Chairman's Award - Team 987

Print Close

2016 - Team 987

Team Number

987

Team Name, Corporate/University Sponsors

Steve and Susan Philpott / Innovation First International / Purvis Industries / Bearing Belt Chain / Nevada YESCO LLC. / Albertsons / Lowes / Lenovo & Cimarron Memorial High School

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2015/2016 year and the preceding two to five years

Despite our school's Title I status, 100% of High Rollers attend college or enter the military. Students earn internships while in school through partnerships with industries using skills they learned on the team. Alumni mentor FIRST teams. For two years, High Rollers have traveled to China to host an offseason FIRST event, make new friends, and mentor FRC teams. Three High Rollers have been Dean's List finalists, with one winning. Two 2015 graduates work at local tech startups and mentor teams.

Describe the impact of the *FIRST* program on your community with special emphasis on the 2015/2016 year and the preceding two to five years

High Rollers worked with politicians to establish tech academies in Nevada. We convinced state officials in 2016 to allocate over $2,000,000 to expand these academies to include manufacturing and robotics. We host RoboCamps, bringing STEM to young students and financial support to FIRST teams. We raised $10,000 for our regional through Chinese donors. Donation drives provide food, clothing, and scholarships for our school and Whitney ES where 62% and 85% of students respectively are homeless.

Team's innovative or creative method to spread the *FIRST* message

HighRollers promoted FIRST on podcasts at CES with 30 million unique views. We demoed robots with Dean Kamen at the R&D100 awards at Caesar's Palace. Our robotic T-shirt cannon is featured at pro and local sports events. "Girls Only" camps and workshops increase females on FIRST teams locally. We were in segments on PBS and America Tonight. Our FIRST event webcasts had over 10,000 viewers. We bring politicians and business leaders to our regional, and partnered with our mayor to promote STEM.

Describe examples of how your team members act as role models and inspire other *FIRST* team members to emulate

For two years, HighRollers have hosted over 100 Chinese students at our school for workshops and fun before the regional. Our female students run a mobile machine shop at FRC events and make parts for local teams during build season. We help plan and run local and out of state FRC, FTC and FLL events. HighRollers have been valedictorian 3 times. Our alumni return and address the importance of FIRST involvement beyond high school. We have alpha and beta tested control system components for FIRST.

Describe the team's initiatives to help start or form other FRC teams

For two years, HighRollers have visited China to mentor and build 25 Chinese FRC teams, 16 of which went to regionals in the US. We host seminars for international teams before our regional. Our camps raise over $20,000 yearly for sustaining veteran and rookie teams both in NV and out of state. We host FRC and FLL workshops annually, and bring teams to our shop for access to machining equipment funded through grants and our camps. Many local teams build in our shop or are mentored by our alumni.

Describe the team's initiatives to help start or form other *FIRST* teams (including Jr.FLL, FLL, & FTC)

We worked with our school board to secure stipends for FIRST mentors to encourage growth. The state robotics curriculum, created by 987, is taught in 21 schools. We demo robots and assist with FTC league play, hosting and volunteering at events. Our mentor workshops sustain local teams; we donated LEGO kits to FLL teams, and parts for FTC teams. We have started 22, mentored 27, and assisted over 200 FIRST robotics programs in the US and China. We host camps to build interest in JFLL and FLL.

Describe the team's initiatives on assisting other *FIRST* teams (including Jr.FLL, FLL, FTC, & FRC) with progressing through the *FIRST* program

We have run FLL competitions for 10 years, and now help other local teams to host FLL events. We demo robots at these events to excite kids about their FIRST future. Offseason robotics and LEGO camps inspire young FIRSTers while fundraising for FRC and FTC teams. Many High Rollers and alumni found FIRST through our camp. We brought over 2000 8th graders to our shop to promote our FIRST program and academy. High Rollers ref, score, and judge, among other jobs at all local FLL and FTC events.

Describe how your team works with other *FIRST* teams to serve as mentors to younger or less experienced *FIRST* teams (includes Jr.FLL, FLL, FTC, & FRC teams)

Local rookie and veteran FRC and FTC teams build robots in our shop with guidance and equipment. Our mobile machine shop visits teams without transportation. We trained 16 Chinese rookie teams to compete and also run an FRC event in China. We Skype Chinese and US teams and hold workshops the week of the regional at our school. We host preseason workshops for FLL and FRC, as well as FTC league play and emphasize sustainability by hosting camps, car washes, and other fundraisers for local teams.

