

Though FIRST Team 2996 Cougars Gone Wired (CGW) encountered turbulence following last season, its passion for the ideals of FIRST remains resilient and progressive.

In 2008, the team launched when 34 ambitious students and a dedicated STEM teacher undertook the challenge of Lunacy. Mentors and students struggled to find a rhythm yet won Rookie of the Year at the Denver Regional, earning a position at the Atlanta Championship. There, the team was inspired and CGW became a tradition.

Modeled after an engineering company, the team's structure incorporates VP-led technical and business sub teams under the leadership of a CEO and CFO. Year round business teams coordinate FIRST events, incorporate STEM into the community, and seek sponsorship from local engineering corporations while technical teams prepare for build season with mentor-student led workshops and are the powerhouse of the team upon kick-off. By giving members the opportunity to participate in each type of team, CGW benefits from well-rounded individuals and prepares them to be successful in a variety of careers.

This effective structure allows CGW to excel both before Chairmans judges and on the competition field. However, the real success of the team is measured by its continued influence. CGW has attracted 68 current students and 23 active alumni and mentors. Together, they represent varsity athletics, all performing arts, over 10 extracurricular activities, and interests from art and theater to medicine and STEM. Team 2996 even boasts a high female ratio. This diversity captures the team's ability to introduce STEM to non-traditional audiences and open the door for STEM in new fields.

CGW's success is also facilitated by the bonds between mentors and members. However, this element of the team faltered when founding mentor Dr. John Wood passed away in a plane crash this summer. Members describe Dr. Wood, a United States Air Force Academy professor, by his ability to find calmness in chaotic situations, adjust engineering concepts to a novice setting, and use his experience as a professor to teach the mentors how to effectively guide the team. Behind the scenes, he used his USAFA contacts to help CGW build relationships through sponsors, STEM presentations, and leadership seminars. With his passing, the team felt his impact after not only losing sponsors, but losing his expertise as an engineer, educator, and father. Throughout this year, the team has struggled, making recovery a unified priority.

CGW's foundation was further tested with an unexpected change in leadership. With the steadfast support of the team, Woodie Flowers Award recipient Bryce McLean stepped down as head mentor to pursue career advancement. Since he not only began CGW but instigated many of its projects, his responsibilities ranged from acquiring supplies, transportation, and mentors to holding financial accounts and managing emails. Ultimately, new logistics forced leadership to adopt unfamiliar roles and focus on main projects, making the team more student-ran and prioritized.

Despite setbacks, the team's FIRST involvement continues to expand. As per tradition, CGW volunteers and builds lasting relationships with national foundations. In support of a mentor undergoing heart surgery, in 2010 the team contacted the American Heart Association. Ever since, the team maintains the tradition of setting up, conducting traffic, and encouraging walkers at the local Heart Walk. The team also donates to Race for the Cure, walking and wearing pink robotics shirts in memory of a past principal. In recent years, the Elks Lodge, an organization that invests in the community, has become the team's strongest community connection, asking the team to serve at charity dinners and fundraisers for community programs. This year, CGW also made a new connection with the Cheyenne

Mountain Zoo. During Boo at the Zoo, the team hosted stations and used a robot, dressed as a robotic elephant, to hand out candy. These projects indirectly relate to STEM, but allow the team to network and embrace FIRST's philanthropic goals.

Based out of Coronado High School, CGW expands FIRST's audience and presents STEM to students. The team dedicates members to the annual 8th grade open house where CGW works alongside other sports and clubs to attract incoming students to the school. At Freshman Orientation, new students are then invited to CGW's welcome bbq, the first opportunity for students to get involved. During the school year, CGW continues to contribute to the school's morale by competing with clubs for the best float in each year's homecoming parade and even creating an activity for local children at the school's safe trick-or-treating.

