Los Altos Academy of Engineering

NEWSLETTER

"Building a cleaner, more fuel efficient tomorrow"

January 2016

2016 FIRST Robotics Competition game theme, "FIRST Stronghold"

Transitioning into FIRST Robotics Competition

By: Jason Kwan

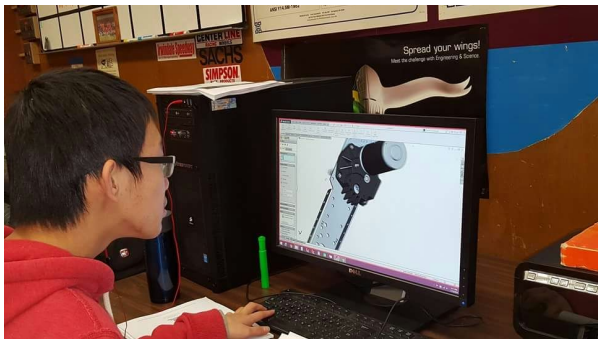
This year, the Los Altos Academy of Engineering decided to transition from participating in Electrathons to participating in the *FIRST* Robotics Competition (FRC). This decision marks a tremendous change in the program. After competing for five years in Electrathons, the members from the previous year were faced with an interesting choice of whether to go on and repeat the same process over and over again or to try something new. Our team opted to try something new

because the students will be able to challenge themselves, acquire new knowledge and gain new experiences, which this program is all about.

This year, FRC is presenting their newest game, *FIRST STRONGHOLD*, which is played on a 27 feet by 54 feet field. Each *FIRST STRONGHOLD* match begins with a 15-second autonomous period in which robots operate independent of human control. During this period, robots attempt to cross opposing defenses called "outer works" and score in the opposing alliance's tower. Then, during the remaining 2 minutes and 15 seconds of the match, called the teleop period, robots are controlled by student drivers from behind their castle wall at either ends of the field. Teams on an alliance work together to cross defenses, weaken the opposing tower by scoring boulders in it, and finally surround, scale, and capture the tower.

Defenses are one of most interesting aspects of the game. There are eight defenses; all of them being modeled after real life medieval structures such as the moat and the drawbridge. The defenses add levels of complexity to the game due to four out of five of them being changed from round to round.

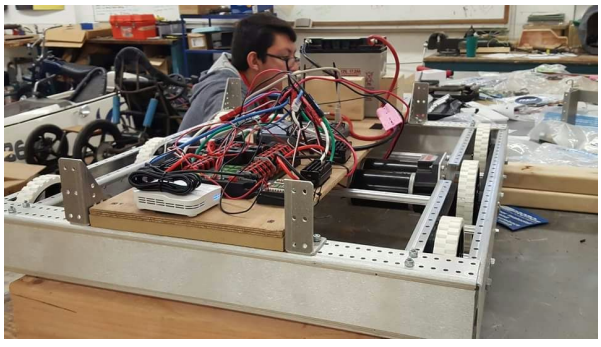
The alliance selection aspect in FRC also adds levels of complexity and excitement to the competition. At the beginning of the competition, during the qualification rounds, each team is randomly assigned to an alliance consisting of three teams. This encourages the



Design team member Joey Chen designing the robot

use of "scouting" or the asking of questions to other teams in order to have a better understanding of their robots' capabilities. That way, the team will know exactly what their alliance's strengths and weaknesses are as well as their opponent's abilities. After the qualification rounds, the eight teams with the highest amount of ranking points proceed to the playoffs and select teams for their final alliance.

FIRST STRONGHOLD will be held at Valencia High School in Placentia, CA from March 30th to April 2nd 2016. The competition this year will be held near Los Altos High School with the travel time from Los Altos to Valencia High School being a mere 30 minutes. The previous Electrathons have made it nearly impossible for the program's supporters to come out and see what the team has put all of their efforts into. However, now is a rare opportunity for the program's supporters to do just that. Come out and see what amazing achievements the team has accomplished from March 30th to April 2nd at Valencia High School for their competition, *FIRST STRONGHOLD*.



The base robot fully built

Fundraising Efforts for FIRST Robotics Competition

By: Sandy Kim

In the venture to compete at the *FIRST* Robotics Competition, the Los Altos Academy of Engineering has recently begun its efforts to raise funds. The program heavily relies on the donations of our local

community in order to succeed. Without the support of generous sponsors, LAAE would not have the funding necessary in order to compete.

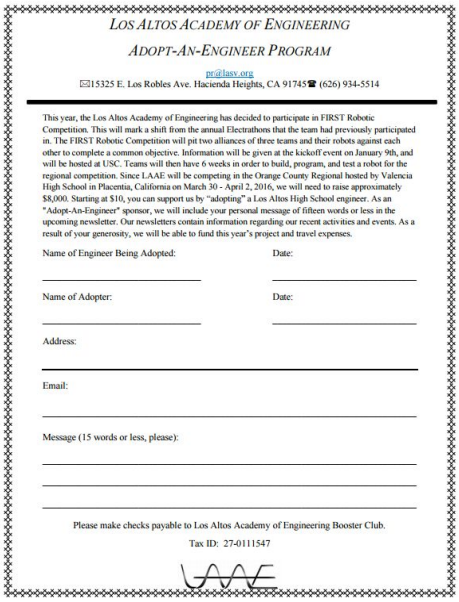
In order to meet our goals this year, the program has compiled an updated sponsorship packet, which they hope to continue in later years, in the efforts to garner donations from corporations and larger organizations. This sponsorship packet has been vital in our fundraising efforts to connect with our local organizations such as Cement Masons Union no.500. The packet includes a brief history of our program along with our recent successes. Sponsors will be given gifts of appreciation depending on the amount they donate, ranging from a spot in the sponsors section of the program's newsletter to a framed and autographed picture of the students.

