infrared sensor
could see the wall when
the infrared sensor see the wall
I add a move steering
on for seconds so the
robot could go diagonal
back. When the robot
can't see the wall I need
a move steering on so
the robot goes forward.
The second wire will be
connected to the program
that controls the color
sensor and the medium
motor so first I

used a repeat then put a switch in it so the action repeats next I set the switch into color sensor measure so the robot could see the colors. When the robot see red I need to add a medium motor so the ball could be squished in the basket. When the see green I need to add a medium motor so the ball could be squished in the basket. When the robot can't see red or green ball I need to add a medium motor off and set the no color into default case. So the medium motor could stop when the color sensor can't see red or green.

More uses

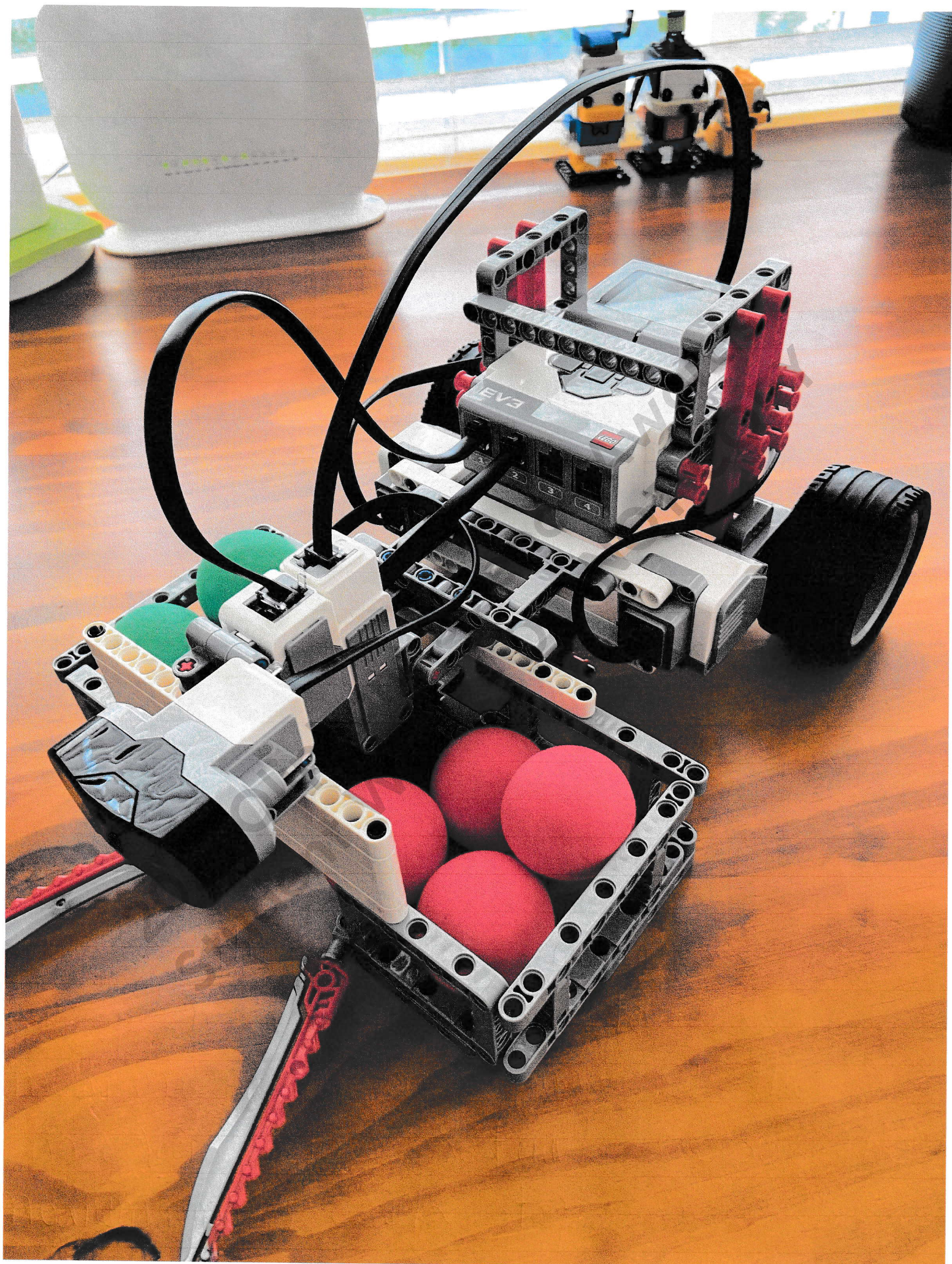
My robot could be used to separate other things like red apples and green apples or red tomatoes and green tomatoes because green is for not ready to eat and red is for ready to eat. I got a good idea my robot could separate deliveries if the packages have color for example red delivery is for delicate things like teapots, glasses and glass cups. Green delivery is for normal things like clothes and toys. The robot could separate other deliveries like dangerous things and safe things and more if the packages have color.

