



## 2023 Extended Business Plan

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## ***Executive Summary***

### ***Cougars Gone Wired Mission Statement***

FIRST Robotics Competition Team 2996 Cougars Gone Wired strives to combine a constant pursuit of knowledge with a commitment to the community and the expansion of FIRST. We endeavor to be role models for other teams by building students while building robots, having fun while working hard, and doing our best while helping others. By doing this, we can inspire not only our team members but also younger students to pursue careers in STEM.

Our team members created a motto for this season: *It's about wires, it's about power, we stay charged up, we get louder!* This slogan represents our team's overall ability to show excitement for our competitions: we are known for being loud and electrifying, so combining that spirit with Dwayne "The Rock" Johnson's song, The Rock Rap, meaningfully conveys our team's love for fun.

We also strive to demonstrate gracious professionalism - not only at FIRST competitions, but in our school and community as well. It is our intent to make every student feel welcome and to help other teams in our area. This is one of the reasons why we run an annual scrimmage; this event gives other teams in our state a chance to practice on a full-size field with other teams, allowing them to prepare for upcoming FIRST regional competitions.

### ***Team Origin***

Our team was originally formed in 2008 when our head coach, Bryce McLean, wanted to provide a competitive outlet for engineering students to showcase their STEM-related skills outside of school. That year, our team had thirty-four excited and dedicated members meeting at Coronado High School in Colorado Springs, Colorado; with just these students, our team made it to the International Championships in St. Louis, Missouri. Our group has grown and developed since then, and we have attended thirty-four events, eight of which were world championship competitions. What began as a cadre building a single robot for one competition evolved into a team building two robots, competing in two regionals each year, and running an annual scrimmage for teams in Colorado.

Our skills have also evolved over the years: in our rookie year, the robot we built could not do much more than drive; our latest robot is able to auto-balance, drive, fetch game pieces from the ground, and place these game pieces onto multi-tiered nodes. We build our own chassis and contrive a unique strategy for creating robots every year. In addition, we designed an app for our scouting subteam, which allows us to easily process information about other teams at regional competitions to ensure we form great alliances and have the best statistics.

Since the business side of our team is as strong as our technical side, our team started running an annual Business Exchange at the Denver Regional in 2017. This meeting is an hour-long open forum, led by our Chief Financial Officer (CFO), where FIRST Teams have the opportunity to collaborate and help each other in areas where they may have struggled originally. Some topics discussed include fundraising, outreach, management, sponsorships, team structure, and awards, providing well-rounded business insights for teams with even the weakest business branches.



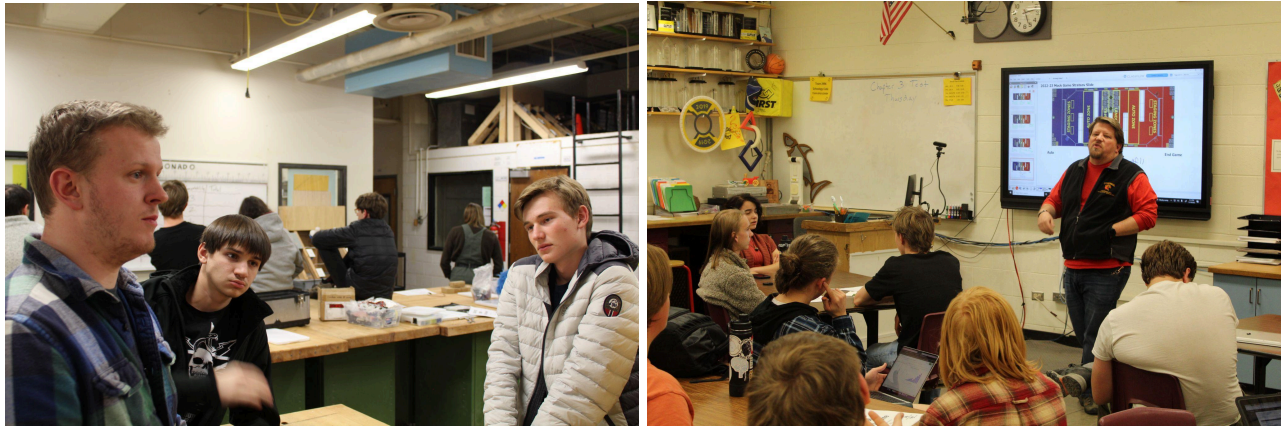
## The Original Cougars Gone Wired - 2009

### *Relationships*

Though our team is active year-round, one of our first official events of the academic year is an annual barbecue on our school's football field. This is our way of inviting students of all experience levels to learn about our team, and giving all of our participants and their families the chance to come and have fun. This event also serves as a way for our students to get to know each other better and strengthen the bonds within our team.



Toward the end of the fall semester, the entire team participates in a three-day “Mock Game.” This simulation of the first week of Build Season prepares everyone for Kick-Off. Our mentors release a past game for which we need to decide on a strategy and a thorough robot design. This requires the team to collaborate and learn how to work together during Build Season.



## ***Mentor Relations***

Currently, CGW has seventeen mentors, many of whom are engineers, industry professionals, business owners, and educators. They join our team via connections, and they develop a strong bond with our members. Every year they assist our members by sharing their experiences in a way that can help our students grow. They push us to work hard and think deeply, ensuring we work to the best of our potential.



## ***Sponsor Relations***

Sponsorships are acquired through demonstrations and company presentations. We always treat our sponsors equally and with respect, inspiring them to want to continuously support our team each year. The team’s gratitude is acknowledged through thank you letters and advertisements on team shirts, robots, and our statewide scrimmage.

The Pikes Peak Chapter 356 of the National Association of Women in Construction (NAWIC) has been a dedicated sponsor for many years. Their first meeting is held at Coronado where we make a presentation about our team and the improvements we made that year. They have taken our students under their wing and helped and encouraged us time and time again.

With some sponsors, like the charity organization, B.P.O. Elks Lodge 309, relationships surpass just monetary donations. Along with being generous donors for several years, they allow the team to host a fundraiser dinner at their facility. In return, Team 2996 volunteers help them with grounds maintenance, charity events, and party preparations, creating a sense of community beyond the borders of the team and school.



**TWO MEN  
AND A  
TRUCK**



**HARDWARE SPECIALTY**



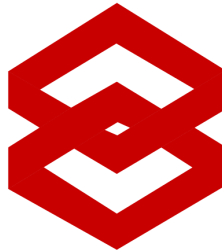
**L3HARRIS**



**AZHANTI  
SYSTEMS**

**NAWIC**

Department of Defense  
**DoDSTEM**



**Sullivan  
Landscaping  
LLC**

**BLU STAQ**

**EXACT  
ASSEMBLY**



**TRAIL'S END  
HOMEBUILDERS**

***Deployment of Resources***



# *Risk Analysis*

## *Strengths*

**Student Led:** Our team's biggest strength is being student-driven. Our students run brainstorming sessions and do the work on our robots, our VPs work together to lead our subteams, while our CEO works closely with the VPs to establish goals and progress checks. Our mentors are certainly helpful, but they are mainly here for guidance.

**Team Bonding:** The members of our team have great relationships. We establish connections during Pre-Season and strengthen them as the season goes on. This makes it more fun to work together as we grow to truly care for one another. We think of each other as family, we are willing to go above and beyond for each other.

**Team Spirit:** Our team has amazing spirit: everyone is happy to be part of the team and they are not ashamed of showing it. Our students come to our competitions decked out in spiritwear from head to toe and are often the loudest section in the stands. You can see our students walking through the halls of the school wearing team shirts, hoodies, hats, you name it. Not only do we love to represent our team colors, but we even have our own dance that we love to teach to other teams during competitions.

**Dedicated:** Each one of our team members is extremely committed to the team. Six days a week, our members are in our woodshop, auto shop, or our main meeting room. They're always excited about what comes next and never complain about the workload.

## *Weaknesses*

**Loss of experience:** We as a team have lost a lot of experience in the past couple of years due to COVID-19. This year, our team has only one year of real competition under their belts and still lacks solidity. Though we have the basic skills needed to run the team, we are not as strong as we used to be. As a team run by students, we have lost two years of knowledge being passed on.

**Communication:** Sometimes our VPs do not communicate their goals clearly to one another, which causes delays that could be crucial to a certain subteam. These issues cause us to rush through projects toward the end of our season.