Describe your Corporate/University Sponsors

Steve and Susan Philpott: Former engineers and entrepreneurs Innovation First International: International robotic parts supplier and US FIRST Crown Supplier Purvis Industries & Bearing Belt Chain: Industrial hardware suppliers Nevada YESCO LLC.: Electric sign company Lenovo Lowes Albertsons VSR Industries Cimarron Memorial High School

Describe the strength of your partnership with your sponsors with special emphasis on the 2015/2016 year and the preceding two to five years

The Philpotts travel with the team to events and serve on school district and FIRST committees. HighRollers get internships and jobs with IFI and other sponsors. We communicate monthly via newsletter, and demo the robots made possible by them at their sites. Lenovo provides laptops and tablets to our students who cannot afford them. Our shop was remodeled by Lowe's and can now be used by all teams. Our partnership with Albertson's let us host a team social with meals at the Las Vegas Regional.

Describe how your team would explain what *FIRST* is to someone who has never heard of it

The Philpotts travel with the team to events and serve on school district and FIRST committees. HighRollers can get internships with IFI and other sponsors. We communicate monthly via newsletter, and demo robots made possible by them at their sites. Lenovo provides laptops and tablets for students who cannot afford them. Our shop was remodeled by Lowe's and can now be used by all teams. Our partnership with Albertson's let us host a team social with meals at the Las Vegas Regional.

Briefly describe other matters of interest to the *FIRST* judges, if any

Our team is nearly 50% female. Though a Title I low income school, 100% of our students graduate and travel through fundraising efforts. We are working with new state industry like Tesla and FF to integrate manufacturing in schools. May 9 is Team 987 day in NV. January 7 is HighRoller day in Las Vegas. We hope to start China's first FRC regional in 2017. Our team issues Boy Scout merit badges. Our school district will model all future Advanced Design and Manufacturing academies after our own.

Team Captain/Student Representative that has double-checked this submission.

Alexa Lignelli

Essay

Team 987, The High Rollers - Changing Nevada, Changing the World, Changing Lives
I. The Story of Team 987
Fifteen years! That's how long my team has been going the extra mile to make a difference. In 2001, The High Rollers started in a small storage room with 2 mentors and 10 kids. Nevada had no trace of FIRST or programs focused on Science Technology Engineering and Math (STEM). The city was fully invested in gambling and hospitality. 2004 brought big changes for us and our community's culture. We helped start FIRST Nevada and began to run workshops for other FRC and FLL teams; we also ran the FLL Nevada Championship, which we have continued to do for 10 years. We then helped start the Las Vegas Regional (LVR) in 2005, and have played a major role in the event ever since. We have also assisted in all 25 FRC regionals we have attended. At the FRC Championship in 2007, a volunteer said that he had never seen a team with such determination; it paid off as we won our first World Championship. Our team went home and got to work promoting FIRST: the program that changed our team members' lives forever.

II. The Great Expansion
Recession
In 2009, Las Vegas was hit hard by the recession; one of the fastest growing cities in the US now had the most foreclosures and the highest unemployment rates in the country. Due to lack of funding, robotics in Nevada fell behind.

There are plenty of teachers here that want to help influence their students' futures in many ways, but being a robotics mentor has proven to be a big commitment. To provide incentive for more teachers to get involved, we successfully campaigned state officials to give coach's pay to every FIRST coach in our district.

Camps
With so few FIRST teams in Nevada, we aimed our focus toward developing more teams. We started reaching out to younger students by holding our first "Las Vegas Summer Robotics Camp" (LVSRC) in 2007. Between grants and fundraising, my team raised over $20,000 to buy dozens of VEX and Lego kits to impact a new generation of robotics. Every year since, our Student Game Committee has designed a game, wrote rules, trained referees, and created game pieces to excite campers of all ages. Meanwhile, our camp mentors work on their VEX and LEGO skills which they learned from our school's robotics curriculum. This is the same curriculum our team wrote for Nevada, which is now being taught in 21 schools throughout the state.

In 2014, LVSRC became "Robo.Camp", providing an easier path to sustainability for teams across several states. Our student CFO advertises the camps through social media and community involvement at various schools, children's museums, and science fairs. She also recruits other teams to host their own camps, where they will earn money for their programs. Our camp director, alumnus Cody Wall, and several students travel to help at all of the camps in Nevada and California.

Robo.Camp inspires students to join teams at all levels of FIRST. This supplies teams with members who already have a basic understanding of robotics. In just the past 5 years, over 15 Robo.Camps have been held with hundreds of campers, which has produced thousands of dollars for the hosting teams. Our camp has created a path to sustainability for all robotics programs by using robotics to fund robotics, benefiting multiple generations of students at one time.

Worldwide Impact
An important part of our story is that we have inspired and impacted hundreds of FLL, VEX, FTC, and FRC teams in recent years. We are passionate about sharing our enthusiasm for FIRST and other STEM programs, which is why in the last 5 years we have directly contributed to starting 22, mentoring 27, and assisting hundreds of teams all over the world. I believe in a brighter future for FIRST, and my team is determined to help however we can.