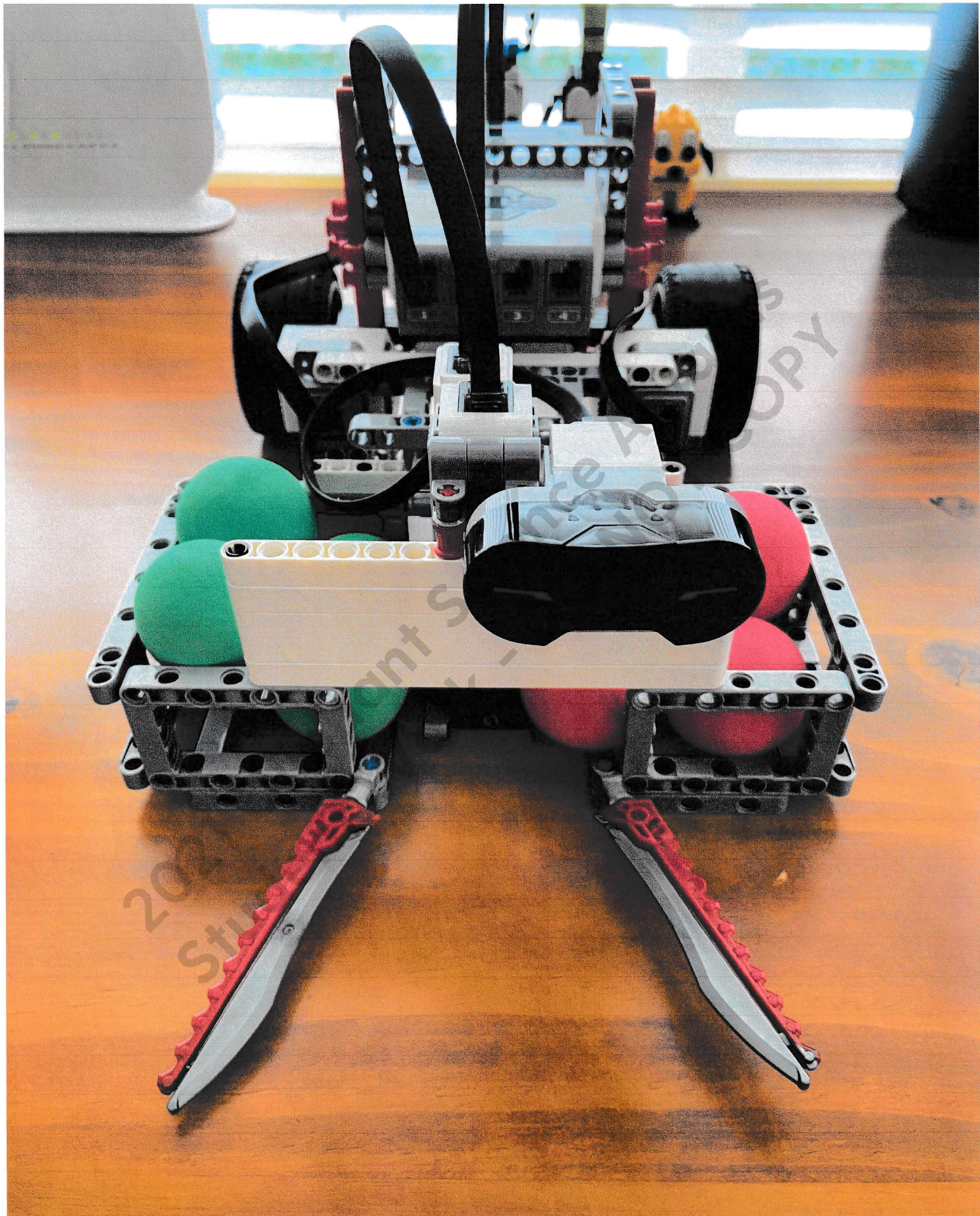
Important parts

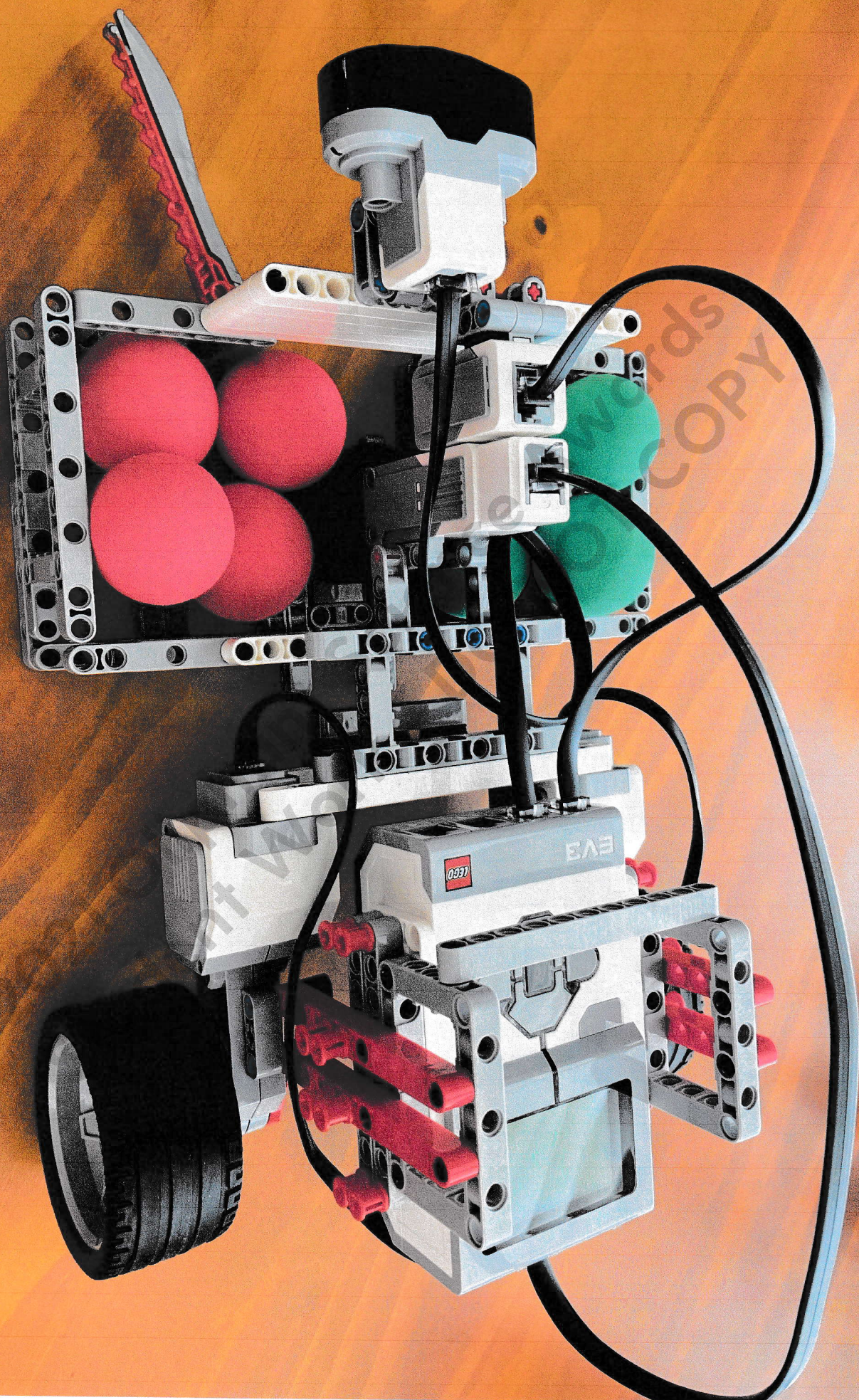
The most important part is the ball picking part in my robot it's also the most difficult part, because I tried many ideas like sweeping, grabbing and shoveling then I finally came up with this idea squishing the ball into the basket. I got this idea from a shooting robot that I made before. The 2 science contents I used in the ball picking part: first friction which I learnt from school, second elastic which I learnt from my mum. Friction slows things down, if there was no friction cars and bikes will go for ever. In the ball picking part the friction is big so it could

squish the ball into the
basket at the same time

I also need elastic. If there
wasn't elastic the ball picking
won't work. If I used a
ping pong ball, I found out
by using a gear instead of a
wheel, at first I used a ping pong
ball it didn't work because
the gear and the ping pong ball
doesn't have elastic even though
the gear had strong friction but
the wheel has elastic so it
worked.