**Recruitment:** As the years have progressed, our team size has dropped. The height of our membership numbers came right before the COVID-19 pandemic, but now our team is only half of what it once was. We have recently been struggling with recruiting more members.

**Task Delegation:** Sometimes it is a struggle to keep some of our newer members engaged. One of our team values is that everyone participates, though it is a challenge sometimes to find jobs to keep everyone occupied.

## *Opportunities*

**Training Younger Members:** Our VPs are all working on creating and mastering teaching methods so that they can instruct younger members. This not only keeps our members engaged and prevents inexperience, but it also ensures we don't have undertrained VPs in future years.

**Documentation:** The team as a whole is trying to find more organized ways of documenting our prototypes and taking notes on certain systems. A few of our VPs had their teams research different mechanisms like drive bases, intakes, and manipulation devices both as a form of training and for future

reference. Most of our documents are also being transferred digitally to a shared drive in addition to hard copies being maintained in various subteam notebooks.

**Reaching Out To All Members:** Team members who don't have much to do often drift from subteam to subteam asking for work. VPs could help by creating a list of smaller projects for these students. In this way, our VPs may give other members a chance to discover their interests.

**Team Unity:** As a team, we are growing closer. There is a huge difference between last year after COVID and this year. We all eat dinner together during Build Season and spend time together outside of robotics which helps to establish trust between members and makes completing projects together more fun.

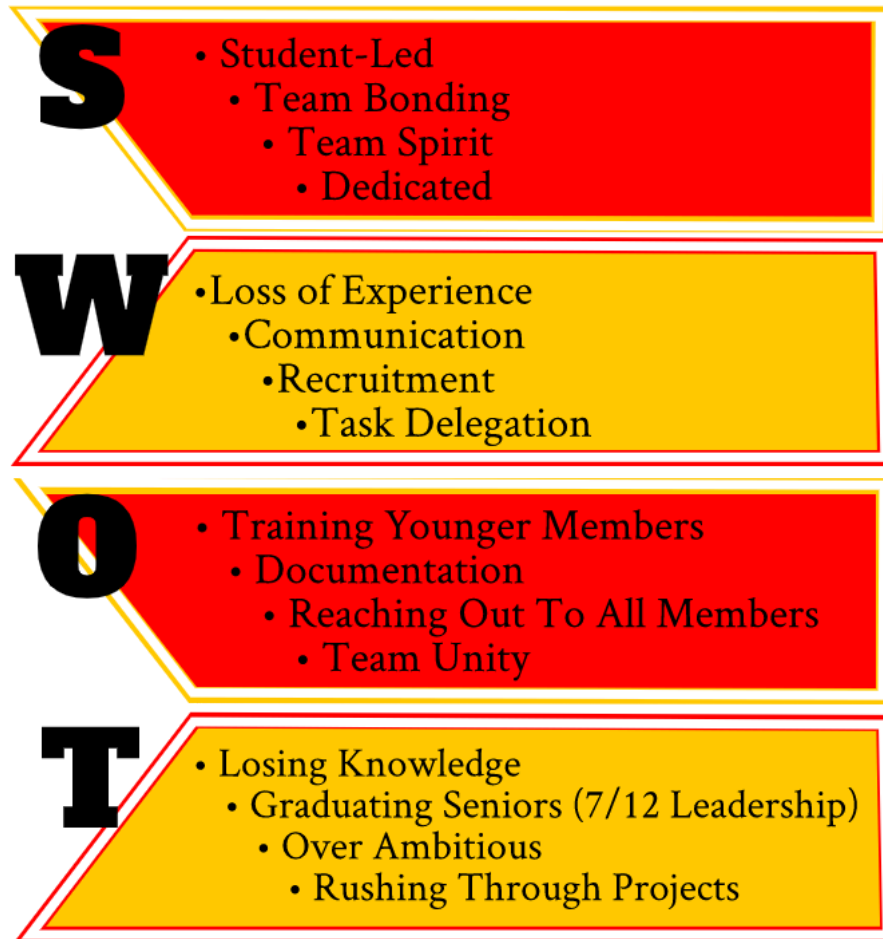
## ***Threats***

**Losing Knowledge:** We are losing a lot of experienced members to graduation this year. If our VPs don't train younger members or document what they've learned along the way, we could suffer the consequences of inexperience next season.

**Graduating Seniors:** The majority of our team are upperclassmen, including over half of our leadership. A large percentage of our team will be lost to graduation. Our team's size will be greatly diminished if we are not able to recruit more underclassmen.

**Over Ambition:** Sometimes we take on projects that we think we can do, while we might not have the technical strengths necessary. This also sets us back.

**Rushing Through Projects:** Sometimes our team becomes a little overconfident in our ideas. We believe that we know all that there is to know, so we rush through our projects in order to get to the next ones, even if there is more room for improvement. This can cause unforeseen issues.



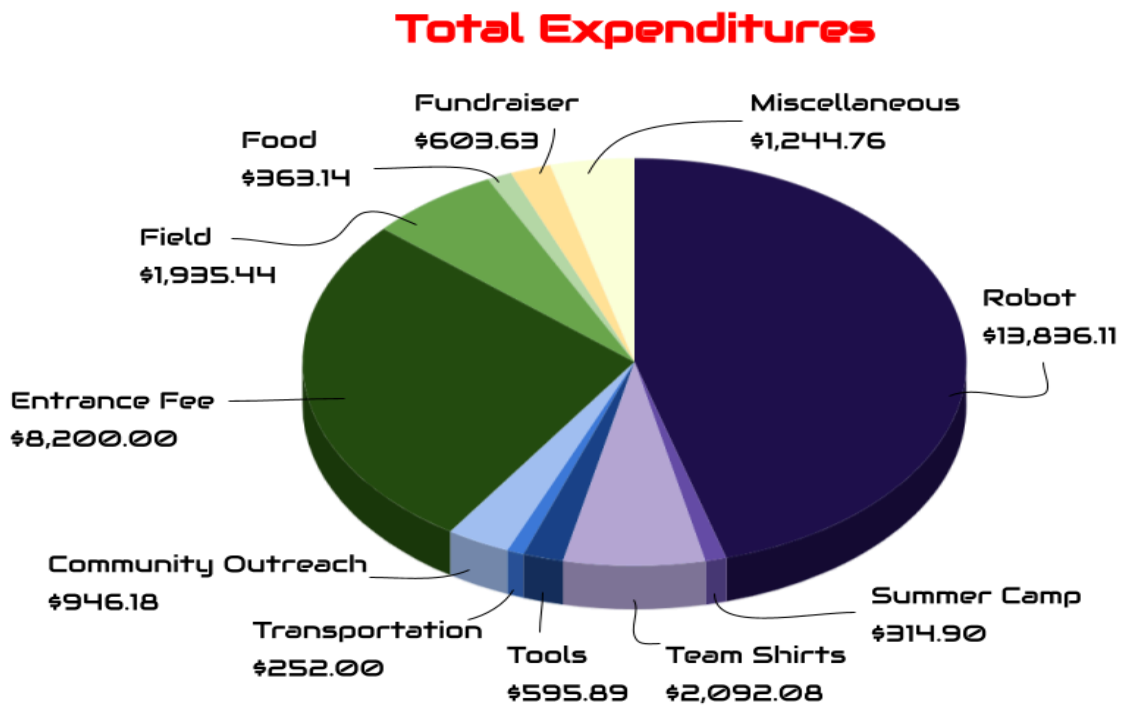
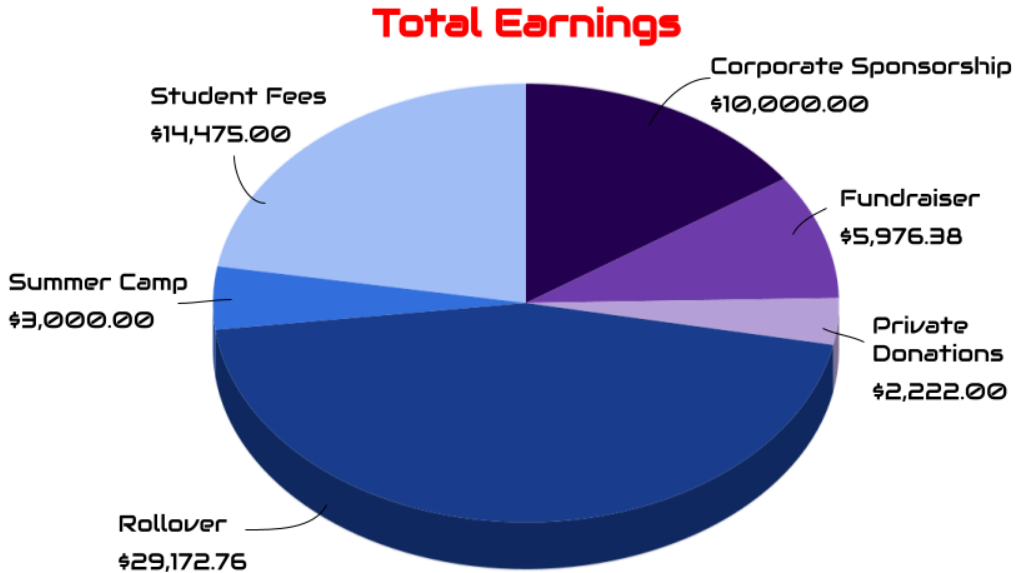
## ***Risk Mitigation***

