

Chairman's Award - Team 3602

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2021 - Team 3602

Team Number

3602

Team Nickname

RoboMos

Team Location

Escanaba, Michigan - USA

Describe the impact of the *FIRST* program on team participants within the last 3 years. This can include but is not limited to percentages of those graduating high school, attending college, in STEM careers, and in *FIRST* programs as mentors/sponsors.

Team 3602 alumni have continued education towards many STEM field degrees and certificates. Alumni proceed to mentor students after graduation and contribute their knowledge from their experiences in FIRST. Alumni have created careers in broadcasting, nursing, machining, programming, and beyond. We have multiple alumni volunteering at events each competition season. Our sponsors hired multiple of our alumni for internships during high school and college.

Describe your community along with how your team addresses its unique opportunities and circumstances.

When the pandemic hit, our team began 3D printing face shields for agencies in our catchment area. We distributed over 1,000. We made cloth masks for anyone in need. Several hundred of these. Our efforts were acknowledged in the Michigan Manufacturing Magazine. We have been operating a returnable bin for four years; community donations have been nonstop. We created a robot, Toto, for The Wizard of Oz. Tickets were sold out. We continue to support our community and are grateful for their support.

Describe the team's methods, with emphasis on the past 3 years, for spreading the FIRST message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?

Team 3602 started an event called Meet the RoboMos. We invited members of our school in 7-12 grade to learn about FIRST and discover their place on the team. We created a webshow on our social media called RoboMinute where we updated our followers on the progress of our team throughout the season along with FIRST education. We measure our outreach by our social media following, and interest in the community for our fundraisers. Our recyclable bin is placed on the busiest intersection in the U.P.

Please provide specific examples of how your team members act as role models within the FIRST community with emphasis on the past 3 years.

The RoboMos are role models for our STEAM club every year, where they teach the principles in STEAM projects each week. Our members are the mentors of our younger FIRST teams. This allows them to learn teaching skills while inspiring the students to participate and build skills of their own. Our team is student led. Our subgroups have student captains as leaders for their peers with mentor supervision. Team 3602 has advised teams in chairmans, robot repair, and field practice.

Describe your team's initiatives to Assist, Mentor, and/or Start other *FIRST* teams with emphasis on activities within the past 3 years.

Team 3602 has supported many teams in the last three years, building and sustaining our relationships. Teams we've assisted with parts donations, practice field use, programming help, and more are Brave Bots, I.C.E Cubed, Robotowatomi, Jet Set, and M.A.R.C. 1. We've started two FTC teams of four years, and two FLL teams of two years. We assisted a Jr. FLL team, 21221. RoboMos mentored these teams from their inception, and FRC students worked throughout to make FIRST part of the curriculum.

Beyond starting teams, what initiatives have you done to help inspire young people to be science and technology leaders and innovators? What results have you seen from your efforts in the past 3 years?

Team 3602 has started and upheld a STEAM club for the last three years. It is a five-week club for grades 4-6, demonstrating a variety of skills ranging from leadership to teamwork along with the STEAM principles. STEAM creates a foundation for younger students to develop a passion for science and technology. Following participation, students evolve to FTC and FRC. We hosted a girl scout workshop to teach them the principles of STEAM with activities for each principle.

Describe the partnerships you've created with other organizations (teams, sponsors, educational institutions, philanthropic entities, etc.) and what you have accomplished together with emphasis on the past 3 years

During this past year, our team partnered with Kobasic Creations and Andex to produce face shields for dentists and mental health organizations across Michigan. We knew that we had to put our numerous 3d printers to good use. We have also partnered with one of our main sponsors, ABB, to create our FTC and FLL teams. Without ABB, we would not have been able to start these teams when we did.

Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, *FIRST*, and your communities.

There are multiple foreign exchange students who attend our school every year. RoboMos members make an effort to get these students involved in our team. These foreign exchange students love being involved in our team, as many of them do not have access to a program like FIRST in their home country. Last year, we had a student named Brian join our team from Taiwan. He was a key member of our build team, and keeps in contact with our team even after he left Michigan. Our boy to girl ratio is 1:1.

Explain how you ensure your team and the initiatives you have created will continue to run effectively for the foreseeable future

Each year, our team includes members of FTC and FLL in every aspect of our team. We do this to ensure that when our upperclassmen graduate, there are team members who are ready and able to fill their positions. We not only have these younger students observe the upperclassmen, but we encourage them to participate themselves. These younger students are also able to try out many different subgroups, so they can discover which part of the team they are the most passionate about.

Describe your team's innovative strategies to recruit, retain, and engage your sponsors within the past 3 years

Our main strategy to recruit new sponsors is our student-led grant writing subgroup, where students locate and complete grants. We continually engage our main sponsor, EMP, by presenting to their CEO and detailing the team's achievements, goals, and the latest events. We communicate with our sponsors by distributing a quarterly newsletter detailing all the latest achievements of the team and thanking our sponsors for their continued support. We send "thank you" to all partners.

Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.

One area our team needs to improve in is overextending ourselves. We often take on too many tasks at once. We tried to build two robots simultaneously, when we only had enough students to build one, and ended up having one less than satisfactory robot. To combat this, we are limiting the different projects we start during the year and are really focusing on doing the few projects we take on really well. We are also finding that delegating tasks helps students stay focused on one thing at a time.

Describe your team's goals to fulfill the mission of *FIRST* and the progress you have made towards those goals.

The RoboMos' goals within FIRST are to give back to the community, show leadership, create a positive influence, and demonstrate teamwork. We spread gracious professionalism throughout the community, assisting FIRST robotics teams, Adopt-a-Highway, STEAM club and beyond. We've designed equipment such as masks and shields for COVID-19 relief. Team 3602 has made a reputation in our community as hard working students who become upstanding members in society.

Briefly describe other matters of interest to the *FIRST* Judges, including items that may not fit into the above topics. The judges are interested in learning about aspects of your team that may be unique or particularly noteworthy.

This year, we participated in FIRST in Michigan's One Million PPE Challenge. Members took our 3D printers and printed

the headband portion of face shields. We partnered with Kobasic Creations and Andex for the plastic part of the face shield and put them together ourselves. Team members then distributed the PPE to numerous dentists and mental health organizations across Michigan. We had to do something to help the people who put themselves at risk for our health and safety during this pandemic.

Essay

A long time ago in a city not so far away□

Team 3602 is an outlet where the passions of our students become skills, where ideas transform into reality, and students create an educated community. We offer a fun environment where students thrive. Not only do we provide hands-on learning, we also provide students with the opportunity to enhance soft skills.

Team 3602, the RoboMos, was founded in 2010. Team 3602 then began the journey of experiencing all that FIRST has to offer. Membership is open to any student in grades seven through twelve who are interested in this STEM driven program. Our students are given opportunities to learn regardless of financial standing, as we have no membership fees to join the team. Previously, Team 3602 members needed to participate for 40 hours during the build season, participate in at least two fundraisers and two community service activities, and volunteer a minimum of ten hours in our community throughout the year. This season, these are not requirements because of the pandemic. The RoboMos began with eight students, and one coach. Currently, we have 28 team members, 1 coach, and 15 mentors. This team has risen to Jedi status.

Electrifying the Youth

Team 3602 members have introduced STEAM to the elementary and middle schools in our local area. Team 3602 members lead, organize, role model, coach and design a five week curriculum that offers discovery, excitement, and creativity for the younger students. LEGO® Mindstorms educational kits are used to show STEAM youth how to build, design, and program robots. During this program FRC students also conduct STEAM experiments each week to explore other areas of the STEAM field. Last year we had record participation with 43 students as opposed to our twenty student average. Team 3602 has completed three years of STEAM Club. "I'm glad that we're giving kids an opportunity to learn in a fun way."- Charles Tackman, Team 3602 Alumnus.

Team 3602 has also been heavily involved in the creation and sustainment of our school's two FTC teams, MObots and MOrebots. Members of Team 3602 mentor these FTC teams and encourage them to think critically and problem solve. Now, many of these FTC members have joined The RoboMos. Furthermore, our assistance to the MObots and MOrebots does more than just benefit them; by mentoring younger students, Team 3602 members gain experience and proficiency in educating and instructing others.

Last year, The RoboMos started two FLL teams, The "U" Betcha Bots 44464, and The "U" Gotcha Bots 44465. FRC team members actively coach, mentor, and participate in every aspect of these teams. We worked with the sixth grade elementary school staff to incorporate FLL as part of their curriculum. Team 3602 was also instrumental in beginning a Jr. FLL Team this year, Team 21221 the Masterbuilders.

Since our second year we have visited the Escanaba Area Elementary Schools several times to show off our team's robot and spread the FIRST message. These presentations have been widely celebrated in our schools and build excitement. Each year we allow elementary students to test their skills and drive that year's robot. This will carry on for years to come and continue to engage the students.

New to our team is the "Meet the Pro" program. In this program, professionals in many different lines of work come and talk about their occupations and educational pathways in order to educate our students in various lines of work.

Turning our Community to the Light Side

Team 3602 has Adopted-a-Highway that we clean three times in spring, winter, and fall (pre-pandemic). This is a three mile stretch of US Highway 41 along Lake Michigan. It always brings a smile to our faces knowing we are helping our community sparkle. We get acknowledged with friendly honks! Every year (pre-pandemic), the city of Escanaba holds a Downtown Cleanup event that our team volunteers for.

