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Students' creations aim to improve lives

University holds technology fair

By MIKE BLASKY



At Touro University's annual assistive technology fair, student Jummel Hidrosollo demonstrates a remote camera shutter release that he envisions would be useful to a photographer who is paralyzed.

Photos by [Craig L. Mora](#)



Touro University student Renee DiPuccio uses a baseball glove designed to assist someone with an artificial arm.

Pamela Morales' brother lost his right hand in an accident more than 20 years ago.

Although doctors were able to reattach the hand, he has dealt with limited movement and nerve sensation ever since, a tricky disability to navigate when you're a welding instructor.

"He has no movement in his wrist, and bones in his thumb and index finger had to be fused," Morales said. "It's really tough on him."

Morales is a first-year master's degree candidate for Touro University's occupational therapy program.

When she learned of her final project requirement -- to develop a device or some other accessory that would aid the disabled -- her thoughts immediately went to her brother.

"I knew I could develop something that would really help him and others with the same issues," she said.

The fruits of her labor were on display Thursday at Touro University's annual assistive technology fair, where around 20 occupational therapy students showcased their projects from concept to final product.

From golf gloves that aid arthritis to a communication board for children with autism, the students developed projects that covered a range of disabilities.

Morales' prototype was developed to aid her brother in tungsten inert gas welding, or TIG, a very fine process, she said.

Although there are many TIG tools on the market, most require a strong hand grip. Because her brother can only pull seven pounds of pressure with his right hand (95 with his left), the process is awkward and laborious.

Morales' device reverses the process into a pushing motion, where the palm applies the pressure. For her brother, who tested the project, it was an instant success.

"As soon I'm done today, I know he wants it," she said with a laugh.

Improving the lives of others is the chief goal for occupational therapists, said Yvonne Randall, associate professor and academic clinical coordinator for the school of occupational therapy.

Aging, injury and development disorders are all conditions that can lead to a disability. But disability shouldn't mean inability, Randall said.

"One of our biggest goals is to help keep people independent as much as possible."

Students were asked to look into their own lives and think of the hobbies they love, then ask themselves, "What if this happened? How would I continue doing this?"

For Jummel Hidrosollo, that hobby was hiking and photography.

Hidrosollo devised a scenario in which a fictional character was paralyzed from the neck down, with very little wrist or hand mobility.

For a tetraplegia patient to remain an active photographer, he installed a custom mount on a wheelchair, which is normally used for LCD monitors.

He then attached a camera to the mount, which swivels back and forth at the patient's leisure, and then wrapped a remote shutter release around a cloth chin strap.

With the simple opening of his mouth, Hidrosollo snapped several quick shots in succession.

What's more, Hidrosollo's custom prototype cost only \$94.77 for parts, as opposed to \$284 for a similar retail product.

He said it's also more comfortable than the retail version, which operates by mouth.

"People like to breathe, and having something in their mouth causes a lot of drool," Hidrosollo said.

Randall said she was extremely pleased with her students' creativity and initiative.

Even the best projects were more likely to earn a high grade than a patent, she said, but that doesn't change the mind set of her students.

"We're (the class) more interested in helping clients than we are anything else."

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