Though we have more experience than we did last year, our team is still mildly inexperienced due to the gap in competition over the COVID-19 pandemic. Our team has established plans to teach our younger members, and even our veteran members, crucial skills. VPs have set training days for each of their subteams during Pre-Season in addition to instructing their members throughout Build Season. This enables younger members to be more helpful to the group, and it leads to us getting things done even faster than we have in previous years. We also have multiple safety measures put into place in order to prevent possible mistakes that our team may make that could cause injury. Some of these measures include:

- Safety Test - members of the team are not allowed to use any tools or machinery until they complete the Safety Test with 100% accuracy.
- Safety Captain - we hold all our members responsible for participating and promoting safety, but we have a Safety Captain that specifically helps reinforce safety rules during meetings and at regionals.
- Safety Glasses - if a member doesn't wear safety glasses, they can't work in our shops.
- General Safety - members must have their hair tied back, wear close-toed shoes, etc. Our team values the safety of our members, therefore we go to great lengths to make sure they are as protected as possible.

## Financial Statement

We used last year's total team numbers to show a full year of CGW's finances - our season does not conclude until the school year ends.



## ***The Team - Team History***

### ***2022 - Rapid React: GO-4***

With COVID-19 finally letting up, our team started getting back on track. Even though our seniors were the only members with real building and competition experience, our team faced FIRST's 2022 game, Rapid React, head-on. The first chassis we built was inaccurately constructed, so our technical and driving subteams had no access to the robot for an entire week. Nevertheless, we built a robot that took us to the quarter-finals at both the Oklahoma and Colorado Regionals.



### ***2021 - At Home Challenges: Oscar & Meyer***

This year was like no other. With COVID-19 continuing to keep events on lockdown, FIRST released the At Home Challenges. These gave our team a choice in what we wanted to participate in. Our team chose to attempt all challenges, splitting our team into new subteams. We were a top 20 finisher in the Game Design challenge with our game Biodome Blitz. We also were successful in our other two challenges.



### ***2020 - Infinite Recharge: Oscar & Meyer***

This year FIRST launched Infinite Recharge, a game sponsored by Disney and Star Wars. This Build Season proved challenging when multiple days without access to our CAD files due to network outages delayed our robot from being assembled on time. When we did get our parts, we were geared and ready to go to the Colorado Regional and the Idaho Regional, but unfortunately we were never able to go due to the COVID-19 pandemic.

### ***2019 - Destination: Deep Space: Scoop***

This year, FIRST launched Deep Space for the 50th anniversary of landing on the moon. We competed at both the Oklahoma and the Colorado Regionals. Our challenge was that our CAD was turned in late so our robot's chassis and parts were received late. At the Oklahoma regional we were ranked number five. Cougars Gone Wired was picked to be the captain of alliance five. We did an amazing job at the regional



and the team made it to the quarterfinals. We won the team spirit award at the Oklahoma Regional.

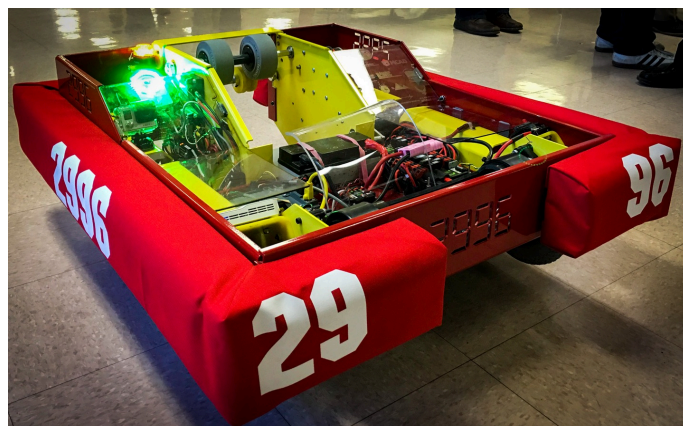
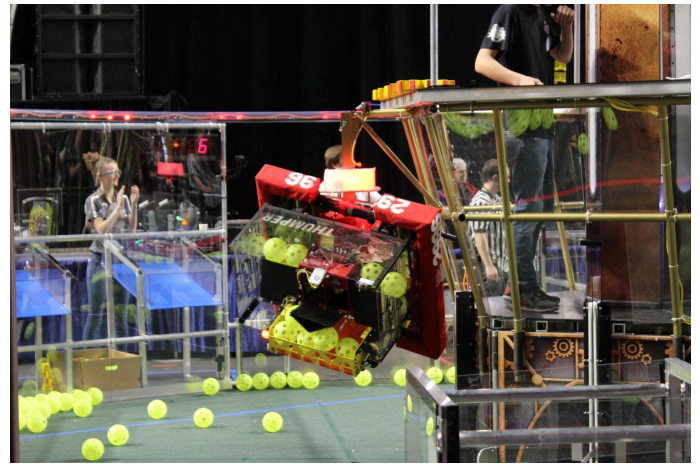


### ***2018 - Power Up: Rocky***

This year was extremely successful for the team. Although we didn't make it to World Championships, we did great in competition and were competing with world-class teams that went on to win globally. Our biggest challenge this year involved batteries. Team 118 was more than willing to help us and we were given the opportunity to continue competing as they let us use their batteries during matches. We were incredibly grateful for their generosity. At the Salt Lake City Regional, we were picked for the number two alliance and made it to the Semifinals. In Denver, we were team captains of the number three alliance and fought for the winning title but fell short. We learned a lot from this year. Our robot design was outstanding for the game and we were able to see we have the potential to be a top team.

### ***2017 - Steamworks: Thumper***

FIRST launched Steamworks with a new challenge - human players competing on the field. Our team members were excited to see how this game would play out. During Build Season, things didn't go as planned and the parts from Vertec were delayed. Not having any parts, the team decided to modify the schedule. CGW took two days to rest and then extended the weekday schedule by one hour; instead of meeting for three hours every night, they met for four. Once the parts were in and Thumper was assembled, the team competed at both the Utah and Colorado Regionals. CGW ended the season with the Engineering Inspiration, Safety, and Creativity Awards. Just like the year prior, the Engineering Inspiration gave the team the extra push it needed to get to Champions.



### ***2016 - Stronghold: Underscore***

Bryce McLean returned as head coach, starting the season off with a feeling of optimism. However, a week of school snow cancellations created scheduling challenges. These challenges did not slow the team down and they were able to build a powerful robot. CGW attended a first-year regional in Flagstaff, Arizona. This allowed the team to change their routine and connect with new teams.

CGW won the Engineering Inspiration award at our home regional in Colorado which carried us to Championships in the Carson division.

### ***2015 - Recycle Rush: Gunther***

Due to the change in our head coach and loss of a long-term mentor, the team faced difficulty entering the 2015 season. The team persevered and ranked 4th at the Utah Regional and won the Engineering Inspiration Award, guaranteeing them a spot in Championships. At the Colorado Regional, the team ranked 12th and won the Quality Award. At Championships, the team was in the Curie division once more and seeded 52<sup>nd</sup>.