III. A Progressive Movement
This may be the story of Team 987, but this is where my chapters begin.

Our Team
My team has a mission: get more people excited about STEM programs by providing an opportunity to gain first-hand experience working in a professional environment. In order to fulfill that mission, we reached out to Lowe's in 2012 to help us remodel the school's old woodshop, which our principal gave to us because of the rapid growth and success of our FIRST related programs over the years. My teammates and I spent our summer vacation working on the remodel: painting, hanging cabinets, laying out carpet for a full-sized field, and creating a workspace that will excite anyone about STEM. We made an open-door policy to share our resources and expertise with teams from all over the world. It wasn't easy for some teams to travel to our facility to get help, so we wrote several grants and received funds from Cox Communications to create a Mobile Machine Shop. We now take our equipment anywhere teams need help. Every year for the LVR, we provide access to our Mobile Machine Shop, and our all-girl machining team makes parts for teams attending the event.

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Our Girls
At the 2015 Championship, Dean Kamen said, "half of the people that ought to be in FIRST happen to be young women, yet half of the participants are not young women." His homework was for everyone to get more girls involved. Our team had a head start on his homework because we already had successful ways of encouraging girls to be a part of our program. From the start, we've always had 1 or 2 girl members, but it wasn't enough for us. In 2014, we created "Girls Only" days in the shop to teach girls like me how to use equipment in a comfortable environment. Now, 15 out of 32 of our team members are girls, including lead machinist and team president to name a few. We are proud our efforts have increased female involvement on our team, which is a first step to equal gender participation in FIRST and the STEM workforce in the future. To get more girls in our community interested in STEM, we also host an All-Girls Camp for middle and high schools to learn the fundamentals of FIRST and teach them how to build their own robots.

Our School
With 336 schools, Clark County is the 5th largest school district. Nevada's educational system also ranks last in the US. We have 11,253 homeless students enrolled in our district- 3rd highest rate in the country. At our own school, 62% of students are from low income households. To help them focus on their studies instead of where their next meal is coming from, we collaborated with Three Square Food Bank this year to house a food bank at our school. Now students can pick up food for themselves and bring home meals for their families. We also hold annual food drives for Whitney Elementary, a school with 85% homeless students, and provide them with scholarships to attend Robo.Camp.

IV. Opening Doors

China

In the Spring of 2014, Min Zhang of the China Urban Youth Robotics Association (CUYRA) invited us to be one of four U.S. teams to travel to China to co-direct the first annual Chinese Robotics Challenge (CRC). They chose our team because we build competitive robots, have a positive history of running, hosting, and assisting FIRST events, and show teams how to create a self-sustaining robotics program with our "I Heart Robots" videos. While we worked in China, Al Jazeera America documented our visit and broadcasted it to over 60 million people as they featured us on 2 of their prime-time news programs. I remember feeling a little stunned that our hard work had a earned a global reputation. To continue our efforts with their regional, we returned to China in the summer of 2015 to oversee the progress of CRC and convince FIRST to support the first Chinese Regional. The number of teams at this event went from 20 in 2014 to 42 in 2015, and featured teams from Texas, Australia, and Brazil. In 2015 and 2016, we hosted and ran FRC workshops for 7 Chinese teams at our own school, giving them individual mentorship the week of the LVR. Chinese students even went to classes with us during the school day! After these events, CUYRA donated $10,000 to the LVR to thank our team for all of our hard work and Gracious Professionalism.

Manufacturing Academy

There are about to be amazing changes for my school and community. A few months ago, we were approached by state officials to support the creation of a Manufacturing Technology Academy at our school because they were impressed with the success of FIRST team, STEM initiatives, and district programs we have created. We received a budget of over $750,000 in state grant money. We will use the money to remodel 11,000 square feet in 3 side-by-side classrooms of our school to house a variety of STEM programs. Starting in the Fall of 2016, this unique program will inspire hundreds of students across Nevada to pursue STEM careers. We were chosen to prepare students to be employed right after high school for new high-tech companies moving into Nevada like Tesla and Faraday Future, who are desperate for the workforce-ready, STEM savvy workers we are known to provide. The state is also delighted with how we have successfully attracted high rates of females involved in STEM the past few years. We will be writing the curriculum for this program, and it will be used statewide! The program gives students a head start in their careers because they will already be certified in skills like CADD and HAAS CNC operation, just like me. Our academy has partnered with Workforce Connections to provide every senior graduating through our program a 3 month paid internship. Our mission is to shift the culture of Nevada. We want to be known for our STEM initiatives, not just for gambling and hospitality.

Following our motto, "It's Not Enough," we are always looking forward to accomplishing more in the future. More doors are opening than ever before and we are leaving them open for future generations to come. The story of FIRST and my 987 family is truly unforgettable, and this is only the beginning.

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