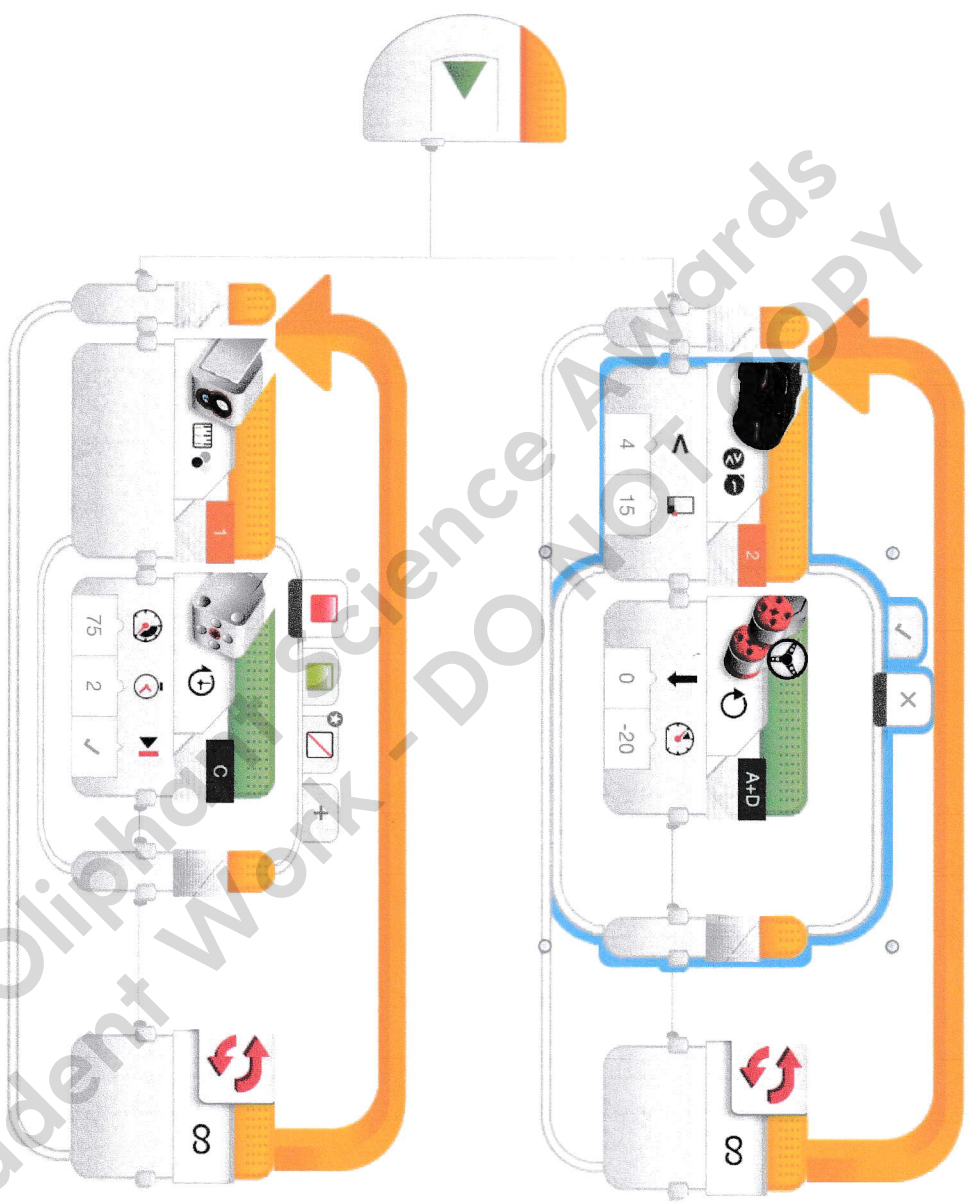








Ballpicker 4

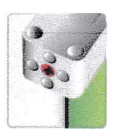


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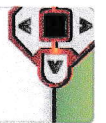
No EV3 Brick

A B C D

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