TROPICALLIF



ALEJANDRO PEREZ

GETTING THE HANG OF IT: Gulliver Prep students Victor Naziazeni and Caroline Herald help teacher Scott Dorfman fine tune the O.P.EN device. Below, a close-up of its business end.

WITHIN THEIR



A door-opening device for workers in wheelchairs could win Gulliver Prep students a top national prize

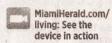
BY ANA VECIANA-SUAREZ

Confined to a wheelchair by cerebral palsy, Scott Dorfman depended on others at the nonprofit where he teaches to open and close doors for him.

"I had to ask anybody around me for help, so it can be pretty limiting," says Dorfman, 28.

Then a team of engineering students from Gulliver Preparatory School designed the Operational Portable Entry Device, which uses a telescopic mechanical arm with a clamp at the end to open doors. When attached to a wheelchair, it pivots horizontally and is adjustable vertically.

The device, dubbed O.P.EN, won the students Dorfman's gratitude and admiration. It also earned the Pinecrest school one of five finalist spots in the National Engineering Design Challenge, in which 250 high school teams vied to design the best technology to assist a disa-



bled person in the workplace. The finals, before a panel of judges, are Thursday in Washington, D.C.

It won't be Gulliver's first shot at the \$3,000 top prize. The school has been a finalist four of the six times it has entered the national competition, and has won twice - in 2003 for Time Traveler, a suitcase with see-through compartments to make airport inspections easier, and in 2006 for the Simple Electronic Ergonomic Box Opener for people with arthritis or carpal tunnel syndrome.

"The competition is an application of what they learn in class," says Claude Charron, Gulliver's science department chairman and the students' mentor. "We want to encourage hands-on learning and push them to see what

*TURN TO GULLIVER, 4E

WITHIN THEIR GRASP

Students' device in running for top prize

*GULLIVER, FROM 1E

Since October, 17 students from five engineering classes have put in more than 200 hours mostly after school and on Saturdays - on O.P.EN.

"It's real-world experience," says senior Julian P. Costa, the project manager. "We wanted a device that could be used by people in wheelchairs everywhere."

The students began by identifying the problem they wanted to solve. They made about a dozen visits to Sunrise Community in Kendall, where Dorfman is a computer teacher, and noticed that wheelchair users must often ask others for help opening doors. They researched cerebral palsy and spina bifida, and observed Dorfman and another wheelchair user to lean out of the wheel- around and talked about as they tooled around.

Then they examined existing technology and



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REACHING OUT TO DISABLED: Scott Dorfman, center, shows off the O.P.EN with students Julian Paul Costa, left, Rebecca Stanford and Jose Muiica.

of falling.

found that the few door- storming and sharing of opening devices available ideas," says Alina Armada, were either expensive or the math department at first. He worried that inadequate. One, for chair, who also helped the students wouldn't see example, requires the user with the project. "We sat the project through.

chair, increasing the risk different possibilities. they could do it," he says. Every student had some "We did a lot of brain- input and we considered everything."

Dorfman was skeptical

"But then in the back of my mind, I asked myself, me a whole lot."

the students' first concern. falls out of a wheelchair — They also wanted a device that have earned the really secondary."

ety of door handles. advisor national acclaim. Finally, it had to be compact enough to be stored the Massachusetts Instion the wheelchair and fit tute of Technology Inspithrough a door.

very time-consuming," says Andres Valencia, 17, a junior. "At one point I couldn't get a part to work the way I wanted to and we had to work it over and over."

As the students experimented, they discovered their own interests and talents. Some gravitated toward design, others to construction. Alex Stanford, a senior, realized she either.

"But I found my niche," she says. "I'm real good at keting."

joins a list of Gulliver stu-"I actually didn't think dent inventions - among them a solar-powered water purification system, a retractable rain canopy

that would work on a vari- school and its engineering

Charron, who received rational Teacher Award in "Getting it right was May, credits the students with the school's success.

"I trust these kids com-



CHARRON

says. "They're not afraid to work." He's also

pletely," he

proud of the way their attitudes evolved

over the course of the project. When they began tinwasn't particularly good at kering with the idea of a door-opener, he says, winning was their central focus. But after spending communication and mar- hours with Dorfman, the competitive spirit gave The O.P.EN device way to something more meaningful.

"After meeting Scott and watching him try to open and close doors, you realize that what you want 'Why not?' It would help for wheelchair users and to do is help him," says an alert system that David Shapiro, 17. "This The user's safety was detects when someone will give him so much independence. Winning is