### ***2014 - Aerial Assist: Kirby***

The team was incredibly successful as it was named both Regional Chairman's Award winner and Regional Winner at the Utah Regional. These achievements lead to a fun and enthusiastic second regional. CGW won the Colorado Regional Spirit Award and was ranked eighth in the Curie division at the Championship competition. We eventually finished the season in 24<sup>th</sup> place.

### ***2013 - Ultimate Ascent: Sebastian***

CGW made it to the Semi-Finals at the Kansas City Regional and received the Imagery Award. At the Colorado Regional, the team won the Regional Chairman's Award, made it to the finals, and was chosen as the Colorado Wildcard. At the Championship competition, CGW made it further than any other Colorado team had before: the team made it to the semifinals in the Curie Division. The team was unable to continue competing due to a Jaguar failure mid-match.



### ***2012 - Rebound Rumble: RDR***

Going into its fourth season, CGW adopted a new plan from another FRC team: two identical robots, both built within the six-week Build Season. The first robot was "bagged and tagged" and the second stayed behind. This gave the team extra time for driver practice, testing programs, resolving robot issues, and making improvements. This led to CGW's victory at the Colorado Regional as head of the top-seeded alliance with teams 399 and 3807. The team then proceeded to the Archimedes Division at the World Championships, at which the team's CEO, Jasmine Kemble, was chosen as a Dean's List Winner.

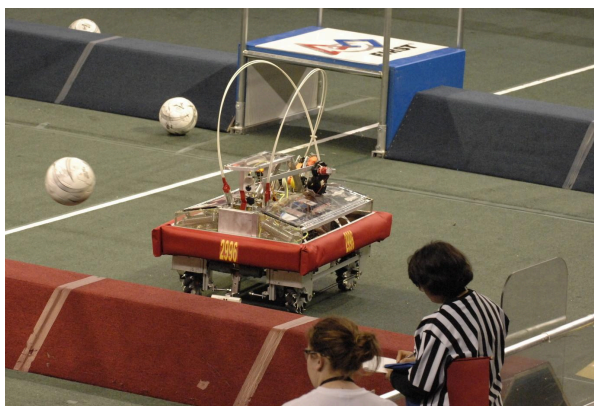
### ***2011 - Logo Motion: Grab 'n' Go***

One of the most successful seasons to date was in 2011 with the game Logo Motion. CGW won the Entrepreneurship Award for the second year in a row and made it to the semi-finals in the Kansas City Regional. The Colorado Regional also yielded the Woodie Flowers Regional Award to the team's "Big Kahuna," Mr. Bryce McLean. A FIRST Dean's List Finalist Award was presented to Scott Von Thun at this regional. The team continued to the Championship competition with the acquisition of the Colorado Regional Chairman's award. Cougars Gone Wired made it to the seventh seed in the Curie Division at the Championship competition in St. Louis, Missouri.



### ***2010 - Breakaway: Sparky***

Inspired by the previous year's success, CGW went into the 2010 Breakaway season aspiring to build a robot capable of competitively playing the game. The team chose to increase their level of competition by participating in multiple regionals. The Kansas City Regional was used to make significant improvements in preparation for the Colorado Regional. In Denver, the team made it to the semi-finals. The team was also awarded the Entrepreneurship, Industrial Safety, and Autodesk Excellence in Design awards.



### ***2009 - Lunacy: Dozer***

Given the complexity of building a robot and the team's inexperience, the robot for 2009 Lunacy was built to be what the team jokingly called "Dozer" as it was not able to do much more than push other robots around. Cougars Gone Wired (CGW) experienced little competitive success on the first day of the Colorado Regional but was re-energized after receiving the Website and Animation awards. The team returned with the intent to enjoy the rest of the time at competition as it was clear Dozer would seed high enough to join in the elimination rounds. However, thanks to the kindness of the first-seeded teams (FIRST Team 399 and FIRST Team 1332) CGW not only participated in the elimination rounds, but was part of the winning alliance. CGW received the Rookie All-Star Award and got to compete in the Newton Division of the Championship competition in Atlanta, Georgia.





# Awards History



2022

Oklahoma Regional Team Spirit Award

Colorado Regional Team Spirit Award

Kendrick Castillo Invitational Finalist

2021

2020

N/A

Colorado Regional Quality Award

Colorado Regional Safety Award

Oklahoma Regional Team Spirit Award

Kendrick Castillo Invitational Winners

2019

2018

Utah Regional Imagery Award

Colorado Regional Spirit Award

FIRST Dean's List Finalist  
Madison Rutherford

Utah Regional Creativity Award

Colorado Regional Safety Award

Colorado Regional Engineering Inspiration Award

2017



2016

FIRST Dean's List Finalist, Ryan Kight

Colorado Regional Engineering Inspiration Award

Utah Regional Engineering Inspiration

Colorado Regional Quality Award

2015

2014

Utah Regional Chairman's Award  
Utah Regional Winners  
Colorado Regional Spirit Award

Colorado Regional Chairman's Award

Colorado Regional Finalists

Kansas City Regional Imagery Award

2013

2012

FIRST Dean's List Recipient  
Jasmine Kemble

Colorado Regional Woodie Flower Mentor Award  
Mr. David Murphy

Colorado Regional Winners

Colorado Regional Entrepreneurship Award

Kansas City Regional Spirit Award

Colorado Regional Chairman's Award

Kansas City Regional Website Award

Colorado Regional Woodie Flower Mentor Award, Mr. Bryce McLean

Colorado Regional Dean's List Finalist, Scott Von Thun

2011

2010

Colorado Regional Industrial Safety Award

Colorado Regional Entrepreneurship Award

Colorado Regional Excellence in Design Animation Award

Colorado Regional Website Award

Colorado Regional Highest Rookie Seed

Colorado Regional Rookie All-Star Award

Colorado Regional Winners

Colorado Regional Autodesk Visualization Award

2009



## *Tracking Growth*

Cougars Gone Wired has taken time over the past fifteen years to celebrate successes, learn from mistakes, and spread awareness throughout the community about our team. Through the years, we have started building two robots instead of only one, increased the number of community outreach events that we attend, and collaborated with different levels of FIRST teams and competitions.

In our fourth year, we started running the Annual Colorado Scrimmage, an event engineered from our wanting to give other Colorado teams access to a full-scale field for testing their robots before “bag-&-tag.” CGW has strived to grow this event, increasing attendance and improving the overall efficiency and organization over the last nine years. This competition-quality field is the only one of its kind in Colorado that is shared with other teams.

Just as we founded the Annual Colorado Scrimmage, we also established the 2996 Cougars Gone Wired Business Exchange in 2016. It is an open forum where teams trade ideas, learn from one another, and build off of the business strategies of other teams. We currently only run the Business Exchange at the Colorado Regional, but we have plans to expand the operation to the Utah, Oklahoma, or Idaho Regionals as well in the years we respectively attend these events.

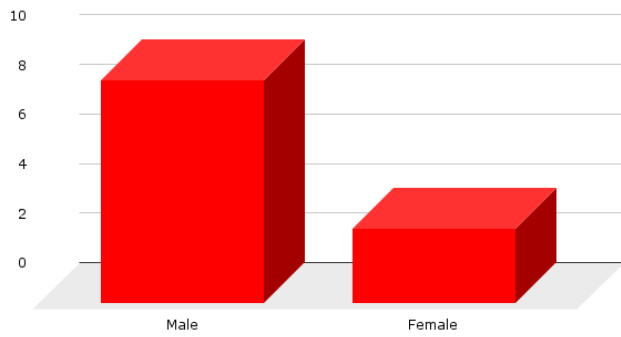
Also starting in 2016, our team began holding our Making A Difference (MAD) Summer Camp for incoming seventh to ninth graders. This week-long summer camp allows younger students to learn about the engineering process while building and programming their own VEX robots.

Over the past fifteen years, Cougars Gone Wired has largely impacted kids getting involved in STEM and FIRST programs. This is the result of recruitment efforts from our various community events like outreach demonstrations. The team has also increased FIRST involvement by reaching out to elementary and middle schools, starting seven FLL Jr. teams across three schools by 2019.

