Ethiopian children learn human-centered design from Carderock engineer
By Kelley Stirling, NSWCCD Public Affairs

Yared Amanuel spends his spare time using skills he has learned on the job at Naval Surface Warfare Center, Carderock Division – not his engineering skills, but what he has learned in human-centered design.

Amanuel, an engineer on a one-year detail with Carderock's Naval Architecture and Engineering Department, Code 80, (he normally works in the Structural Criteria and Assessment Branch, Code 654), just spent a couple of weeks in March in his home country of Ethiopia in the Horn of Africa. While there, he gave several human-centered design seminars to local companies. He also extended his human-centered design knowledge to his non-profit organization, EthioAthletics, which has a mission to "advance lifetime wellness through participation in athletics in Ethiopia."

According to Garth Jensen, Carderock's director of innovation, human-centered design starts by putting people at the center – observing and understanding human experience: how people's complex behaviors, mental models and needs (articulated and not) inform the problem and the solution. It blends design, strategy, qualitative research and entrepreneurial thinking.

So, how did Amanuel use human-centered design? It started with a bunch of kids wanting to play soccer and not liking their jerseys.

As part of EthioAthletics, the soccer club brings about 120 children, ranging in ages 10 to 15, together to play soccer. But Amanuel said it's about more than just soccer.

"I'm going to use it to teach leadership, science and technology, working out problems, trying to come up with a solution," Amanuel said. "Because the thinking is that the person who is closest to the problem is the one who should be bringing the solution to that problem."

And that's where human-centered design comes in. When Amanuel started this league three years ago, he expected to have a three-fold mission: soccer activity, health and teaching. The soccer players did not like the jerseys, though. Amanuel assembled the kids last year and asked them, "What is the problem?" The kids said they didn't like the uniforms because they weren't "cool." But the cool ones, like
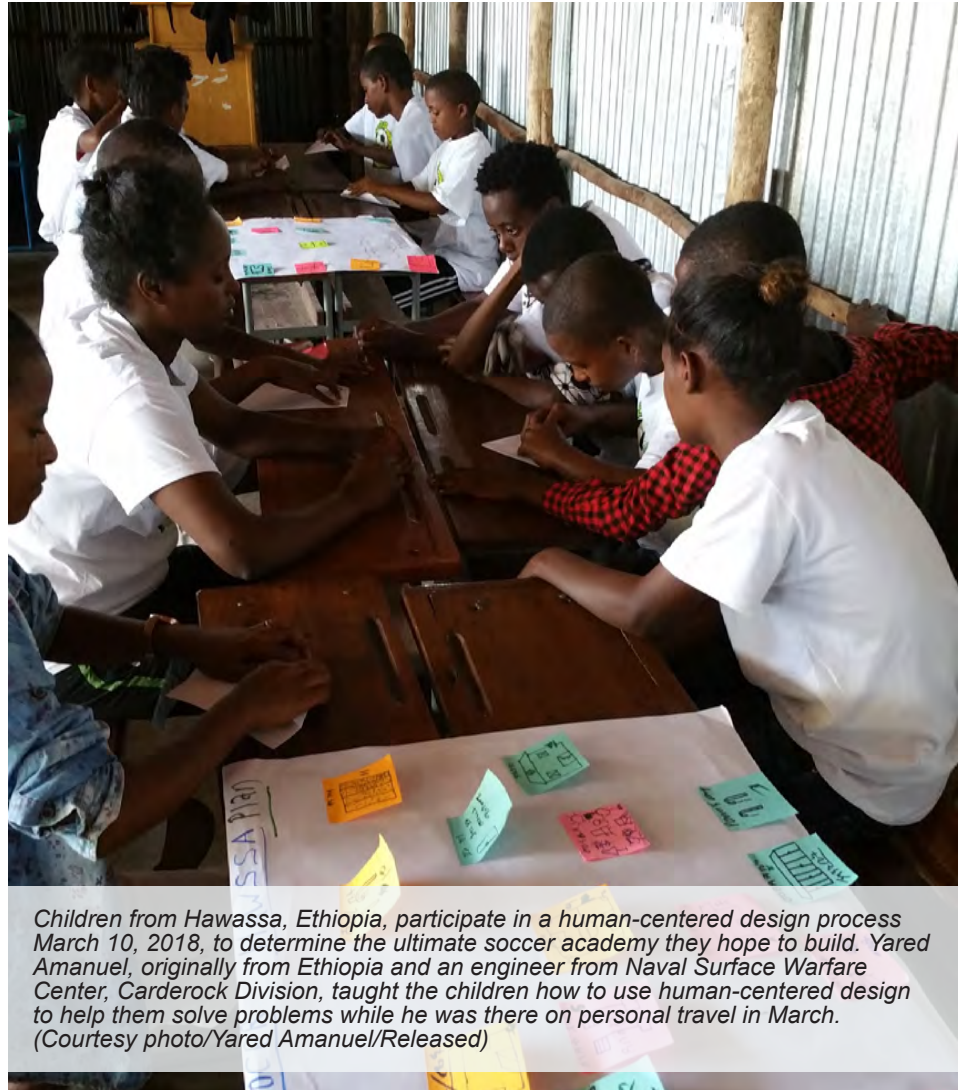
Children from Hawassa, Ethiopia, participate in a human-centered design process March 10, 2018, to determine the ultimate soccer academy they hope to build. Yared Amanuel, originally from Ethiopia and an engineer from Naval Surface Warfare Center, Carderock Division, taught the children how to use human-centered design to help them solve problems while he was there on personal travel in March. (Courtesy photo/Yared Amanuel/Released)

