



Student Case Study

SUPPORT FROM #MAKEWHATSNEXT PATENT PROGRAM INSPIRES YOUNG FEMALE INVENTORS TO PERSEVERE

When the Garey High School InvenTeam returned to Pomona, California, after their successful presentation at EurekaFest in June 2018, they weren't sure what would happen next with their "Heart and Sole" device for monitoring the foot health of diabetics, but they knew they weren't finished.

"It can be a confusing time after EurekaFest and we talked to a lot of [InvenTeam] teachers who said their students dropped pursuit of their inventions once the year was over," says senior Katia Avila. She didn't want that for her school's InvenTeam, comprised largely of female students, and neither did Antonio Gamboa, Lemelson-MIT InvenTeam teacher and Garey High School's Science Department Chair.

To keep the invention process rolling, the Lemelson-MIT Program recommended the InvenTeam enter its invention into the Microsoft #MakeWhatsNext Patent Program, a resource for female inventors. Microsoft created the patent support and mentoring program in 2016 to counter the fact that only 7.5% of all patents are held by women. With #MakeWhatsNext, Microsoft provides professional and financial support to help women navigate the patent process for their ideas. In the fall of 2018,

the team and their invention, a wearable device that uses sensors to gauge the progression of neuropathy and other key disease indicators for diabetics, was accepted into Microsoft's patent program. "Mr. Gamboa did a celebration around the announcement because he was so excited for all of us," Avila says.

While inventing the device pushed the students out of their comfort zone,

"the patent process takes the team to yet another level, especially for a population coming predominately from low income families," says Melody Sanchez, a senior on the team. "A lot of us have the goal of giving back to our parents and our community, and the device we built can do that," she says. Teammate Diana Valencia agrees, pointing to the prevalence of diabetes in her family and the broader Pomona community. "This invention is very important to me and to all of us," she says.

The #MakeWhatsNext Patent Program aims to simplify what can be a lengthy, complex, and daunting process for inventors. Microsoft engages in a multi-step, multi-year relationship with the

inventors, first vetting the ideas to make sure they are patent-eligible. Next, they help the inventors streamline their documentation to properly protect ideas and to submit a thorough patent application to the U.S. Patent and Trademark Office (USPTO). Microsoft's patent law department provides pro bono expertise and application fees at an estimated value of \$50,000. Microsoft's lawyers file the applications, ensuring a "patent pending" status during the review process. While the inventors await a decision from the USPTO, they are matched with female executives who help them continue to innovate and improve on their ideas.

The Garey High School InvenTeam is just at the beginning stages of the patent process, having met with the Microsoft's lawyers and now working to refine their initial patent application, which describes their invention. The students are excited that the team's nine members all will be listed on the patent. It is not lost on the students and Gamboa that a patent would have likely been impossible because of the cost and complexity of the process.

Many of the InvenTeam members are headed to college in 2019. Sanchez has applied to colleges nationwide as an Environmental Engineering major and Avila intends to study Computer Engineering and has already been accepted to four schools. Despite moving on from high school, all of the team members have committed to continue the patent process together, using a group chat program to share ideas.

"Microsoft told us it will take about three to five years for our patent application to be reviewed, revised, and approved," Avila says. "Hopefully by the time we get our degrees, we will have our patent approved and ready to go to market."

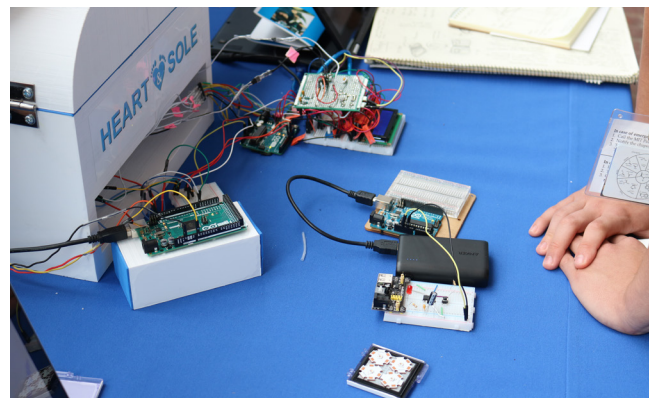
Already, the team says they have learned a lot from the patent process, including how to make the patent broad enough to allow for adjustments such as modifying the design to make it more comfortable to use.

Jia Bragado, a junior, says she plans to carry on the InvenTeam next year, bringing the same

spirit of invention the seniors shared with her to incoming underclassmen. "We hope to guide those students," she says.

Avila credits the Lemelson-MIT Program for opening the STEM doors for her and her fellow students – all of whom plan to major in a STEM field – and to even think that holding a patent would be possible. "Having a daughter do things that only men would usually do, I believe that is going to make my family proud," she says.

Sanchez feels similarly. **"It's sometimes harder for us to push ourselves and to have those opportunities that others can have. We work hard at it, but to see our invention happen, that's pushed me to want to go even further,"** she says.



ABOUT LEMELSON-MIT INVENTEAMS®

Lemelson-MIT InvenTeams are teams of high school students, educators, and mentors that receive grants up to \$10,000 each to invent technological solutions to real-world problems. The InvenTeam initiative is administered by the Lemelson-MIT Program, a sponsored program under the School of Engineering at the Massachusetts Institute of Technology. The Lemelson-MIT Program is funded by The Lemelson Foundation. Learn more at lemelson.mit.edu

LEMELSON-MIT
InvenTeams®

lemelson.mit.edu