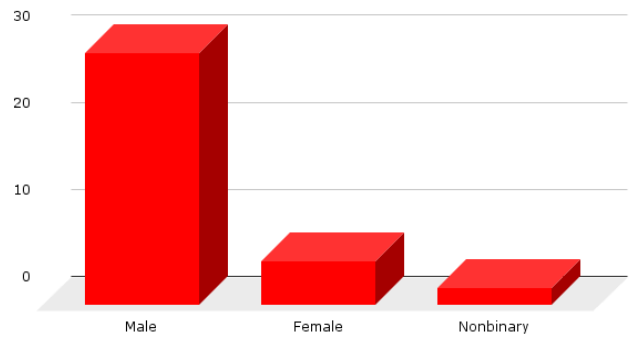
Coming back from COVID-19 in 2022, our team developed a new scouting program that was much more user-friendly than our previous program. This allowed us to more quickly and efficiently transfer information on the field to our database, giving us more accurate statistics to work with when determining our ideal alliance-forming strategies. We currently have plans to remake this program on more building-block code so we can utilize more text-based input with less work at future regionals.

# Team Demographics

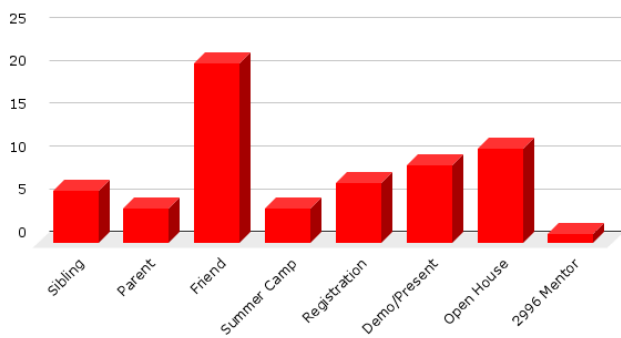
Leadership



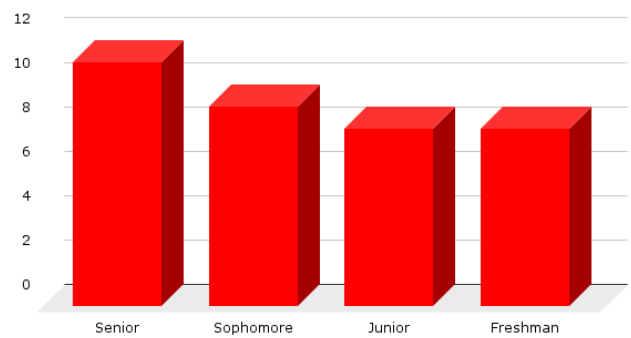
Gender Identity



How Our Members Learned About Our Team



Grade Level



# Organizational Structure

Cougars Gone Wired is structured like a business: we have a CEO, a CFO, and a number of student leaders named Vice Presidents (VPs). These leaders are responsible for teaching and delegating tasks to their subteam members so they can complete projects on time as a group. Decisions are made by the students, and our coaches and mentors are there strictly to guide and encourage us to think outside of the box while students take initiative.

## Chief Executive Officer (CEO)

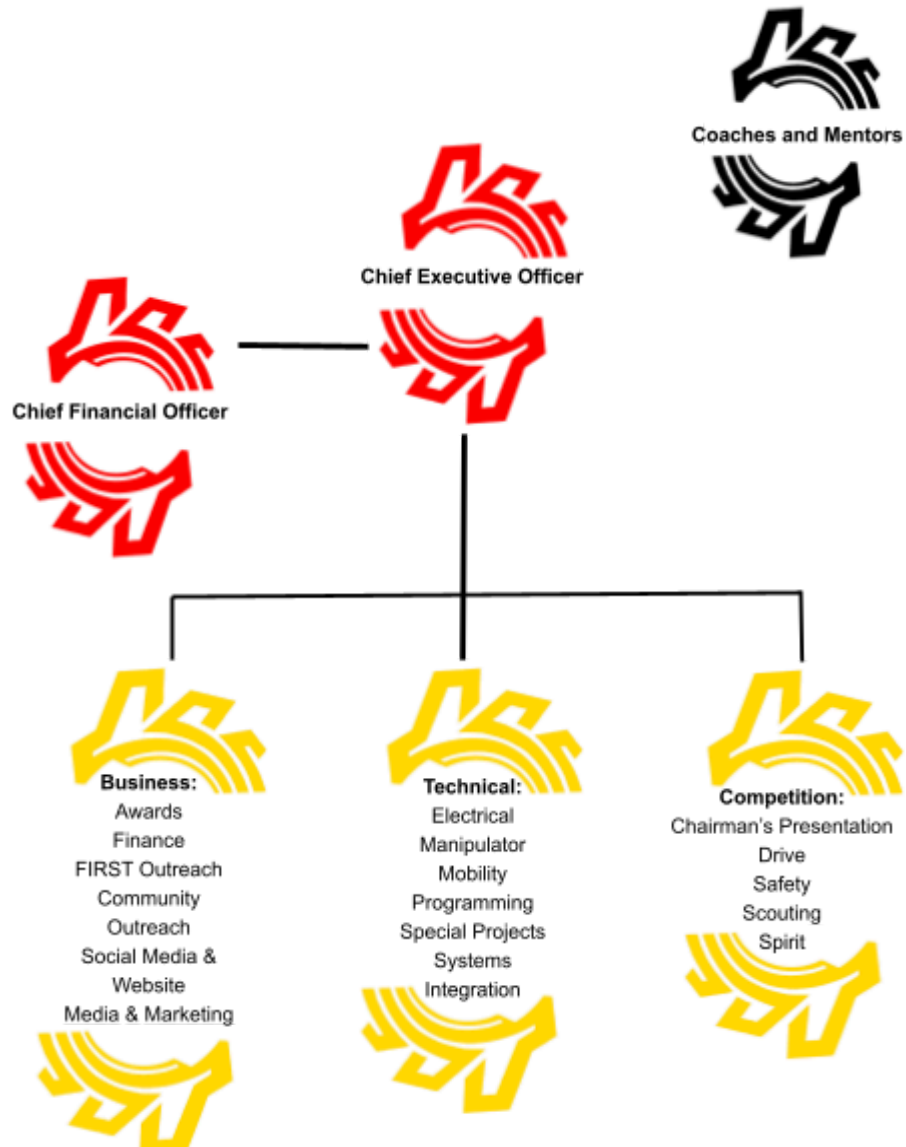
The CEO oversees the progress of the team and makes sure the team's deadlines are met. They are also the main spokesperson at community events and sponsor presentations.

## Chief Financial Officer (CFO)

The CFO is also the Finance VP. Their responsibilities include finding potential sponsors, maintaining relationships with existing ones, organizing presentations, and fundraising. They are also tasked with composing the Business Plan each year and leading the Business Exchange at the Colorado Regional.

## Coaches and Mentors

Coaches and mentors provide guidance and supervision to the team. They are engineers, industry professionals, business owners, and teachers that advise the team about the design, fabrication, and construction of the robot as well as the business aspects of the team. Our mentors assist students but let us make and finalize all of our vital decisions and strategies.



## ***Student Leadership***

The FIRST experience inspires learning and growth as a team so encouragement of student enthusiasm for STEM always remains the highest priority. Cougars Gone Wired maintains a strict “student-led and mentor-guided” operation.

Remaining “student-led and mentor-guided” is a priority for Cougars Gone Wired. This policy has paved the way for meaningful experiences for our students and strong relationships with our mentors.

### ***Leadership Positions and Requirements***

Subteams are led by VPs who are responsible for ensuring that goals are well executed and completed on time. They are required to exemplify good role-model characteristics, participate in all team activities, and be present for weekly VP meetings.

To obtain leadership positions, students must go through an application process similar to that of a job interview. This includes the submission of a high school transcript, resume, and cover letter. That is followed by individual interviews conducted by a panel of the team’s mentors who then decide who is best for each position.

Both our business and technical leadership are selected in the spring for the next year's season. Business VPs maintain community and STEM involvement throughout the summer while Technical VPs train their subteams on the crucial skills they’ll need for Build Season.



# ***Business Subteams***

## ***Awards***

The Awards subteam applies for all of the FRC awards throughout Build Season, focusing primarily on the Woodie Flowers and FIRST Impact Awards. They write the team’s awards essays, executive summaries, and work with Media and Marketing in creating the FIRST Impact Video to ensure that we make a quality product for the judges’ viewing at regionals.