the Messi or Barcelona brands, were too expensive. So, the real question became, "Why do you not want to wear the less expensive uniform?"

"The focus on human-centered design is that it forces you to ask the root question, because it's a process," Amanuel said. "You don't come to the answer because you want to, you come to the answer because you went through the process of asking, the why, the why, the why and the how, and then you go back and ask the why again. And more importantly, you're involving the people who are affected by it."

Amanuel said the solution with the uniforms was not what he expected. They decided to have a contest, which puts the solution in their hands, a key element of human-centered design.

"Well, it turned out they were very excited," Amanuel said. "I think the underlying story is that if they have a say in what they are going to wear, they start to own it."

Amanuel paired the children up with a fashion designer in Ethiopia, who is helping them with design and color selection, as well as money management.

"We started it in basic terms of how do we

Human-centered design *(continued from Page 6)*

Yared Amanuel (left) retrieves his luggage after his arrival in Hawassa, Ethiopia, on March 9, 2018. Amanuel, an engineer at Naval Surface Warfare Center, Carderock Division, was in Ethiopia on personal travel to help run his non-profit organization, EthioAthletics, which he normally does from his home in Maryland. (Courtesy photo/ Yared Amanuel/Released)

get a shirt made in Ethiopia for the kids to wear, and then the kids are wanting to design and wanting to wear." Amanuel said.

The first human-centered design session with the children was so successful, Amanuel decided to do it again. During the trip in March, he had a group of them work through the process to determine what kind of facilities they should have.

"The boys and girls were told that the city of Hawassa has given them unlimited land and funds to build their own soccer academy to live, play, learn and work," Amanuel said, adding that the scenario was hypothetical in that he has requested the land from the city, and he will be raising funds to build it.

He said the day-long project involved team-building activities, lessons in brainstorming, the fundamentals of human-centered design and how to respectfully discuss disagreements and come to a resolution. By the end of the day, the children came up with plan options that will

be decided on over the next few weeks. With the help of some local architects, a final reconciled plan will be submitted to the city of Hawassa.

Besides playing soccer, designing their uniforms and soccer academies, the children are expected to improve their grades in school as part of the EthioAthletics program, according to Amanuel. He said they intend to teach the children leadership, vocational and technical skills. Still in its early stages, the program has three possible outcomes for the children in the long term.

"If they have the ability to go play pro, they play pro; but they will also have the aptitude for college," Amanuel said. "And if they don't, they have a life skill they use to be hired to earn a living wage, a vocation."

There were other ways Amanuel said they used human-centered design, one of which was determining a way to make sure the children were staying clean, something that was not only good for their health and wellbeing, but also helpful to the parents.

They decided to have them leave their uniforms behind every day. So, when they came to play soccer, they would change out of their regular clothes, put on their uniforms, and then their regular clothes would be laundered while they were playing.

He said the children's next assignment is to document any complaints they hear and develop the root cause and the real question that should be asked in order to work toward a solution to the problem.

"Human-centered design is the perfect tool. It asks you, 'What is your problem?' It doesn't say, 'What is the help you need?'" Amanuel said. "Once you get to the core of the problem, then it becomes a little bit obvious where the solution should come from and what the solution should be.