

Los Altos Academy of Engineering

Newsletter

Building a cleaner, more fuel efficient tomorrow”

February 2018



Vicky Zhai and Amy Team presenting their app, *Together*.

Competition Season

It's the season of competitions for the Los Altos Academy of Engineering. December was the annual Congressional App Challenge Awards Exhibit & Ceremony at the Richard Nixon Library and Museum. Out of the Los Altos teams who participated, one group came out victorious placing second place overall. The same group who placed also advanced on their second competition, Pete Conrad. Our upcoming competition will be the JAO Essay and Oratorical contest and Solar Cup.

Conrad Spirit of Innovation Challenge

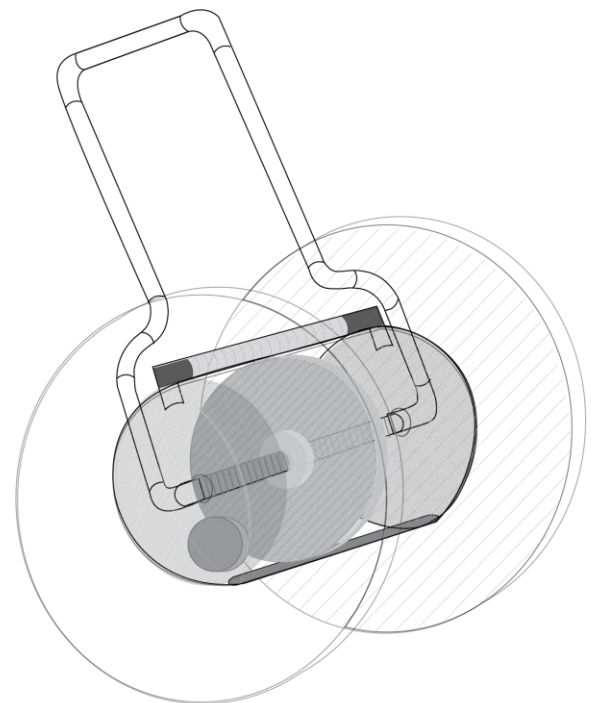
By: Amy Tam and Vicky Zhai

The Conrad Spirit of Innovation Challenge encourages high school students like ourselves to combine entrepreneurship and STEM skills to develop innovative ideas for a sustainable and brighter future. We initially demonstrated an interest in the competition over a year ago and have been working ever since to develop an innovative product that helps solve a real-world problem. We are one of the international semi-finalists of the competition.

In order to expand our research and business marketing skills, we began to explore the different categories that the Conrad Challenge offers: space and aviation, cyber-technology and security, energy and environment, and health and nutrition. After months of research about the problem identified in each category and its competitive markets, we decided to focus on energy and environment. The lack of availability of clean, drinkable water for people in third world countries inspired the creation of RollX, a cylindrical water container which filters water as a user walks.

RollX converts rotational motion of the wheels to linear motion, moving a plate which pressurizes contaminated water through filtration, producing clean water. Our vision of RollX began from a scratch drawing on a whiteboard to an Illustrator drawing to a detailed design on Solidworks. We were captivated by this design process and were committed to take RollX one step further into production. Partnering with mechanical team members, we successfully developed a small-scale prototype of the key mechanism used in RollX.

The Conrad Challenge not only allowed us to improve our knowledge of the research and designing processes, we were also able to expand our business marketing skills.



Together, We Win

By: Christine Castrellon

The Congressional App Challenge was teeming with elementary to high school students alike who only had one goal, to win first place overall in their division. The event held at the Richard Nixon Library and Museum saw three teams from Los

Altos Academy of Engineering participating, in December. All three teams who took part in the event competed in the same news category however, one came out victorious.

Together, an app created by juniors, Vicky Zhai and Amy Tam, was a weather forecasting app that allows people who have been hit by a natural



disaster communicate with people and shelters nearby. According to Zhai, "Our inspiration came from the natural disasters that occurred throughout the year. We wanted to create an app that would allow the victims some relief during those tough times."

The additional teams who participated in the challenge competed in the same category as the placing team. *Disaster Forecaster*, an app created by veteran members Tiffany Liao and Breeze Hernandez alongside first timers Kevin Ku and Issac Santana also tackled natural disaster problems. The app aimed to provide people with any unsettling questions such as where they can find hospitals, proper procedures when giving first aid, and any information regarding natural disasters for the people who are ill-informed. The third team had new members Erika Galvan, Samantha Gonzalez, and Christine Castrellon create, *Rise up*, an app designed for protesters. *Rise Up* serves as a resource for people of all ages to access information on upcoming protests, rallies, and town hall events to become activists in their community. Each team worked diligently and will prepare for next year's groups to keep the legacy of Los Altos Academy of Engineering present in the challenge.

The Boat Update

By: Erika Galvan

Since tackling on the major project of the Solar Cup Competition, the team has shifted all of its focus towards it. In January, the team attended a Technical Workshop in downtown Los Angeles to answer any unresolved questions about the boat. The team has been struggling due to their inexperience, and thought it would be wise to get help from others with experience in the competition. Mechanical Team Leader Alex Wong saying, “Since no one in the program has ever had experience in the Solar Cup competition we have been having a bit of trouble lately figuring out a whole new plan for the steering and motor schematics, but it’s nothing we can't handle.” After returning home from the workshop the group was more than ever motivated to take on the problems they faced for the boat. All of our teams are going hard at work in order to construct a boat they are proud of. With Design and Mechanical working hand in hand to send out a superb Technical report and getting out schematics. While Composites gets to work on coating the battery boxes, Electrical is creating our simulation table and solar panels. IT is completing our Outreach project focusing on water conservation and PR is taking charge and making sure paperwork for the competition is taken care of. Overall LAAE teams are making great progress on the boat in order to have a successful competition come May.



THE LOS ALTOS ACADEMY OF ENGINEERING



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UPCOMING DATES:

MAY 19-21
 SOLAR CUP
 JAN. 19-MARCH
 16
 ADOPT-AN-ENGINEER

THANK YOU!

WE WOULD LIKE TO THANK ALL OF OUR WONDERFUL SUPPORTERS FOR ALLOWING US TO CONTINUOUSLY IMPROVE THE PROGRAM.

CONTACT US!

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