## ***Community Outreach***

The Community Outreach subteam organizes all of the demonstrations, projects, and presentations within our community. They put together everything we need to bring to these events and make sure we document them correctly.

## ***Finance***

The Finance subteam is led by the CFO in organizing fundraisers, maintaining sponsor relationships, writing the Business Plan, and preparing the Team Sustainability Award. They assemble the Sponsor Presentation Team and keep current sponsors up-to-date on team-related information.



## ***Media & Marketing***

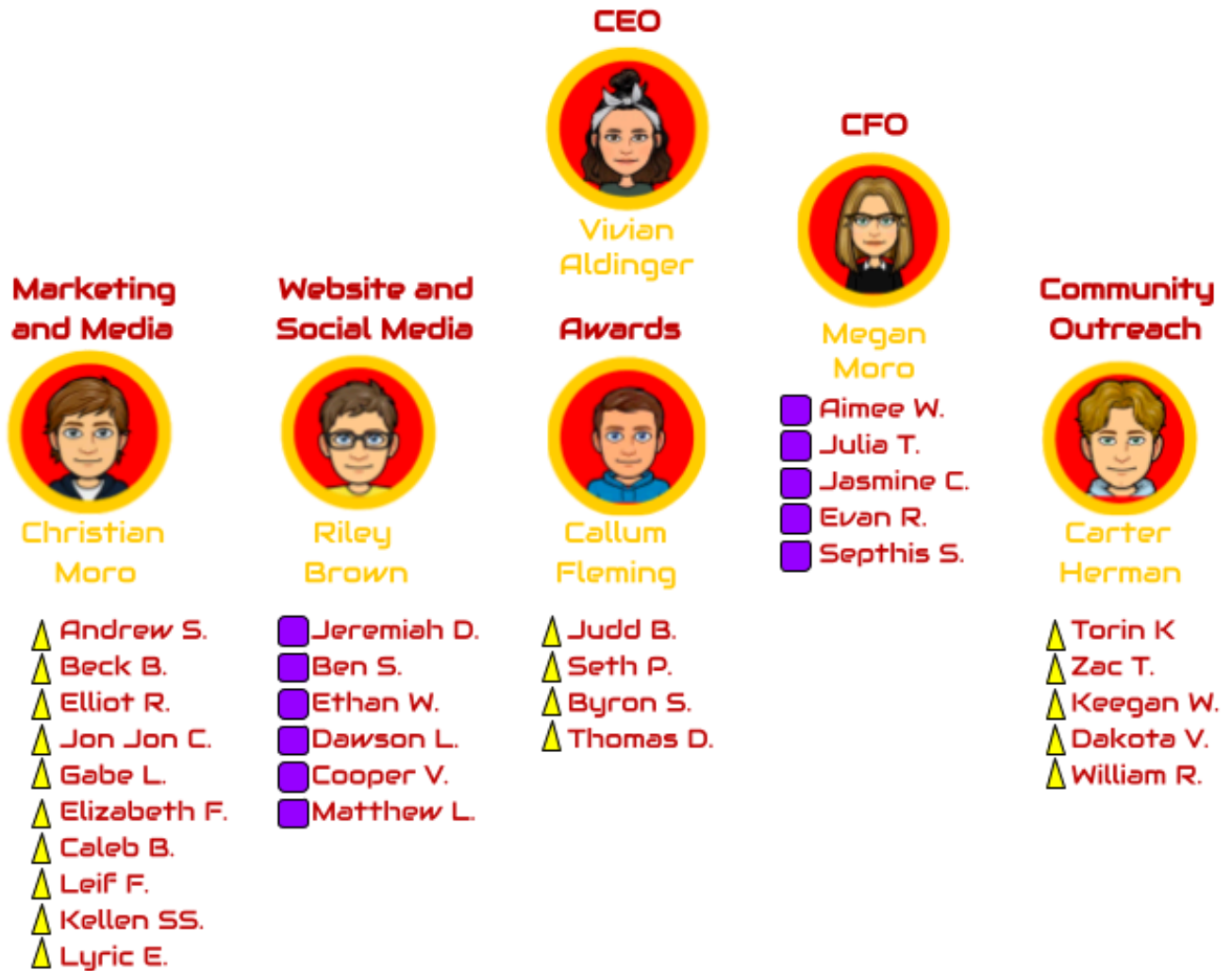
The Media & Marketing subteam focuses on generating content for our team’s YouTube channel, promotion material, and merchandise. They brainstorm ideas for stickers and pins during Pre-Season, realize those designs by Competition Season, post weekly updates of Build Season on our channel, and design our team shirts every year.

## ***Social Media & Website***

The Social Media & Website subteam is in charge of posting on the team’s social media accounts (Facebook, Twitter, LinkedIn, and Instagram) to consistently update students, sponsors, parents, other FIRST teams, and the rest of the community. They also maintain and embellish the team’s website using HTML.



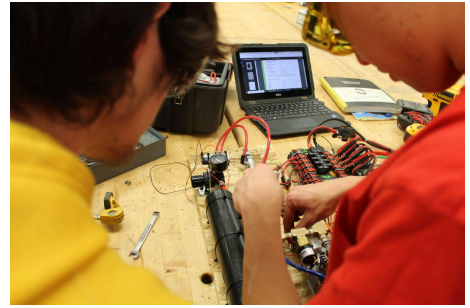
## 2022-2023 Business Subteam Breakdown



## ***Technical Subteams***

### ***Electronics***

The Electronics subteam designs the electronics board, wires the robot, and manages any pneumatics and batteries throughout Build Season and at competitions. They assure that all electronic components are safe and can support all of the motors, sensors, and actuators on the robot.



### ***Manipulator***

The Manipulator subteam designs the part of the robot that interacts with any game pieces. They design the mechanism that handles and scores the game piece, ensuring we can always play according to our strategy.



### ***Mobility***

The Mobility subteam is in charge of making our robot move and interact with the field. They design and fabricate a chassis every year according to the game's requirements and construct climbing components when necessary.



fabricate a chassis every year according to the game's requirements and construct climbing components when necessary.

### ***Programming***

The Programming subteam is in charge of making each component of our robot move. They write all of the code for vision processing, the fifteen-second autonomous period, and control of the components built by the Manipulator, Mobility and Systems Integration subteams.



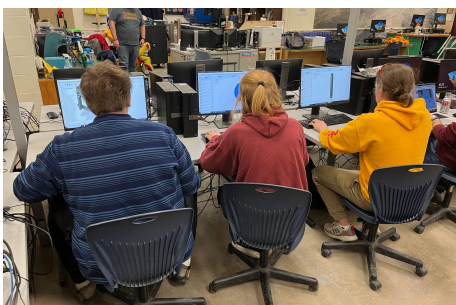
### ***Special Projects***

The Special Projects subteam constructs a full-size field based on the measurements supplied by FIRST. Our team uses this wooden field to host the Annual Colorado Scrimmage, as well as to provide a practice field for other teams at the Colorado Regional.



### ***Systems Integration***

The Systems Integration subteam unites the subsystems from each technical subteam into a single robot by creating a 3D model in Fusion 360. They determine the final dimensions of the robot and placement of its subsystems, then send the design to our sponsor, Vertec, who machines the metal needed to build our robot.





## 2022-2023 Technical Subteam Breakdown

CEO



Vivian  
Aldinger

**Manipulator**



Kellen  
Steiner-Smith

- Beck B.
- Ethan W.
- Thomas D.
- Keegan W.
- Andrew S.

**Mobility**



Aimee  
Wright

- ▲ Megan M.
- ▲ Seth P.
- ▲ Callum F.
- ▲ Elliot R.

**Systems  
Integration**



William  
Roeder

- Gabe L.
- Carter H.
- Judd B.
- Cooper V.
- Matthew L.
- Riley B.

**Electronics**



Byron  
Sherman

- ▲ Dakota V.
- ▲ Christian M.

**Programming**



Jeremiah  
Durham

- Ben S.
- Elizabeth F.
- Dawson L.

**Special  
Projects**



Evan  
Reeves

- ▲ Jasmine C.
- ▲ Julia T.
- ▲ Torin K.
- ▲ Jon Jon C.
- ▲ Zac T.
- ▲ Caleb B.
- ▲ Septhis S.
- ▲ Lyric E.
- ▲ Leif F.
- ▲ Joseph R.