The team's impact extends through a mutual relationship with Colorado Springs School District 11. Through CGW's success and community involvement, the district recognizes and facilitates the team's mission. So far, movie theater advertisements and the annual Gifted and Talented night for middle school students has allowed the team to promote the district's Project Lead the Way and STEM initiative. In return, robotics students who demonstrate dedication and leadership now receive a varsity letter and STEM programs receive more funding than ever. Plus, publicity through the district has allowed CGW to present the robots, team, and FIRST to middle and elementary school students. This has helped get younger students involved in PLTW, Jr. FLL, FLL and CGW.

Partnering with community programs, the team labors to inspire children with the possibilities of STEM. A long lasting relationship with Challenger Learning Center gives the team the opportunity to host and run the biannual Sea Perch event. This program allows the team to mentor children to do the impossible: navigate robots through obstacles submerged in a pool. At the Imagination Celebration's "What If?" festival, dedicated to thinking outside the box, and Cool Science, a science symposium for kids, CGW shows kids the power of invention and lets them see how a few pieces and parts can create something incredible. Throughout the summer, the robot made similar appearances at 7 local libraries. The payoff for the team is seeing kids' amazement as they drive the robot, experience the same passion for technology, and ask about joining FIRST.

CGW's efforts to incorporate STEM in the community are only rivaled by the team's expansion of FIRST opportunities at all levels. In 2011, CGW launched the 1st and only Jr. FLL showcase in Southern CO after starting the 1st 5 Jr. FLL teams in the region. Since then, the team has expanded from 1 to 4 elementary schools and has mentored 14 teams. Each team that CGW mentors is provided with a CGW member offering irreplaceable technical support and educating parent and teacher mentors on how to sustain the program independently. Ultimately, the CGW student mentors and JR. FLL members are rewarded at the showcase where parents and judges marvel at innovative solutions to real-world problems.

In the past, CGW members have won the volunteer award at the FLL Southern CO Regional after dedicating their time to mentoring teams, setting up the venue, and running the event. This year, with other FRC teams interested in the position and the team having to sacrifice to meet this year's challenges, the team took a back seat role. However, the team still provided an army of students to work alongside Team 662 and host a successful regional.

Similarly, CGW was limited by resources and sacrificed CGW's FTC team at Coronado to allocate energy to FRC and the team's major projects. Though the FTC team was put aside for this year, the team

supplemented the FTC team and its ability to prepare students for the more advanced challenges of FRC with weekly workshops that equally benefit for new and inexperienced members. While CGW's presence in FTC has been limited this year, the team still expanded its outreach and mentors a new local FTC team. Every week, members interact with these rookie engineers to teach them the design process and guide them through ideas.

Though the team's past FLL and FTC efforts have been compromised, the team has put newfound effort into supporting FRC. Every year, CGW host a pre-ship scrimmage where over 20 teams attend to test their robots. This project is a huge commitment, requiring the team to get game pieces, set up the physical and technical aspects of the game space, and to run and judge matches. In total, this event demands weeks of planning along with more than 5 hours of labor the days before the event. However, the work pays off. Last year's attending teams commented that the scrimmage allowed them to improve their robots and strategy significantly before attending competition. The event also reached FIRST and the team was asked to collaborate with another team to build a practice field at the Denver Regional. This again, took dedication to transport and set up but helped many teams excel.

CGW's FIRST involvement has pushed the capacities of our community outreach sub-team, requiring a new FIRST outreach team to continue past FIRST initiatives and seek new connections. This new sub-team responded to Dean Kamen's call for international outreach. In October, a CGW team member used her family in Puerto Rico to contact La Casa Cuna de San Juan Orphanage. Through a fundraiser movie night, the team was able to collect about 90 items like diapers, soap, and medical kits along with FIRST pamphlets translated in Spanish, directions on how to launch Jr. FLL teams, and a Jr. FLL Lego starter-kit to ship to the orphanage. The team hopes that this connection will lead to mentoring a team overseas in a few years.

In order to meet the parameters of this year's challenges within leadership, some programs have had to be sacrificed or modified, but energy has been reallocated to support new and influential programs that better address the vision of FIRST. Despite setbacks, this team remains resilient in its efforts to not only maintain its past STEM initiative, but to expand the borders of FIRST throughout the school, district, local community, the FIRST community, and overseas in Puerto Rico.