Local Robotics team hits just the right note to take on the World

Ontario lags behind when it comes to elementary school music education, but local students have come up with some innovations to make music not only more practical but accessible.

Local French-language students, led by educator Renee Northrup, are bound for Massachusetts next week to take on the WPI FIRST LEGO League US Open event.

The students' team, Equipe Francobotique: Les robot-franco-zarts, and their universal music keyboard, have wowed judges at the Regional and Provincial levels, and now, after a good showing at Aurora's Youth Innovation Fair, they are set to see if their project hits just the right note stacked up against international competitors.

?I think the kids have found an incredibly smart solution to the problem of not having enough music education in our schools,? says Northrup. ?More and more we're cutting money out of our schools, especially our public schools, and the kids out of the seven kids on our team, no one has learned how to play a musical instrument in school. Some of them are up to Grade 6 and no one has learned how to play an instrument. I feel this is a problem in our society that we're not investing in our next generation.

?We're not providing the arts, we're not providing music, and we're not providing specialist teachers anymore that are teaching nothing but music because they are professional musicians themselves. What they have come up with is a very innovative solution. They have used a universal design to come up with a really cheap, portable small piano.?

Among the team this year are Grade 4 students Dominic James, Mila Oliveira, Ayden Arabi and Patrick Northrup, Grade 5 student Alexander Kharlanuau, and Grade 6 students Hagan Pong and Madeline Northrup.

Their product, they say, costs just $100 in materials, thus making it accessible to schools and students no matter the financial barriers. It's also accessible in the broadest sense of the word, tailored to those who are visually impaired, deaf, live with colour blindness and sensory issues, and more.

?Whether you're deaf, blind, colourblind, or you have other impairments, absolutely everyone in that class can play the same instrument because they have thought of how to adapt their design so it included absolutely everyone,? says Renee Northrup.

The students are excited to showcase their work to their peers all around the world, including teams from Europe and East Africa, and say they have enjoyed the journey to this point; each step, they agree, has given them ideas on how to improve and perfect the product.

?We improve every time we step higher,? says Madeline, adding that they have consulted with nearly 20 experts to ensure their device covers all eventualities.

Adds Ayden: ?We had 18 experts ? eight professional experts, two official experts, and some other experts, four inclusion experts ? all of them helped put this together.

?It has a universal design, which means it includes everyone in the design of the product. For example, if you're blind or you can't see, there are music symbols over here. They can go down the keys, feel the real music symbols and then go back to play.?

Continues Madeline: ?We want to inspire people and we want the world to be better.?

In addition to their innovation, the students have also been hard at work perfecting their robot ? an integral part of the competition.

Throughout each level of the competition they have tweaked their model to meet various challenges and objectives, and Renee says they're at a stage where they can get every point on the board ? sometimes with a musical flare.

?They have three different presentations to memorize, 17 different songs they need to refine ? there is some rapping involved, some traditional French-Canadian songs, there's an entrance and exit song for the set up and dismantling their project while they are singing about their project and then there is the robot,? she says.

?They have worked the past eight months on their robot. They were first in Ontario at the Provincials and they now have a perfect robot that can score every point on the robot table. If all goes well and everything goes to plan, and the robot performs what it was programmed to do, they are certainly very competitive about this international level. I can't wait to watch and see what they can do.?

The WPI FIRST LEGO League US Open will take place at Worcester Polytechnic Institute in Worcester, Massachusetts, from June 9 through 11.

For more information on the local team, visit sites.google.com/view/equipefrancobotique/2023-2024.

By Brock WeirEditorLocal Journalism Initiative Reporter