## ***Competition Subteams***

### ***FIRST Impact Presentation Team***

The FIRST Impact Presentation Team represents our team in a formal presentation as part of the FIRST Impact Award submission. This subteam consists of six members: three are the main presenters, and the other three are backup speakers. Together, they memorize and coherently deliver a set presentation, formally epitomizing our team.



### ***Drive Team***

Our Drive Team consists of five students: a driver, manipulator, human player, technician, and coach. These members are selected through tryouts that occur through robot testing during Build Season and our Annual Colorado Scrimmage.

### ***Safety Captain***

The Safety Captain is responsible for assuring that the whole team maintains safe practices while working in the shop and pit. They administer mandatory safety tests and present the Team Safety Plan to safety advisors at FIRST competitions.



### ***Scouting Team***

This subteam, led by the Head Scout, incorporates every member of our team. The Head Scout compiles match results at competitions; this data is later used by the Drive Team to determine strategies and alliance partners for finals. Recently, we developed our own app to keep track of match results so we can more easily establish strategies and alliances.

### ***Spirit Captains***

Our Spirit Captains are in charge of keeping the entire team energized and ready to support our Drive Team at regionals. They lead the team in chants, dances, and crafty activities before competitions to make sure that every member sports their Cougar pride. Even when our team is not on the field, our Spirit Captains are often found leading our team in cheering for other robots and alliances.



## ***2022-2023 Competition Subteam Breakdown***

**CEO**



**Vivian  
Aldinger**

**FIRST Impact  
Presenters**

**Vivian Aldinger  
Evan Reeves  
Julia Tate  
Riley Brown  
Aimee Wright**

**Drive  
Team**

**Carter Herman  
(Coach)  
William Roeder  
(Driver)  
Kellen  
Steiner-Smith  
(Manipulator)  
Benedikt Safigan  
(Technician)  
Zachary Tate  
(Human Player)**

**Safety  
Captain**



**Evan  
Reeves**

**Scouting**



**Juddson  
Brau**

**Spirit  
Captains**

**Aimee Wright  
&  
Riley Brown**

## ***Team Life Cycle***



### ***Community Service***

From May to December, the main focus of our team is to participate in as many demos and outreach projects as we can. By doing this, we not only strengthen the bonds with our community, but we strengthen the bonds within our team.

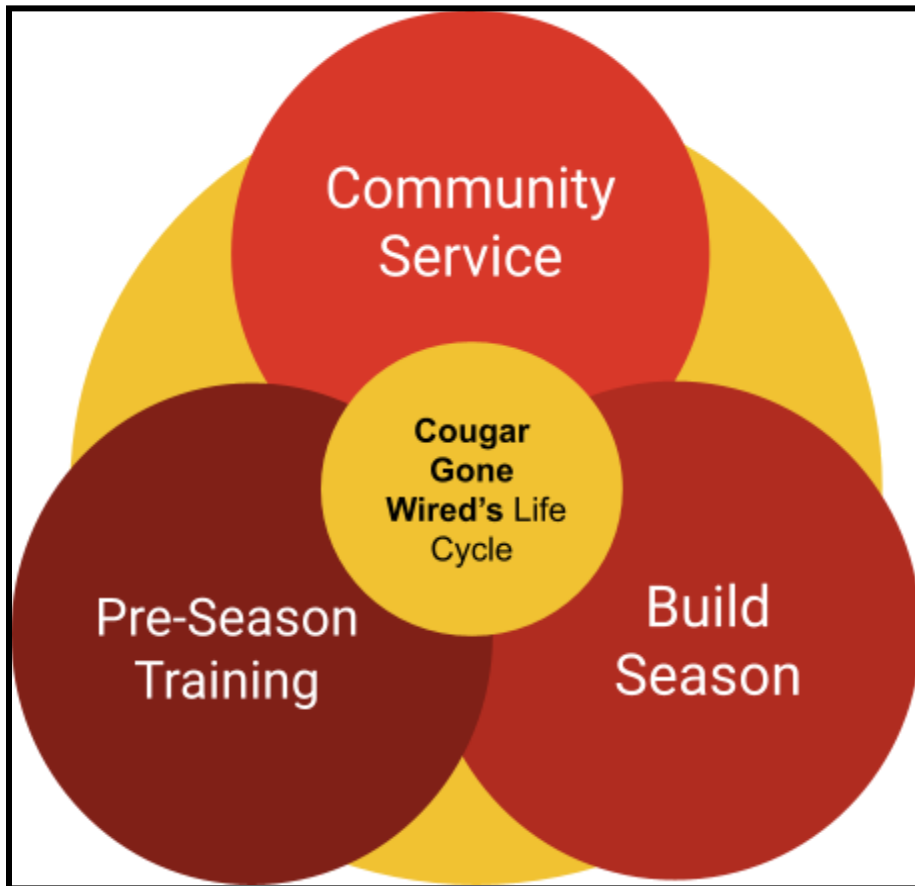
### ***Pre-Season Training***

From August to December, the team is focused on growing, teaching, and developing skills. We use these months to create stronger intra-team relationships through different team-building activities. This time period is used to train new members on how the overall team works and what happens in each individual subteam. This is also when we hold our Mock Game, which provides members with additional training so they can be ready for Build Season.



### ***Build Season***

The first Saturday in January is our official Kick-Off to the six-week Build Season. This period is an intense time where technical subteams take the knowledge gained during Pre-Season and apply it to building a fully functioning robot. In the first few days, the entire team gathers together to strategize, design, and prototype our robot. Our business subteams are also hard at work during this time writing essays, making documents, and planning events.



## ***Building Bonds***

### ***Team Bonds***

Cougars Gone Wired is unique when it comes to the relationships between our students, mentors, and alumni. Everyone on our team thinks of each other like family; we all care for and are there for one another. This creates an excellent work environment during our Build Season as our strong bonds allow us to work closely and efficiently with each other.



Cougars Gone Wired recruits at Coronado registrations, community events, and an annual informational barbecue. Pre-Season meetings focus on team building and technical education. Members socialize at Village Inn outside of meeting hours for weekly Pie Nights after our Wednesday meetings. Our team members also host movie nights and group hangouts throughout the season. These events solidify the friendships between members while retaining and attracting new students to the Cougars Gone Wired family.



### ***Alumni Bonds***



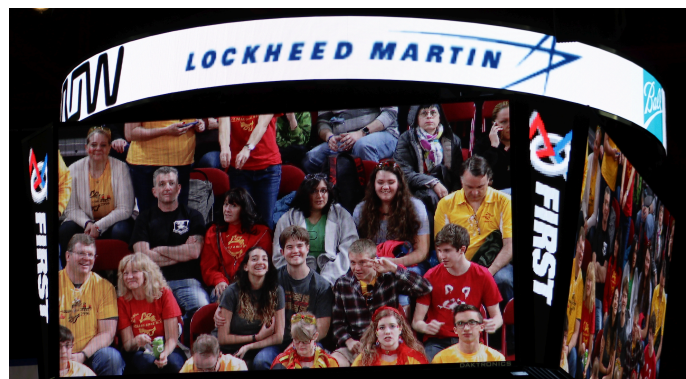
The team’s family atmosphere encourages alumni to return and participate in Kick-Off, community outreach, team meetings, and competitions. Alumni are valuable mentors as they are able to share their own team experiences as well as their life experiences after high school.



### ***Parent Bonds***

For the first few years of Cougars Gone Wired’s existence, the students relied on trips to local restaurants and grocery stores for sustenance during the busy hours of Build Season. For the 2012 Build Season, however, the parents banded together and organized a family-supplied and served meal program called Cougar Kibble.

Cougar Kibble has successfully fed our team of over fifty members and mentors every day of Build Season, including Saturdays, for the last eleven years. This program benefits the student’s health, increases team productivity, and enhances the team’s familial atmosphere.



## ***Mentor Bonds***

Over the years, Cougars Gone Wired has been graced with dedicated and supportive mentors. Our team's policy is that mentors suggest, but students decide. Students do all the hands-on work. The "hands-off" mentor policy has created an atmosphere in which mentors can guide and share their knowledge, while still allowing students to utilize their creativity and learn different skills in a hands-on way. Mentors endure the long hours alongside the team, supporting the Cougars Gone Wired family atmosphere.