The RoboMos have mentored several FRC teams since our inception. We've played a pivotal role in jumpstarting the FIRST careers of the Gladstone Bravebots, Bark River ICE Cubed, Nah Tah Wahsh Robotowatami, North Central JET SET, and Menominee M.A.R.C. 1. We have held workshops, helped them practice driving skills on our practice field, and traveled to their schools in order to help them on their FRC journey. Last year we were asked by Team 4392, The Deceivers, to assist them in their first year of applying for the Chairman's Award.

Essay - page 2

Team 3602 was asked by Bay College's theatre department to build Toto for their production of "The Wizard of Oz." Toto was extremely successful in all his performances and has gained our community's and country's love. He brought robotics into the world of theatre and gained nationwide attention. Theaters from New York and Tennessee have expressed an interest in Toto and his technology. Spotlight National Magazine also has an interest in Toto, and he will be part of a future article. Team 3602 has decided that Toto will be utilized for educational, therapeutic, and STEM activities for all.

Tatooine Events (Home Competitions and Achievements)

Team 3602 was the first team to host a FIRST District Event in the Upper Peninsula. By hosting this event we help many area teams by saving them money on travel, lodging, and other expenses. In the past, all U.P. teams had to travel a long distance to be able to compete in two FIRST District Events. Hosting this event has enhanced community awareness of FIRST. Working together, Team 3602 members, coaches, parents, 70 local volunteers, and 30 volunteers from FIRST teams contribute to make this event happen year after year. This has given us a great appreciation for FIRST volunteers. Therefore, we make sure to send volunteers to every competition we attend.

Robomo members successfully petitioned the Escanaba School Board, and were granted varsity letters in Robotics. In our school, there are four ways to earn a varsity letter, Robotics being the newest pathway.

Charging our Community

Each team member volunteers at least 10 hours in our community throughout the year (pre-pandemic). Team 3602 members have visited animals at our local animal shelter. The Eagles Hall allows us to hold our annual spaghetti dinner fundraiser at their site. In turn, Team 3602 members organize, serve, and clean up at any dinners or banquets hosted by the Eagles when asked. Team 3602 members help feed hungry families with the generous purchase of fundraiser dinner tickets by our local school teachers. Another way the RoboMos have helped is to set up, take down, and work games at our local YMCA Fun Day. We enjoy seeing all the kids and watching them complete the game challenges they face. Members volunteer at events that the local Community Mental Health Organization sponsors, assisting persons with disabilities. There are three events a year. For example, at their formal event Team 3602 members help with registration, running a booth, serving dinner, cleaning up, distributing pictures at the formal event, assisting attendees with their plates of food, and assisting in finding their tables. The attendees enjoy interacting with these high school students and learning about the STEM fields. At our local mall's Children's Fair we had a presentation where we showed our robots and had LEGO® Mindstorms for the youth to build. We gave away prizes and team shirts to kids interested in robots. Our city also hosts an Annual Back to School Fair at our local fairgrounds. Here, we bring Team 3602's activity booklets for children to color. We also allow youth to drive our robots and build LEGO® Mindstorms.

Last year, Team 3602 hosted the first annual "MO Night". This is a way for us to showcase our team to the community. We presented all our subgroups, and let the community interact with our displays. Along with generating community excitement, this is a way to recruit new members.

Raising Imperial Credit (Fundraising)

Team 3602 holds various fundraisers throughout the year to help us sustain our program. These fundraisers include the Frapp's meat sale, Saykly's chocolate sale, Robomo t-shirt sale, our annual Elmers brat/hot dog sale, annual golf outing, annual spaghetti dinner, hosting bingo during the UP State Fair, and our year-long can return donation bin. This year, our returnables bin has raised over \$20,000. Our whole team participates and enjoys these events. We are always looking for new and innovative ways to fundraise.

Petitions to Other Galaxies (Grant Writing)

Team 3602 members write grants to help us maintain and enhance our program. This process gives us experience in writing skills, helps us capture and reflect on all aspects of a successful team, and educates our local businesses. As Team 3602 continues to grow, members are gaining efficient grant writing skills.

Mask up, citizens of the galaxy!

This year, when faced with Covid-19, Team 3602 jumped into action and began making face shields and cloth masks. We partnered with Kobasic Creations and Andex to produce the plastic piece for the face shield. These face shields were donated to dentists and mental health organizations across Michigan. Following, we 3D printed the headband portion and assembled over 1,000 face shields. Multiple members of our team sewed cloth masks to distribute to the community. We gave several hundred of these masks to local PPE drives.

...May the FIRST be with you!

We hope to have inspired and continue inspiring everyone involved with FIRST programs and STEM activities. Our team

will make great efforts to build our community, state, nation, and the world into a better place. Team 3602 is destined to produce successful members of our society! Our mission will never be complete. We will continue blazing a trail for future STEM leaders! Now that we have informed you about our stellar team, the next unanswered question in the universe is: Which program do Jedi use to open PDF files?...Adobe Wan Kenobi.