

WIRED Robotics Competes at BEST State Robotics Competition Amid COVID Constraints

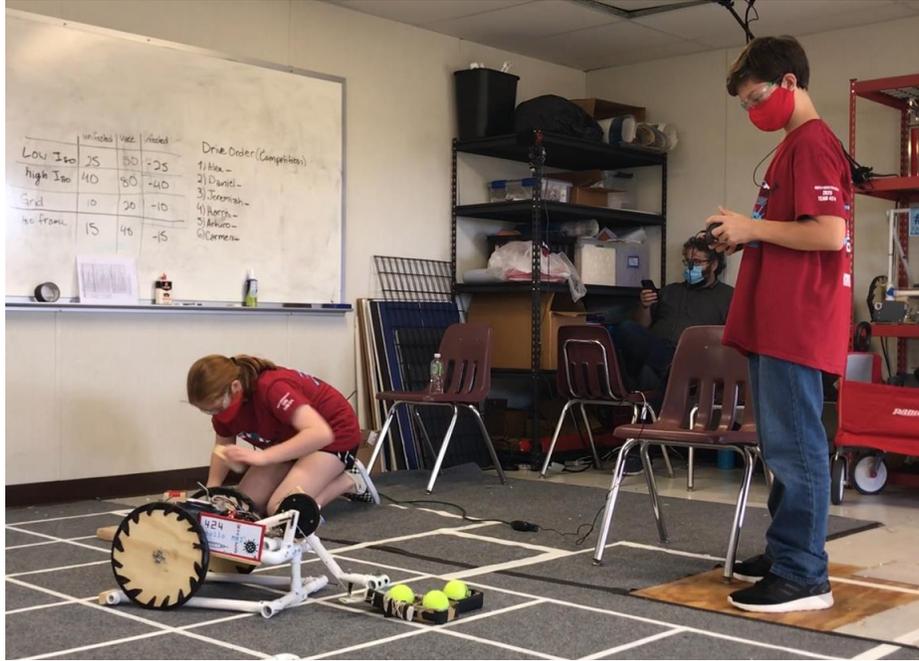
The WIRED Robotics team at Westbrook Intermediate School in Clear Creek ISD has advanced to compete in the Texas BEST Robotics Competition for the 9th straight year in a row. BEST (Boosting Engineering, Science, and Technology) is a robotics competition that emphasizes the engineering process and marketing of a robot in addition to driving the system on a game field. This year's game theme, *Outbreak*, requires the team to design, build, and operate a micro-robot, manually and autonomously, to isolate virus infected cells from others, and apply localized vaccines to slow or stop the spread of the infection.

This season has been especially challenging due to restrictions during the era of COVID. Our local hub, North Houston BEST, and state organizers, Texas BEST Robotics, had to revamp the yearly game and offer 3 ways to participate: virtual only, classroom competition, and multi-team (in person) competition. WIRED chose the classroom competition option. Following social distancing rules and mask requirements, the team met, designed, and built a robot and practice field here in the robotics lab at Westbrook Intermediate.

Oftentimes team members had to collaborate via Microsoft Teams meetings. Since the robot is manufactured from raw materials like PVC pipe, plywood, and metal pieces, that presented unique constraints and challenges this year. Moreover, the marketing presentation, virtual exhibit booth interviews, critical design review, and time trials were livestreamed to the judges at North Houston BEST and Texas BEST competitions.

The team had support from community businesses and mentors from the September 11th, 2020 Kickoff through the State Competition on December 12th, 2020. Dr. John Pfeifer, Thermofisher Scientific Field Application Specialist, gave a presentation to the team to explain how viruses infect cells and how vaccines work. Thermofisher also provided PPE in the form of masks, nitrile gloves, and hand sanitizer. Systran Technical and Training Services helped with community outreach by promoting our team's efforts on a world-wide newswire. Mr. David Hirsch of Systran also provided guidance to the WIRED marketing team for the presentation portion of the competition. Mr. Burke Paul, P5 Printing, supplied student designed team t-shirts and Mrs. Catherine Overcash, Pumpkin Daisy Designs, the matching team facemasks. Mr. Justin Nava, Nava Creative Services, produced the promotional video for the WIRED website. Finally, Mr. Frank Solis of Supreme1 Auto Repair, coordinated with the state judges via livestream to provide oversight as the so-called Trusted Agent during the Texas BEST State Competition.

See more about our WIRED team, the competition, and the robot at <https://www.ccisd-wired.com/>.



Sadie Gafka, the spotter, quickly checks the “cells” using a tester to see if they are infected, uninfected, or immune, while Arturo Sanchez picks up the “vaccines” to deliver to the frames or platforms to immunize cells during a 3-minute round.



Marketing Team (l-r) Dhrumi Sha (Lead), Kennedi Brown, Carmen Evans, Charlotte Maples, Soham Agrawal, Arturo Sanchez, Chloe Luo



Amy Campbell (Systems Integration Co-Lead, Base Lead, CAD Specialist) demonstrates wheel routing with Jeremiah George and Albert Lee.



Elwood Garza (Systems Integration Co-Lead) reworks arm drive mechanism with other Pit Crew team members prior to drive trials.



WIRED 2020 Team Picture: **Front row** (l-r) Jeremiah George, Jonathan Maximos, Albert Lee, Jath Alison, Jackson Overcash, Elliot Bibby, Soham Agrawal

Middle Row: (l-r) Harris Broddle, Kennedi Brown, Jaclyn Paul, Izma Aziz, Dhrumi Sha, Carmen Evans, Anistacia Beatty, Andrea Gonzalez, Pippa Thompson

Back Row: (l-r) Arturo Sanchez, Fadhil Mohammed, Elwood Garza, Jason Sha, Alex Graun, Sadie Gafka, Daniel Vassiliev, Charles Cortes, Chloe Luo, Amy Campbell, Elizabeth Shaw, Daniela Alba, Charlotte Maples