## ***School District Bonds***



Cougars Gone Wired's relationship with Colorado Springs School District 11 (D11) administration has been utilized to spread FIRST and STEM within the community. D11 board members donate out of pocket to Cougar Kibble so meals may be provided daily for our team members during Build Season. Cougars Gone Wired sets up displays at district events like the D11 Career Fair for 8<sup>th</sup> Graders, freshmen registrations, and 8<sup>th</sup> grade open houses at multiple high schools.

Coronado High School also supports us by providing us with plenty of workspace. They allow us to use the auto shop, the wood shop, the auxiliary gym on Saturdays so we can set up and practice on our field, and even the main gym where we host the annual regional Colorado Scrimmage. A relationship with Coronado's Student Council also grants advertising and mutual fundraiser support, while a connection with Coronado's catering class provides meals for Cougars Gone Wired's Parent/Sponsor Appreciation Night.

This season, our team has partnered with Palmer High School's Augmented Reality (AR) team. Their cooperation gave us the ability to view the game field



on Kick-Off day, letting us immediately interact with game pieces and field elements before we started strategizing and designing anything. Thanks to them, our subteams have worked more quickly and efficiently than in any previous season, permitting us to generate more complex ideas and prototypes for this year's robot.

## ***Colorado Scrimmage 2022 held at Coronado High School***



## ***Coronado Auto and Wood Shop***



## ***FIRST Bonds***

Cougars Gone Wired exemplifies all values of FIRST especially Gracious Professionalism and Coopertition. All regional FRC teams are invited to the Colorado Scrimmage, which is held the Saturday before Regionals begin. This is a valuable opportunity to test robots and practice working in alliances. Generally we have about two dozen teams in attendance from all over the region. The field is assembled on Saturdays during competition season, and all teams are invited to practice on it.



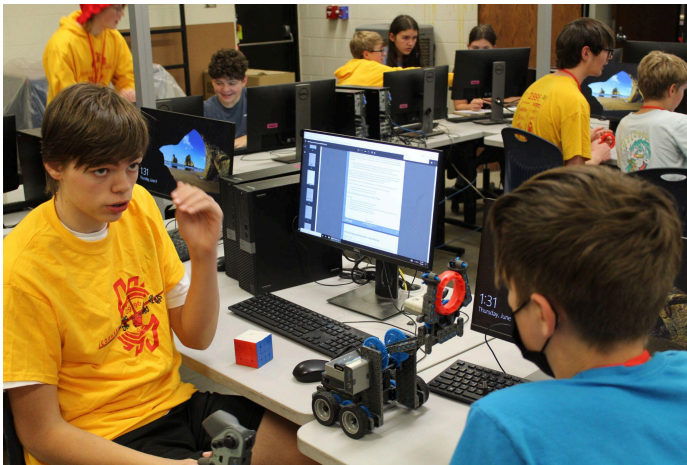
In 2018 and 2019, Cougars Gone Wired ran the Southern Colorado FLL Qualifier. Forty eight FLL teams attended. More than half of the volunteers were members of 2996, along with 25% from other groups associated with FIRST, including Team 662, Team 4068, FLL alumni, and other positions in FRC. We also ran the first FLL Jr. Showcase in the region, which started in 2011 and was canceled in 2020 due to COVID and has not yet been reinstated.

Starting in 2017, the team created the Business Exchange at the Colorado Regional, a forum where teams can swap ideas and ask for advice from other teams. The Business Exchange was modeled after the Chairman's Exchange with the idea of having an open discussion about teams' strengths and weaknesses in their business structure.



### ***Local Community Bonds***

Outreach is important to our team and we love to share our passion for STEM with the rest of our community. This year, we participated in the Cool Science Festival at the University of Colorado in Colorado Springs, the Space Foundation Summer of Discovery, and our homecoming parade, as well as several elementary school events. We ran our Making A Difference (MAD) summer camp for the first time since the pandemic and held our annual fundraiser dinner where we showcase our robots and summer projects. In addition, we held several elementary school demos and middle school sessions teaching design, engineering principles, and robotics.



## ***Future Plans***

### ***Executive Leadership***

- Encourage growth in our technical abilities as we experiment with new designs.
- Develop and practice a habit of documentation as we prototype and learn from both past and present experiences.
- Stay committed and follow through with off-season projects.
- Facilitate communication between subteams during Build Season.
- Be kind when projects become challenging, and always work to include new team members.

### ***Business***

#### ***Awards***

- Have a first draft of the FIRST Impact Essay completed before Build Season begins.
- Start the Woody Flowers entry by week two of Build Season.
- Communicate with the Media & Marketing subteam to begin the FIRST Impact video earlier in Build Season.
- Utilize the talents of the entire subteam.

#### ***Community Outreach***

- Continue to build relationships at demos and make STEM activities a priority.
- Teach all members how to run a demo if a VP is not present and develop their leadership skills.
- Increase attendance for each demo and incorporate all subteam members so the VP does not run everything.

#### ***Finance***

- Strengthen and establish relationships with sponsors so we have a steady income year-to-year.
- Host an increased number of fundraisers that bring in more money for the team
- Expand the subteam and delegate tasks to group members.
- Start the business plan earlier in the year during Pre-Season.
- Expand the Business Exchange to the Utah or Oklahoma Regional.

#### ***Marketing & Media***

- Create videos that will more accurately showcase our fun team dynamic.
- Generate quality content that expands our audience and portrays all aspects of our team.
- Make “awesome” logos that fit the theme of each seasons’ game.

#### ***Social Media & Website***

- Continuously improve and update the team website to make it as functional, simple, and aesthetically pleasing as possible while still accurately representing Team 2996.
- Properly develop the mobile version of the team website to provide access and functionality for all devices.
- Upload content often enough to keep our community interested in our team year-round.

- Maintain relationships with other teams by interacting with them over social media.

## ***Technical***

### ***Electronics***

- Guarantee the stability of all electronic systems in the robot.
- Facilitate inter-subteam communications in order to minimize electronic safety concerns.
- During competition, provide reliable batteries without fail.

### ***Manipulator***

- Utilize Pre-Season to teach students how to correctly use tools and machinery.
- Have better organization during Pre-Season and Build Season.
- Retain technical knowledge among returning subteam members.
- Create a process for making prototypes before building final products.
- Create a turret design.

### ***Mobility***

- Compile more educational resources for future members.
- Teach proper design processes and tool usage in Pre-Season.
- Dedicate time to practicing climber designs, not just focusing on drive chassis.

### ***Programming***

- Integrate all subteam members into Pre-Season projects.
- Develop better documentation habits and methods.
- Use Pre-Season to teach both new and returning subteam members the fundamentals of programming.

### ***Special Projects***

- Preserve consistent attendance among subteam members.
- Maintain organization and scheduling throughout Build Season.
- Stress attention to detail.

### ***Systems Integration***

- Increase inter-subteam communication to ensure the accurate designing of robot parts.
- Teach CAD to more members, not just students on this subteam.
- Design a better-integrated robot.



## ***Contact Information***

### ***Website***

- [team2996.com](http://team2996.com)

### ***Team Email***

- [cougars.gonewired@gmail.com](mailto:cougars.gonewired@gmail.com)

### ***Social Media***

- [facebook.com/cougarsgonewired](https://facebook.com/cougarsgonewired)
- [twitter.com/frc2996](https://twitter.com/frc2996)
- [instagram.com/cougarsgonewired](https://instagram.com/cougarsgonewired)
- [youtube.com/frc2996](https://youtube.com/frc2996)
- [firstinspires.org/](https://firstinspires.org/)
- <https://www.thebluealliance.com/team/2996>

### ***Main Contacts***

- Bryce McLean  
Title: Head Coach  
Email: [bryce.mclean@d11.org](mailto:bryce.mclean@d11.org)  
Phone: (719) 328-3759

### ***Team Meeting Information***

- Coronado High School
  - Off Season – Wednesday, 6:00 PM - 8:00 PM
  - Build Season – Monday through Friday, 5:00 PM - 8:00 PM; Saturdays, 9:00 PM - 4:00 PM

### ***Sponsorship Information***

- Checks should be made payable to “Coronado High School”
- Mailing Address:
  - Coronado High School
  - 1590 W. Fillmore St.
  - Colorado Springs, Colorado 80904
- Federal ID Number: 84-600-1179
- 501(c)(3) available