



JANUARY NEWSLETTER

Kick-off:

On January 8th, Team OTTO members gathered at Forsyth Central High School to kick off of the 2022 season and the new game Rapid React! We received the game manual, game animation, and the rules of the game. All of the subteams discussed possible strategies, and design ideas.

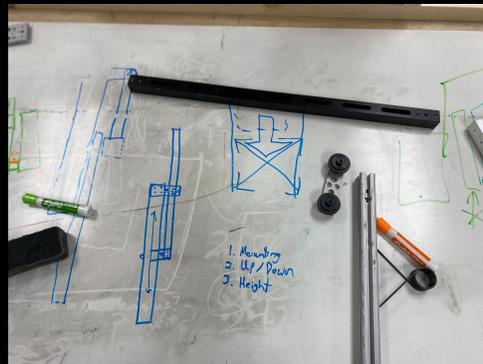
Rapid React:

The main goal of Rapid React is to score balls (cargo) into a hub in the middle of the field. In the last 30 seconds of the game, robots can choose to climb bars at various heights to earn extra points.

WATCH ME!



In the first week of our new 2022 season, the team discussed strategy to find out what kind of robot we wanted to build. The team had to decide whether the robot should score the cargo balls low or high; and whether or not to climb at the end of the match. Students participated in human simulations in order to see how fast a robot would theoretically move and complete tasks. This helps the team determine what type of robot would score well and what designs to aim for. The subteams discussed ideas and prototypes for different subsystems of the robot (climber, shooter, drive base).



Upcoming dates:

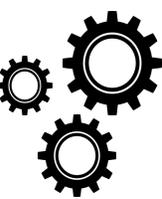
March 10 - 12: Peachtree (PCH) District Dalton Event

March 31- April 2: PCH District Albany Event

April 6 - 9: PCH District Championship (@Mercer University)



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This month, the team has finished assembling field elements to use for practice and programming once the robot is constructed. The practice hub on the left is where robots will attempt to shoot balls into, and the climbing rungs on the right are a set of bars that the robots can climb onto in the final 30 seconds of the game. With the help of a parent volunteer, the climbing rungs were constructed so that they can rest on a workbench to reach the maximum competition height at 7 feet measured from top to bottom.



Testing the cargo-shooter
(Click the image for a video)

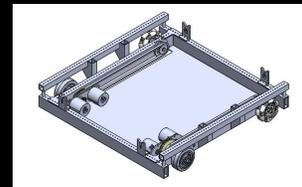


The mechanical team made progress with prototyping parts of the robot. The mechanical team discussed strategies on aiming at certain parts of the hub; there are two locations where balls can be scored - a high and low hub. The final decision was to be able to aim for both the lower and upper hub. A few members tested a cargo-shooter prototype by attaching it to our 2020 robot. The cargo-shooter prototype is able to shoot into the upper hub.



The drive base of the robot will house the rest of the subsystems. This year, it will be made with aluminum tubing and a 4-wheel configuration. The drive base model and the frame of the robot were completed, and a drivetrain gearbox prototype was made. The programming team is preparing for when the robot is built. Some of the members are working on camera tracking for the robot, which will help them position the robot for shooting on the field later on. For practice, they are also working on programming the 2020 robot to drive.

Click on this photo for more
→



From left to right: The start of the aluminum tube drive base; the cargo-shooter prototype; the 2020 robot being used by the programming team to test out camera tracking using a camera called a Limelight