In addition to the sponsorship packets, LAAE has resumed their annual Adopt-an-Engineer fundraiser, a student-organized and led fundraiser in which engineers of the program reach out to individuals within the community for minimum $10.00 donations. In return, adopters will receive a thank you card, a biography of their adoptee, and a 15-word message in the upcoming newsletter.

Team leaders and the project manager has once again organized the Fundraising Committee composed of underclassmen. Members of the committee have created an updated PowerPoint presentation to present to local service clubs and has shown considerable success so far, as members presented to Lions, who graciously donated to the program.

Although the program has received many donations, the Los Altos Academy of

Engineering has still not reached its fundraising goal of $8,000.00. That's where you can help. If you work for a larger corporation and/or would like to donate more than $300.00, a digital file of the sponsorship packet is provided on the program's website, lasv.org. If you would donate as an individual, adopt an engineer for a minimum of $10.00. A donation form with directions is attached to the back of the newsletter. LAAE is extremely grateful for your generosity.



LOS ALTOS ACADEMY OF ENGINEERING

ADOPT-AN-ENGINEER PROGRAM

pr@lasv.org

✉15325 E. Los Robles Ave. Hacienda Heights, CA 91745☎ (626) 934-5514

This year, the Los Altos Academy of Engineering has decided to participate in FIRST Robotic Competition. This will mark a shift from the annual Electrathons that the team had previously participated in. The FIRST Robotic Competition will pit two alliances of three teams and their robots against each other to complete a common objective. Information will be given at the kickoff event on January 9th, and will be hosted at USC. Teams will then have 6 weeks in order to build, program, and test a robot for the regional competition. Since LAAE will be competing in the Orange County Regional hosted by Valencia High School in Placentia, California on March 30 - April 2, 2016, we will need to raise approximately $8,000. Starting at $10, you can support us by "adopting" a Los Altos High School engineer. As an "Adopt-An-Engineer" sponsor, we will include your personal message of fifteen words or less in the upcoming newsletter. Our newsletters contain information regarding our recent activities and events. As a result of your generosity, we will be able to fund this year's project and travel expenses.

Name of Engineer Being Adopted: _____ Date: _____

Name of Adopter: _____ Date: _____

Address: _____

Email: _____

Message (15 words or less, please): _____

Please make checks payable to Los Altos Academy of Engineering Booster Club.

Tax ID: 27-0111547

Adopt-an-Engineer letter

Congressional App Competition

By: Santiago Torres

The Los Altos Academy of Engineering is competing in a contest called the Congressional App Challenge. The competition was brought to our attention by Congressman Ed Royce. For the challenge, members must create an app that will help solve an issue occurring in the world today. Also, a one to four minute video must be provided to display the app created. The video will highlight the app's functions, purpose and the skills the contestants, Andrew Rojas, Eric Liu, and Santiago Torres, have learned. The challenge is meant to get high school students to learn about programming through creating of their own app and illuminate the value of computer science and STEM education. This competition provides us with the unique opportunity to find a problem in the world

today, and implement a solution through technology. Members of the IT team have decided to confront the water scarcity issue caused by the drought in California. Our team's app, Drop Saver, is a mobile application that monitors the amount of water that is used by an individual in a day. The

The Congressional App Challenge Logo

team hopes that their app will appeal to the judges by focusing on solving the problem of water waste. The app functions by simply inputting the amount of time that you are using any water source, such as when you are showering, running sprinklers, or washing the dishes, and it will give you an estimation of how much water you may be using how much water you may be using. It works very similarly to that of any calorie counter apps. The winners of the competition will be honored by their member of Congress and their app will be featured on display in the U.S. Capitol building and on the App Challenge website.

The local apps that were entered in the competition will be displayed at the Nixon Library on February 17th. We would like to invite anyone who would like to come out and view these apps. Representative of Congress Ed Royce and many other intelligent minds will be attending.

Thank you,

SPONSORS

Thank you,

ADOPTERS

"Go, go, Zenrick! Fulfill your dreams. Education is the most powerful weapon- which you can use to change the world. I believe in you! Good luck." -Dr. Robert CC Lee

"Looking forward to your success." -Eunice B. Curameng

"Good luck! We know you can make it! Just aim high!" -Mr.&Mrs. Rick Fulgencio

"Cherrin and I are so proud of you, Zenrick. Keep doing what you're doing. Follow your dream." -Alvin de la Cruz

"Zenrick, we are very proud of you and support all your future endeavors." -Suzanne Torres

Los Altos Academy of Engineering

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UPCOMING DATES:

MARCH 30-APRIL 2: FIRST STRONGHOLD ROBOTICS COMPETITION AT VALENCIA HS IN PLACENTIA, CA

THANK YOU!

WE WOULD LIKE TO THANK ALL OF OUR WONDERFUL SUPPORTERS FOR ALLOWING US TO GO TO THE FIRST STRONGHOLD ROBOTICS COMPETITION THIS YEAR.

CONTACT US!

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